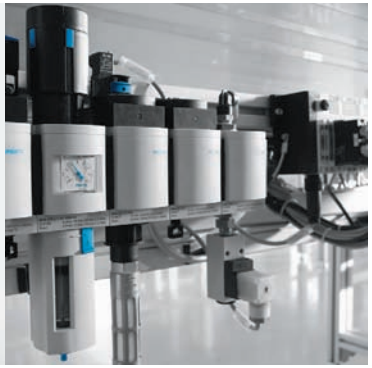
MS Series Air Preparation Units

FESTO







MS Series Air Preparation Units

Advanced and Comprehensive

The MS Series offers virtually all air preparation functions in one product series. Specifically, new function modules with integrated sensors and remote adjustability.

Advanced:
Function units, with integrated sensors and remote control facilities, can provide precise flow measurement, remote pressure regulation with "fail safe feature" and pressure sensing options for regulators, filter/regulators, valves and branching modules for remote monitoring or controlling of the air system.

Comprehensive:
Nearly all functions can be supplied from the MS4/6 Series in connection sizes from 1/8" to 1/2" (3/4" with connecting plate) and many important functions are available with MS12 Series in sizes from 1" to 2". All are available with NPT or ISO G threads. The modular design of this series allows for the right solution for every application, from stand-alone devices to ready-to-install complete assemblies.

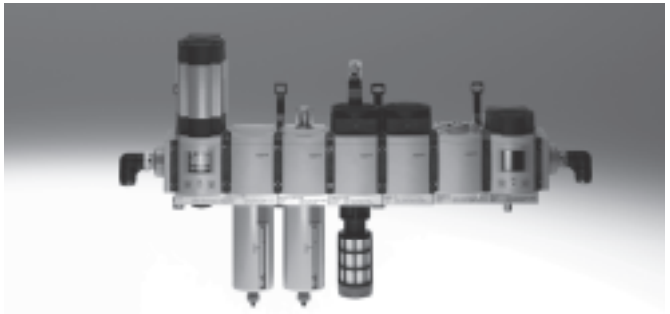
Broad range of filters:
From 40 µm down to 0.01 µm with charcoal filters and membrane dryers that guarantee adaptability to a vast range of user applications. Filter-contamination indicators and the various condensate drain options (manual, semi-automatic, automatic internal and automatic external electronically controlled) provide for great flexibility in choice and optimization of the system.

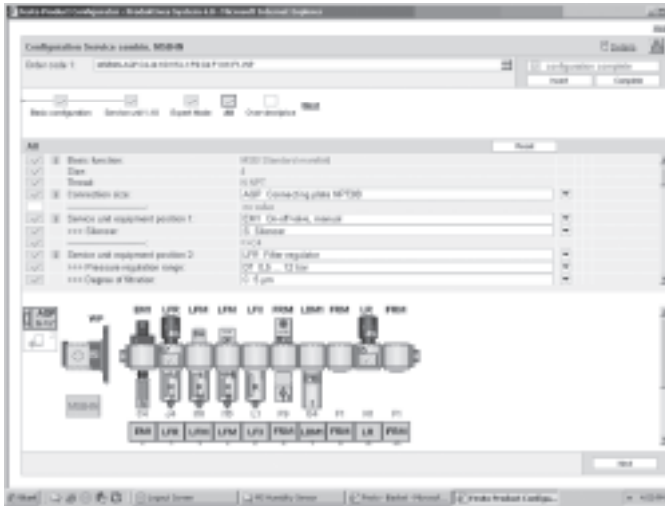
Smart Mount:
A connection system connects the precision die-cast aluminum housings to each other in series with only one leak-free seal, without the need for any intermediate blocks. Smart Mount also allows for easy replacement of individual modules without having to dismantle the entire unit.

Rollflex:
A fiber-reinforced membrane of the regulator; increases flow rate capacity, reliability and service life dramatically.

One Seal:
The patented technology of the main seal; combines all sealing points in one unit, thereby eliminating the "Monday Morning Effect". This unique seal also offers return flow capability and system venting as standard, eliminating the need for special components.

Configure Custom Combination and Individual Units – Online!





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As a global leader in industrial automation components and systems, with over $1.8 billion sales worldwide, Festo has the resources and application experience to be your long-term partner for cost-effective automation solutions.

Quality Assurance, ISO 9001 Certification
Festo Corporation is committed to provide Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.
All Festo locations within the United States are registered to ISO 9001.

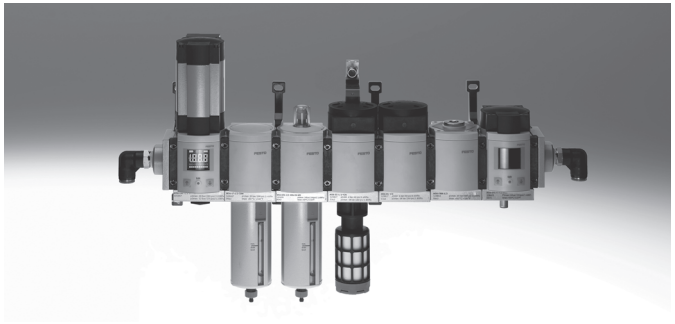
FESTO
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ISO 9001
A4853

Note
Should you require a custom combination unit or a customized individual unit, please go to our online catalog at: www.festo.com/catalog/msb.
- Click on the blue basket icon next to the chosen combination or individual unit.
- Then open the shopping basket on the right menu and click on the configuration icon:
- You can now configure your unit or combination.

MS Series Air Preparation Units

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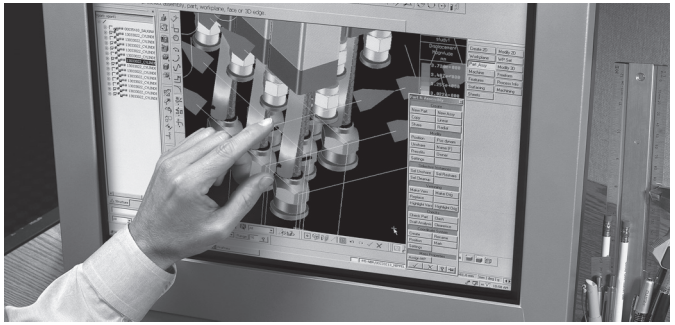
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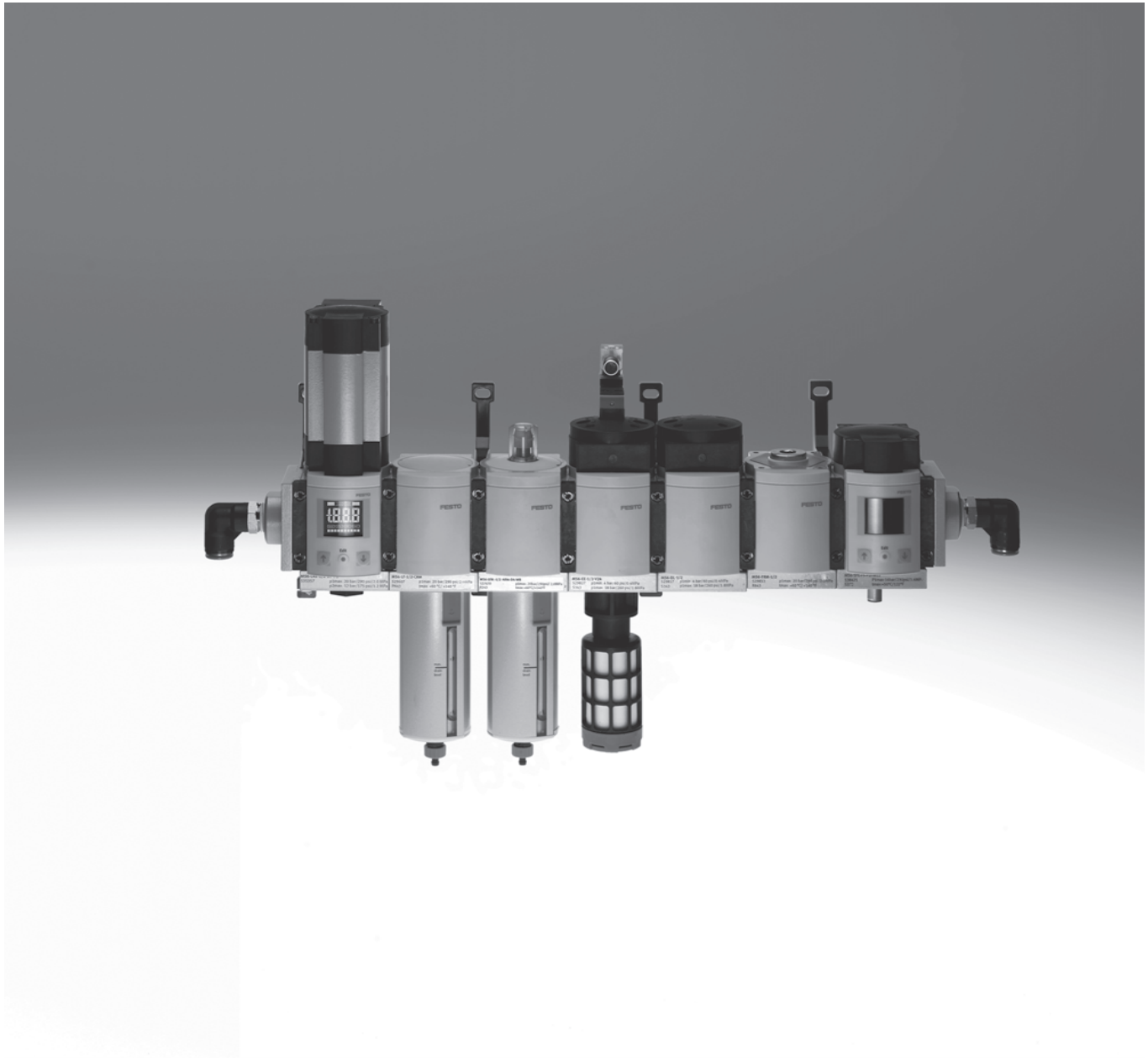
All technical data and CAD data online

➔ www.festo.com/catalog/‹type› or ‹order code›

Example: www.festo.com/catalog/MS6N-LFR

MS Series – Pre-configured Combination Units

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Note

For custom combination units ➔ page 2

Note

The lead times shown are typical times from order placement until the item will ship, and are approximate only. The actual shipping date will be confirmed upon order placement. Products with more than one lead time listed reflect variations for options ordered.

Filter/Regulator-Lubricators MSB-FRC

Metric Series

Type		Size	Pneumatic connections				Filtration grade		Bowl / Guard		Bowl drain		Pressure indicator	Consisting of									Lead time (typical)			See CD
			G1/8	G1/4	G3/8	G1/2	5 µm	40 µm	Plastic bowl guard	Metal bowl	Manual	Fully automatic	Integrated MS pressure gauge	On-off valve (manually actuated)	Filter regulator with pressure gauge, lockable	Pressure regulator with pressure gauge, lockable, 0.5 ... 12 bar	Filter	Lubricator	On-off vale (solenoid actuated)	Soft-start valve (pneumatically actuated)	Distribution block wirth pressure switch	Mounting bracket	Same day / next day	≤ One week	> One week	PDF page
MSB4-FRC		4	■	■	–	–	■	■	■	–	■	■	■	–	■	–	–	■	–	–	–	–	□	□	–	2
MSB6-FRC		6	–	■	■	■	■	■	■	■	■	■	■	–	■	–	–	■	–	–	–	–	□	□	–	474

Inch Series

Type		Size	Pneumatic connections				Filtration grade		Bowl / Guard		Bowl drain		Pressure indicator	Consisting of									Lead time (typical)			See CD
			1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT	5 µm	40 µm	Plastic bowl guard	Metal bowl	Manual	Fully automatic	Integrated MS pressure gauge	On-off valve (manually actuated)	Filter regulator with pressure gauge, lockable	Pressure regulator with pressure gauge, lockable, 0.5 ... 12 bar	Filter	Lubricator	On-off vale (solenoid actuated)	Soft-start valve (pneumatically actuated)	Distribution block wirth pressure switch	Mounting bracket	Same day / next day	≤ One week	> One week	PDF page
MSB4N-FRC		4	■	■	–	–	■	■	■	–	■	■	■	–	■	–	–	■	–	–	–	–	□	□	–	50
MSB6N-FRC		6	–	■	■	■	■	■	■	■	■	■	■	–	■	–	–	■	–	–	–	–	□	□	–	522

Standard ■ Available □ Not Standard –

Note: Options identified as “Not Standard” may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Standard Assembled Combination Units – Metric Series

Metric Series																										
Type		Size	Pneumatic connections		Filtration grade		Bowl / Guard		Bowl drain		Pressure indicator	Consisting of											Lead time (typical)			See CD
			G1/4	G1/2	5 µm	40 µm	Plastic bowl guard	Metal bowl	Manual	Fully automatic	Integrated MS pressure gauge	On-off valve (manually actuated)	Filter regulator with pressure gauge, lockable, 0.5 ... 12 bar	Filter regulator with pressure gauge, lockable, 1 ... 12 bar	Filter regulator with pressure gauge, lockable, 4 ... 12 bar	Pressure regulator with pressure gauge, lockable	Filter	Lubricator	On-off vale (solenoid actuated)	Soft-start valve (pneumatically actuated)	Distribution block wirth pressure switch	Mounting bracket	Same day / next day	≤ One week	> One week	PDF page
Unit 1		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	■	–	–	■	■	–	■	–	8
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	■	–	–	■	■	–	■	–	480
Unit 2		4	■	–	■	■	■	–	■	■	■	–	■	■	■	–	–	■	■	■	–	■	–	■	–	11
		6	–	■	■	■	■	–	■	■	■	–	■	■	■	–	–	■	■	■	–	■	–	■	–	483
Unit 3		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	■	■	■	■	■	–	■	–	15
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	■	■	■	■	■	–	■	–	487
Unit 4		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	–	–	–	–	■	–	■	–	19
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	–	–	–	–	■	–	■	–	491
Unit 5		4	■	–	■	■	■	–	■	■	■	–	■	■	■	–	–	–	■	■	–	■	–	■	–	22
		6	–	■	■	■	■	–	■	■	■	–	■	■	■	–	–	–	■	■	–	■	–	■	–	494
Unit 6		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	–	–	–	■	■	–	■	–	26
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	–	–	–	■	■	–	■	–	498
Unit 7		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	–	■	■	■	■	–	■	–	29
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	–	■	■	■	■	–	■	–	501
Unit 8		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	■	–	–	–	■	–	■	–	33
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	■	–	–	–	■	–	■	–	505
Unit 9		4	■	–	■	■	■	■	■	■	■	–	–	–	–	■	■	■	–	–	–	■	–	■	–	36
		6	–	■	■	■	■	■	■	■	■	–	–	–	–	■	■	■	–	–	–	■	–	■	–	508

Standard Assembled Combination Units – Inch Series

Inch Series																											
Type		Size	Pneumatic connections		Filtration grade		Bowl / Guard		Bowl drain		Pressure indicator	Consisting of												Lead time (typical)			See CD
			¼ NPT	½ NPT	5 µm	40 µm	Plastic bowl guard	Metal bowl	Manual	Fully automatic	Integrated MS pressure gauge	On-off valve (manually actuated)	Filter regulator with pressure gauge, lockable, 7 ... 176 psi	Filter regulator with pressure gauge, lockable, 15 ... 176 psi	Filter regulator with pressure gauge, lockable, 57 ... 176 psi	Pressure regulator with pressure gauge, lockable	Filter	Lubricator	On-off vale (solenoid actuated)	Soft-start valve (pneumatically actuated)	Distribution block wirth pressure switch	Mounting bracket	Same day / next day	≤ One week	> One week	PDF page
Unit 1		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	■	–	–	■	■	–	■	–	56
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	■	–	–	■	■	–	■	–	528
Unit 2		4	■	–	■	■	■	–	■	■	■	–	■	■	■	–	–	■	■	■	–	■	–	■	–	59
		6	–	■	■	■	■	–	■	■	■	–	■	■	■	–	–	■	■	■	–	■	–	■	–	531
Unit 3		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	■	■	■	■	■	–	■	–	63
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	■	■	■	■	■	–	■	–	535
Unit 4		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	–	–	–	–	■	–	■	–	67
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	–	–	–	–	■	–	■	–	539
Unit 5		4	■	–	■	■	■	–	■	■	■	–	■	■	■	–	–	–	■	■	–	■	–	■	–	70
		6	–	■	■	■	■	–	■	■	■	–	■	■	■	–	–	–	■	■	–	■	–	■	–	542
Unit 6		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	–	–	–	■	■	–	■	–	74
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	–	–	–	■	■	–	■	–	546
Unit 7		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	–	■	■	■	■	–	■	–	77
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	–	■	■	■	■	–	■	–	549
Unit 8		4	■	–	■	■	■	–	■	■	■	■	■	■	■	–	–	■	–	–	–	■	–	■	–	81
		6	–	■	■	■	■	–	■	■	■	■	■	■	■	–	–	■	–	–	–	■	–	■	–	553
Unit 9		4	■	–	■	■	■	■	■	■	■	–	–	–	–	■	■	■	–	–	–	■	–	■	–	84
		6	–	■	■	■	■	■	■	■	■	–	–	–	–	■	■	■	–	–	–	■	–	■	–	556

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Note:

The lead times shown are typical times from order placement until the item will ship, and are approximate only. The actual shipping date will be confirmed upon order placement. Products with more than one lead time listed reflect variations for options ordered.

Filter Regulators

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Pressure regulation range				Filtration grade		Bowl guard		Bowl drain				Pressure indicator				Pressure adjustment		Reverse flow	Lead time (typical)			See CD
				G1⁄8	G1⁄4	G3⁄8	G1⁄2	G3⁄4	G1	G1 1⁄4	G1 1⁄2	G2	0.3 ... 4 bar	0.3 ... 7 bar	0.5 ... 12 bar	0.5 ... 16 bar	5 µm	40 µm	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-LFR		4	850 ... 1,900	■	■	■	–	–	–	–	–	–	■	■	■	–	■	■	■	■	■	■	■	–	■	■	■	■	■	■	■	□	–	□	97
MS6-LFR		6	2,000 ... 7,200	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	□	–	□	569
MS12-LFR		12	11,000 ... 17,000	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	–	■	■	■	■	■	■	■	■	–	■	■	■	–	■	–	■	■	■	□	–	□	1047

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Pressure regulation range				Filtration grade		Bowl guard		Bowl drain				Pressure indicator				Pressure adjustment		Reverse flow	Lead time (typical)			See CD
				1⁄8 NPT	1⁄4 NPT	3⁄8 NPT	1⁄2 NPT	3⁄4 NPT	1 NPT	1 1⁄4 NPT	1 1⁄2 NPT	2 NPT	4.4 ... 59 psi	4.4 ... 103 psi	7.4 ... 176 psi	7.4 ... 235 psi	5 µm	40 µm	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-LFR		4	30 ... 67	■	■	■	–	–	–	–	–	–	■	■	■	–	■	■	■	■	■	■	■	–	■	■	■	■	■	■	■	□	–	□	119
MS6N-LFR		6	71 ... 254	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	□	–	□	591
MS12N-LFR		12	388 ... 600	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	–	■	■	■	■	■	■	■	■	–	■	■	■	–	■	–	■	■	■	□	–	□	1061

1) No ports in housing; connection requires 2 port plates, which must be ordered separately.

Standard ■ Available □ Not Standard –

Note: Options identified as “Not Standard” may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Pressure Regulators

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Pressure regulation range				Pressure indicator				Pressure adjustment		Reverse flow	Lead time (typical)			See CD
				G1/8	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2	0.3 ... 4 bar	0.3 ... 7 bar	0.5 ... 12 bar	0.5 ... 16 bar	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-LR		4	1,000 ... 2,100	■	■	■	–	–	–	–	–	–	■	■	■	–	■	■	■	■	■	■	■	□	–	□	142
MS6-LR		6	2,200 ... 7,500	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	■	■	■	■	□	–	□	614
MS12-LR		12	13,000 ... 22,000	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	–	■	■	■	■	–	■	–	■	■	■	□	–	□	1075
MS4-LRB		4	300 ... 1,900	■	■	■	–	–	–	–	–	–	■	■	■	–	■	■	■	■	■	■	■	□	–	□	152
MS6-LRB		6	600 ... 7,300	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	■	■	■	■	□	–	□	626

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Pressure regulation range				Pressure indicator				Pressure adjustment		Reverse flow	Lead time (typical)			See CD
				1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT	3/4 NPT	1 NPT	1 1/4 NPT	1 1/2 NPT	2 NPT	4.4 ... 59 psi	4.4 ... 103 psi	7.4 ... 176 psi	7.4 ... 235 psi	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-LR		4	35 ... 74	■	■	■	–	–	–	–	–	–	■	■	■	–	■	■	■	■	■	■	■	□	–	□	174
MS6N-LR		6	78 ... 265	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	■	■	■	■	□	–	□	674
MS12N-LR		12	459 ... 777	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	–	■	■	■	■	–	■	–	■	■	■	□	–	□	1087
MS4N-LRB		4	11 ... 67	■	■	■	–	–	–	–	–	–	■	■	■	–	■	■	■	■	■	■	■	□	–	□	184
MS6N-LRB		6	21 ... 258	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	■	■	■	■	□	–	□	686

1) No ports in housing; connection requires 2 port plates, which must be ordered separately.

Standard ■ Available □ Not Standard –

Note: Options identified as "Not Standard" may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Precision Pressure Regulators

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Pressure regulation range				Pressure indicator				Pressure adjustment		Reverse flow	Lead time (typical)			See CD
				G1/8	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2	0.05 ... 0.7 bar	0.05 ... 2.5 bar	0.3 ... 4 bar	0.5 ... 12 bar	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS6-LRP		6	800 ... 5,000	–	■	■	■	■	–	–	–	–	■	■	■	■	■	–	■	■	■	■	■	–	–	■	637
MS6-LRPB		6	1,600 ... 5,000	–	■	■	■	■	–	–	–	–	■	■	■	■	■	–	■	■	■	■	■	–	–	■	650

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Pressure regulation range				Pressure indicator				Pressure adjustment		Reverse flow	Lead time (typical)			See CD
				1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT	3/4 NPT	1 NPT	1 1/4 NPT	1 1/2 NPT	2 NPT	0.7 ... 10.3 psi	0.7 ... 36.8 psi	4.4 ... 58.8 psi	7.4 ... 176 psi	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS6N-LRP		6	28 ... 177	–	■	■	■	■	–	–	–	–	■	■	■	■	■	–	■	■	■	■	■	–	–	■	697
MS6N-LRPB		6	57 ... 177	–	■	■	■	■	–	–	–	–	■	■	■	■	■	–	■	■	■	■	■	–	–	■	710

Standard ■ Available □ Not Standard –

Note: Options identified as "Not Standard" may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Electrical Pressure Regulators

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Pressure regulation range				Pressure indicator				Pressure adjustment			Reverse flow	Lead time (typical)			See CD
				G1⁄8	G1⁄4	G3⁄8	G1⁄2	G3⁄4	G1	G1 1⁄4	G1 1⁄2	G2	0.3 ... 4 bar	0.3 ... 7 bar	0.5 ... 12 bar	0.5 ... 16 bar	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Electrical	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS6-LRE		6	2,200 ...7,500	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	–	■	–	–	■	–	–	■	733

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Pressure regulation range				Pressure indicator				Pressure adjustment			Reverse flow	Lead time (typical)			See CD
				1⁄8 NPT	1⁄4 NPT	3⁄8 NPT	1⁄2 NPT	3⁄4 NPT	1 NPT	1 1⁄4 NPT	1 1⁄2 NPT	2 NPT	4.4 ... 59 psi	4.4 ... 103 psi	7.4 ... 176 psi	7.4 ... 235 psi	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Electrical	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS6N-LRE		6	78 ...265	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	–	■	–	–	■	–	–	■	749

Standard ■ Available □ Not Standard –

Note: Options identified as “Not Standard” may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Filter – Standard

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Filtration grade		Bowl guard		Bowl drain				Contamination control	Reverse flow	Lead time (typical)			See CD
				G1⁄8	G1⁄4	G3⁄8	G1⁄2	G3⁄4	G1	G1 1⁄4	G1 1⁄2	G2	5 µm	40 µm	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical	Differential pressure indicator	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-LF		4	1,000 ...1,700	■	■	■	–	–	–	–	–	–	■	■	■	■	■	■	■	–	–	■	□	–	□	205
MS6-LF		6	2,000 ... 4,100	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	■	–	■	□	–	□	765
MS12-LF		12	11,500 ... 16,000	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	–	■	■	–	■	■	–	■	□	–	□	1099

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Filtration grade		Bowl guard		Bowl drain				Contamination control	Reverse flow	Lead time (typical)			See CD
				1⁄8 NPT	1⁄4 NPT	3⁄8 NPT	1⁄2 NPT	3⁄4 NPT	1 NPT	1 1⁄4 NPT	1 1⁄2 NPT	2 NPT	5 µm	40 µm	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical	Differential pressure indicator	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-LF		4	35 ... 60	■	■	■	–	–	–	–	–	–	■	■	■	■	■	■	■	–	–	■	□	–	□	223
MS6N-LF		6	71 ... 145	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	■	–	■	□	–	□	783
MS12N-LF		12	406 ... 565	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	–	■	■	–	■	■	–	■	□	–	□	1111

1) No ports in housing; connection requires 2 port plates, which must be ordered separately.

Standard ■ Available □ Not Standard –

Note: Options identified as "Not Standard" may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Filters – Fine and Micro

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Filtration grade		Bowl guard		Bowl drain				Contamination control	Reverse flow	Lead time (typical)			See CD
				G1/8	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2	0.01 µm	1 µm	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical	Differential pressure indicator	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-LFM		4	120 ... 180	■	■	■	–	–	–	–	–	–	■	■	■	■	■	■	■	–	■	■	□	–	□	241
MS6-LFM		6	380 ... 850	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	■	■	■	□	–	□	801
MS12-LFM		12	5,000 ... 7,600	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	–	■	■	–	■	■	■	■	□	–	□	1123

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Filtration grade		Bowl guard		Bowl drain				Contamination control	Reverse flow	Lead time (typical)			See CD
				1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT	3/4 NPT	1 NPT	1 1/4 NPT	1 1/2 NPT	2 NPT	0.01 µm	1 µm	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical	Differential pressure indicator	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-LFM		4	4.2 ... 6.4	■	■	■	–	–	–	–	–	–	■	■	■	■	■	■	■	–	■	■	□	–	□	259
MS6N-LFM		6	13 ... 30	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	■	■	■	■	□	–	□	819
MS12N-LFM		12	177 ... 268	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	–	■	■	–	■	■	■	■	□	–	□	1137

1) No ports in housing; connection requires 2 port plates, which must be ordered separately.

Standard ■ Available □ Not Standard –

Note: Options identified as "Not Standard" may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Filter – Active Carbon

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Bowl guard		Bowl drain				Contamination control	Reverse flow	Lead time (typical)			See CD
				G1⁄8	G1⁄4	G3⁄8	G1⁄2	G3⁄4	G1	G1 1⁄4	G1 1⁄2	G2	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical	Differential pressure indicator	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-LFX		4	250	■	■	■	–	–	–	–	–	–	■	■	■	–	–	–	–	■	□	–	□	277
MS6-LFX		6	700 … 1,2000	–	■	■	■	■	–	–	–	–	■	■	■	–	–	–	–	■	□	–	□	837
MS12-LFX		12	4,800 … 6,000	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	–	■	–	–	–	–	–	■	□	–	□	1151

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Bowl guard		Bowl drain				Contamination control	Reverse flow	Lead time (typical)			See CD
				1⁄8 NPT	1⁄4 NPT	3⁄8 NPT	1⁄2 NPT	3⁄4 NPT	1 NPT	1 1⁄4 NPT	1 1⁄2 NPT	2 NPT	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical	Differential pressure indicator	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-LFX		4	8.8	■	■	■	–	–	–	–	–	–	■	■	■	–	–	–	–	■	□	–	□	291
MS6N-LFX		6	25 … 42	–	■	■	■	■	–	–	–	–	■	■	■	–	–	–	–	■	□	–	□	851
MS12N-LFX		12	169 … 212	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	–	■	–	–	–	–	–	■	□	–	□	1161

1) No ports in housing; connection requires 2 port plates, which must be ordered separately.

Standard ■ Available □ Not Standard –

Note: Options identified as "Not Standard" may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Membrane Air Dryers

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Bowl guard		Reverse flow	Lead time (typical)			See CD
				G1⁄8	G1⁄4	G3⁄8	G1⁄2	G3⁄4	G1	G1 1⁄4	G1 1⁄2	G2	Plastic bowl guard	Metal bowl	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-LDM1		4	50 … 100	■	■	■	–	–	–	–	–	–	–	■	■	–	–	■	305
MS6-LDM1		6	200 … 400	–	■	■	■	■	–	–	–	–	–	■	■	–	–	■	865

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Bowl guard		Reverse flow	Lead time (typical)			See CD
				1⁄8 NPT	1⁄4 NPT	3⁄8 NPT	1⁄2 NPT	3⁄4 NPT	1 NPT	1 1⁄4 NPT	1 1⁄2 NPT	2 NPT	Plastic bowl guard	Metal bowl	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-LDM1		4	1.8 … 3.5	■	■	■	–	–	–	–	–	–	–	■	■	–	–	■	319
MS6N-LDM1		6	7 … 14	–	■	■	■	■	–	–	–	–	–	■	■	–	–	■	879

Standard ■ Available □ Not Standard –

Note: Options identified as “Not Standard” may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Lubricators

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Bowl guard		Reverse flow	Lead time (typical)			See CD
				G1⁄8	G1⁄4	G3⁄8	G1⁄2	G3⁄4	G1	G1 1⁄4	G1 1⁄2	G2	Plastic bowl guard	Metal bowl	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-LOE		4	1,100 ... 2,200	■	■	■	–	–	–	–	–	–	■	■	■	□	–	□	333
MS6-LOE		6	2,500 ... 7,200	–	■	■	■	■	–	–	–	–	■	■	■	□	–	□	893
MS12-LOE		12	20,000 ... 22,000	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	–	■	■	□	–	□	1171

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Bowl guard		Reverse flow	Lead time (typical)			See CD
				1⁄8 NPT	1⁄4 NPT	3⁄8 NPT	1⁄2 NPT	3⁄4 NPT	1 NPT	1 1⁄4 NPT	1 1⁄2 NPT	2 NPT	Plastic bowl guard	Metal bowl	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-LOE		4	39 ... 78	■	■	■	–	–	–	–	–	–	■	■	■	□	–	□	347
MS6N-LOE		6	88 ... 254	–	■	■	■	■	–	–	–	–	■	■	■	□	–	□	907
MS12N-LOE		12	706 ... 777	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	–	■	■	□	–	□	1181

1) No ports in housing; connection requires 2 port plates, which must be ordered separately.

Standard ■ Available □ Not Standard –

Note: Options identified as "Not Standard" may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

On-Off Valves – Manually Operated

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Pressure indicator				Noise control	Reverse flow	Lead time (typical)			See CD
				G1⁄8	G1⁄4	G3⁄8	G1⁄2	G3⁄4	G1	G1 1⁄4	G1 1⁄2	G2	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Silencer	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-EM1		4	1,200 … 2,200	■	■	■	–	–	–	–	–	–	■	■	■	■	■	■	□	–	□	362
MS6-EM1		6	3,000 … 8,700	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	□	–	□	922
MS12-EM		12	25,000 … 32,000	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	■	–	■	■	–	–	■	1192

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Pressure indicator				Noise control	Reverse flow	Lead time (typical)			See CD
				1⁄8 NPT	1⁄4 NPT	3⁄8 NPT	1⁄2 NPT	3⁄4 NPT	1 NPT	1 1⁄4 NPT	1 1⁄2 NPT	2 NPT	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Silencer	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-EM1		4	42 … 78	■	■	■	–	–	–	–	–	–	■	■	■	■	■	■	□	–	□	398
MS6N-EM1		6	106 … 307	–	■	■	■	■	–	–	–	–	■	■	■	■	■	■	□	–	□	958
MS12N-EM		12	883 … 1,130	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	■	–	■	■	–	–	■	1214

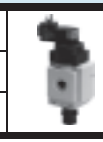
1) No ports in housing; connection requires 2 port plates, which must be ordered separately.

Standard ■ Available □ Not Standard –

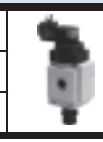
Note: Options identified as “Not Standard” may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

On-Off Valves – Solenoid Actuated

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Supply voltage				Pressure indicator				Noise control	Reverse flow	Lead time (typical)			See CD
				G1⁄8	G1⁄4	G3⁄8	G1⁄2	G3⁄4	G1	G1 1⁄4	G1 1⁄2	G2	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Silencer	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-EE		4	1,000 … 2,000	■	■	■	–	–	–	–	–	–	■	–	■	■	■	■	■	■	■	■	□	–	□	367
MS6-EE		6	2,600 … 7,000	–	■	■	■	■	–	–	–	–	■	–	■	■	■	■	■	■	■	■	□	–	□	927
MS12-EE		12	25,000 … 32,000	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	■	■	■	■	■	–	■	■	–	–	■	1196

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Supply voltage				Pressure indicator				Noise control	Reverse flow	Lead time (typical)			See CD
				1⁄8 NPT	1⁄4 NPT	3⁄8 NPT	1⁄2 NPT	3⁄4 NPT	1 NPT	1 1⁄4 NPT	1 1⁄2 NPT	2 NPT	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Silencer	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-EE		4	35 … 71	■	■	■	–	–	–	–	–	–	■	–	■	■	■	■	■	■	■	■	□	–	□	403
MS6N-EE		6	92 … 247	–	■	■	■	■	–	–	–	–	■	–	■	■	■	■	■	■	■	■	□	–	□	963
MS12N-EE		12	883 … 1,130	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	■	■	■	■	■	–	■	■	–	–	■	1218

1) No ports in housing; connection requires 2 port plates, which must be ordered separately.

Standard ■ Available □ Not Standard –

Note: Options identified as “Not Standard” may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Soft-start Valves – Pneumatically Actuated

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Pressure indicator				Noise control	Reverse flow	Lead time (typical)			See CD
				G1/8	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Silencer	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-DL		4	1,000 … 2,000	■	■	■	–	–	–	–	–	–	■	■	■	■	–	■	□	–	□	374
MS6-DL		6	2,800 … 6,450	–	■	■	■	■	–	–	–	–	■	■	■	■	–	■	□	–	□	934
MS12-DL		12	25,000 … 42,000	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	■	–	–	■	–	–	■	1200

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Pressure indicator				Noise control	Reverse flow	Lead time (typical)			See CD
				1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT	3/4 NPT	1 NPT	1 1/4 NPT	1 1/2 NPT	2 NPT	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Silencer	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-DL		4	35 … 71	■	■	■	–	–	–	–	–	–	■	■	■	■	–	■	□	–	□	410
MS6N-DL		6	99 … 228	–	■	■	■	■	–	–	–	–	■	■	■	■	–	■	□	–	□	970
MS12N-DL		12	883 … 1,483	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	■	–	–	■	–	–	■	1222

1) No ports in housing; connection requires 2 port plates, which must be ordered separately.

Standard ■ Available □ Not Standard –

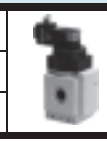
Note: Options identified as “Not Standard” may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Soft-start Valves – Solenoid Actuated

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Supply voltage				Pressure indicator				Noise control	Reverse flow	Lead time (typical)			See CD
				G1⁄8	G1⁄4	G3⁄8	G1⁄2	G3⁄4	G1	G1 1⁄4	G1 1⁄2	G2	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Silencer	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-DE		4	1,000 … 2,000	■	■	■	–	–	–	–	–	–	■	–	■	■	■	■	■	■	–	■	□	–	□	379
MS6-DE		6	2,700 … 6,450	–	■	■	■	■	–	–	–	–	■	–	■	■	■	■	■	■	–	■	□	–	□	939
MS12-DE		12	25,000 … 42,000	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	■	■	■	■	■	–	–	■	–	–	■	1204

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Supply voltage				Pressure indicator				Noise control	Reverse flow	Lead time (typical)			See CD
				1⁄8 NPT	1⁄4 NPT	3⁄8 NPT	1⁄2 NPT	3⁄4 NPT	1 NPT	1 1⁄4 NPT	1 1⁄2 NPT	2 NPT	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Silencer	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-DE		4	35 … 71	■	■	■	–	–	–	–	–	–	■	–	■	■	■	■	■	■	–	■	□	–	□	415
MS6N-DE		6	95 … 228	–	■	■	■	■	–	–	–	–	■	–	■	■	■	■	■	■	–	■	□	–	□	975
MS12N-DE		12	883 … 1,483	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	■	■	■	■	■	■	–	–	■	–	–	■	1226

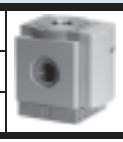
1) No ports in housing; connection requires 2 port plates, which must be ordered separately.

Standard ■ Available □ Not Standard –

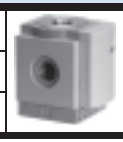
Note: Options identified as “Not Standard” may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Distribution Blocks

Metric Series

Type		Size	Flow rate [l/min]	Pneumatic connections									Pressure indicator				Reverse flow	Lead time (typical)			See CD
				G1/8	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4-FRM		4	1,200 ... 3,500	■	■	■	–	–	–	–	–	–	■	■	■	■	■	□	–	□	433
MS6-FRM		6	3,200 ... 13,000	–	■	■	■	■	–	–	–	–	■	■	■	■	■	□	–	□	993
MS12-FRM		12	25,000 ... 42,000	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	–	–	–	■	–	–	■	1235

Inch Series

Type		Size	Flow rate [scfm]	Pneumatic connections									Pressure indicator				Reverse flow	Lead time (typical)			See CD
				1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT	3/4 NPT	1 NPT	1 1/4 NPT	1 1/2 NPT	2 NPT	Without pressure gauge	Integrated MS pressure gauge	Adapter for pressure gauge	Pressure sensor with display	Flow direction from right to left	Same day / next day	≤ One week	> One week	PDF page
MS4N-FRM		4	42 ... 124	■	■	■	–	–	–	–	–	–	■	■	■	■	■	□	–	□	453
MS6N-FRM		6	113 ... 459	–	■	■	■	■	–	–	–	–	■	■	■	■	■	□	–	□	1013
MS12N-FRM		12	883 ... 1,483	–	–	–	–	–	■[1]	■[1]	■[1]	■[1]	■	–	–	–	■	–	–	■	1245

1) No ports in housing; connection requires 2 port plates, which must be ordered separately.

Standard ■ Available □ Not Standard –

Note: Options identified as “Not Standard” may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Flow Sensors

Metric Series																		
Type		Size	Flow rate [l/min]	Pneumatic connections									Switch output		Lead time (typical)			See CD
				G1/8	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2	2x PNP	2x NPN	Same day / next day	≤ One week	> One week	PDF page
MS6-SFE		6	200 … 5,000	–	–	–	■	–	–	–	–	–	■	■	–	–	■	1033

Standard ■ Available □ Not Standard –

Note: Options identified as “Not Standard” may be available as a custom component through our Customer Solutions group. Please contact Festo for more information.

Engineering Support

Contents



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Compressed Air Conditioning

Compressed Air Distribution

Proper treatment of compressed air between production and consumption should never be neglected. Losses caused by leakage can be averted by the use of appropriate service units. Use of a new service unit reduces repair costs because less maintenance will be required.
The operational safety and durability of a pneumatic installation depends largely on how the compressed air is processed.

Contaminants in the compressed air such as scale, rust, dust particles, and liquids may cause considerable damage to a pneumatic installation. Pollutants increase the rate of wear on operating surfaces and sealing devices, shortening the life of pneumatic components.
Because the compressor cycles on-and-off, pressure fluctuations that could adversely affect operation of the facility may occur. To eliminate these adverse effects, service units must be installed in every pneumatic control system.

Operation of Service Units

Compressed air filters purify the air by removing particles and vapor. Particles measuring greater than 50 µm are retained by sintered metal filters (depending on filter model). Fluids are separated and collected in a filtering bowl. The condensate in the filtering bowl must be periodically emptied.

Some applications, such as in the fields of chemistry, pharmaceutical, food processing, etc., require super-filtered air provided by coalescing filters. Festo coalescing filters remove almost all the vapor and oil droplets by coalescing filtration. Up to 99.999% air purity can be produced. Festo adsorption filters remove oil vapor and associated odors whether petroleum or synthetic based, keeping maximum down-stream remaining oil content to 0.003 ppm/wt.

The pressure regulator maintains a constant operating pressure on the secondary side of the system by evening out pressure fluctuations from the primary side of the system. Note: input pressure should always be greater than the required operational pressure.

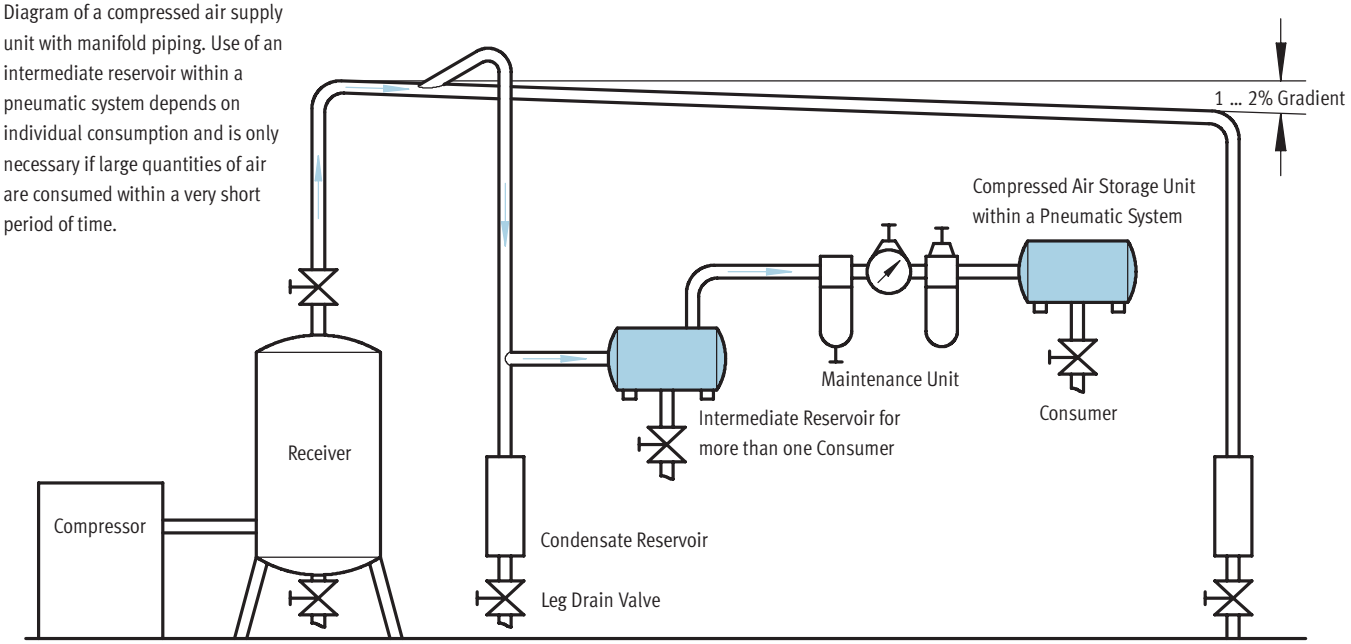
The compressed air lubricator dispenses lubricating oil to pneumatic components, when required. Lubricant is provided by a lubricator via the venturi principle and is dispersed in the flow of air.
When using low pressure components or pneumatic sensing devices, a primary and an auxiliary coalescing filter system should be provided.

Operational Safety/Durability

The receiver is installed immediately after the compressor and should equalize pressure fluctuations coming from the compressor. Additionally, it serves as a storage unit for the entire system and aids in cooling the compressed air so incoming condensate can be separated. In larger compressor installations an air drier equipped with a water separator is installed between the compressor and receiver. In this way a large portion of the condensate can be separated in advance.
The compressed air storage unit equalizes pressure fluctuations within the system to ensure the highest common pressure for each user.

Typical Compressed Air Supply System

Diagram of a compressed air supply unit with manifold piping. Use of an intermediate reservoir within a pneumatic system depends on individual consumption and is only necessary if large quantities of air are consumed within a very short period of time.



Air Quality

Quality of Compressed Air

Compressed air must always be clean enough, so that it causes no malfunction or damage. Since every filter also represents a resistance to air flow, from an economical point of view the compressed air should only be as clean as required.

The quality of compressed air is identified by quality classes set forth in ISO 8573-1. Here it is established which contaminants are allowable in the corresponding compressed air quality classes.

The wide range of applications for compressed air accordingly imposes variable demands for air quality. If a high quality of compressed air is required, more steps of filtration must be used.

The determination of the quality class should consider the following information in the order in which it is listed:

1. The quality class of the solid contaminants.
2. The quality class for water content.
3. The quality class for total oil content (droplets, aerosols and vapors).

Air Quality Classes in Accordance with DIN ISO 8573

Class	1. Particle Size		2. Water Content	3. Oil Content
	Max. Particle Size [µm]	Max. Particulate Density [ppm / mg/m³]	Max. Pressure Dew Point [°F / °C]	Max. Oil Concentration [ppm / mg/m³]
1	0.1	0.08 / 0.1	–94 / –70	0.01 / 0.01
2	1	0.83 / 1	–40 / –40	0.08 / 0.1
3	5	4.15 / 5	–4 / –20	0.83 / 1
4	15	6.64 / 8	37 / 3	4.15 / 5
5	40	8.30 / 10	45 / 7	20.75 / 25
6	–	–	50 / 10	–
7	–	–	not defined	–

Festo Standard Recommendation for Air Quality

The shaded cells in the table to the left show the Festo standard recommendation for air quality, which is compressed air to class 5.4.4.

This means compressed air with
- a particle size to class 5
- a water content to class 4
- an oil content toclass 4

Classification of Product Categories

Application	Max. Particle Size		Max. Pressure Dew Point		Max. Oil Concentration	
	Class	[µ]	Class	[°F / °C]	Class	[ppm / mg/m³]
Mining	5	40	7	– / –	5	20.75 / 25
Laundry	5	40	6	50 / 10	4	4.15 / 5
Welding Equipment	5	40	6	50 / 10	5	20.75 / 25
Machine Tools	5	40	4	37 / 3	5	20.75 / 25
Compressed Air Cylinders	5	40	4	37 / 3	5	20.75 / 25
Compressed Air Valves	3 ... 5	5... 40	4	37 / 3	5	20.75 / 25
Packaging	5	40	4	37 / 3	3	0.83 / 1
Precision Air Regulator	3	5	4	37 / 3	3	0.83 / 1
Air Measurement	2	1	4	37 / 3	3	0.83 / 1
Warehouse Ventilation	2	1	3	–4 / –20	3	0.83 / 1
Sensors	2	1	2 ... 3	–40 ... –4 / –40 ... –20	2	0.08 / 0.1
Food Processing	2	1	4	37 / 3	1	0.01 / 0.01
Photo Processing	1	0.01... 0.1	2	–40 / –40	1	0.01 / 0.01

Dimensioning of Air Preparation Units

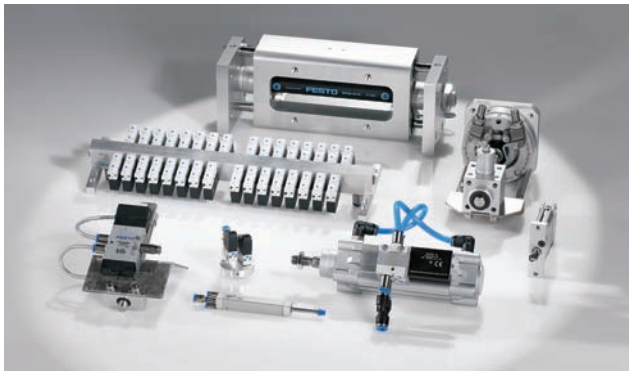
The sizing of air preparation units is dependent on the air requirements of the application. Undersizing leads to pressure fluctuations in the regulator and inadequate filter service life.

From an economical point of view high air qualities should be used only where they are actually required. Distributor modules between the individual filter grades make differing air qualities available.

Important:
Elements at the beginning of a "maintenance line" should have higher nominal flow rates, in case they have to handle the entire air volume requirement.

Product Range and Company Overview

Custom Automation Components



Custom Control Cabinets



Complete Systems



Complete Automation Solutions

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.

Electromechanical



Pneumatics



PLCs and I/O Devices



Comprehensive Line of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo can support the most complex automation requirements.

Supporting Advanced Automation... As No One Else Can

Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 11,500 employees in 56 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

Pre-configured Combination Units MSB4 – Metric Series



Ten different types of pre-configured and assembled combination units are available. They consist of up to six different individual units with options for filtration grade and condensate drain (see table below). Mounting brackets are included. MS Series combination units have a high resistance to corrosion in typical industrial environments and offer high flow rates with compact components.

- Pneumatic connections: G⅛, G¼ (G⅜ with optional port plate)
- Flow rate: 550 ... 1,400 l/min*
- Supply pressure: 0.8 ... 14 bar*
- Pressure regulation range: 0.3 ... 12 bar*
- Filtration grade: 5 µm and 40 µm

* Individual combination units will vary depending on selected type and option.

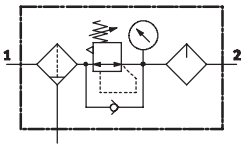
Combination Units		MSB4-FRC	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9
Consisting of:											
On-off valve (manually actuated)	EM1	–	■	–	■	■	–	■	■	■	–
Filter regulator with pressure gauge, lockable	LFR	■	■	■	■	■	■	■	■	■	–
Pressure regulator with pressure gauge, lockable	LR	–	–	–	–	–	–	–	–	–	■
Filter	LF	–	–	–	–	–	–	–	–	–	■
Lubricator	LOE	■	■	■	■	–	–	–	–	■	■
On-off valve (solenoid actuated)	EE	–	–	■	■	–	■	–	■	–	–
Soft-start valve (pneumatically actuated)	DL	–	–	■	■	–	■	–	■	–	–
Distribution block with pressure switch	FRM	–	■	–	■	–	–	■	■	–	–
Mounting bracket	WP	–	■	■	■	■	■	■	■	■	■
Technical data ➔ Page		2	8	11	15	19	22	26	29	33	36

Note
Should you require a custom combination unit, please go to our online catalog at: www.festo.com/catalog/msb4. Click on the blue basket icon next to P/N 531029. Then open the shopping basket on the right menu and click on the configuration icon You can now configure your combination unit.

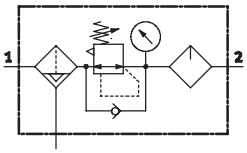
Pre-configured Combination Units MSB4-FRC – Metric Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- Filter, regulator and lubricator function in a single unit
- High flow rate and highly efficient removal of contaminants
- Good regulating characteristics with minimal pressure hysteresis
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Two pressure regulation ranges: 0.3 ... 7 bar and 0.5 ... 12 bar
- Choice of filter cartridges: 5 µm or 40 µm
- With manual or integrated, fully automatic bowl drain



General Technical Data			
Pneumatic connection 1, 2		G⅛	G¼
Design		Filter regulator with pressure gauge	
		Proportional standard mist lubricator	
Regulating function		With primary pressure compensation	
		With secondary venting	
		With return flow function	
		Output pressure constant	
Type of mounting		Via accessories	
Assembly position		Vertical ±5°	
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)	
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)	
Bowl guard		Plastic bowl guard	
Bowl drains		Manual	
		Fully automatic	
Pressure adjustment		Rotary knob with integrated lock	
Pressure regulation range	[bar]	0.3 ... 7	
		0.5 ... 12	
Pressure indicator		With pressure gauge	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Units MSB4-FRC – Metric Series

Technical Data

Standard Nominal Flow Rate qnN[1] [l/min]			
Pneumatic connection		G1⁄8	G1⁄4
Pressure regulation range 0.3... 7 bar			
Filtration grade	5 µm	900	1,300
	40 µm	950	1,400
Pressure regulation range 0.5... 12 bar			
Filtration grade	5 µm	800	850

1) Measured at p1 = 10 bar and p2 = 6 bar, Δp = 1 bar.

Operating and Environmental Conditions			
Bowl drains		Manual	Fully automatic
Supply pressure	[bar]	1.5 ... 14	1.5 ... 12
Operating medium		Compressed air	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[2]	2	

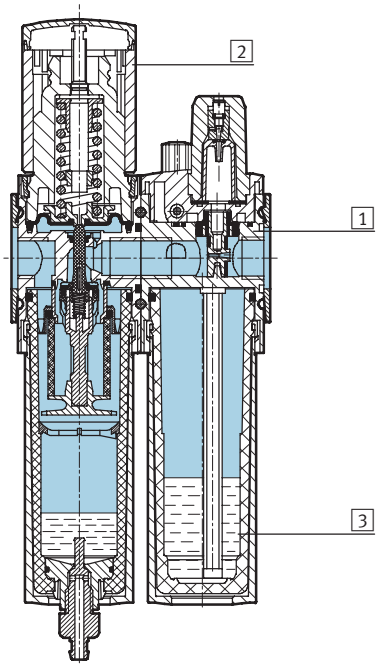
2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With plastic bowl guard	500

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



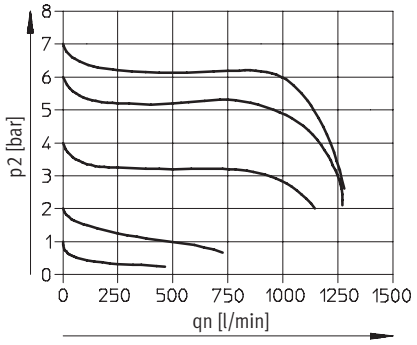
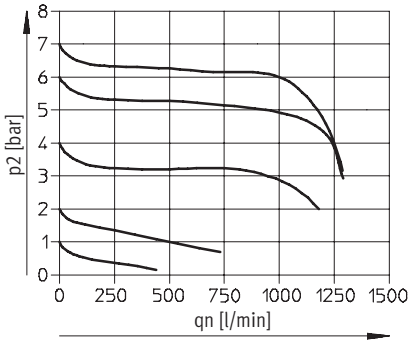
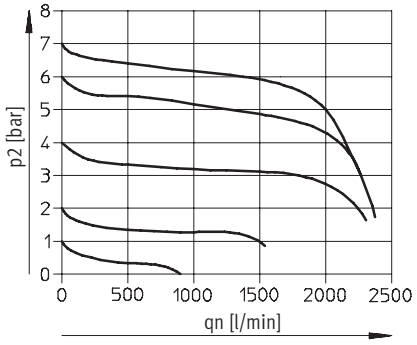
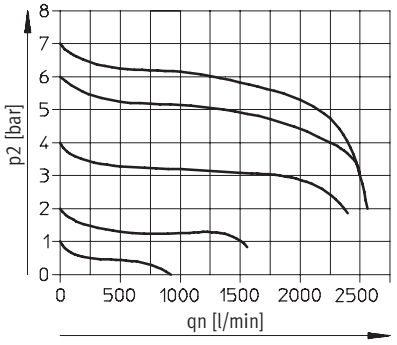
Service unit		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Plastic bowl guard	Polycarbonate
–	Seals	Nitrile rubber

Pre-configured Combination Units MSB4-FRC – Metric Series

Technical Data

FESTO

Standard Flow Rate qn as a Function of Output Pressure p2

Pressure regulation range 0.3 ... 7 bar	Filtration grade 5 µm	Filtration grade 40 µm
MSB4-⅛		
Primary pressure p1 = 10 bar		
MSB4-¼		
Primary pressure p1 = 10 bar		

Pre-configured Combination Units MSB4-FRC – Metric Series

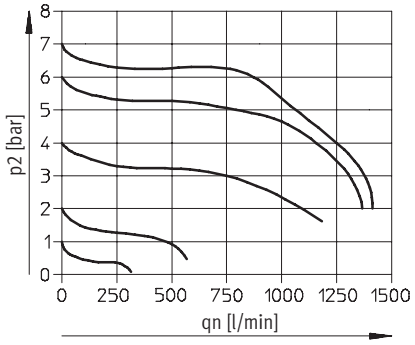
Technical Data

Standard Flow Rate qn as a Function of Output Pressure p2

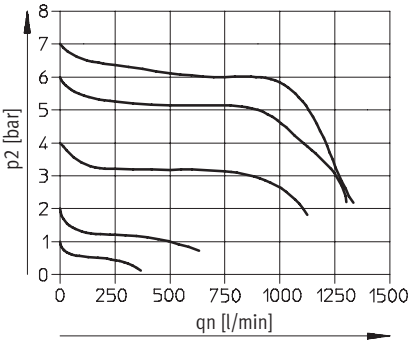
Pressure regulation range 0.5 ... 12 bar

MSB4-⅛

Filtration grade 5 µm

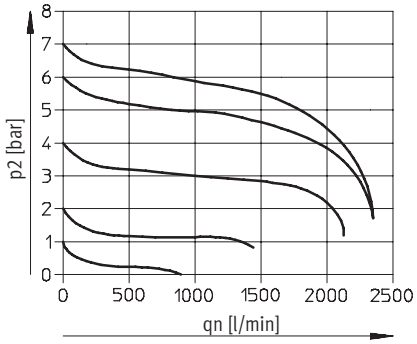


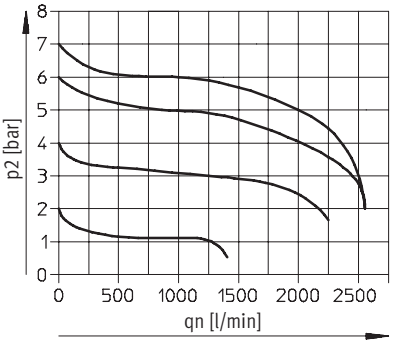
Filtration grade 40 µm



MSB4-¼

Primary pressure p1 = 10 bar



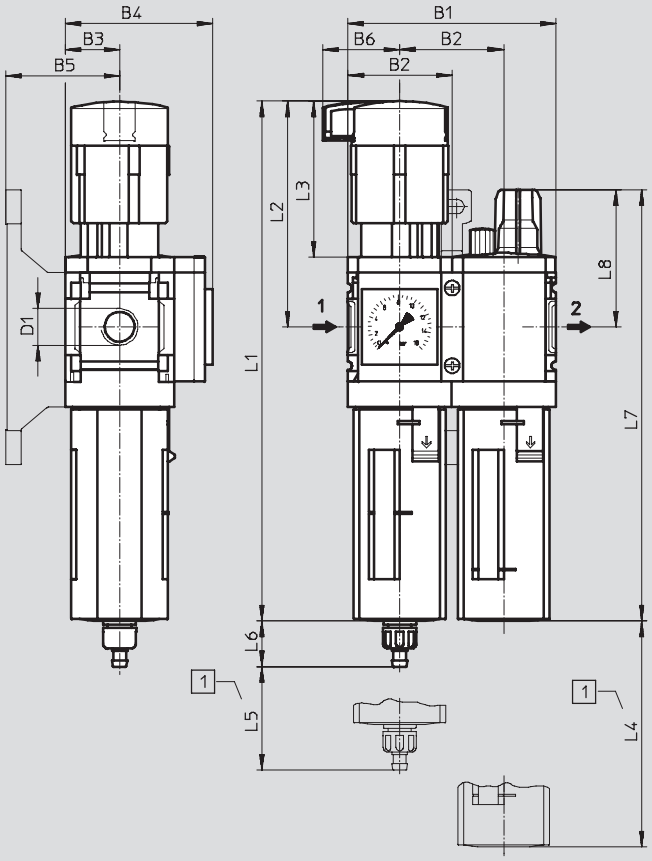


Pre-configured Combination Units MSB4-FRC – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

Type	B1	B2	B3	B4	B5	B6	D1	L1	L2	L3	L4	L5	L6 Bowl drain		L7	L8
													manual	fully automatic		
MSB4-⅛	80.4	40.2	21	57	44	29.7	G⅛	201	87	60	80	25	17.7	20.4	167	53
MSB4-¼							G¼									

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Units MSB4-FRC – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 0.3 ... 7 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G⅛	**531129**	**MSB4-⅛-FRC3:J7M1**	Q		**531125**	**MSB4-⅛-FRC1:J5M1**	Q
	G¼	**531113**	**MSB4-¼-FRC3:J7M1**	Q		**531109**	**MSB4-¼-FRC1:J5M1**	Q
Fully automatic	G⅛	**531131**	**MSB4-⅛-FRC4:J8M1**	Q		**531127**	**MSB4-⅛-FRC2:J6M1**	Q
	G¼	**531115**	**MSB4-¼-FRC4:J8M1**	Q		**531111**	**MSB4-¼-FRC2:J6M1**	Q

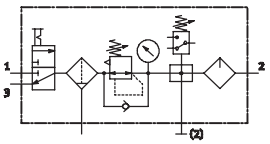
Ordering Data								
Pressure regulation range 0.5 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G⅛	**531137**	**MSB4-⅛-FRC7:J3M1**	1D		**531133**	**MSB4-⅛-FRC5:J1M1**	1D
	G¼	**531121**	**MSB4-¼-FRC7:J3M1**	1W		**531117**	**MSB4-¼-FRC5:J1M1**	1W
Fully automatic	G⅛	**531139**	**MSB4-⅛-FRC8:J4M1**	1D		**531135**	**MSB4-⅛-FRC6:J2M1**	1D
	G¼	**531123**	**MSB4-¼-FRC8:J4M1**	1W		**531119**	**MSB4-¼-FRC6:J2M1**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

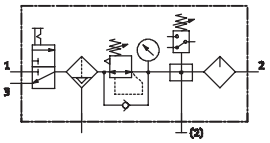
Pre-configured Combination Unit 1 – Metric Series

Technical Data

ISO Symbol

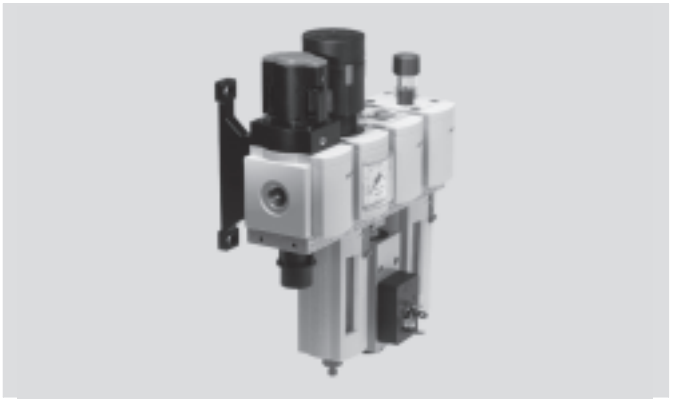


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- The unit is vented when switched off
- Electrical pressure monitoring with adjustable switching pressure
- Removal of filtered and unlubricated compressed air at the Distribution block connections



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Distribution block MS...-FRM-Y with pressure switch without display
- Lubricator MS...-LOE-R
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G¼
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	1 ... 12
Pressure indicator		With pressure gauge

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	900
	40 µm	950

Pre-configured Combination Unit 1 – Metric Series

Technical Data

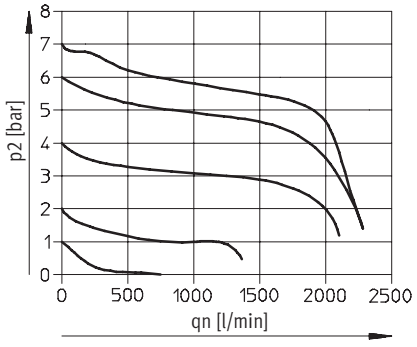
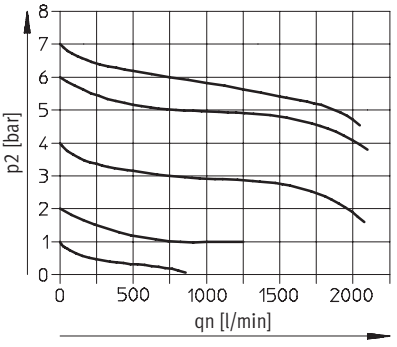
Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[bar]	1.5 ... 14	1.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	1,700
Mounting bracket	40

- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

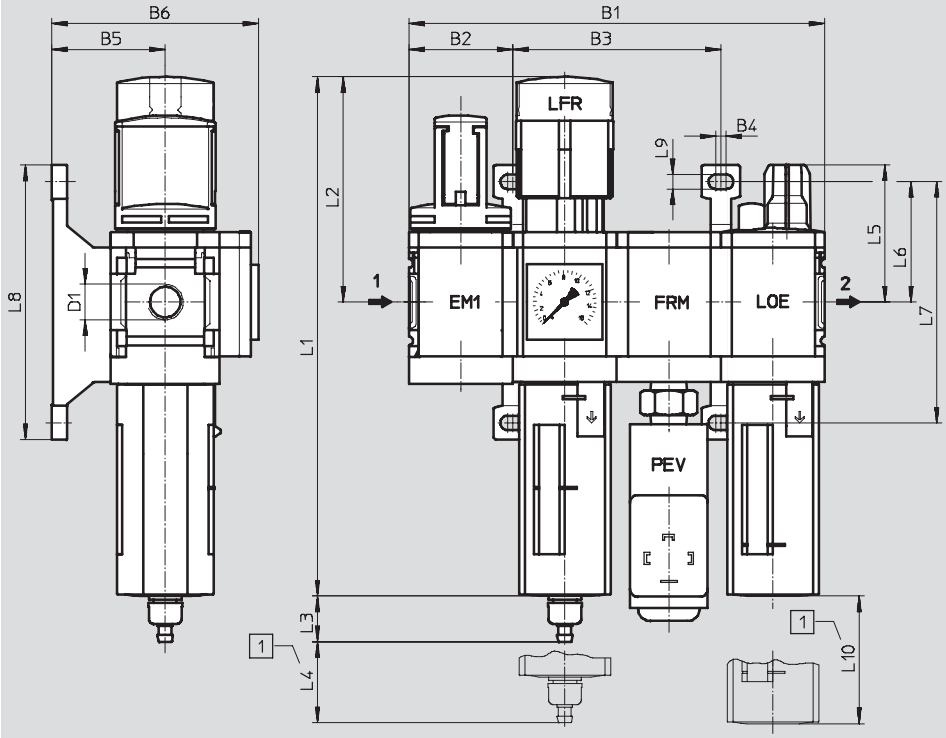
Pressure regulation range 1 ... 12 bar MSB4-¼	Filtration grade 5 µm	Filtration grade 40 µm
Primary pressure p1 = 10 bar		

Pre-configured Combination Unit 1 – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
160.8	40.2	80.4	4	44	80	G¼	201	87

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
17.7	20.4	25	53	46.5	93.2	106	5.6	80

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Pressure regulation range 1... 12 bar

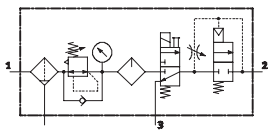
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**542307**	**MSB4-¼:C3J3F3M1-WP**	1W		**542295**	**MSB4-¼:C3J1F3M1-WP**	1W
Fully automatic	G¼	**542313**	**MSB4-¼:C3J4F3M1-WP**	1W		**542301**	**MSB4-¼:C3J2F3M1-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

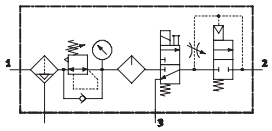
Pre-configured Combination Unit 2 – Metric Series

Technical Data

ISO Symbol

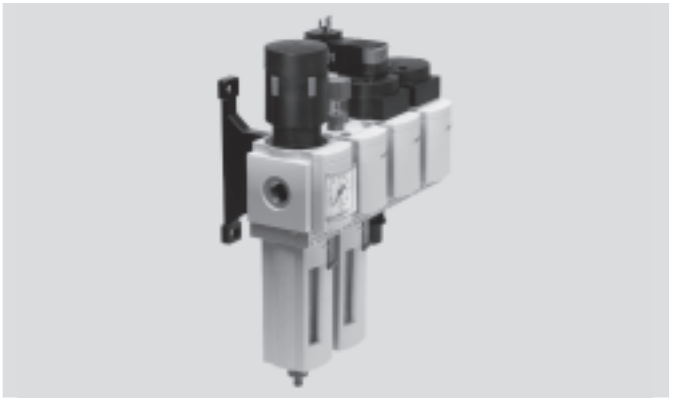


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- When supply pressure is closed, quick venting ensures rapid pressure reduction



This combination consists of:

- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G¼
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	4 ... 9 (with on-off valve MS...-EE-10V24)
	[bar]	4 ... 12 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	550
	40 µm	600

Pre-configured Combination Unit 2 – Metric Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 4 ... 9 bar		Pressure regulation range 4 ... 12 bar	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[bar]	4.5 ... 10	4.5 ... 10	4.5 ... 14	4.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	1,800
Mounting bracket	40

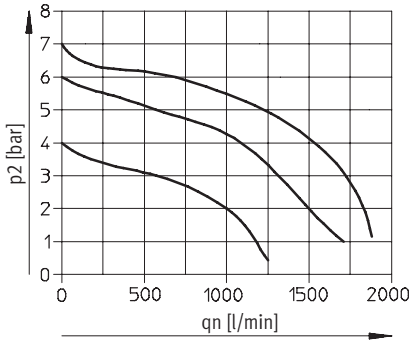
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

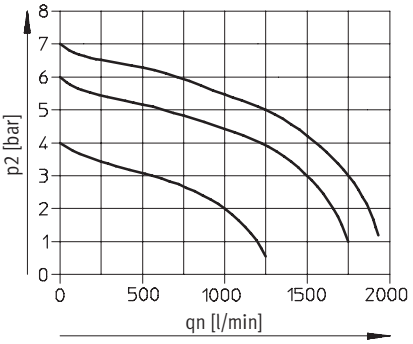
Pressure regulation range
4 ... 9 bar / 4 ... 12 bar
MSB4-¼

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm

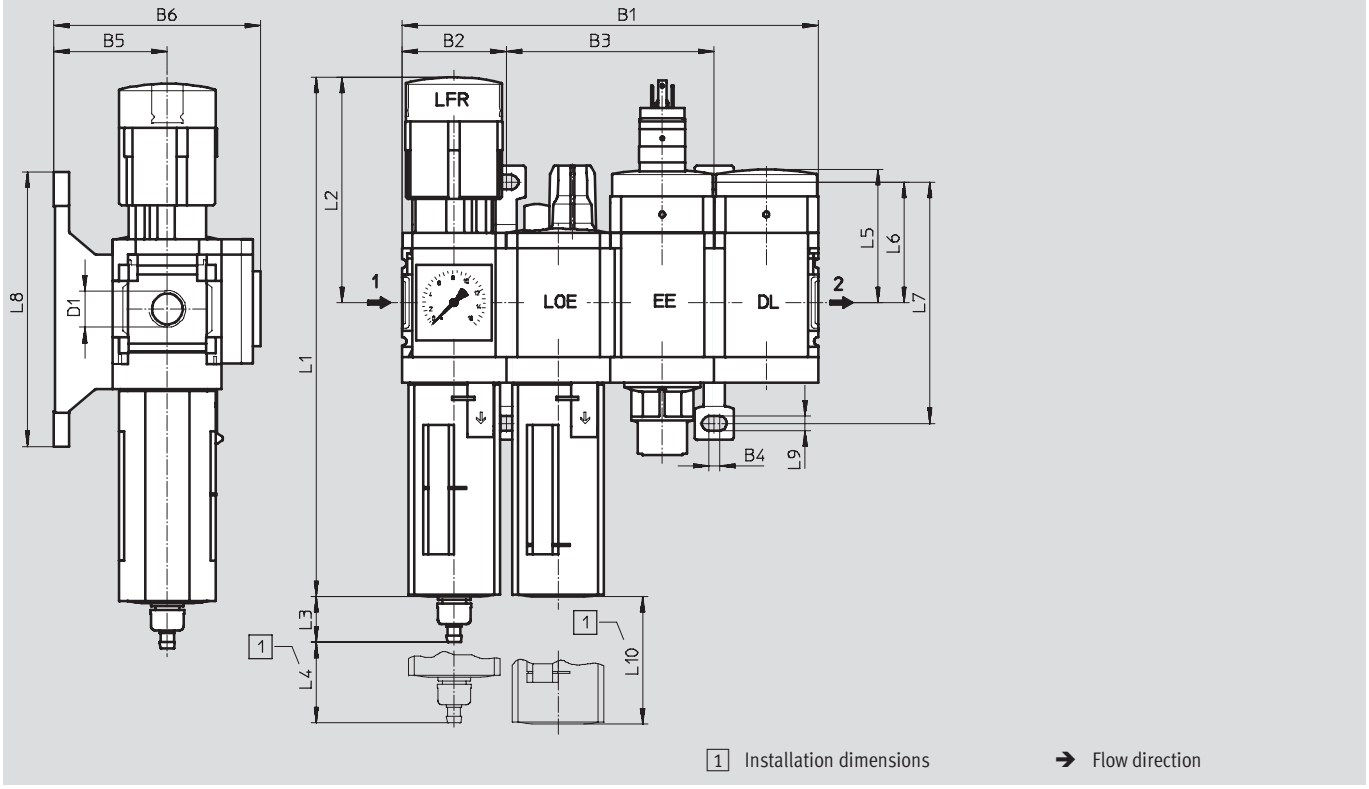


Pre-configured Combination Unit 2 – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



B1	B2	B3	B4	B5	B6	D1	L1	L2
160.8	40.2	80.4	4	44	80	G1/4	201	87

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
17.7	20.4	25	51.7	46.5	93.2	106	5.6	80

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Unit 2 – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 4 ... 9 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**542632**	**MSB4-¼:J3M1D7A1-WP**	Q		**542628**	**MSB4-¼:J1M1D7A1-WP**	Q
Fully automatic	G¼	**542634**	**MSB4-¼:J4M1D7A1-WP**	Q		**542630**	**MSB4-¼:J2M1D7A1-WP**	Q

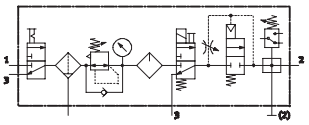
Ordering Data								
Pressure regulation range 4 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**531106**	**MSB4-¼:J3M1D1A1-WP**	1W		**531102**	**MSB4-¼:J1M1D1A1-WP**	Q
Fully automatic	G¼	**531108**	**MSB4-¼:J4M1D1A1-WP**	1W		**531104**	**MSB4-¼:J2M1D1A1-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

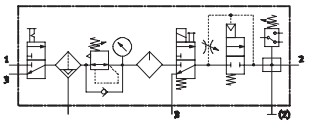
Pre-configured Combination Unit 3 – Metric Series

Technical Data

ISO Symbol

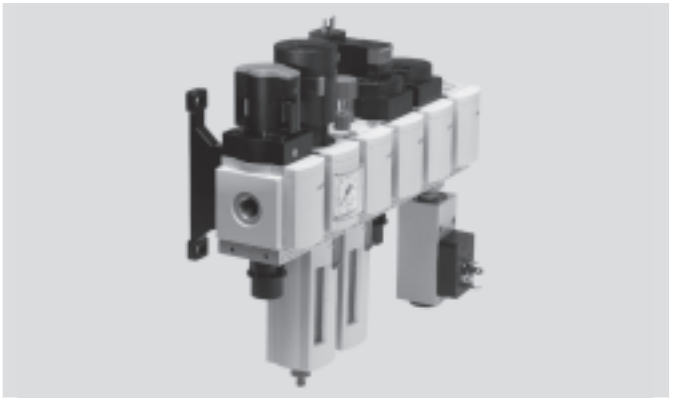


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- To shut-off and vent the following device or the system
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Distribution block MS...-FRM-Y with pressure switch without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G¼
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	4 ... 9 (with on-off valve MS...-EE-10V24)
	[bar]	4 ... 12 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	550
	40 µm	600

Pre-configured Combination Unit 3 – Metric Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 4 ... 9 bar		Pressure regulation range 4 ... 12 bar	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[bar]	4.5 ... 10	4.5 ... 10	4.5 ... 14	4.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	2,200
Mounting bracket	40

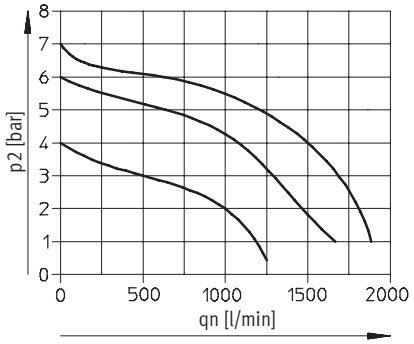
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

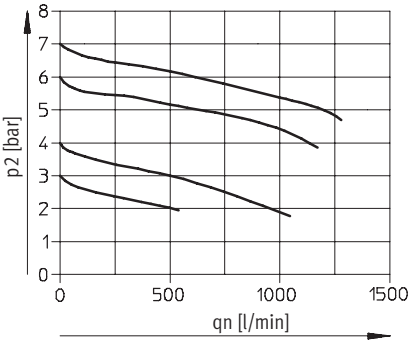
Pressure regulation range
4 ... 9 bar / 4 ... 12 bar
MSB4-¼

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm

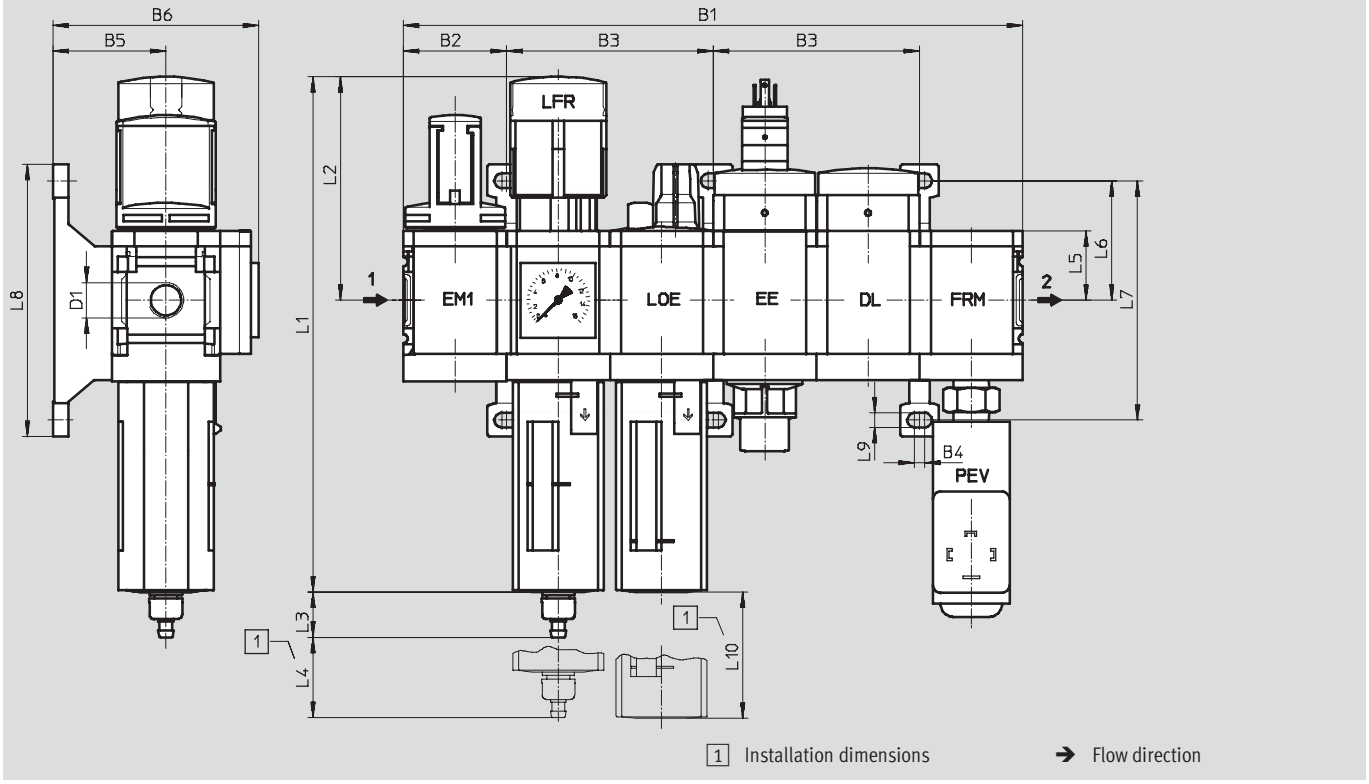


Pre-configured Combination Unit 3 – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



B1	B2	B3	B4	B5	B6	D1	L1	L2
241.2	40.2	80.4	4	44	80	G¼	201	87

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
17.7	20.4	25	27	46.5	93.2	106	5.6	80

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Unit 3 – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 4 ... 9 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**542624**	**MSB4-¼:C3J3M1D7A1F3-WP**	Q		**542619**	**MSB4-¼:C3J1M1D7A1F3-WP**	Q
Fully automatic	G¼	**542626**	**MSB4-¼:C3J4M1D7A1F3-WP**	Q		**542622**	**MSB4-¼:C3J2M1D7A1F3-WP**	Q

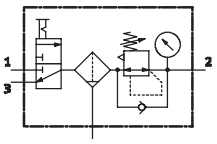
Ordering Data								
Pressure regulation range 4 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**542309**	**MSB4-¼:C3J3M1D1A1F3-WP**	1W		**542297**	**MSB4-¼:C3J1M1D1A1F3-WP**	1W
Fully automatic	G¼	**542315**	**MSB4-¼:C3J4M1D1A1F3-WP**	1W		**542303**	**MSB4-¼:C3J2M1D1A1F3-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

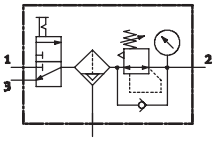
Pre-configured Combination Unit 4 – Metric Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G¼
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	0.5 ... 12
Pressure indicator		With pressure gauge

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	950
	40 µm	1,000

Pre-configured Combination Unit 4 – Metric Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[bar]	0.8 ... 14	1.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	1,300
Mounting bracket	40

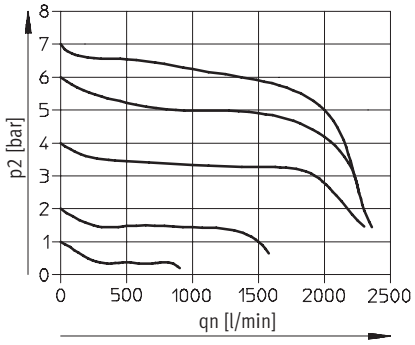
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

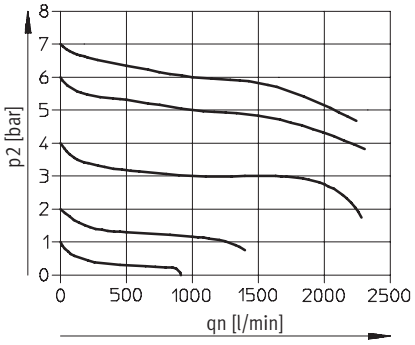
Pressure regulation range 0.5 ... 12 bar
MSB4-¼

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm

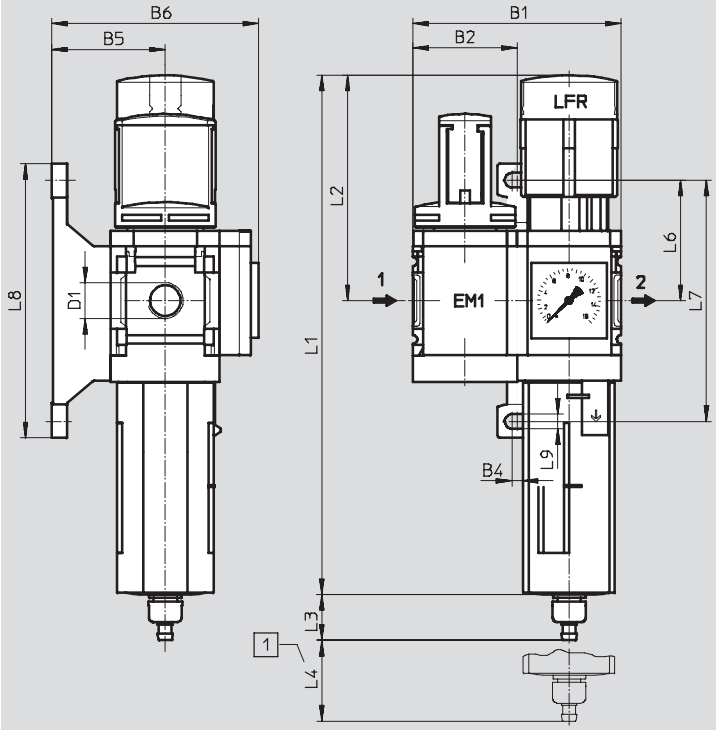


Pre-configured Combination Unit 4 – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B4	B5	B6	D1	L1	L2
80.4	40.2	4	44	80	G¼	201	87

L3 Bowl drain		L4	L6	L7	L8	L9
manual	fully automatic					
17.7	20.4	25	46.5	93.2	106	5.6

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Pressure regulation range 0.5 ... 12 bar

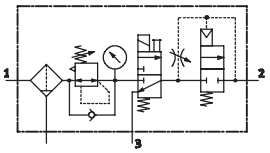
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**542304**	**MSB4-¼:C3J3-WP**	1W		**542292**	**MSB4-¼:C3J1-WP**	1W
Fully automatic	G¼	**542310**	**MSB4-¼:C3J4-WP**	1W		**542298**	**MSB4-¼:C3J2-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

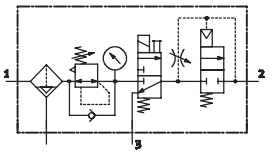
Pre-configured Combination Unit 5 – Metric Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- When supply pressure is closed, quick venting ensures rapid pressure reduction



This combination consists of:

- Filter regulator MS...-LFR-D7
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G¼
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	4 ... 9 (with on-off valve MS...-EE-10V24)
	[bar]	4 ... 12 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	700
	40 µm	750

Pre-configured Combination Unit 5 – Metric Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 4 ... 9 bar		Pressure regulation range 4 ... 12 bar	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[bar]	4.5 ... 10	4.5 ... 10	4.5 ... 14	4.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	1,600
Mounting bracket	40

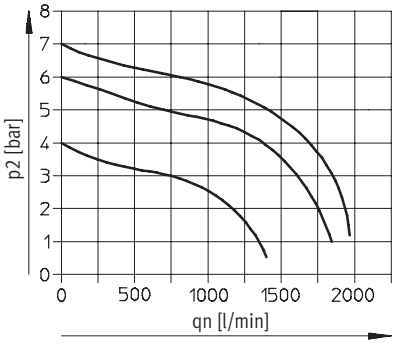
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

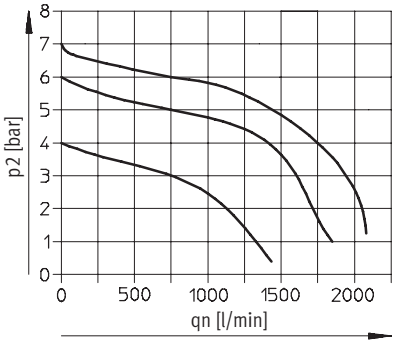
Pressure regulation range
4 ... 9 bar / 4 ... 12 bar
MSB4-¼

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm

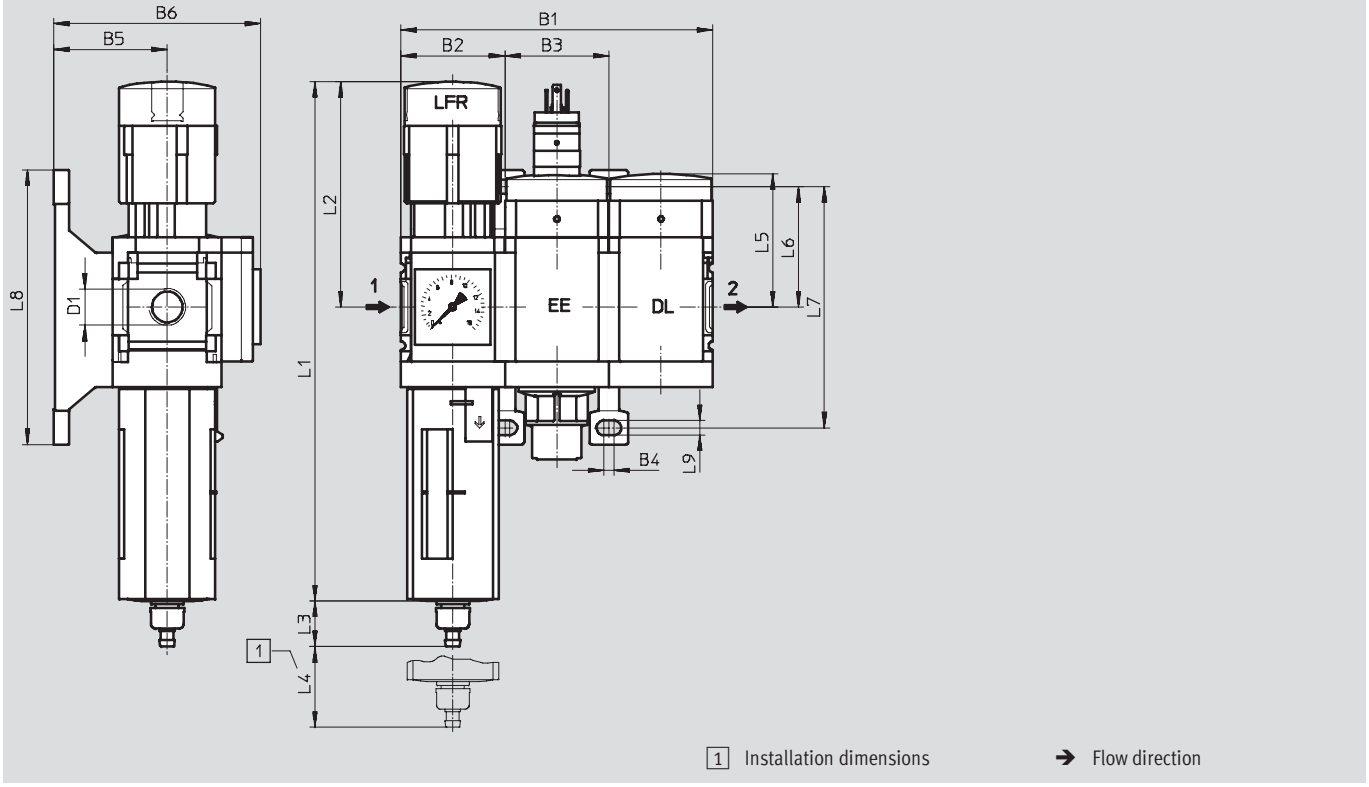


Pre-configured Combination Unit 5 – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
120.6	40.2	40.2	4	44	80	G1/4	201	87

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
17.7	20.4	25	51.7	46.5	93.2	106	5.6

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Unit 5 – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 4 ... 9 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**542631**	**MSB4-¼:J3D7A1-WP**	Q		**542627**	**MSB4-¼:J1D7A1-WP**	Q
Fully automatic	G¼	**542633**	**MSB4-¼:J4D7A1-WP**	Q		**542629**	**MSB4-¼:J2D7A1-WP**	Q

Ordering Data								
Pressure regulation range 4 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**531105**	**MSB4-¼:J3D1A1-WP**	1W		**531101**	**MSB4-¼:J1D1A1-WP**	1W
Fully automatic	G¼	**531107**	**MSB4-¼:J4D1A1-WP**	1W		**531103**	**MSB4-¼:J2D1A1-WP**	1W

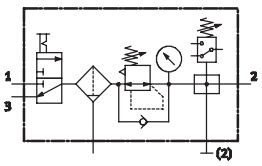
LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Pre-configured Combination Unit 6 – Metric Series

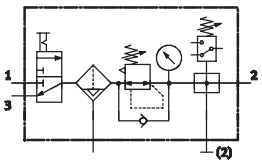
Technical Data

FESTO

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Distribution block MS...-FRM-Y with pressure switch, without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G¼
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	0.5 ... 12
Pressure indicator		With pressure gauge

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	1,250
	40 µm	1,300

Pre-configured Combination Unit 6 – Metric Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[bar]	0.8 ... 14	1.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	1,500
Mounting bracket	40

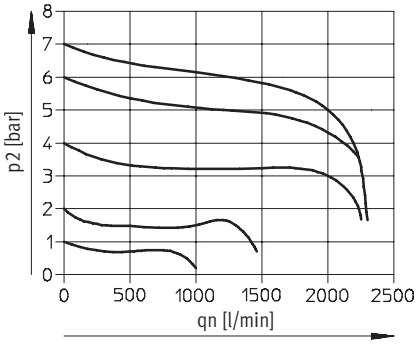
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

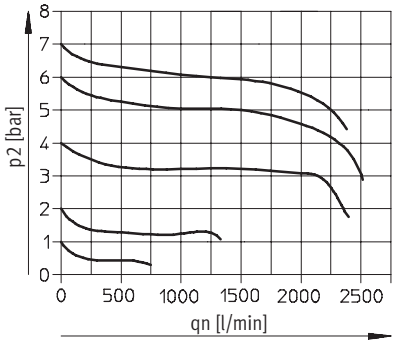
Pressure regulation range 0.5 ... 12 bar
MSB4-¼

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm



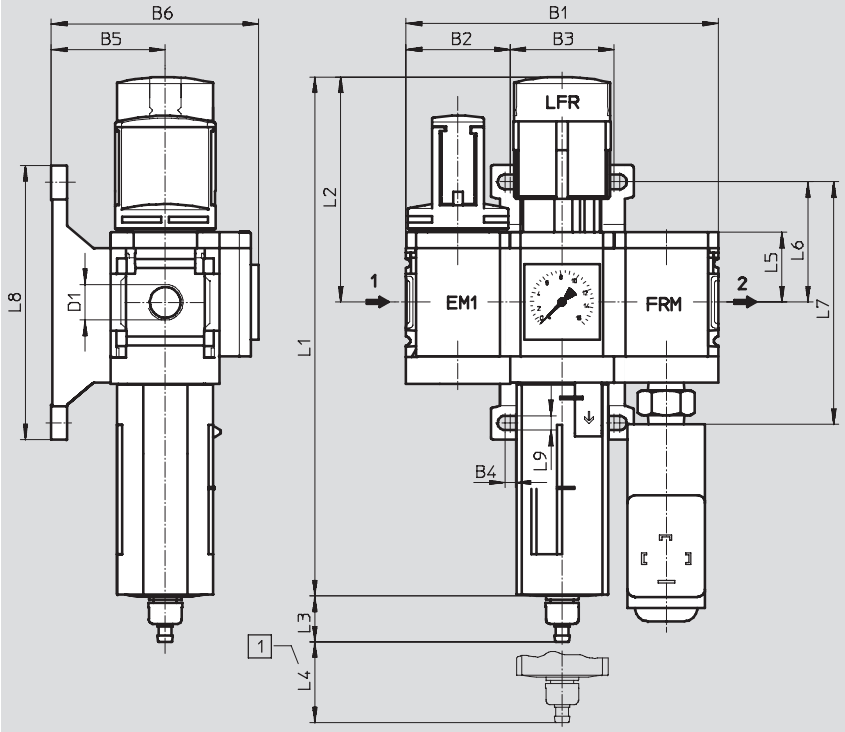
Pre-configured Combination Unit 6 – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
120.6	40.2	40.2	4	44	80	G¼	201	87

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
17.7	20.4	25	27	46.5	93.2	106	5.6

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Pressure regulation range 0.5 ... 12 bar

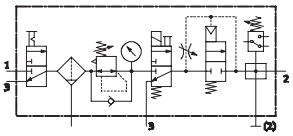
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**542306**	**MSB4-¼:C3J3F3-WP**	1W		**542294**	**MSB4-¼:C3J1F3-WP**	1W
Fully automatic	G¼	**542312**	**MSB4-¼:C3J4F3-WP**	1W		**542300**	**MSB4-¼:C3J2F3-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

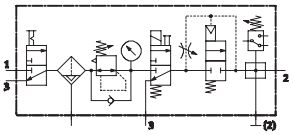
Pre-configured Combination Unit 7 – Metric Series

Technical Data

ISO Symbol

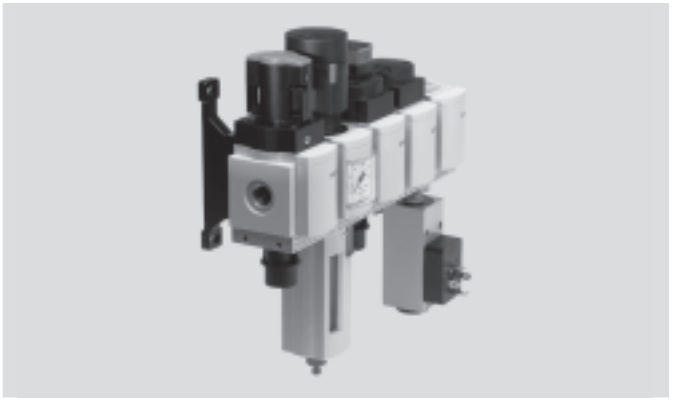


With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- To shut-off and vent the following device or the system
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Distribution block MS...-FRM-Y with pressure switch without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G¼
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	4 ... 9 (with on-off valve MS...-EE-10V24)
	[bar]	4 ... 12 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	700
	40 µm	750

Pre-configured Combination Unit 7 – Metric Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 4 ... 9 bar		Pressure regulation range 4 ... 12 bar	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[bar]	4.5 ... 10	4.5 ... 10	4.5 ... 14	4.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	2,200
Mounting bracket	40

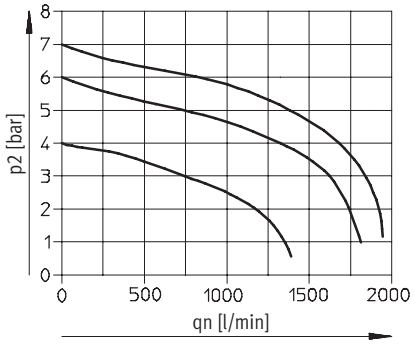
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

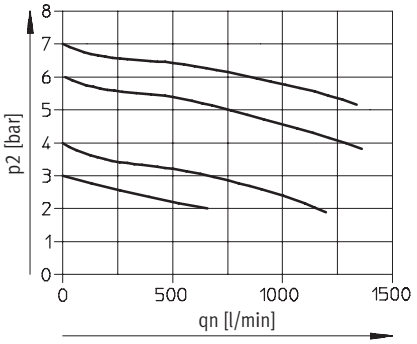
Pressure regulation range
4 ... 9 bar / 4 ... 12 bar
MSB4-¼

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm

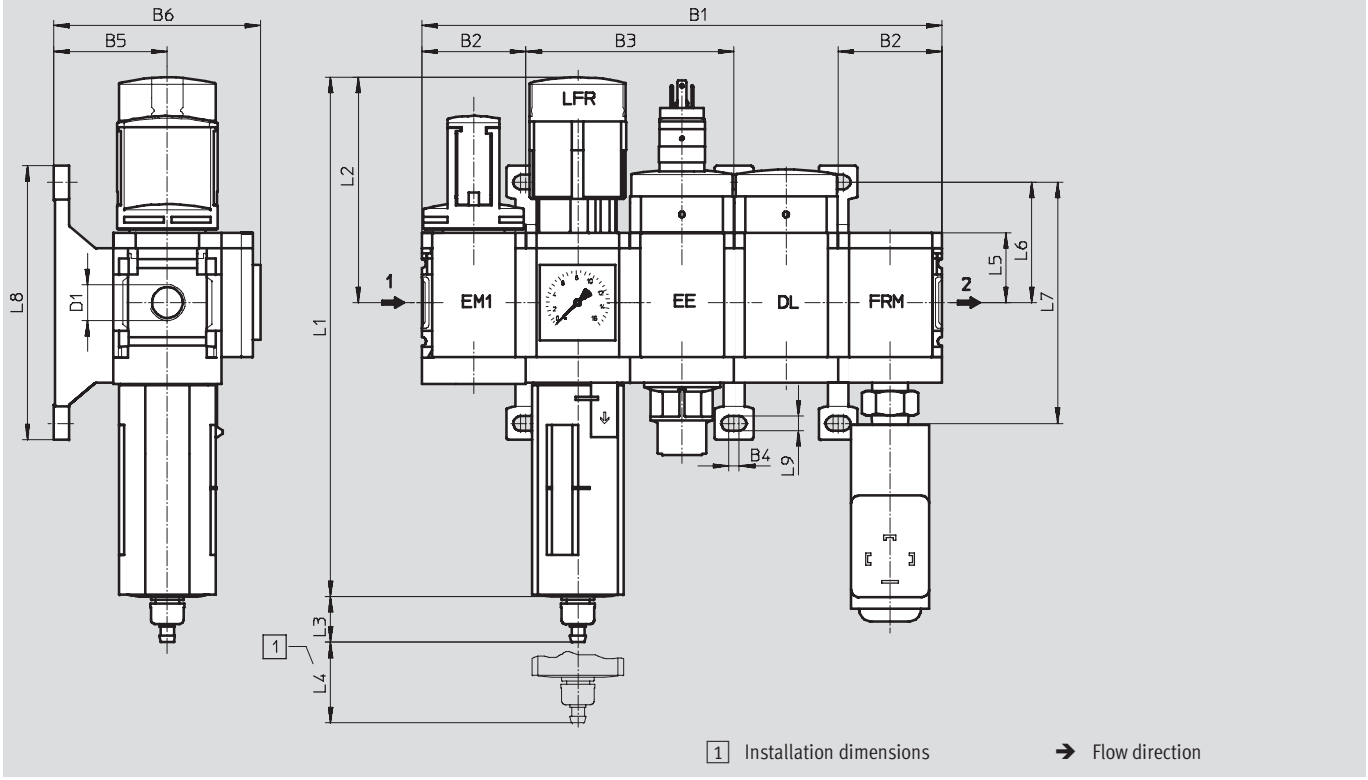


Pre-configured Combination Unit 7 – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



B1	B2	B3	B4	B5	B6	D1	L1	L2
201	40.2	80.4	4	44	80	G¼	201	87

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
17.7	20.4	25	27	46.5	93.2	106	5.6

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Unit 7 – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 4 ... 9 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**542623**	**MSB4-¼:C3J3D7A1F3-WP**	Q		**542618**	**MSB4-¼:C3J1D7A1F3-WP**	Q
Fully automatic	G¼	**542625**	**MSB4-¼:C3J4D7A1F3-WP**	Q		**542621**	**MSB4-¼:C3J2D7A1F3-WP**	Q

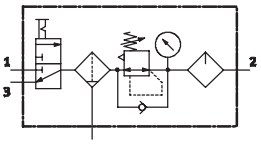
Ordering Data								
Pressure regulation range 4 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**542305**	**MSB4-¼:C3J3D1A1F3-WP**	1W		**542293**	**MSB4-¼:C3J1D1A1F3-WP**	1W
Fully automatic	G¼	**542311**	**MSB4-¼:C3J4D1A1F3-WP**	1W		**542299**	**MSB4-¼:C3J2D1A1F3-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

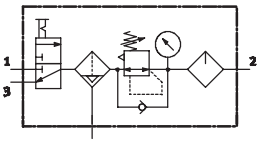
Pre-configured Combination Unit 8 – Metric Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G¼
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	1 ... 12
Pressure indicator		With pressure gauge

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	700
	40 µm	750

Pre-configured Combination Unit 8 – Metric Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[bar]	1.5 ... 14	1.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	1,500
Mounting bracket	40

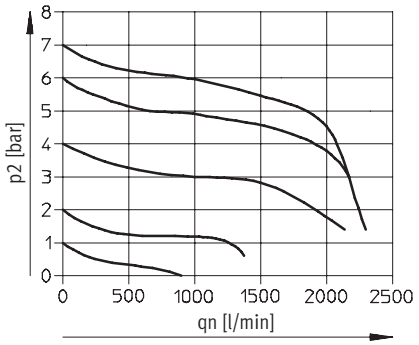
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

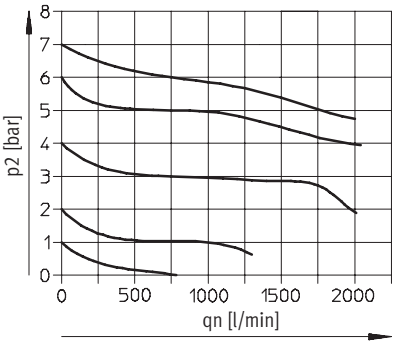
Pressure regulation range 1 ... 12 bar
MSB4-¼

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm

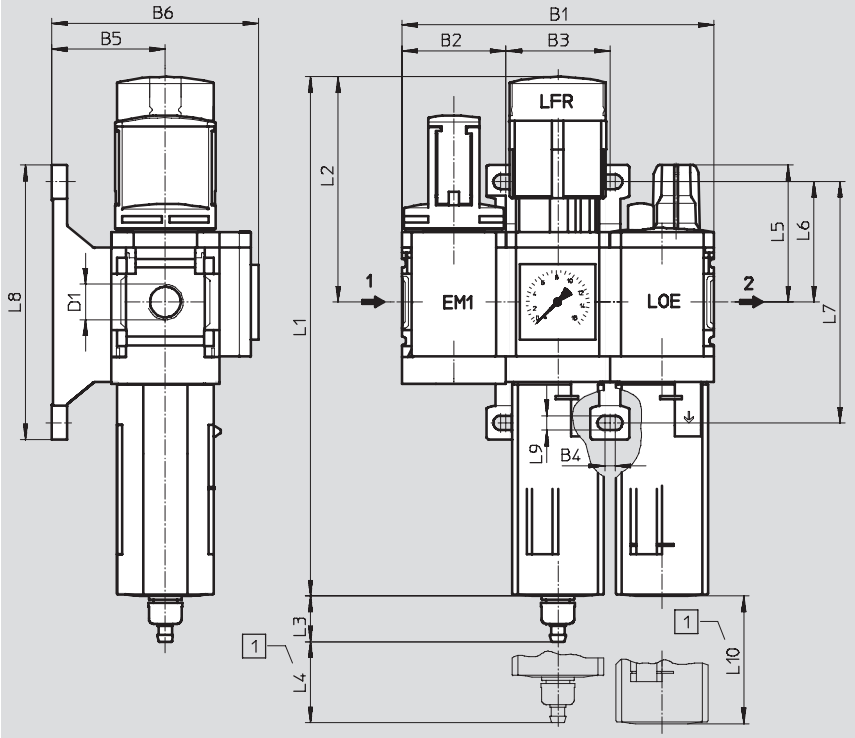


Pre-configured Combination Unit 8 – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
120.6	40.2	40.2	4	44	80	G¼	201	87

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
17.7	20.4	25	53	46.5	93.2	106	5.6	80

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Pressure regulation range 1 ... 12 bar

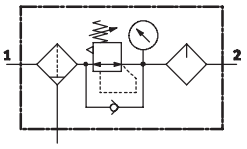
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**542308**	**MSB4-¼:C3J3M1-WP**	1W		**542296**	**MSB4-¼:C3J1M1-WP**	1W
Fully automatic	G¼	**542314**	**MSB4-¼:C3J4M1-WP**	1W		**542302**	**MSB4-¼:C3J2M1-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

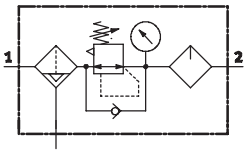
Pre-configured Combination Unit 9 – Metric Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- Filter MS...-LF
- Pressure regulator MS...-LR
- Lubricator MS...-LOE
- Mounting bracket MS...-WP

General Technical Data			
Pneumatic connection 1, 2			G¼
Type of mounting			Via accessories
Assembly position			Vertical ±5°
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard			Plastic bowl guard
			Metal bowl guard
Bowl drain			Manual
			Fully automatic
Pressure adjustment			Rotary knob with detent
			Lockable with accessories
Pressure regulation range	N2	[bar]	1 ... 7
	N3	[bar]	1 ... 12
Pressure indicator			With pressure gauge

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
N2 – Pressure regulation range 1 ... 7 bar		
Filtration grade	40 µm	1,300
N3 – Pressure regulation range 1 ... 12 bar		
Filtration grade	5 µm	700
	40 µm	800

Pre-configured Combination Unit 9 – Metric Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[bar]	1.5 ... 14	1.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	
With plastic bowl guard	1,000
Mounting bracket	40

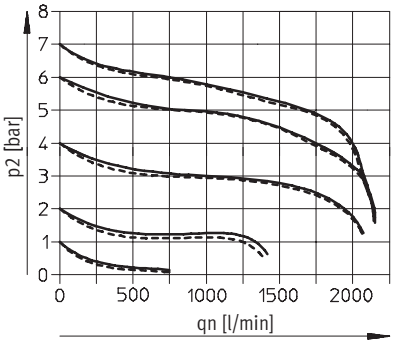
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

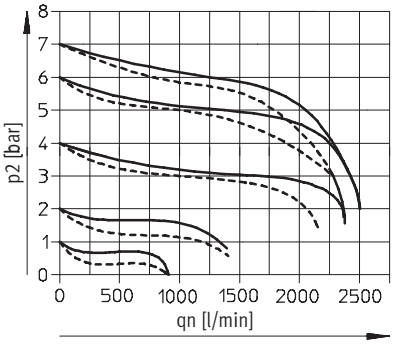
Pressure regulation range N2 or N3
MSB4-¼

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm



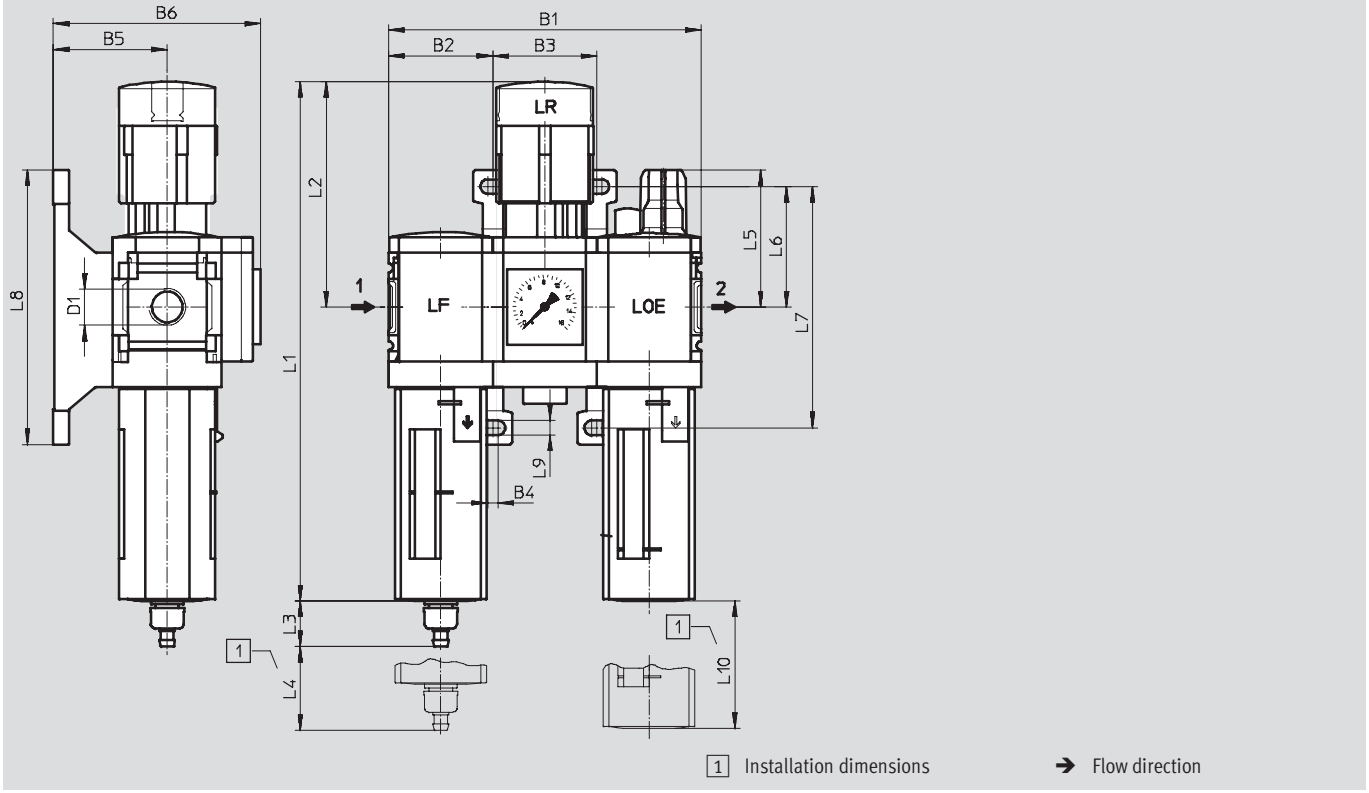
------- N2: 1 ... 7 bar
——— N3: 1 ... 12 bar

Pre-configured Combination Unit 9 – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



B1	B2	B3	B4	B5	B6	D1	L1	L2
120.6	40.2	40.2	4	44	80	G¼	201	87

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
17.7	20.4	25	53	46.5	93.2	106	5.6	80

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Unit 9 – Metric Series

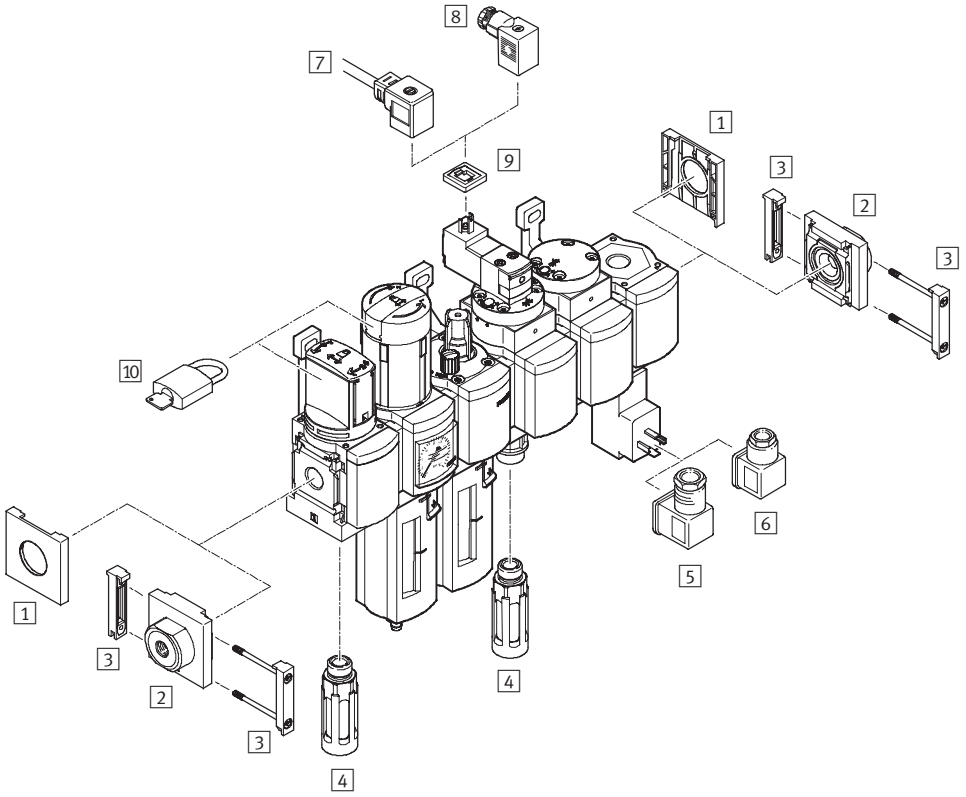
Ordering Data – Pre-configured Products

Ordering Data				
Pressure regulation range 1 ... 7 bar				
Bowl drain	Connection	Filtration grade 40 µm		
		Part No.	Type	LT
Plastic bowl guard				
Manual	G¼	**531091**	**MSB4-¼:H2N2M1-WP**	Q
Fully automatic	G¼	**531085**	**MSB4-¼:H1N2M1-WP**	Q

Ordering Data								
Pressure regulation range 1 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**531097**	**MSB4-¼:H3N3M1-WP**	1W		**531093**	**MSB4-¼:H2N3M1-WP**	1W
Fully automatic	G¼	**531099**	**MSB4-¼:H4N3M1-WP**	1W		**531087**	**MSB4-¼:H1N3M1-WP**	1W
Metal bowl guard								
Manual	G¼	–				**531095**	**MSB4-¼:H8N3M2-WP**	Q
Fully automatic	G¼	–				**531089**	**MSB4-¼:H7N3M2-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Mounting Attachments and Accessories



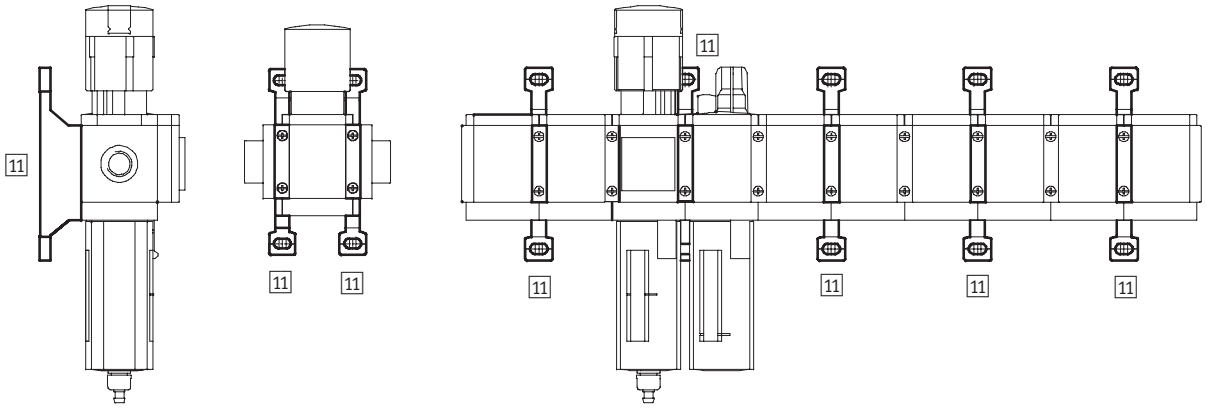
Note

The choice of accessories depends on the selected combination unit.

Range of accessories

➔ See the accessories pages of the individual devices

Single unit and combination unit mounting brackets.



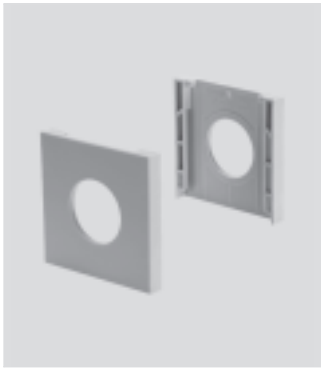
Pre-configured Combination Units MSB4 – Metric Series

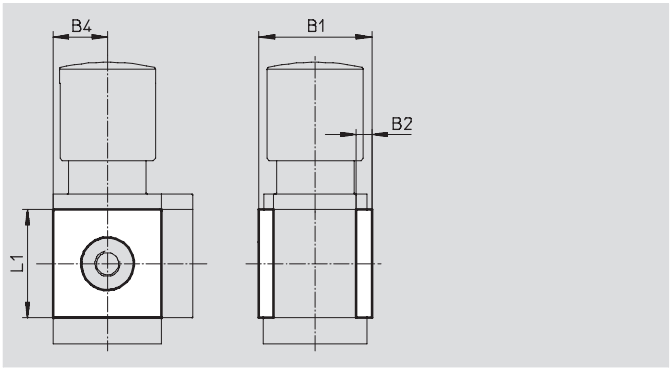
Accessories Overview

Mounting Attachments and Accessories		
		➔ Page
1	Cover cap MS4-END	42
2	Port plate MS4-AG...	43
3	Body connector MS4-MV	43
4	Silencer U	48
5	Angled socket PEV-¼-WD-LED	48
6	Plug socket MSSD-C-4P	48
7	Plug socket with cable KMEB	48
8	Plug socket MSSD-EB	48
9	Illuminating seal MEB-LD	48
10	Padlock LRVS-D	48
11	Mounting bracket (for service unit MSB-FRC) MS4-WP/WPB/WPM	44

1 **Cover cap MS4-END**
- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





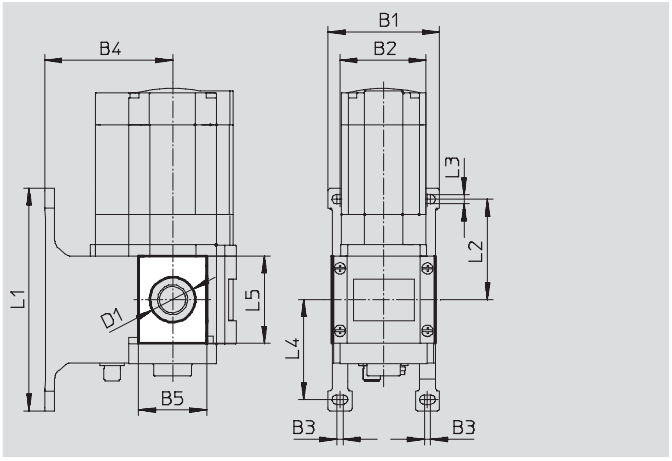
Dimensions and Ordering Data

B1	B2	B4	L1	Part No.	Type
43.6	6	21	42	**538779**	**MS4-END**

Mounting plate MS4-AEND
- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

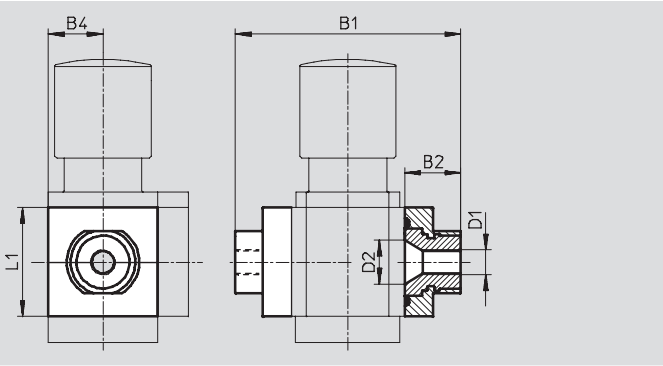
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	**542 966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4-AG...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
83.5	21.5	21	G1⁄8	16.8	42	128	**526068**	**MS4-AGA**
			G1⁄4				**526069**	**MS4-AGB**
			G3⁄8				**526070**	**MS4-AGC**

3 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

Weight [g]	Part No.	Type
36	**532798**	**MS4-MV**

11 Mounting Bracket MS4-WP...

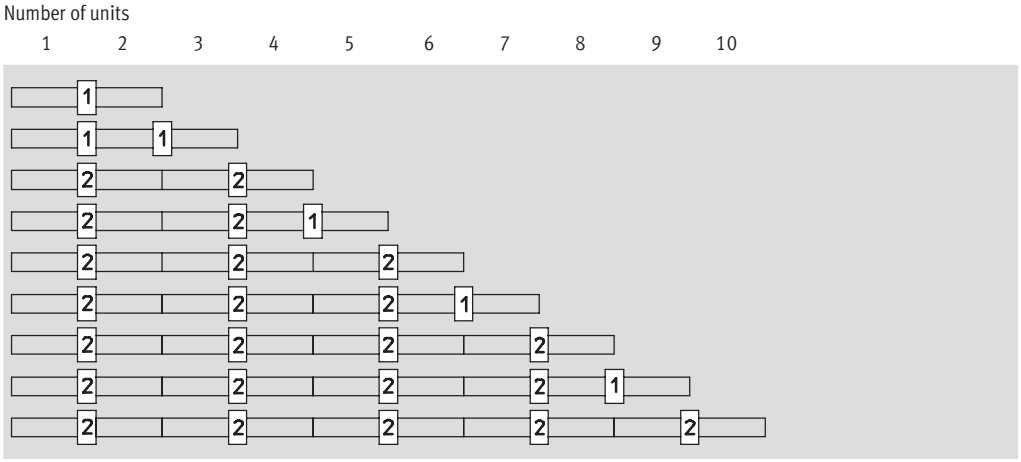
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 40 mm

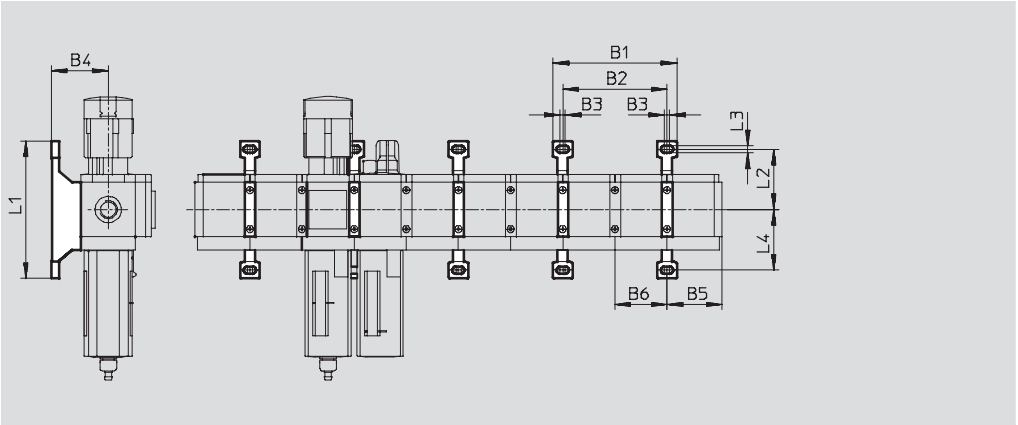
2 units: 80 mm

1 Mounting bracket WP, WPB or WPM-D

2 Mounting bracket WP, WPB or WPM-2D



Mounting dimensions



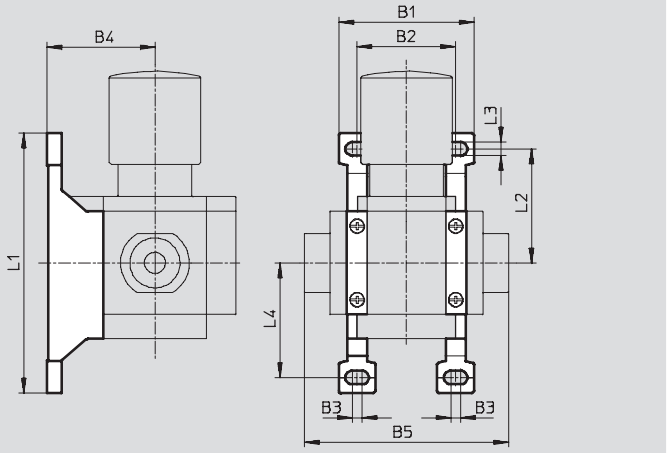
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44			92.8	34.8		40

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

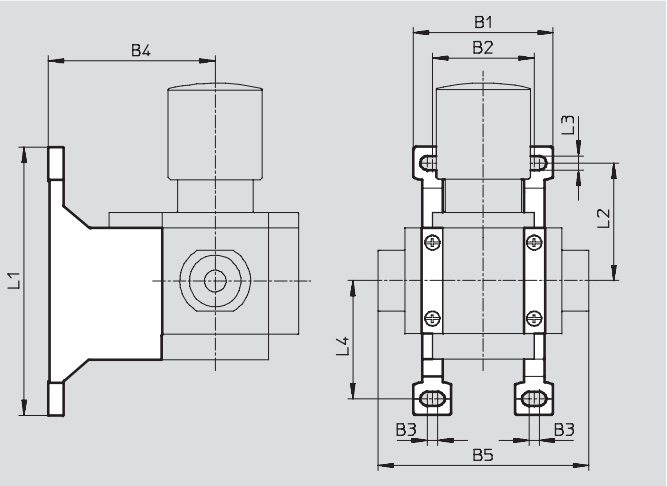
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	44	83.4	106	46.5	5.6	46.7	39	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	55	**526063**	**MS4-WPB**

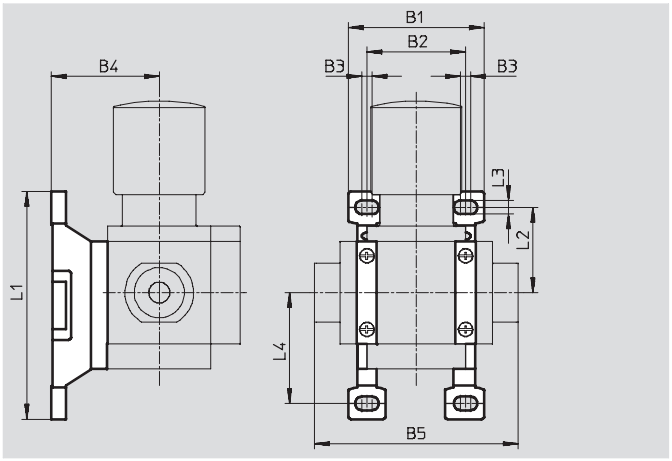
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
55.2	40	4	44	83.4	92.8	34.8	5.6	45.2	40	45	**526060**	**MS4-WPM-D**
95.2	80			123.4					80	55	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Filter cartridge MS4-LF...


MS...-LFM


MS...-LFP


MS...-LFX

Ordering Data

	Filtration grade [µm]	Part No.	Type
Micro-filter cartridge	0.01	**162674**	**MS4/D-MINI-LFM-A**
Fine-filter cartridge	1	**162677**	**MS4/D-MINI-LFM-B**
Filter cartridge	5	**534501**	**MS4-LFP-C**
Filter cartridge	40	**534502**	**MS4-LFP-E**
Active carbon filter cartridge	Residual oil content ≤ 0.003 mg/m^3	**532912**	**MS4/D-MINI-LFX**

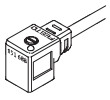
5 Ordering Data – Angled Socket PEV — Technical data ➔ www.festo.com/catalog/pev

	Description	Operating voltage range	Electrical connection	Switching status display	Part No.	Type
	for PEV-¼-...-OD	15 .... 30 V DC	4-pin	Yellow LED	**164274**	**PEV-¼-WD-LED-24**
		≤ 230 V AC ≤ 180 V DC	4-pin	Yellow LED	**164275**	**PEV-¼-WD-LED-230**

6 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for PEV-¼-...-OD	≤ 250 V AC/DC	3-pin	Clamping screws	**171157**	**MSSD-C-4P**
	for MS4-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	**151687**	**MSSD-EB**
			4-pin	Insulation displacement technology	**192745**	**MSSD-EB-S-M14**

7 Ordering Data – Plug Socket with Cable KMEB — Technical data ➔ www.festo.com/catalog/kmeb

	Description	Operating voltage range	Switching status display	Cable length [m]	Part No.	Type
	for MS4-EE/DE	24 V DC	LED	2.5	**151688**	**KMEB-1-24-2,5-LED**
		24 V DC	LED	5	**151689**	**KMEB-1-24-5-LED**
		24 V DC	LED	10	**193457**	**KMEB-1-24-10-LED**
		230 V AC	–	2.5	**151690**	**KMEB-1-230AC-2,5**
		230 V AC	–	5	**151691**	**KMEB-1-230AC-5**

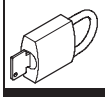
9 Ordering Data – Illuminating Seal MEB-LD — Technical data ➔ www.festo.com/catalog/meb-ld

	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	**151717**	**MEB-LD-12-24DC**
		230 V DC/AC ±10%	**151718**	**MEB-LD-230AC**

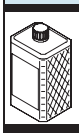
4 Ordering Data – Silencer U — Technical data ➔ www.festo.com/catalog/u

	Description	Pneumatic connection	Part No.	Type
	for MS4-EM1/EE	G¼	**6842**	**U-¼-B**

10 Ordering Data – Padlock LRVS-D

	Description	Weight [g]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	120	**193786**	**LRVS-D**

Ordering Data – Special Oil OFSW

	Description	Scope of delivery	Part No.	Type
	for lubricators	1 liter	**152811**	**OFSW-32**

Pre-configured Combination Units MSB4N – Inch Series



Ten different types of pre-configured and assembled combination units are available. They consist of up to six different individual units with options for filtration grade and condensate drain (see table below). Mounting brackets are included. MS Series combination units have a high resistance to corrosion in typical industrial environments and offer high flow rates with compact components.

- Pneumatic connections: 1/8 NPT, 1/4 NPT (3/8 NPT with optional port plate)
- Flow rate: 19.4 ... 49.4 scfm*
- Supply pressure: 12 ... 206 psi*
- Pressure regulation range: 4.4 ... 176 psi*
- Filtration grade: 5 µm and 40 µm

* Individual combination units will vary depending on selected type and option.

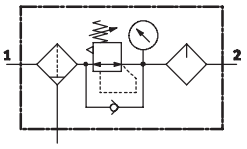
Combination Units		MSB4N-FRC	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9
Consisting of:											
On-off valve (manually actuated)	EM1	–	■	–	■	■	–	■	■	■	–
Filter regulator with pressure gauge, lockable	LFR	■	■	■	■	■	■	■	■	■	–
Pressure regulator with pressure gauge, lockable	LR	–	–	–	–	–	–	–	–	–	■
Filter	LF	–	–	–	–	–	–	–	–	–	■
Lubricator	LOE	■	■	■	■	–	–	–	–	■	■
On-off valve (solenoid actuated)	EE	–	–	■	■	–	■	–	■	–	–
Soft-start valve (pneumatically actuated)	DL	–	–	■	■	–	■	–	■	–	–
Distribution block with pressure switch	FRM	–	■	–	■	–	–	■	■	–	–
Mounting bracket	WP	–	■	■	■	■	■	■	■	■	■
Technical data → Page		50	56	59	63	67	70	74	77	81	84

Note
Should you require a custom combination unit, please go to our online catalog at: www.festo.com/catalog/msb4n. Click on the blue basket icon next to P/N 532306. Then open the shopping basket on the right menu and click on the configuration icon. You can now configure your combination unit.

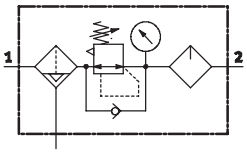
Pre-configured Combination Units MSB4N-FRC – Inch Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- Filter, regulator and lubricator function in a single unit
- High flow rate and highly efficient removal of contaminants
- Good regulating characteristics with minimal pressure hysteresis
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Two pressure regulation ranges: 4.4 ... 103 psi and 7.4 ... 176 psi
- Choice of filter cartridges: 5 µm or 40 µm
- With manual or integrated, fully automatic bowl drain



General Technical Data			
Pneumatic connection 1, 2		1/8 NPT	1/4 NPT
Design		Filter regulator with pressure gauge	
		Proportional standard mist lubricator	
Regulating function		With primary pressure compensation	
		With secondary venting	
		With return flow function	
		Output pressure constant	
Type of mounting		Via accessories	
Assembly position		Vertical ±5°	
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)	
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)	
Bowl guard		Plastic bowl guard	
Bowl drains		Manual	
		Fully automatic	
Pressure adjustment		Rotary knob with integrated lock	
Pressure regulation range	[psi]	4.4 ... 103	
		7.4 ... 176	
Pressure indicator		With pressure gauge	

Pre-configured Combination Units MSB4N-FRC – Inch Series

Technical Data

Standard Nominal Flow Rate qnN[1] [scfm]			
Pneumatic connection		1/8 NPT	1/4 NPT
Pressure regulation range 4.4... 103 psi			
Filtration grade	5 µm	31.8	45.9
	40 µm	33.5	49.4
Pressure regulation range 7.4... 176 psi			
Filtration grade	5 µm	28.2	30.0
	40 µm	30.0	31.8

1) Measured at p1 = 147 psi and p2 = 88 psi, Δp = 15 psi.

Operating and Environmental Conditions			
Bowl drains		Manual	Fully automatic
Supply pressure	[psi]	22 ... 206	22 ... 176
Operating medium		Compressed air	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[2]	2	

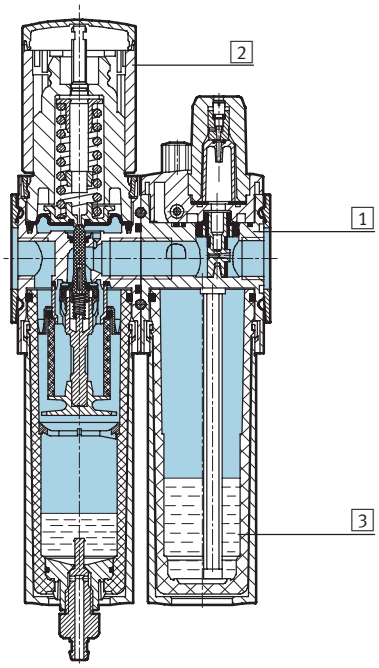
2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	1.00

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



Service unit		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Plastic bowl guard	Polycarbonate
–	Seals	Nitrile rubber

Pre-configured Combination Units MSB4N-FRC – Inch Series

Technical Data

FESTO

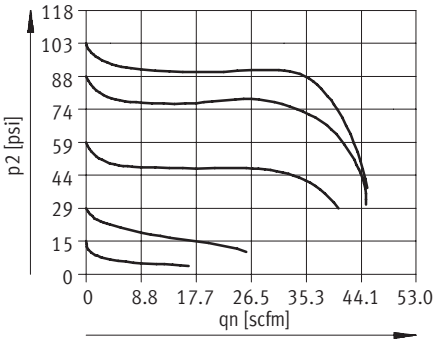
Standard Flow Rate qn as a Function of Output Pressure p2

Pressure regulation range 4.4 ... 103 psi

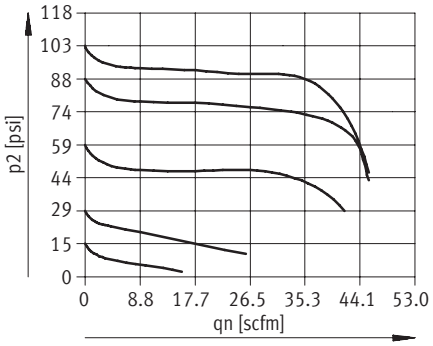
MSB4N-⅛

Primary pressure p1 = 147 psi

Filtration grade 5 µm

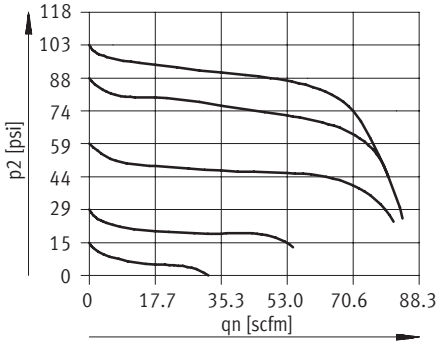


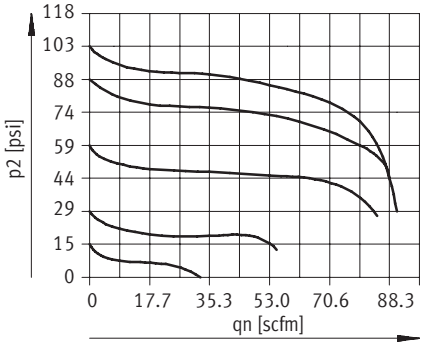
Filtration grade 40 µm



MSB4N-¼

Primary pressure p1 = 147 psi

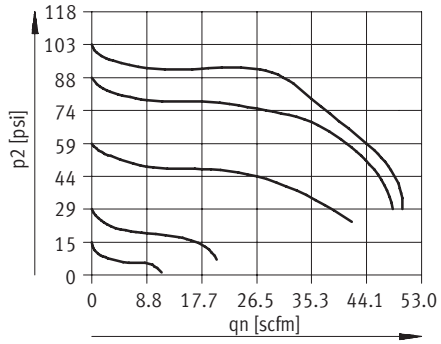
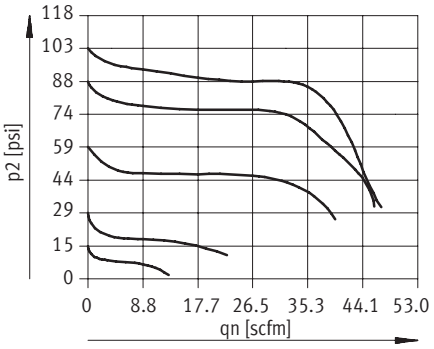
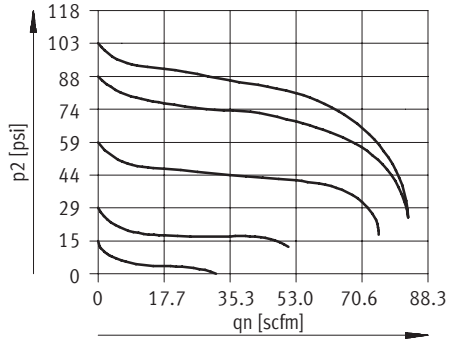
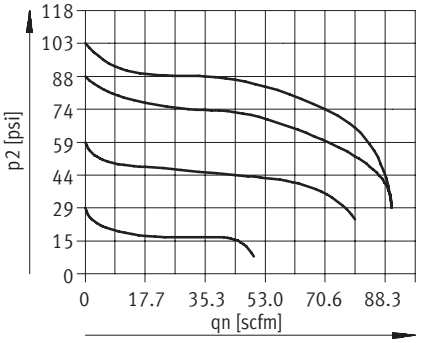




Pre-configured Combination Units MSB4N-FRC – Inch Series

Technical Data

Standard Flow Rate qn as a Function of Output Pressure p2

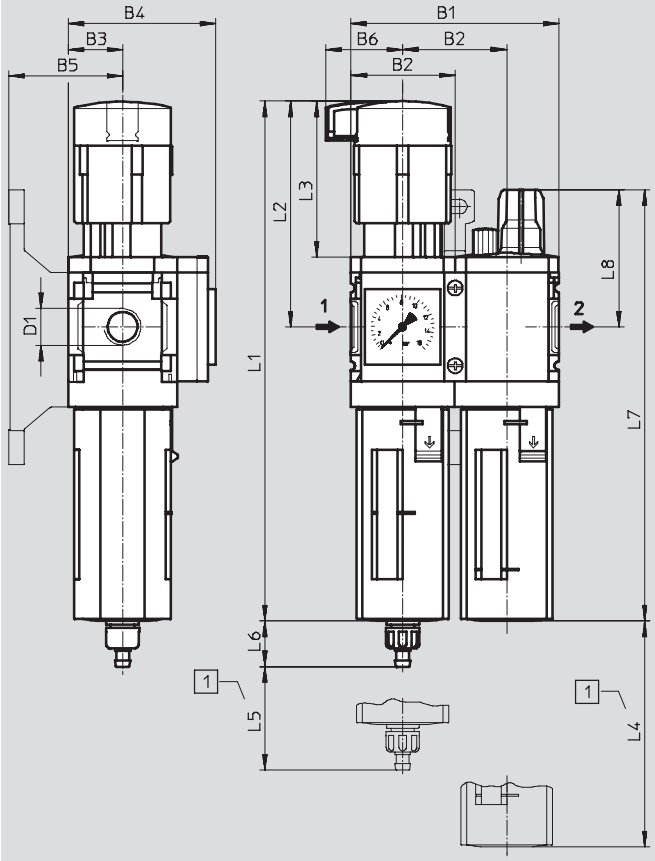
Pressure regulation range 7.4 ... 176 psi	Filtration grade 5 µm	Filtration grade 40 µm
MSB4N-⅛		
Primary pressure p1 = 147 psi		
MSB4N-¼		
Primary pressure p1 = 147 psi		

Pre-configured Combination Units MSB4N-FRC – Inch Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

Type	B1	B2	B3	B4	B5	B6	D1	L1	L2	L3	L4	L5	L6 Bowl drain		L7	L8
													manual	fully automatic		
MSB4N-⅛	3.17	1.58	0.83	2.24	1.73	1.17	⅛ NPT	7.91	3.43	2.36	3.15	0.98	0.7	0.8	6.57	2.09
MSB4N-¼							¼ NPT									

1) Dimensions are in inches, unless otherwise noted.

Pre-configured Combination Units MSB4N-FRC – Inch Series

Ordering Data – Pre-configured Products

Ordering Data									
Pressure regulation range 4.4 ... 103 psi									
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm			
		Part No.	Type	LT		Part No.	Type	LT	
Plastic bowl guard									
Manual	1/8 NPT	**533967**	**MSB4N-1/8-FRC3:J7M1**	Q		**533963**	**MSB4N-1/8-FRC1:J5M1**	Q	
	1/4 NPT	**533951**	**MSB4N-1/4-FRC3:J7M1**	Q		**533947**	**MSB4N-1/4-FRC1:J5M1**	Q	
Fully automatic	1/8 NPT	**533969**	**MSB4N-1/8-FRC4:J8M1**	Q		**533965**	**MSB4N-1/8-FRC2:J6M1**	Q	
	1/4 NPT	**533953**	**MSB4N-1/4-FRC4:J8M1**	Q		**533949**	**MSB4N-1/4-FRC2:J6M1**	Q	

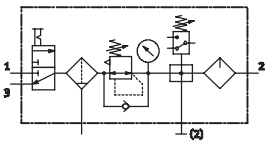
Ordering Data									
Pressure regulation range 7.4 ... 176 psi									
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm			
		Part No.	Type	LT		Part No.	Type	LT	
Plastic bowl guard									
Manual	1/8 NPT	**533975**	**MSB4N-1/8-FRC7:J3M1**	1D		**533971**	**MSB4N-1/8-FRC5:J1M1**	1D	
	1/4 NPT	**533959**	**MSB4N-1/4-FRC7:J3M1**	1W		**533955**	**MSB4N-1/4-FRC5:J1M1**	1W	
Fully automatic	1/8 NPT	**533977**	**MSB4N-1/8-FRC8:J4M1**	1D		**533973**	**MSB4N-1/8-FRC6:J2M1**	1D	
	1/4 NPT	**533961**	**MSB4N-1/4-FRC8:J4M1**	1W		**533957**	**MSB4N-1/4-FRC6:J2M1**	1W	

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

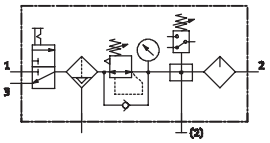
Pre-configured Combination Unit 1 – Inch Series

Technical Data

ISO Symbol

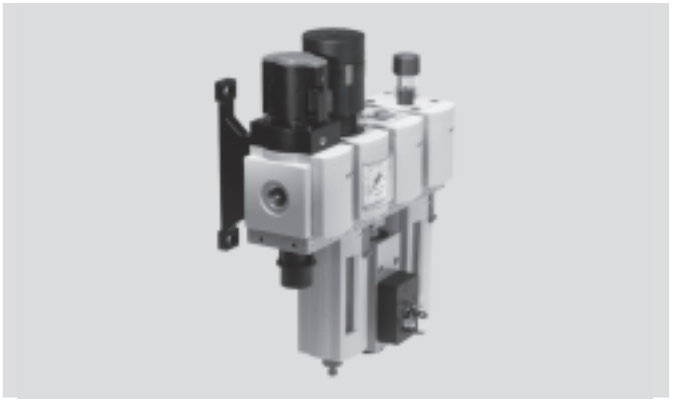


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- The unit is vented when switched off
- Electrical pressure monitoring with adjustable switching pressure
- Removal of filtered and unlubricated compressed air at the Distribution block connections



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Distribution block MS...-FRM-Y with pressure switch, without display
- Lubricator MS...-LOE-R
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		¼ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	15 ... 176
Pressure indicator		With pressure gauge

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	31.8
	40 µm	33.5

Pre-configured Combination Unit 1 – Inch Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[psi]	22 ... 206	22 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	3.40
Mounting bracket	0.08

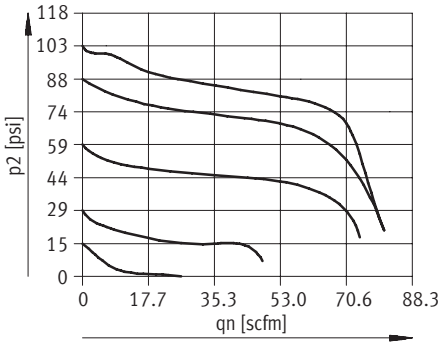
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

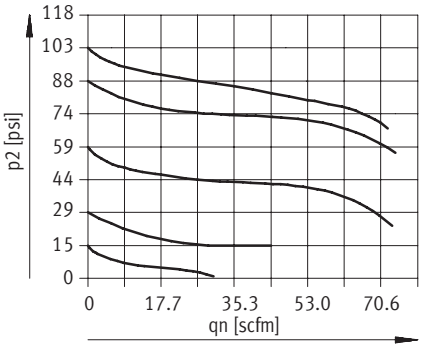
Pressure regulation range 15 ... 176 psi
MSB4N-¼

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm

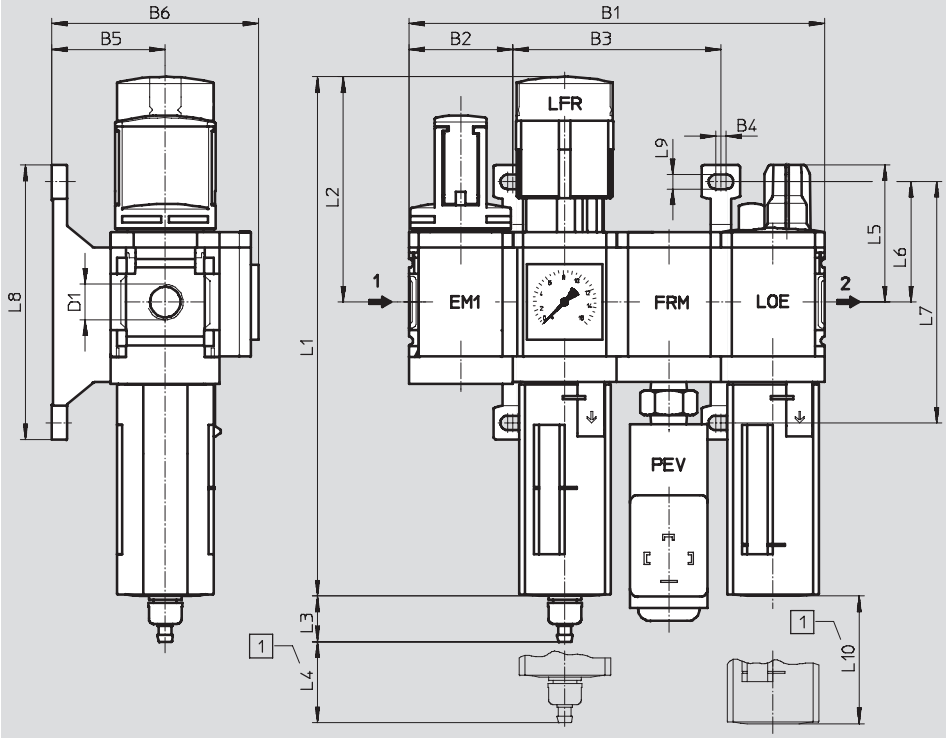


Pre-configured Combination Unit 1 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
6.33	1.58	3.17	0.16	1.73	3.15	¼ NPT	7.91	3.43

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
0.70	0.80	0.98	2.09	1.83	3.67	4.17	0.22	3.15

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Pressure regulation range 15... 176 psi

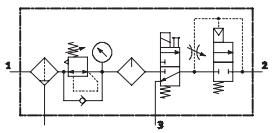
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**543561**	**MSB4N-¼:C3J3F3M1-WP**	Q		**543549**	**MSB4N-¼:C3J1F3M1-WP**	Q
Fully automatic	¼ NPT	**543567**	**MSB4N-¼:C3J4F3M1-WP**	Q		**543555**	**MSB4N-¼:C3J2F3M1-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

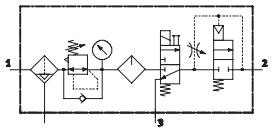
Pre-configured Combination Unit 2 – Inch Series

Technical Data

ISO Symbol

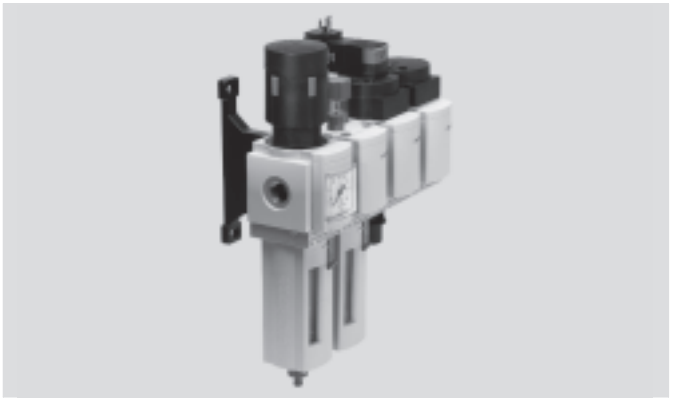


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- When supply pressure is closed, quick venting ensures rapid pressure reduction



This combination consists of:

- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		¼ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	59 ... 132 (with on-off valve MS...-EE-10V24)
	[psi]	59 ... 176 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	19.4
	40 µm	21.2

Pre-configured Combination Unit 2 – Inch Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 59 ... 132 psi		Pressure regulation range 59 ... 176 psi	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[psi]	66 ... 147	66 ... 147	66 ... 206	66 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	3.60
Mounting bracket	0.08

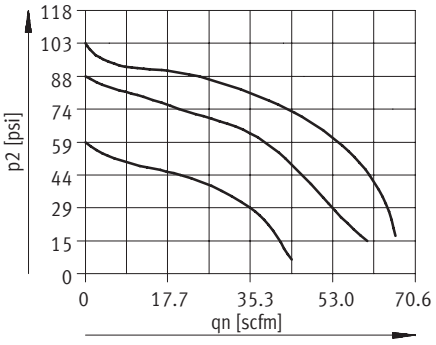
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

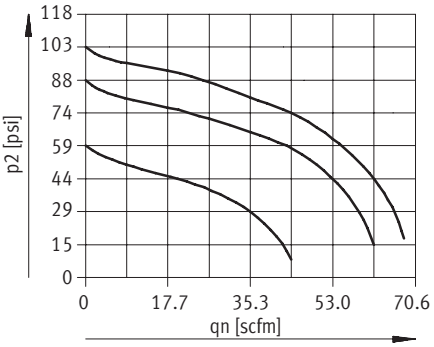
Pressure regulation range
59 ... 132 psi / 59 ... 176 psi
MSB4N-¼

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm

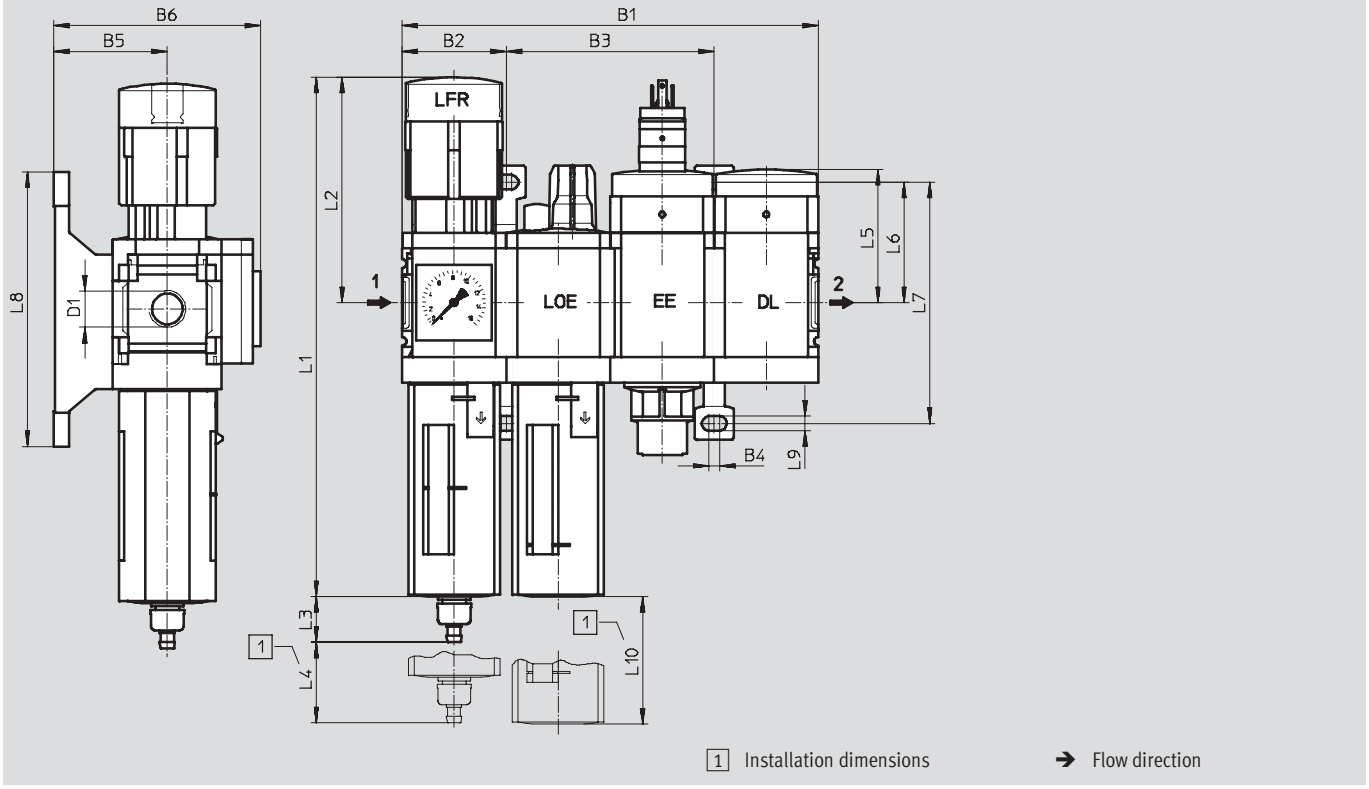


Pre-configured Combination Unit 2 – Inch Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



B1	B2	B3	B4	B5	B6	D1	L1	L2
6.33	1.58	3.17	0.16	1.73	3.15	¼ NPT	7.91	3.43

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
0.70	0.80	0.98	2.04	1.83	3.67	4.17	0.22	3.15

1) Dimensions are in inches, unless otherwise noted.

Pre-configured Combination Unit 2 – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 59 ... 132 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**550496**	**MSB4N-¼:J3M1D7A1-WP**	Q		**550492**	**MSB4N-¼:J1M1D7A1-WP**	Q
Fully automatic	¼ NPT	**550498**	**MSB4N-¼:J4M1D7A1-WP**	Q		**550494**	**MSB4N-¼:J2M1D7A1-WP**	Q

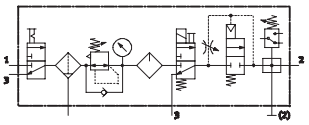
Ordering Data								
Pressure regulation range 59 ... 176 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**541440**	**MSB4N-¼:J3M1D1A1-WP**	1W		**541436**	**MSB4N-¼:J1M1D1A1-WP**	Q
Fully automatic	¼ NPT	**541442**	**MSB4N-¼:J4M1D1A1-WP**	1W		**541438**	**MSB4N-¼:J2M1D1A1-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

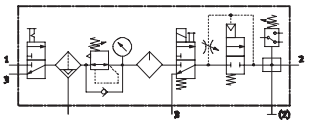
Pre-configured Combination Unit 3 – Inch Series

Technical Data

ISO Symbol

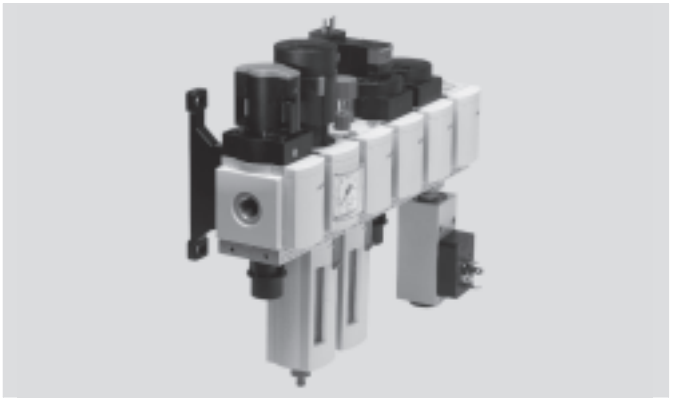


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- To shut-off and vent the following device or the system
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Distribution block MS...-FRM-Y with pressure switch, without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		¼ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	59 ... 132 (with on-off valve MS...-EE-10V24)
	[psi]	59 ... 176 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	19.4
	40 µm	21.2

Pre-configured Combination Unit 3 – Inch Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 59 ... 132 psi		Pressure regulation range 59 ... 176 psi	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[psi]	66 ... 147	66 ... 147	66 ... 206	66 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	4.40
Mounting bracket	0.08

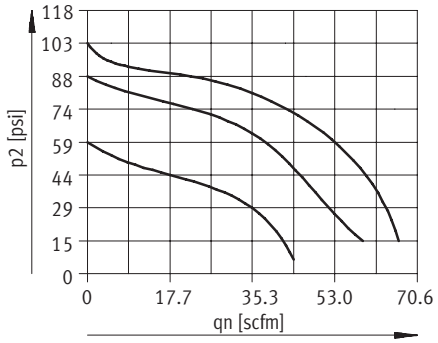
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

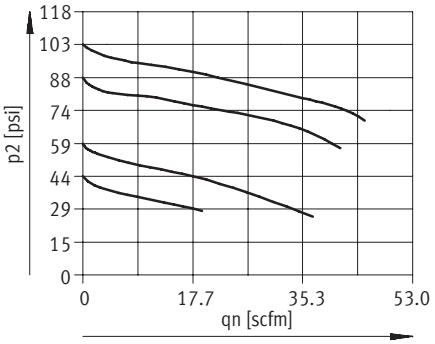
Pressure regulation range
59 ... 132 psi / 59 ... 176 psi
MSB4N-¼

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm

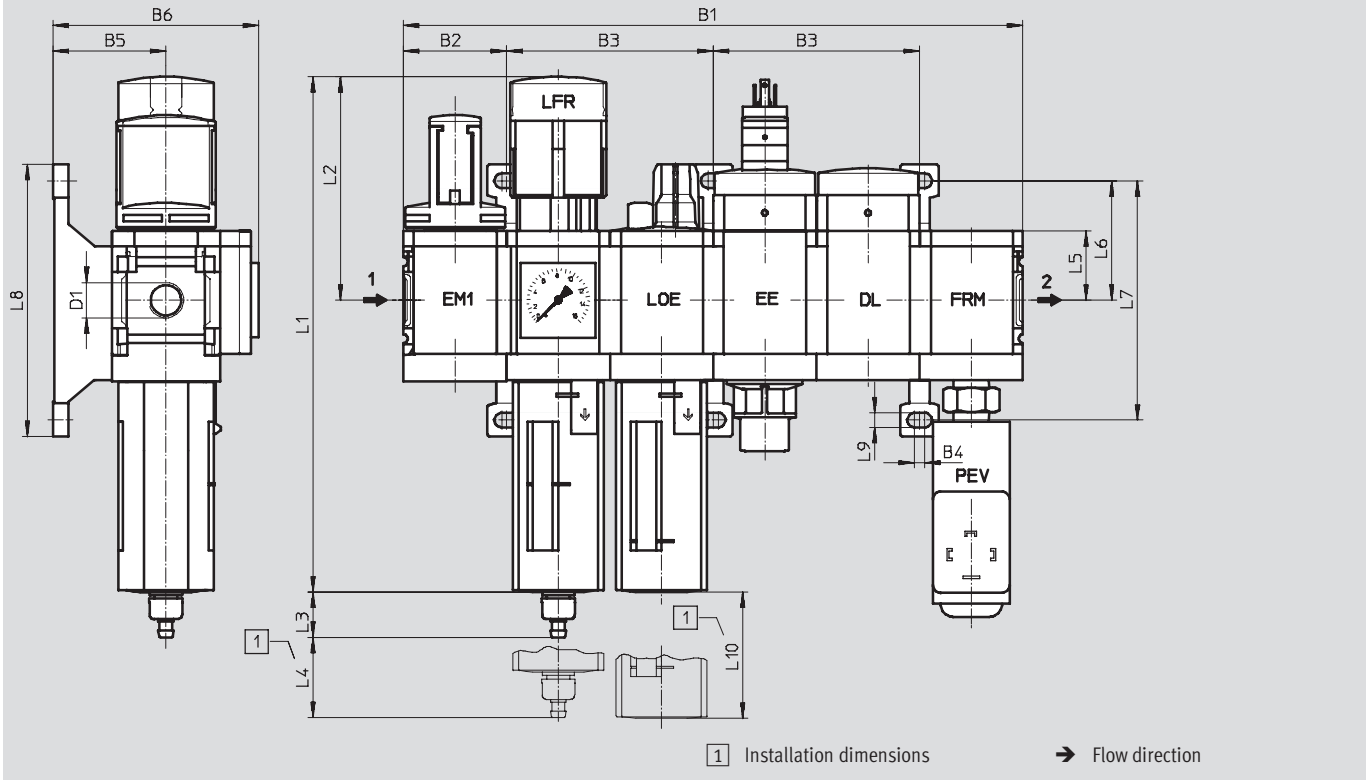


Pre-configured Combination Unit 3 – Inch Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



B1	B2	B3	B4	B5	B6	D1	L1	L2
9.50	1.58	3.17	0.16	1.73	3.15	¼ NPT	7.91	3.43

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
0.70	0.80	0.98	1.06	1.83	3.67	4.17	0.22	3.15

1) Dimensions are in inches, unless otherwise noted.

Pre-configured Combination Unit 3 – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 59 ... 132 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**550488**	**MSB4N-¼:C3J3M1D7A1F3-WP**	Q		**550484**	**MSB4N-¼:C3J1M1D7A1F3-WP**	Q
Fully automatic	¼ NPT	**550490**	**MSB4N-¼:C3J4M1D7A1F3-WP**	Q		**550486**	**MSB4N-¼:C3J2M1D7A1F3-WP**	Q

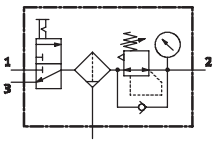
Ordering Data								
Pressure regulation range 59 ... 176 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**543563**	**MSB4N-¼:C3J3M1D1A1F3-WP**	Q		**543551**	**MSB4N-¼:C3J1M1D1A1F3-WP**	Q
Fully automatic	¼ NPT	**543569**	**MSB4N-¼:C3J4M1D1A1F3-WP**	Q		**543557**	**MSB4N-¼:C3J2M1D1A1F3-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

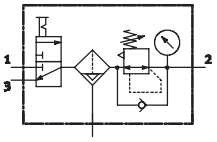
Pre-configured Combination Unit 4 – Inch Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		¼ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	7.4 ... 176
Pressure indicator		With pressure gauge

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	33.5
	40 µm	35.3

Pre-configured Combination Unit 4 – Inch Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[psi]	12 ... 206	22 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	2.60
Mounting bracket	0.08

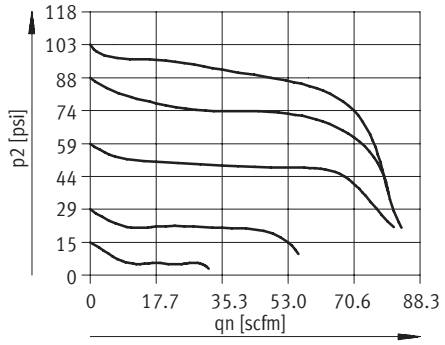
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

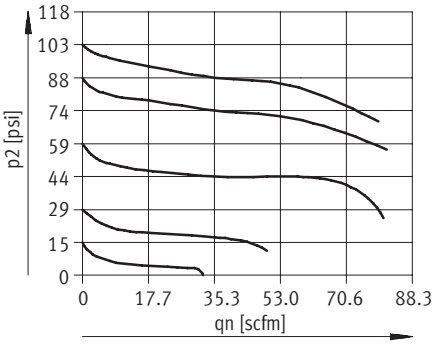
Pressure regulation range 7.4 ... 176 psi
MSB4N-¼

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm



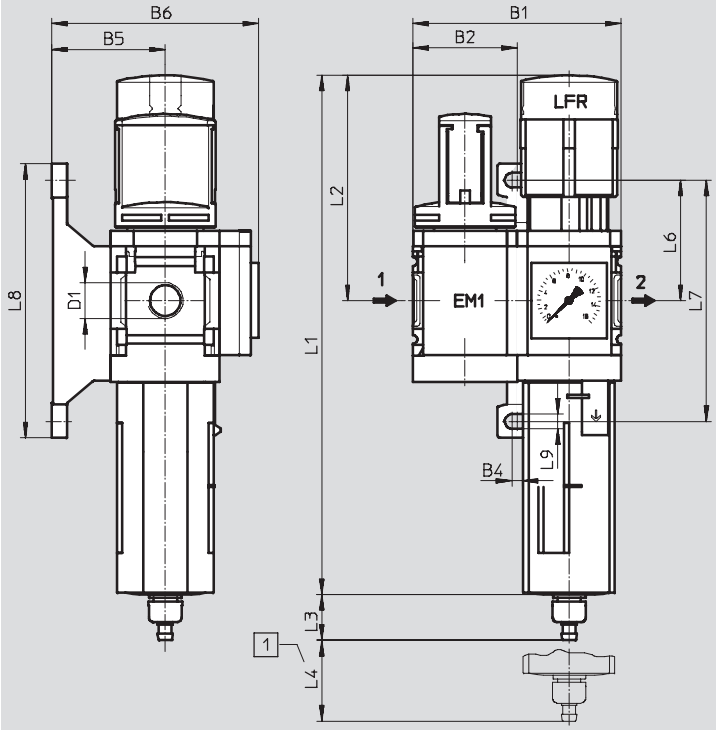
Pre-configured Combination Unit 4 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B4	B5	B6	D1	L1	L2
3.17	1.58	0.16	1.73	3.15	¼ NPT	7.91	3.43

L3 Bowl drain		L4	L6	L7	L8	L9
manual	fully automatic					
0.70	0.80	0.98	1.83	3.67	4.17	0.22

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Pressure regulation range 7.4 ... 176 psi

Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**543565**	**MSB4N-¼:C3J3-WP**	Q		**543553**	**MSB4N-¼:C3J1-WP**	Q
Fully automatic	¼ NPT	**543571**	**MSB4N-¼:C3J4-WP**	Q		**543559**	**MSB4N-¼:C3J2-WP**	Q

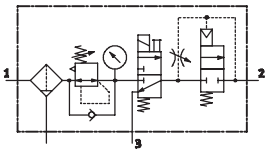
LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Pre-configured Combination Unit 5 – Inch Series

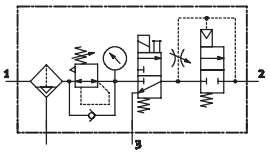
Technical Data

FESTO

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- When supply pressure is closed, quick venting ensures rapid pressure reduction



This combination consists of:

- Filter regulator MS...-LFR-D7
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		¼ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	59 ... 132 (with on-off valve MS...-EE-10V24)
	[psi]	59 ... 176 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	24.7
	40 µm	26.5

Pre-configured Combination Unit 5 – Inch Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 59 ... 132 psi		Pressure regulation range 59 ... 176 psi	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[psi]	66 ... 147	66 ... 147	66 ... 206	66 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	3.20
Mounting bracket	0.08

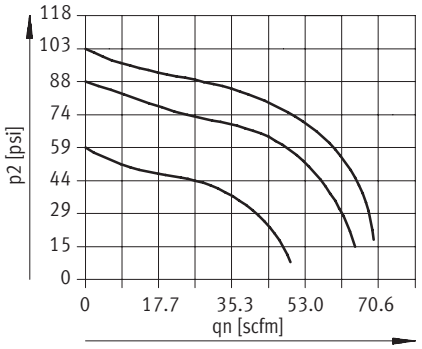
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

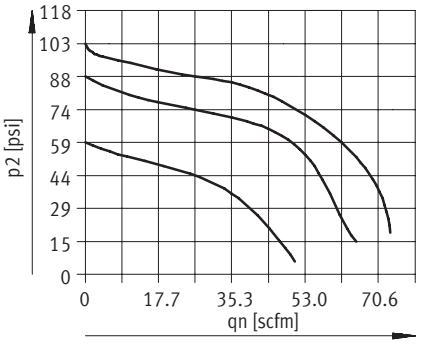
Pressure regulation range
59 ... 132 psi / 59 ... 176 psi
MSB4N-¼

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm

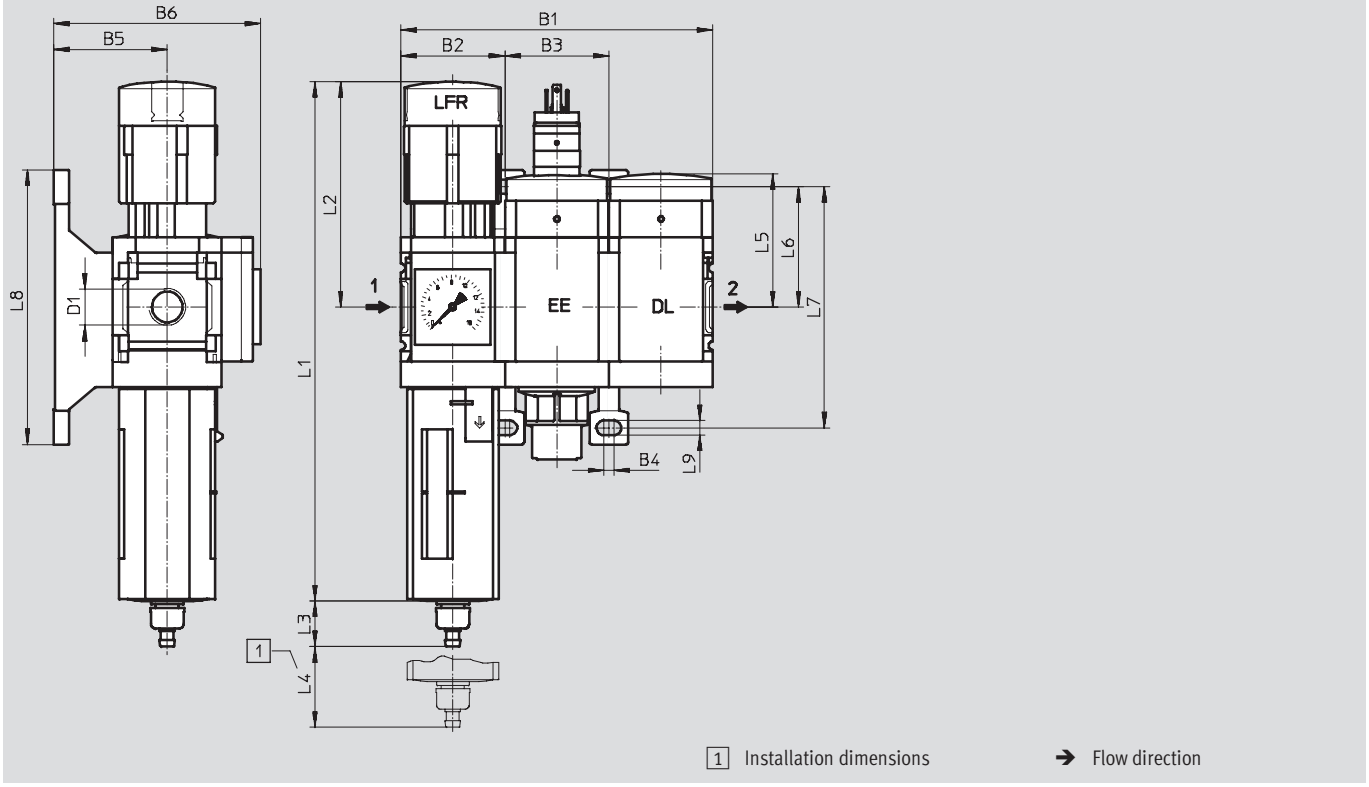


Pre-configured Combination Unit 5 – Inch Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
4.75	1.58	1.58	0.16	1.73	3.15	¼ NPT	7.91	3.43

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
0.70	0.80	0.98	2.04	1.83	3.67	4.17	0.22

1) Dimensions are in inches, unless otherwise noted.

Pre-configured Combination Unit 5 – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 59 ... 132 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**550495**	**MSB4N-¼:J3D7A1-WP**	Q		**550491**	**MSB4N-¼:J1D7A1-WP**	Q
Fully automatic	¼ NPT	**550497**	**MSB4N-¼:J4D7A1-WP**	Q		**550493**	**MSB4N-¼:J2D7A1-WP**	Q

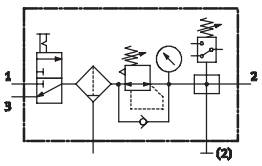
Ordering Data								
Pressure regulation range 59 ... 176 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**541439**	**MSB4N-¼:J3D1A1-WP**	1W		**541435**	**MSB4N-¼:J1D1A1-WP**	1W
Fully automatic	¼ NPT	**541441**	**MSB4N-¼:J4D1A1-WP**	1W		**541437**	**MSB4N-¼:J2D1A1-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

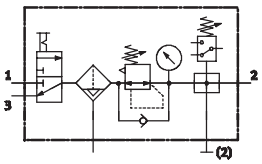
Pre-configured Combination Unit 6 – Inch Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Distribution block MS...-FRM-Y with pressure switch, without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		¼ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	7.4 ... 176
Pressure indicator		With pressure gauge

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	44.1
	40 µm	45.9

Pre-configured Combination Unit 6 – Inch Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[psi]	12 ... 206	22 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	3.00
Mounting bracket	0.08

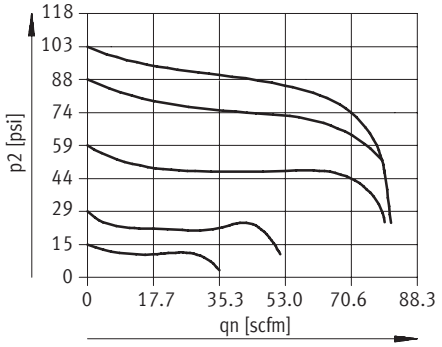
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

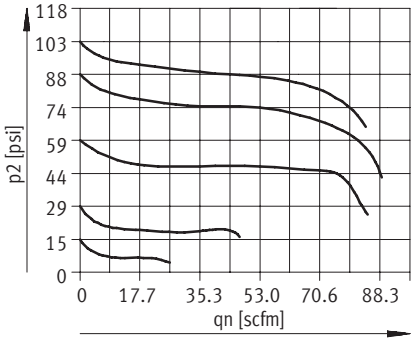
Pressure regulation range 7.4 ... 176 psi
MSB4N-¼

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm



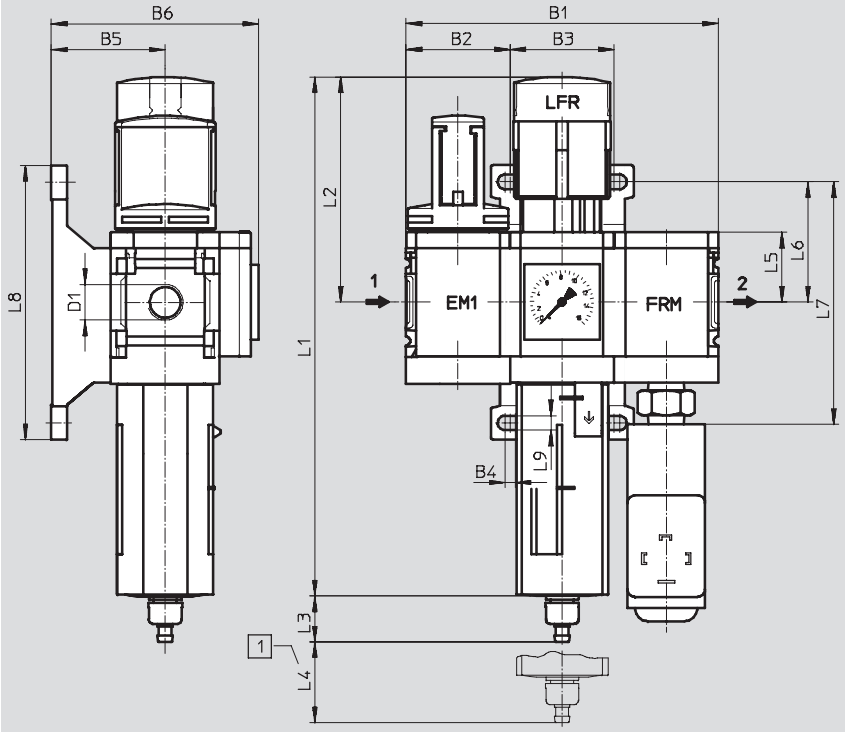
Pre-configured Combination Unit 6 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
4.75	1.58	1.58	0.16	1.73	3.15	¼ NPT	7.91	3.43

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
0.70	0.80	0.98	1.06	1.83	3.69	4.17	0.22

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Pressure regulation range 7.4 ... 176 psi

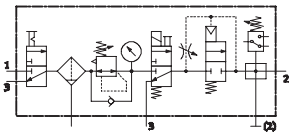
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**543562**	**MSB4N-¼:C3J3F3-WP**	Q		**543550**	**MSB4N-¼:C3J1F3-WP**	Q
Fully automatic	¼ NPT	**543568**	**MSB4N-¼:C3J4F3-WP**	Q		**543556**	**MSB4N-¼:C3J2F3-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

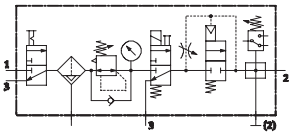
Pre-configured Combination Unit 7 – Inch Series

Technical Data

ISO Symbol

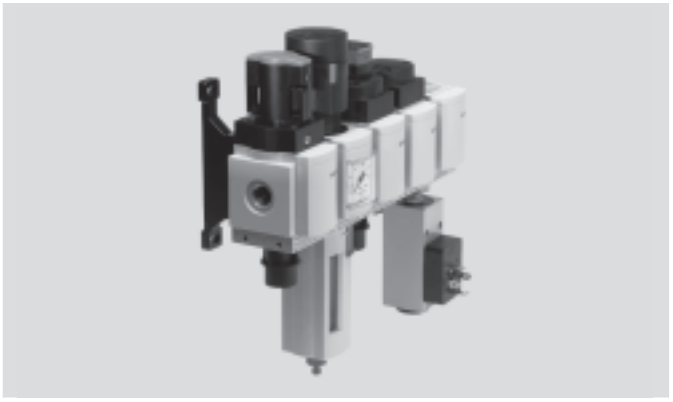


With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- To shut-off and vent the following device or the system
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Distribution block MS...-FRM-Y with pressure switch, without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		¼ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	59 ... 132 (with on-off valve MS...-EE-10V24)
	[psi]	59 ... 176 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	24.7
	40 µm	26.5

Pre-configured Combination Unit 7 – Inch Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 59 ... 132 psi		Pressure regulation range 59 ... 176 psi	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[psi]	66 ... 147	66 ... 147	66 ... 206	66 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	4.40
Mounting bracket	0.08

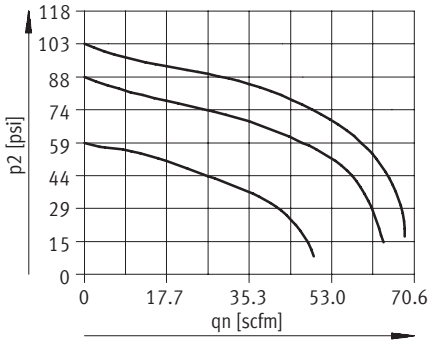
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

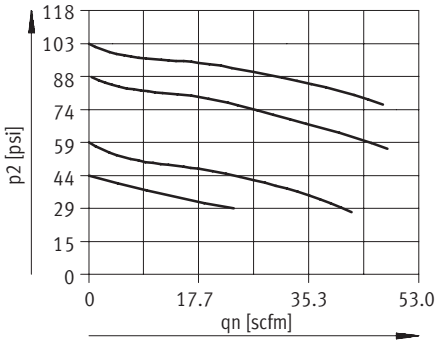
Pressure regulation range
59 ... 132 psi / 59 ... 176 psi
MSB4N-¼

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm

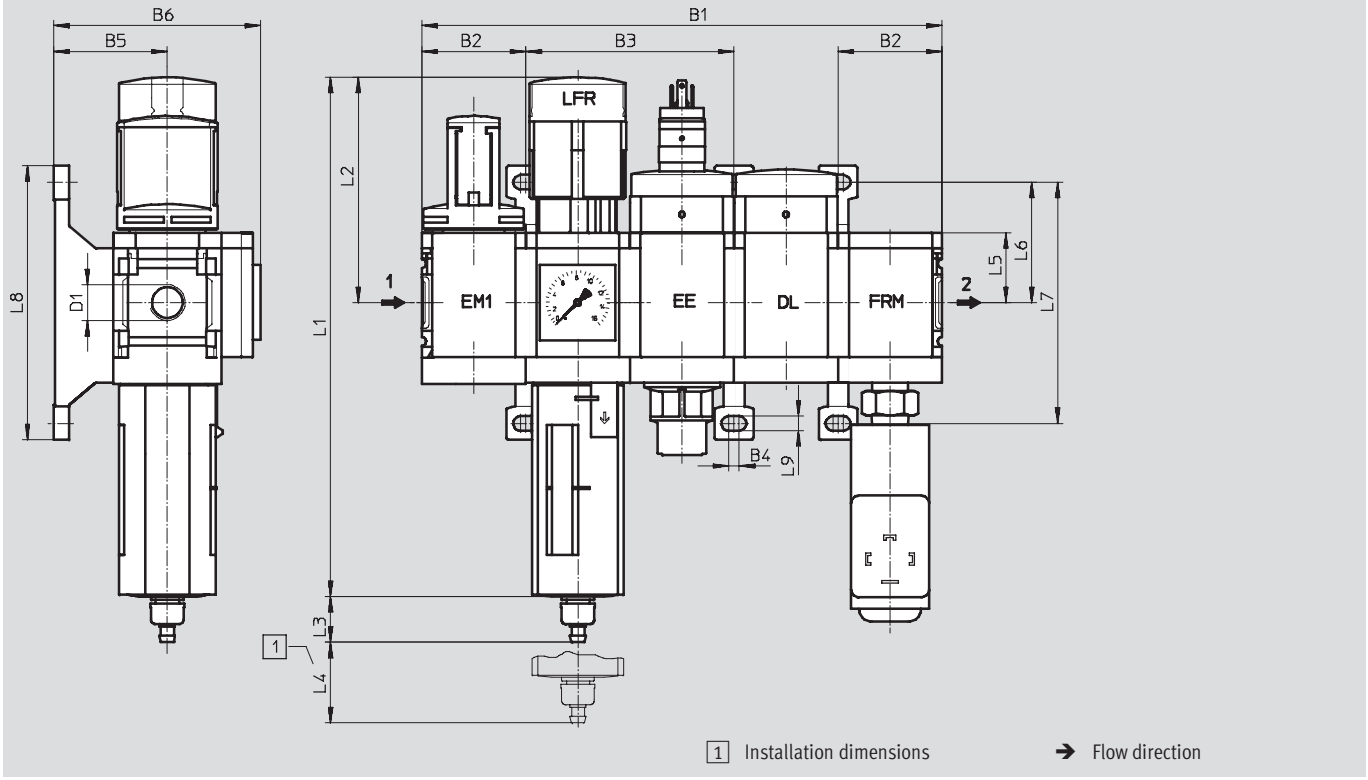


Pre-configured Combination Unit 7 – Inch Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



B1	B2	B3	B4	B5	B6	D1	L1	L2
7.91	1.58	3.17	0.16	1.73	3.15	¼ NPT	7.91	3.43

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
0.70	0.80	0.98	1.06	1.83	3.67	4.17	0.22

1) Dimensions are in inches, unless otherwise noted.

Pre-configured Combination Unit 7 – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 59 ... 132 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**550487**	**MSB4N-¼:C3J3D7A1F3-WP**	Q		**550483**	**MSB4N-¼:C3J1D7A1F3-WP**	Q
Fully automatic	¼ NPT	**550489**	**MSB4N-¼:C3J4D7A1F3-WP**	Q		**550485**	**MSB4N-¼:C3J2D7A1F3-WP**	Q

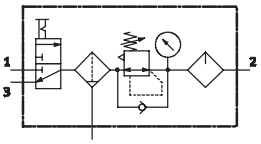
Ordering Data								
Pressure regulation range 59 ... 176 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**543560**	**MSB4N-¼:C3J3D1A1F3-WP**	Q		**543548**	**MSB4N-¼:C3J1D1A1F3-WP**	Q
Fully automatic	¼ NPT	**543566**	**MSB4N-¼:C3J4D1A1F3-WP**	Q		**543554**	**MSB4N-¼:C3J2D1A1F3-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

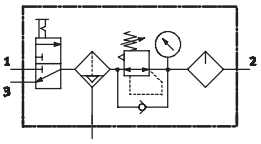
Pre-configured Combination Unit 8 – Inch Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		¼ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	15 ... 176
Pressure indicator		With pressure gauge

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	24.7
	40 µm	26.5

Pre-configured Combination Unit 8 – Inch Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[psi]	22 ... 206	22 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	3.00
Mounting bracket	0.08

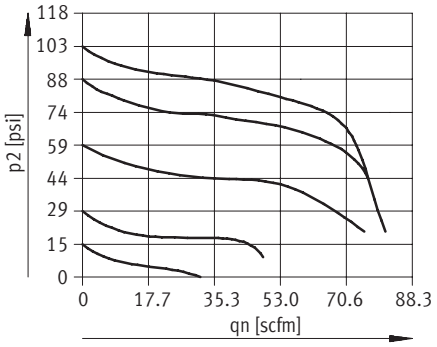
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

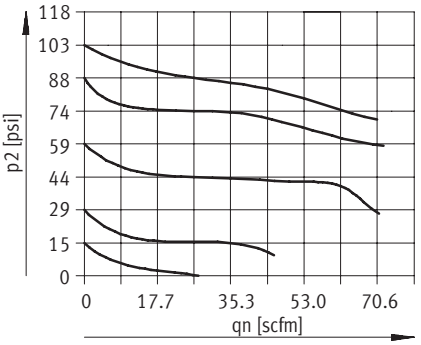
Pressure regulation range 15 ... 176 psi
MSB4N-¼

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm



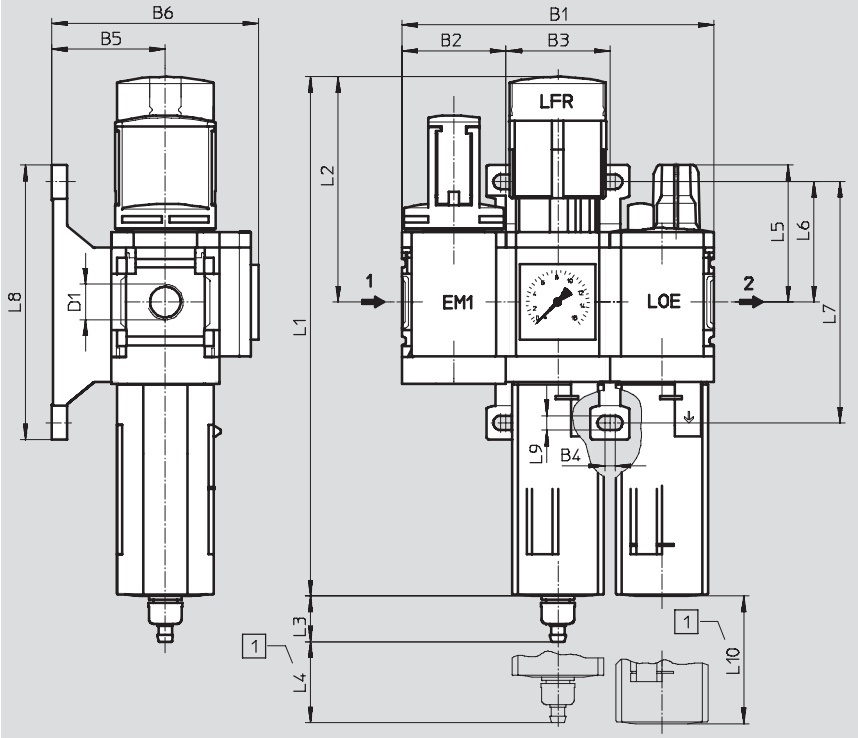
Pre-configured Combination Unit 8 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
4.75	1.58	1.58	0.16	1.73	3.15	¼ NPT	7.91	3.43

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
0.70	0.80	0.98	2.09	1.83	3.67	4.17	0.22	3.15

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Pressure regulation range 15 ... 176 psi

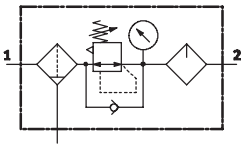
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**543564**	**MSB4N-¼:C3J3M1-WP**	Q		**543552**	**MSB4N-¼:C3J1M1-WP**	Q
Fully automatic	¼ NPT	**543570**	**MSB4N-¼:C3J4M1-WP**	Q		**543558**	**MSB4N-¼:C3J2M1-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

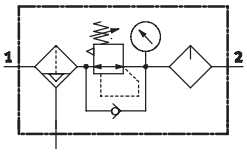
Pre-configured Combination Unit 9 – Inch Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- Filter MS...-LF
- Pressure regulator MS...-LR
- Lubricator MS...-LOE
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2		¼ NPT
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range N3	[psi]	15 ... 176
Pressure indicator		With pressure gauge

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	24.7
	40 µm	28.2

Pre-configured Combination Unit 9 – Inch Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[psi]	22 ... 206	22 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	2.00
Mounting bracket	0.08

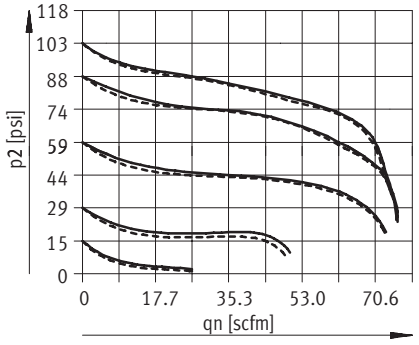
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

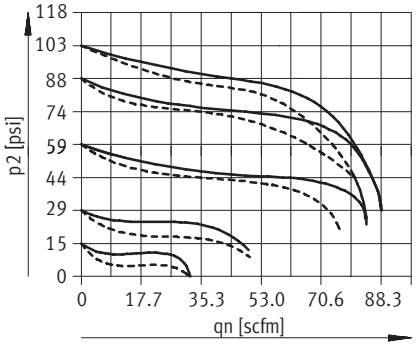
Pressure regulation range N3
MSB4N-¼

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm



------- Not available
——— N3: 15 ... 176 psi

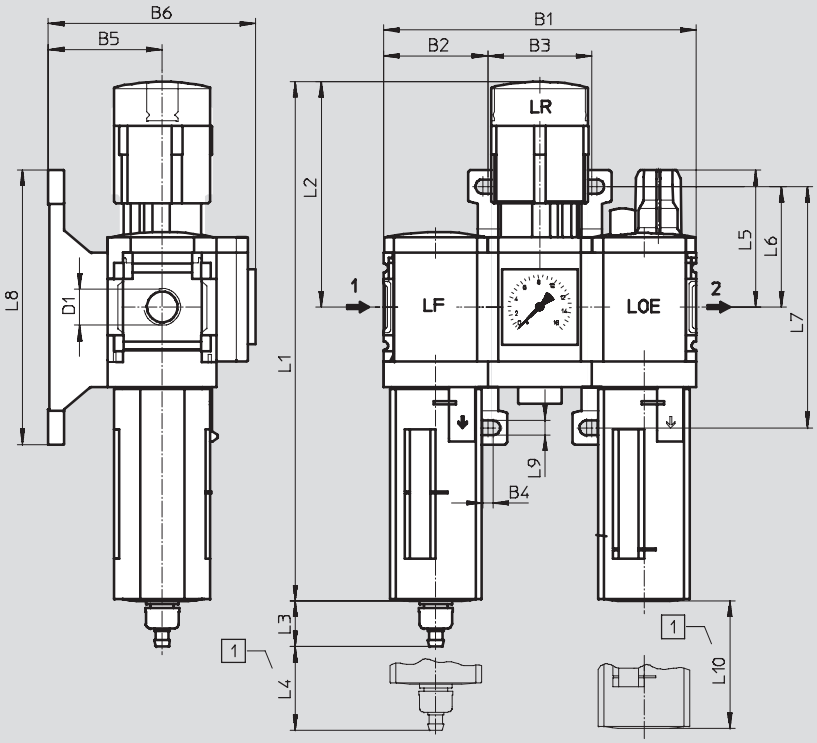
Pre-configured Combination Unit 9 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
4.75	1.58	1.58	0.16	1.73	3.15	¼ NPT	7.91	3.43

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
0.70	0.80	0.98	2.09	1.83	3.67	4.17	0.22	3.15

1) Dimensions are in inches, unless otherwise noted.

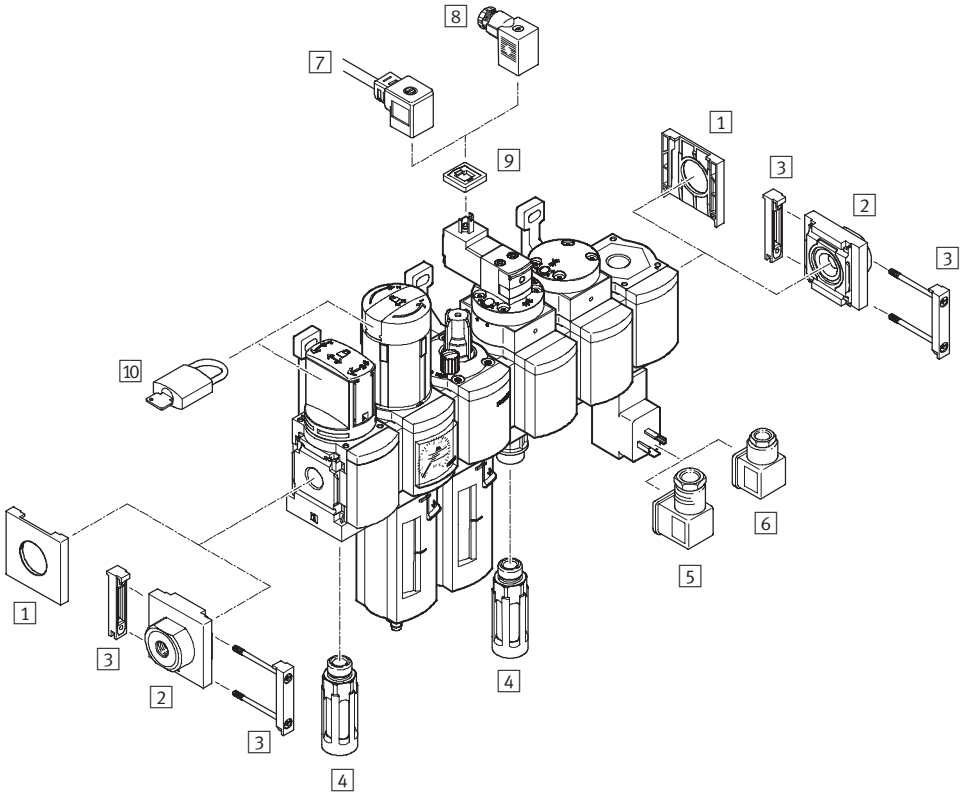
Ordering Data

Pressure regulation range 15 ... 176 psi

Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**541433**	**MSB4N-¼:H3N3M1-WP**	1W		**541432**	**MSB4N-¼:H2N3M1-WP**	1W
Fully automatic	¼ NPT	**541434**	**MSB4N-¼:H4N3M1-WP**	1W		**541431**	**MSB4N-¼:H1N3M1-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Mounting Attachments and Accessories



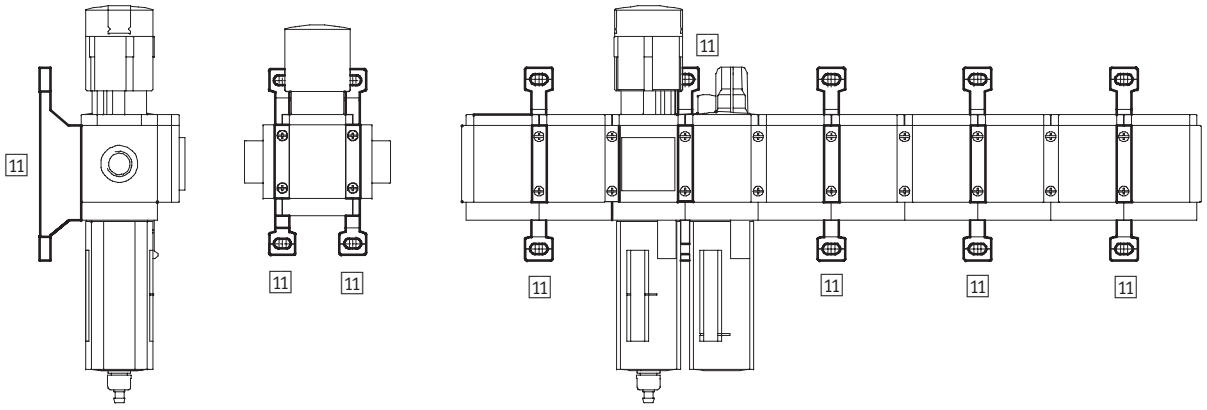
Note

The choice of accessories depends on the selected combination unit.

Range of accessories

➔ See the accessories pages of the individual devices

Single unit and combination unit mounting brackets.



Pre-configured Combination Units MSB4N – Inch Series

Accessories Overview

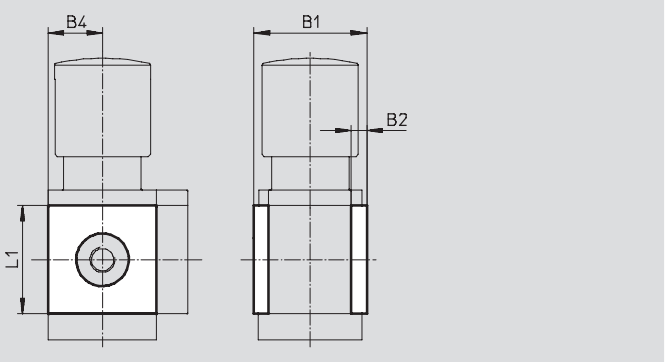
Mounting Attachments and Accessories		
		➔ Page
1	Cover cap MS4-END	89
2	Port plate MS4N-AQ...	90
3	Body connector MS4-MV	90
4	Silencer U	95
5	Angled socket PEV-¼-WD-LED	95
6	Plug socket MSSD-C-4P	95
7	Plug socket with cable KMEB	95
8	Plug socket MSSD-EB	95
9	Illuminating seal MEB-LD	95
10	Padlock LRVS-D	95
11	Mounting bracket (for service unit MSB-FRC) MS4-WP/WPB/WPM	91

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

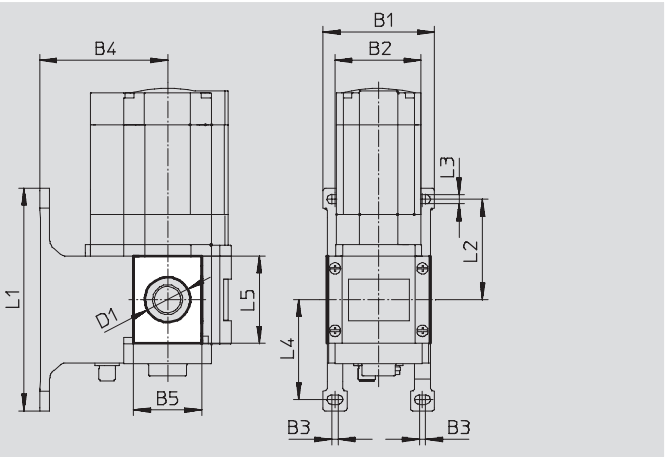
B1	B2	B4	L1	Part No.	Type
1.72	0.24	0.83	1.65	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

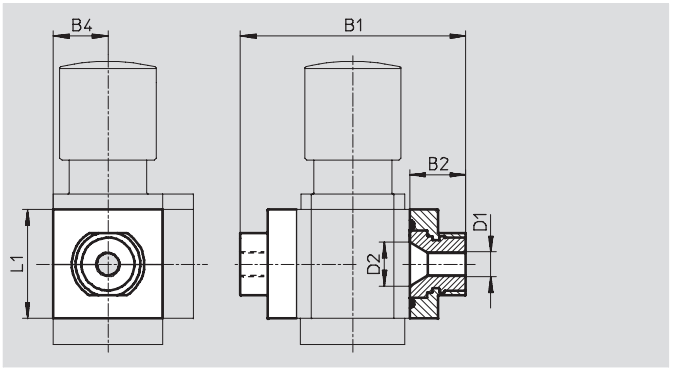
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
2.17	1.58	0.16	1.73	2.60	1.20	0.80	4.17	1.83	0.22	1.84	1.65	2	0.01	**542 966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4N-AQ...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
3.29	0.85	0.83	1/8 NPT	0.66	1.65	0.26	**526065**	**MS4N-AQK**
			1/4 NPT				**526066**	**MS4N-AQN**
			3/8 NPT				**526067**	**MS4N-AQP**

3 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

Weight [lb]	Part No.	Type
0.07	**532798**	**MS4-MV**

Pre-configured Combination Units MSB4N – Inch Series

Accessories

11 Mounting Bracket MS4-WP...

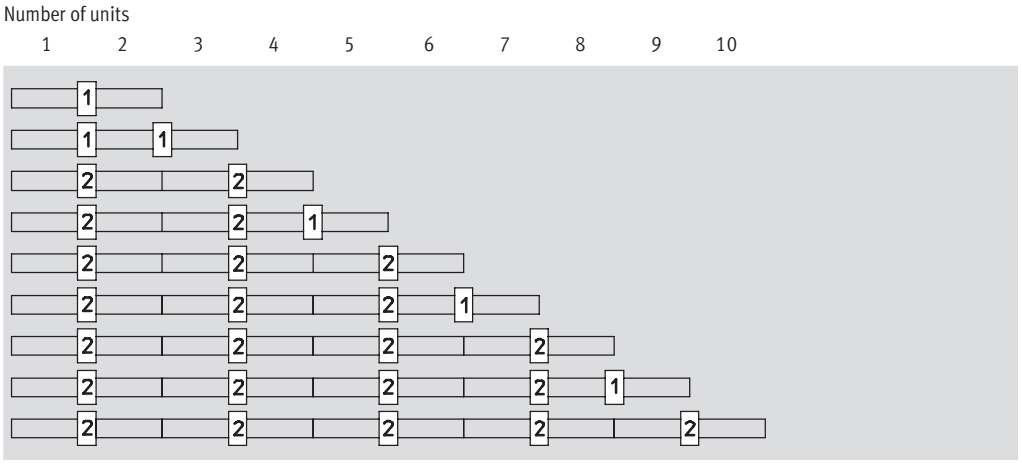
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 1.575 in

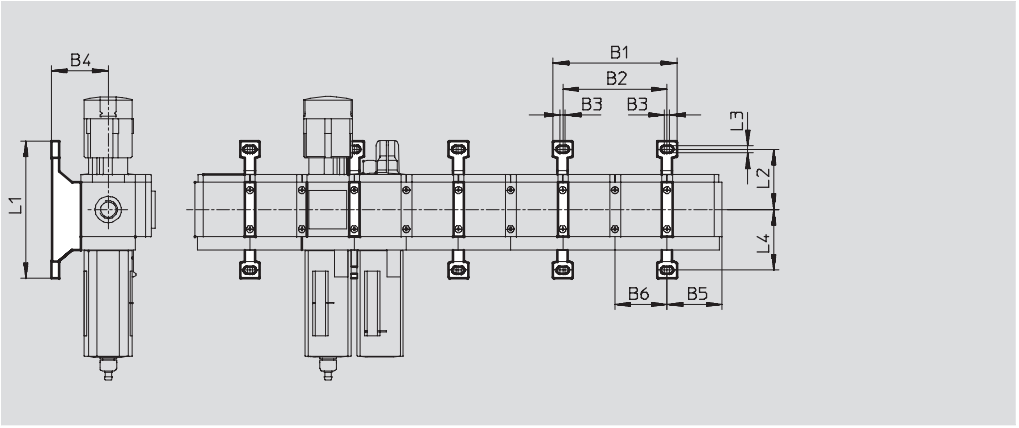
2 units: 3.15 in

1 Mounting bracket WP, WPB or WPM-D

2 Mounting bracket WP, WPB or WPM-2D



Mounting dimensions



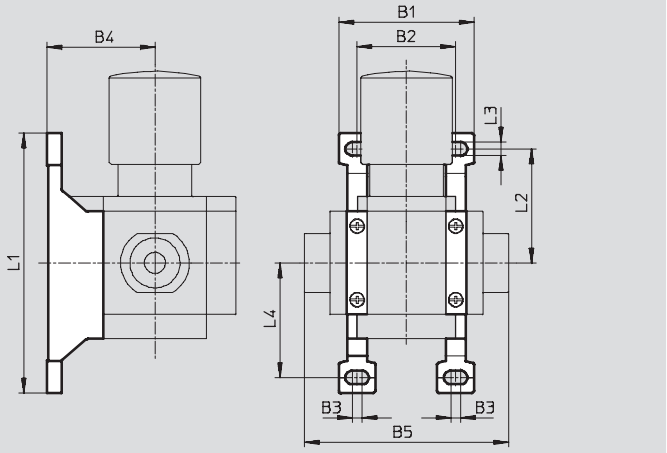
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	3.75	3.15	0.16	1.73	1.65	1.57	4.17	1.83	0.22	1.84
MS4-WPB				2.60						
MS4-WPM-...D				1.73			3.65	1.37		1.57

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

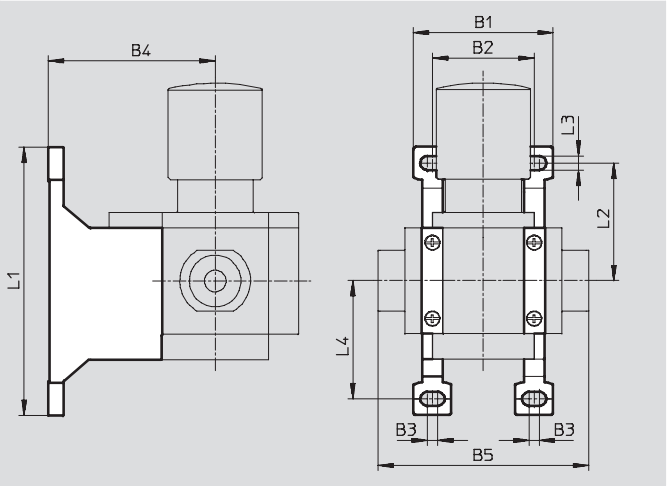
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	1.73	3.28	4.17	1.83	0.22	1.84	0.08	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	2.60	3.28	4.17	1.83	0.22	1.84	0.11	**526063**	**MS4-WPB**

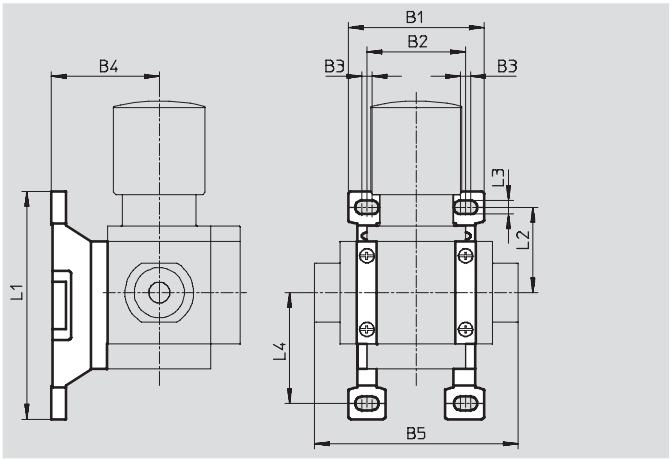
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
2.17	1.57	0.16	1.73	3.28	3.65	1.37	0.22	1.78	1.57	0.09	**526060**	**MS4-WPM-D**
3.75	3.15			4.86					3.15	0.11	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Filter cartridge MS4-LF...


MS...-LFM


MS...-LFP


MS...-LFX

Ordering Data

	Filtration grade [µm]	Part No.	Type
Micro-filter cartridge	0.01	**162674**	**MS4/D-MINI-LFM-A**
Fine-filter cartridge	1	**162677**	**MS4/D-MINI-LFM-B**
Filter cartridge	5	**534501**	**MS4-LFP-C**
Filter cartridge	40	**534502**	**MS4-LFP-E**
Active carbon filter cartridge	Residual oil content ≤ 0.003 mg/m^3	**532912**	**MS4/D-MINI-LFX**

Pre-configured Combination Units MSB4N – Inch Series

Accessories

FESTO

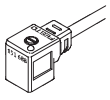
5 Ordering Data – Angled Socket PEV — Technical data ➔ www.festo.com/catalog/pev

	Description	Operating voltage range	Electrical connection	Switching status display	Part No.	Type
	for PEV-¼-...-OD	15 .... 30 V DC	4-pin	Yellow LED	**164274**	**PEV-¼-WD-LED-24**
		≤ 230 V AC ≤ 180 V DC	4-pin	Yellow LED	**164275**	**PEV-¼-WD-LED-230**

6 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for PEV-¼-...-OD	≤ 250 V AC/DC	3-pin	Clamping screws	**171157**	**MSSD-C-4P**
	for MS4N-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	**151687**	**MSSD-EB**
			4-pin	Insulation displacement technology	**192745**	**MSSD-EB-S-M14**

7 Ordering Data – Plug Socket with Cable KMEB — Technical data ➔ www.festo.com/catalog/kmeb

	Description	Operating voltage range	Switching status display	Cable length [ft]	Part No.	Type
	for MS4N-EE/DE	24 V DC	LED	8.2	**151688**	**KMEB-1-24-2,5-LED**
		24 V DC	LED	16.4	**151689**	**KMEB-1-24-5-LED**
		24 V DC	LED	32.8	**193457**	**KMEB-1-24-10-LED**
		230 V AC	–	8.2	**151690**	**KMEB-1-230AC-2,5**
		230 V AC	–	16.4	**151691**	**KMEB-1-230AC-5**

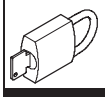
9 Ordering Data – Illuminating Seal MEB-LD — Technical data ➔ www.festo.com/catalog/meb-ld

	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	**151717**	**MEB-LD-12-24DC**
		230 V DC/AC ±10%	**151718**	**MEB-LD-230AC**

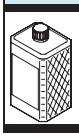
4 Ordering Data – Silencer U — Technical data ➔ www.festo.com/catalog/u

	Description	Pneumatic connection	Part No.	Type
	for MS4N-EM1/EE	¼ NPT	**12639**	**U-¼-B-NPT**

10 Ordering Data – Padlock LRVS-D

	Description	Weight [lb]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	0.24	**193786**	**LRVS-D**

Ordering Data – Special Oil OFSW

	Description	Scope of delivery	Part No.	Type
	for lubricators	1 liter	**152811**	**OFSW-32**

Filter Regulators MS4-LFR – Metric Series



A filter regulator combines a filter and a pressure regulator into a single unit. The sintered filter with water separator removes contamination, pipe sinter, rust and condensate from the compressed air. The pressure setting can be adjusted with the regulator.

- Pneumatic connection: G1⁄8, G1⁄4, G3⁄8
- Filtration grade: 5 µm, 40 µm
- Supply pressure
  – for manual drain: 0.8 … 14 bar
  – for semiautomatic drain: 1.5 … 12 bar
  – for fully automatic drain: 2 … 12 bar
- Controlled pressure range: 0.3 … 12 bar
- Flow rate: 850 … 1,900 l/min

Product Range Overview

Type	Pneumatic connections		Pressure regulation range [bar]			Filtration grade [µm]		Bowl guard		Bowl drain			Pressure indicator					Pressure adjustment		Reverse flow
	Body thread	Port plate	0.3 … 4	0.3 … 7	0.5 … 12	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G1⁄8	Adapter for pressure gauge G1⁄4	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS4		AG…	D5	D6	D7	C	E	R	U	M	H	V	VS	AG	A8	A4	AD…	AS	LD	Z
LFR	G1⁄8, G1⁄4	G1⁄8, G1⁄4, G3⁄8	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Features

- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rates
- Directly actuated diaphragm regulator
- Three pressure regulation ranges
- Modular, in-line or panel mounting
- Lockable rotary knob
- Available with or without secondary venting
- Two pressure gauge connections for different fitting options
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display and electric output

Contents

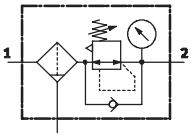
Technical Data	→ 98
Dimensional Drawings	→ 102
Ordering Data	→ 105
Accessories	→ 108
Replacement Parts	→ 118

→ www.festo.com/catalog/ms4-lfr

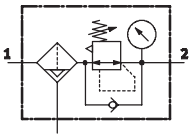
Filter Regulators MS4-LFR – Metric Series

Technical Data

ISO Symbol



Manual bowl drain



Semi or fully automatic bowl drain



General Technical Data				
Pneumatic connection 1, 2			G⅛	G¼
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)	
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)	
Supply pressure	M	[bar]	0.8 ... 14 (manual drain)	
	H	[bar]	1.5 ... 12 (semiautomatic drain)	
	V	[bar]	2 ... 12 (fully automatic drain)	
Pressure regulation range	D5	[bar]	0.3 ... 4	
	D6	[bar]	0.3 ... 7	
	D7	[bar]	0.5 ... 12 (0.5 ... 10 with variant pressure sensor AD...)	
Max hysteresis		[bar]	0.25	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]			
Pneumatic connection 1, 2		G⅛	G¼
D5 – Pressure regulation range 0.3 ... 4 bar			
Filtration grade	5 µm	900[2]	1,800[2]
	40 µm	1,100[2]	1,900[2]
D6 – Pressure regulation range 0.3 ... 7 bar			
Filtration grade	5 µm	900	1,500
	40 µm	1,000	1,700
D7 – Pressure regulation range 0.5 ... 12 bar			
Filtration grade	5 µm	850	1,200
	40 µm	900	1,500

1) Measured at p1 = 10 bar and p2 = 6 bar, Δp = 1 bar
2) Measured at p1 = 10 bar and p2 = 3 bar, Δp = 1 bar

Filter Regulators MS4-LFR – Metric Series

Technical Data

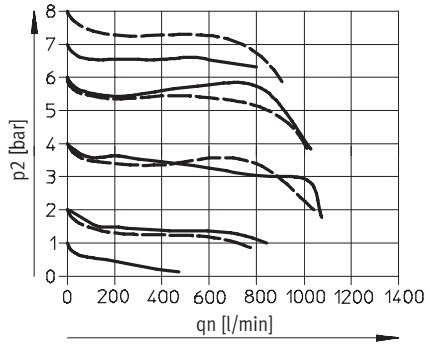
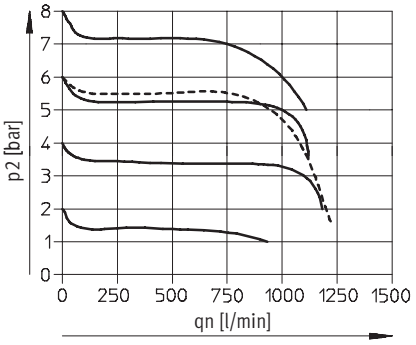
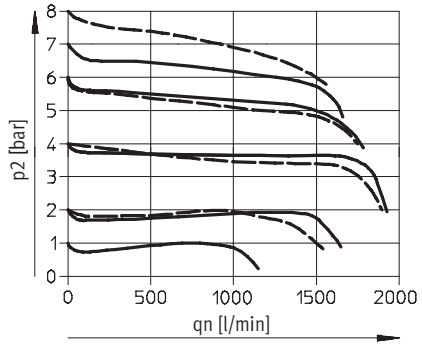
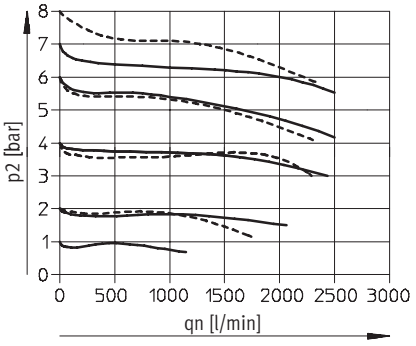
Operating and Environmental Conditions				
Bowl drain		Manual M	Semiautomatic H	Fully automatic V
Operating medium without pressure sensor AD...		Compressed air		
Operating medium with pressure sensor AD...		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm		
Max. condensate volume	[cm^3]	19 (with plastic bowl guard) 25 (with metal bowl)		
Bowl guard		Plastic bowl guard		
		Metal bowl		
Ambient temperature without pressure sensor AD...	[°C]	–10 ... +60	+5 ... +60	+5 ... +60
Ambient temperature with pressure sensor AD...	[°C]	0 ... +50	+5 ... +50	+5 ... +50
Medium temperature without pressure sensor AD...	[°C]	–10 ... +60	+5 ... +60	+5 ... +60
Medium temperature with pressure sensor AD...	[°C]	0 ... +50	+5 ... +50	+5 ... +50
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With plastic bowl guard	275
With metal bowl	475

- Wearing parts kits ➔ 118
- Filter cartridges ➔ 118
- For spare parts go to: www.festo.com/en/spare_parts_service

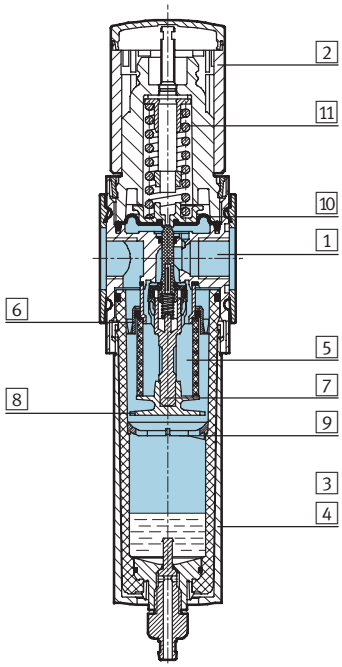
Standard Flow Rate qn as a Function of Output Pressure p2

Pressure regulation range D6 or D7	Filtration grade 5 µm	Filtration grade 40 µm
MS4-LFR-⅛		
Primary pressure p1 = 10 bar		
MS4-LFR-¼		
Primary pressure p1 = 10 bar		

——— D6: 0.3 ... 7 bar
- - - - - - - D7: 0.5 ... 12 bar

Materials

Sectional view



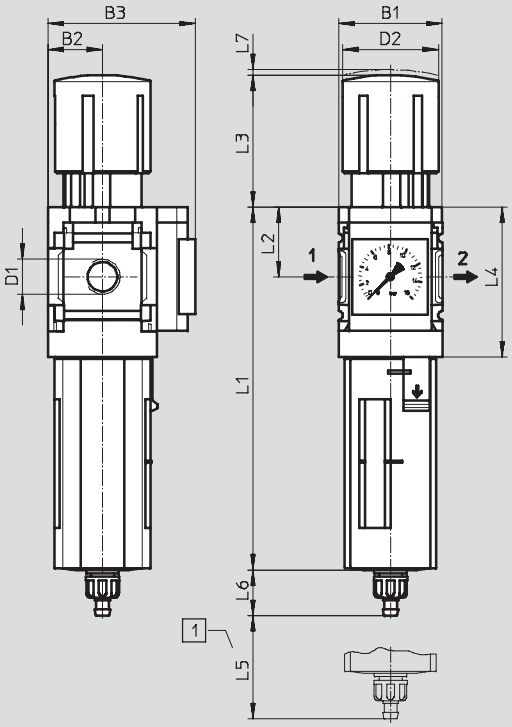
Filter regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Plastic bowl guard	Polycarbonate/polyamide
4	Metal bowl	Aluminum
	Viewing window	Polyamide
5	Filter element	Polyethylene
6	Spin disk	Polyacetate
7	Filter holder	Polyacetate
8	Separating plate	Polyacetate
9	Stabilizing disk	Polyacetate
10	Diaphragm	Nitrile rubber
11	Spring	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Filter Regulators MS4-LFR – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar], rotary knob as standard, manual bowl drain



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	D2	L1 Bowl guard		L2	L3	L4	L5	L6 Bowl guard		L7
						Plastic	Metal					Plastic	Metal	
MS4-LFR-1/8	40	21	57	G1/8	37.2	140.6	158.2	27	51.1	58.5	25	17.7	17.7	2
MS4-LFR-1/4				G1/4										

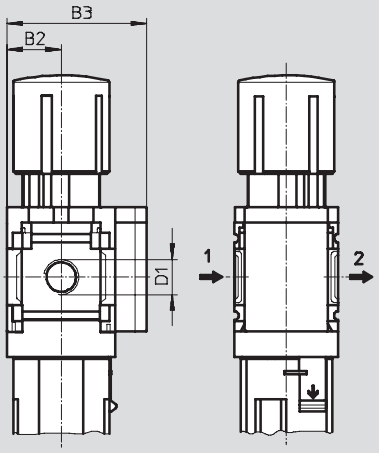
1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Pressure Gauge Alternatives

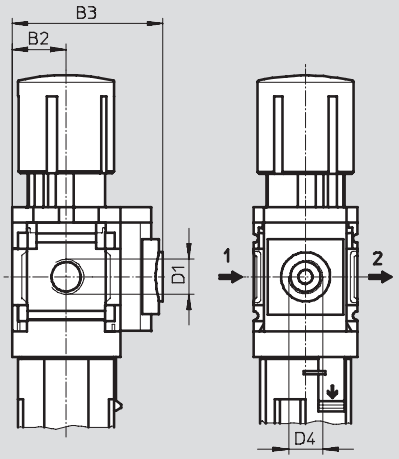
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

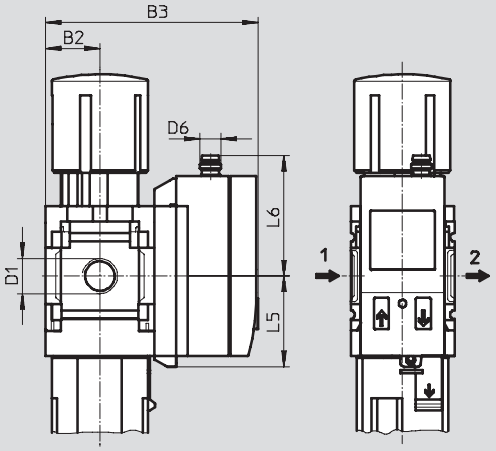
Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS4-LFR-1/8-...-VS	21	54	G1/8	–	–	–	–
MS4-LFR-1/4-...-VS			G1/4				
MS4-LFR-1/8-...-A8	21	58.5	G1/8	G1/8	–	–	–
MS4-LFR-1/4-...-A8			G1/4				
MS4-LFR-1/8-...-A4	21	58.5	G1/8	G1/4	–	–	–
MS4-LFR-1/4-...-A4			G1/4				
MS4-LFR-1/8-...-AD1/AD2	21	82.6	G1/8	–	M8x1	35.1	46.7
MS4-LFR-1/4-...-AD1/AD2			G1/4				
MS4-LFR-1/8-...-AD3/AD4	21	82.6	G1/8	–	M12x1	35.1	55.8
MS4-LFR-1/4-...-AD3/AD4			G1/4				

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

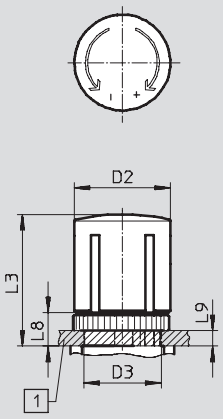
Filter Regulators MS4-LFR – Metric Series

Dimensional Drawings

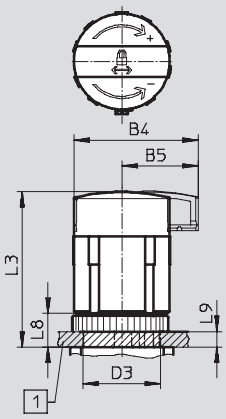
Dimensions[1] – Rotary Knob Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

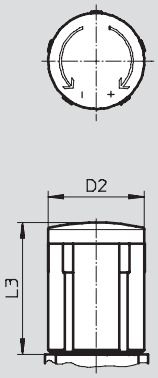


Standard, lockable AS

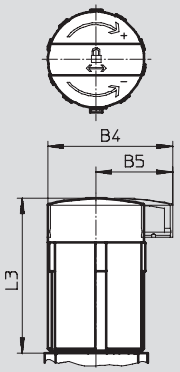


1 Max. control panel thickness

Long LD



Long, lockable LD-AS

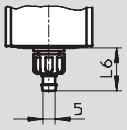


Type	B4	B5	D2	D3 +1	L3	L8	L9
MS4-LFR-...	–	–	37.2	30	51.1	13	6
MS4-LFR-...-AS	48.3	29.7			60.2		
MS4-LFR-...-LD	–	–	37.2	–	51.1	–	–
MS4-LFR-...-LD-AS	48.3	29.7			60.2		

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

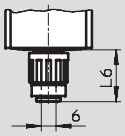
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4-LFR-...-M	17.7
Metal bowl	
MS4-LFR-...-M	17.7

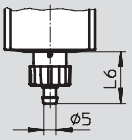
Semiautomatic H



QS fitting for plastic tubing
PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS4-LFR-...-H	22.1
Metal bowl	
MS4-LFR-...-H	22.1

Fully automatic V



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4-LFR-...-V	20.4
Metal bowl	
MS4-LFR-...-V	20.4

1) Dimensions are in millimeters, unless otherwise noted.

Filter Regulators MS4-LFR – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 0.3 ... 7 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G⅛	**529160**	**MS4-LFR-⅛-D6-CRM-AS**	1D		**529164**	**MS4-LFR-⅛-D6-ERM-AS**	1D
	G¼	**529144**	**MS4-LFR-¼-D6-CRM-AS**	1D		**529148**	**MS4-LFR-¼-D6-ERM-AS**	1D
Fully automatic	G⅛	**529162**	**MS4-LFR-⅛-D6-CRV-AS**	1D		**529166**	**MS4-LFR-⅛-D6-ERV-AS**	1D
	G¼	**529146**	**MS4-LFR-¼-D6-CRV-AS**	1D		**529150**	**MS4-LFR-¼-D6-ERV-AS**	1D

Ordering Data								
Pressure regulation range 0.5 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G⅛	**529168**	**MS4-LFR-⅛-D7-CRM-AS**	1D		**529172**	**MS4-LFR-⅛-D7-ERM-AS**	1D
	G¼	**529152**	**MS4-LFR-¼-D7-CRM-AS**	1D		**529156**	**MS4-LFR-¼-D7-ERM-AS**	1D
Fully automatic	G⅛	**529170**	**MS4-LFR-⅛-D7-CRV-AS**	1D		**529174**	**MS4-LFR-⅛-D7-ERV-AS**	1D
	G¼	**529154**	**MS4-LFR-¼-D7-CRV-AS**	1D		**529158**	**MS4-LFR-¼-D7-ERV-AS**	1D
Metal bowl								
Manual	G⅛	**535702**	**MS4-LFR-⅛-D7-CUM-AS**	Q		**535708**	**MS4-LFR-⅛-D7-EUM-AS**	Q
	G¼	**535718**	**MS4-LFR-¼-D7-CUM-AS**	Q		**535724**	**MS4-LFR-¼-D7-EUM-AS**	Q
Fully automatic	G⅛	**535704**	**MS4-LFR-⅛-D7-CUV-AS**	Q		**535706**	**MS4-LFR-⅛-D7-EUV-AS**	Q
	G¼	**535720**	**MS4-LFR-¼-D7-CUV-AS**	Q		**535722**	**MS4-LFR-¼-D7-EUV-AS**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Filter Regulators MS4-LFR – Metric Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data** ➔

Part No.	Series	Size		Function		Connection size		Pressure regulation range		Filtration grade		Bowl
526489	MS	4		LFR		⅛, ¼, AGA, AGB, AGC		D5 D6 D7		E C		R U
Order example												
526489	**MS**	**4**	–	**LFR**	–	**AGA**	–	**D6**	–	**C**	–	**R**

Ordering Table

	Grid dimension [mm]	40	Conditions	Code		Enter code
M	Part No.	**526489**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Function	Filter regulator		**-LFR**		-LFR
	Connection size	Body thread G⅛		**-⅛**		
		Body thread G¼		**-¼**		
		Port plate G⅛ (dimensions ➔ 113)		**-AGA**		
		Port plate G¼ (dimensions ➔ 113)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 113)		**-AGC**		
	Pressure regulation range	0.3 ... 4 bar		**-D5**		
		0.3 ... 7 bar		**-D6**		
		0.5 ... 12 bar		**-D7**		
	Filtration grade	40 µm		**-E**		
		5 µm		**-C**		
	Bowl	Plastic bowl with plastic bowl guard		**-R**		
↓		Metal bowl		**-U**		

Transfer order code

526489	**MS**	**4**	–	**LFR**	–		–		–		–	

Filter Regulators MS4-LFR – Metric Series

Ordering Data – Configurable Products

➔ M	O Options						
Bowl drain	Pressure gauge alternatives	Alternative pressure gauge scale	Secondary venting	Rotary knob	Security	Type of mounting	Reverse flow direction
M H V	VS A8 A4 AD1 AD2 AD3 AD4	PSI MPA	OS	LD	AS	WR WP WPM WB WBM	Z
– M	– A8	–	–	– LD	– AS	– WPM	– Z

Ordering Table

Grid dimension [mm]		40	Conditions	Code		Enter code
↓ M	Bowl drain	Manual		-M		
		Semiautomatic (P1 max. 12 bar)		-H		
		Fully automatic (P1 max. 12 bar)		-V		
O	Pressure gauge alternatives	Cover plate		-VS		
		Adapter plate for EN pressure gauge ⅛, without pressure gauge		-A8		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		-A4		
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	1	-AD1		
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	1	-AD2		
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	1	-AD3		
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	1	-AD4		
	Alternative pressure gauge scale	psi	2	-PSI		
		MPa	2	-MPA		
	Secondary venting	Without secondary venting		-OS		
	Rotary knob	Long rotary knob		-LD		
	Security	Lockable rotary knob		-AS		
	Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 111)	3	-WR		
		Mounting bracket (dimensions ➔ 114)	4	-WP		
		Mounting bracket (dimensions ➔ 114)	4	-WPM		
		Mounting bracket (dimensions ➔ 110)		-WB		
		Mounting bracket (dimensions ➔ 110)		-WBM		
	Reverse flow direction	Flow direction from right to left		-Z		

1 **AD1 ... AD4** Measuring range max. 10 bar

2 **PSI, MPA** Not with pressure gauge alternatives VS, A8, A4, AD1, AD2, AD3, AD4

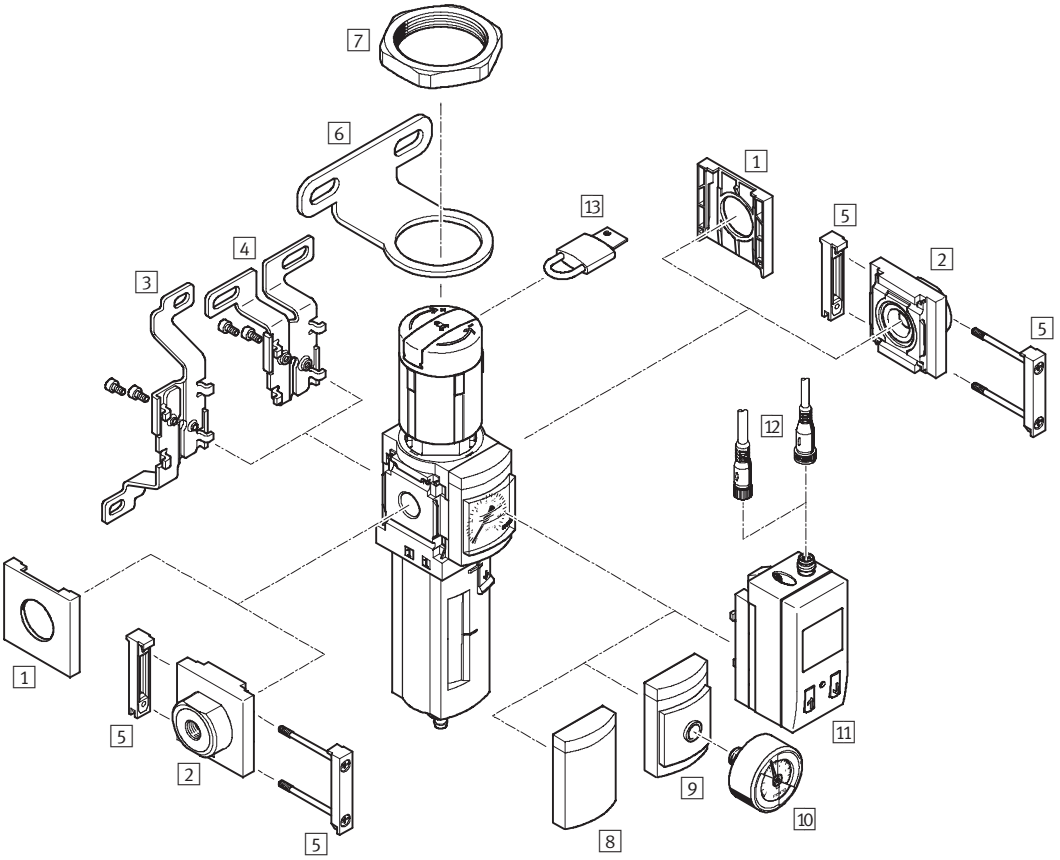
3 **WR** Not with long rotary knob LD

4 **WP, WPM** Only with port plate AGA, AGB or AGC

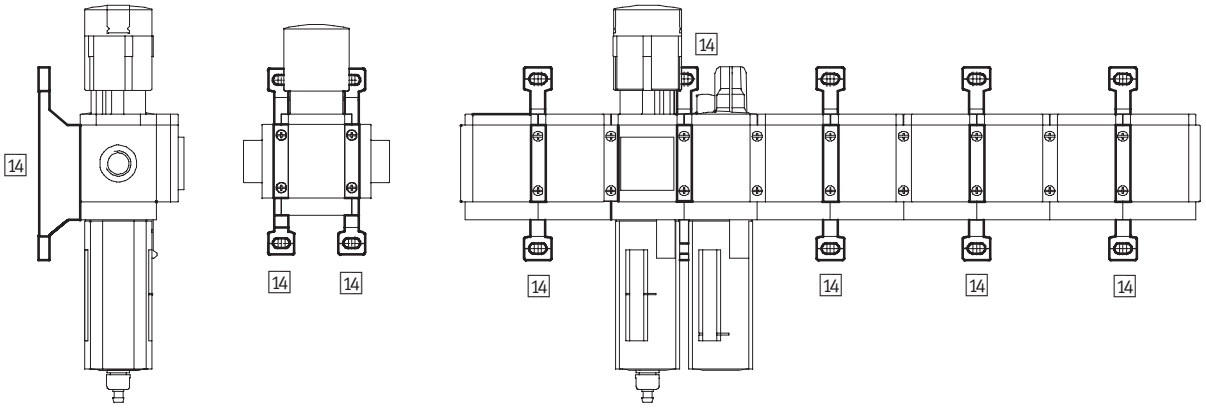
Transfer order code

–		–		–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Filter Regulators MS4-LFR – Metric Series

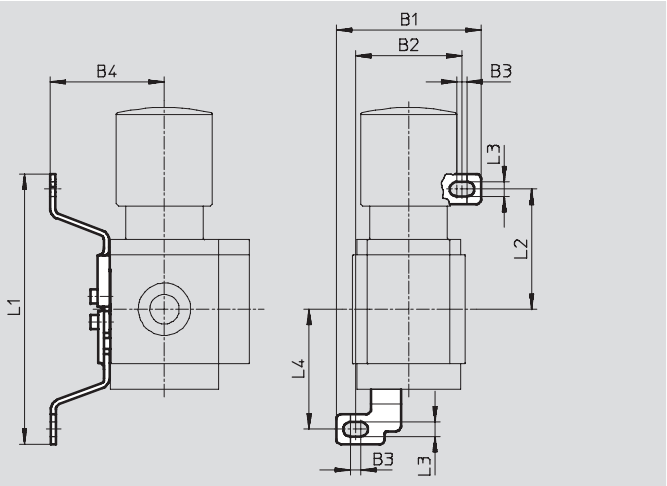
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	112
2	Port plate MS4-AG...	–	■	–	■	113
3	Mounting bracket MS4-WB	■	■	–	–	110
4	Mounting bracket MS4-WBM	■	■	–	–	110
5	Body connector MS4-MV	–	■	■	■	113
6	Regulator wall bracket MS4-WR	■	■	–	–	111
7	Hex nut MS4-WRS	■	■	■	■	111
8	Cover plate VS	■	■	■	■	106
9	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	106
10	Pressure gauge MA	■	■	■	■	117
11	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	106
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	117
13	Padlock LRVS-D	■	■	■	■	117
14	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	114

3 Mounting bracket MS4-WB
- For wall mounting

Material:
Steel





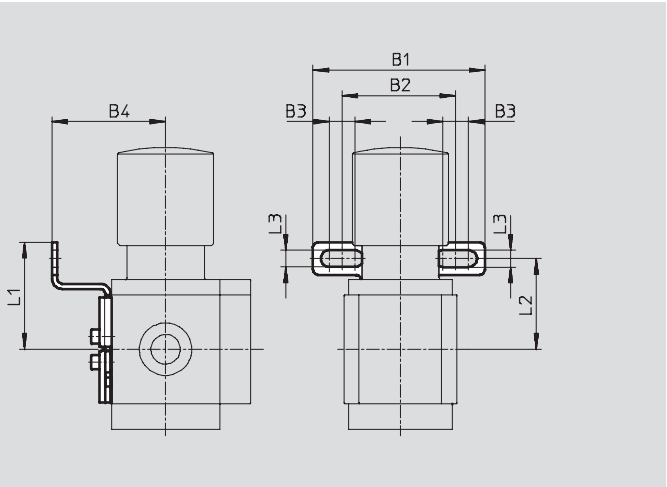
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
56.2	41.2	4	44.2	104.6	46.6	5.6	46.5	46	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

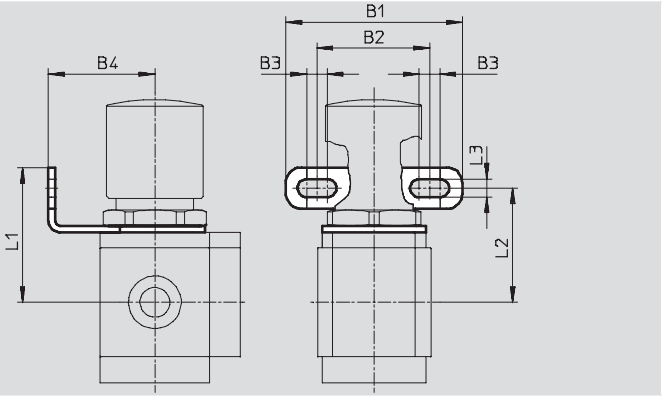
B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
66.5	44	10	44	41.3	35	6.5	48	**526062**	**MS4-WBM**

6 **Mounting bracket MS4-WR**
- For wall mounting
- For filter regulator, pressure regulator

Material:
Steel

Note
The hex nut for attaching components to this bracket must be ordered separately.





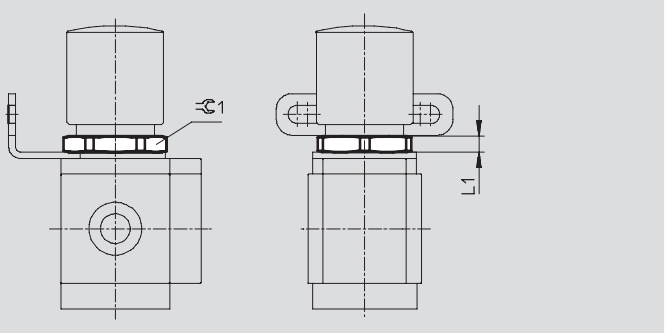
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
68	44	8	41	52	44	7	49	**526064**	**MS4-WR**

7 **Hex nut MS4-WRS**
- For front panel mounting
- For attaching components to the mounting bracket MS-WR

Material:
Aluminum





Dimensions and Ordering Data

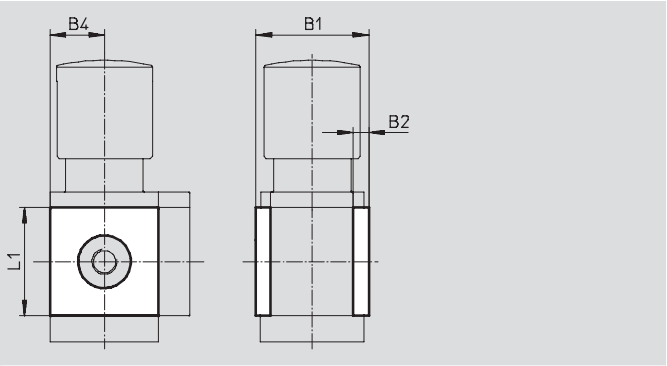
L1	⌀1	Weight [g]	Part No.	Type
6	36	6.9	**532187**	**MS4-WRS**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

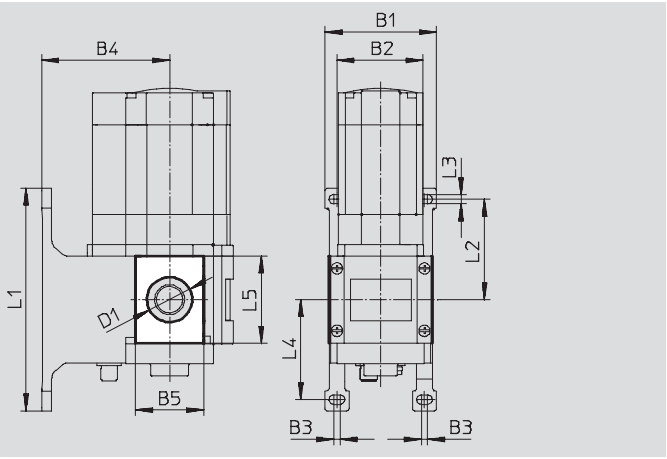
B1	B2	B4	L1	Part No.	Type
43.6	6	21	42	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

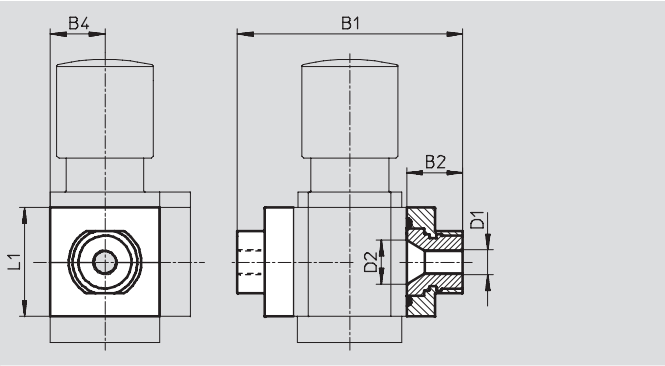
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4-AG...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
83.5	21.5	21	G1⁄8	16.8	42	128	**526068**	**MS4-AGA**
			G1⁄4				**526069**	**MS4-AGB**
			G3⁄8				**526070**	**MS4-AGC**

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

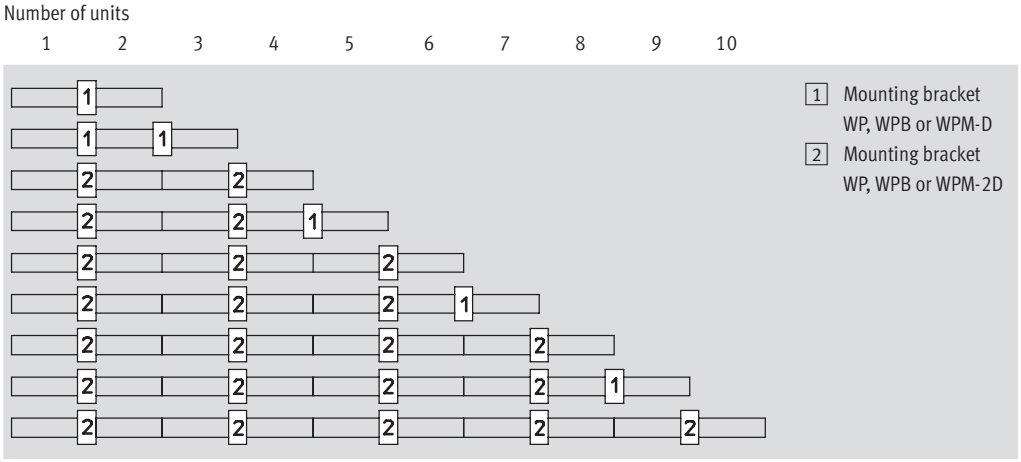
Weight [g]	Part No.	Type
36	**532798**	**MS4-MV**

14 Mounting Bracket MS4-WP...

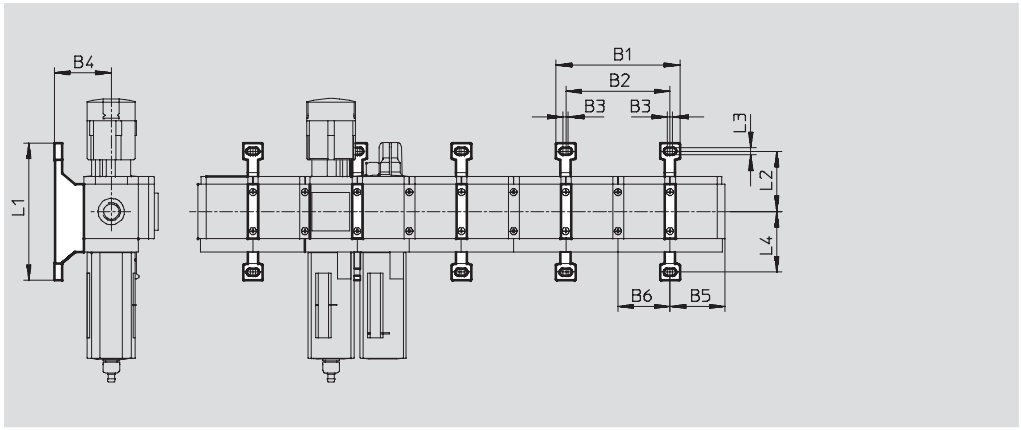
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 40 mm

2 units: 80 mm



Mounting dimensions



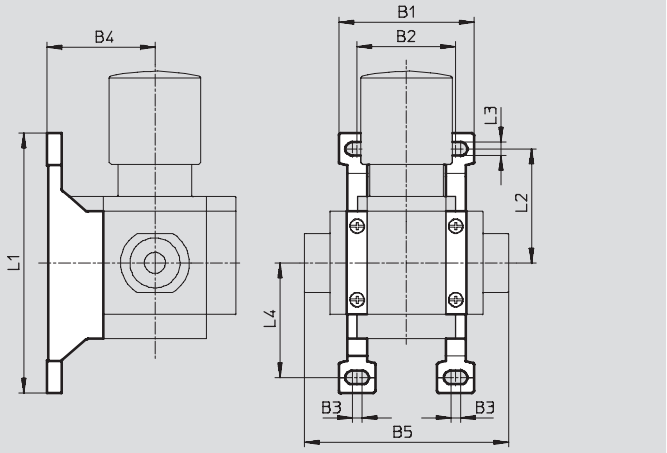
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44			92.8	34.8		40

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

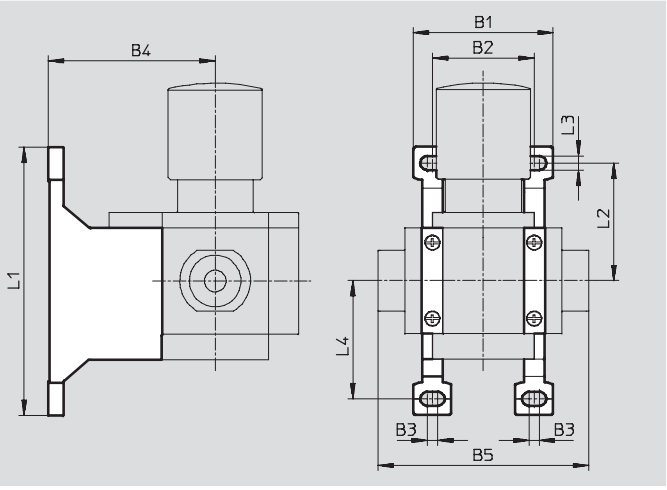
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	44	83.4	106	46.5	5.6	46.7	39	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	55	**526063**	**MS4-WPB**

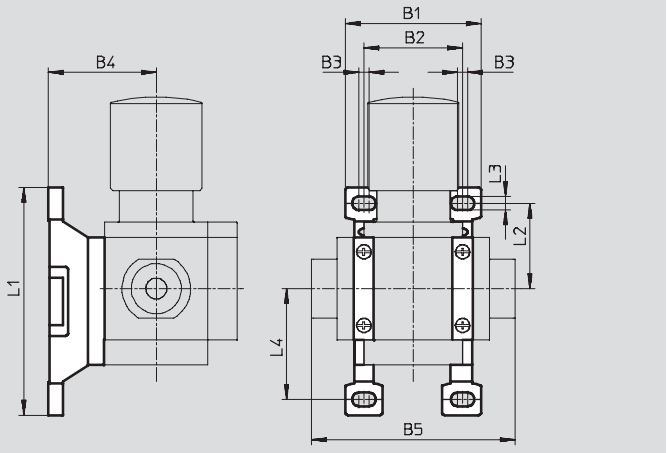
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
55.2	40	4	44	83.4	92.8	34.8	5.6	45.2	40	45	**526060**	**MS4-WPM-D**
95.2	80			123.4					80	55	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



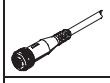
Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

11 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [m]	Part No.	Type
	M8x1, 3-pin	2.5	**159420**	**SIM-M8-3GD-2,5-PU**
		5	**159421**	**SIM-M8-3GD-5-PU**
		10	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	2.5	**159422**	**SIM-M8-3WD-2,5-PU**
		5	**159423**	**SIM-M8-3WD-5-PU**
		10	**192965**	**SIM-M8-3WD-10-PU**

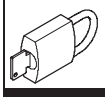
11 Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 4-pin	5	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	5	**164258**	**SIM-M12-4WD-5-PU**

10 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	40	R⅛	0 ... 16	–	**525726**	**MA-40-16-R⅛-E-RG**
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

13 Ordering Data – Padlock LRVS-D

	Description	Weight [g]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	120	**193786**	**LRVS-D**

Filter Regulators MS4-LFR – Metric Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS4	Snap-ring, membrane, bellows, O-rings, screws, stem	**673647**	**MS4-LFR**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS4	5	**534501**	**MS4-LFP-C**
	40	**534502**	**MS4-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Filter Regulators MS4N-LFR – Inch Series



A filter regulator combines a filter and a pressure regulator into a single unit. The sintered filter with water separator removes contamination, pipe sinter, rust and condensate from the compressed air. The pressure setting can be adjusted with the regulator.

- Pneumatic connection: ⅛ NPT, ¼ NPT, ⅜ NPT
- Filtration grade: 5 µm, 40 µm
- Supply pressure
  – for manual drain: 12 … 206 psi
  – for semiautomatic drain: 22 … 176 psi
  – for fully automatic drain: 29 … 176 psi
- Controlled pressure range: 4.4 … 176 psi
- Flow rate: 30.0 … 67.1 scfm

Product Range Overview

Type	Pneumatic connections		Pressure regulation range [psi]			Filtration grade [µm]		Bowl guard		Bowl drain			Pressure indicator					Pressure adjustment		Reverse flow
	Body thread	Port plate	4.4... 59	4.4 ... 103	7.4 ... 176	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge ⅛ NPT	Adapter for pressure gauge ¼ NPT	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS4N		AG...	D5	D6	D7	C	E	R	U	M	H	V	VS	AG	A8	A4	AD...	AS	LD	Z
LFR	⅛ NPT, ¼ NPT	⅛ NPT, ¼ NPT, ⅜ NPT	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Features

- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rates
- Directly actuated diaphragm regulator
- Three pressure regulation ranges
- Modular, in-line or panel mounting
- Lockable rotary knob
- Available with or without secondary venting
- Two pressure gauge connections for different fitting options
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display and electric output

Contents

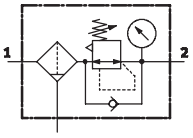
Technical Data → 120
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Accessories → 130
Replacement Parts → 140

→ www.festo.com/catalog/ms4n-lfr

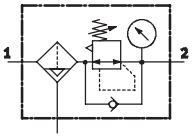
Filter Regulators MS4N-LFR – Inch Series

Technical Data

ISO Symbol



Manual bowl drain



Semi or fully automatic bowl drain



General Technical Data				
Pneumatic connection 1, 2			1/8 NPT	1/4 NPT
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)	
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)	
Supply pressure	M	[psi]	12 ... 206 (manual drain)	
	H	[psi]	22 ... 176 (semiautomatic drain)	
	V	[psi]	29 ... 176 (fully automatic drain)	
Pressure regulation range	D5	[psi]	4.4 ... 59	
	D6	[psi]	4.4 ... 103	
	D7	[psi]	7.4 ... 176 (4.4 ... 147 with variant pressure sensor AD...)	
Max. hysteresis		[psi]	3.7	

Standard Nominal Flow Rate qnN[1] [scfm]			
Pneumatic connection 1, 2		1/8 NPT	1/4 NPT
D5 – Pressure regulation range 4.4 ... 59 psi			
Filtration grade	5 µm	31.8[2]	63.5[2]
	40 µm	38.8[2]	67.1[2]
D6 – Pressure regulation range 4.4 ... 103 psi			
Filtration grade	5 µm	31.8	53.0
	40 µm	35.3	60.0
D7 – Pressure regulation range 7.4 ... 176 psi			
Filtration grade	5 µm	30.0	42.4
	40 µm	31.8	53.0

1) Measured at p1 = 147 psi and p2 = 88 psi, Δp = 15 psi
2) Measured at p1 = 147 psi and p2 = 44 psi, Δp = 15 psi

Filter Regulators MS4N-LFR – Inch Series

Technical Data

Operating and Environmental Conditions				
Bowl drain		Manual M	Semiautomatic H	Fully automatic V
Operating medium without pressure sensor AD...		Compressed air		
Operating medium with pressure sensor AD...		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm		
Max. condensate volume	[in^3]	1.16 (with plastic bowl guard) 1.53 (with metal bowl)		
Bowl guard		Plastic bowl guard		
		Metal bowl		
Ambient temperature without pressure sensor AD...	[°F]	14 ... 140	41 ... 140	41 ... 140
Ambient temperature with pressure sensor AD...	[°F]	32 ... 122	41 ... 122	41 ... 122
Medium temperature without pressure sensor AD...	[°F]	14 ... 140	41 ... 140	41 ... 140
Medium temperature with pressure sensor AD...	[°F]	32 ... 122	41 ... 122	41 ... 122
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	0.55
With metal bowl	0.95

- Wearing parts kits ➔ 140
- Filter cartridges ➔ 140
- For spare parts go to: www.festo.com/en/spare_parts_service

Filter Regulators MS4N-LFR – Inch Series

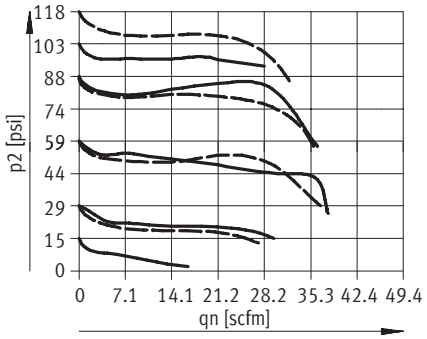
Technical Data

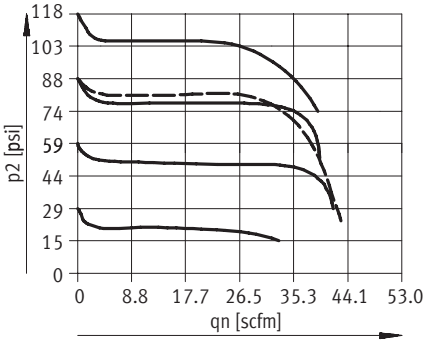
FESTO

Standard Flow Rate qn as a Function of Output Pressure p2

Pressure regulation range D6 or D7 MS4N-LFR-⅛	Filtration grade 5 µm	Filtration grade 40 µm

Primary pressure p1 = 147 psi



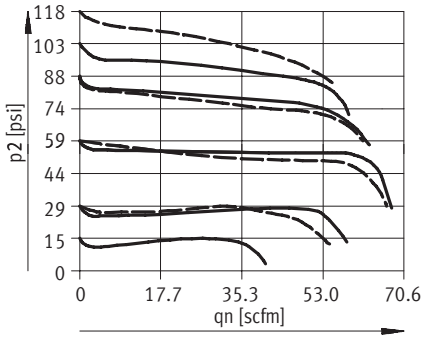


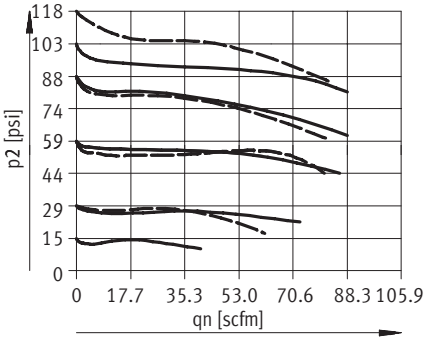
D6: 4.4 ... 103 psi

D7: 7.4 ... 176 psi

MS4N-LFR-¼

Primary pressure p1 = 147 psi



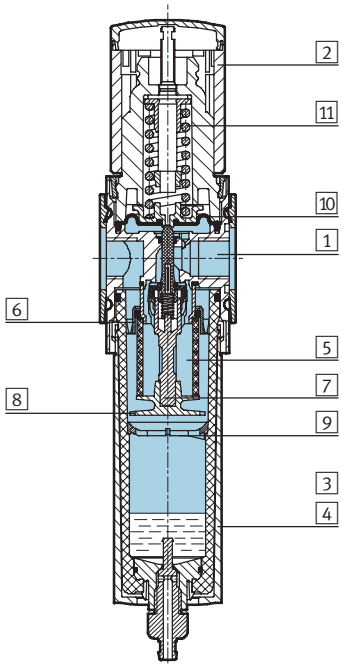


D6: 4.4 ... 103 psi

D7: 7.4 ... 176 psi

Materials

Sectional view



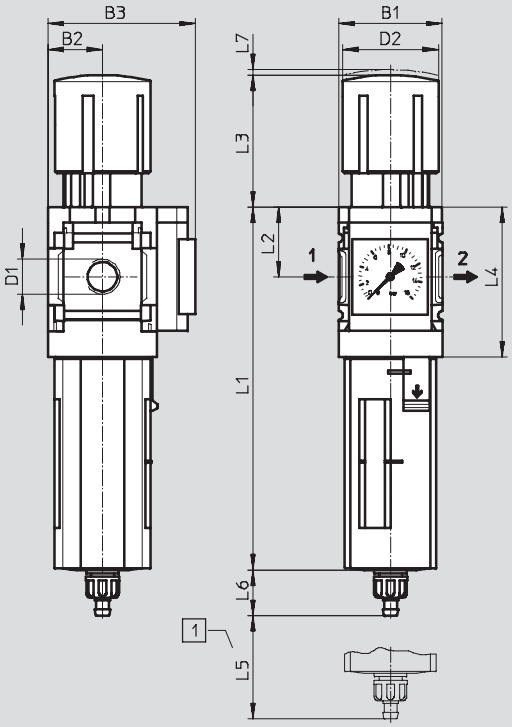
Filter regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Plastic bowl guard	Polycarbonate/polyamide
4	Metal bowl	Aluminum
	Viewing window	Polyamide
5	Filter element	Polyethylene
6	Spin disk	Polyacetate
7	Filter holder	Polyacetate
8	Separating plate	Polyacetate
9	Stabilizing disk	Polyacetate
10	Diaphragm	Nitrile rubber
11	Spring	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Filter Regulators MS4N-LFR – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi], rotary knob as standard, manual bowl drain



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	D2	L1 Bowl guard		L2	L3	L4	L5	L6 Bowl guard		L7
						Plastic	Metal					Plastic	Metal	
MS4N-LFR-⅛	1.57	0.83	2.24	⅛ NPT	1.46	5.54	6.23	1.06	2.01	2.30	0.98	0.70	0.70	0.08
MS4N-LFR-¼				¼ NPT										

1) Dimensions are in inches, unless otherwise noted.

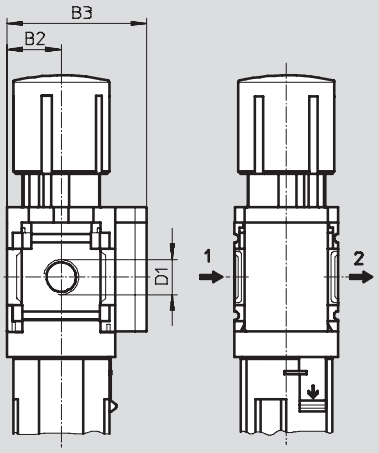
Filter Regulators MS4N-LFR – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

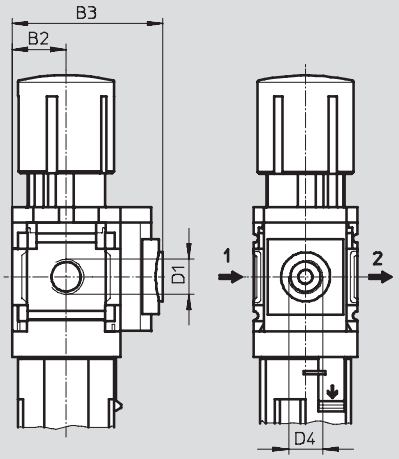
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

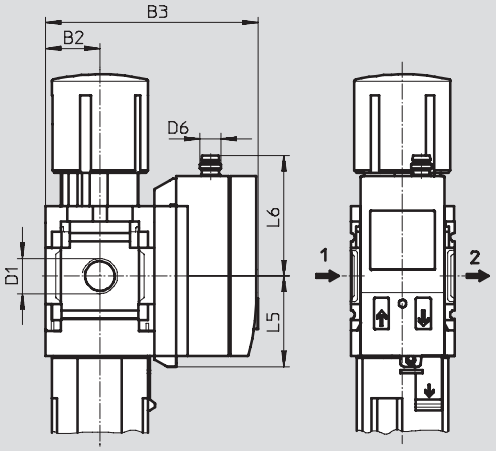
Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS4N-LFR-1/8-...-VS	0.83	2.13	1/8 NPT	–	–	–	–
MS4N-LFR-1/4-...-VS			1/4 NPT				
MS4N-LFR-1/8-...-A8	0.83	2.30	1/8 NPT	1/8 NPT	–	–	–
MS4N-LFR-1/4-...-A8			1/4 NPT				
MS4N-LFR-1/8-...-A4	0.83	2.30	1/8 NPT	1/4 NPT	–	–	–
MS4N-LFR-1/4-...-A4			1/4 NPT				
MS4N-LFR-1/8-...-AD1/AD2	0.83	3.25	1/8 NPT	–	M8x1	1.38	1.84
MS4N-LFR-1/4-...-AD1/AD2			1/4 NPT				
MS4N-LFR-1/8-...-AD3/AD4	0.83	3.25	1/8 NPT	–	M12x1	1.38	2.20
MS4N-LFR-1/4-...-AD3/AD4			1/4 NPT				

1) Dimensions are in inches, unless otherwise noted.

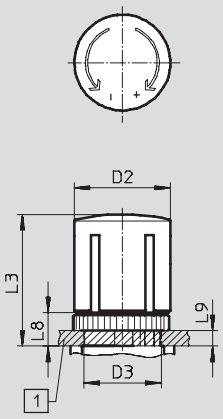
Filter Regulators MS4N-LFR – Inch Series

Dimensional Drawings

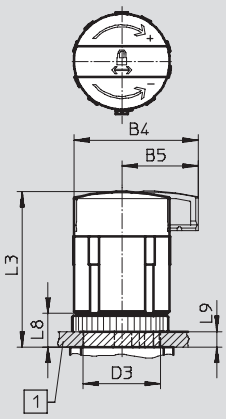
Dimensions[1] – Rotary Knob Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

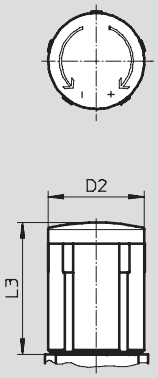


Standard, lockable AS

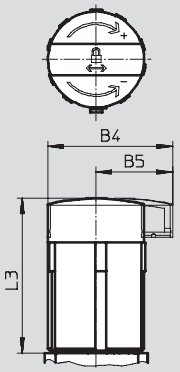


1 Max. control panel thickness

Long LD



Long, lockable LD-AS

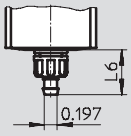


Type	B4	B5	D2	D3 +0.04	L3	L8	L9
MS4N-LFR-...	–	–	1.46	1.18	2.01	0.51	0.24
MS4N-LFR-...-AS	1.90	1.17			2.37		
MS4N-LFR-...-LD	–	–	1.46	–	2.01	–	–
MS4N-LFR-...-LD-AS	1.90	1.17			2.37		

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

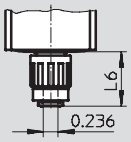
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4N-LFR-...-M	0.70
Metal bowl	
MS4N-LFR-...-M	0.70

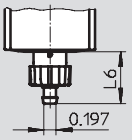
Semiautomatic H



QS fitting for plastic tubing
PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS4N-LFR-...-H	0.87
Metal bowl	
MS4N-LFR-...-H	0.87

Fully automatic V



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4N-LFR-...-V	0.80
Metal bowl	
MS4N-LFR-...-V	0.80

1) Dimensions are in inches, unless otherwise noted.

Filter Regulators MS4N-LFR – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 4.4 ... 103 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	1/8 NPT	**531230**	**MS4N-LFR-1/8-D6-CRM-AS**	1D		**531222**	**MS4N-LFR-1/8-D6-ERM-AS**	1D
	1/4 NPT	**531229**	**MS4N-LFR-1/4-D6-CRM-AS**	1D		**531221**	**MS4N-LFR-1/4-D6-ERM-AS**	1D
Fully automatic	1/8 NPT	**531234**	**MS4N-LFR-1/8-D6-CRV-AS**	1D		**531226**	**MS4N-LFR-1/8-D6-ERV-AS**	1D
	1/4 NPT	**531233**	**MS4N-LFR-1/4-D6-CRV-AS**	1D		**531225**	**MS4N-LFR-1/4-D6-ERV-AS**	1D

Ordering Data								
Pressure regulation range 7.4 ... 176 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	1/8 NPT	**531214**	**MS4N-LFR-1/8-D7-CRM-AS**	1D		**531206**	**MS4N-LFR-1/8-D7-ERM-AS**	1D
	1/4 NPT	**531213**	**MS4N-LFR-1/4-D7-CRM-AS**	1D		**531205**	**MS4N-LFR-1/4-D7-ERM-AS**	1D
Fully automatic	1/8 NPT	**531218**	**MS4N-LFR-1/8-D7-CRV-AS**	1D		**531210**	**MS4N-LFR-1/8-D7-ERV-AS**	1D
	1/4 NPT	**531217**	**MS4N-LFR-1/4-D7-CRV-AS**	1D		**531209**	**MS4N-LFR-1/4-D7-ERV-AS**	1D
Metal bowl								
Manual	1/8 NPT	**535734**	**MS4N-LFR-1/8-D7-CUM-AS**	Q		**535740**	**MS4N-LFR-1/8-D7-EUM-AS**	Q
	1/4 NPT	**535750**	**MS4N-LFR-1/4-D7-CUM-AS**	Q		**535756**	**MS4N-LFR-1/4-D7-EUM-AS**	Q
Fully automatic	1/8 NPT	**535736**	**MS4N-LFR-1/8-D7-CUV-AS**	Q		**535738**	**MS4N-LFR-1/8-D7-EUV-AS**	Q
	1/4 NPT	**535752**	**MS4N-LFR-1/4-D7-CUV-AS**	Q		**535754**	**MS4N-LFR-1/4-D7-EUV-AS**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Filter Regulators MS4N-LFR – Inch Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data** ➔

Part No.	Series	Size	Thread		Function		Connection size		Pressure regulation range		Filtration grade		Bowl
527694	MS	4	N	–	LFR	–	⅛, ¼, AQK, AQN, AQP	–	D5 D6 D7	–	E C	–	R U
Order example													
527694	**MS**	**4**	**N**	–	**LFR**	–	**AQK**	–	**D6**	–	**C**	–	**R**

Ordering Table

Grid dimension [mm]	40	Conditions	Code		Enter code
M Part No.	**527694**				
Series	Standard		**MS**		MS
Size	4		**4**		4
Thread	NPT thread		**N**		N
Function	Filter regulator		**-LFR**		-LFR
Connection size	Body thread ⅛ NPT		**-⅛**		
	Body thread ¼ NPT		**-¼**		
	Port plate ⅛ NPT (dimensions ➔ 135)		**-AQK**		
	Port plate ¼ NPT (dimensions ➔ 135)		**-AQN**		
	Port plate ⅜ NPT (dimensions ➔ 135)		**-AQP**		
Pressure regulation range	4.4 ... 59 psi		**-D5**		
	4.4 ... 103 psi		**-D6**		
	7.4 ... 176 psi		**-D7**		
Filtration grade	40 µm		**-E**		
	5 µm		**-C**		
Bowl	Plastic bowl with plastic bowl guard		**-R**		
↓	Metal bowl		**-U**		

Transfer order code

527694	**MS**	**4**	**N**	–	**LFR**	–		–		–		–	

Filter Regulators MS4N-LFR – Inch Series

Ordering Data – Configurable Products

FESTO

➔ M	O Options							
Bowl drain	Pressure gauge alternatives	Alternative pressure gauge scale	Secondary venting	Rotary knob	Security	Type of mounting	Reverse flow direction
M H V	VS A8 A4 AD1 AD2 AD3 AD4	BAR MPA	OS	LD	AS	WR WP WPM WB WBM	Z
– M	– A8	–	–	– LD	– AS	– WPM	– Z

Ordering Table

Grid dimension [mm]		40	Conditions	Code		Enter code
↓ M	Bowl drain	Manual		-M		
		Semiautomatic (P1 max. 176 psi)		-H		
		Fully automatic (P1 max. 176 psi)		-V		
O	Pressure gauge alternatives	Cover plate		-VS		
		Adapter plate for EN pressure gauge ⅛, without pressure gauge		-A8		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		-A4		
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	1	-AD1		
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	1	-AD2		
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	1	-AD3		
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	1	-AD4		
	Alternative pressure gauge scale	bar	2	-BAR		
		MPa	2	-MPA		
	Secondary venting	Without secondary venting		-OS		
	Rotary knob	Long rotary knob		-LD		
	Security	Lockable rotary knob		-AS		
	Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 133)	3	-WR		
		Mounting bracket (dimensions ➔ 136)	4	-WP		
		Mounting bracket (dimensions ➔ 136)	4	-WPM		
		Mounting bracket (dimensions ➔ 132)		-WB		
		Mounting bracket (dimensions ➔ 132)		-WBM		
	Reverse flow direction	Flow direction from right to left		-Z		

1 **AD1 ... AD4** Measuring range max. 147 psi

2 **BAR, MPA** Not with pressure gauge alternatives VS, A8, A4, AD1, AD2, AD3, AD4

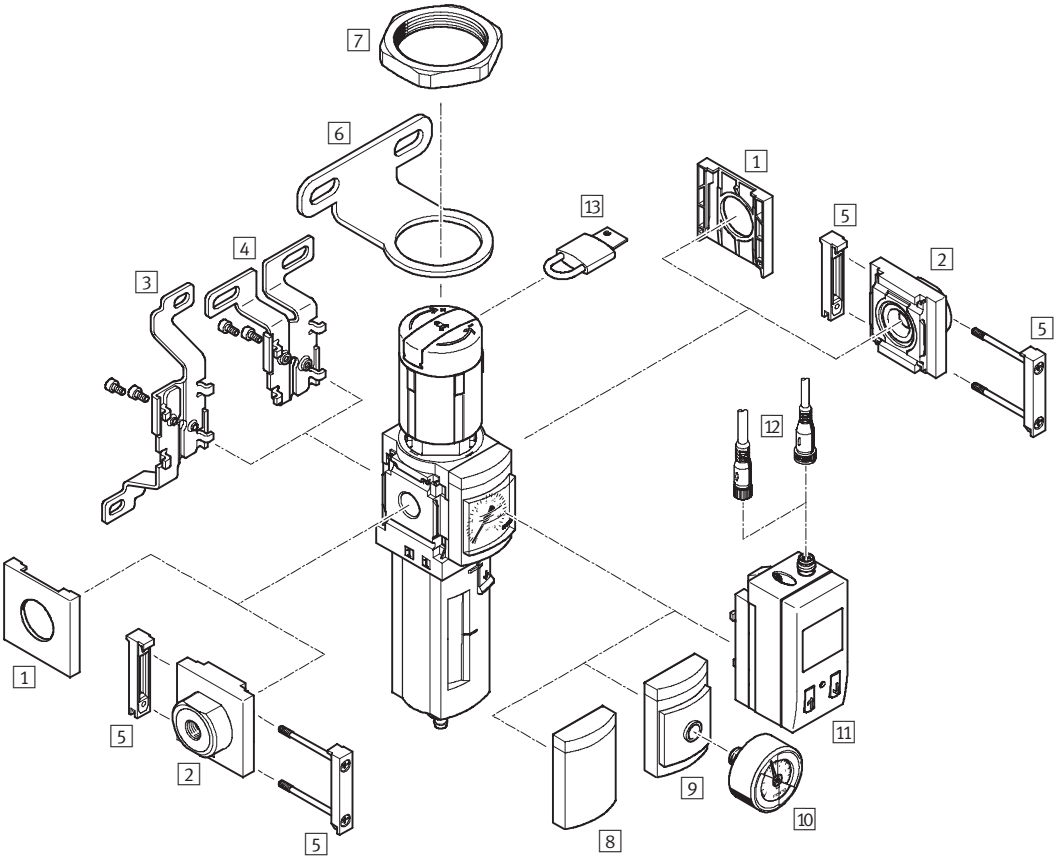
3 **WR** Not with long rotary knob LD

4 **WP, WPM** Only with port plate AQK, AQN or AQP

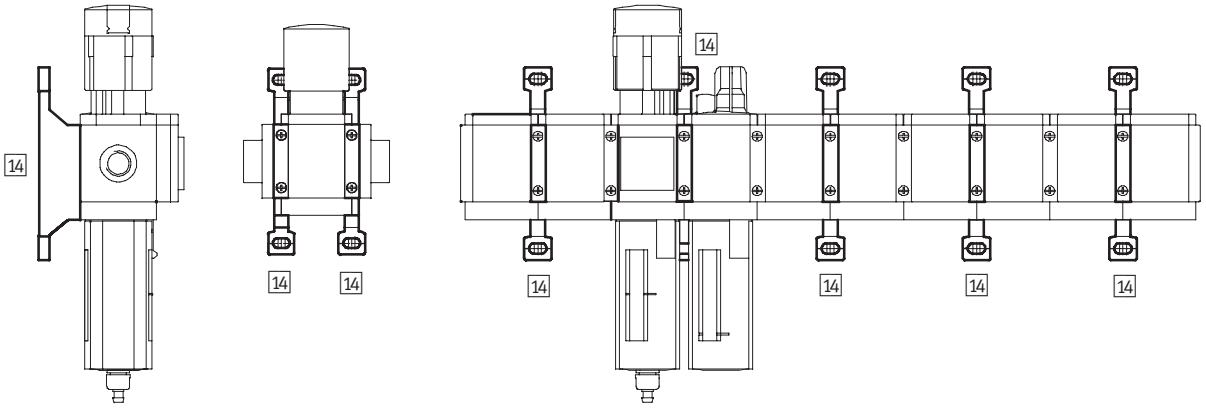
Transfer order code

–		–		–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Filter Regulators MS4N-LFR – Inch Series

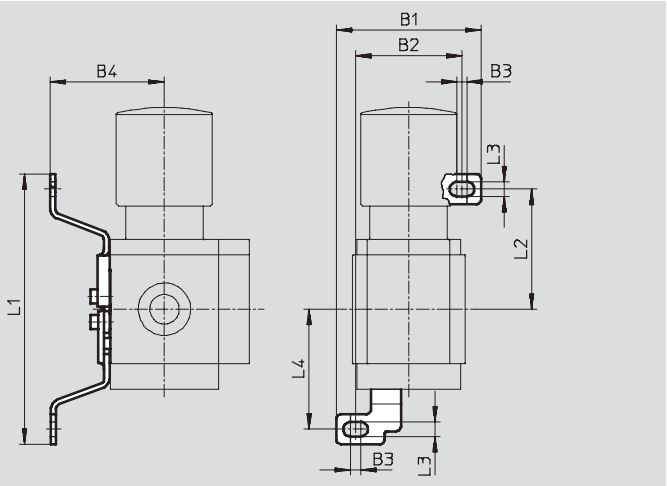
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	134
2	Port plate MS4N-AQ...	–	■	–	■	135
3	Mounting bracket MS4-WB	■	■	–	–	132
4	Mounting bracket MS4-WBM	■	■	–	–	132
5	Body connector MS4-MV	–	■	■	■	135
6	Regulator wall bracket MS4-WR	■	■	–	–	133
7	Hex nut MS4-WRS	■	■	■	■	133
8	Cover plate VS	■	■	■	■	128
9	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	128
10	Pressure gauge MA	■	■	■	■	139
11	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	128
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	139
13	Padlock LRVS-D	■	■	■	■	139
14	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	136

3 Mounting bracket MS4-WB
- For wall mounting

Material:
Steel





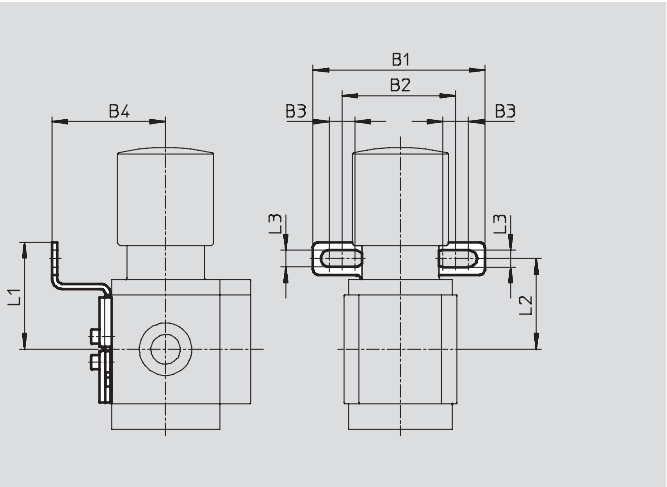
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.21	1.62	0.16	1.74	4.12	1.83	0.22	1.83	0.09	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

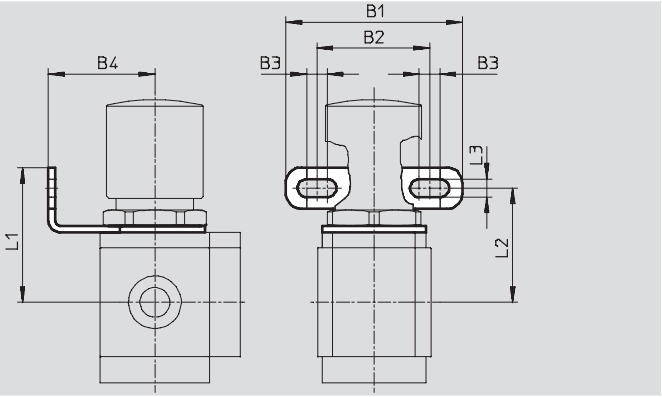
B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.62	1.73	0.39	1.73	1.63	1.38	0.26	0.10	**526062**	**MS4-WBM**

6 **Mounting bracket MS4-WR**
- For wall mounting a filter regulator and pressure regulator

Material:
Steel

Note
The hex nut for attaching components to this bracket must be ordered separately.





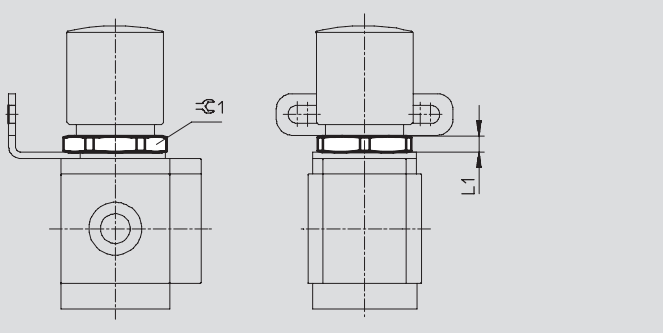
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.68	1.73	0.31	1.61	2.05	1.73	0.28	0.10	**526064**	**MS4-WR**

7 **Hex nut MS4-WRS**
- For front panel mounting
- For attaching components to the mounting bracket MS-WR

Material:
Aluminum





Dimensions and Ordering Data

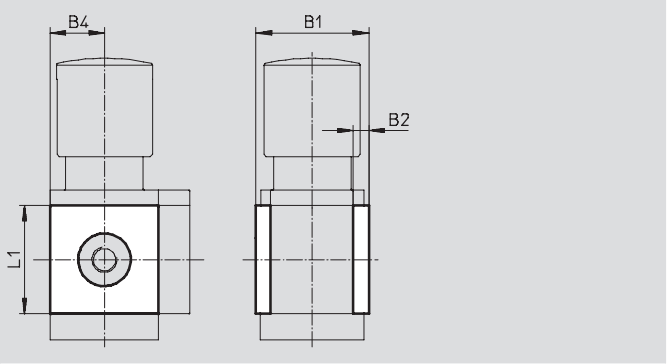
L1	⌀1	Weight [lb]	Part No.	Type
0.24	1.42	0.01	**532187**	**MS4-WRS**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

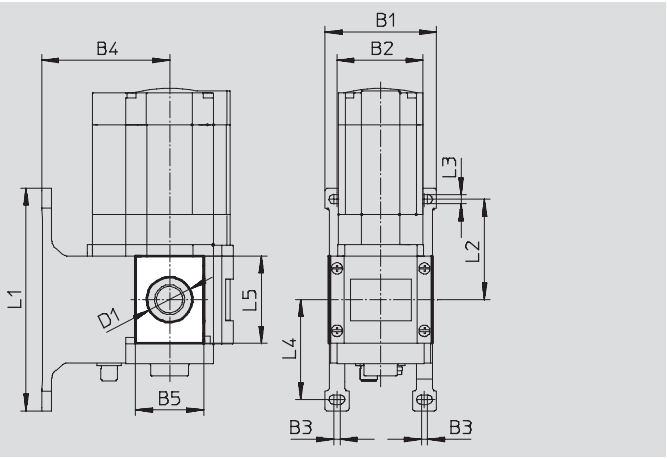
B1	B2	B4	L1	Part No.	Type
1.72	0.24	0.83	1.65	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

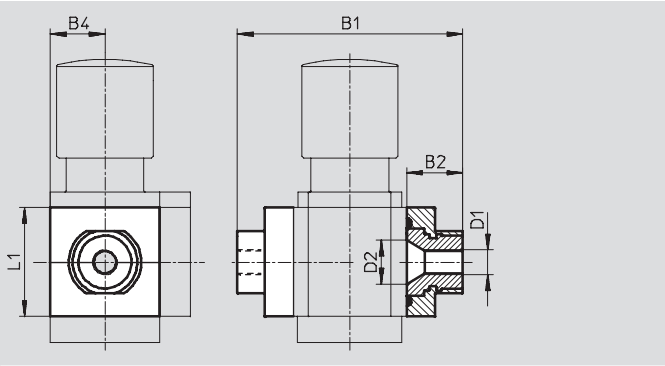
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
2.17	1.58	0.16	1.73	2.60	1.20	0.80	4.17	1.83	0.22	1.84	1.65	2	0.01	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4N-AQ...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
3.29	0.85	0.83	1/8 NPT	0.66	1.65	0.26	**526065**	**MS4N-AQK**
			1/4 NPT				**526066**	**MS4N-AQN**
			3/8 NPT				**526067**	**MS4N-AQP**

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

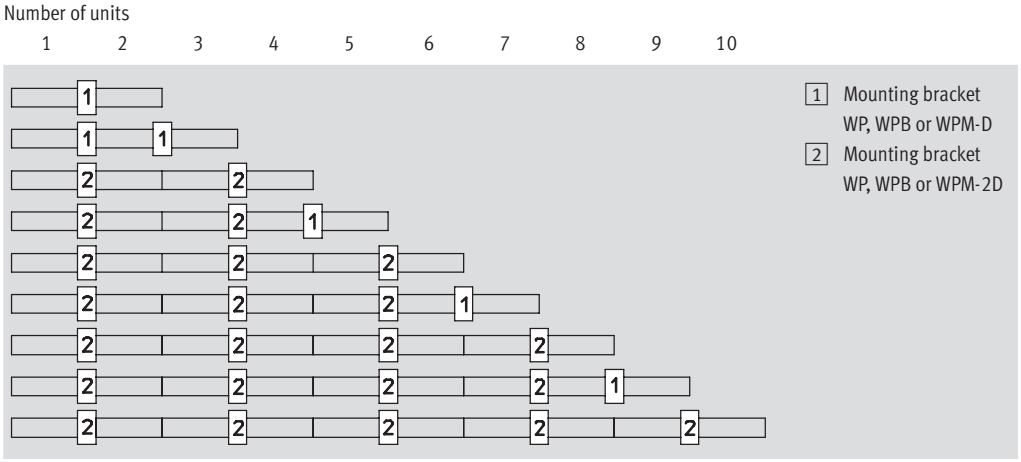
Weight [lb]	Part No.	Type
0.07	**532798**	**MS4-MV**

14 Mounting Bracket MS4-WP...

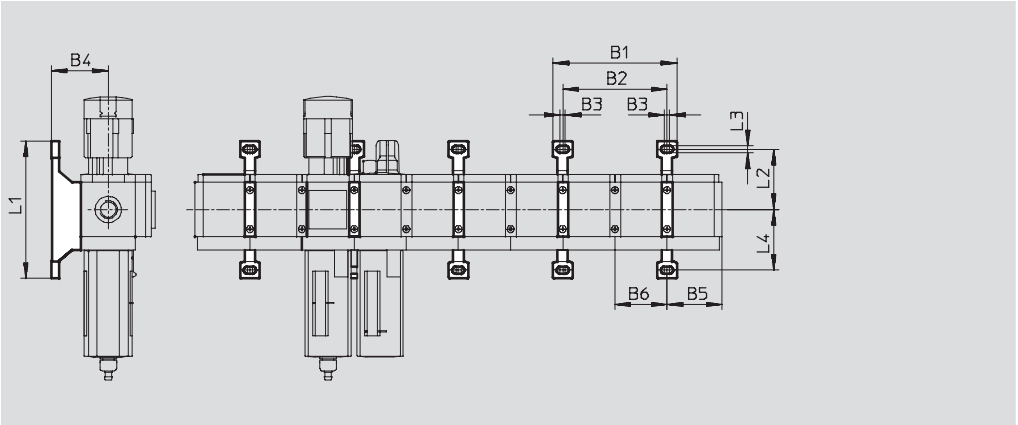
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 1.575 in

2 units: 3.15 in



Mounting dimensions



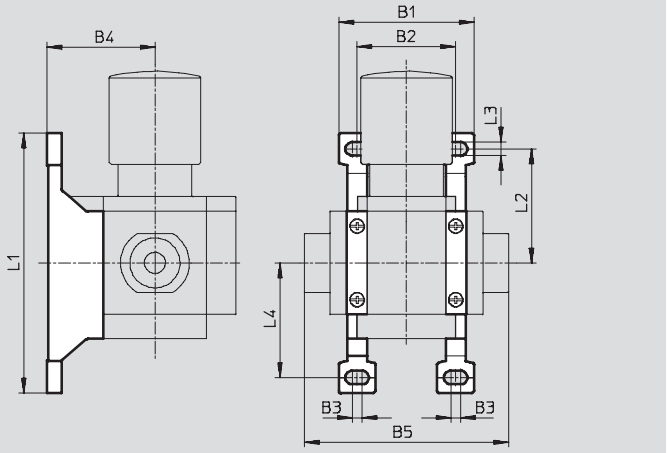
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	3.75	3.15	0.16	1.73	1.65	1.57	4.17	1.83	0.22	1.84
MS4-WPB				2.60						
MS4-WPM-...D				1.73			3.65	1.37		1.57

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

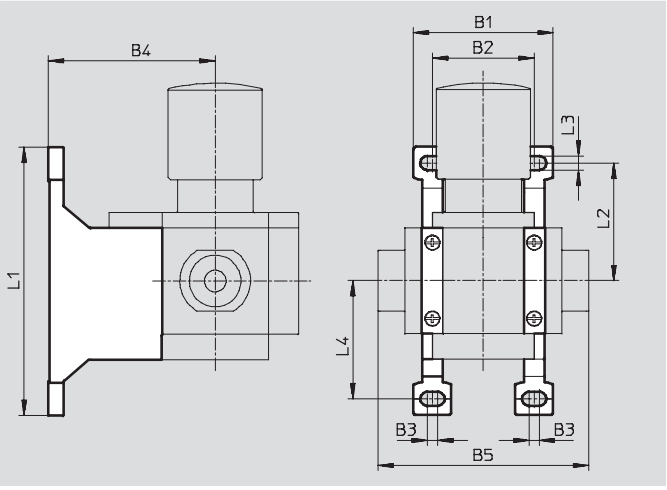
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	1.73	3.28	4.17	1.83	0.22	1.84	0.08	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	2.60	3.28	4.17	1.83	0.22	1.84	0.11	**526063**	**MS4-WPB**

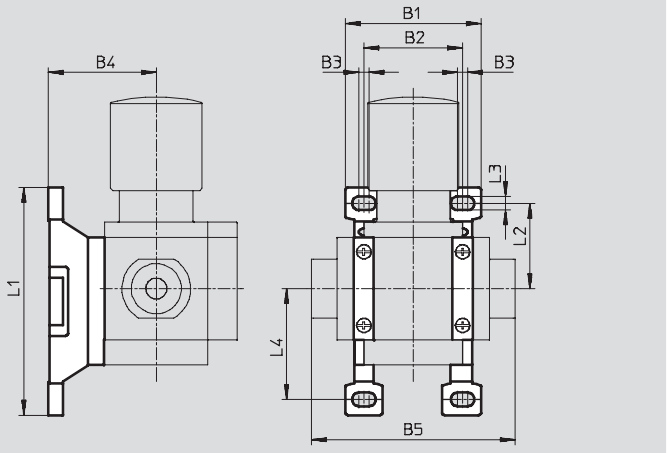
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
2.17	1.57	0.16	1.73	3.28	3.65	1.37	0.22	1.78	1.57	0.09	**526060**	**MS4-WPM-D**
3.75	3.15			4.86					3.15	0.11	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



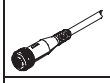
Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

11 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [ft]	Part No.	Type
	M8x1, 3-pin	8.2	**159420**	**SIM-M8-3GD-2,5-PU**
		16.4	**159421**	**SIM-M8-3GD-5-PU**
		32.8	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	8.2	**159422**	**SIM-M8-3WD-2,5-PU**
		16.4	**159423**	**SIM-M8-3WD-5-PU**
		32.8	**192965**	**SIM-M8-3WD-10-PU**

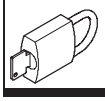
11 Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 4-pin	16.4	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	16.4	**164258**	**SIM-M12-4WD-5-PU**

10 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	1.57	¼ NPT	0 ... 16	0 ... 232	**183908**	**MA-40-16-N¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.57	⅛ NPT	–	0 ... 232	**530388**	**MA-40-232-N⅛-PSI-E-RG**
	1.97	¼ NPT	–	0 ... 232	**530391**	**MA-50-232-N¼-PSI-E-RG**

13 Ordering Data – Padlock LRVS-D

	Description	Weight [lb]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	0.24	**193786**	**LRVS-D**

Filter Regulators MS4N-LFR – Inch Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS4	Snap-ring, membrane, bellows, O-rings, screws, stem	**673647**	**MS4-LFR**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS4	5	**534501**	**MS4-LFP-C**
	40	**534502**	**MS4-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Pressure Regulators MS4-LR/LRB – Metric Series



The pressure regulator maintains a constant working pressure (secondary side), regardless of the pressure variations in the system (primary side) and the air consumption.

- Pressure regulators
  – MS4-LR
  – MS4-LRB, manifold units
- Pneumatic connection: G⅛, G¼, G⅜
- Supply pressure: 0.8 … 14 bar
- Controlled pressure range: 0.3 … 12 bar
- Flow rate: 300 … 2,100 l/min

Product Range Overview

Type	Flow rate [l/min]	Pneumatic connections		Pressure regulation range [bar]				Pressure indicator					Pressure adjustment		Reverse flow
		Body thread	Port plate	0.3 … 4	0.3 … 7	0.5 … 12	0.5 … 16	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G⅛	Adapter for pressure gauge G¼	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS4			AG…	D5	D6	D7	D8	VS	AG	A8	A4	AD…	AS	LD	Z
LR	1,000 … 2,100	G⅛, G¼	G⅛, G¼, G⅜	■	■	■	–	■	■	■	■	■	■	■	■
LRB	300 … 1,900	G¼	G⅛, G¼, G⅜	■	■	■	–	■	■	■	■	■	■	■	■

Contents

MS4-LR

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Dimensional Drawings	→ 144
Ordering Data	→ 147
Accessories	→ 150
Replacement Parts	→ 171

→ www.festo.com/catalog/ms4-lr

MS4-LRB

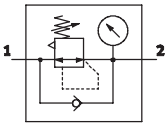
Technical Data	→ 152
Dimensional Drawings	→ 154
Ordering Data	→ 157
Accessories	→ 160
Replacement Parts	→ 171

→ www.festo.com/catalog/ms4-lrb

Pressure Regulators MS4-LR – Metric Series

Technical Data

ISO Symbol



- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Available with or without secondary venting
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Three pressure regulation ranges
- Two pressure gauge connections for different fitting options
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display
- Optional rotary knob pressure gauge



General Technical Data				
Pneumatic connection 1, 2			G⅛	G¼
Supply pressure		[bar]	0.8 ... 14	
Pressure regulation range	D5	[bar]	0.3 ... 4	
	D6	[bar]	0.3 ... 7	
	D7	[bar]	0.5 ... 12 (0.5 ... 10 with variant pressure sensor AD...)	
Max. hysteresis		[bar]	0.25	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]			
Pneumatic connection 1, 2		G⅛	G¼
Pressure regulation range	D5	1,200[2]	2,100[2]
	D6	1,150	1,800
	D7	1,000	1,700

1) Measured at p1 = 10 bar and p2 = 6 bar, Δp = 1 bar
2) Measured at p1 = 10 bar and p2 = 3 bar, Δp = 1 bar

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°C]	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	0 ... +50
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Assembly position		Any	
Corrosion resistance	CRC[1]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Pressure Regulators MS4-LR – Metric Series

Technical Data

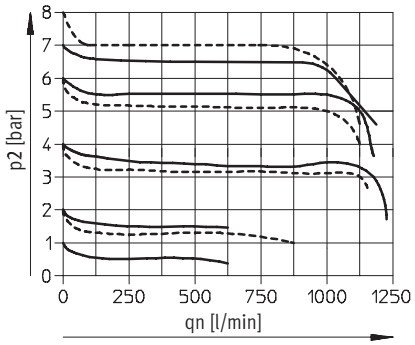
Weights [g]	
Pressure regulator	225

- Wearing parts kits ➔ 171
- For spare parts go to: www.festo.com/en/spare_parts_service

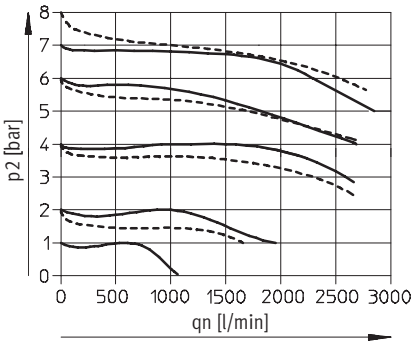
Standard Flow Rate qn as a Function of Output Pressure p2

Primary pressure p1 = 10 bar

MS4-LR-⅛



MS4-LR-¼

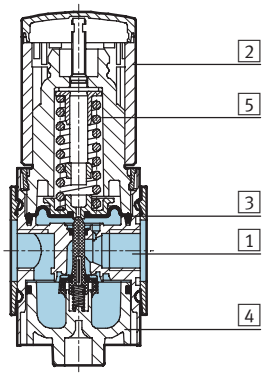


D6: 0.3 ... 7 bar

D7: 0.5 ... 12 bar

Materials

Sectional view



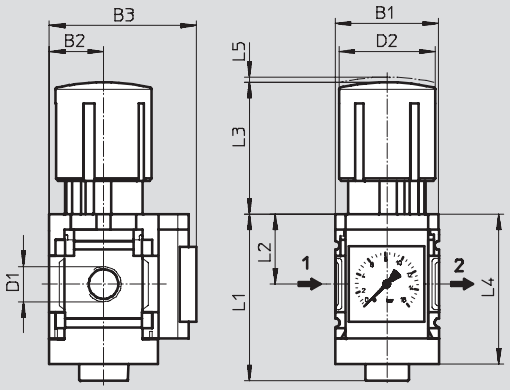
Pressure regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Bottom cap	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Pressure Regulators MS4-LR – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



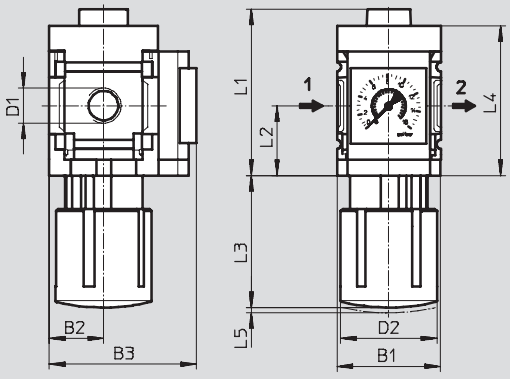
➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4-LR-⅛	40	21	57	G⅛	37.2	64.4	27	51.1	58	2
MS4-LR-¼				G¼						

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Alternative Mounting Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob underneath KD, standard rotary knob, with pressure gauge



➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4-LR-⅛-...-KD	40	21	57	G⅛	37.2	64.4	27	51.1	58	2
MS4-LR-¼-...-KD				G¼						

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

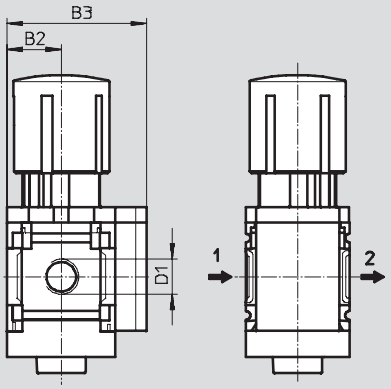
Pressure Regulators MS4-LR – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

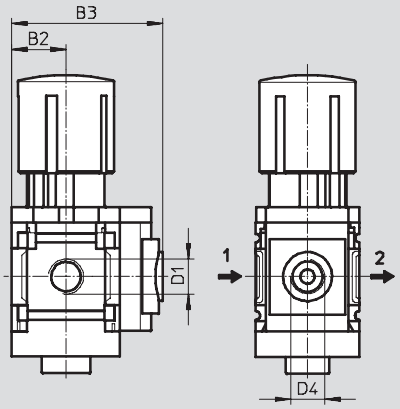
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

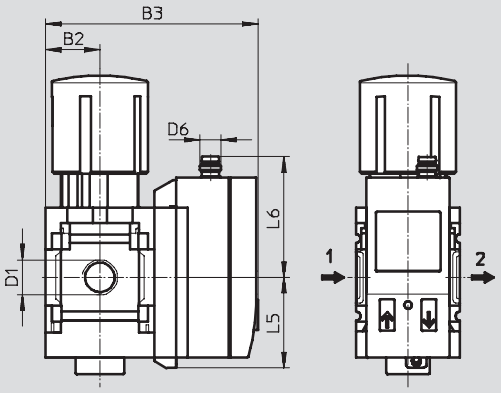
Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS4-LR-1/8-...-VS	21	54	G1/8	–	–	–	–
MS4-LR-1/4-...-VS			G1/4				
MS4-LR-1/8-...-A8	21	58.5	G1/8	G1/8	–	–	–
MS4-LR-1/4-...-A8			G1/4				
MS4-LR-1/8-...-A4	21	58.5	G1/8	G1/4	–	–	–
MS4-LR-1/4-...-A4			G1/4				
MS4-LR-1/8-...-AD1/AD2	21	82.6	G1/8	–	M8x1	35.1	46.7
MS4-LR-1/4-...-AD1/AD2			G1/4				
MS4-LR-1/8-...-AD3/AD4	21	82.6	G1/8	–	M12x1	35.1	55.8
MS4-LR-1/4-...-AD3/AD4			G1/4				

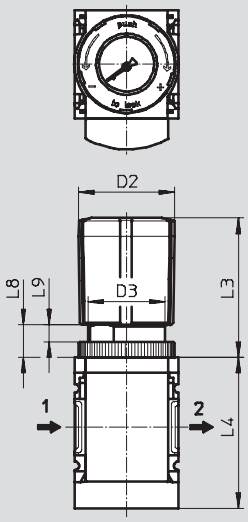
1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Rotary Knob Pressure Gauge

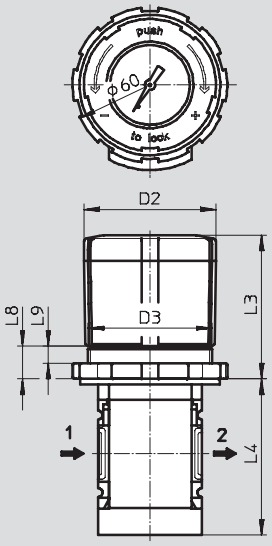
Download CAD Data ➔ **www.festo.com/us/cad**

Small DM1



➔ Flow direction

Large DM2



Note

Due to the protruding rotary knob, only a MS4-FRM distribution block can be connected as a directly adjacent service unit.

➔ Flow direction

Type	D2	D3	L3	L4	L8	L9
MS4-LR-...-DM1	37.2	M30x1.5	54	58.5	13	6.7
MS4-LR-...-DM2	51.1	M48x1.5	55.7	60.5	13	6.6

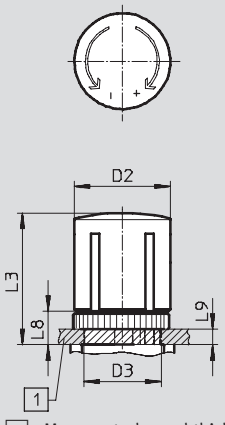
1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Rotary Knob

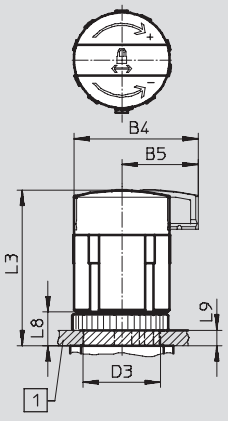
Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

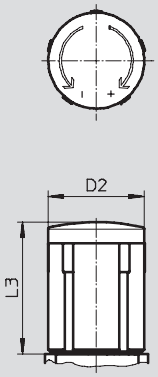


Standard, lockable AS

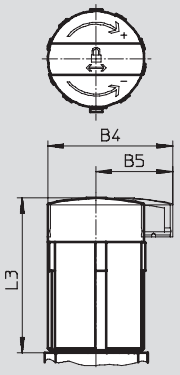


1 Max. control panel thickness

Long LD



Long, lockable LD-AS



Type	B4	B5	D2	D3 +1	L3	L8	L9
MS4-LR-...	–	–	37.2	30	51.1	13	6
MS4-LR-...-AS	48.3	29.7			60.2		
MS4-LR-...-LD	–	–	37.2	–	51.1	–	–
MS4-LR-...-LD-AS	48.3	29.7			60.2		

Pressure Regulators MS4-LR – Metric Series

Ordering Data – Pre-configured Products

Ordering Data			
Pressure gauge, lockable standard type rotary knob			
Connection	Part No.	Type	LT
Pressure regulation range 0.3 ... 4 bar			
G⅛	**529421**	**MS4-LR-⅛-D5-AS**	1D
G¼	**529415**	**MS4-LR-¼-D5-AS**	1D
Pressure regulation range 0.3 ... 7 bar			
G⅛	**529423**	**MS4-LR-⅛-D6-AS**	1D
G¼	**529417**	**MS4-LR-¼-D6-AS**	1D
Pressure regulation range 0.5 ...12 bar			
G⅛	**529425**	**MS4-LR-⅛-D7-AS**	1D
G¼	**529419**	**MS4-LR-¼-D7-AS**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Pressure Regulators MS4-LR – Metric Series

Ordering Data – Configurable Products

FESTO

[M] **Mandatory Data** →

Part No.	Series	Size		Function		Connection size		Pressure regulation range
527690	MS	4		LR		⅛, ¼, AGA, AGB, AGC		D5 D6 D7
Order example								
527690	**MS**	**4**	**–**	**LR**	**–**	**AGB**	**–**	**D6**

Ordering Table

Grid dimension [mm]		40	Conditions	Code		Enter code
[M]	Part No.	**527690**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Function	Pressure regulator		**-LR**		-LR
	Connection size	Body thread G⅛		**-⅛**		
		Body thread G¼		**-¼**		
		Port plate G⅛ (dimensions ➔ 166)		**-AGA**		
		Port plate G¼ (dimensions ➔ 166)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 166)		**-AGC**		
	Pressure regulation range	0.3 ... 4 bar		**-D5**		
		0.3 ... 7 bar		**-D6**		
↓		0.5 ... 12 bar	[1]	**-D7**		

[1] **D7** Not with rotary knob alternatives DM1, DM2

Transfer order code

527690	**MS**	**4**	**–**	**LR**	**–**		**–**	

➔ 0 **Options**

Pressure gauge alternatives	Alternative pressure gauge scale	Secondary venting	Rotary knob alternative	Alternative assembly position	Security	Type of mounting	Reverse flow direction
VS A8 A4 AD1 AD2 AD3 AD4	PSI MPA	OS	LD DM1 DM2	KD	AS	WR WP WPM WB WBM	Z
– **AD3**	–	– **OS**	– **LD**	–	– **AS**	– **WB**	– **Z**

Ordering Table

Grid dimension [mm]	40	Conditions	Code	Enter code
0 Pressure gauge alternatives	Cover plate		**-VS**	
	Adapter plate for EN pressure gauge ⅛, without pressure gauge		**-A8**	
	Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
	Pressure sensor with display, plug M8, 1 switch output PNP, 3-pin	2	**-AD1**	
	Pressure sensor with display, plug M8, 1 switch output NPN, 3-pin	2	**-AD2**	
	Pressure sensor with display, plug M12, 1 switch output PNP, 4-pin, analog output 4 ... 20 mA	2	**-AD3**	
	Pressure sensor with display, plug M12, 1 switch output NPN, 4-pin, analog output 4 ... 20 mA	2	**-AD4**	
Alternative pressure gauge scale	psi	3	**-PSI**	
	MPa	3	**-MPA**	
Secondary venting	Without secondary venting	4	**-OS**	
Rotary knob alternative	Long rotary knob		**-LD**	
	Rotary knob pressure gauge, small	5	**-DM1**	
	Rotary knob pressure gauge, large	5	**-DM2**	
Alternative assembly position	Rotary knob at bottom	6	**-KD**	
Security	Lockable rotary knob	7	**-AS**	
Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 164)	8	**-WR**	
	Mounting bracket (dimensions ➔ 167)	9	**-WP**	
	Mounting bracket (dimensions ➔ 167)	9	**-WPM**	
	Mounting bracket (dimensions ➔ 163)	10	**-WB**	
	Mounting bracket (dimensions ➔ 163)		**-WBM**	
Reverse flow direction	Flow direction from right to left		**-Z**	

2 **AD1 ... AD4** Measuring range max. 10 bar.
Not with rotary knob alternative DM2

3 **PSI, MPA** Not with pressure gauge alternatives VS, A8, A4, AD1, AD2, AD3, AD4

4 **OS** Not with rotary knob alternatives DM1, DM2

5 **DM1, DM2** Only with one pressure gauge alternative VS, A8, A4, AD1, AD2, AD3 or AD4

6 **KD** Not with alternative pressure gauge scale PSI, MPA.
Not with mounting type WP.
Not with rotary knob alternatives DM1, DM2

7 **AS** Not with rotary knob alternatives DM1, DM2

8 **WR** Not with long rotary knob LD.
Not with rotary knob alternative DM2

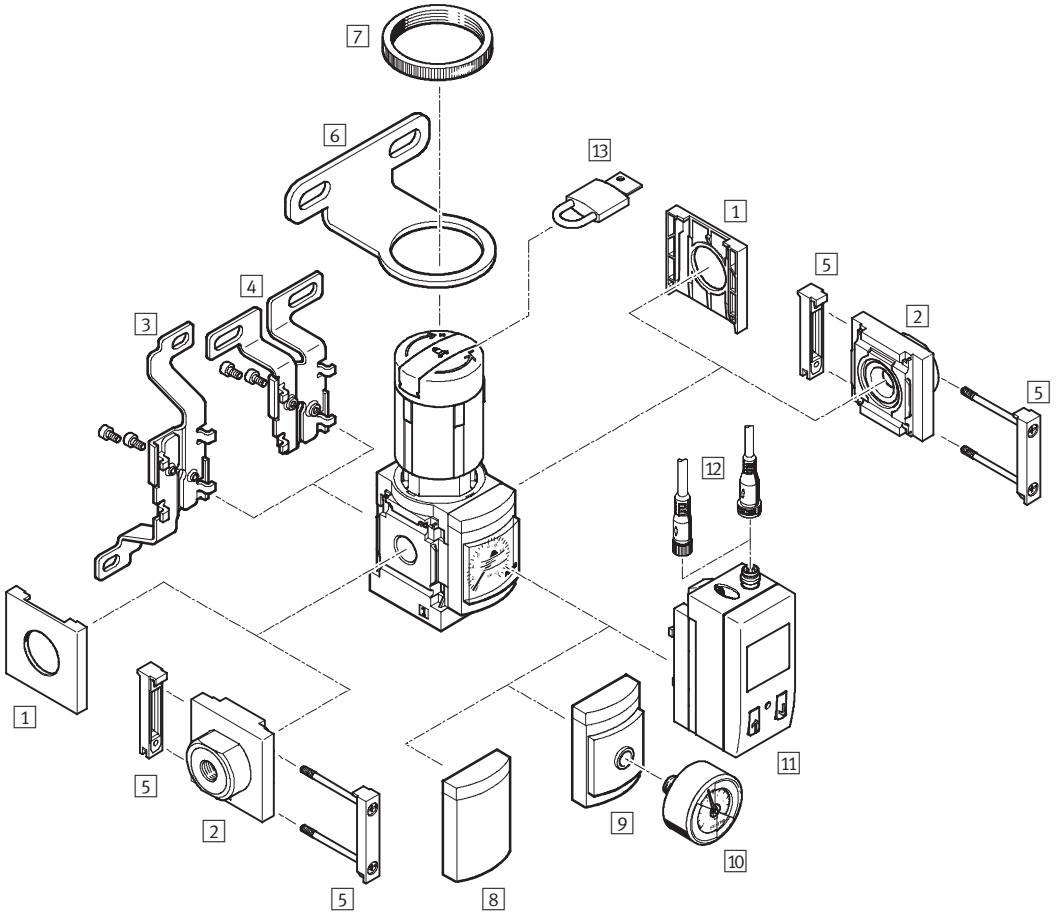
9 **WP, WPM** Only with port plate AGA, AGB or AGC

10 **WB** Not with rotary knob alternative DM2

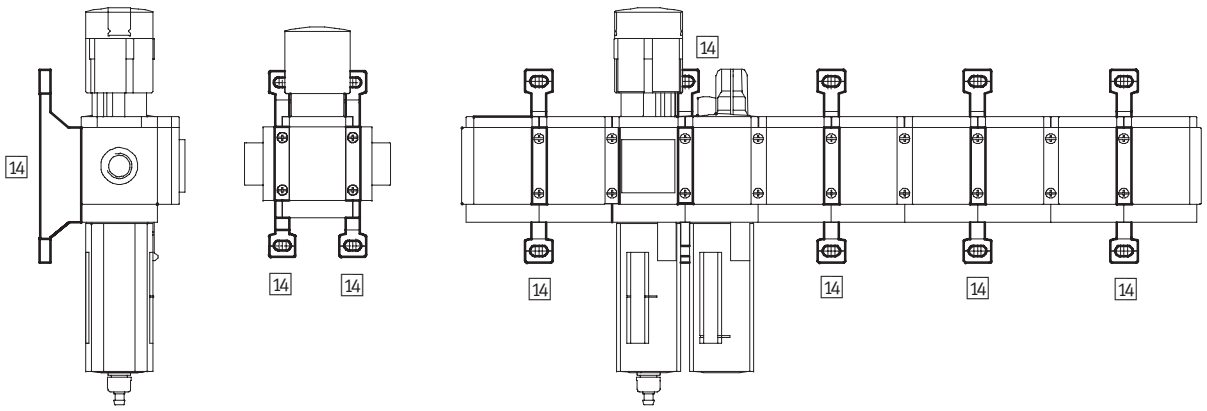
Transfer order code

– | | – | | – | | – | | – | | – | | – | |

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Pressure Regulators MS4-LR – Metric Series

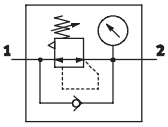
Accessories Overview

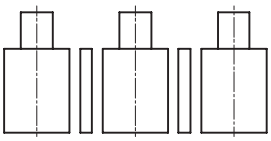
Mounting Attachments and Accessories					
	Single unit		Combination unit ➔ 2.1-1		➔ Page
	without port plate	with port plate	without port plate	with port plate	
1 Cover cap MS4-END	■	–	■	–	165
2 Port plate MS4-AG...	–	■	–	■	166
3 Mounting bracket MS4-WB	■	■	–	–	163
4 Mounting bracket MS4-WBM	■	■	–	–	163
5 Body connector MS4-MV	–	■	■	■	166
6 Regulator wall bracket MS4-WR	■	■	–	–	164
7 Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8 Cover plate VS	■	■	■	■	148
9 Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	148
10 Pressure gauge MA	■	■	■	■	170
11 Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	148
12 Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	170
13 Padlock LRVS-D	■	■	■	■	170
14 Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	167

Pressure Regulators MS4-LRB – Metric Series

Technical Data

ISO Symbol





LRB-manifold
with through pressure supply for manifold assembly

- This pressure regulator is suitable for manifold assemblies with through air supply on both sides. Pressure output is at the front or rear.
- For configuring a regulator manifold with independent pressure regulation ranges
- Good control characteristics with low hysteresis and primary pressure compensation
- Available with or without secondary venting
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Four pressure regulation ranges
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display



General Technical Data			
Size			MS4
Pneumatic connection 1			G¼
Pneumatic connection 2			G¼
			QS-6 push-in tubing connector
			QS-8 push-in tubing connector
Supply pressure		[bar]	0.8 ... 14
Pressure regulation range	D5	[bar]	0.3 ... 4
	D6	[bar]	0.3 ... 7
	D7	[bar]	0.5 ... 12 (0.5 ... 10 with variant pressure sensor AD...)
Max. hysteresis		[bar]	0.25

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]				
Variant		Standard	Angled outlet block	
			QS-6	QS-8
Pressure regulation range	D5	1,900[2]	300[2]	650[2]
	D6	1,700	350	840
	D7	1,500	350	640

1) Measured at p1 = 10 bar and p2 = 6 bar, Δp = 1 bar
2) Measured at p1 = 10 bar and p2 = 3 bar, Δp = 1 bar

Pressure Regulators MS4-LRB – Metric Series

Technical Data

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°C]	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	0 ... +50
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Assembly position		Any	
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

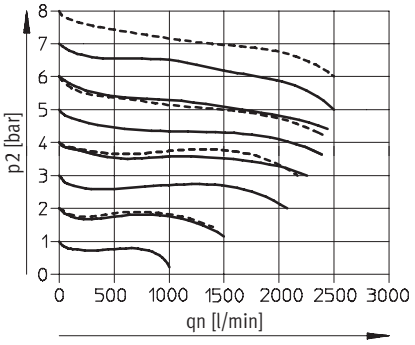
Weights [g]	
Pressure regulator	222

- Wearing parts kits ➔ 171
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

MS4-LRB-¼

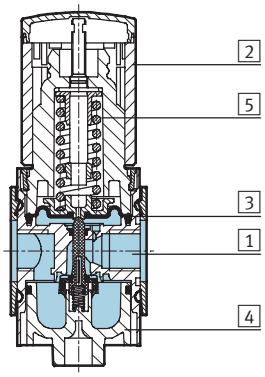
Primary pressure p1 = 10 bar



——— D6: 0.3 ... 7 bar
- - - - - - - D7: 0.5 ... 12 bar

Materials

Sectional view



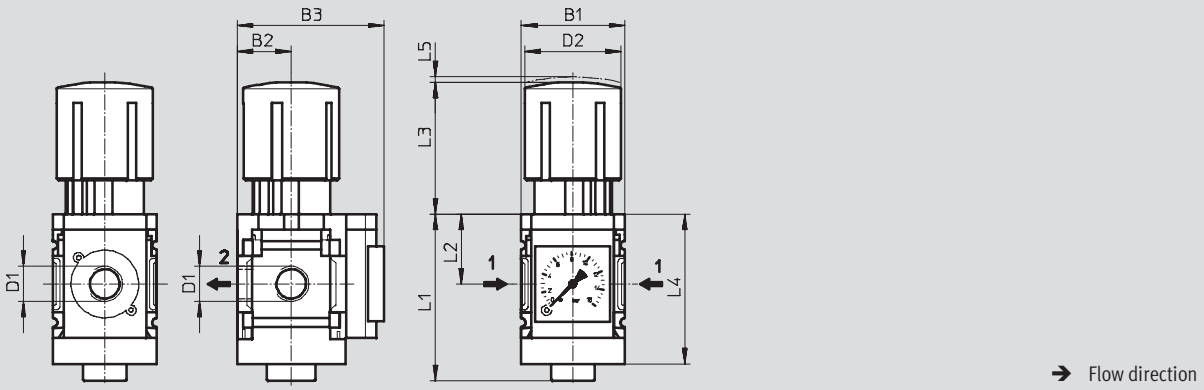
Pressure regulator (manifold assembly)		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Bottom cap	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Pressure Regulators MS4-LRB – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]

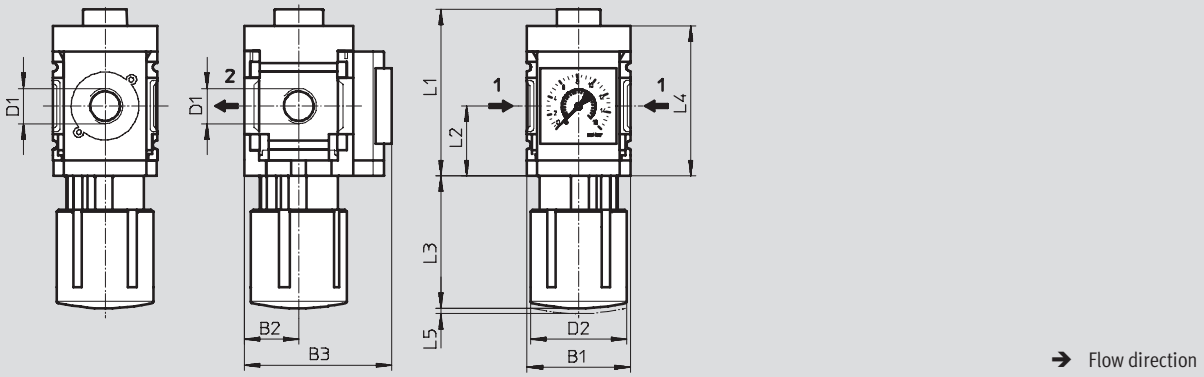


Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4-LRB-¼	40	21	57	G¼	37.2	64.4	27	51.1	58	2

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Alternative Mounting Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob underneath KD, standard rotary knob, with pressure gauge



Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4-LRB-¼-...-KD	40	21	57	G¼	37.2	64.4	27	51.1	58	2

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

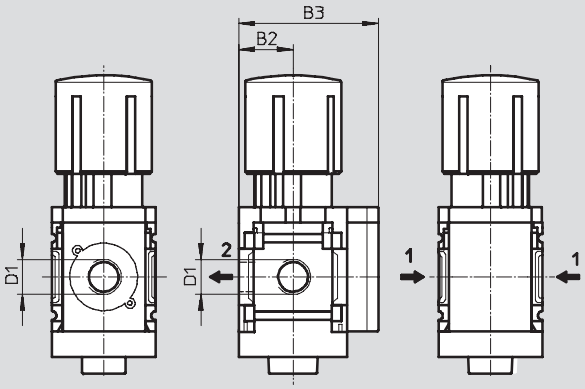
Pressure Regulators MS4-LRB – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

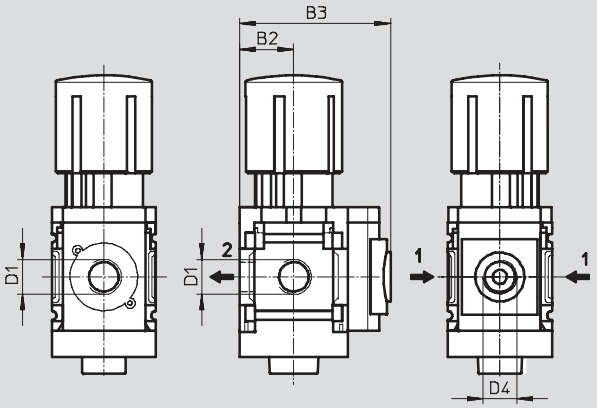
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

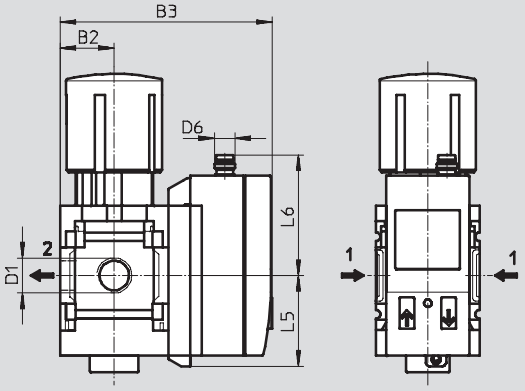
Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS4-LRB-1/4-...-VS	21	54	G1/4	–	–	–	–
MS4-LRB-1/4-...-A8	21	58.5	G1/4	G1/8	–	–	–
MS4-LRB-1/4-...-A4	21	58.5	G1/4	G1/4	–	–	–
MS4-LRB-1/4-...-AD1/AD2	21	82.6	G1/4	–	M8x1	35.1	46.7
MS4-LRB-1/4-...-AD3/AD4	21	82.6	G1/4	–	M12x1	35.1	55.8

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

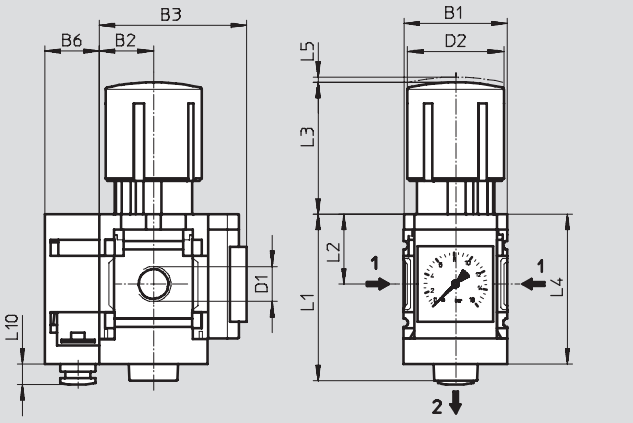
Pressure Regulators MS4-LRB – Metric Series

Dimensional Drawings

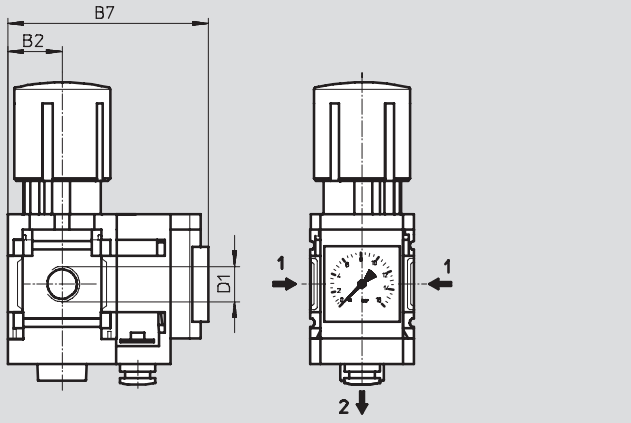
Dimensions[1] – Angled Outlet Block BC/BD

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure output at rear



Pressure output to front Z



Type	B1	B2	B3	B6	B7	D1	D2	L1	L2	L3	L4	L5	L10
MS4-LRB-¼-...-B...	40	21	57	21	78	G¼	37.2	64.4	27	51.1	58	2	8

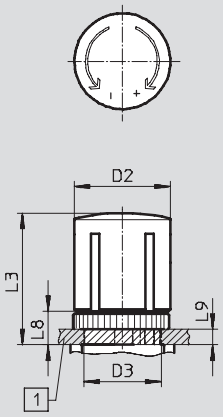
1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Rotary Knob

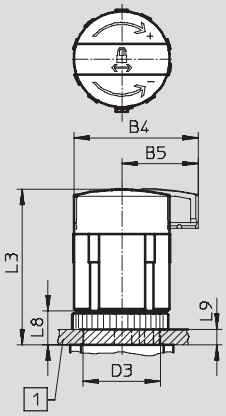
Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

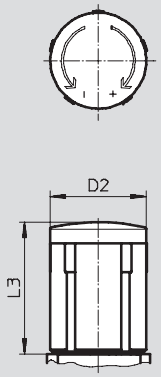


Standard, lockable AS

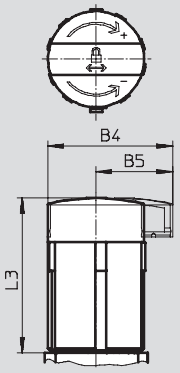


1 Max. control panel thickness

Long LD



Long, lockable LD-AS



Type	B4	B5	D2	D3 +1	L3	L8	L9
MS4-LRB-...	–	–	37.2	30	51.1	13	6
MS4-LRB-...-AS	48.3	29.7			60.2		
MS4-LRB-...-LD	–	–	37.2	–	51.1	–	–
MS4-LRB-...-LD-AS	48.3	29.7			60.2		

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pressure Regulators MS4-LRB – Metric Series

Ordering Data – Pre-configured Products

Ordering Data							
Pressure gauge, lockable standard type rotary knob							
Connection	Pressure output to rear without angled outlet block				Pressure output to rear with angled outlet block QS-8		
	Part No.	Type	LT		Part No.	Type	LT
Pressure regulation range 0.3 ... 4 bar							
G¼	**529473**	**MS4-LRB-¼-D5-AS**	1D		**529474**	**MS4-LRB-¼-D5-AS-BD**	Q
Pressure regulation range 0.3 ... 7 bar							
G¼	**529479**	**MS4-LRB-¼-D6-AS**	1D		**529480**	**MS4-LRB-¼-D6-AS-BD**	Q
Pressure regulation range 0.5 ... 12 bar							
G¼	**529485**	**MS4-LRB-¼-D7-AS**	1D		**529486**	**MS4-LRB-¼-D7-AS-BD**	Q

Ordering Data			
Adapter plate A8 for EN pressure gauge ⅛, lockable standard-type rotary knob			
Connection	Pressure output to rear without angled outlet block		
	Part No.	Type	LT
Pressure regulation range 0.3 ... 4 bar			
G¼	**529471**	**MS4-LRB-¼-D5-A8-AS**	Q
Pressure regulation range 0.3 ... 7 bar			
G¼	**529477**	**MS4-LRB-¼-D6-A8-AS**	Q
Pressure regulation range 0.5 ... 12 bar			
G¼	**529483**	**MS4-LRB-¼-D7-A8-AS**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Pressure Regulators MS4-LRB – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data												O Options ➔
Part No.	**Series**	**Size**		**Function**		**Connection size**		**Pressure regulation range**		**Pressure gauge alternatives**		
527692	MS	4		LRB		¼ AGA AGB AGC		D5 D6 D7		VS A8 A4 AD1 AD2 AD3 AD4		
Order example												
527692	**MS**	**4**	–	**LRB**	–	**AGC**	–	**D5**	–	**A4**		

Ordering Table

Grid dimension [mm]		40	Conditions	Code		Enter code
M	Part No.	**527692**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Function	Pressure regulator for manifold assembly		**-LRB**		-LRB
	Connection size	Body thread G¼		**-¼**		
		Port plate G⅛ (dimensions ➔ 166)		**-AGA**		
		Port plate G¼ (dimensions ➔ 166)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 166)		**-AGC**		
	Pressure regulation range	0.3 ... 4 bar		**-D5**		
		0.3 ... 7 bar		**-D6**		
		0.5 ... 12 bar		**-D7**		
O	Pressure gauge alternatives	Cover plate	1	**-VS**		
		Adapter plate for EN pressure gauge ⅛, without pressure gauge	2	**-A8**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge	2	**-A4**		
		Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	2 3	**-AD1**		
		Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin	2 3	**-AD2**		
		Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	2 3	**-AD3**		
↓		Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	2 3	**-AD4**		

1 **VS** Must be selected if alternative flow direction Z is selected without alternative assembly position KD and without pressure output BC, BD.
Must be selected if alternative assembly position KD is selected without alternative flow direction Z and without pressure output BC, BD

2 **A8, A4, AD1 ... AD4** In combination with alternative flow direction Z only with alternative assembly position KD

3 **AD1 ... AD4** Measuring range max. 10 bar

Transfer order code

527692	**MS**	**4**	–	**LRB**	–		–		–	

➔ [0] Options

	Alternative pressure gauge scale	Secondary venting	Rotary knob alternative	Alternative assembly position	Security	Pressure output	Type of mounting	Reverse flow direction
	PSI MPA	OS	LD	KD	AS	BC BD	WR WP WPM WPB WB WBM	Z
–		– OS	– LD	–	– AS	– BC	– WP	–

Ordering Table

Grid dimension [mm]	40	Conditions	Code		Enter code
↓ Alternative pressure gauge scale	psi	[4]	-PSI		
[0]	MPa	[4]	-MPA		
Secondary venting	Without secondary venting		-OS		
Rotary knob alternative	Long rotary knob		-LD		
Alternative assembly position	Rotary knob, underneath	[5]	-KD		
Security	Lockable rotary knob		-AS		
Pressure output	Angled outlet block QS-6		-BC		
(p_{max} = 10 bar)	Angled outlet block QS-8		-BD		
Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 164)	[6] [7]	-WR		
	Mounting bracket (dimensions ➔ 167)	[8] [9]	-WP		
	Mounting bracket (dimensions ➔ 167)	[6] [8]	-WPM		
	Mounting bracket for large wall gap (dimensions ➔ 167)	[8] [10]	-WPB		
	Mounting bracket (dimensions ➔ 163)	[6]	-WB		
	Mounting bracket (dimensions ➔ 163)	[6]	-WBM		
Reverse flow direction	Pressure output at front (for gauge connection an angled outlet block is required)		-Z		

[4] **PSI, MPA** Not with pressure gauge alternatives VS, A8, A4, AD1, AD2, AD3, AD4.
Not with alternative assembly position KD.
In combination with alternative flow direction Z only with pressure output BC, BD

[5] **KD** Not with alternative pressure gauge scale PSI, MPA.
Not with mounting type WP, WPB.
In combination with mounting type WR, WPM, WB, WBM not with alternative flow direction Z.
In combination with pressure gauge alternatives A8, A4, AD1, AD2, AD3, AD4 only with alternative flow direction Z

[6] **WR, WPM, WB, WBM**
In combination with alternative flow direction Z not with alternative assembly position KD

[7] **WR** Only with alternative flow direction Z.
Not with rotary knob alternative LD

[8] **WP, WPM, WPB**
Only with port plate AGA, AGB, AGC

[9] **WP** Only with alternative flow direction Z and/or only with pressure output BC, BD

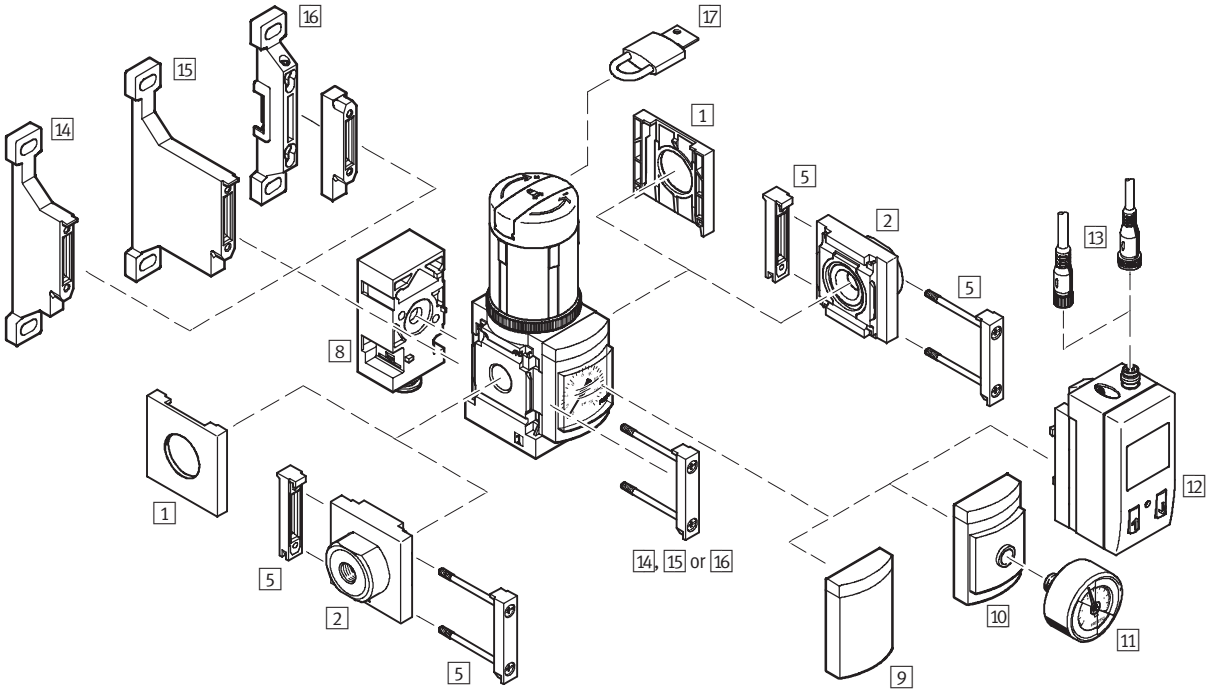
[10] **WPB** Not with alternative flow direction Z.
Not with pressure output BC, BD

Transfer order code

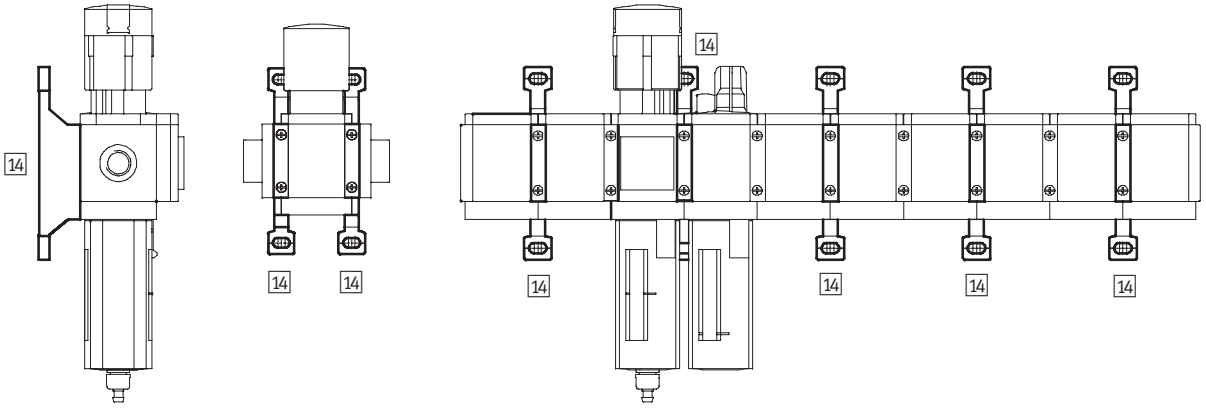
–		–		–		–		–		–		–		–	

Mounting Attachments and Accessories

Pressure output at rear



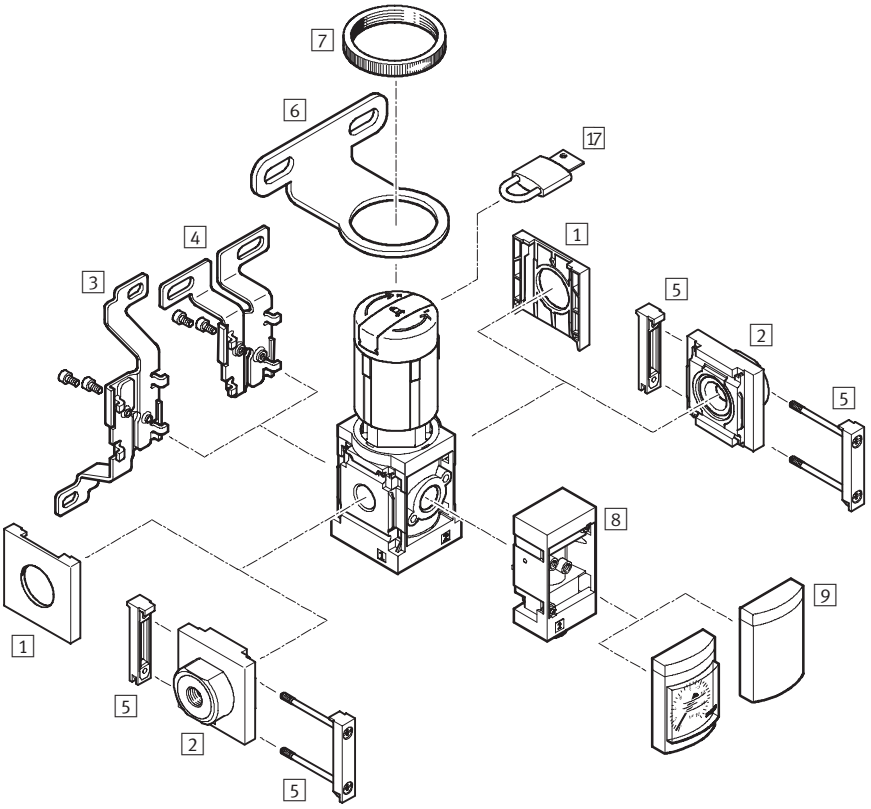
Single unit and combination unit mounting brackets.



Pressure Regulators MS4-LRB – Metric Series

Accessories Overview

Pressure output at front



Pressure Regulators MS4-LRB – Metric Series

Accessories Overview

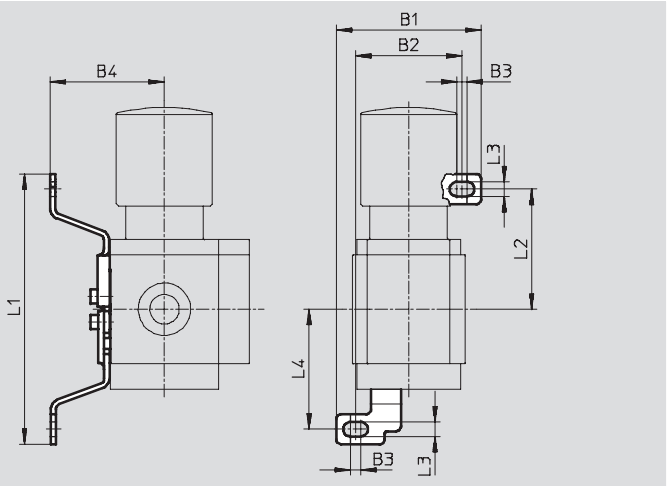
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	165
2	Port plate MS4-AG...	–	■	–	■	166
3	Mounting bracket MS4-WB	■	■	–	–	163
4	Mounting bracket MS4-WBM	■	■	–	–	163
5	Body connector MS4-MV	–	■	■	■	166
6	Regulator wall bracket MS4-WR	■	■	–	–	164
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Angled outlet block B...	■	■	■	■	159
9	Cover plate VS	■	■	■	■	158
10	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	158
11	Pressure gauge MA	■	■	■	■	170
12	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	158
13	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	170
14	Mounting bracket MS4-WP	–	■	■	■	167
15	Mounting bracket MS4-WPB	–	■	■	■	167
16	Mounting bracket MS4-WPM	–	■	■	■	167
17	Padlock LRVS-D	■	■	■	■	170

3 Mounting bracket MS4-WB

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

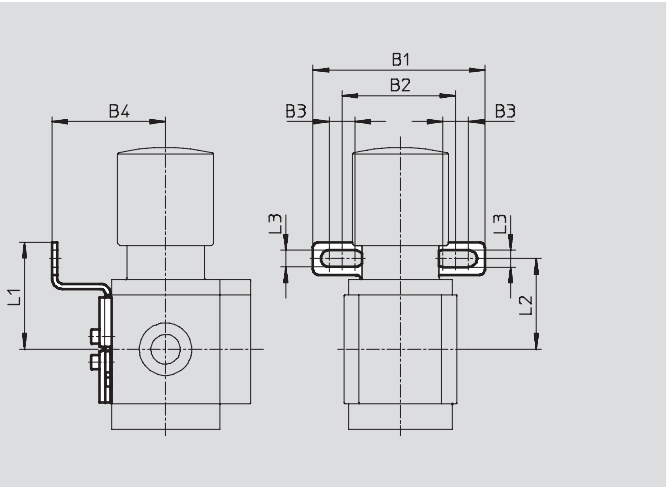
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
56.2	41.2	4	44.2	104.6	46.6	5.6	46.5	46	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

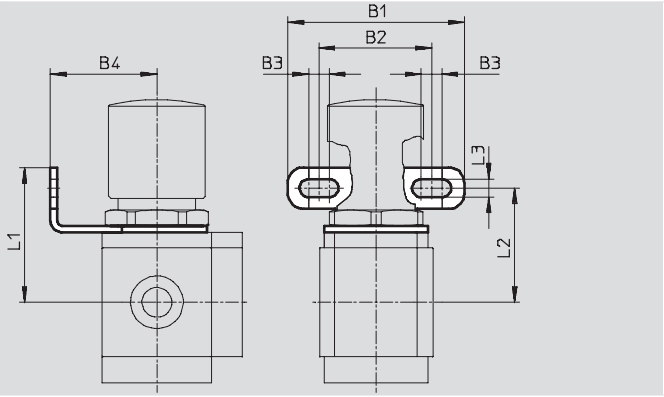
B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
66.5	44	10	44	41.3	35	6.5	48	**526062**	**MS4-WBM**

6 **Mounting bracket MS4-WR**
- For wall mounting a filter regulator and pressure regulator

Material:
Steel

Note
The hex nut for attaching components to this bracket must be ordered separately.





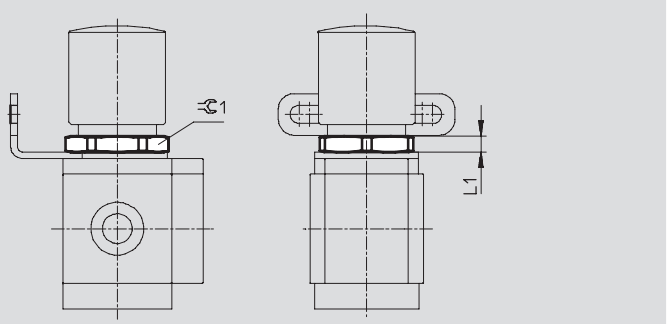
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
68	44	8	41	52	44	7	49	**526064**	**MS4-WR**

Hex nut MS4-WRS
- For front panel mounting
- For attaching components to the mounting bracket MS4-WR

Material:
Aluminum





Dimensions and Ordering Data

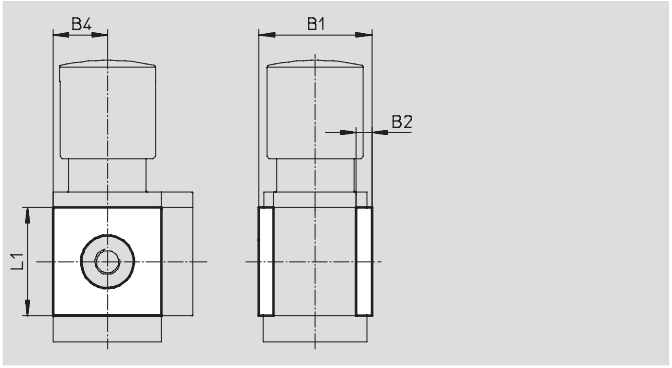
L1	⌀1	Weight [g]	Part No.	Type
6	36	6.9	**532187**	**MS4-WRS**

1 **Cover cap MS4-END**

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

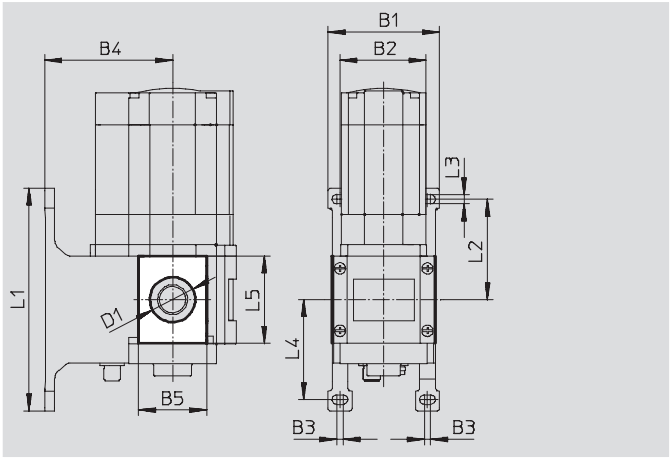
B1	B2	B4	L1	Part No.	Type
43.6	6	21	42	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

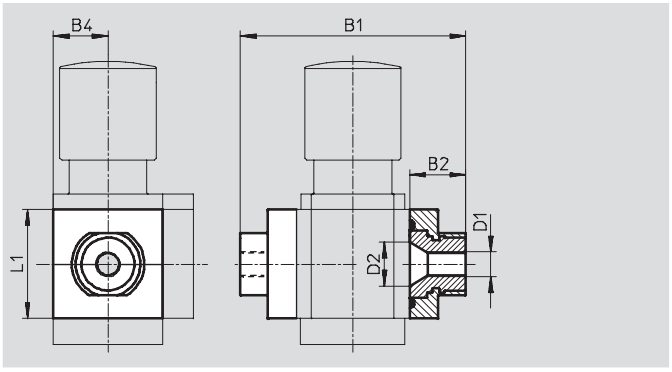
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4-AG...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
83.5	21.5	21	G1⁄8	16.8	42	128	**526068**	**MS4-AGA**
			G1⁄4				**526069**	**MS4-AGB**
			G3⁄8				**526070**	**MS4-AGC**

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

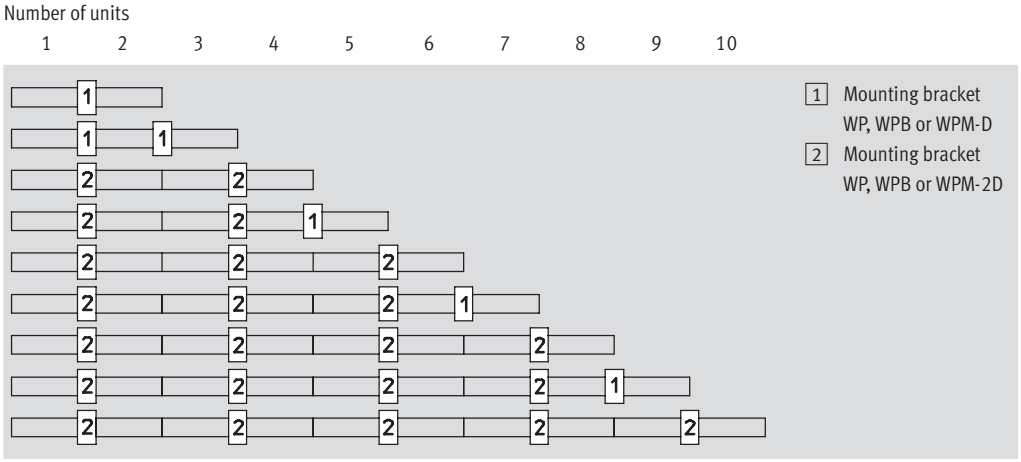
Weight [g]	Part No.	Type
36	**532798**	**MS4-MV**

14 Mounting Bracket MS4-WP...

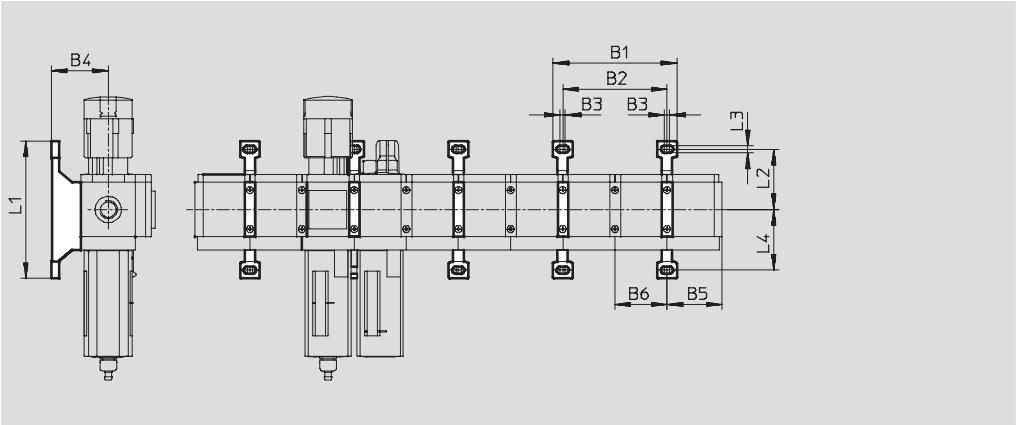
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 40 mm

2 units: 80 mm



Mounting dimensions



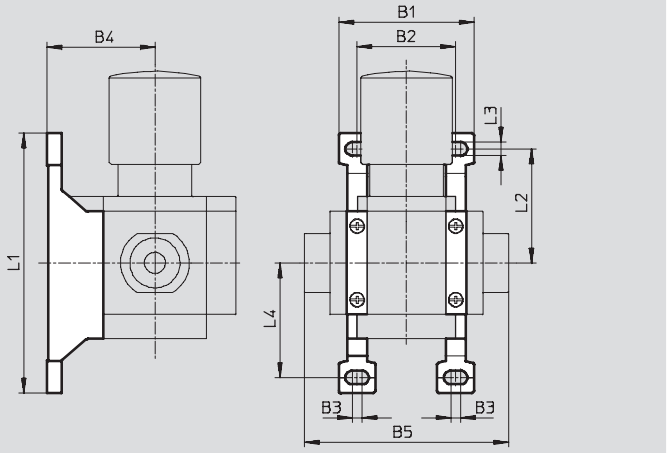
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44			92.8	34.8		40

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

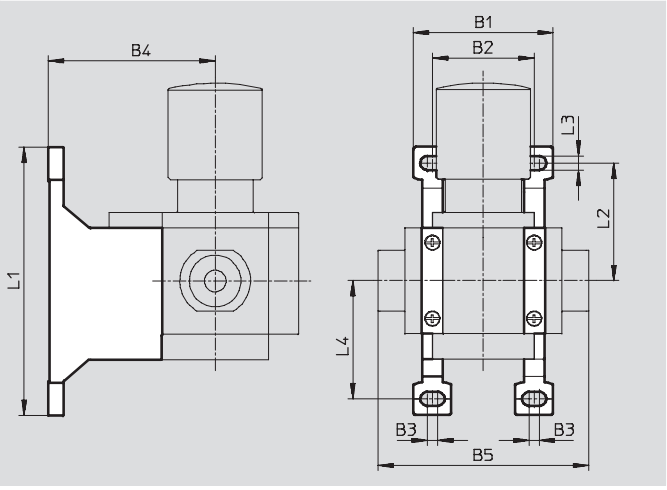
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	44	83.4	106	46.5	5.6	46.7	39	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	55	**526063**	**MS4-WPB**

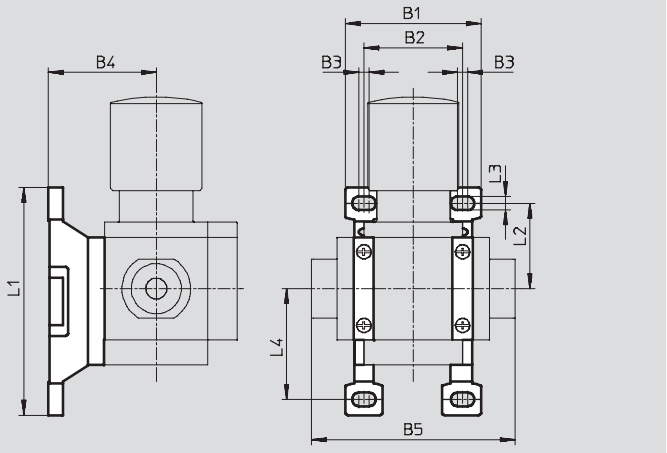
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
55.2	40	4	44	83.4	92.8	34.8	5.6	45.2	40	45	**526060**	**MS4-WPM-D**
95.2	80			123.4					80	55	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



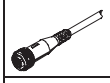
Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

12 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [m]	Part No.	Type
	M8x1, 3-pin	2.5	**159420**	**SIM-M8-3GD-2,5-PU**
		5	**159421**	**SIM-M8-3GD-5-PU**
		10	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	2.5	**159422**	**SIM-M8-3WD-2,5-PU**
		5	**159423**	**SIM-M8-3WD-5-PU**
		10	**192965**	**SIM-M8-3WD-10-PU**

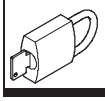
Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 4-pin	5	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	5	**164258**	**SIM-M12-4WD-5-PU**

10 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	40	R⅛	0 ... 16	–	**525726**	**MA-40-16-R⅛-E-RG**
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

13 Ordering Data – Padlock LRVS-D

	Description	Weight [g]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	120	**193786**	**LRVS-D**

Pressure Regulators MS4-LR/LRB – Metric Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS4	Snap-ring, membrane, bellows, O-rings, screws, stem	**673649**	**MS4-LR/LRB**

- For spare parts go to: www.festo.com/en/spare_parts_service

Pressure Regulators MS4N-LR/LRB – Inch Series



The pressure regulator maintains a constant working pressure (secondary side), regardless of the pressure variations in the system (primary side) and the air consumption.

- Pressure regulators
  – MS4-LR
  – MS4-LRB, manifold units
- Pneumatic connection: ⅛ NPT, ¼ NPT, ⅜ NPT
- Supply pressure: 12 … 206 psi
- Controlled pressure range: 4.4 … 176 psi
- Flow rate: 10.6 … 74.1 scfm

Product Range Overview

Type	Flow rate [scfm]	Pneumatic connections		Pressure regulation range [psi]				Pressure indicator					Pressure adjustment		Reverse flow
		Body thread	Port plate	4.4 … 59	4.4 … 103	7.4 … 176	7.4 … 235	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge ⅛ NPT	Adapter for pressure gauge ¼ NPT	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS4N			AG…	D5	D6	D7	D8	VS	AG	A8	A4	AD…	AS	LD	Z
LR	35.3 … 74.1	⅛ NPT, ¼ NPT	⅛ NPT, ¼ NPT, ⅜ NPT	■	■	■	–	■	■	■	■	■	■	■	■
LRB	10.6 … 67.1	¼ NPT	⅛ NPT, ¼ NPT, ⅜ NPT	■	■	■	–	■	■	■	■	■	■	■	■

Contents

MS4N-LR

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→ www.festo.com/catalog/ms4n-lr

MS4N-LRB

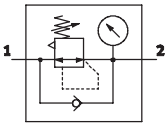
Technical Data	→ 184
Dimensional Drawings	→ 186
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→ www.festo.com/catalog/ms4n-lrb

Pressure Regulators MS4N-LR – Inch Series

Technical Data

ISO Symbol



- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Available with or without secondary venting
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Three pressure regulation ranges
- Two pressure gauge connections for different fitting options
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display
- Optional rotary knob pressure gauge



General Technical Data				
Pneumatic connection 1, 2			⅛ NPT	¼ NPT
Supply pressure		[psi]	12 ... 206	
Pressure regulation range	D5	[psi]	4.4 ... 59	
	D6	[psi]	4.4 ... 103	
	D7	[psi]	7.4 ... 176 (7.4 ... 147 with variant pressure sensor AD...)	
Max. hysteresis		[psi]	3.7	

Standard Nominal Flow Rate qnN[1] [scfm]			
Pneumatic connection 1, 2		⅛ NPT	¼ NPT
Pressure regulation range	D5	42.4[2]	74.1[2]
	D6	40.6	63.5
	D7	35.3	60.0

1) Measured at p1 = 147 psi and p2 = 88 psi, Δp = 15 psi
2) Measured at p1 = 147 psi and p2 = 44 psi, Δp = 15 psi

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°F]	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	32 ... 122
Storage temperature	[°F]	14 ... 140	14 ... 140
Assembly position		Any	
Corrosion resistance	CRC[1]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Pressure Regulators MS4N-LR – Inch Series

Technical Data

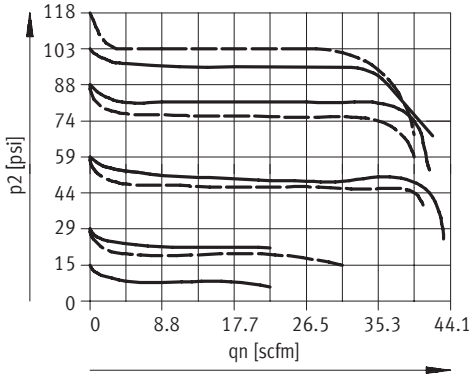
Weights [lb]	
Pressure regulator	0.45

- Wearing parts kits ➔ 203
- For spare parts go to: www.festo.com/en/spare_parts_service

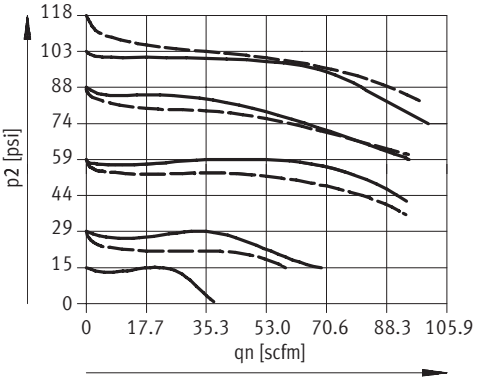
Standard Flow Rate qn as a Function of Output Pressure p2

Primary pressure p1 = 147 psi

MS4N-LR-⅛



MS4N-LR-¼

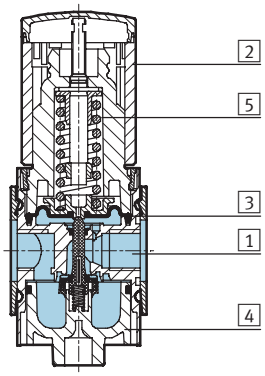


D6: 4.4 ... 103 psi

D7: 7.4 ... 176 psi

Materials

Sectional view



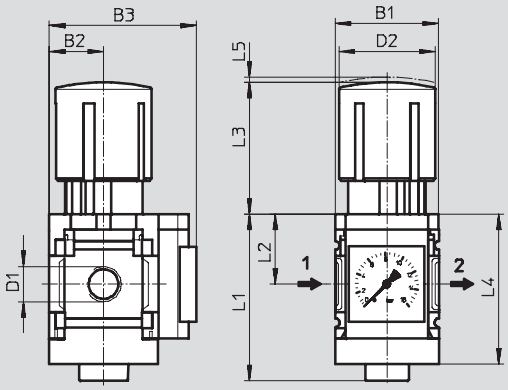
Pressure regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Bottom cap	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Pressure Regulators MS4N-LR – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



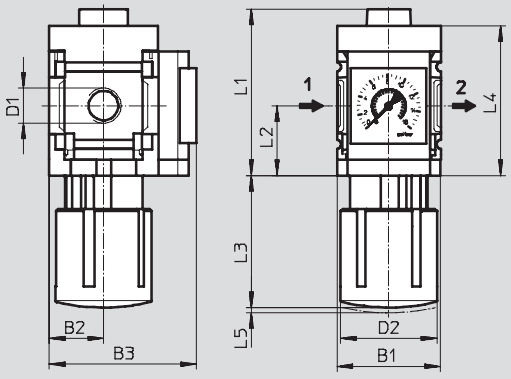
➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4N-LR-⅛	1.57	0.83	2.24	⅛ NPT	1.46	2.54	1.06	2.01	2.28	0.08
MS4N-LR-¼				¼ NPT						

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Alternative Mounting Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob underneath KD, standard rotary knob, with pressure gauge



➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4N-LR-⅛-...-KD	1.57	0.83	2.24	⅛ NPT	1.46	2.54	1.06	2.01	2.28	0.08
MS4N-LR-¼-...-KD				¼ NPT						

1) Dimensions are in inches, unless otherwise noted.

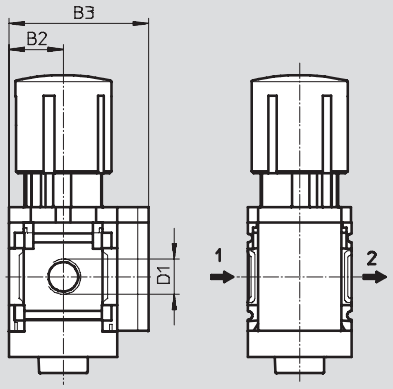
Pressure Regulators MS4N-LR – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

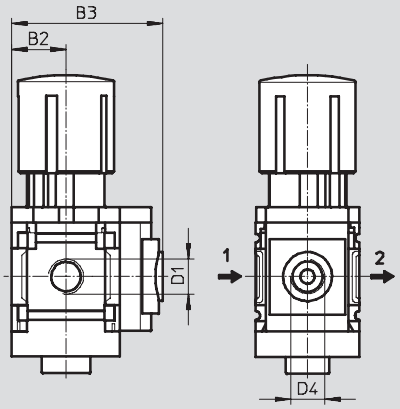
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

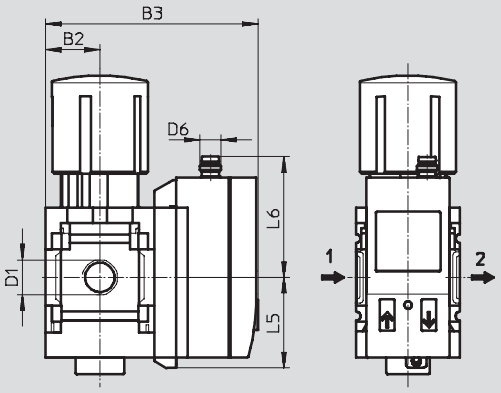
Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS4N-LR-1/8-...-VS	0.83	2.13	1/8 NPT	–	–	–	–
MS4N-LR-1/4-...-VS			1/4 NPT				
MS4N-LR-1/8-...-A8	0.83	2.30	1/8 NPT	1/8 NPT	–	–	–
MS4N-LR-1/4-...-A8			1/4 NPT				
MS4N-LR-1/8-...-A4	0.83	2.30	1/8 NPT	1/4 NPT	–	–	–
MS4N-LR-1/4-...-A4			1/4 NPT				
MS4N-LR-1/8-...-AD1/AD2	0.83	3.25	1/8 NPT	–	M8x1	1.38	1.84
MS4N-LR-1/4-...-AD1/AD2			1/4 NPT				
MS4N-LR-1/8-...-AD3/AD4	0.83	3.25	1/8 NPT	–	M12x1	1.38	2.20
MS4N-LR-1/4-...-AD3/AD4			1/4 NPT				

1) Dimensions are in inches, unless otherwise noted.

Pressure Regulators MS4N-LR – Inch Series

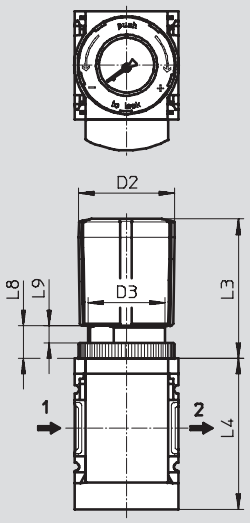
Dimensional Drawings

FESTO

Dimensions[1] – Rotary Knob Pressure Gauge

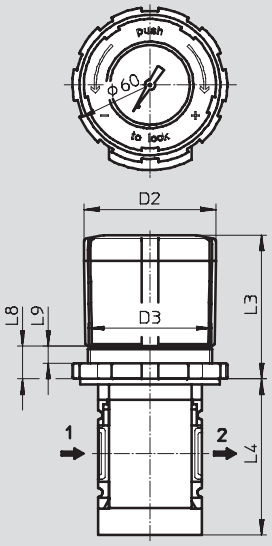
Download CAD Data ➔ **www.festo.com/us/cad**

Small DM1



➔ Flow direction

Large DM2



Note

Due to the protruding rotary knob, only a MS4N-FRM distribution block can be connected as a directly adjacent service unit.

➔ Flow direction

Type	D2	D3	L3	L4	L8	L9
MS4N-LR-...-DM1	1.46	M30x1.5	2.13	2.30	0.51	0.26
MS4N-LR-...-DM2	2.01	M48x1.5	2.19	2.38	0.51	0.26

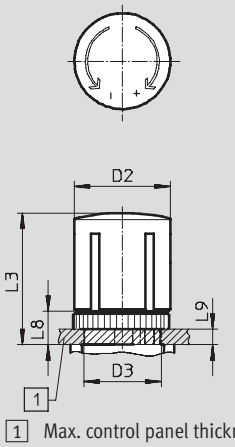
1) Dimensions are in inches, unless otherwise noted.

Dimensions – Rotary Knob

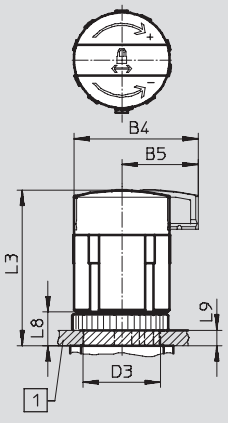
Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

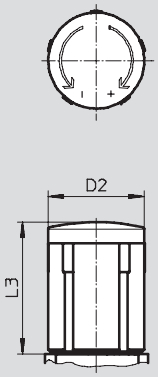


Standard, lockable AS

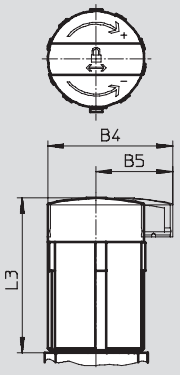


1 Max. control panel thickness

Long LD



Long, lockable LD-AS



Type	B4	B5	D2	D3 +0.04	L3	L8	L9
MS4N-LR-...	–	–	1.46	1.18	2.01	0.51	0.24
MS4N-LR-...-AS	1.90	1.17			2.37		
MS4N-LR-...-LD	–	–	1.46	–	2.01	–	–
MS4N-LR-...-LD-AS	1.90	1.17			2.37		

Pressure Regulators MS4N-LR – Inch Series

Ordering Data – Pre-configured Products

Ordering Data			
Pressure gauge, lockable standard type rotary knob			
Connection	Part No.	Type	LT
Pressure regulation range 4.4 ... 59 psi			
1/8 NPT	**531419**	**MS4N-LR-1/8-D5-AS**	1D
1/4 NPT	**531418**	**MS4N-LR-1/4-D5-AS**	1D
Pressure regulation range 4.4 ... 103 psi			
1/8 NPT	**531423**	**MS4N-LR-1/8-D6-AS**	1D
1/4 NPT	**531422**	**MS4N-LR-1/4-D6-AS**	1D
Pressure regulation range 7.4 ...176 psi			
1/8 NPT	**531427**	**MS4N-LR-1/8-D7-AS**	1D
1/4 NPT	**531426**	**MS4N-LR-1/4-D7-AS**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Pressure Regulators MS4N-LR – Inch Series

Ordering Data – Configurable Products

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M **Mandatory Data**

Part No.	Series	Size	Thread	Function	Connection size	Pressure regulation range
527691	MS	4	N	LR	1/8, 1/4, AQK, AQN, AQP	D5 D6 D7
Order example						
527691	**MS**	**4**	**N**	**– LR**	**– AQN**	**– D6**

Ordering Table

Grid dimension [mm]	40	Conditions	Code	Enter code
M Part No.	**527691**			
Series	Standard		**MS**	MS
Size	4		**4**	4
Thread	NPT thread		**N**	N
Function	Pressure regulator		**-LR**	-LR
Connection size	Body thread 1/8 NPT		**-1/8**	
	Body thread 1/4 NPT		**-1/4**	
	Port plate 1/8 NPT (dimensions → 198)		**-AQK**	
	Port plate 1/4 NPT (dimensions → 198)		**-AQN**	
	Port plate 3/8 NPT (dimensions → 198)		**-AQP**	
Pressure regulation range	4.4 ... 59 psi		**-D5**	
	4.4 ... 103 psi		**-D6**	
↓	7.4 ... 176 psi	1	**-D7**	

1 **D7** Not with rotary knob alternatives DM1, DM2

Transfer order code

527691	**MS**	**4**	**N**	**–**	**LR**	**–**		**–**

➔ 0 **Options**

	Pressure gauge alternatives	Alternative pressure gauge scale	Secondary venting	Rotary knob alternative	Alternative assembly position	Security	Type of mounting	Reverse flow direction
	VS A8 A4 AD1 AD2 AD3 AD4	BAR MPA	OS	LD DM1 DM2	KD	AS	WR WP WPM WB WBM	Z
–	**AD3**		**OS**	**LD**		**AS**	**WB**	**Z**

Ordering Table

Grid dimension [mm]	40	Conditions	Code	Enter code
0 Pressure gauge alternatives	Cover plate		**-VS**	
	Adapter plate for EN pressure gauge ⅛, without pressure gauge		**-A8**	
	Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
	Pressure sensor with display, plug M8, 1 switch output PNP, 3-pin	2	**-AD1**	
	Pressure sensor with display, plug M8, 1 switch output NPN, 3-pin	2	**-AD2**	
	Pressure sensor with display, plug M12, 1 switch output PNP, 4-pin, analog output 4 ... 20 mA	2	**-AD3**	
	Pressure sensor with display, plug M12, 1 switch output NPN, 4-pin, analog output 4 ... 20 mA	2	**-AD4**	
Alternative pressure gauge scale	bar	3	**-BAR**	
	MPa	3	**-MPA**	
Secondary venting	Without secondary venting	4	**-OS**	
Rotary knob alternative	Long rotary knob		**-LD**	
	Rotary knob pressure gauge, small	5	**-DM1**	
	Rotary knob pressure gauge, large	5	**-DM2**	
Alternative assembly position	Rotary knob at bottom	6	**-KD**	
Security	Lockable rotary knob	7	**-AS**	
Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 196)	8	**-WR**	
	Mounting bracket (dimensions ➔ 199)	9	**-WP**	
	Mounting bracket (dimensions ➔ 199)	9	**-WPM**	
	Mounting bracket (dimensions ➔ 195)	10	**-WB**	
	Mounting bracket (dimensions ➔ 195)		**-WBM**	
Reverse flow direction	Flow direction from right to left		**-Z**	

2 **AD1 ... AD4** Measuring range max. 147 psi.
Not with rotary knob alternative DM2

3 **BAR, MPA** Not with pressure gauge alternatives VS, A8, A4, AD1, AD2, AD3, AD4

4 **OS** Not with rotary knob alternatives DM1, DM2

5 **DM1, DM2** Only with one pressure gauge alternative VS, A8, A4, AD1, AD2, AD3 or AD4

6 **KD** Not with alternative pressure gauge scale MPA.
Not with mounting type WP.
Not with rotary knob alternatives DM1, DM2

7 **AS** Not with rotary knob alternatives DM1, DM2

8 **WR** Not with long rotary knob LD.
Not with rotary knob alternative DM2

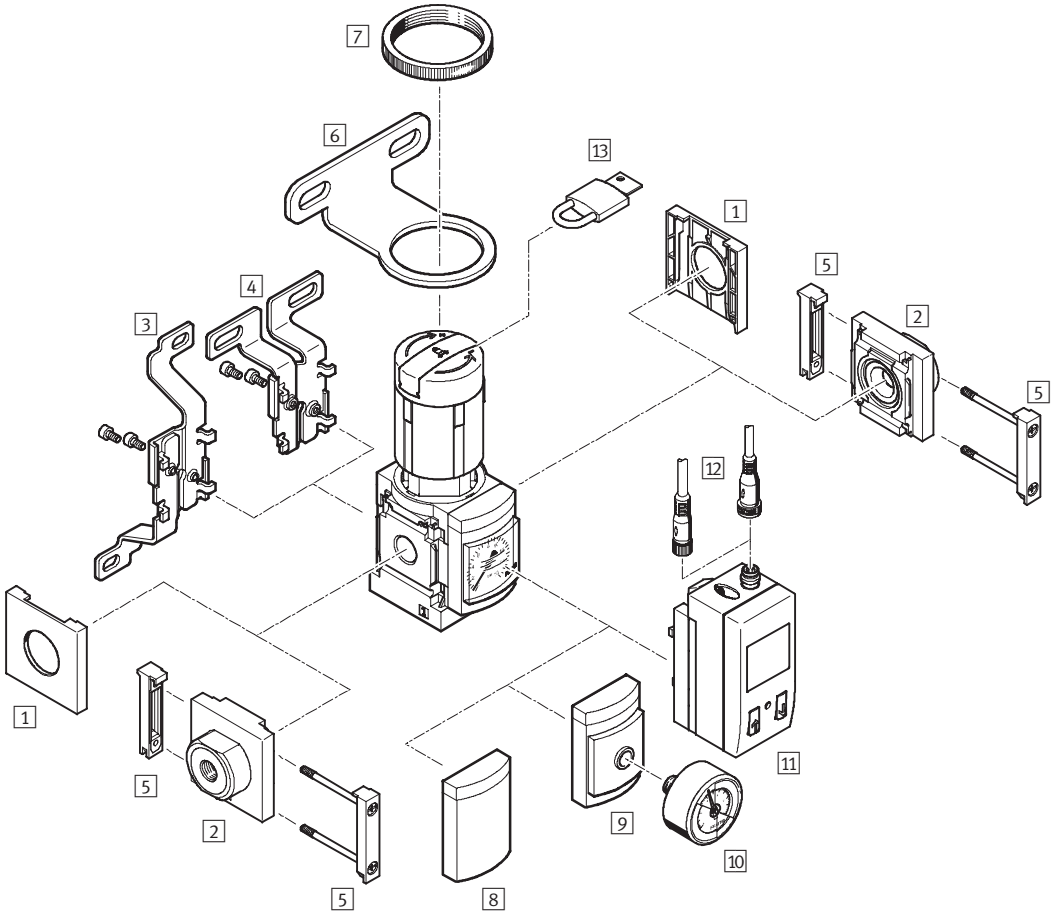
9 **WP, WPM** Only with port plate AQK, AQN or AQP

10 **WB** Not with rotary knob alternative DM2

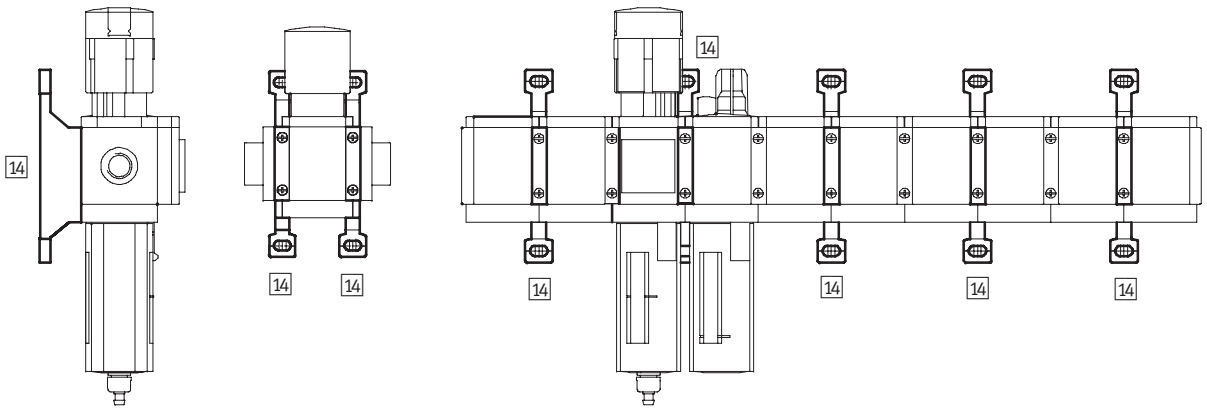
Transfer order code

–		–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Pressure Regulators MS4N-LR – Inch Series

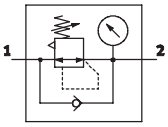
Accessories Overview

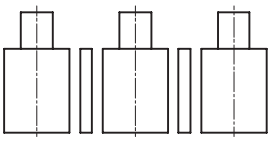
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	197
2	Port plate MS4N-AQ...	–	■	–	■	198
3	Mounting bracket MS4-WB	■	■	–	–	195
4	Mounting bracket MS4-WBM	■	■	–	–	195
5	Body connector MS4-MV	–	■	■	■	198
6	Regulator wall bracket MS4-WR	■	■	–	–	196
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Cover plate VS	■	■	■	■	180
9	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	180
10	Pressure gauge MA	■	■	■	■	202
11	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	180
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	202
13	Padlock LRVS-D	■	■	■	■	202
14	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	199

Pressure Regulators MS4N-LRB – Inch Series

Technical Data

ISO Symbol





LRB-manifold
with through pressure supply for manifold assembly

- This pressure regulator is suitable for manifold assemblies with through air supply on both sides. Pressure output is at the front or rear.
- For configuring a regulator manifold with independent pressure regulation ranges
- Good control characteristics with low hysteresis and primary pressure compensation
- Available with or without secondary venting
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Four pressure regulation ranges
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display



General Technical Data			
Size			MS4
Pneumatic connection 1			¼ NPT
Pneumatic connection 2			¼ NPT
			QS-¼-U push-in tubing connector
			QS-5/16-U push-in tubing connector
Supply pressure		[psi]	12 ... 206
Pressure regulation range	D5	[psi]	4.4 ... 59
	D6	[psi]	4.4 ... 103
	D7	[psi]	7.4 ... 176 (7.4 ... 147 with variant pressure sensor AD...)
Max. hysteresis		[psi]	3.7

Standard Nominal Flow Rate qnN[1] [scfm]				
Variant		Standard	Angled outlet block	
			QS-¼-U	QS-5/16-U
Pressure regulation range	D5	67.1[2]	10.6[2]	22.9[2]
	D6	60.0	12.4	29.7
	D7	53.0	12.4	22.6

1) Measured at p1 = 147 psi and p2 = 88 psi, Δp = 15 psi
2) Measured at p1 = 147 psi and p2 = 44 psi, Δp = 15 psi

Pressure Regulators MS4N-LRB – Inch Series

Technical Data

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°F]	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	32 ... 122
Storage temperature	[°F]	14 ... 140	14 ... 140
Assembly position		Any	
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

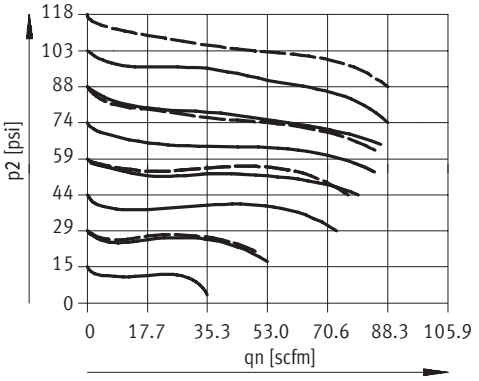
Weights [lb]	
Pressure regulator	0.44

- Wearing parts kits ➔ 203
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

MS4N-LRB-¼

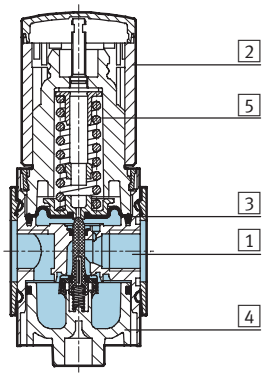
Primary pressure p1 = 147 psi



D6: 4.4 ... 103 psi
D7: 7.4 ... 176 psi

Materials

Sectional view



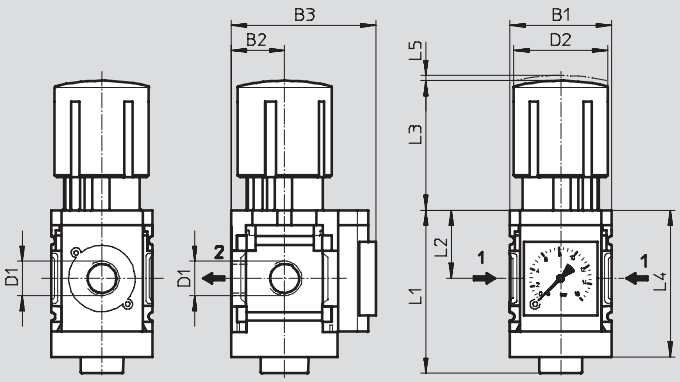
Pressure regulator (manifold assembly)		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Bottom cap	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Pressure Regulators MS4N-LRB – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



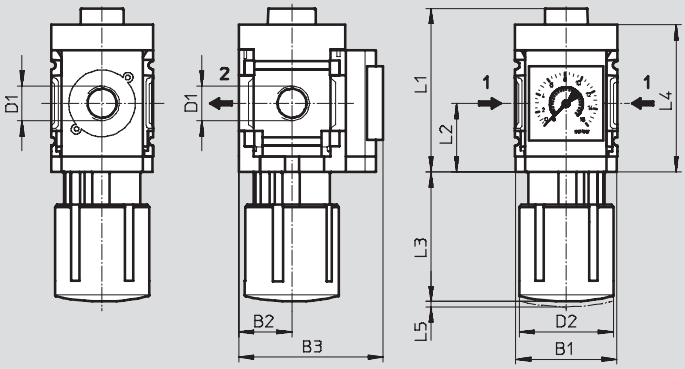
➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4N-LRB-¼	1.57	0.83	2.24	¼ NPT	1.46	2.54	1.06	2.01	2.28	0.08

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Alternative Mounting Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob underneath KD, standard rotary knob, with pressure gauge



➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4N-LRB-¼-...-KD	1.57	0.83	2.24	¼ NPT	1.46	2.54	1.06	2.01	2.28	0.08

1) Dimensions are in inches, unless otherwise noted.

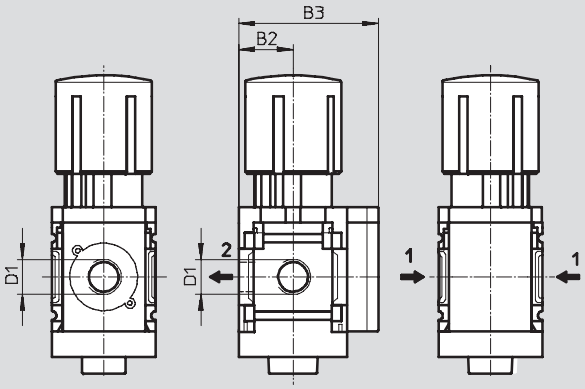
Pressure Regulators MS4N-LRB – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

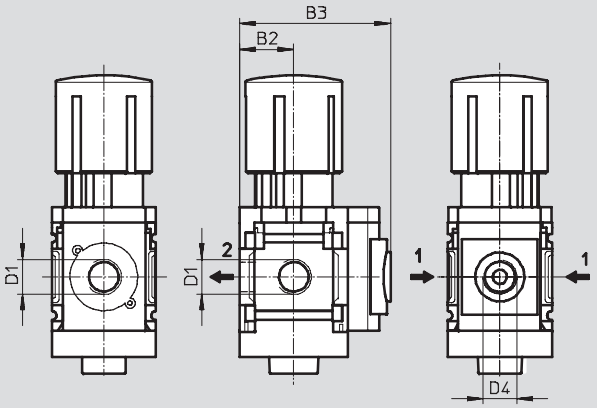
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

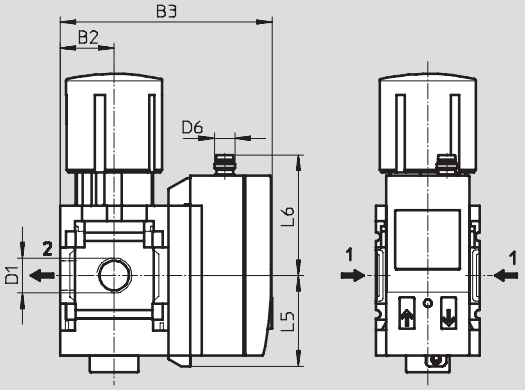
Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS4N-LRB-1/4-...-VS	0.83	2.13	1/4 NPT	–	–	–	–
MS4N-LRB-1/4-...-A8	0.83	2.30	1/4 NPT	1/8 NPT	–	–	–
MS4N-LRB-1/4-...-A4	0.83	2.30	1/4 NPT	1/4 NPT	–	–	–
MS4N-LRB-1/4-...-AD1/AD2	0.83	3.25	1/4 NPT	–	M8x1	1.38	1.84
MS4N-LRB-1/4-...-AD3/AD4	0.83	3.25	1/4 NPT	–	M12x1	1.38	2.20

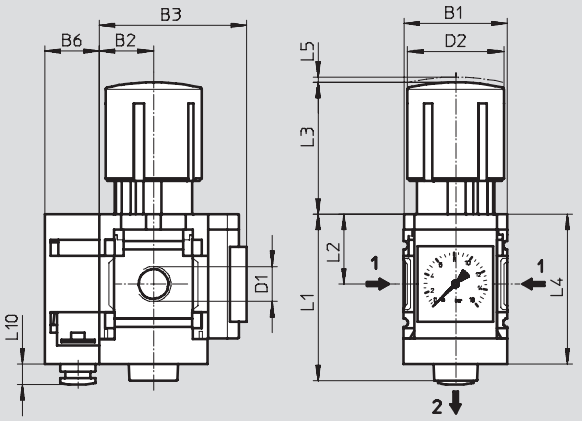
1) Dimensions are in inches, unless otherwise noted.

Pressure Regulators MS4N-LRB – Inch Series

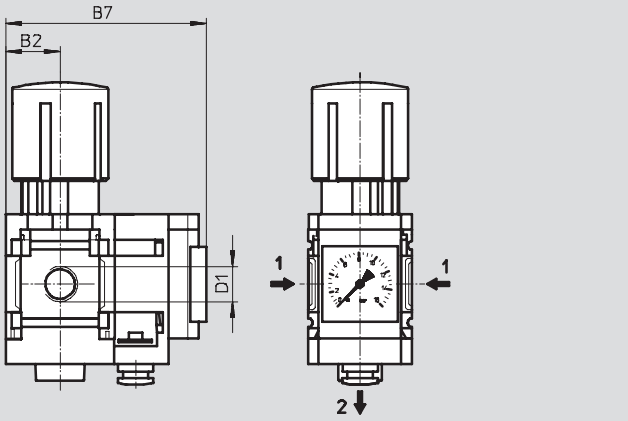
Dimensional Drawings

Dimensions[1] – Angled Outlet Block BH/BI Download CAD Data ➔ **www.festo.com/us/cad**

Pressure output at rear



Pressure output to front Z



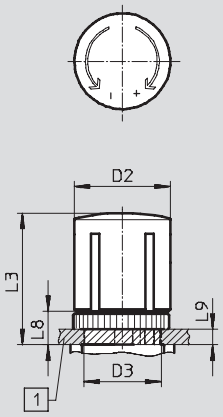
Type	B1	B2	B3	B6	B7	D1	D2	L1	L2	L3	L4	L5	L10
MS4N-LRB-¼-...-B...	1.57	0.83	2.24	0.83	3.07	¼ NPT	1.46	2.54	1.06	2.01	2.28	0.08	0.31

1) Dimensions are in inches, unless otherwise noted.

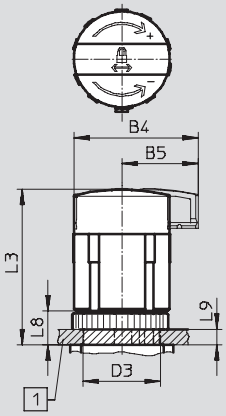
Dimensions[1] – Rotary Knob Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

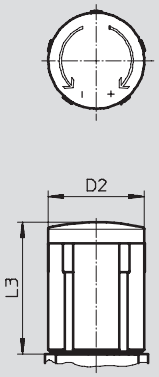


Standard, lockable AS

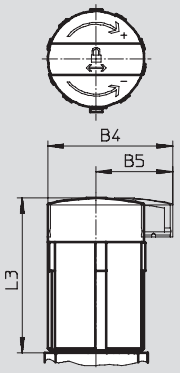


1 Max. control panel thickness

Long LD



Long, lockable LD-AS



Type	B4	B5	D2	D3 +0.04	L3	L8	L9
MS4N-LRB-...	–	–	1.46	1.18	2.01	0.51	0.24
MS4N-LRB-...-AS	1.90	1.17			2.37		
MS4N-LRB-...-LD	–	–	1.46	–	2.01	–	–
MS4N-LRB-...-LD-AS	1.90	1.17			2.37		

1) Dimensions are in inches, unless otherwise noted.

Pressure Regulators MS4N-LRB – Inch Series

Ordering Data – Pre-configured Products

Ordering Data							
Pressure gauge, lockable standard type rotary knob							
Connection	Pressure output to rear without angled outlet block				Pressure output to rear with angled outlet block QS-5/16-U		
	Part No.	Type	LT		Part No.	Type	LT
Pressure regulation range 4.4 ... 59 psi							
1/4 NPT	**531780**	**MS4N-LRB-1/4-D5-AS**	1D		**531786**	**MS4N-LRB-1/4-D5-AS-BI**	Q
Pressure regulation range 4.4 ... 103 psi							
1/4 NPT	**531782**	**MS4N-LRB-1/4-D6-AS**	1D		**531788**	**MS4N-LRB-1/4-D6-AS-BI**	Q
Pressure regulation range 7.4 ... 176 psi							
1/4 NPT	**531784**	**MS4N-LRB-1/4-D7-AS**	1D		**531790**	**MS4N-LRB-1/4-D7-AS-BI**	Q

Ordering Data			
Adapter plate A8 for EN pressure gauge 1/8, lockable standard-type rotary knob			
Connection	Pressure output to rear without angled outlet block		
	Part No.	Type	LT
Pressure regulation range 4.4 ... 59 psi			
1/4 NPT	**531792**	**MS4N-LRB-1/4-D5-A8-AS**	Q
Pressure regulation range 4.4 ... 103 psi			
1/4 NPT	**531793**	**MS4N-LRB-1/4-D6-A8-AS**	Q
Pressure regulation range 7.4 ... 176 psi			
1/4 NPT	**531794**	**MS4N-LRB-1/4-D7-A8-AS**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Pressure Regulators MS4N-LRB – Inch Series

Ordering Data – Configurable Products

FESTO

[M] **Mandatory Data** | [O] **Options** →

Part No.	Series	Size	Thread		Function		Connection size		Pressure regulation range		Pressure gauge alternatives
527693	MS	4	N		LRB		¼ AQK AQN AQP		D5 D6 D7		VS A8 A4 AD1 AD2 AD3 AD4
Order example											
527693	**MS**	**4**	**N**	–	**LRB**	–	**AQP**	–	**D5**	–	**A4**

Ordering Table

Grid dimension [mm]		40	Conditions	Code		Enter code
[M]	Part No.	**527693**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Thread	NPT thread		**N**		N
	Function	Pressure regulator for manifold assembly		**-LRB**		-LRB
	Connection size	Body thread ¼ NPT		**-¼**		
		Port plate ⅛ NPT (dimensions → 198)		**-AQK**		
		Port plate ¼ NPT (dimensions → 198)		**-AQN**		
		Port plate ⅜ NPT (dimensions → 198)		**-AQP**		
	Pressure regulation range	4.4 ... 59 psi		**-D5**		
		4.4 ... 103 psi		**-D6**		
		7.4 ... 176 psi		**-D7**		
[O]	Pressure gauge alternatives	Cover plate	[1]	**-VS**		
		Adapter plate for EN pressure gauge ⅛, without pressure gauge	[2]	**-A8**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge	[2]	**-A4**		
		Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	[2] [3]	**-AD1**		
		Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin	[2] [3]	**-AD2**		
		Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	[2] [3]	**-AD3**		
↓		Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	[2] [3]	**-AD4**		

[1] **VS** Must be selected if alternative flow direction Z is selected without alternative assembly position KD and without pressure output BH, BI.
Must be selected if alternative assembly position KD is selected without alternative flow direction Z and without pressure output BH, BI

[2] **A8, A4, AD1 ... AD4** In combination with alternative flow direction Z only with alternative assembly position KD

[3] **AD1 ... AD4** Measuring range max. 147 psi

Transfer order code

527693	**MS**	**4**	**N**	–	**LRB**	–		–		–	

Pressure Regulators MS4N-LRB – Inch Series

Ordering Data – Configurable Products

FESTO

➔ 0 Options

	Alternative pressure gauge scale	Secondary venting	Rotary knob alternative	Alternative assembly position	Security	Pressure output	Type of mounting	Reverse flow direction
	BAR MPA	OS	LD	KD	AS	BH BI	WR WP WPM WPB WB WBM	Z
–		– OS	– LD	–	– AS	– BH	– WP	–

Ordering Table

Grid dimension [mm]	40	Conditions	Code		Enter code
↓ Alternative pressure gauge scale	bar	4	-BAR		
0	MPa	4	-MPA		
Secondary venting	Without secondary venting		-OS		
Rotary knob alternative	Long rotary knob		-LD		
Alternative assembly position	Rotary knob, underneath	5	-KD		
Security	Lockable rotary knob		-AS		
Pressure output	Angled outlet block QS-¼-U		-BH		
(p_{max} = 147 psi)	Angled outlet block QS-5/16-U		-BI		
Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 196)	6 7	-WR		
	Mounting bracket (dimensions ➔ 199)	8 9	-WP		
	Mounting bracket (dimensions ➔ 199)	6 8	-WPM		
	Mounting bracket for large wall gap (dimensions ➔ 199)	8 10	-WPB		
	Mounting bracket (dimensions ➔ 195)	6	-WB		
	Mounting bracket (dimensions ➔ 195)	6	-WBM		
Reverse flow direction	Pressure output at front (for gauge connection an angled outlet block is required)		-Z		

4 **BAR, MPA** Not with pressure gauge alternatives VS, A8, A4, AD1, AD2, AD3, AD4.
Not with alternative assembly position KD.
In combination with alternative flow direction Z only with pressure output BH, BI

5 **KD** With alternative pressure gauge scale BAR only if alternative flow direction Z or pressure output BH, BI has been selected.
Not with mounting type WP, WPB.
In combination with mounting type WR, WPM, WB, WBM not with alternative flow direction Z.
In combination with pressure gauge alternatives A8, A4, AD1, AD2, AD3, AD4 only with alternative flow direction Z

6 **WR, WPM, WB, WBM**
In combination with alternative flow direction Z not with alternative assembly position KD

7 **WR** Only with alternative flow direction Z.
Not with rotary knob alternative LD

8 **WP, WPM, WPB**
Only with port plate AQK, AQN, AQP

9 **WP** Only with alternative flow direction Z and/or only with pressure output BH, BI

10 **WPB** Not with alternative flow direction Z.
Not with pressure output BH, BI

Transfer order code

–		–		–		–		–		–		–		–	

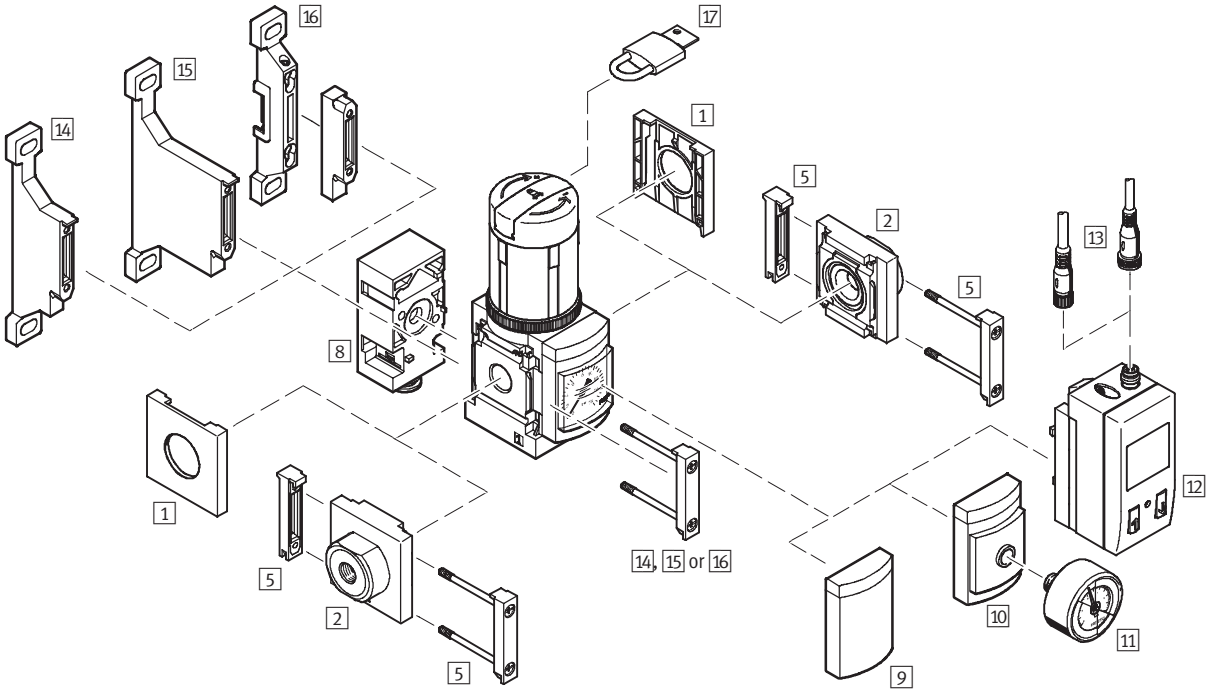
Pressure Regulators MS4N-LRB – Inch Series

Accessories Overview

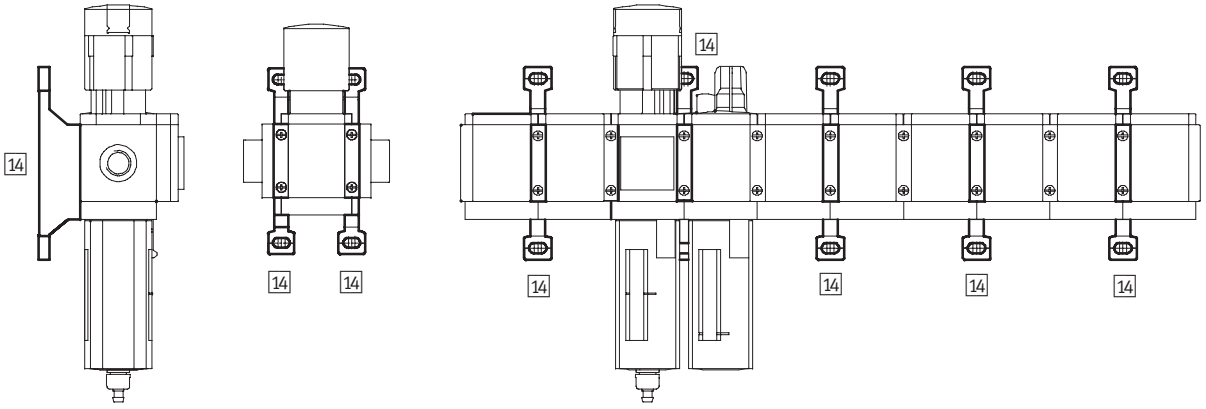
FESTO

Mounting Attachments and Accessories

Pressure output at rear



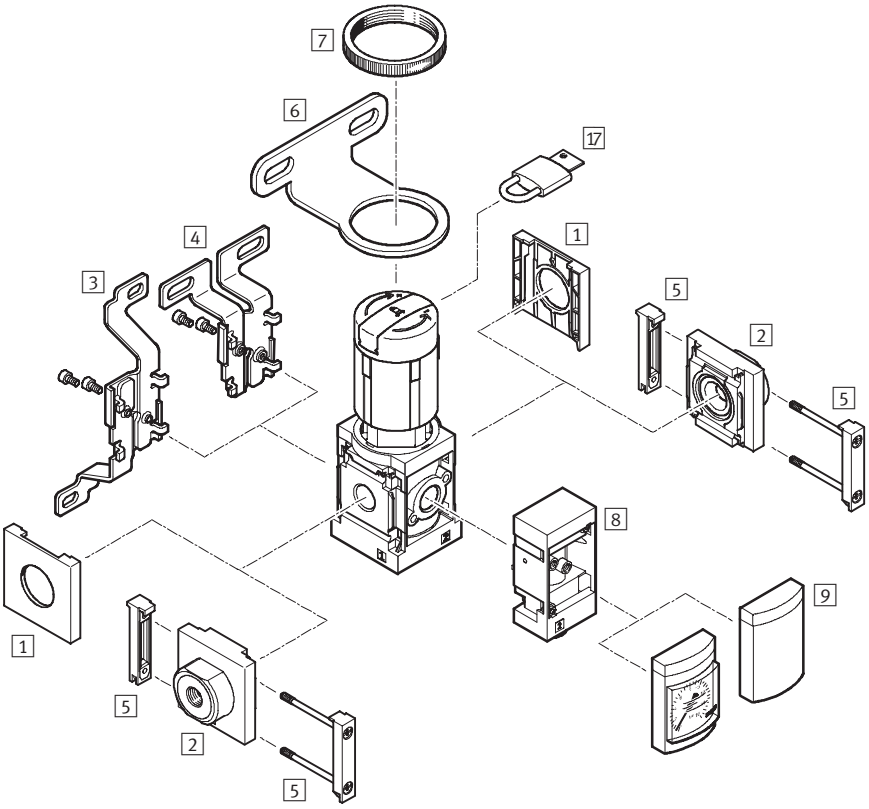
Single unit and combination unit mounting brackets.



Pressure Regulators MS4N-LRB – Inch Series

Accessories Overview

Pressure output at front



Pressure Regulators MS4N-LRB – Inch Series

Accessories Overview

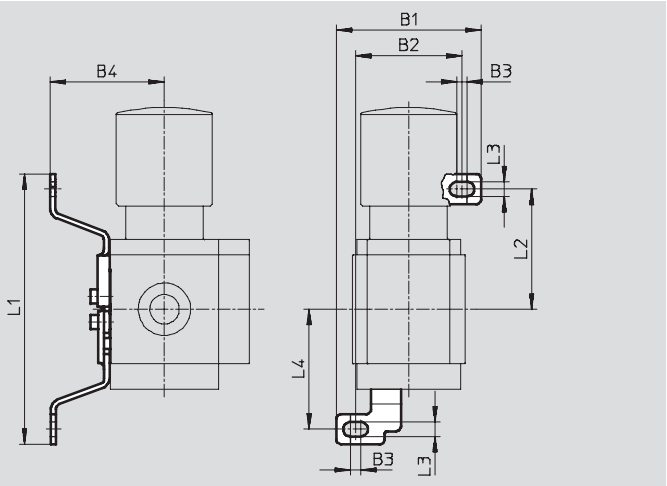
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	197
2	Port plate MS4N-AQ...	–	■	–	■	198
3	Mounting bracket MS4-WB	■	■	–	–	195
4	Mounting bracket MS4-WBM	■	■	–	–	195
5	Body connector MS4-MV	–	■	■	■	198
6	Regulator wall bracket MS4-WR	■	■	–	–	196
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Angled outlet block B...	■	■	■	■	191
9	Cover plate VS	■	■	■	■	190
10	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	190
11	Pressure gauge MA	■	■	■	■	202
12	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	180
13	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	202
14	Mounting bracket MS4-WP	–	■	■	■	199
15	Mounting bracket MS4-WPB	–	■	■	■	199
16	Mounting bracket MS4-WPM	–	■	■	■	199
17	Padlock LRVS-D	■	■	■	■	202

3 Mounting bracket MS4-WB

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

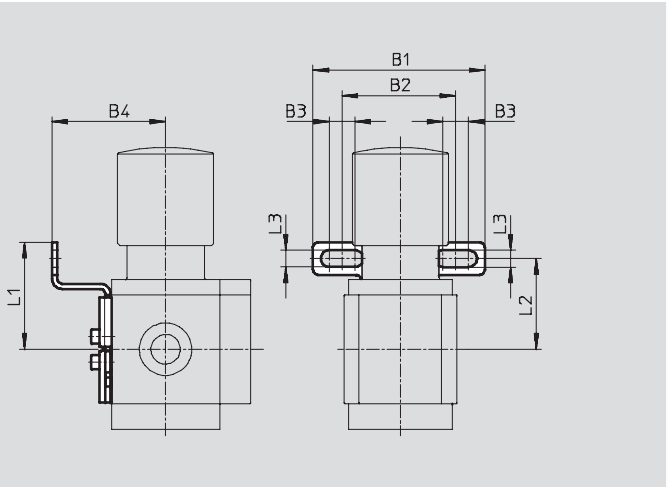
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.21	1.62	0.16	1.74	4.12	1.83	0.22	1.83	0.09	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

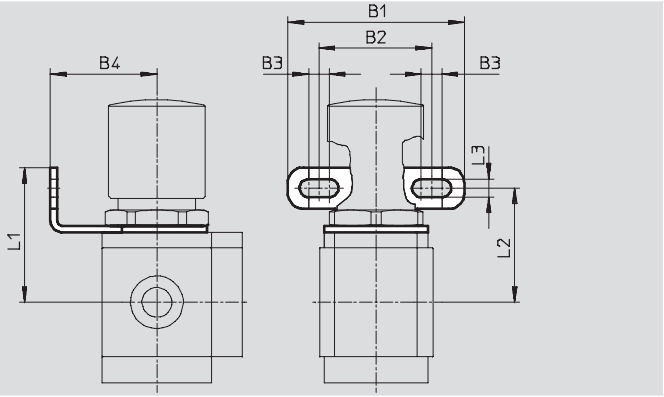
B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.62	1.73	0.39	1.73	1.63	1.38	0.26	0.10	**526062**	**MS4-WBM**

6 **Mounting bracket MS4-WR**
- For wall mounting a filter regulator and pressure regulator

Material:
Steel

Note
The hex nut for attaching components to this bracket must be ordered separately.





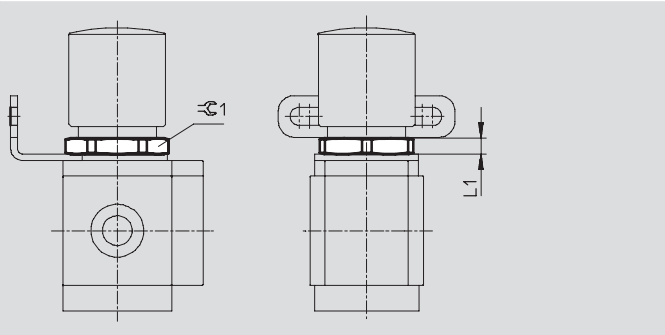
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.68	1.73	0.31	1.61	2.05	1.73	0.28	0.10	**526064**	**MS4-WR**

Hex nut MS4-WRS
- For front panel mounting
- For attaching components to the mounting bracket MS4-WR

Material:
Aluminum





Dimensions and Ordering Data

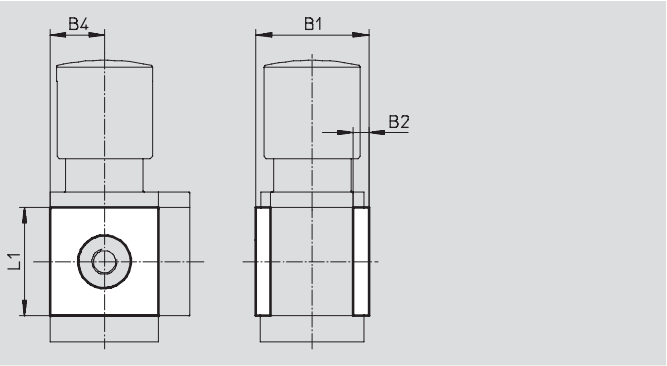
L1	⌀1	Weight [lb]	Part No.	Type
0.24	1.42	0.01	**532187**	**MS4-WRS**

Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

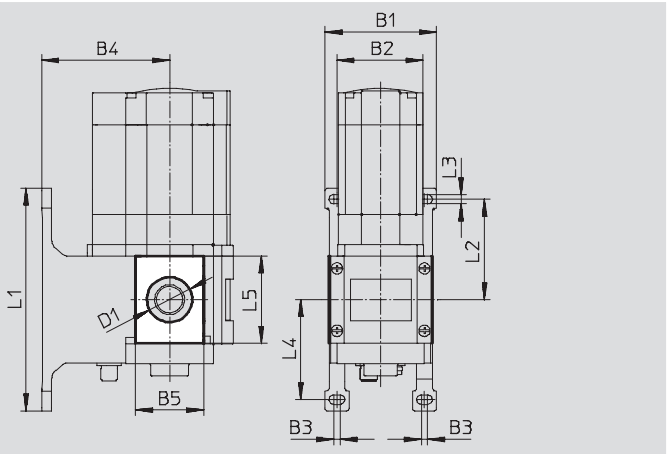
B1	B2	B4	L1	Part No.	Type
1.72	0.24	0.83	1.65	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

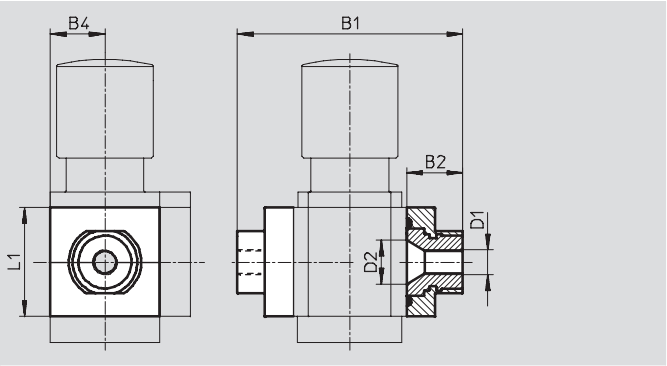
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
2.17	1.58	0.16	1.73	2.60	1.20	0.80	4.17	1.83	0.22	1.84	1.65	2	0.01	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Port plate MS4N-AQ...
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
3.29	0.85	0.83	1/8 NPT	0.66	1.65	0.26	**526065**	**MS4N-AQK**
			1/4 NPT				**526066**	**MS4N-AQN**
			3/8 NPT				**526067**	**MS4N-AQP**

Body connector MS4-MV
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

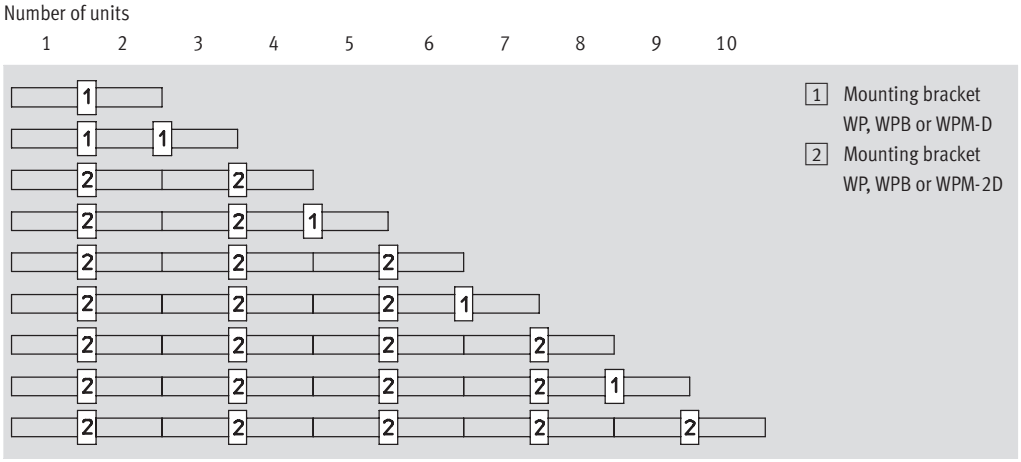
Weight [lb]	Part No.	Type
0.07	**532798**	**MS4-MV**

14 Mounting Bracket MS4-WP...

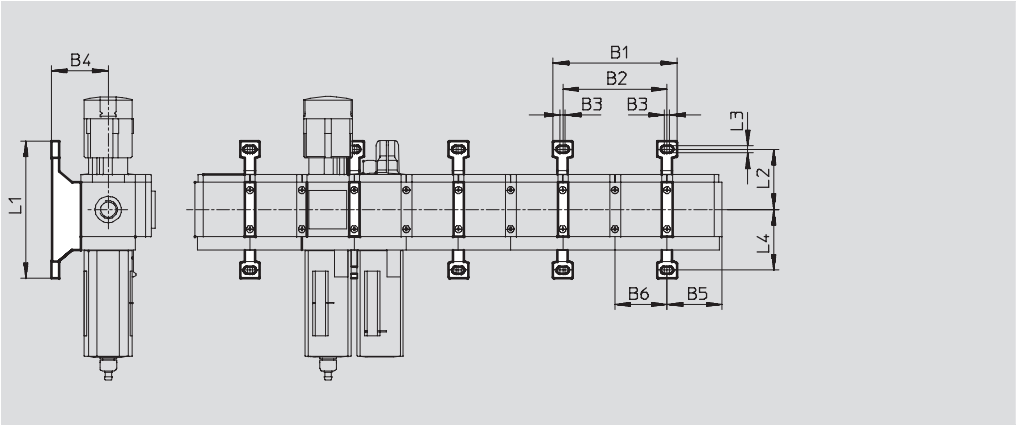
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 1.575 in

2 units: 3.15 in



Mounting dimensions



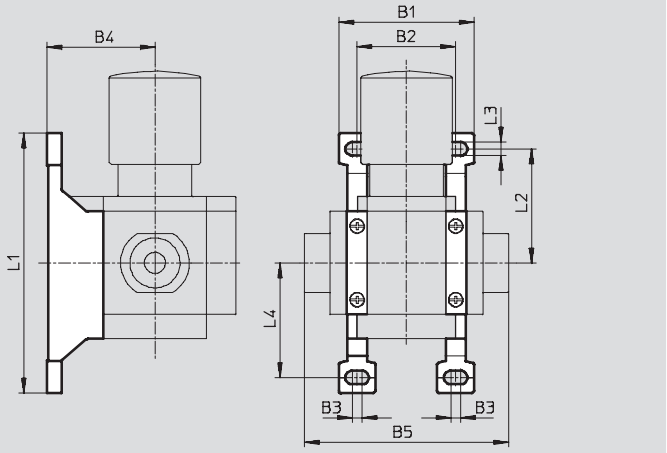
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	3.75	3.15	0.16	1.73	1.65	1.57	4.17	1.83	0.22	1.84
MS4-WPB				2.60						
MS4-WPM-...D				1.73			3.65	1.37		1.57

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

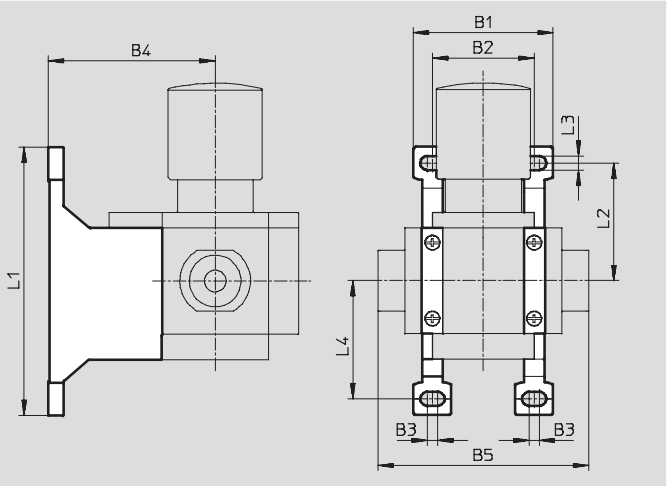
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	1.73	3.28	4.17	1.83	0.22	1.84	0.08	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	2.60	3.28	4.17	1.83	0.22	1.84	0.11	**526063**	**MS4-WPB**

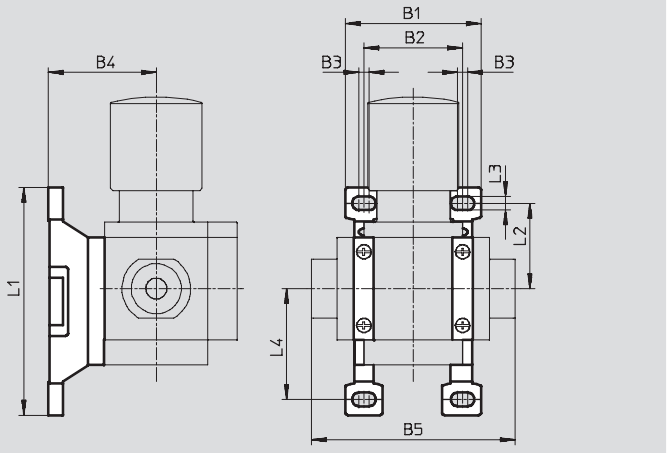
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
2.17	1.57	0.16	1.73	3.28	3.65	1.37	0.22	1.78	1.57	0.09	**526060**	**MS4-WPM-D**
3.75	3.15			4.86					3.15	0.11	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



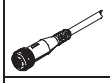
Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

12 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [ft]	Part No.	Type
	M8x1, 3-pin	8.2	**159420**	**SIM-M8-3GD-2,5-PU**
		16.4	**159421**	**SIM-M8-3GD-5-PU**
		32.8	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	8.2	**159422**	**SIM-M8-3WD-2,5-PU**
		16.4	**159423**	**SIM-M8-3WD-5-PU**
		32.8	**192965**	**SIM-M8-3WD-10-PU**

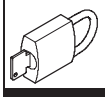
Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 4-pin	16.4	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	16.4	**164258**	**SIM-M12-4WD-5-PU**

10 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	1.57	¼ NPT	0 … 16	0 … 232	**183908**	**MA-40-16-N¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.57	⅛ NPT	–	0 … 232	**530388**	**MA-40-232-N⅛-PSI-E-RG**
	1.97	¼ NPT	–	0 … 232	**530391**	**MA-50-232-N¼-PSI-E-RG**

13 Ordering Data – Padlock LRVS-D

	Description	Weight [lb]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	0.24	**193786**	**LRVS-D**

Pressure Regulators MS4N-LR/LRB – Inch Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS4	Snap-ring, membrane, bellows, O-rings, screws, stem	**673649**	**MS4-LR/LRB**

- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Filters MS4-LF – Metric Series



Standard filters, with filtration grades of 5 microns or 40 microns, are equipped with a water separator that cleans the compressed air of impurities, rust, and condensate. For pre-filtering in pneumatic systems or for special applications.

- Pneumatic connection: G⅛, G¼, G⅜
- Supply pressure
  – For manual drain: 0 … 14 bar
  – For semiautomatic drain: 1.5 … 12 bar
  – For fully automatic drain: 2 … 12 bar
- Flow rate: 1,000 … 1,700 l/min

Product Range Overview

Type	Pneumatic connections		Filtration grade [µm]				Bowl guard		Bowl drain			Contamination control	Reverse flow
	Body thread	Port plate	0.01	1	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Differential pressure indicator	Flow direction from right to left
MS4		AG...	A	B	C	E	R	U	M	H	V	DA	Z
LF	G⅛, G¼	G⅛, G¼, G⅜	–	–	■	■	■	■	■	■	■	–	■

Features

- Sintered filter with centrifugal separation removes contamination, rust and condensate from the compressed air.
- High flow rate with minimal pressure drop
- Replaceable filter cartridges

Contents

Technical Data	→ 206
Dimensional Drawings	→ 210
Ordering Data	→ 211
Accessories	→ 214
Replacement Parts	→ 222

→ www.festo.com/catalog/ms4-lf

Standard Filters MS4-LF – Metric Series

Technical Data

ISO Symbol



Manual bowl drain



Semi or fully automatic bowl drain



General Technical Data				
Pneumatic connection 1, 2			G⅛	G¼
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)	
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)	
Supply pressure	M	[bar]	0 ... 14 (manual drain)	
	H	[bar]	1.5 ... 12 (semiautomatic drain)	
	V	[bar]	2 ... 12 (fully automatic drain)	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]				
Pneumatic connection 1, 2			G⅛	G¼
Filtration grade		5 µm	1,000	1,300
		40 µm	1,100	1,700

1) Measured at p1 = 6 bar and Δp = 1 bar

Standard Filters MS4-LF – Metric Series

Technical Data

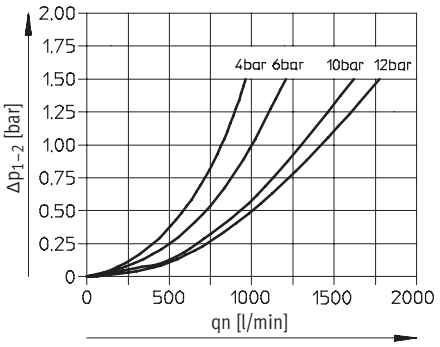
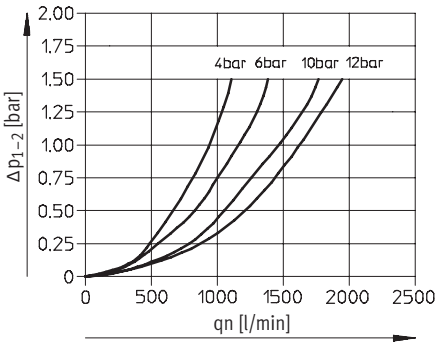
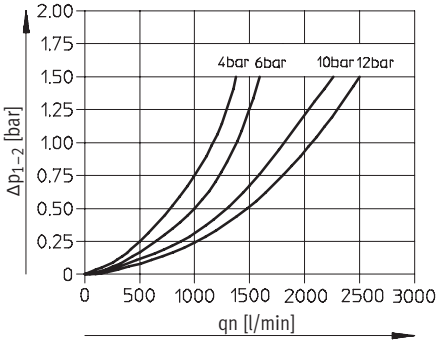
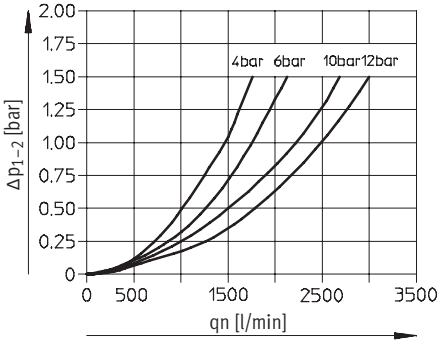
Operating and Environmental Conditions				
Bowl drain		Manual M	Semiautomatic H	Fully automatic V
Operating medium		Compressed air		
Max. condensate volume	[cm^3]	19 (with plastic bowl guard) 25 (with metal bowl)		
Bowl guard		Plastic bowl guard		
		Metal bowl		
Ambient temperature	[°C]	–10 ... +60	+5 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With plastic bowl guard	190
With metal bowl	350

- Wearing parts kits ➔ 222
- Filter cartridges ➔ 222
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

	Filtration grade 5 µm	Filtration grade 40 µm
MS4-LF-⅛		
MS4-LF-¼		

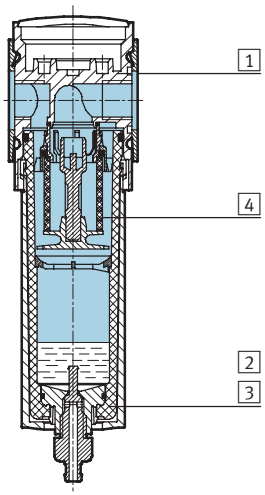
Standard Filters MS4-LF – Metric Series

Technical Data

FESTO

Materials

Sectional view



Filters		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filter element	Polyethylene
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

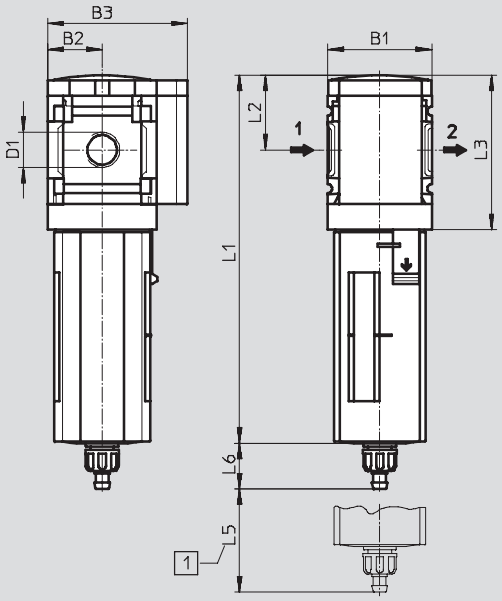
Standard Filters MS4-LF – Metric Series

Dimensional Drawings

FESTO

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



1 Installation dimensions

➔ Flow direction

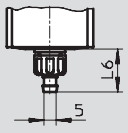
Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS4-LF-⅛	40	21	54	G⅛	142.8	159.4	29	60.5	25	17.7	17.7
MS4-LF-¼				G¼							

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

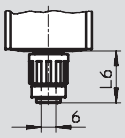
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4-LF-...-M	17.7
Metal bowl	
MS4-LF-...-M	17.7

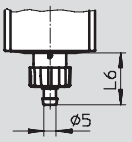
Semiautomatic H



QS fitting for plastic tubing
PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS4-LF-...-H	22.1
Metal bowl	
MS4-LF-...-H	22.1

Fully automatic V



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4-LF-...-V	20.4
Metal bowl	
MS4-LF-...-V	20.4

1) Dimensions are in millimeters, unless otherwise noted.

Standard Filters MS4-LF – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G⅛	**529403**	**MS4-LF-⅛-CRM**	1D		**529407**	**MS4-LF-⅛-ERM**	Q
	G¼	**529395**	**MS4-LF-¼-CRM**	1D		**529399**	**MS4-LF-¼-ERM**	Q
Fully automatic	G⅛	**529405**	**MS4-LF-⅛-CRV**	1D		**529409**	**MS4-LF-⅛-ERV**	Q
	G¼	**529397**	**MS4-LF-¼-CRV**	1D		**529401**	**MS4-LF-¼-ERV**	Q
Metal bowl								
Manual	G⅛	**535638**	**MS4-LF-⅛-CUM**	Q		**535644**	**MS4-LF-⅛-EUM**	Q
	G¼	**535654**	**MS4-LF-¼-CUM**	Q		**535660**	**MS4-LF-¼-EUM**	Q
Fully automatic	G⅛	**535640**	**MS4-LF-⅛-CUV**	Q		**535642**	**MS4-LF-⅛-EUV**	Q
	G¼	**535656**	**MS4-LF-¼-CUV**	Q		**535658**	**MS4-LF-¼-EUV**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Standard Filters MS4-LF – Metric Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data** ➔

Part No.	Series	Size		Function		Connection size		Filtration grade		Bowl
527695	MS	4		LF		1/8, 1/4, AGA, AGB, AGC		E, C		R, U
Order example										
527695	**MS**	**4**	–	**LF**	–	**AGB**	–	**E**	–	**R**

Ordering Table

Grid dimension [mm]		40	Conditions	Code		Enter code
M	Part No.	**527695**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Function	Filters		**-LF**		-LF
	Connection size	Body thread G1/8		**-1/8**		
		Body thread G1/4		**-1/4**		
		Port plate G1/8 (dimensions ➔ 218)		**-AGA**		
		Port plate G1/4 (dimensions ➔ 218)		**-AGB**		
		Port plate G3/8 (dimensions ➔ 218)		**-AGC**		
	Filtration grade	40 µm		**-E**		
		5 µm		**-C**		
	Bowl	Plastic bowl with plastic bowl guard		**-R**		
↓		Metal bowl		**-U**		

Transfer order code

527695	**MS**	**4**	–	**LF**	–		–		–	

Standard Filters MS4-LF – Metric Series

Ordering Data – Configurable Products

➔ M Mandatory Data		O Options		
Bowl drain		**Type of mounting**		**Reverse flow direction**
M H V		WP WPM WB WBM		Z
– **M**		– **WP**		– **Z**

Ordering Table

Grid dimension [mm]		40	Conditions	Code		Enter code
↓ M	Bowl drain	Manual		**-M**		
		Semiautomatic (P1 max. 12 bar)		**-H**		
		Fully automatic (P1 max. 12 bar)		**-V**		
O	Type of mounting	Mounting bracket (dimensions ➔ 219)	1	**-WP**		
		Mounting bracket (dimensions ➔ 219)	1	**-WPM**		
		Mounting bracket (dimensions ➔ 216)		**-WB**		
		Mounting bracket (dimensions ➔ 216)		**-WBM**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP, WPM** Only with port plate AGA, AGB or AGC

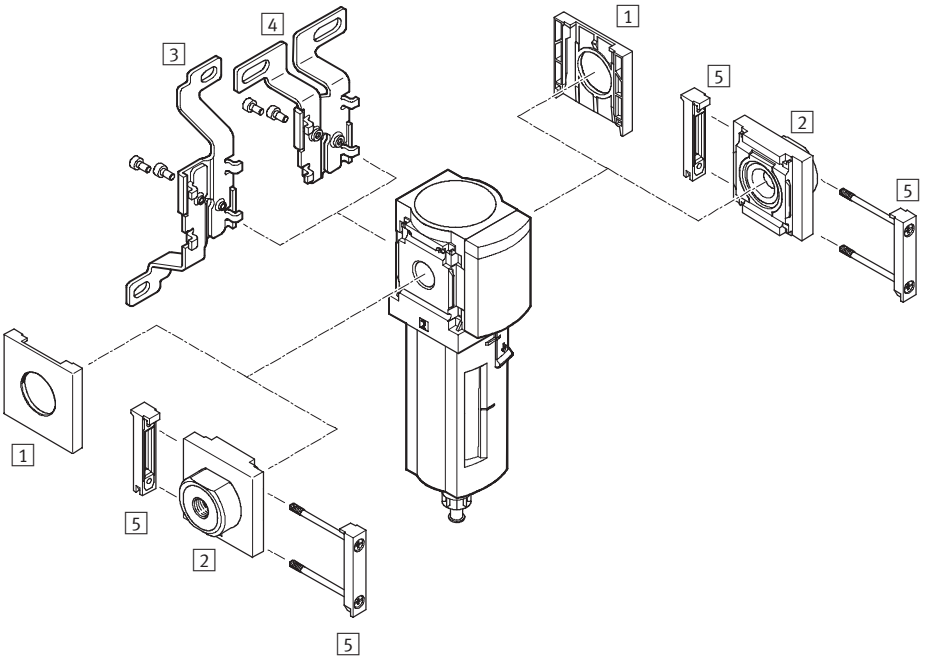
Transfer order code

– | | – | | – |

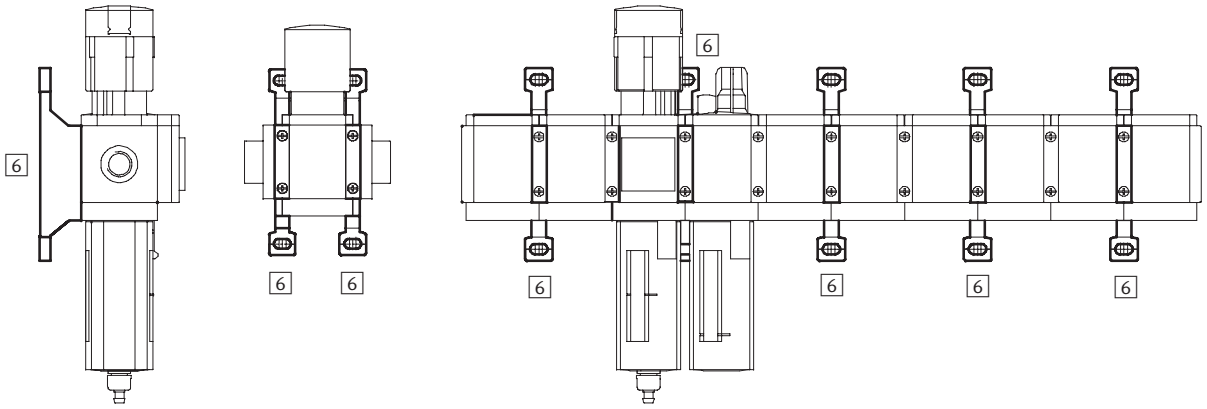
Standard Filters MS4-LF – Metric Series

Accessories Overview

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Standard Filters MS4-LF – Metric Series

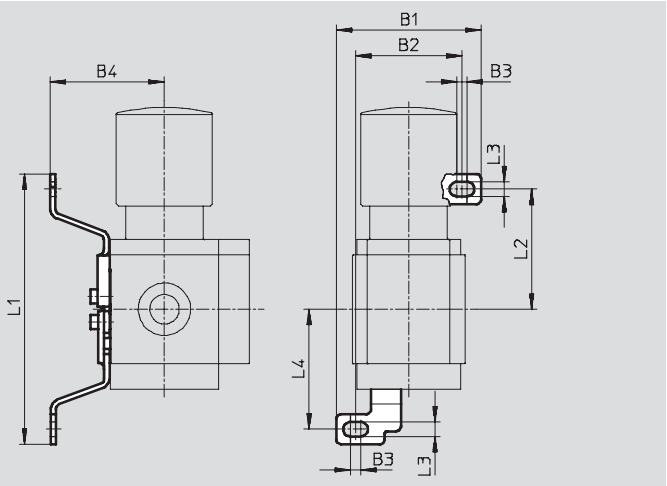
Accessories Overview

Mounting Attachments and Accessories					
	Single unit		Combination unit ➔ 2.1-1		➔ Page
	without port plate	with port plate	without port plate	with port plate	
1 Cover cap MS4-END	■	–	■	–	217
2 Port plate MS4-AG...	–	■	–	■	218
3 Mounting bracket MS4-WB	■	■	–	–	216
4 Mounting bracket MS4-WBM	■	■	–	–	216
5 Body connector MS4-MV	–	■	■	■	218
6 Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	219

3 Mounting bracket MS4-WB
- For wall mounting

Material:
Steel





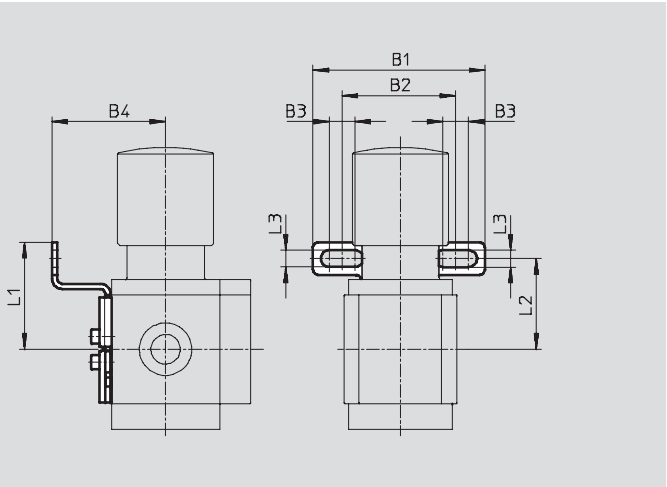
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
56.2	41.2	4	44.2	104.6	46.6	5.6	46.5	46	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

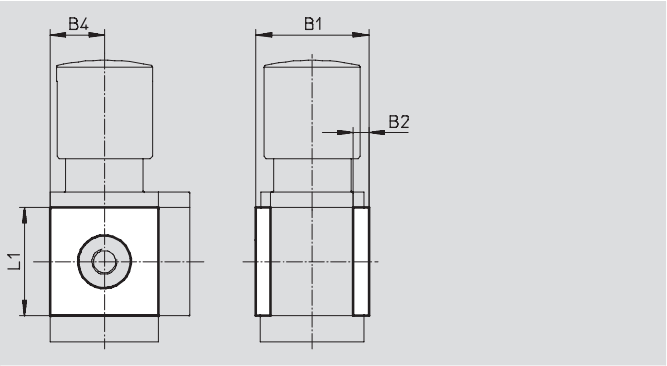
B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
66.5	44	10	44	41.3	35	6.5	48	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

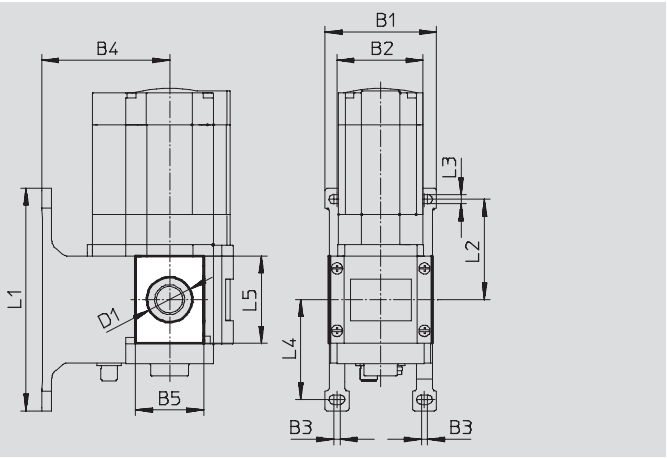
B1	B2	B4	L1	Part No.	Type
43.6	6	21	42	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

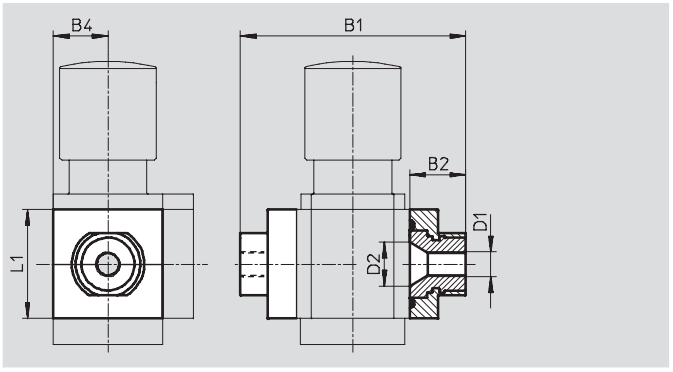
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4-AG...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
83.5	21.5	21	G1⁄8	16.8	42	128	**526068**	**MS4-AGA**
			G1⁄4				**526069**	**MS4-AGB**
			G3⁄8				**526070**	**MS4-AGC**

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

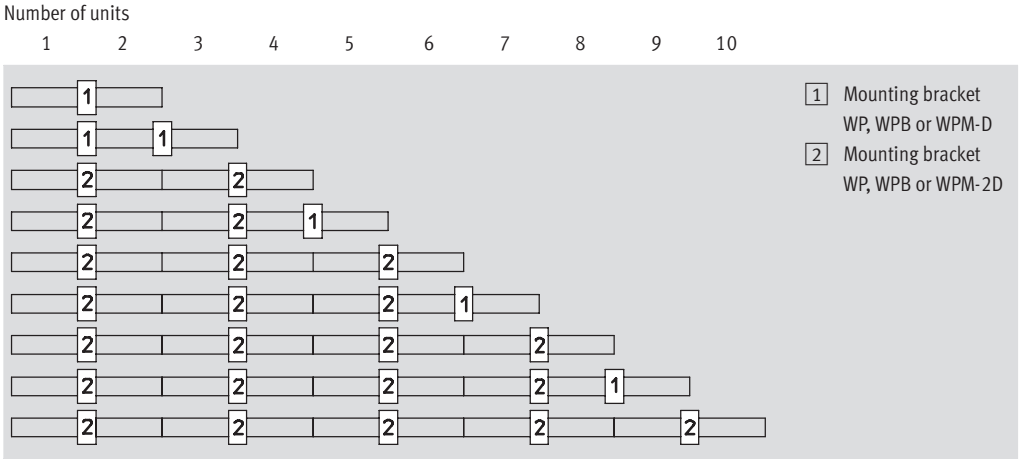
Weight [g]	Part No.	Type
36	**532798**	**MS4-MV**

6 Mounting Bracket MS4-WP...

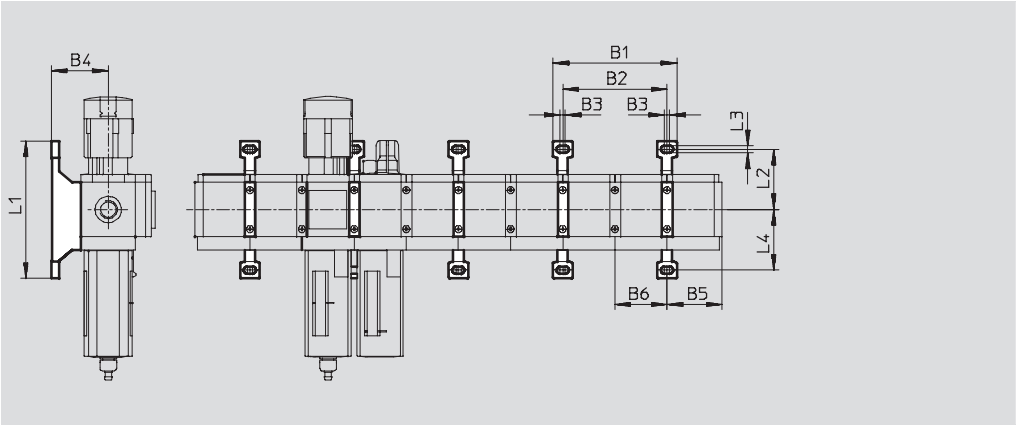
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 40 mm

2 units: 80 mm



Mounting dimensions



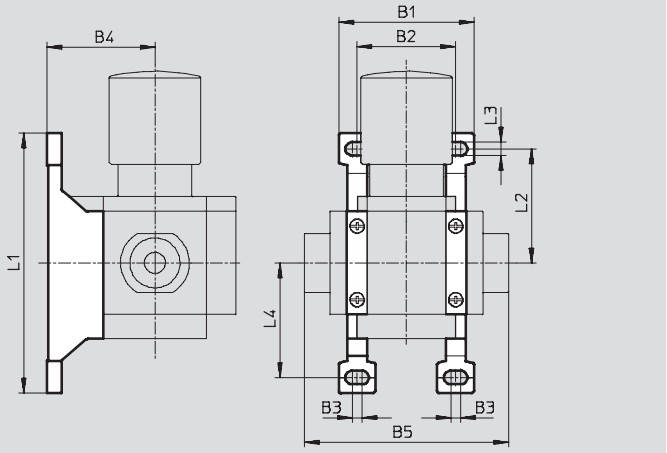
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44			92.8	34.8		40

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

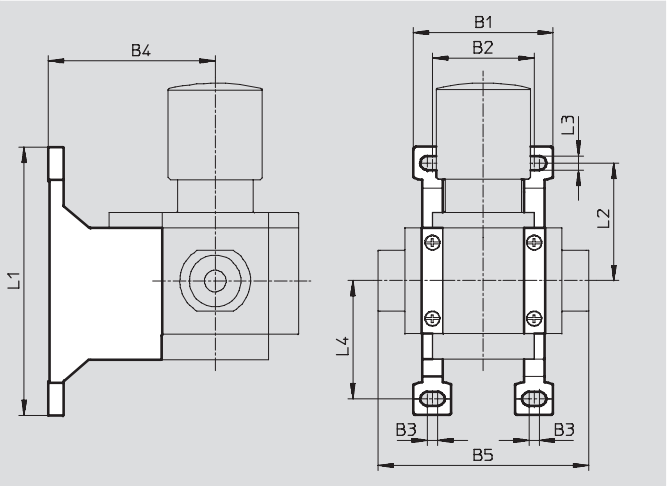
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	44	83.4	106	46.5	5.6	46.7	39	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	55	**526063**	**MS4-WPB**

Standard Filters MS4-LF – Metric Series

Accessories

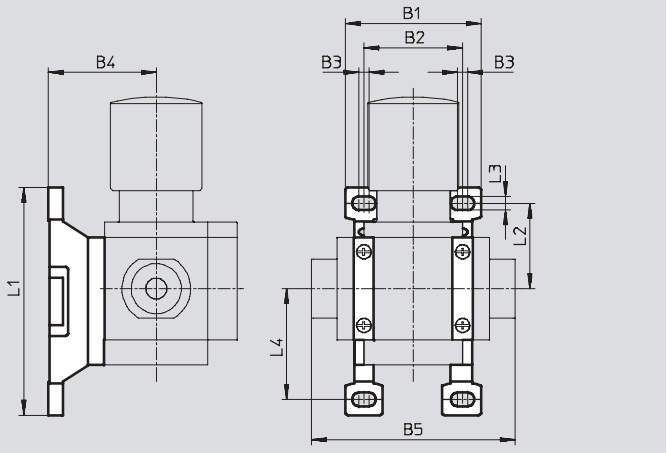
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
55.2	40	4	44	83.4	92.8	34.8	5.6	45.2	40	45	**526060**	**MS4-WPM-D**
95.2	80			123.4					80	55	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Standard Filters MS4-LF – Metric Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS4	O-rings, screws, sealing ring	**673639**	**MS4-LF**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS4	5	**534501**	**MS4-LFP-C**
	40	**534502**	**MS4-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Filters MS4N-LF – Inch Series



Standard filters, with filtration grades of 5 microns or 40 microns, are equipped with a water separator that cleans the compressed air of impurities, rust, and condensate. For pre-filtering in pneumatic systems or for special applications.

- Pneumatic connection: ⅛ NPT, ¼ NPT, ⅜ NPT
- Supply pressure
  – For manual drain: 0 ... 235 psi
  – For semiautomatic drain: 22 ... 176 psi
  – For fully automatic drain: 29 ... 176 psi
- Flow rate: 35.3 ... 60.0 scfm

Product Range Overview

Type	Pneumatic connections		Filtration grade [µm]				Bowl guard		Bowl drain			Contamination control	Reverse flow
	Body thread	Port plate	0.01	1	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Differential pressure indicator	Flow direction from right to left
MS4N		**AG...**	**A**	**B**	**C**	**E**	**R**	**U**	**M**	**H**	**V**	**DA**	**Z**
LF	⅛ NPT, ¼ NPT	⅛ NPT, ¼ NPT, ⅜ NPT	–	–	■	■	■	■	■	■	■	–	■

Features

- Sintered filter with centrifugal separation removes contamination, rust and condensate from the compressed air.
- High flow rate with minimal pressure drop
- Replaceable filter cartridges

Contents

Technical Data → 224
Dimensional Drawings → 228
Ordering Data → 229
Accessories → 232
Replacement Parts → 240

→ www.festo.com/catalog/ms4n-lf

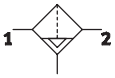
Standard Filters MS4N-LF – Inch Series

Technical Data

ISO Symbol



Manual bowl drain



Semi or fully automatic bowl drain



General Technical Data				
Pneumatic connection 1, 2			1/8 NPT	1/4 NPT
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)	
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)	
Supply pressure	M	[psi]	0 ... 206 (manual drain)	
	H	[psi]	22 ... 176 (semiautomatic drain)	
	V	[psi]	29 ... 176 (fully automatic drain)	

Standard Nominal Flow Rate qnN[1] [scfm]			
Pneumatic connection 1, 2		1/8 NPT	1/4 NPT
Filtration grade	5 µm	35.3	45.9
	40 µm	38.8	60.0

1) Measured at p1 = 88 psi and Δp = 15 psi

Standard Filters MS4N-LF – Inch Series

Technical Data

Operating and Environmental Conditions				
Bowl drain		Manual M	Semiautomatic H	Fully automatic V
Operating medium		Compressed air		
Max. condensate volume	[in^3]	1.16 (with plastic bowl guard) 1.53 (with metal bowl)		
Bowl guard		Plastic bowl guard		
		Metal bowl		
Ambient temperature	[°F]	14 ... 140	41 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

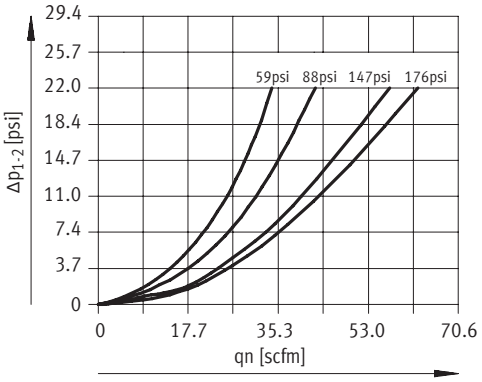
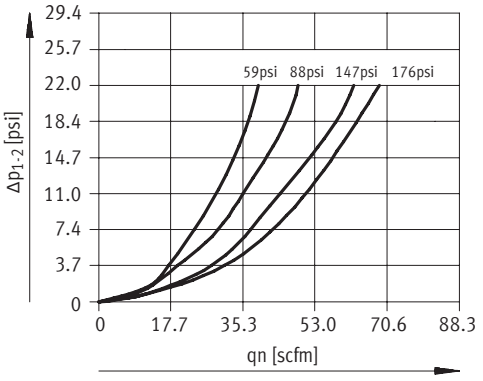
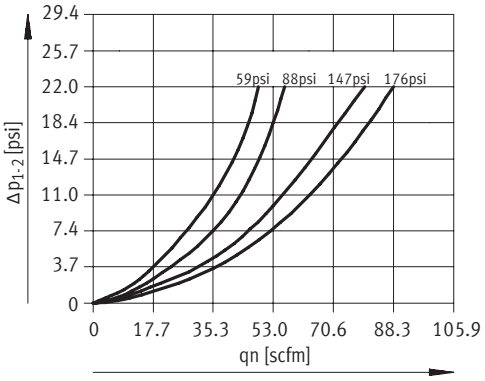
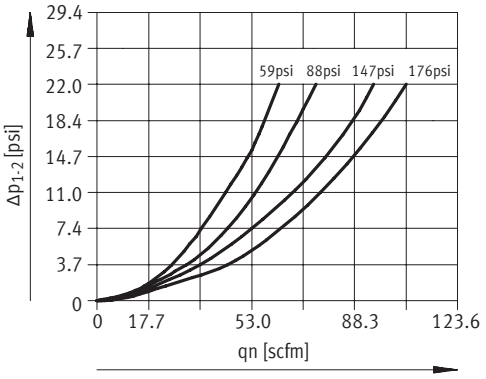
Weights [lb]	
With plastic bowl guard	0.38
With metal bowl	0.70

- Wearing parts kits ➔ 240
- Filter cartridges ➔ 240
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Filters MS4N-LF – Inch Series

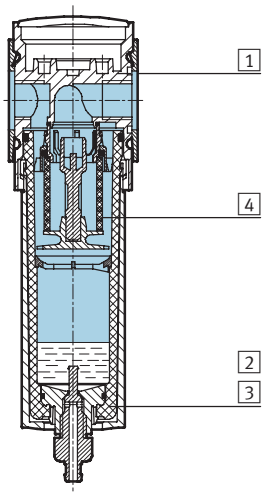
Technical Data

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

	Filtration grade 5 µm	Filtration grade 40 µm
MS4N-LF-⅛		
MS4N-LF-¼		

Materials

Sectional view



Filters		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filter element	Polyethylene
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

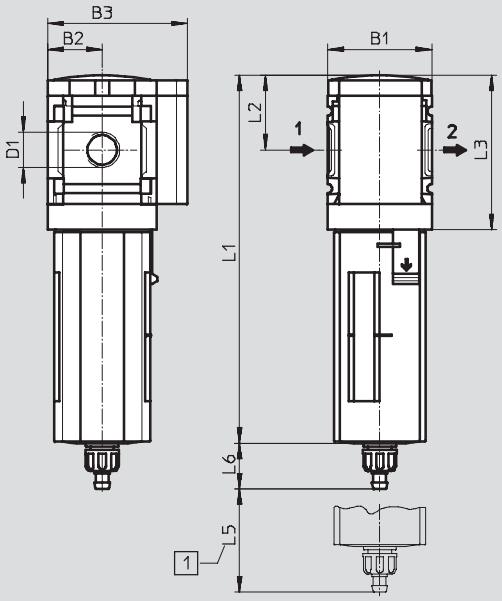
Standard Filters MS4N-LF – Inch Series

Dimensional Drawings

FESTO

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



1 Installation dimensions

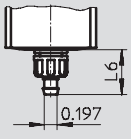
➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS4N-LF-⅛	1.57	0.83	2.13	⅛ NPT	5.62	6.28	1.14	2.38	0.98	0.70	0.70
MS4N-LF-¼				¼ NPT							

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

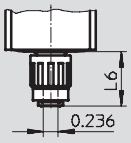
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4N-LF-...-M	0.70
Metal bowl	
MS4N-LF-...-M	0.70

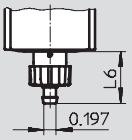
Semiautomatic H



QS fitting for plastic tubing
PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS4N-LF-...-H	0.87
Metal bowl	
MS4N-LF-...-H	0.87

Fully automatic V



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4N-LF-...-V	0.80
Metal bowl	
MS4N-LF-...-V	0.80

1) Dimensions are in inches, unless otherwise noted.

Standard Filters MS4N-LF – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	1/8 NPT	**531490**	**MS4N-LF-1/8-CRM**	1D		**531486**	**MS4N-LF-1/8-ERM**	Q
	1/4 NPT	**531489**	**MS4N-LF-1/4-CRM**	1D		**531485**	**MS4N-LF-1/4-ERM**	Q
Fully automatic	1/8 NPT	**531494**	**MS4N-LF-1/8-CRV**	1D		**531482**	**MS4N-LF-1/8-ERV**	Q
	1/4 NPT	**531493**	**MS4N-LF-1/4-CRV**	1D		**531481**	**MS4N-LF-1/4-ERV**	Q
Metal bowl								
Manual	1/8 NPT	**535670**	**MS4N-LF-1/8-CUM**	Q		**535676**	**MS4N-LF-1/8-EUM**	Q
	1/4 NPT	**535686**	**MS4N-LF-1/4-CUM**	Q		**535692**	**MS4N-LF-1/4-EUM**	Q
Fully automatic	1/8 NPT	**535672**	**MS4N-LF-1/8-CUV**	Q		**535674**	**MS4N-LF-1/8-EUV**	Q
	1/4 NPT	**535688**	**MS4N-LF-1/4-CUV**	Q		**535690**	**MS4N-LF-1/4-EUV**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Standard Filters MS4N-LF – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data →

Part No.	Series	Size	Thread		Function		Connection size		Filtration grade		Bowl
527696	MS	4	N		LF		⅛, ¼, AQK, AQN, AQP		E, C		R, U
Order example											
527696	**MS**	**4**	**N**	**–**	**LF**	**–**	**AQK**	**–**	**E**	**–**	**R**

Ordering Table

Grid dimension [mm]	40	Conditions	Code	Enter code
M Part No.	**527696**			
Series	Standard		**MS**	MS
Size	4		**4**	4
Thread	NPT thread		**N**	N
Function	Filters		**-LF**	-LF
Connection size	Body thread ⅛ NPT		**-⅛**	
	Body thread ¼ NPT		**-¼**	
	Port plate ⅛ NPT (dimensions → 236)		**-AQK**	
	Port plate ¼ NPT (dimensions → 236)		**-AQN**	
	Port plate ⅜ NPT (dimensions → 236)		**-AQP**	
Filtration grade	40 µm		**-E**	
	5 µm		**-C**	
Bowl	Plastic bowl with plastic bowl guard		**-R**	
↓	Metal bowl		**-U**	

Transfer order code

527696	**MS**	**4**	**N**	**–**	**LF**	**–**		**–**		**–**	

Standard Filters MS4N-LF – Inch Series

Ordering Data – Configurable Products

FESTO

➔ M Mandatory Data	O Options	
Bowl drain	**Type of mounting**	**Reverse flow direction**
M H V	WP WPM WB WBM	Z
– **M**	– **WP**	– **Z**

Ordering Table

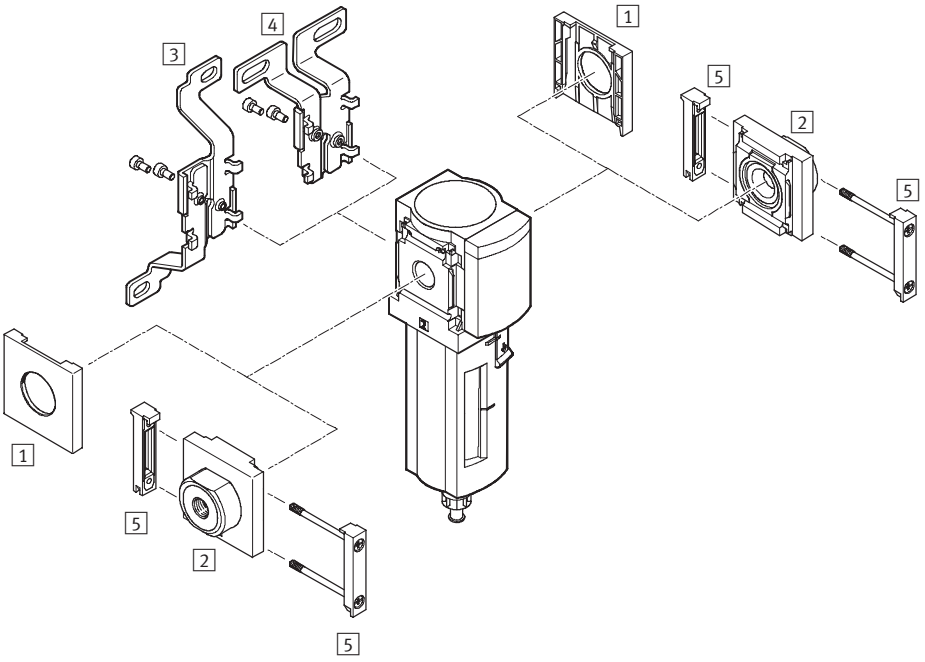
Grid dimension [mm]		40	Conditions	Code		Enter code
↓ M	Bowl drain	Manual		**-M**		
		Semiautomatic (P1 max. 176 psi)		**-H**		
		Fully automatic (P1 max. 176 psi)		**-V**		
O	Type of mounting	Mounting bracket (dimensions ➔ 237)	1	**-WP**		
		Mounting bracket (dimensions ➔ 237)	1	**-WPM**		
		Mounting bracket (dimensions ➔ 234)		**-WB**		
		Mounting bracket (dimensions ➔ 234)		**-WBM**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP, WPM** Only with port plate AQK, AQN or AQP

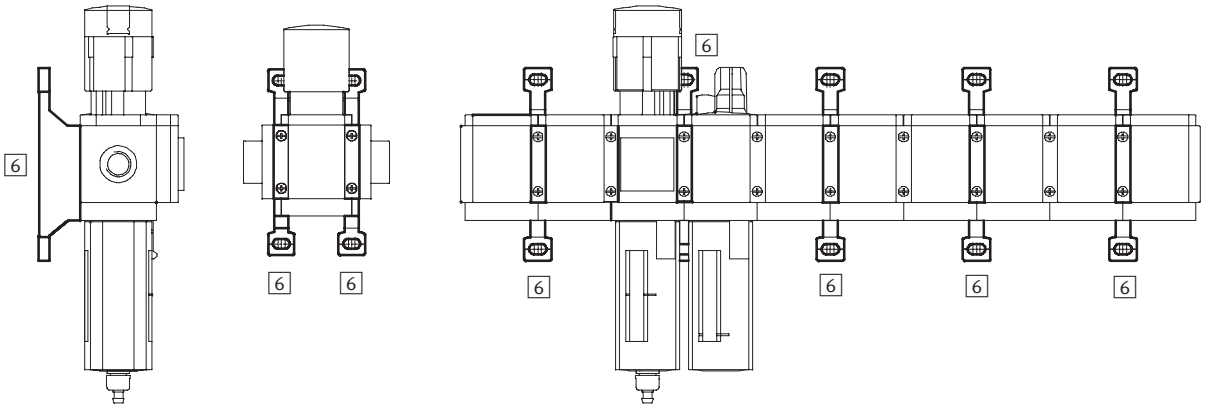
Transfer order code

– | | – | | – | |

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Standard Filters MS4N-LF – Inch Series

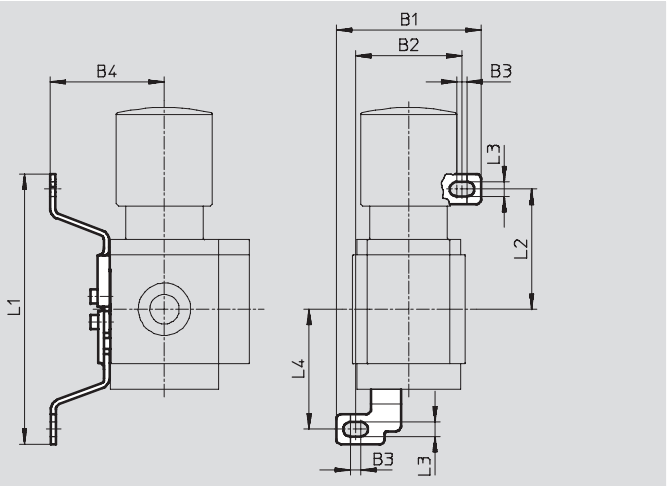
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	235
2	Port plate MS4N-AQ...	–	■	–	■	236
3	Mounting bracket MS4-WB	■	■	–	–	234
4	Mounting bracket MS4-WBM	■	■	–	–	234
5	Body connector MS4-MV	–	■	■	■	236
6	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	237

3 **Mounting bracket MS4-WB**
- For wall mounting

Material:
Steel





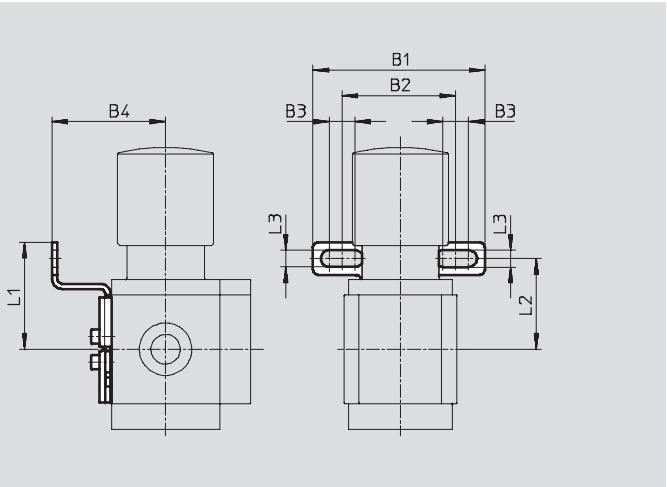
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.21	1.62	0.16	1.74	4.12	1.83	0.22	1.79	0.09	**532185**	**MS4-WB**

4 **Mounting bracket MS4-WBM**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

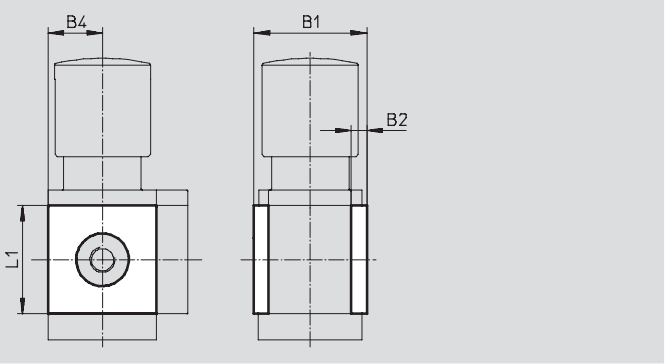
B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.62	1.73	0.39	1.73	1.63	1.38	0.26	0.10	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

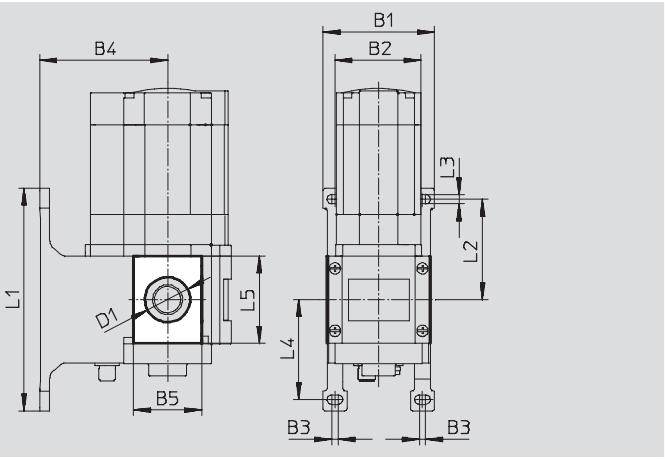
B1	B2	B4	L1	Part No.	Type
1.72	0.24	0.83	1.65	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
2.17	1.58	0.16	1.73	2.60	1.20	0.80	4.17	1.83	0.22	1.84	1.65	2	0.01	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Standard Filters MS4N-LF – Inch Series

Accessories

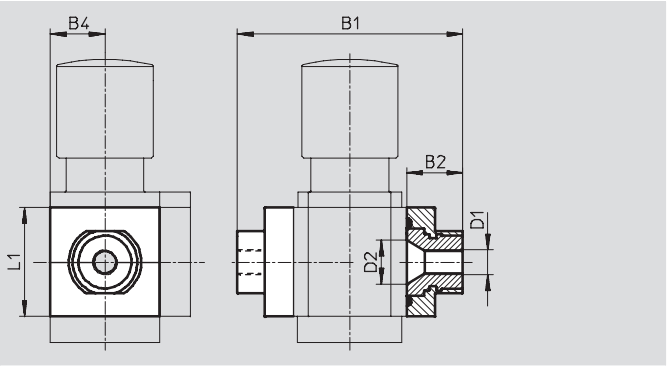
FESTO

2 **Port plate MS4N-AQ...**

- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
3.29	0.85	0.83	1/8 NPT	0.66	1.65	0.26	**526065**	**MS4N-AQK**
			1/4 NPT				**526066**	**MS4N-AQN**
			3/8 NPT				**526067**	**MS4N-AQP**

5 **Body connector MS4-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

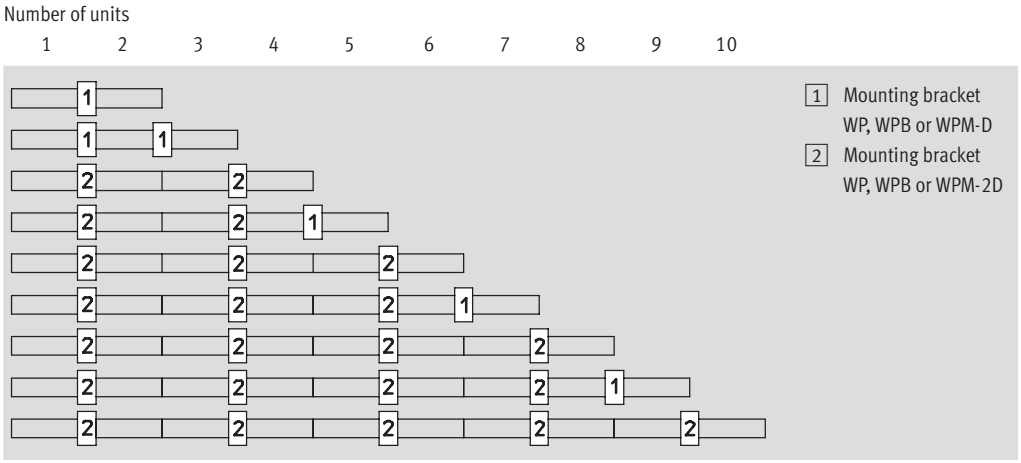
Weight [lb]	Part No.	Type
0.07	**532798**	**MS4-MV**

6 Mounting Bracket MS4-WP...

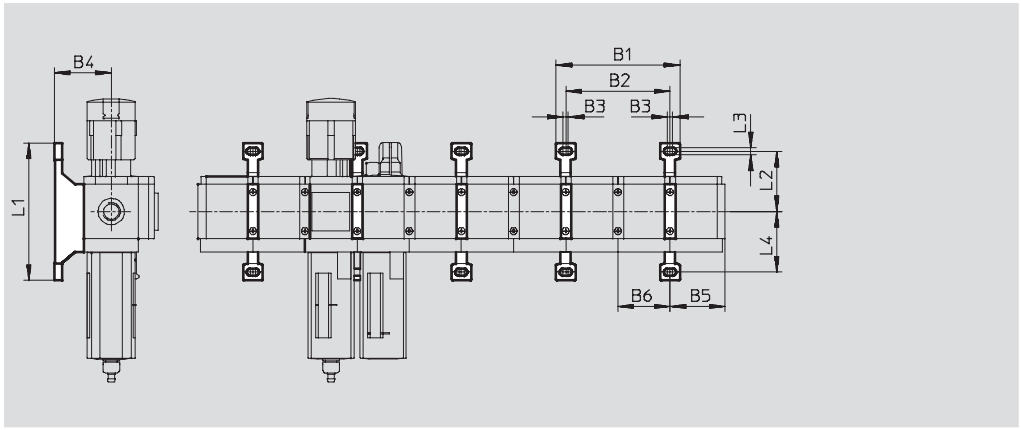
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 1.575 in

2 units: 3.15 in



Mounting dimensions



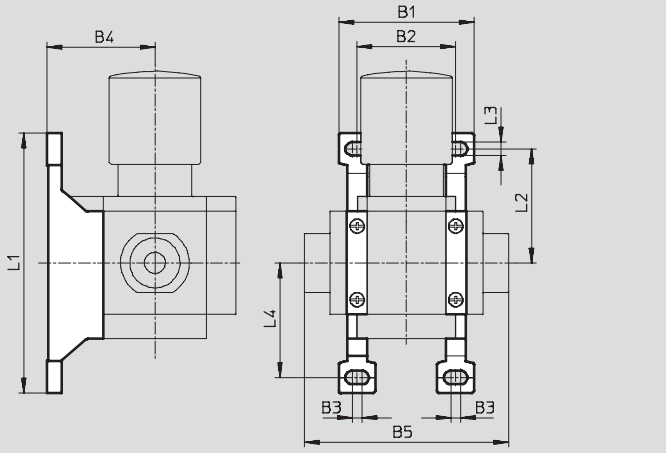
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	3.75	3.15	0.16	1.73	1.65	1.57	4.17	1.83	0.22	1.84
MS4-WPB				2.60						
MS4-WPM-...D				1.73			3.65	1.37		1.57

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

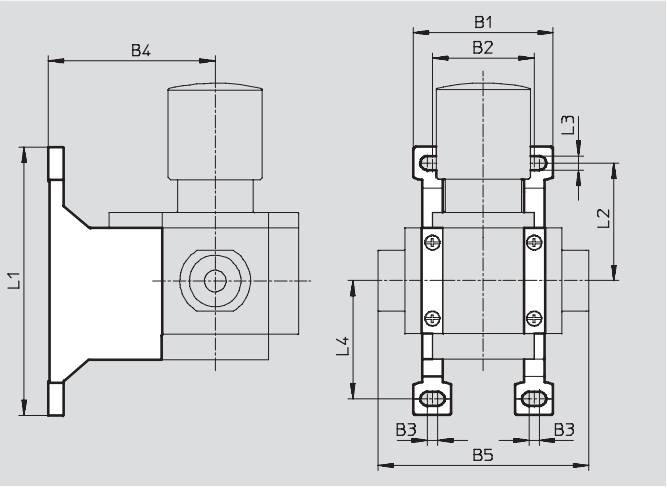
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	1.73	3.28	4.17	1.83	0.22	1.84	0.08	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	2.60	3.28	4.17	1.83	0.22	1.84	0.11	**526063**	**MS4-WPB**

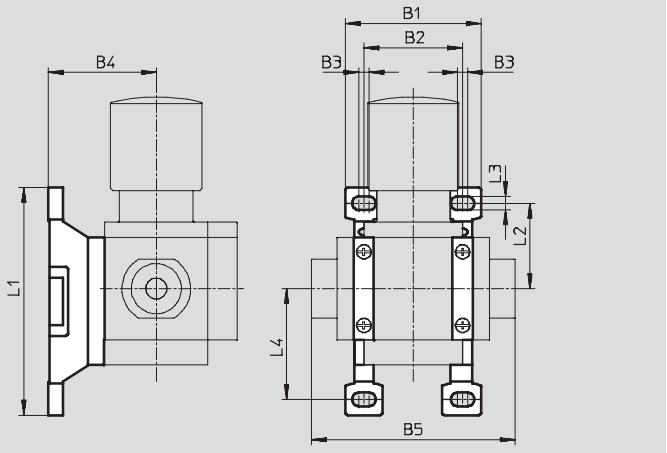
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
2.17	1.57	0.16	1.73	3.28	3.65	1.37	0.22	1.78	1.57	0.09	**526060**	**MS4-WPM-D**
3.75	3.15			4.86					3.15	0.11	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Standard Filters MS4N-LF – Inch Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS4	O-rings, screws, sealing ring	**673639**	**MS4-LF**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS4	5	**534501**	**MS4-LFP-C**
	40	**534502**	**MS4-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Fine and Micro Filters MS4-LFM – Metric Series



Fine and micro filters, with 1 micron or 0.01 micron filtration grades, remove submicronic water or oil droplets and dirt particles for exceptionally clean compressed air.

- Pneumatic connection: G1⁄8, G1⁄4, G3⁄8
- Supply pressure
  – For manual drain: 0 ... 14 bar
  – For semiautomatic drain: 1.5 ... 12 bar
  – For fully automatic drain: 2 ... 12 bar
- Flow rate: 120 ... 180 l/min

Product Range Overview

Type	Pneumatic connections		Filtration grade [µm]				Bowl guard		Bowl drain			Contamination control	Reverse flow
	Body thread	Port plate	0.01	1	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Differential pressure indicator	Flow direction from right to left
MS4		AG...	A	B	C	E	R	U	M	H	V	DA	Z
LFM	G1⁄8, G1⁄4	G1⁄8, G1⁄4, G3⁄8	■	■	–	–	■	■	■	■	■	■	■

Features

- High-performance filter for exceptionally clean compressed air
- Air quality to DIN ISO 8573-1
- Available with differential pressure indicator for optical indication of filter contamination
- LFM-A:
  ISO class 1 for particles:
  max. particle density 0.1 mg/m³
  ISO class 2 for oil aerosols:
  max. oil concentration 0.1 mg/m³
  Filter efficiency 99.9999%
- LFM-B:
  ISO class 2 for particles:
  max. particle density 1 mg/m³
  ISO class 3 for oil aerosols:
  max. oil concentration 1 mg/m³
  Filter efficiency 99.99%

Contents

Technical Data → 242
Dimensional Drawings → 245
Ordering Data → 247
Accessories → 250
Replacement Parts → 258

→ www.festo.com/catalog/ms4-lfm

Fine and Micro Filters MS4-LFM – Metric Series

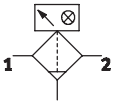
Technical Data

FESTO

ISO Symbol



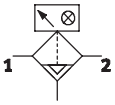
Manual bowl drain
without differential pressure indicator



With differential pressure indicator



Semi or fully automatic bowl drain
without differential pressure indicator



With differential pressure indicator



General Technical Data				
Pneumatic connection 1, 2			G⅛	G¼
Filtration grade		[µm]	0.01 (micro filter LFM-A, air purity class at the output 1.7.2 to DIN ISO 8573-1)	
			1 (fine filter LFM-B, air purity class at the output 2.7.3 to DIN ISO 8573-1)	
Supply pressure	M	[bar]	0 ... 14 (manual drain)	
	H	[bar]	1.5 ... 12 (semiautomatic drain)	
	V	[bar]	2 ... 12 (fully automatic drain)	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] and Standard Flow Rate qn [l/min]		
Pneumatic connection 1, 2	G⅛	G¼
Micro filter LFM-A		
qnN 1 ⇢ 2	120	120
qn min	54	54
qn max	360	360
Fine filter LFM-B		
qnN 1 ⇢ 2	180	180
qn min	54	54
qn max	360	360

1) Measured at p1 = 6 bar and Δp = 70 mbar

Fine and Micro Filters MS4-LFM – Metric Series

Technical Data

Operating and Environmental Conditions				
Bowl drain		Manual M	Semiautomatic H	Fully automatic V
Operating medium micro filter LFM-A		Compressed air, filtered, unlubricated, filtration grade 1 µm		
Operating medium fine filter LFM-B		Compressed air, filtered, unlubricated, filtration grade 5 µm		
Max. condensate volume	[cm³]	19 (with plastic bowl guard) 25 (with metal bowl)		
Bowl guard		Plastic bowl guard		
		Metal bowl		
Ambient temperature	[°C]	–10 ... +60	+5 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

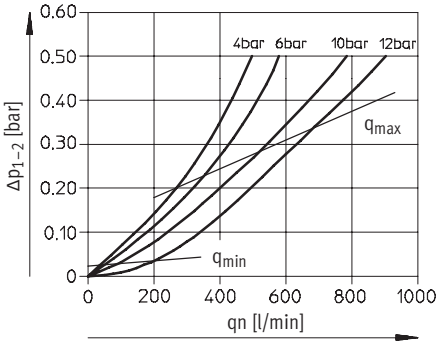
Weights [g]	
With plastic bowl guard	190
With metal bowl	350

- Wearing parts kits ➔ 258
- Filter cartridges ➔ 258
- For spare parts go to: www.festo.com/en/spare_parts_service

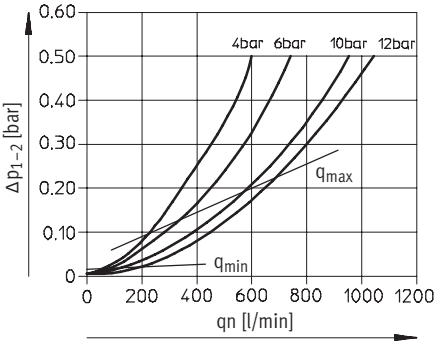
Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

MS4-LFM-⅛ and MS4-LFM-¼

Filtration grade 0.01 µm

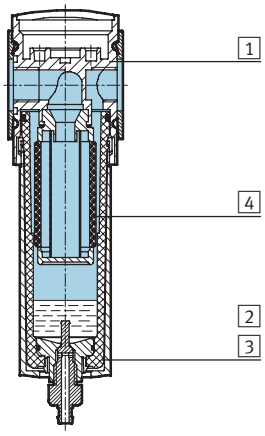


Filtration grade 1 µm



Materials

Sectional view



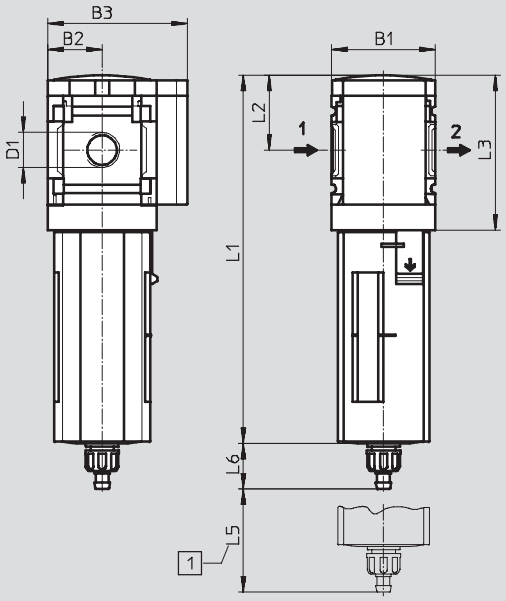
Fine and micro filter		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filters	Borosilicate fiber
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Fine and Micro Filters MS4-LFM – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS4-LFM-⅛	40	21	54	G⅛	142	160	29	60	25	17.7	17.7
MS4-LFM-¼				G¼							

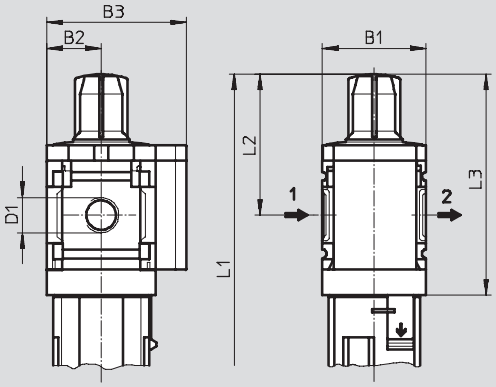
1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Fine and Micro Filters MS4-LFM – Metric Series

Dimensional Drawings

Dimensions[1] – Differential Pressure Indicator Download CAD Data ➔ **www.festo.com/us/cad**



➔ Flow direction

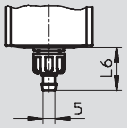
Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3
					Plastic	Metal		
MS4-LFM-⅛-...-DA	40	21	54	G⅛	168	186	55	86
MS4-LFM-¼-...-DA				G¼				

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

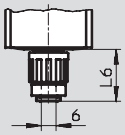
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4-LFM-...-M	17.7
Metal bowl	
MS4-LFM-...-M	17.7

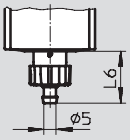
Semiautomatic H



QS fitting for plastic tubing
PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS4-LFM-...-H	22.1
Metal bowl	
MS4-LFM-...-H	22.1

Fully automatic V



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4-LFM-...-V	20.4
Metal bowl	
MS4-LFM-...-V	20.4

1) Dimensions are in millimeters, unless otherwise noted.

Fine and Micro Filters MS4-LFM – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Without differential pressure indicator								
Bowl drain	Connection	Micro filter Filtration grade 0.01 µm				Fine filter Filtration grade 1 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G⅛	**529463**	**MS4-LFM-⅛-ARM**	1D		**529465**	**MS4-LFM-⅛-BRM**	1D
	G¼	**529459**	**MS4-LFM-¼-ARM**	1D		**529461**	**MS4-LFM-¼-BRM**	1D
Metal bowl								
Fully automatic	G⅛	**539208**	**MS4-LFM-⅛-AUV**	Q		**539204**	**MS4-LFM-⅛-BUV**	Q
	G¼	**535768**	**MS4-LFM-¼-AUV**	Q		**535766**	**MS4-LFM-¼-BUV**	Q

Ordering Data								
With differential pressure indicator								
Bowl drain	Connection	Micro filter Filtration grade 0.01 µm				Fine filter Filtration grade 1 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G⅛	**536821**	**MS4-LFM-⅛-ARM-DA**	1D		**536817**	**MS4-LFM-⅛-BRM-DA**	1D
	G¼	**536822**	**MS4-LFM-¼-ARM-DA**	1D		**536818**	**MS4-LFM-¼-BRM-DA**	1D
Metal bowl								
Fully automatic	G⅛	**537213**	**MS4-LFM-⅛-AUV-DA**	Q		**537209**	**MS4-LFM-⅛-BUV-DA**	Q
	G¼	**537214**	**MS4-LFM-¼-AUV-DA**	Q		**537210**	**MS4-LFM-¼-BUV-DA**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Fine and Micro Filters MS4-LFM – Metric Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data** ➔

Part No.	Series	Size		Function		Connection size		Filtration grade		Bowl
527697	MS	4		LFM		⅛, ¼, AGA, AGB, AGC		B A		R U
Order example										
527697	**MS**	**4**	**–**	**LFM**	**–**	**AGB**	**–**	**B**	**–**	**R**

Ordering Table

Grid dimension [mm]	40	Conditions	Code	Enter code
M Part No.	**527697**			
Series	Standard		**MS**	MS
Size	4		**4**	4
Function	Fine and micro filter		**-LFM**	-LFM
Connection size	Body thread G⅛		**-⅛**	
	Body thread G¼		**-¼**	
	Port plate G⅛ (dimensions ➔ 254)		**-AGA**	
	Port plate G¼ (dimensions ➔ 254)		**-AGB**	
	Port plate G⅜ (dimensions ➔ 254)		**-AGC**	
Filtration grade	1 µm		**-B**	
	0.01 µm		**-A**	
Bowl	Plastic bowl with plastic bowl guard		**-R**	
↓	Metal bowl		**-U**	

Transfer order code

527697	**MS**	**4**	**–**	**LFM**	**–**		**–**		**–**	

Fine and Micro Filters MS4-LFM – Metric Series

Ordering Data – Configurable Products

FESTO

➔ M Mandatory Data | O Options

	Bowl drain		Filter change sensor		Type of mounting		Reverse flow direction
	M H V		DA		WP WPM WB WBM		Z
–	**M**	–		–	**WP**	–	**Z**

Ordering Table

Grid dimension [mm]		40	Conditions	Code	Enter code
↓ M	Bowl drain	Manual		**-M**	
		Semiautomatic (P1 max. 12 bar)		**-H**	
		Fully automatic (P1 max. 12 bar)	1	**-V**	
O	Filter change sensor	Differential pressure indicator, optical		**-DA**	
	Type of mounting	Mounting bracket (dimensions ➔ 255)	2	**-WP**	
		Mounting bracket (dimensions ➔ 255)	2	**-WPM**	
		Mounting bracket (dimensions ➔ 252)		**-WB**	
		Mounting bracket (dimensions ➔ 252)		**-WBM**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

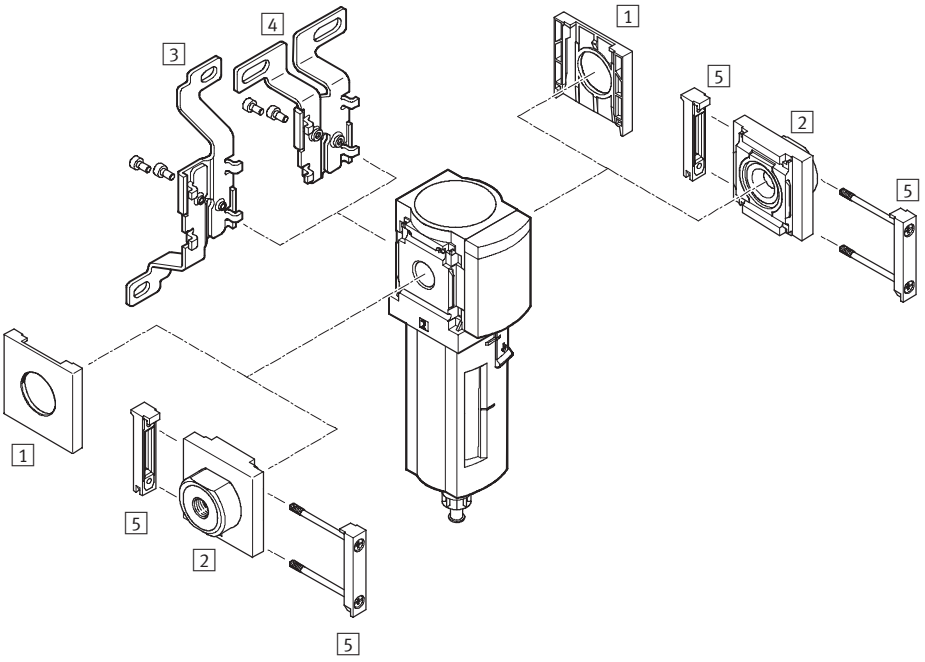
1 **V** Only with bowl U

2 **WP, WPM** Only with port plate AGA, AGB or AGC

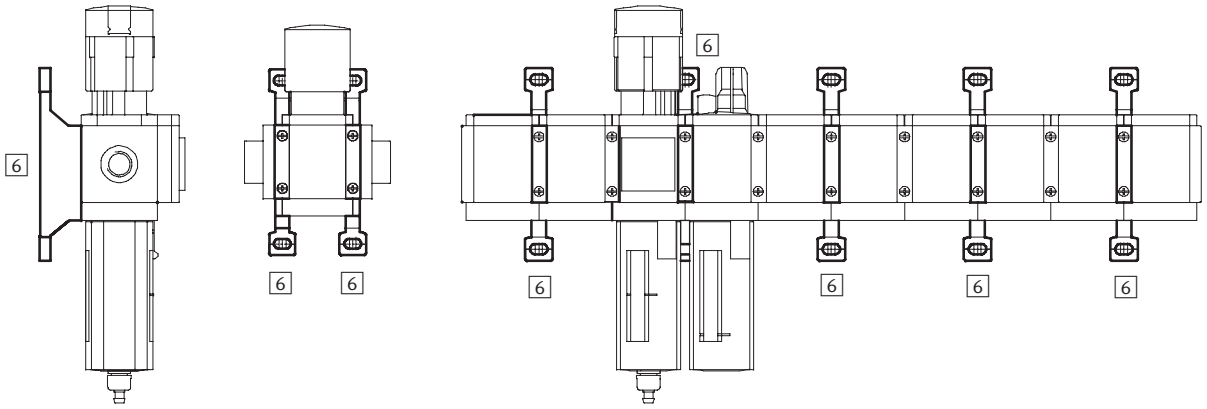
Transfer order code

–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Fine and Micro Filters MS4-LFM – Metric Series

Accessories Overview

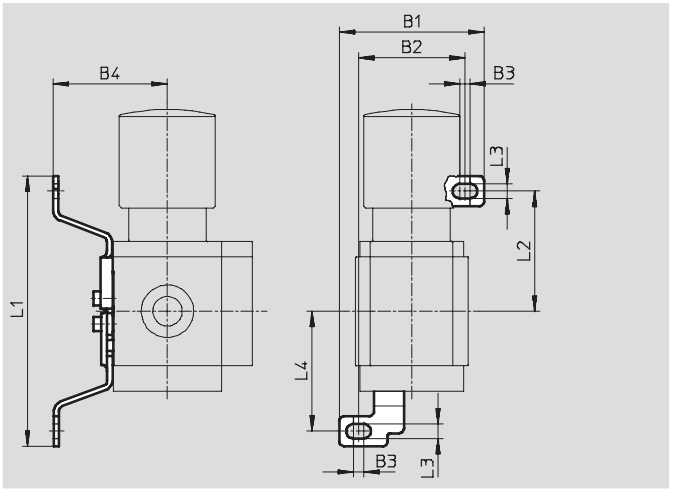
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	253
2	Port plate MS4-AG...	–	■	–	■	254
3	Mounting bracket MS4-WB	■	■	–	–	252
4	Mounting bracket MS4-WBM	■	■	–	–	252
5	Body connector MS4-MV	–	■	■	■	254
6	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	255

3 Mounting bracket MS4-WB

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

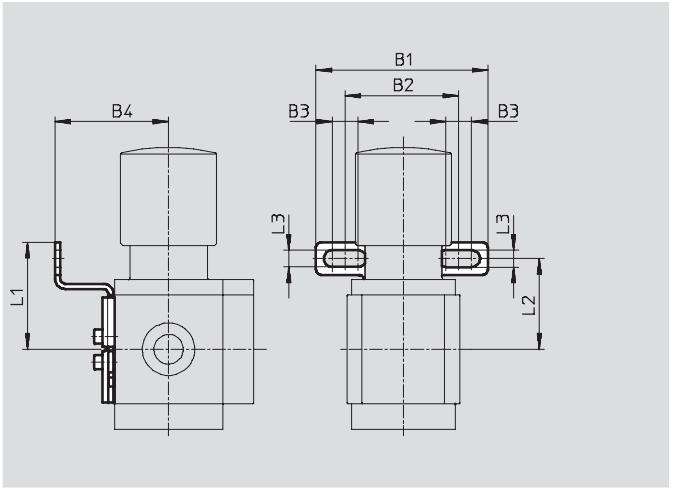
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
56.2	41.2	4	44.2	104.6	46.6	5.6	46.5	46	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

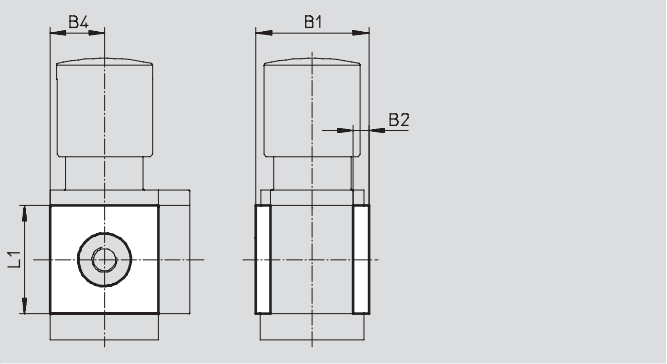
B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
66.5	44	10	44	41.3	35	6.5	48	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

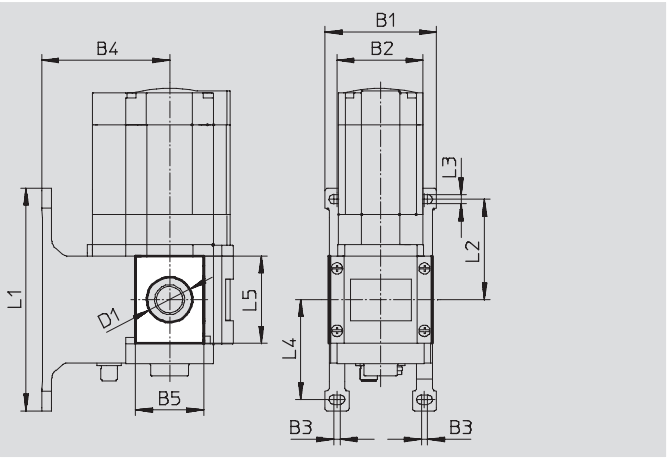
B1	B2	B4	L1	Part No.	Type
43.6	6	21	42	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

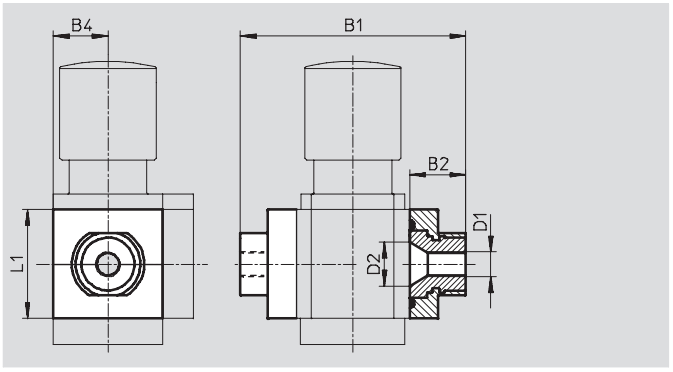
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4-AG...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
83.5	21.5	21	G1⁄8	16.8	42	128	**526068**	**MS4-AGA**
			G1⁄4				**526069**	**MS4-AGB**
			G3⁄8				**526070**	**MS4-AGC**

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

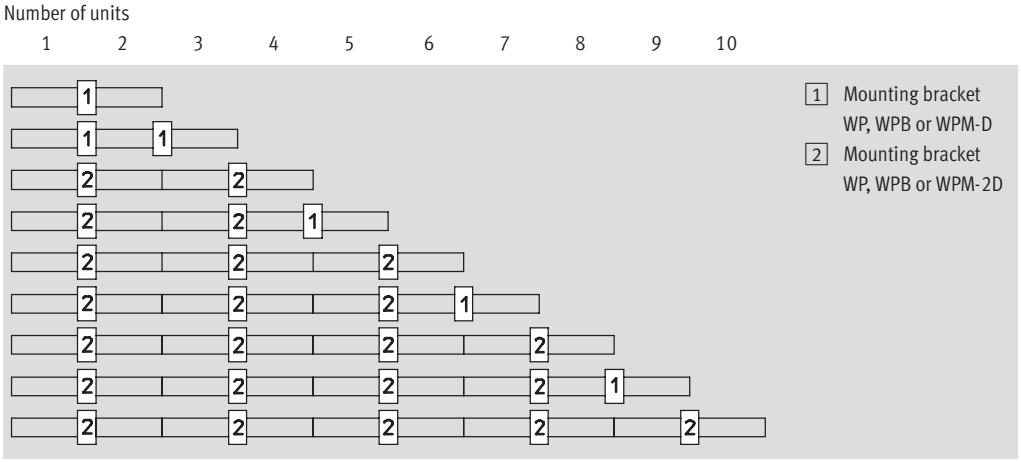
Weight [g]	Part No.	Type
36	**532798**	**MS4-MV**

6 Mounting Bracket MS4-WP...

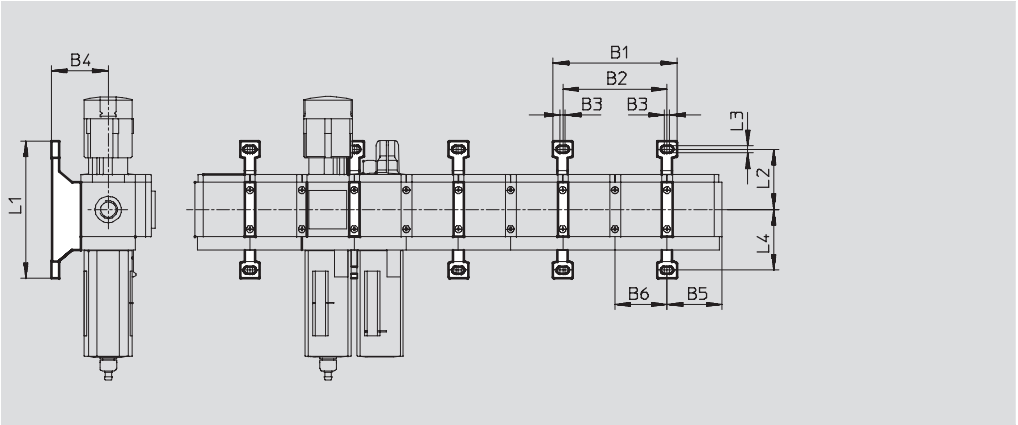
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 40 mm

2 units: 80 mm



Mounting dimensions



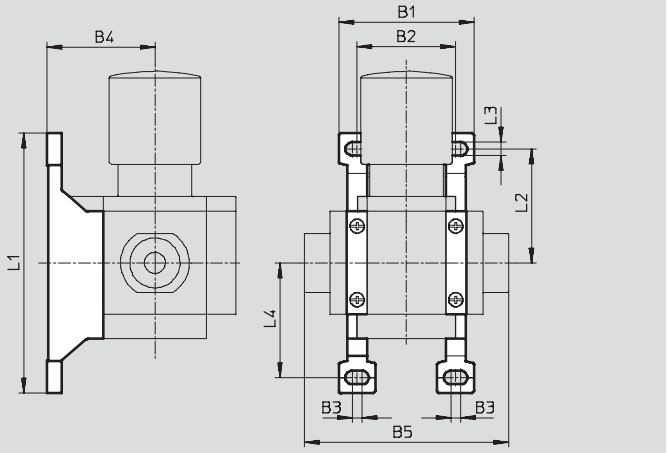
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44			92.8	34.8		40

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

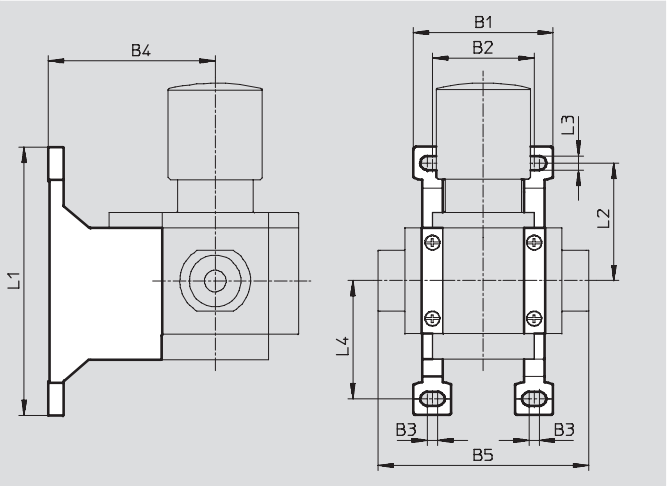
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	44	83.4	106	46.5	5.6	46.7	39	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	55	**526063**	**MS4-WPB**

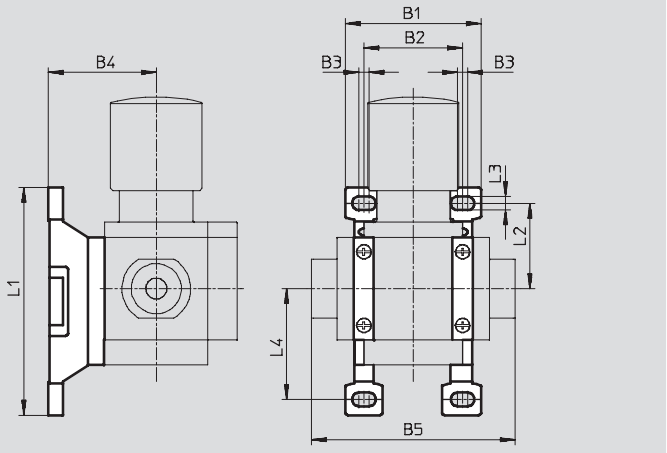
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
55.2	40	4	44	83.4	92.8	34.8	5.6	45.2	40	45	**526060**	**MS4-WPM-D**
95.2	80			123.4					80	55	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Fine and Micro Filters MS4-LFM – Metric Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS4	Flat seal, O-rings, screws	**673641**	**MS4-LFM**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS4	0.01	**162674**	**MS4/D-MINI-LFM-A**
	1	**162677**	**MS4/D-MINI-LFM-B**

- For spare parts go to: www.festo.com/en/spare_parts_service

Fine and Micro Filters MS4N-LFM – Inch Series



Fine and micro filters, with 1 micron or 0.01 micron filtration grades, remove submicronic water or oil droplets and dirt particles for exceptionally clean compressed air.

- Pneumatic connection: 1/8 NPT, 1/4 NPT, 3/8 NPT
- Supply pressure
  – For manual drain: 0 ... 235 psi
  – For semiautomatic drain: 22 ... 176 psi
  – For fully automatic drain: 29 ... 176 psi
- Flow rate: 4.2 ... 6.4 scfm

Product Range Overview

Type	Pneumatic connections		Filtration grade [µm]				Bowl guard		Bowl drain			Contamination control	Reverse flow
	Body thread	Port plate	0.01	1	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Differential pressure indicator	Flow direction from right to left
MS4N		**AG...**	**A**	**B**	**C**	**E**	**R**	**U**	**M**	**H**	**V**	**DA**	**Z**
LFM	1/8 NPT, 1/4 NPT	1/8 NPT, 1/4 NPT, 3/8 NPT	■	■	–	–	■	■	■	■	■	■	■

Features

- High-performance filter for exceptionally clean compressed air
- Air quality to DIN ISO 8573-1
- Available with differential pressure indicator for optical indication of filter contamination
- LFM-A:
  ISO class 1 for particles:
  max. particle density 0.1 mg/m³
  ISO class 2 for oil aerosols:
  max. oil concentration 0.1 mg/m³
  Filter efficiency 99.9999%
- LFM-B:
  ISO class 2 for particles:
  max. particle density 1 mg/m³
  ISO class 3 for oil aerosols:
  max. oil concentration 1 mg/m³
  Filter efficiency 99.99%

Contents

Technical Data → 260
Dimensional Drawings → 264
Ordering Data → 265
Accessories → 268
Replacement Parts → 276

→ www.festo.com/catalog/ms4n-lfm

Fine and Micro Filters MS4N-LFM – Inch Series

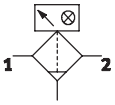
Technical Data

FESTO

ISO Symbol



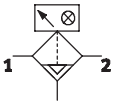
Manual bowl drain
without differential pressure indicator



With differential pressure indicator



Semi or fully automatic bowl drain
without differential pressure indicator



With differential pressure indicator



General Technical Data				
Pneumatic connection 1, 2			⅛ NPT	¼ NPT
Filtration grade		[µm]	0.01 (micro filter LFM-A, air purity class at the output 1.7.2 to DIN ISO 8573-1)	
			1 (fine filter LFM-B, air purity class at the output 2.7.3 to DIN ISO 8573-1)	
Supply pressure	M	[psi]	0 ... 206 (manual drain)	
	H	[psi]	22 ... 17 (semiautomatic drain)	
	V	[psi]	29 ... 176 (fully automatic drain)	

Standard Nominal Flow Rate qnN[1] and Standard Flow Rate qn [scfm]		
Pneumatic connection 1, 2	⅛ NPT	¼ NPT
Micro filter LFM-A		
qnN 1 ⇢ 2	4.2	4.2
qn min	1.9	1.9
qn max	12.7	12.7
Fine filter LFM-B		
qnN 1 ⇢ 2	6.4	6.4
qn min	1.9	1.9
qn max	12.7	12.7

1) Measured at p1 = 88 psi and Δp = 1.0 psi

Fine and Micro Filters MS4N-LFM – Inch Series

Technical Data

Operating and Environmental Conditions				
Bowl drain		Manual M	Semiautomatic H	Fully automatic V
Operating medium micro filter LFM-A		Compressed air, filtered, unlubricated, filtration grade 1 µm		
Operating medium fine filter LFM-B		Compressed air, filtered, unlubricated, filtration grade 5 µm		
Max. condensate volume	[in^3]	1.16 (with plastic bowl guard) 1.53 (with metal bowl)		
Bowl guard		Plastic bowl guard		
		Metal bowl		
Ambient temperature	[°F]	14 ... 140	41 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	0.38
With metal bowl	0.70

- Wearing parts kits ➔ 276
- Filter cartridges ➔ 276
- For spare parts go to: www.festo.com/en/spare_parts_service

Fine and Micro Filters MS4N-LFM – Inch Series

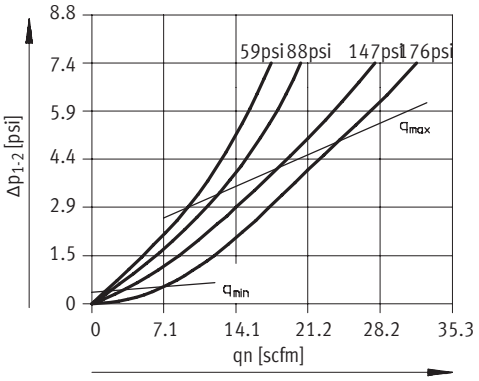
Technical Data

FESTO

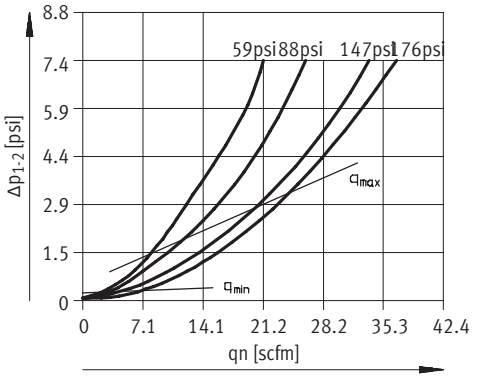
Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

MS4N-LFM-⅛ and MS4N-LFM-¼

Filtration grade 0.01 µm

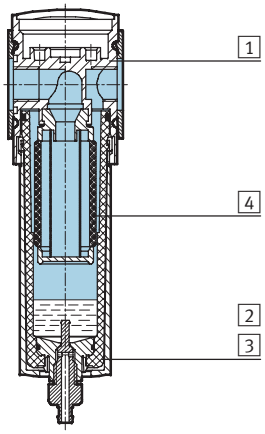


Filtration grade 1 µm



Materials

Sectional view



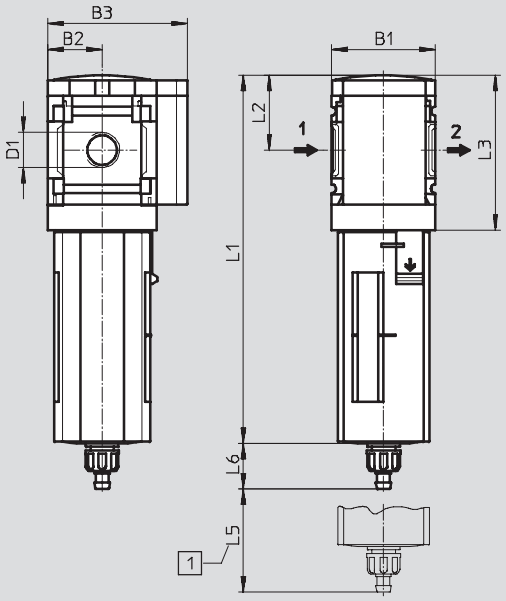
Fine and micro filter		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filters	Borosilicate fiber
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Fine and Micro Filters MS4N-LFM – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



1 Installation dimensions

➔ Flow direction

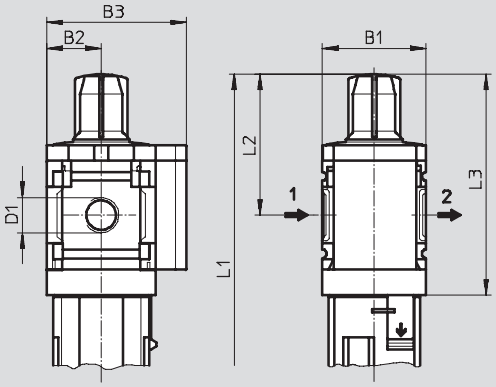
Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS4N-LFM-⅛	1.57	0.83	2.13	⅛ NPT	5.59	6.30	1.14	2.36	0.98	0.70	0.70
MS4N-LFM-¼				¼ NPT							

1) Dimensions are in inches, unless otherwise noted.

Fine and Micro Filters MS4N-LFM – Inch Series

Dimensional Drawings

Dimensions[1] – Differential Pressure Indicator Download CAD Data ➔ **www.festo.com/us/cad**



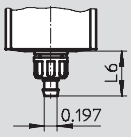
➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3
					Plastic	Metal		
MS4N-LFM-⅛-...-DA	1.57	0.83	2.13	⅛ NPT	6.61	7.32	2.17	3.39
MS4N-LFM-¼-...-DA				¼ NPT				

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

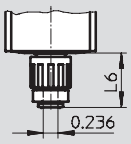
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4N-LFM-...-M	0.70
Metal bowl	
MS4N-LFM-...-M	0.70

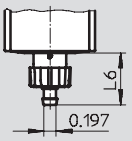
Semiautomatic H



QS fitting for plastic tubing
PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS4N-LFM-...-H	0.87
Metal bowl	
MS4N-LFM-...-H	0.87

Fully automatic V



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS4N-LFM-...-V	0.80
Metal bowl	
MS4N-LFM-...-V	0.80

1) Dimensions are in inches, unless otherwise noted.

Fine and Micro Filters MS4N-LFM – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Without differential pressure indicator								
Bowl drain	Connection	Micro filter Filtration grade 0.01 µm				Fine filter Filtration grade 1 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	1/8 NPT	**536701**	**MS4N-LFM-1/8-ARM**	1D		**536699**	**MS4N-LFM-1/8-BRM**	1D
	1/4 NPT	**531812**	**MS4N-LFM-1/4-ARM**	1D		**531810**	**MS4N-LFM-1/4-BRM**	1D
Metal bowl								
Fully automatic	1/8 NPT	**539210**	**MS4N-LFM-1/8-AUV**	Q		**539206**	**MS4N-LFM-1/8-BUV**	Q
	1/4 NPT	**535776**	**MS4N-LFM-1/4-AUV**	Q		**535774**	**MS4N-LFM-1/4-BUV**	Q

Ordering Data								
With differential pressure indicator								
Bowl drain	Connection	Micro filter Filtration grade 0.01 µm				Fine filter Filtration grade 1 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	1/8 NPT	**536829**	**MS4N-LFM-1/8-ARM-DA**	1D		**536825**	**MS4N-LFM-1/8-BRM-DA**	1D
	1/4 NPT	**536830**	**MS4N-LFM-1/4-ARM-DA**	1D		**536826**	**MS4N-LFM-1/4-BRM-DA**	1D
Metal bowl								
Fully automatic	1/8 NPT	**537221**	**MS4N-LFM-1/8-AUV-DA**	Q		**537217**	**MS4N-LFM-1/8-BUV-DA**	Q
	1/4 NPT	**537222**	**MS4N-LFM-1/4-AUV-DA**	Q		**537218**	**MS4N-LFM-1/4-BUV-DA**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Fine and Micro Filters MS4N-LFM – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data →

Part No.	Series	Size	Thread		Function		Connection size		Filtration grade		Bowl
527698	MS	4	N		LFM		⅛, ¼, AQK, AQN, AQP		B, A		R, U
Order example											
527698	**MS**	**4**	**N**	**–**	**LFM**	**–**	**AQK**	**–**	**B**	**–**	**U**

Ordering Table

Grid dimension [mm]		40	Conditions	Code		Enter code
M	Part No.	**527698**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Thread	NPT thread		**N**		N
	Function	Fine and micro filter		**-LFM**		-LFM
	Connection size	Body thread ⅛ NPT		**-⅛**		
		Body thread ¼ NPT		**-¼**		
		Port plate ⅛ NPT (dimensions → 272)		**-AQK**		
		Port plate ¼ NPT (dimensions → 272)		**-AQN**		
		Port plate ⅜ NPT (dimensions → 272)		**-AQP**		
	Filtration grade	1 µm		**-B**		
		0.01 µm		**-A**		
	Bowl	Plastic bowl with plastic bowl guard		**-R**		
↓		Metal bowl		**-U**		

Transfer order code

527698	**MS**	**4**	**N**	**–**	**LFM**	**–**		**–**		**–**	

Fine and Micro Filters MS4N-LFM – Inch Series

Ordering Data – Configurable Products

FESTO

➔ M Mandatory Data | O Options

	Bowl drain		Filter change sensor		Type of mounting		Reverse flow direction
	M H V		DA		WP WPM WB WBM		Z
–	V	–		–	WP	–	Z

Ordering Table

Grid dimension [mm]		40	Conditions	Code	Enter code
↓ M	Bowl drain	Manual		-M	
		Semiautomatic (P1 max. 176 psi)		-H	
		Fully automatic (P1 max. 176 psi)	1	-V	
O	Filter change sensor	Differential pressure indicator, optical		-DA	
	Type of mounting	Mounting bracket (dimensions ➔ 273)	2	-WP	
		Mounting bracket (dimensions ➔ 273)	2	-WPM	
		Mounting bracket (dimensions ➔ 270)		-WB	
		Mounting bracket (dimensions ➔ 270)		-WBM	
	Reverse flow direction	Flow direction from right to left		-Z	

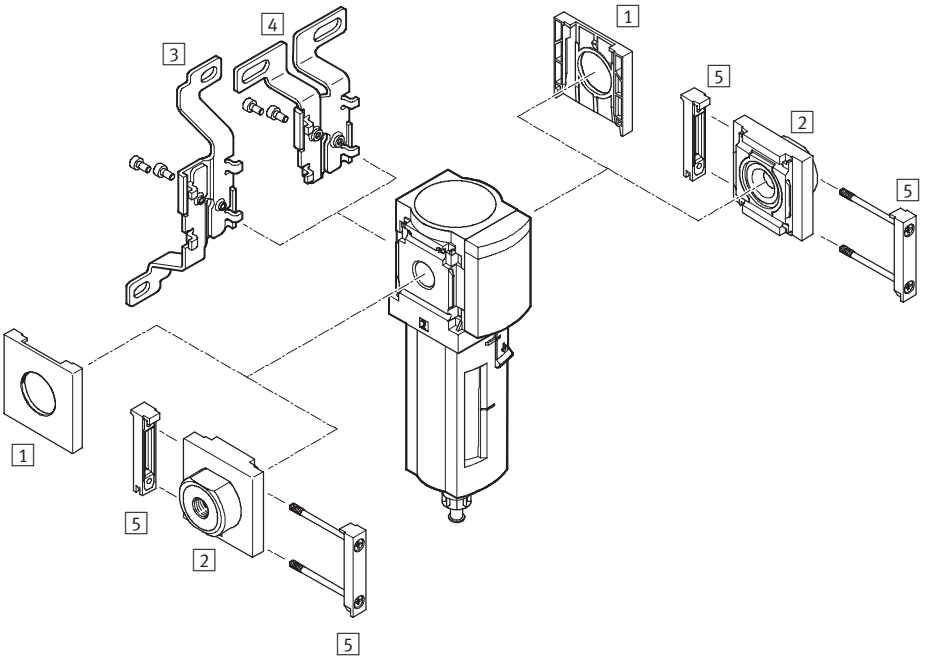
1 **V** Only with bowl U

2 **WP, WPM** Only with port plate AQK, AQN or AQP

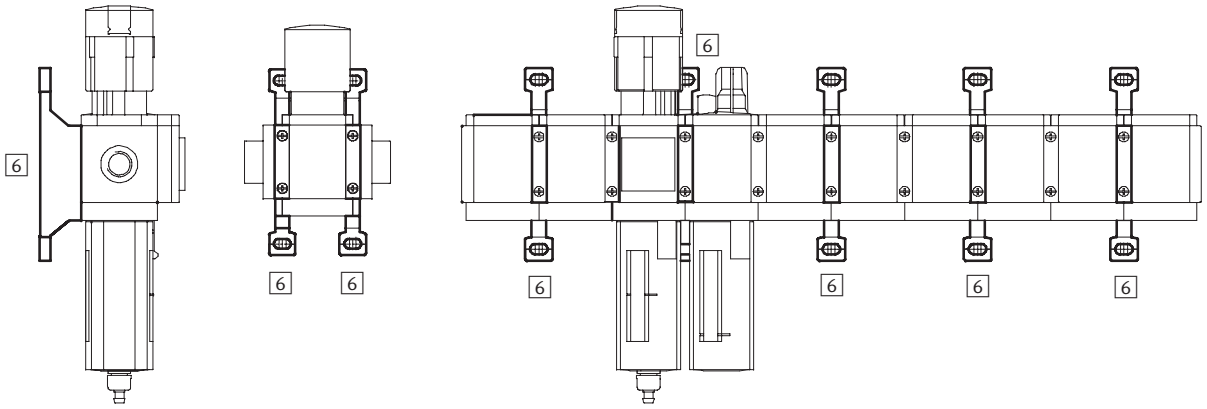
Transfer order code

–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Fine and Micro Filters MS4N-LFM – Inch Series

Accessories Overview

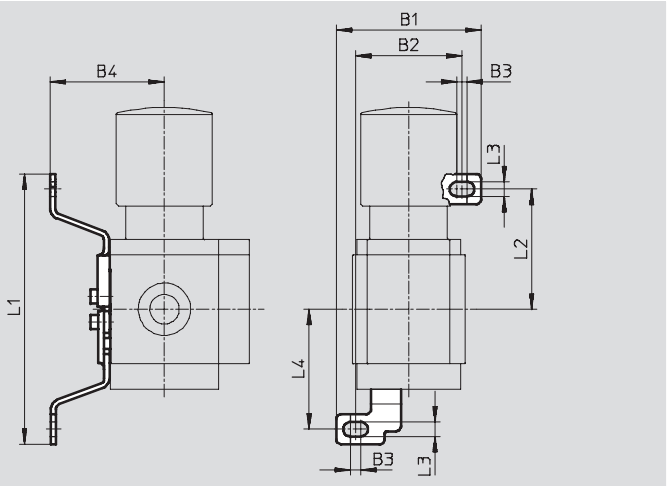
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	271
2	Port plate MS4N-AQ...	–	■	–	■	272
3	Mounting bracket MS4-WB	■	■	–	–	270
4	Mounting bracket MS4-WBM	■	■	–	–	270
5	Body connector MS4-MV	–	■	■	■	272
6	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	273

3 Mounting bracket MS4-WB

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

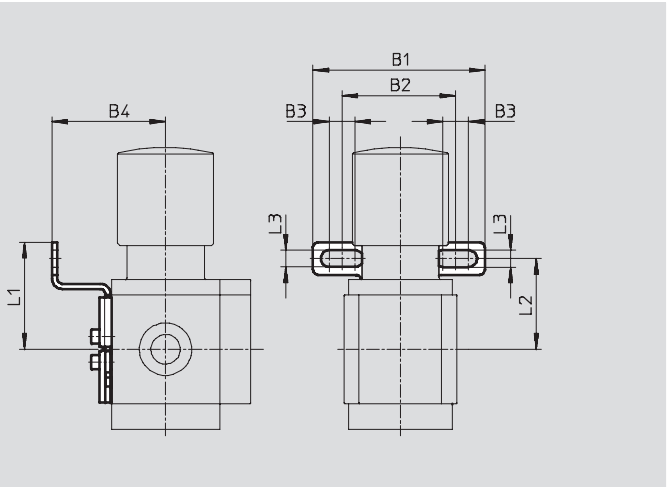
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.21	1.62	0.16	1.74	4.12	1.83	0.22	1.79	0.09	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

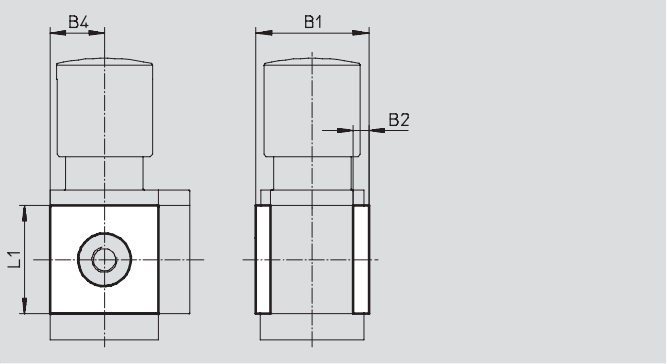
B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.62	1.73	0.39	1.73	1.63	1.38	0.26	0.10	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

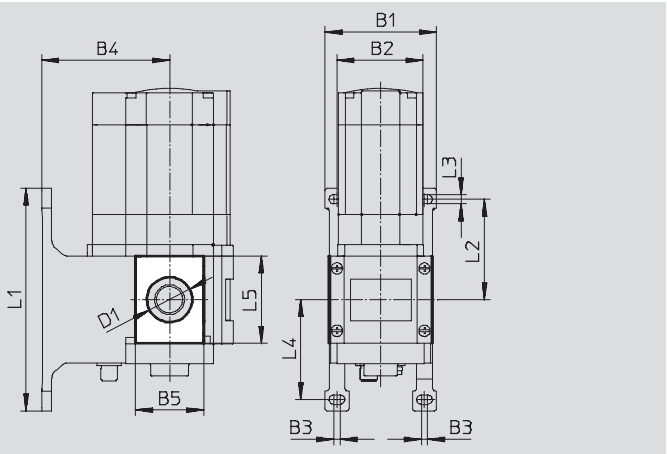
B1	B2	B4	L1	Part No.	Type
1.72	0.24	0.83	1.65	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

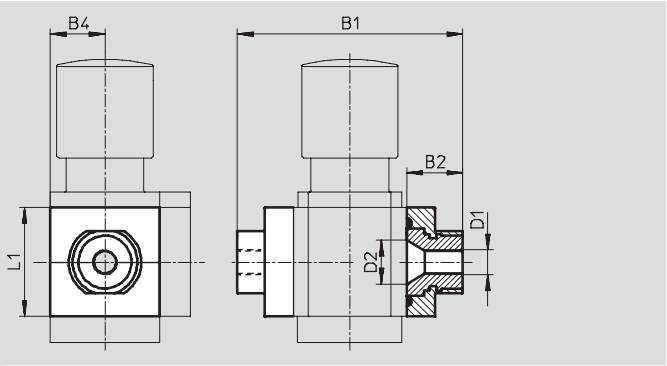
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
2.17	1.58	0.16	1.73	2.60	1.20	0.80	4.17	1.83	0.22	1.84	1.65	2	0.01	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4N-AQ...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
3.29	0.85	0.83	1/8 NPT	0.66	1.65	0.26	**526065**	**MS4N-AQK**
			1/4 NPT				**526066**	**MS4N-AQN**
			3/8 NPT				**526067**	**MS4N-AQP**

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

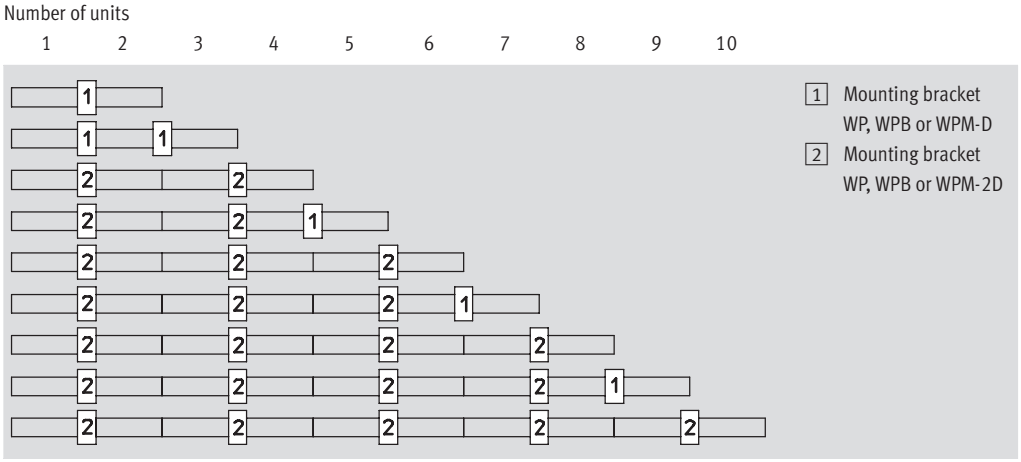
Weight [lb]	Part No.	Type
0.07	**532798**	**MS4-MV**

6 Mounting Bracket MS4-WP...

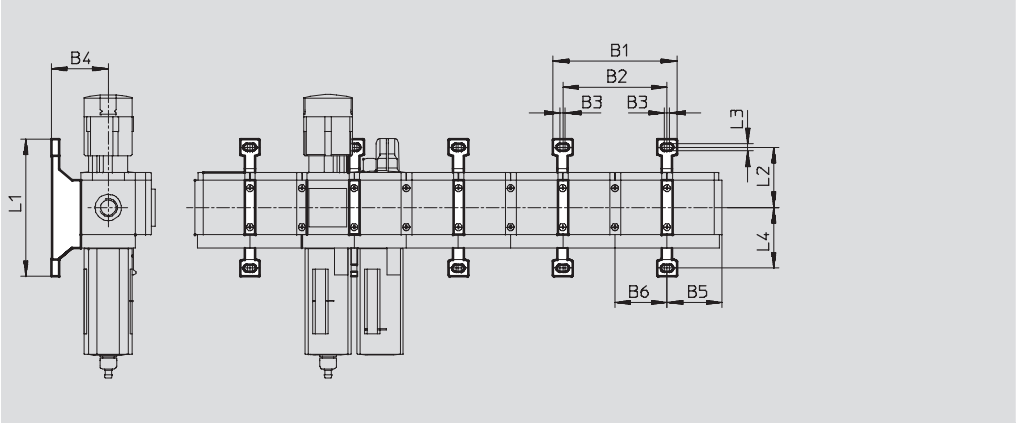
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 1.575 in

2 units: 3.15 in



Mounting dimensions



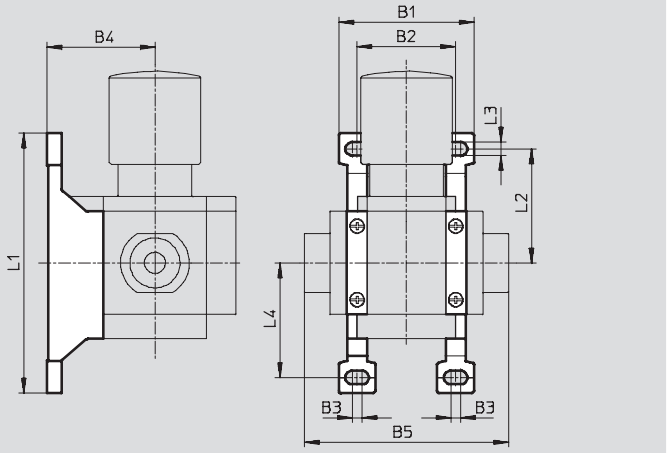
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	3.75	3.15	0.16	1.73	1.65	1.57	4.17	1.83	0.22	1.84
MS4-WPB				2.60						
MS4-WPM-...D				1.73			3.65	1.37		1.57

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

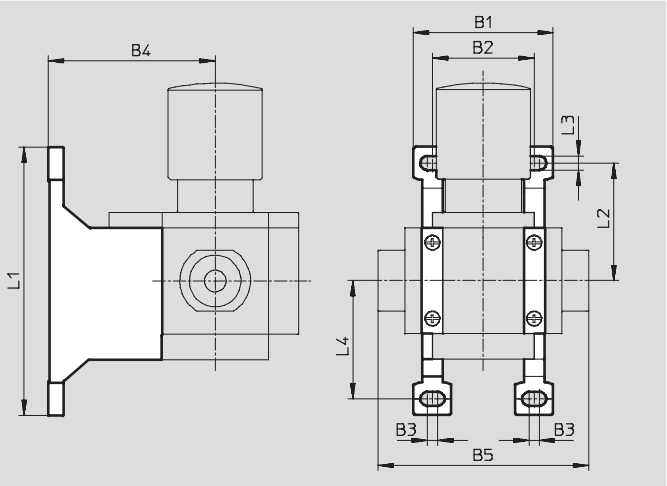
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	1.73	3.28	4.17	1.83	0.22	1.84	0.08	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	2.60	3.28	4.17	1.83	0.22	1.84	0.11	**526063**	**MS4-WPB**

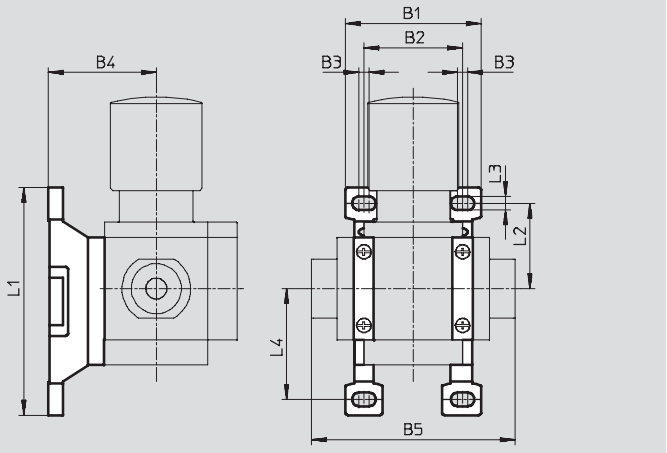
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
2.17	1.57	0.16	1.73	3.28	3.65	1.37	0.22	1.78	1.57	0.09	**526060**	**MS4-WPM-D**
3.75	3.15			4.86					3.15	0.11	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Fine and Micro Filters MS4N-LFM – Inch Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS4	Flat seal, O-rings, screws	**673641**	**MS4-LFM**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS4	0.01	**162674**	**MS4/D-MINI-LFM-A**
	1	**162677**	**MS4/D-MINI-LFM-B**

- For spare parts go to: www.festo.com/en/spare_parts_service

Active Carbon Filters MS4-LFX – Metric Series



Active carbon filters remove liquid and gaseous oil particles as well as odor and taste from compressed air. Pre-filtration with a grade of 0.01 micron is required.

- Pneumatic connection: G1⁄8, G1⁄4, G3⁄8
- Supply pressure 0 ... 14 bar
- Flow rate: 250 l/min

Product Range Overview

Type	Pneumatic connections		Filtration grade [µm]				Bowl guard		Bowl drain	Contamination control	Reverse flow
	Body thread	Port plate	0.01	1	5	40	Plastic bowl guard	Metal bowl	Manual	Differential pressure indicator	Flow direction from right to left
MS4		AG...	A	B	C	E	R	U	M	DA	Z
LFX	G1⁄8, G1⁄4	G1⁄8, G1⁄4, G3⁄8	–	–	–	–	■	■	■	–	■

Features

- Removal of liquid and gaseous oil particles from compressed air using active carbon
- Eliminates odors and vapors
- Prefiltration with micro filter MS4-LFM-A, filtration grade 0.01 µm, is required.

Contents

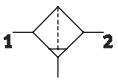
Technical Data	➔ 278
Dimensional Drawings	➔ 280
Ordering Data	➔ 280
Accessories	➔ 282
Replacement Parts	➔ 290

➔ www.festo.com/catalog/ms4-lfx

Active Carbon Filters MS4-LFX – Metric Series

Technical Data

ISO Symbol



Manual bowl drain



General Technical Data			
Pneumatic connection 1, 2		G1/8	G1/4
Air purity class at the output[1]		1.7.1 to DIN ISO 8573-1	
Supply pressure	[bar]	0 ... 14	

1) It is recommended to replace filter cartridges after 1,000 operating hours.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] and Standard Flow Rate qn [l/min]		
Pneumatic connection 1, 2	G1/8	G1/4
qnN 1 ⇢ 2	250	250
qn max	360	360

2) Measured at p1 = 6 bar and Δp = 70 mbar

Operating and Environmental Conditions		
Operating medium		Compressed air, filtered, unlubricated, filtration grade 0.01 µm
Bowl guard		Plastic bowl guard
		Metal bowl
Ambient temperature	[°C]	–10 ... +60
Temperature of medium	[°C]	+5 ... +30
Storage temperature	[°C]	–10 ... +60
Assembly position		Vertical ±5°
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With plastic bowl guard	190
With metal bowl	350

- Filter cartridges ➔ 290
- For spare parts go to: www.festo.com/en/spare_parts_service

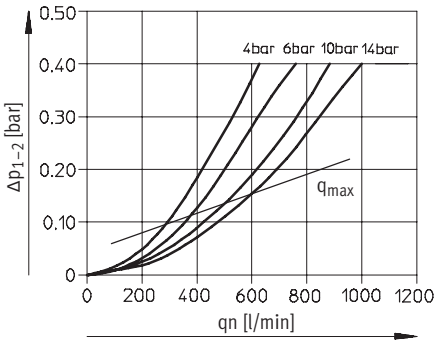
Active Carbon Filters MS4-LFX – Metric Series

Technical Data

FESTO

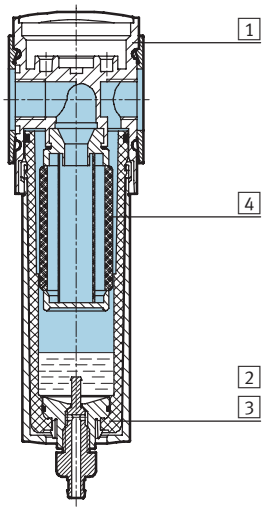
Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

MS4-LFX-⅛ and MS4-LFX-¼



Materials

Sectional view



Active carbon filter		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filters	Active carbon
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

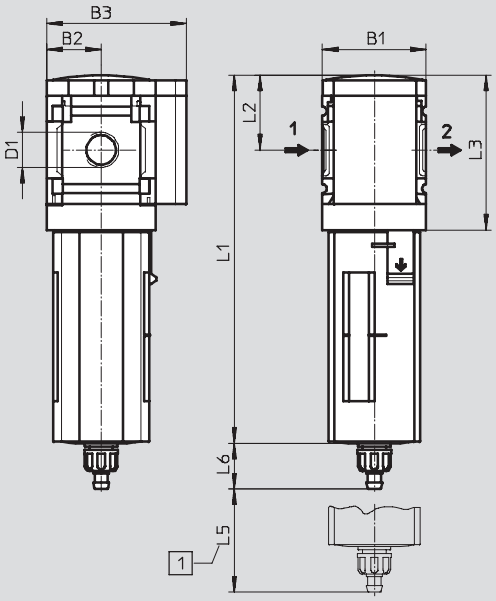
Active Carbon Filters MS4-LFX – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



[1] Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS4-LFX-⅛	40.2	21	54	G⅛	142.8	160.4	29	60	75	17.7	18
MS4-LFX-¼				G¼							

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Bowl drain	Connection	Plastic bowl guard				Metal bowl		
		Part No.	Type	LT		Part No.	Type	LT
Manual	G⅛	**536707**	**MS4-LFX-⅛-R**	1D		**536709**	**MS4-LFX-⅛-U**	Q
	G¼	**529467**	**MS4-LFX-¼-R**	1D		**535782**	**MS4-LFX-¼-U**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Active Carbon Filters MS4-LFX – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data												O Options		
Part No.	Series	Size		Function		Connection size		Bowl				Type of mounting		Reverse flow direction
527699	MS	4		LFX		⅛, ¼, AGA, AGB, AGC		R U				WP WPM WB WBM		Z
Order example														
527699	MS	4	–	LFX	–	AGB	–	R	–			WP	–	Z

Ordering Table

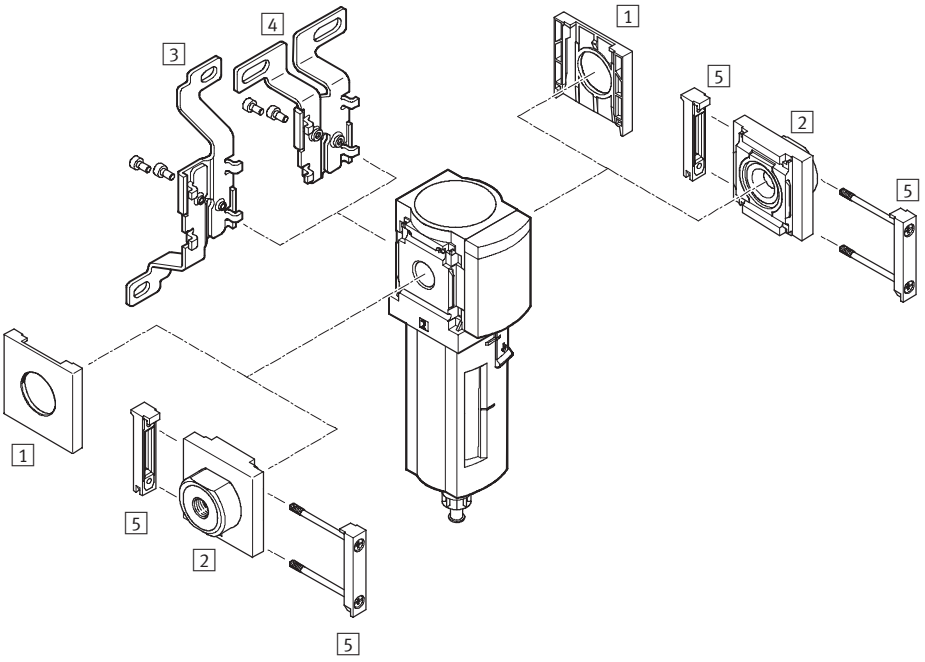
	Grid dimension [mm]	40	Conditions	Code		Enter code
M	Part No.	**527699**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Function	Activated carbon filter		**-LFX**		-LFX
	Connection size	Body thread G⅛		**-⅛**		
		Body thread G¼		**-¼**		
		Port plate G⅛ (dimensions ➔ 286)		**-AGA**		
		Port plate G¼ (dimensions ➔ 286)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 286)		**-AGC**		
	Bowl	Plastic bowl with plastic bowl guard		**-R**		
		Metal bowl		**-U**		
O	Type of mounting	Mounting bracket (dimensions ➔ 287)	1	**-WP**		
		Mounting bracket (dimensions ➔ 287)	1	**-WPM**		
		Mounting bracket (dimensions ➔ 284)		**-WB**		
		Mounting bracket (dimensions ➔ 284)		**-WBM**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP, WPM** Only with port plate AGA, AGB or AGC

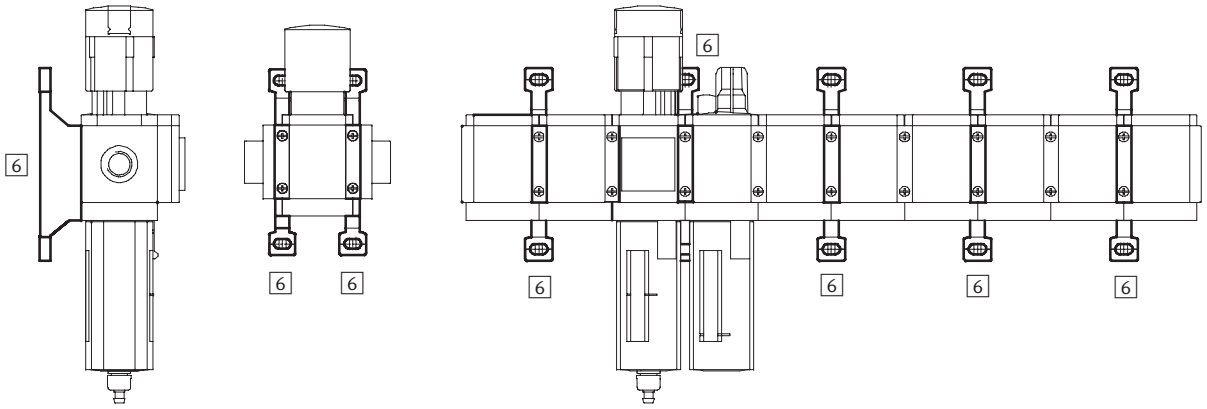
Transfer order code

527699	MS	4	–	LFX	–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Active Carbon Filters MS4-LFX – Metric Series

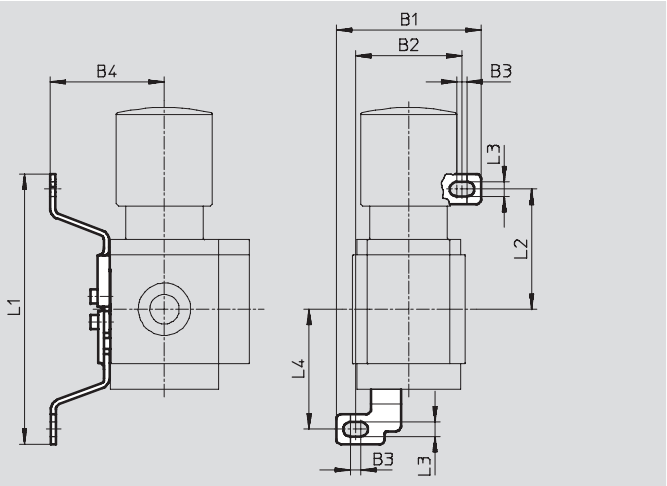
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	285
2	Port plate MS4-AG...	–	■	–	■	286
3	Mounting bracket MS4-WB	■	■	–	–	284
4	Mounting bracket MS4-WBM	■	■	–	–	284
5	Body connector MS4-MV	–	■	■	■	286
6	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	287

3 **Mounting bracket MS4-WB**
- For wall mounting

Material:
Steel





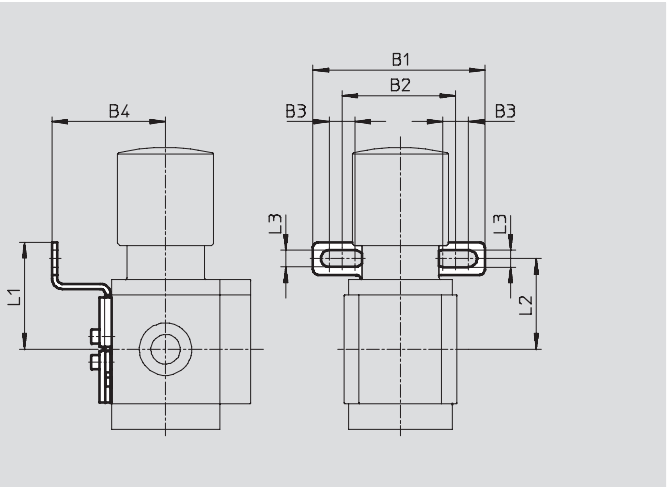
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
56.2	41.2	4	44.2	104.6	46.6	5.6	46.5	46	**532185**	**MS4-WB**

4 **Mounting bracket MS4-WBM**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

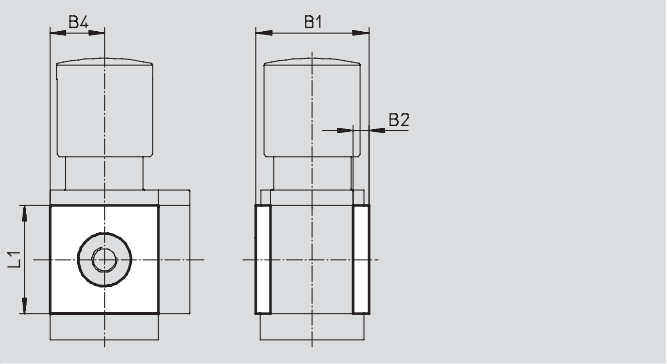
B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
66.5	44	10	44	41.3	35	6.5	48	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

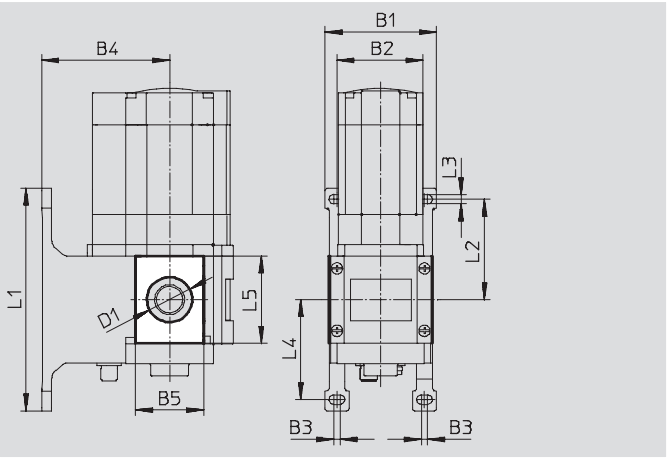
B1	B2	B4	L1	Part No.	Type
43.6	6	21	42	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

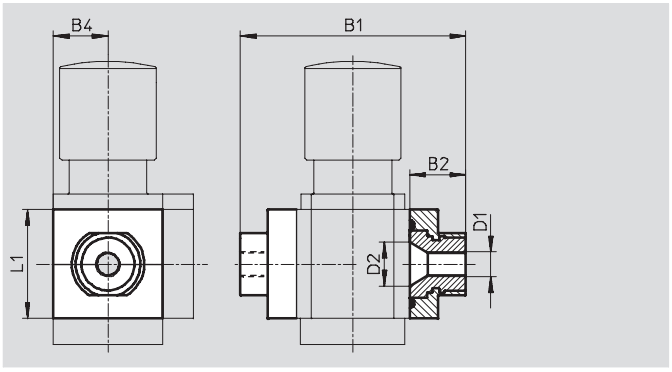
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4-AG...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
83.5	21.5	21	G1⁄8	16.8	42	128	**526068**	**MS4-AGA**
			G1⁄4				**526069**	**MS4-AGB**
			G3⁄8				**526070**	**MS4-AGC**

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

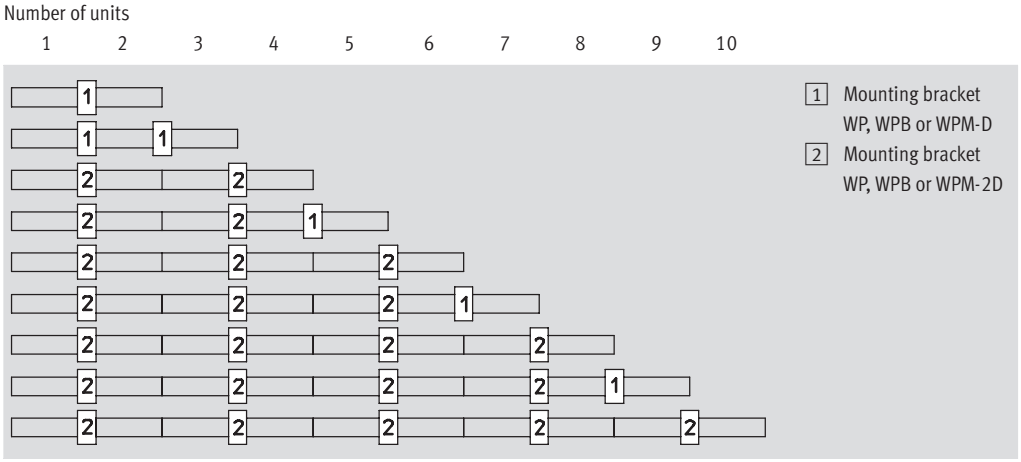
Weight [g]	Part No.	Type
36	**532798**	**MS4-MV**

6 Mounting Bracket MS4-WP...

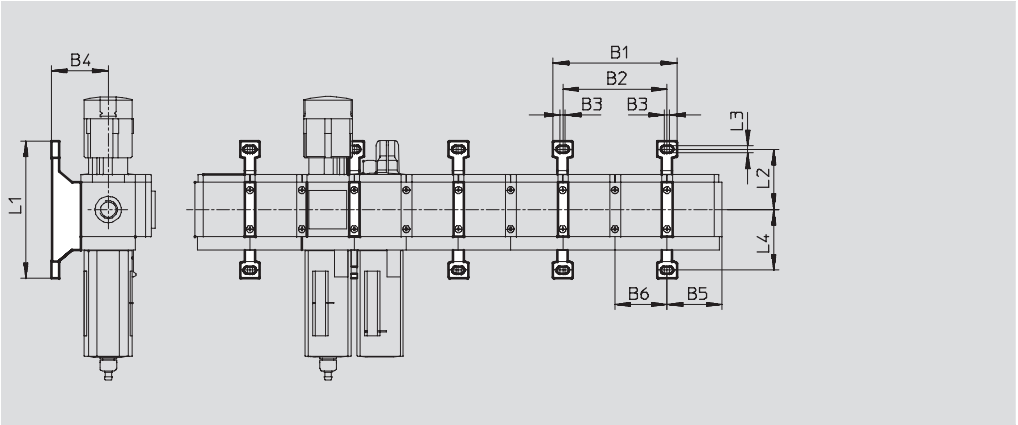
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 40 mm

2 units: 80 mm



Mounting dimensions



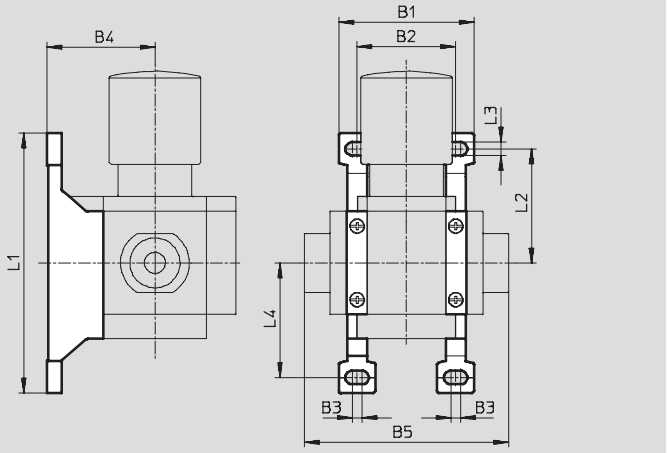
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44			92.8	34.8		40

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

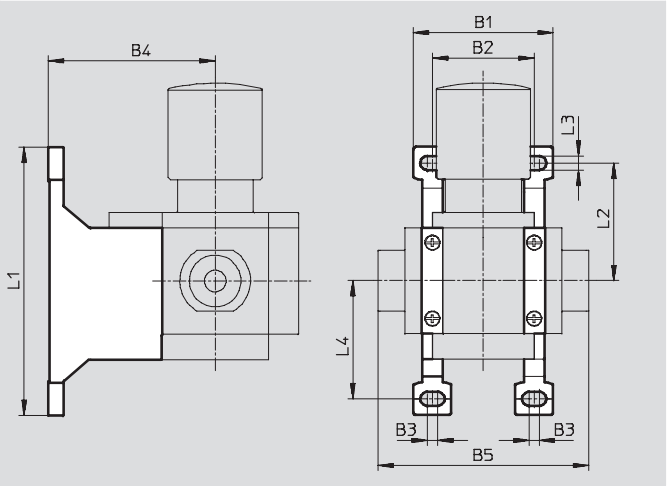
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	44	83.4	106	46.5	5.6	46.7	39	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	55	**526063**	**MS4-WPB**

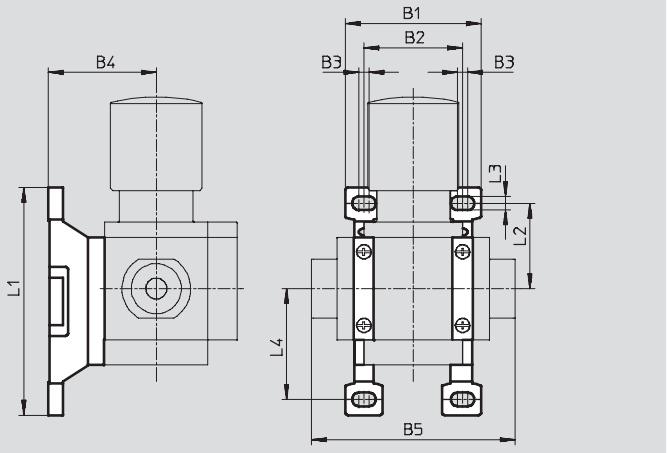
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
55.2	40	4	44	83.4	92.8	34.8	5.6	45.2	40	45	**526060**	**MS4-WPM-D**
95.2	80			123.4					80	55	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Active Carbon Filters MS4-LFX – Metric Series

Replacement Parts



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS4	Residual oil content ≤ 0.003 mg/m^3	**532912**	**MS4/D-MINI-LFX**

- For spare parts go to: www.festo.com/en/spare_parts_service

Active Carbon Filters MS4N-LFX – Inch Series



Active carbon filters remove liquid and gaseous oil particles as well as odor and taste from compressed air. Pre-filtration with a grade of 0.01 micron is required.

- Pneumatic connection: 1/8 NPT, 1/4 NPT, 3/8 NPT
- Supply pressure 0 ... 235 psi
- Flow rate: 8.8 scfm

Product Range Overview

Type	Pneumatic connections		Filtration grade [µm]				Bowl guard		Bowl drain	Contamination control	Reverse flow
	Body thread	Port plate	0.01	1	5	40	Plastic bowl guard	Metal bowl	Manual	Differential pressure indicator	Flow direction from right to left
MS4N		**AG...**	**A**	**B**	**C**	**E**	**R**	**U**	**M**	**DA**	**Z**
LFX	1/8 NPT, 1/4 NPT	1/8 NPT, 1/4 NPT, 3/8 NPT	–	–	–	–	■	■	■	–	■

Features

- Removal of liquid and gaseous oil particles from compressed air using active carbon
- Eliminates odors and vapors
- Prefiltration with micro filter MS4-LFM-A, filtration grade 0.01 µm, is required.

Contents

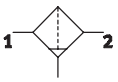
Technical Data → 292
Dimensional Drawings → 294
Ordering Data → 294
Accessories → 296
Replacement Parts → 304

→ www.festo.com/catalog/ms4n-lfx

Active Carbon Filters MS4N-LFX – Inch Series

Technical Data

ISO Symbol



Manual bowl drain



General Technical Data			
Pneumatic connection 1, 2		⅛ NPT	¼ NPT
Air purity class at the output[1]		1.7.1 to DIN ISO 8573-1	
Supply pressure	[psi]	0 ... 206	

1) It is recommended to replace filter cartridges after 1,000 operating hours.

Standard Nominal Flow Rate qnN[2] and Standard Flow Rate qn [scfm]		
Pneumatic connection 1, 2	⅛ NPT	¼ NPT
qnN 1 ⇢ 2	8.8	8.8
qn max	12.7	12.7

2) Measured at p1 = 88 psi and Δp = 1.0 psi

Operating and Environmental Conditions		
Operating medium		Compressed air, filtered, unlubricated, filtration grade 0.01 µm
Bowl guard		Plastic bowl guard
		Metal bowl
Ambient temperature	[°F]	14 ... 140
Temperature of medium	[°F]	41 ... 86
Storage temperature	[°F]	14 ... 140
Assembly position		Vertical ±5°
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	0.38
With metal bowl	0.70

- Filter cartridges ➔ 304
- For spare parts go to: www.festo.com/en/spare_parts_service

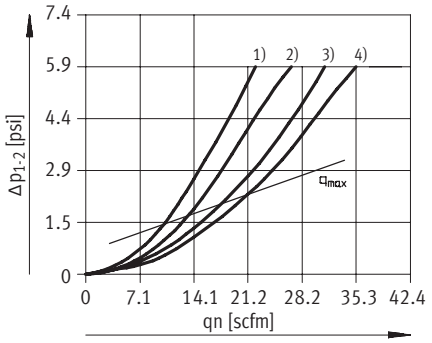
Active Carbon Filters MS4N-LFX – Inch Series

Technical Data

FESTO

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

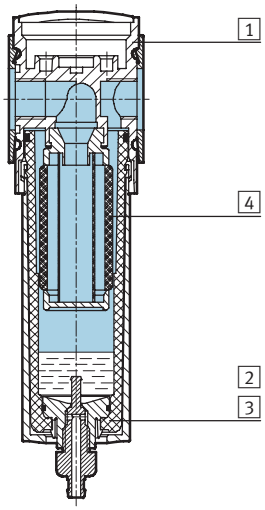
MS4N-LFX-⅛ and MS4N-LFX-¼



1) 59 psi
2) 88 psi
3) 147 psi
4) 206 psi

Materials

Sectional view



Active carbon filter		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filters	Active carbon
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

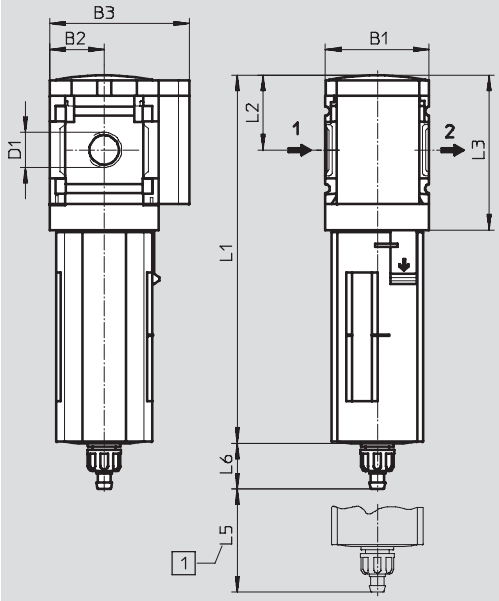
Active Carbon Filters MS4N-LFX – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS4N-LFX-⅛	1.58	0.83	2.13	⅛ NPT	5.62	6.31	1.14	2.36	2.95	0.70	0.71
MS4N-LFX-¼				¼ NPT							

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Bowl drain	Connection	Plastic bowl guard				Metal bowl			
		Part No.	Type	LT		Part No.	Type	LT	
Manual	⅛ NPT	**536715**	**MS4N-LFX-⅛-R**	1D		**536717**	**MS4N-LFX-⅛-U**	Q	
	¼ NPT	**531764**	**MS4N-LFX-¼-R**	1D		**535786**	**MS4N-LFX-¼-U**	Q	

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Active Carbon Filters MS4N-LFX – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options	
Part No.	Series	Size	Thread	Function	Connection size	Bowl	Type of mounting	Reverse flow direction
527700	MS	4	N	LFX	1/8, 1/4, AQK, AQN, AQP	R U	WP WPM WB WBM	Z
Order example								
527700	**MS**	**4**	**N** –	**LFX** –	**AQK** –	**R** –	**WP** –	**Z**

Ordering Table

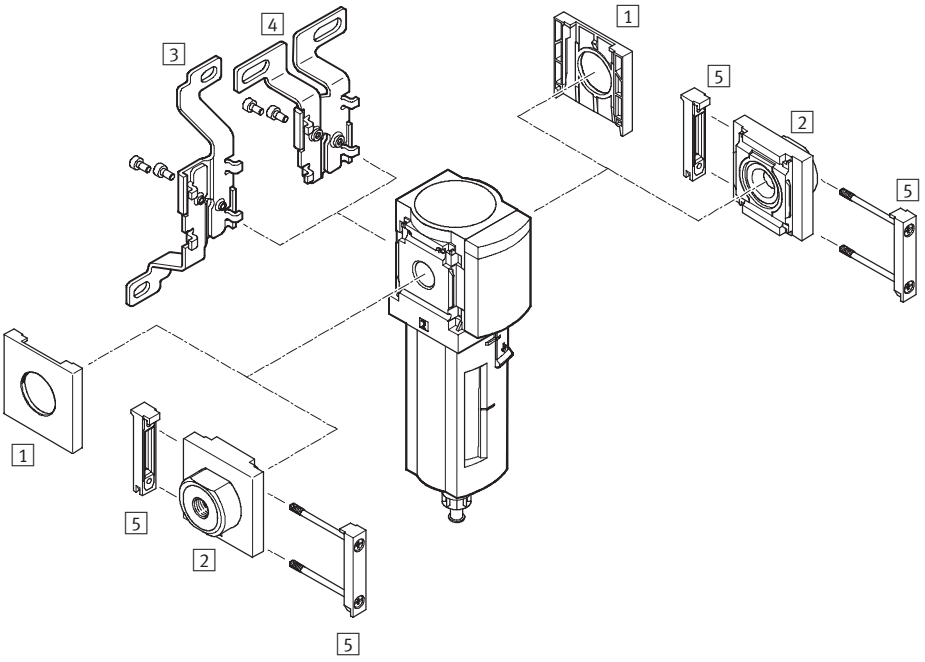
Grid dimension [mm]		40	Conditions	Code	Enter code
M	Part No.	**527700**			
	Series	Standard		**MS**	MS
	Size	4		**4**	4
	Thread	NPT thread		**N**	N
	Function	Activated carbon filter		**-LFX**	-LFX
	Connection size	Body thread 1/8 NPT		**-1/8**	
		Body thread 1/4 NPT		**-1/4**	
		Port plate 1/8 NPT (dimensions → 300)		**-AQK**	
		Port plate 1/4 NPT (dimensions → 300)		**-AQN**	
		Port plate 3/8 NPT (dimensions → 300)		**-AQP**	
	Bowl	Plastic bowl with plastic bowl guard		**-R**	
		Metal bowl		**-U**	
O	Type of mounting	Mounting bracket (dimensions → 301)	1	**-WP**	
		Mounting bracket (dimensions → 301)	1	**-WPM**	
		Mounting bracket (dimensions → 298)		**-WB**	
		Mounting bracket (dimensions → 298)		**-WBM**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **WP, WPM** Only with port plate AQK, AQN or AQP

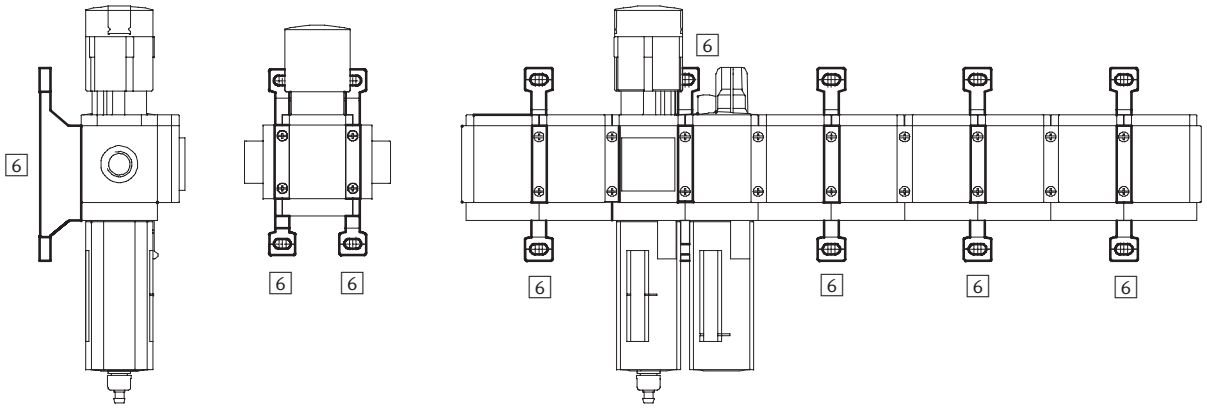
Transfer order code

527700	**MS**	**4**	**N** –	**LFX** –		–		–		–

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Active Carbon Filters MS4N-LFX – Inch Series

Accessories Overview

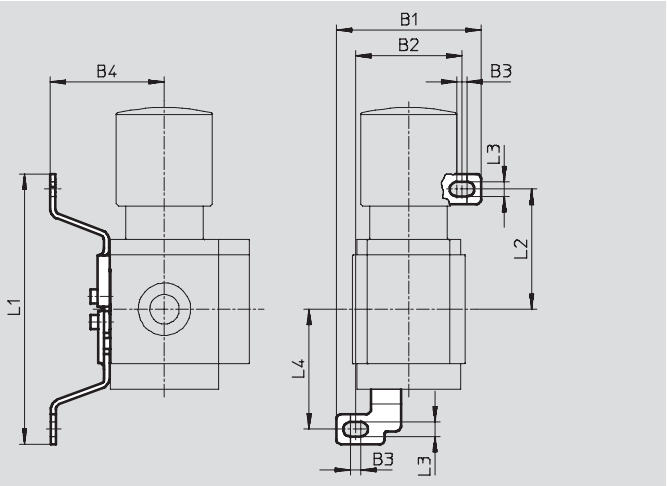
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	299
2	Port plate MS4N-AQ...	–	■	–	■	300
3	Mounting bracket MS4-WB	■	■	–	–	298
4	Mounting bracket MS4-WBM	■	■	–	–	298
5	Body connector MS4-MV	–	■	■	■	300
6	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	301

3 Mounting bracket MS4-WB

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

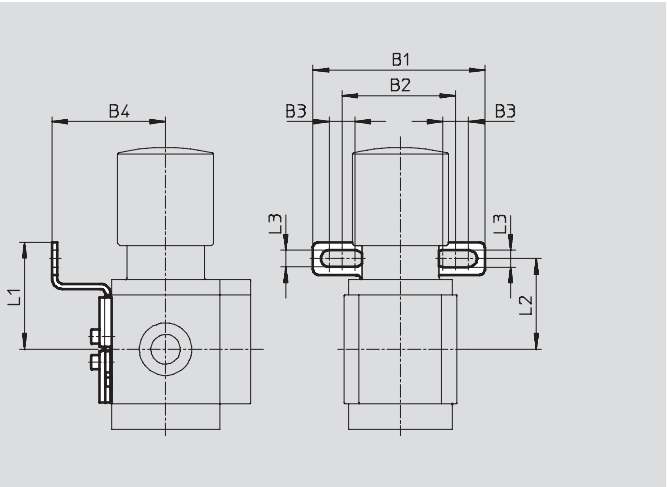
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.21	1.62	0.16	1.74	4.12	1.83	0.22	1.79	0.09	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

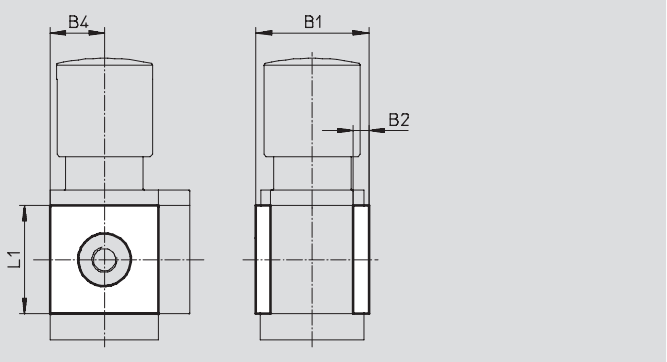
B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.62	1.73	0.39	1.73	1.63	1.38	0.26	0.10	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

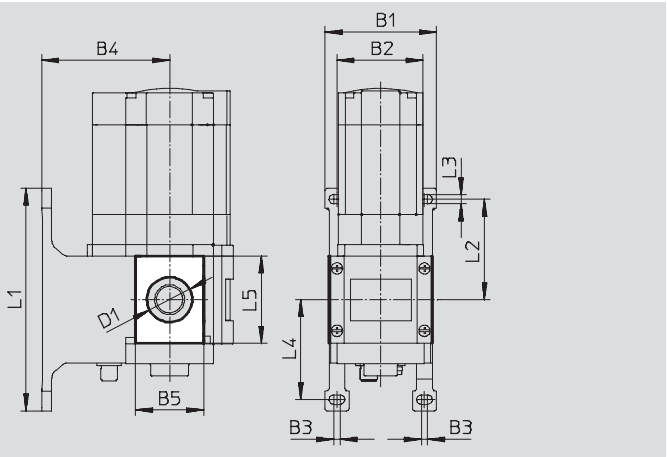
B1	B2	B4	L1	Part No.	Type
1.72	0.24	0.83	1.65	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
2.17	1.58	0.16	1.73	2.60	1.20	0.80	4.17	1.83	0.22	1.84	1.65	2	0.01	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Active Carbon Filters MS4N-LFX – Inch Series

Accessories

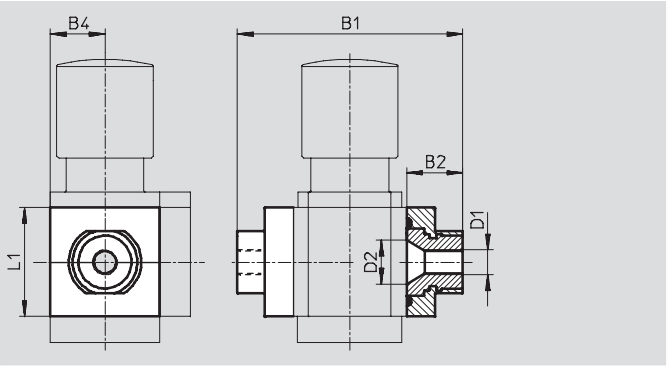
FESTO

2 **Port plate MS4N-AQ...**

- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
3.29	0.85	0.83	1/8 NPT	0.66	1.65	0.26	**526065**	**MS4N-AQK**
			1/4 NPT				**526066**	**MS4N-AQN**
			3/8 NPT				**526067**	**MS4N-AQP**

5 **Body connector MS4-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

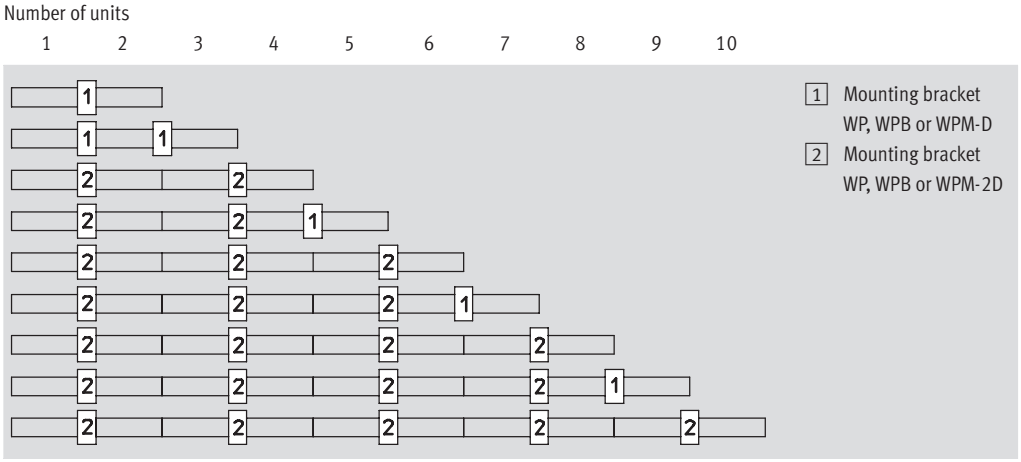
Weight [lb]	Part No.	Type
0.07	**532798**	**MS4-MV**

6 Mounting Bracket MS4-WP...

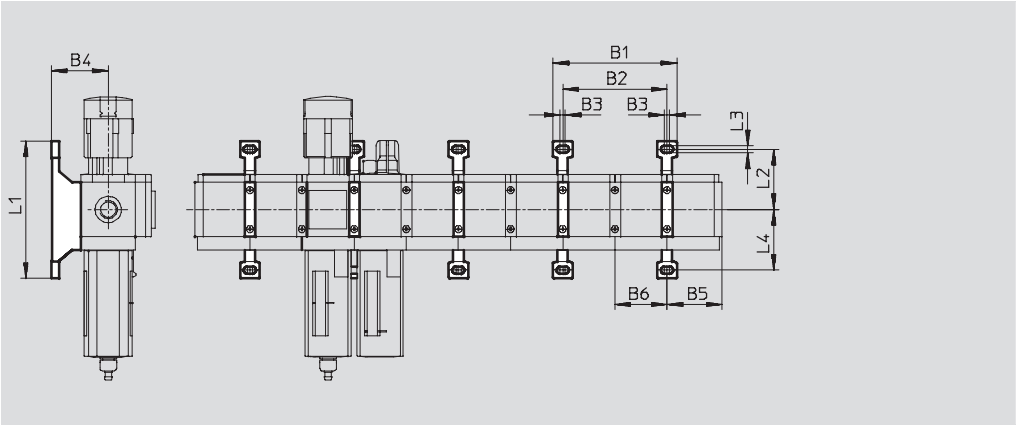
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 1.575 in

2 units: 3.15 in



Mounting dimensions



Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	3.75	3.15	0.16	1.73	1.65	1.57	4.17	1.83	0.22	1.84
MS4-WPB				2.60						
MS4-WPM-...D				1.73			3.65	1.37		1.57

Active Carbon Filters MS4N-LFX – Inch Series

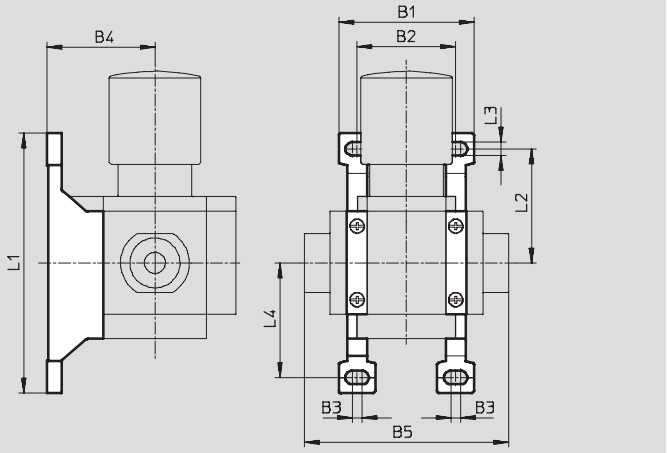
Accessories

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

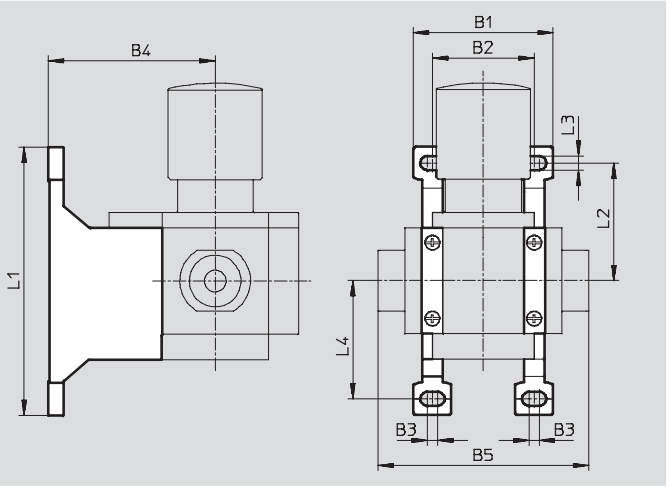
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	1.73	3.28	4.17	1.83	0.22	1.84	0.08	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	2.60	3.28	4.17	1.83	0.22	1.84	0.11	**526063**	**MS4-WPB**

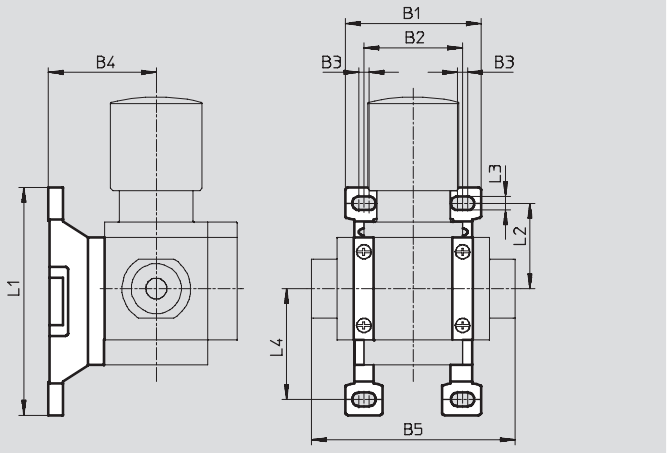
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
2.17	1.57	0.16	1.73	3.28	3.65	1.37	0.22	1.78	1.57	0.09	**526060**	**MS4-WPM-D**
3.75	3.15			4.86					3.15	0.11	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Active Carbon Filters MS4N-LFX – Inch Series

Replacement Parts



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS4	Residual oil content ≤ 0.003 mg/m^3	**532912**	**MS4/D-MINI-LFX**

- For spare parts go to: www.festo.com/en/spare_parts_service

Membrane Air Dryers MS4-LDM1 – Metric Series



Membrane air dryers remove water vapor from the compressed air and lower the dew point preventing moisture from forming downstream. Pre-filtration with a grade of 0.01 micron is required.

- Pneumatic connection: G1⁄8, G1⁄4, G3⁄8
- Pressure dew point reduction: 20 K
- Supply pressure: 3 ... 12.5 bar
- Flow rate: 50 ... 100 l/min

Product Range Overview

Type	Flow rate [l/min]	Pneumatic connections		Bowl guard		Reverse flow
		Body thread	Port plate	Plastic bowl guard	Metal bowl	Flow direction from right to left
MS4			AG...	R	U	Z
LDM1	50 ... 100	G1⁄8, G1⁄4	G1⁄8, G1⁄4, G3⁄8	–	■	■

Features

- Optimum final dryer with excellent operational reliability
- Suitable for use as an individual unit or for integration in existing service unit combinations
- Flow rate-dependent dew point reduction
- Wear-free function requiring no external energy
- 15% purge air flow rate
- Optional purge ring for ducting of purging air

Typical areas of application:

- Drying, cleaning of precision parts
- Measuring technology
- Rinsing of precision glass scales
- Painting systems
- Paper and packaging machines

Contents

Technical Data → 306
Dimensional Drawings → 308
Ordering Data → 308
Accessories → 310

→ www.festo.com/catalog/ms4-ldm

Membrane Air Dryers MS4-LDM1 – Metric Series

Technical Data

ISO Symbol



Note
Prefiltration of the compressed air using a micro filter MS-LFM-A, filtration grade 0.01 µm (residual particles < 0.1 µm, residual oil content < 0.1 mg/m³) is vital for flawless functioning of the unit.



General Technical Data			
Pneumatic connection 1, 2		G⅛	G¼
Pressure dew point reduction	[K]	20	
Supply pressure	[bar]	3 ... 12.5	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Flow Rate qn[1] [l/min]		
	Cartridge P05	Cartridge P10
Input $q_{n\ In}$	59	118
Output $q_{n\ Out}$	50	100
Purge air $q_{n\ Purge}$	8.8	17.6

1) Measured at p_1 = 6.9 bar, $\vartheta_{pd\ In}$ = 25 °C, $\vartheta_{pd\ Out}$ = 5 °C ± 1.5 °C ($\vartheta_{pA\ Out}$ = −21.5 °C ± 1.2 °C), ϑ_{amb} = 25 °C

Operating and Environmental Conditions		
Operating medium		Compressed air, air quality class 1.7.2 to DIN ISO 8573-1
Ambient temperature	[°C]	+2 ... +50
Temperature of medium	[°C]	+2 ... +50
Storage temperature	[°C]	−20 ... +60
Assembly position		Vertical ±5°
Corrosion resistance class	CRC[2]	2

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]		
	Cartridge P05	Cartridge P10
Membrane air dryer	420	530

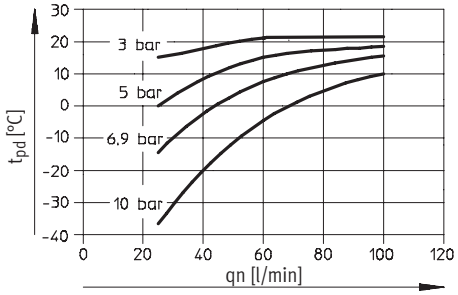
- For spare parts go to: www.festo.com/en/spare_parts_service

Membrane Air Dryers MS4-LDM1 – Metric Series

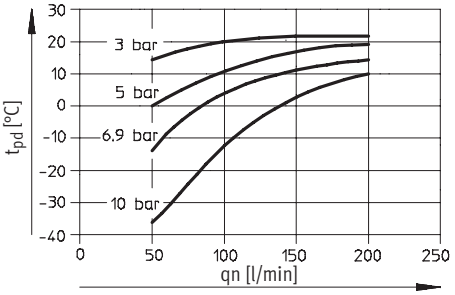
Technical Data

Pressure Dew Point t_{pd} (Output) as a Function of the Standard Flow Rate at Output qn

MS4-LDM1-...-P05

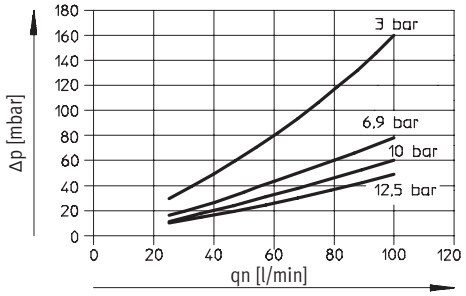


MS4-LDM1-...-P10

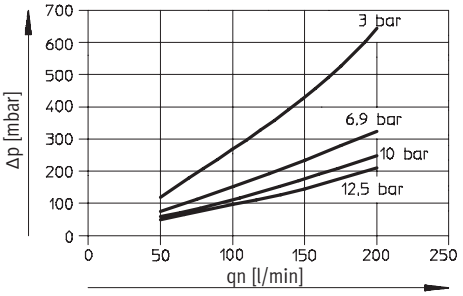


Differential Pressure Δp as a Function of the Standard Flow Rate at Output qn

MS4-LDM1-...-P05

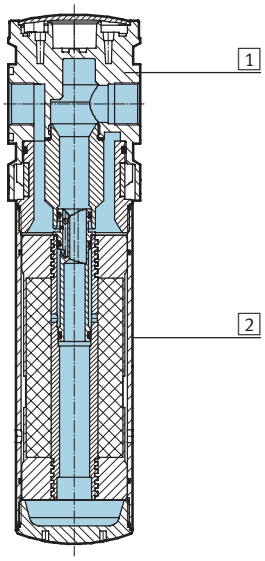


MS4-LDM1-...-P10



Materials

Sectional view



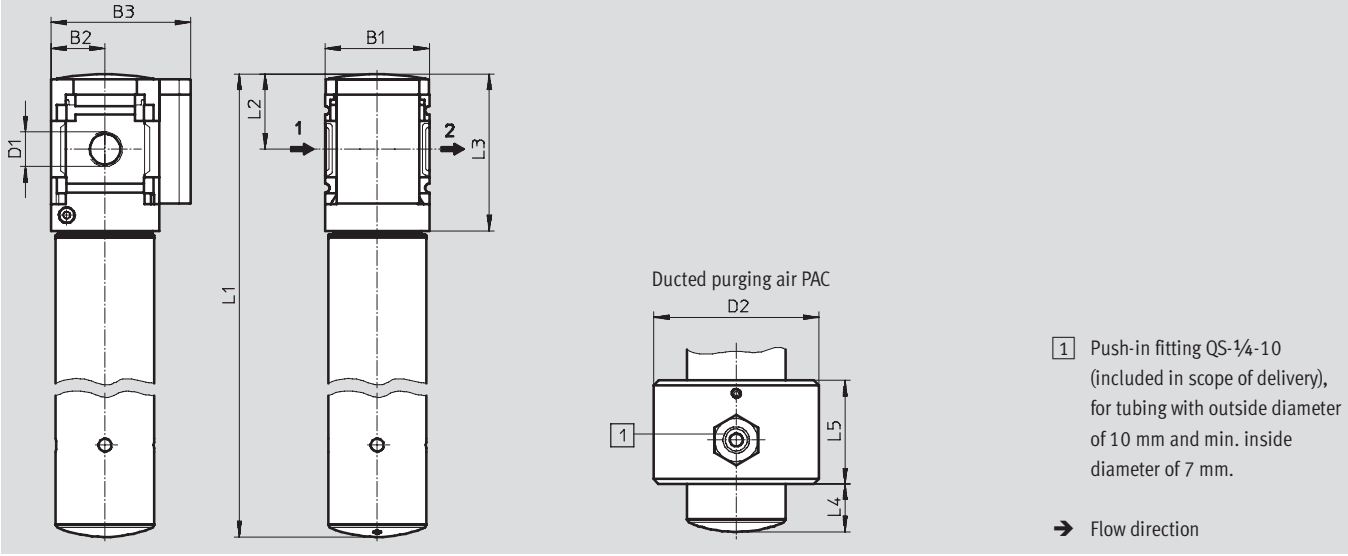
Membrane air dryer		
1	Housing	Die-cast aluminum
2	Bowl	Wrought aluminum alloy
–	Seals	Nitrile rubber

Membrane Air Dryers MS4-LDM1 – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**



Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4-LDM1-⅛-P05	40	21	54	G⅛	64	245	29	60	18	40
MS4-LDM1-⅛-P10						345				
MS4-LDM1-¼-P05	40	21	54	G¼	64	245	29	60	18	40
MS4-LDM1-¼-P10						345				

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Flow cartridge	Connection	Part No.	Type	LT
P10	G⅛	**543630**	**MS4-LDM1-⅛-P10**	Q
	G¼	**543632**	**MS4-LDM1-¼-P10**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Membrane Air Dryers MS4-LDM1 – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options		
Part No.	Series	Size	Function	Connection size	Flow cartridge		Purging air	Type of mounting	Reverse flow direction
543628	MS	4	LDM1	⅛, ¼, AGA, AGB, AGC	P05 P10		PAC	WP WPM WB WBM	Z
Order example									
543628	MS	4	– LDM1	– AGC	– P10	–		– WP	–

Ordering Table

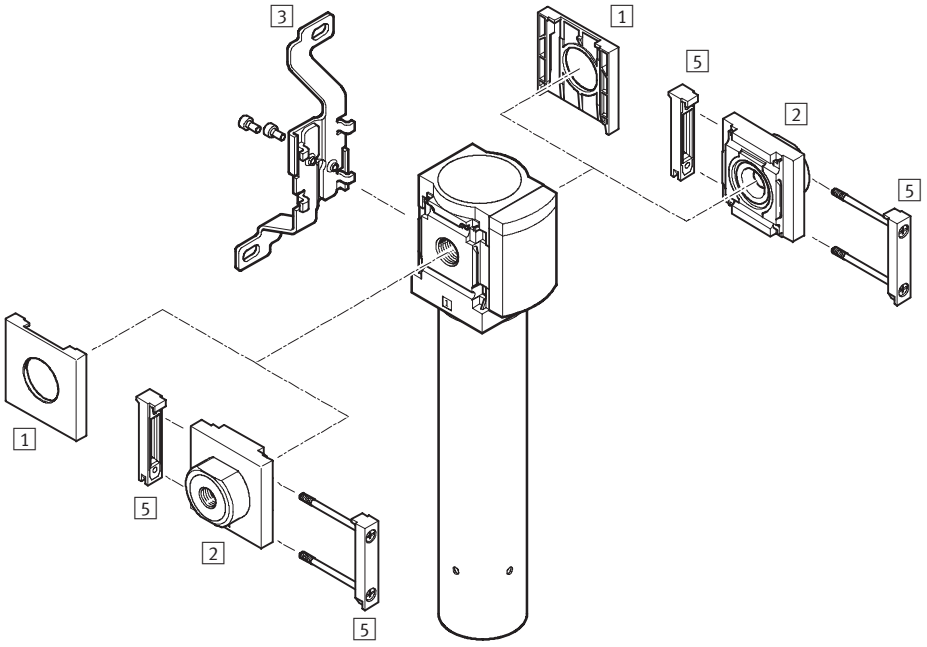
Grid dimension [mm]		40	Conditions	Code		Enter code
M	Part No.	**543628**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Function	Membrane dryer		**-LDM1**		-LDM1
	Connection size	Body thread G⅛		**-⅛**		
		Body thread G¼		**-¼**		
		Port plate G⅛ (dimensions ➔ 314)		**-AGA**		
		Port plate G¼ (dimensions ➔ 314)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 314)		**-AGC**		
	Flow cartridge	50 l/min		**-P05**		
		100 l/min		**-P10**		
O	Purging air	Ducted purging air		**-PAC**		
	Type of mounting	Mounting bracket (dimensions ➔ 315)	1	**-WP**		
		Mounting bracket (dimensions ➔ 315)	1	**-WPM**		
		Mounting bracket (dimensions ➔ 312)		**-WB**		
		Mounting bracket (dimensions ➔ 312)		**-WBM**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP, WPM** Only with port plate AGA, AGB or AGC

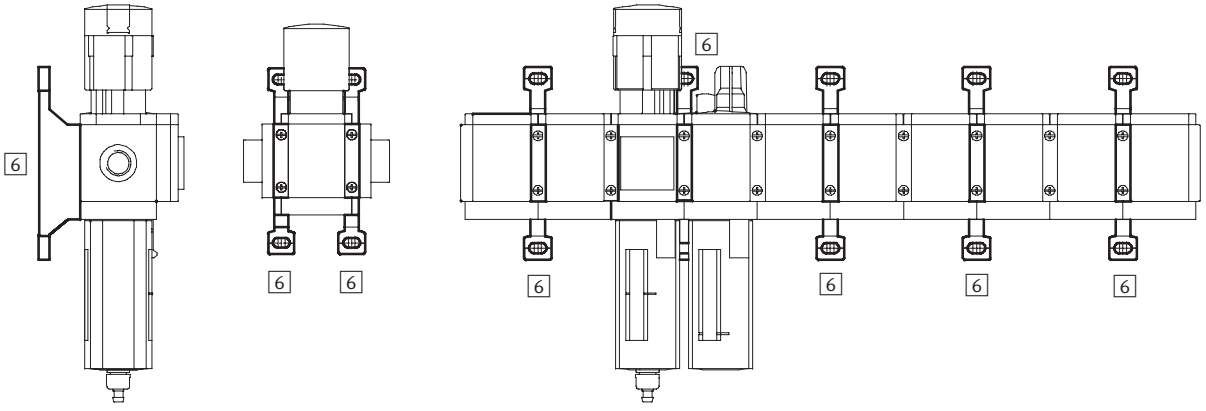
Transfer order code

543628	MS	4	– LDM1	–	–	–	–

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Membrane Air Dryers MS4-LDM1 – Metric Series

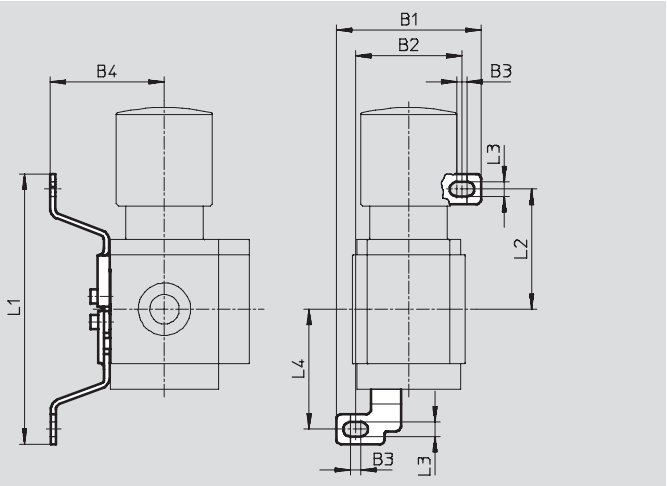
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	313
2	Port plate MS4-AG...	–	■	–	■	314
3	Mounting bracket MS4-WB	■	■	–	–	312
5	Body connector MS4-MV	–	■	■	■	314
–	Mounting bracket MS4-WBM	■	■	–	–	312
6	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	315

3 **Mounting bracket MS4-WB**
- For wall mounting

Material:
Steel





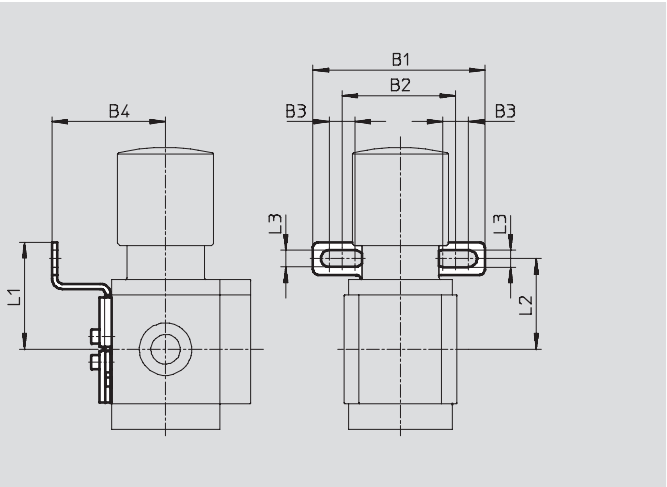
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
56.2	41.2	4	44.2	104.6	46.6	5.6	46.5	46	**532185**	**MS4-WB**

Mounting bracket MS4-WBM
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

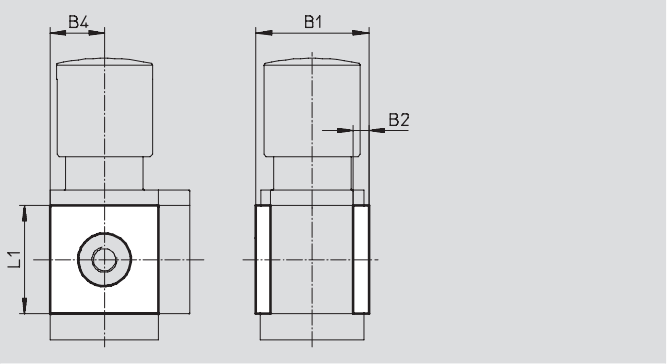
B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
66.5	44	10	44	41.3	35	6.5	48	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

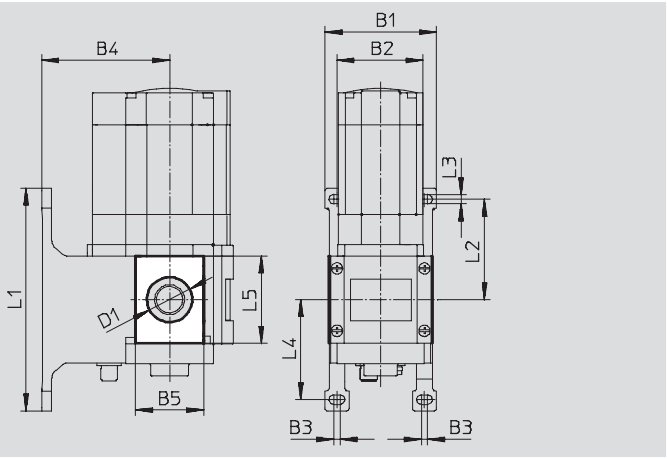
B1	B2	B4	L1	Part No.	Type
43.6	6	21	42	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	**542966**	**MS4-AEND**

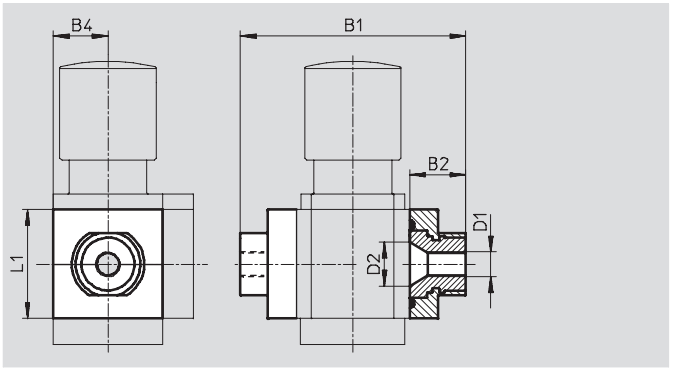
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4-AG...**

- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
83.5	21.5	21	G1⁄8	16.8	42	128	**526068**	**MS4-AGA**
			G1⁄4				**526069**	**MS4-AGB**
			G3⁄8				**526070**	**MS4-AGC**

5 **Body connector MS4-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

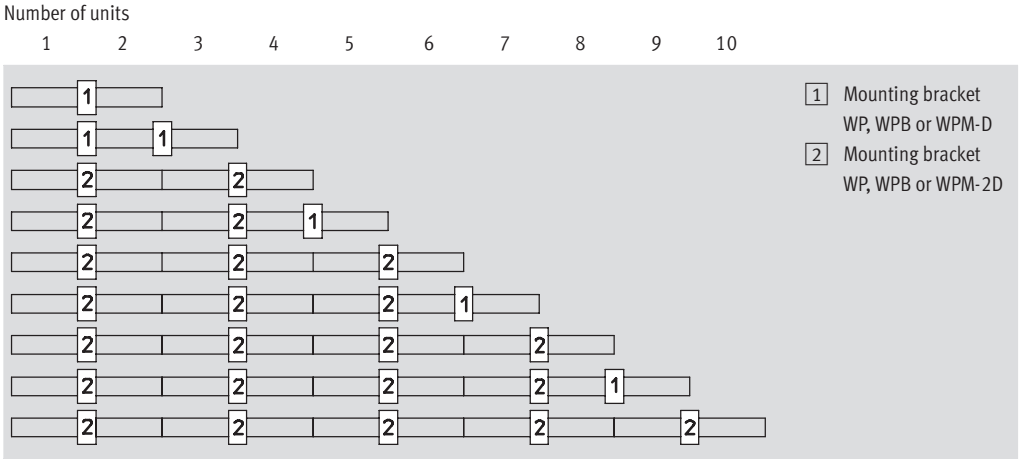
Weight [g]	Part No.	Type
36	**532798**	**MS4-MV**

6 Mounting Bracket MS4-WP...

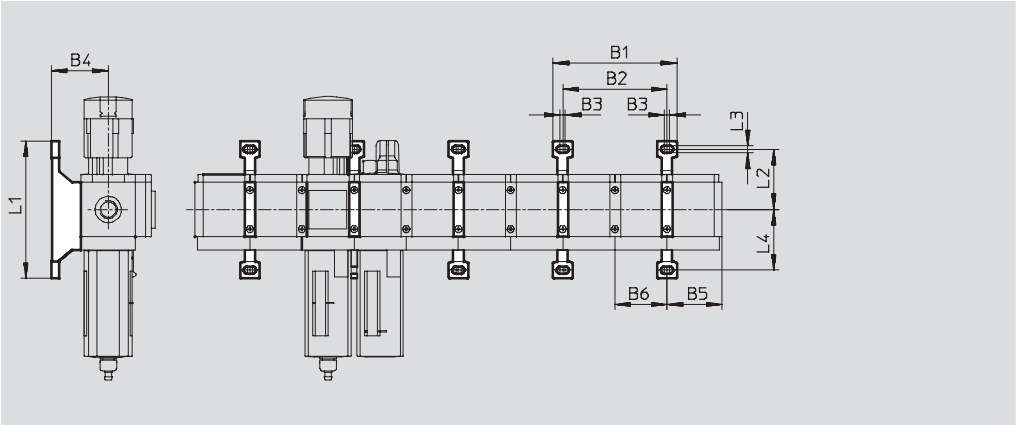
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 40 mm

2 units: 80 mm



Mounting dimensions



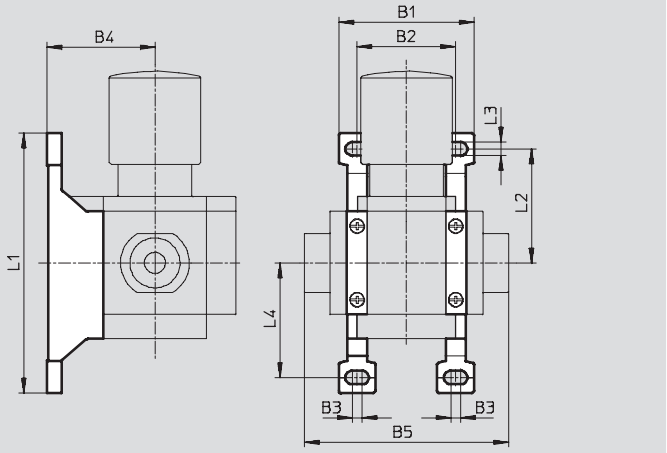
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44			92.8	34.8		40

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

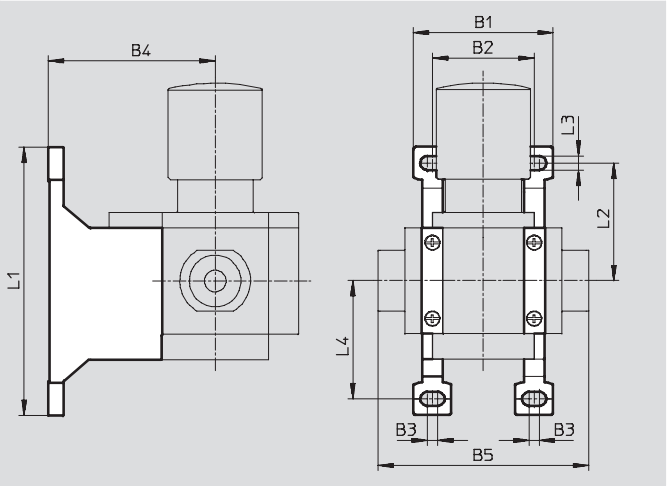
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	44	83.4	106	46.5	5.6	46.7	39	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	55	**526063**	**MS4-WPB**

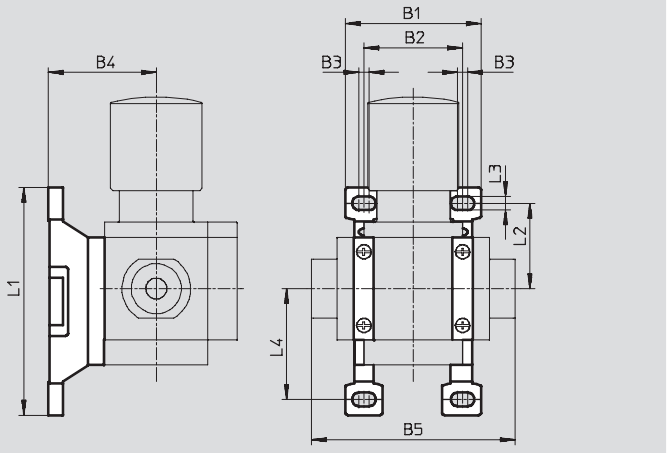
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
55.2	40	4	44	83.4	92.8	34.8	5.6	45.2	40	45	**526060**	**MS4-WPM-D**
95.2	80			123.4					80	55	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Membrane Air Dryers MS4N-LDM1 – Inch Series



Membrane air dryers remove water vapor from the compressed air and lower the dew point preventing moisture from forming downstream. Pre-filtration with a grade of 0.01 micron is required.

- Pneumatic connection: ⅛ NPT, ¼ NPT, ⅜ NPT
- Pressure dew point reduction: 20 K
- Supply pressure: 44 … 184 psi
- Flow rate: 1.8 … 3.5 scfm

Product Range Overview

Type	Flow rate [scfm]	Pneumatic connections		Bowl guard		Reverse flow
		Body thread	Port plate	Plastic bowl guard	Metal bowl	Flow direction from right to left
MS4N			**AG...**	**R**	**U**	**Z**
LDM1	1.8 … 3.5	⅛ NPT, ¼ NPT	⅛ NPT, ¼ NPT, ⅜ NPT	–	■	■

Features

- Optimum final dryer with excellent operational reliability
- Suitable for use as an individual unit or for integration in existing service unit combinations
- Flow rate-dependent dew point reduction
- Wear-free function requiring no external energy
- 15% purge air flow rate
- Optional purge ring for ducting of purging air

Typical areas of application:

- Drying, cleaning of precision parts
- Measuring technology
- Rinsing of precision glass scales
- Painting systems
- Paper and packaging machines

Contents

Technical Data → 320
Dimensional Drawings → 322
Ordering Data → 322
Accessories → 324

→ www.festo.com/catalog/ms4n-ldm

Membrane Air Dryers MS4N-LDM1 – Inch Series

Technical Data

ISO Symbol



Note
Prefiltration of the compressed air using a micro filter MS-LFM-A, filtration grade 0.01 µm (residual particles < 0.1 µm, residual oil content < 0.1 mg/m³) is vital for flawless functioning of the unit.



General Technical Data			
Pneumatic connection 1, 2		⅛ NPT	¼ NPT
Pressure dew point reduction	[°F]	68	
Supply pressure	[psi]	44 ... 184	

Standard Flow Rate q_n[1] [scfm]		
	Cartridge P05	Cartridge P10
Input $q_{n\ In}$	2.1	4.2
Output $q_{n\ Out}$	1.8	3.5
Purge air $q_{n\ Purge}$	0.3	0.6

1) Measured at p_1 = 102 psi, $\vartheta_{pd\ In}$ = +77 °F, $\vartheta_{pd\ Out}$ = +41 °F ± 3 °F ($\vartheta_{pA\ Out}$ = −7 °F ± 2 °F), ϑ_{amb} = +77 °F

Operating and Environmental Conditions		
Operating medium		Compressed air, air quality class 1.7.2 to DIN ISO 8573-1
Ambient temperature	[°F]	+36 ... +122
Temperature of medium	[°F]	+36 ... +122
Storage temperature	[°F]	−4 ... +140
Assembly position		Vertical ±5°
Corrosion resistance class	CRC[2]	2

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]		
	Cartridge P05	Cartridge P10
Membrane air dryer	0.84	1.06

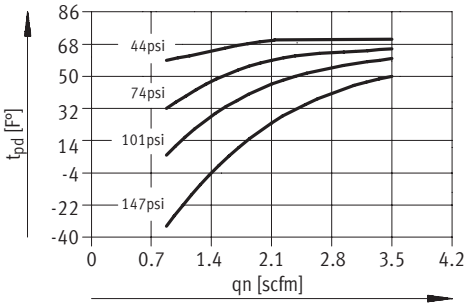
- For spare parts go to: www.festo.com/en/spare_parts_service

Membrane Air Dryers MS4N-LDM1 – Inch Series

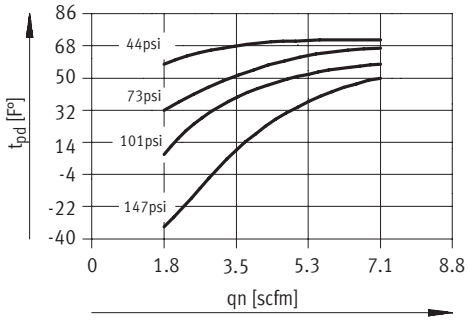
Technical Data

Pressure Dew Point t_{pd} (Output) as a Function of the Standard Flow Rate at Output qn

MS4N-LDM1-...-P05

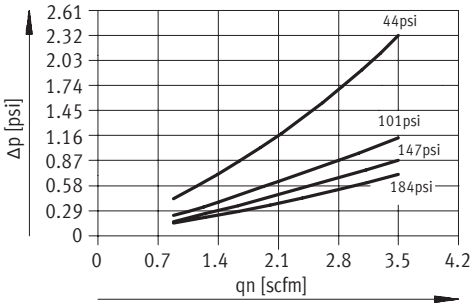


MS4N-LDM1-...-P10

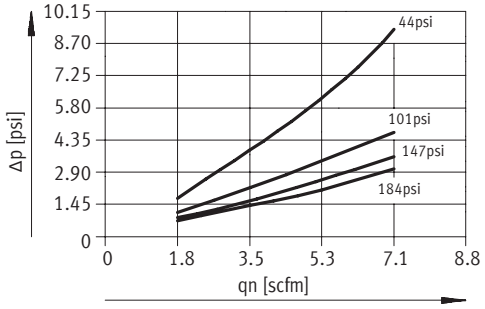


Differential Pressure Δp as a Function of the Standard Flow Rate at Output qn

MS4N-LDM1-...-P05

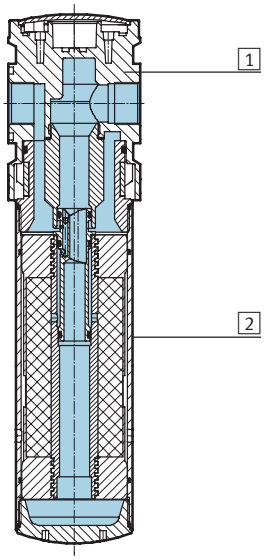


MS4N-LDM1-...-P10



Materials

Sectional view



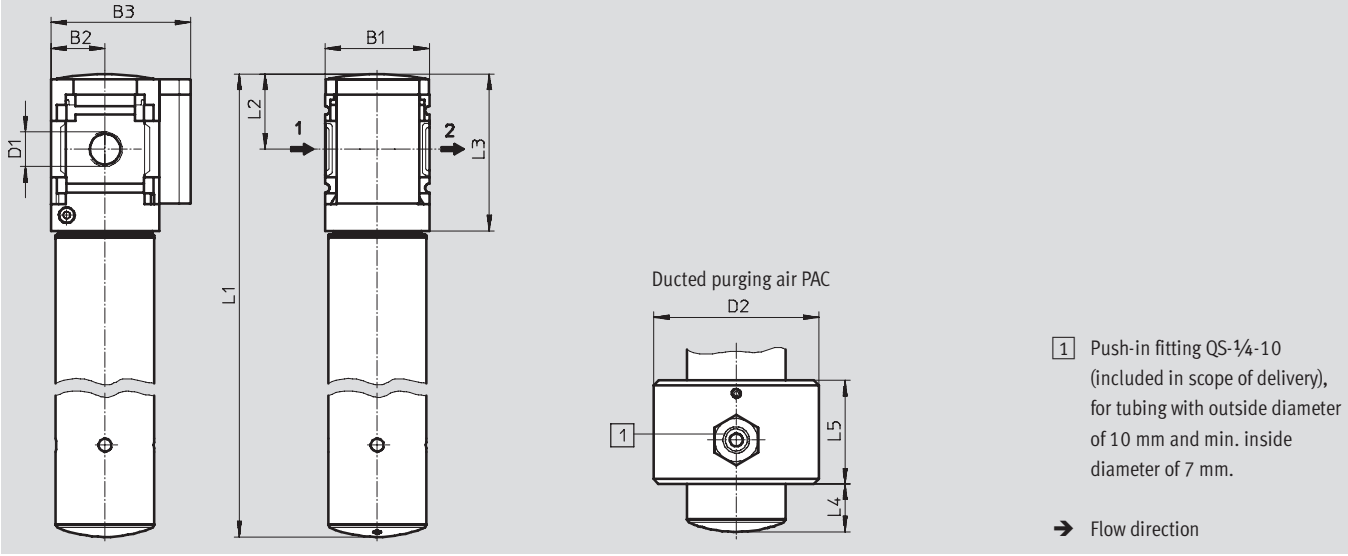
Membrane air dryer		
1	Housing	Die-cast aluminum
2	Bowl	Wrought aluminum alloy
–	Seals	Nitrile rubber

Membrane Air Dryers MS4N-LDM1 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**



1 Push-in fitting QS-¼-10 (included in scope of delivery), for tubing with outside diameter of 10 mm and min. inside diameter of 7 mm.

➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4N-LDM1-⅛-P05	1.57	0.83	2.13	⅛ NPT	2.52	9.65	1.14	2.36	0.71	1.57
MS4N-LDM1-⅛-P10						13.58				
MS4N-LDM1-¼-P05	1.57	0.83	2.13	¼ NPT	2.52	9.65	1.14	2.36	0.71	1.57
MS4N-LDM1-¼-P10						13.58				

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Flow cartridge	Connection	Part No.	Type	LT
P10	⅛ NPT	**543634**	**MS4N-LDM1-⅛-P10**	Q
	¼ NPT	**543636**	**MS4N-LDM1-¼-P10**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Membrane Air Dryers MS4N-LDM1 – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data								O Options		
Part No.	Series	Size	Thread	Function	Connection size	Flow cartridge		Purging air	Type of mounting	Reverse flow direction
543629	MS	4	N	LDM1	1/8, 1/4, AQK, AQN, AQP	P05 P10		PAC	WP WPM WB WBM	Z
Order example										
543629	MS	4	N	– LDM1	– AQP	– P10	–		– WP	–

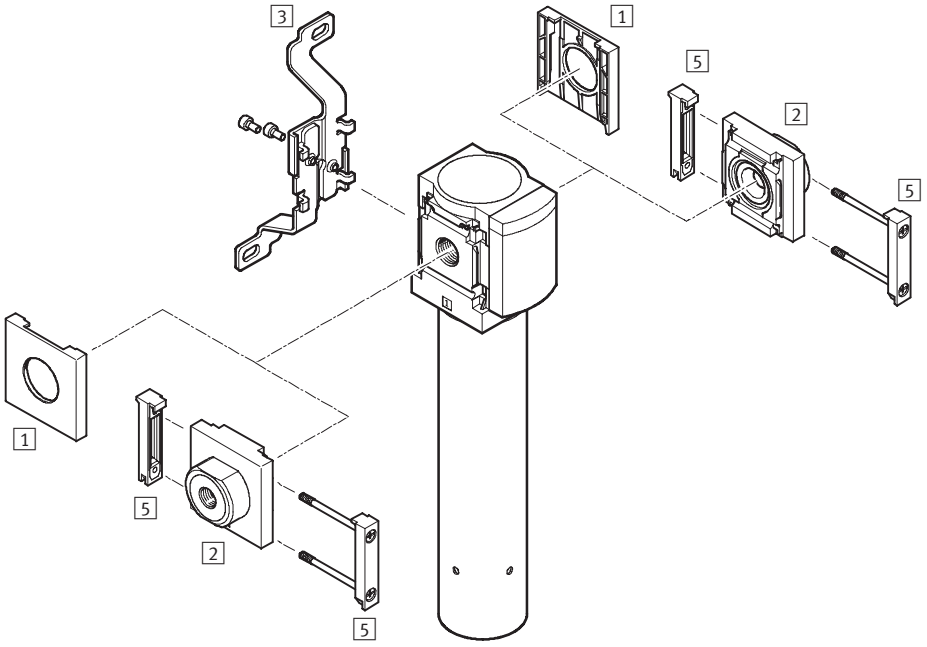
Ordering Table						
Grid dimension [mm]		40	Conditions	Code		Enter code
M	Part No.	**543629**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Thread	NPT thread		**N**		N
	Function	Membrane dryer		**-LDM1**		-LDM1
	Connection size	Body thread 1/8 NPT		**-1/8**		
		Body thread 1/4 NPT		**-1/4**		
		Port plate 1/8 NPT (dimensions → 328)		**-AQK**		
		Port plate 1/4 NPT (dimensions → 328)		**-AQN**		
		Port plate 3/8 NPT (dimensions → 328)		**-AQP**		
	Flow cartridge	1.8 scfm		**-P05**		
		3.5 scfm		**-P10**		
O	Purging air	Ducted purging air		**-PAC**		
	Type of mounting	Mounting bracket (dimensions → 329)	1	**-WP**		
		Mounting bracket (dimensions → 329)	1	**-WPM**		
		Mounting bracket (dimensions → 326)		**-WB**		
		Mounting bracket (dimensions → 326)		**-WBM**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP, WPM** Only with port plate AQK, AQN or AQP

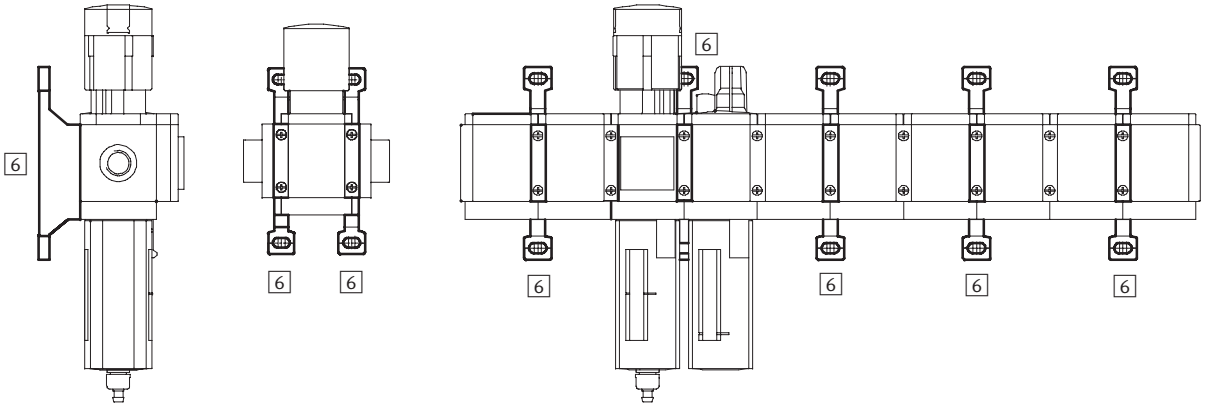
Transfer order code

543629	MS	4	N	– LDM1	–	–	–	–	–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.

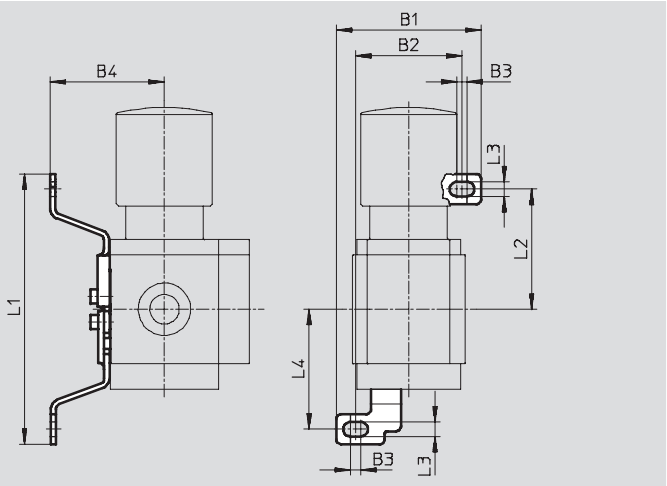


Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	327
2	Port plate MS4N-AQ...	–	■	–	■	328
3	Mounting bracket MS4-WB	■	■	–	–	326
5	Body connector MS4-MV	–	■	■	■	328
–	Mounting bracket MS4-WBM	■	■	–	–	326
6	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	329

3 **Mounting bracket MS4-WB**
- For wall mounting

Material:
Steel





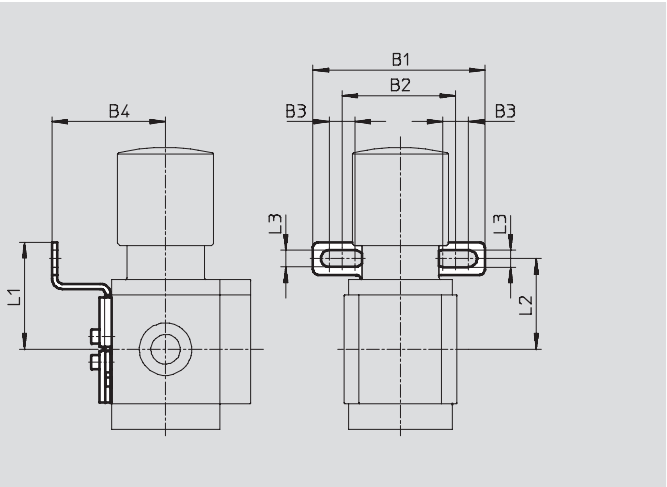
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.21	1.62	0.16	1.74	4.12	1.83	0.22	1.83	0.09	**532185**	**MS4-WB**

Mounting bracket MS4-WBM
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

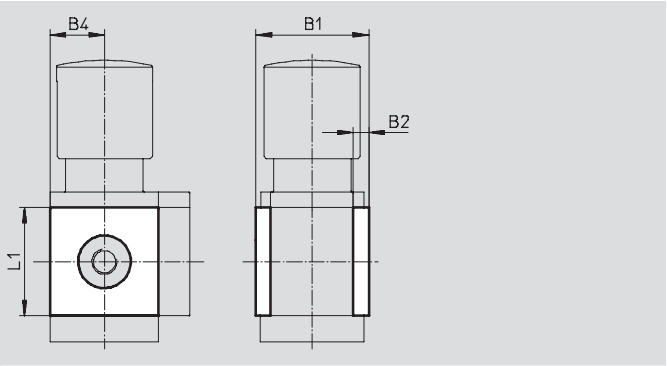
B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.62	1.73	0.39	1.73	1.63	1.38	0.26	0.10	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

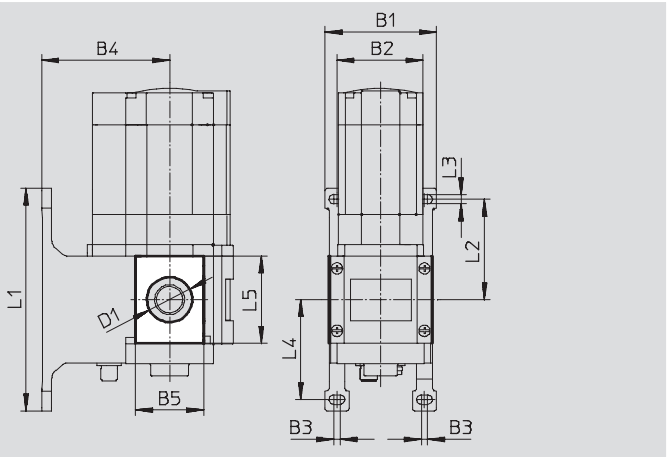
B1	B2	B4	L1	Part No.	Type
1.72	0.24	0.83	1.65	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
2.17	1.58	0.16	1.73	2.60	1.20	0.80	4.17	1.83	0.22	1.84	1.65	2	0.01	**542966**	**MS4-AEND**

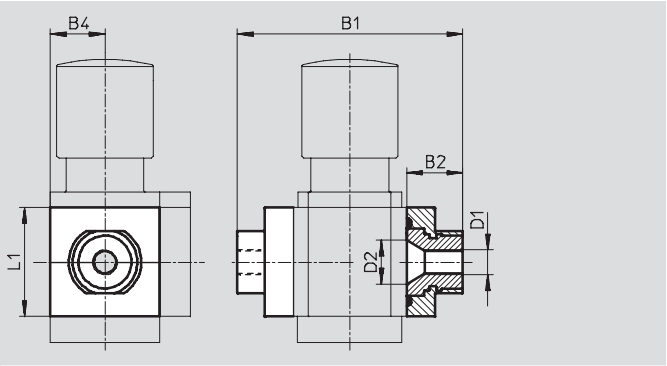
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4N-AQ...**

- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
3.29	0.85	0.83	1/8 NPT	0.66	1.65	0.26	**526065**	**MS4N-AQK**
			1/4 NPT				**526066**	**MS4N-AQN**
			3/8 NPT				**526067**	**MS4N-AQP**

5 **Body connector MS4-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

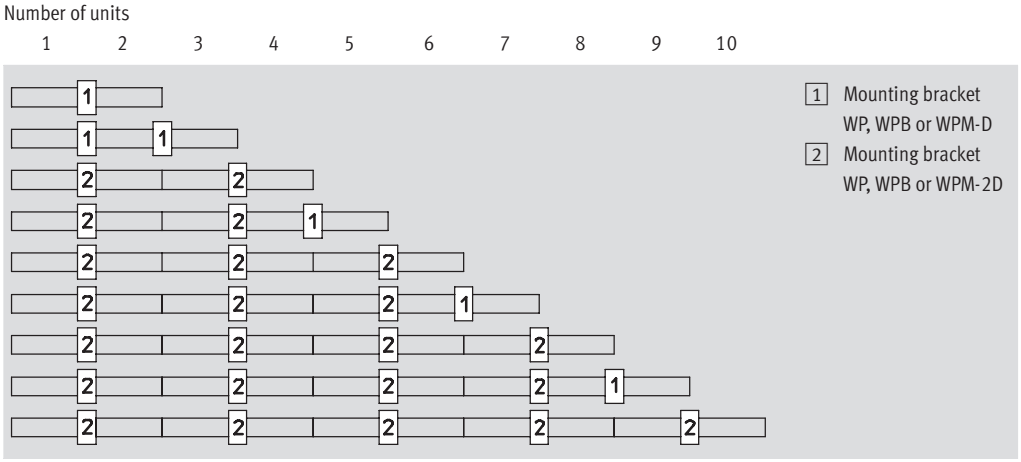
Weight [lb]	Part No.	Type
0.07	**532798**	**MS4-MV**

6 Mounting Bracket MS4-WP...

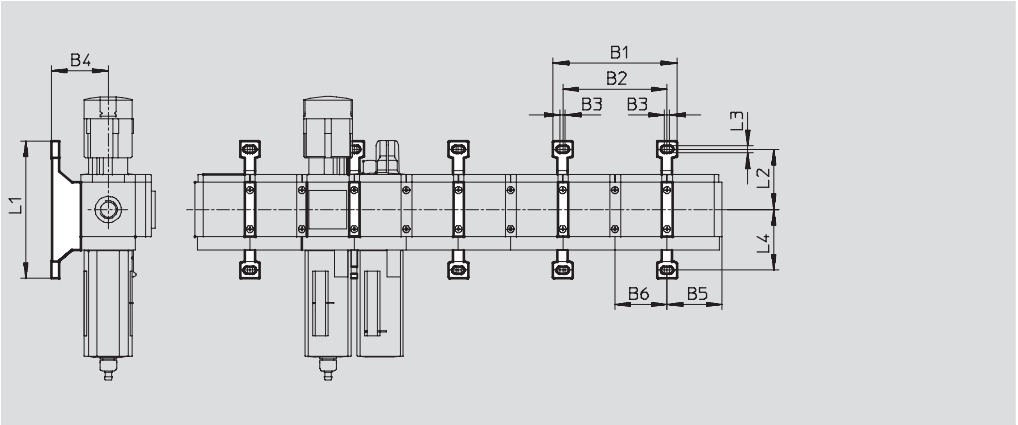
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 1.575 in

2 units: 3.15 in



Mounting dimensions



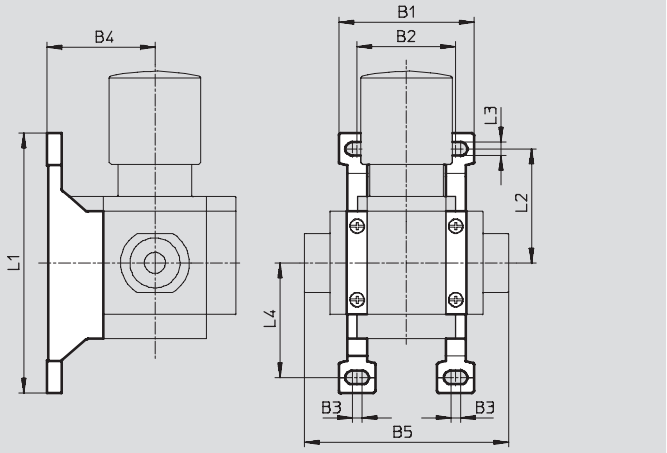
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	3.75	3.15	0.16	1.73	1.65	1.57	4.17	1.83	0.22	1.84
MS4-WPB				2.60						
MS4-WPM-...D				1.73			3.65	1.37		1.57

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

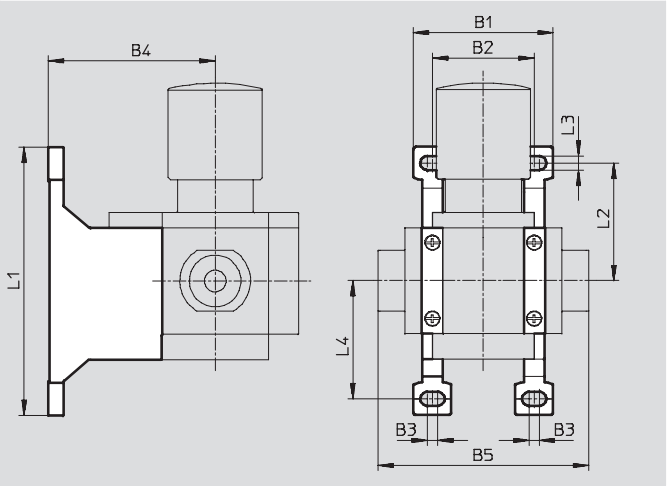
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	1.73	3.28	4.17	1.83	0.22	1.84	0.08	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	2.60	3.28	4.17	1.83	0.22	1.84	0.11	**526063**	**MS4-WPB**

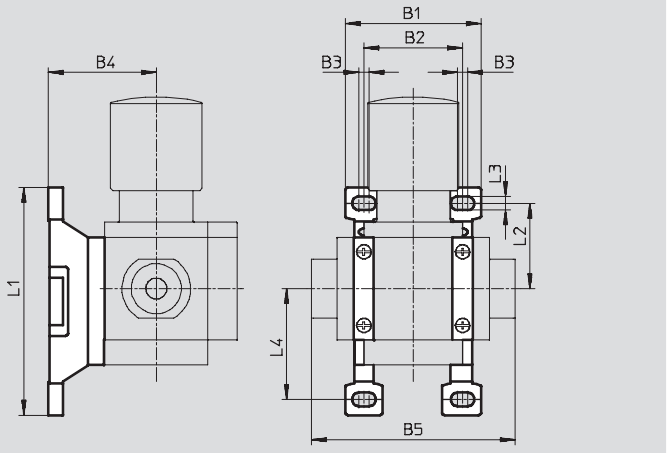
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
2.17	1.57	0.16	1.73	3.28	3.65	1.37	0.22	1.78	1.57	0.09	**526060**	**MS4-WPM-D**
3.75	3.15			4.86					3.15	0.11	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Lubricators MS4-LOE – Metric Series



The proportional lubricator adds a precision adjustable quantity of oil to the compressed air stream. The pressure drop that occurs when air flows through a Venturi nozzle is used to convey oil from the container to the drip cap. From here, the oil drips into the air duct directly behind the proportional valve, where it is atomized. The oil mist component is proportional to the compressed air flow rate.

- Pneumatic connection: G1⁄8, G1⁄4, G3⁄8
- Supply pressure: 1 … 12 bar
- Flow rate: 1,100 … 2,200 l/min

Product Range Overview

Type	Flow rate [l/min]	Pneumatic connections		Bowl guard		Reverse flow
		Body thread	Port plate	Plastic bowl guard	Metal bowl	Flow direction from right to left
MS4			**AG…**	**R**	**U**	**Z**
LOE	1,100 … 2,200	G1⁄8, G1⁄4	G1⁄8, G1⁄4, G3⁄8	■	■	■

Features

- Proportional lubricator with precision oil metering
- Reduces wear on drive units subject to high loading
- High flow rate
- Quick and easy oil top-up even during operation (under pressure)

The following oils are recommended for Festo components:
Viscosity range to ISO 3448, ISO class VG 32
32 mm^2/s (= cSt) at 40°C

- Festo special oil OFSW-32 → 346
- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32

Contents

Technical Data → 334
Dimensional Drawings → 336
Ordering Data → 336
Accessories → 338

→ www.festo.com/catalog/ms4-loe

Lubricators MS4-LOE – Metric Series

Technical Data

ISO Symbol





General Technical Data			
Pneumatic connection 1, 2		G⅛	G¼
Supply pressure	[bar]	1 ... 12	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Pneumatic connection 1, 2	G⅛	G¼
In main flow direction 1 → 2	1,100	2,200

Operating and Environmental Conditions		
Minimum flow for lubricator operation	[l/min]	40
Operating medium		Compressed air
Max. oil capacity	[cm^3]	30 (with plastic bowl guard) 36 (with metal bowl)
Bowl guard		Plastic bowl guard
		Metal bowl
Ambient temperature	[°C]	–10 ... +60
Temperature of medium	[°C]	–10 ... +60
Storage temperature	[°C]	–10 ... +60
Assembly position		Vertical ±5°
Corrosion resistance	CRC[1)]	2

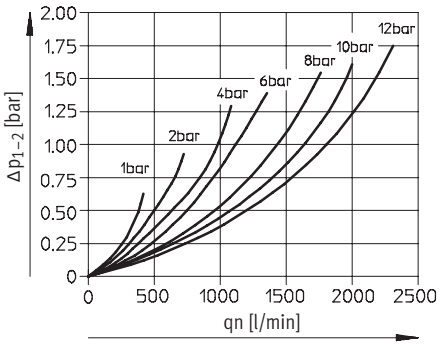
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With plastic bowl guard	194
With metal bowl	354

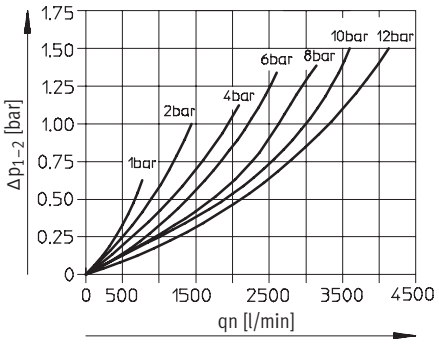
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

MS4-LOE-⅛

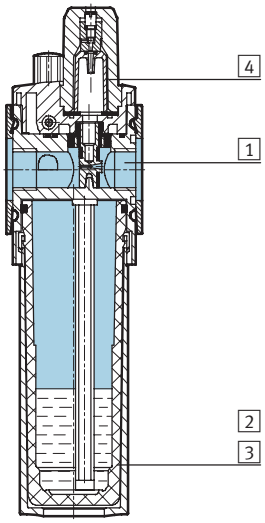


MS4-LOE-¼



Materials

Sectional view



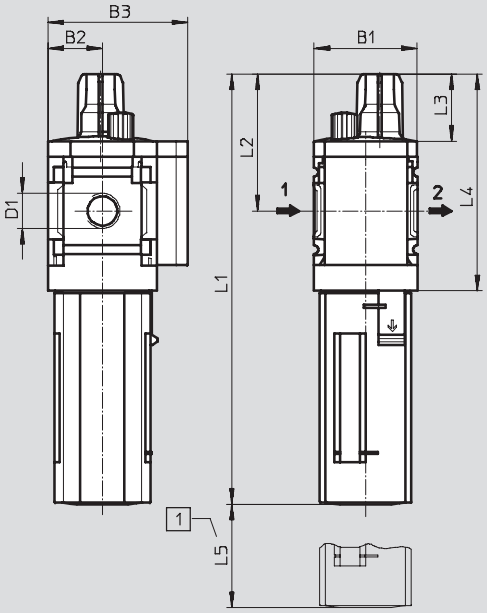
Lubricators		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Lubricator dome	Polycarbonate
–	Seals	Nitrile rubber

Lubricators MS4-LOE – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L4	L5
					Plastic	Metal				
MS4-LOE-⅛	42	21	54	G⅛	166.6	184.9	53	26	84	80
MS4-LOE-¼				G¼						

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Connection	Plastic bowl with plastic bowl guard				Metal bowl		
	Part No.	Type	LT		Part No.	Type	LT
G⅛	**529413**	**MS4-LOE-⅛-R**	1D		**535791**	**MS4-LOE-⅛-U**	Q
G¼	**529411**	**MS4-LOE-¼-R**	1D		**535790**	**MS4-LOE-¼-U**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Lubricators MS4-LOE – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options	
Part No.	Series	Size	Function	Connection size	Bowl		Type of mounting	Reverse flow direction
527701	MS	4	LOE	⅛, ¼, AGA, AGB, AGC	R U		WP WPM WB WBM	Z
Order example								
527701	MS	4	– LOE	– AGB	– R	–	WP	– Z

Ordering Table

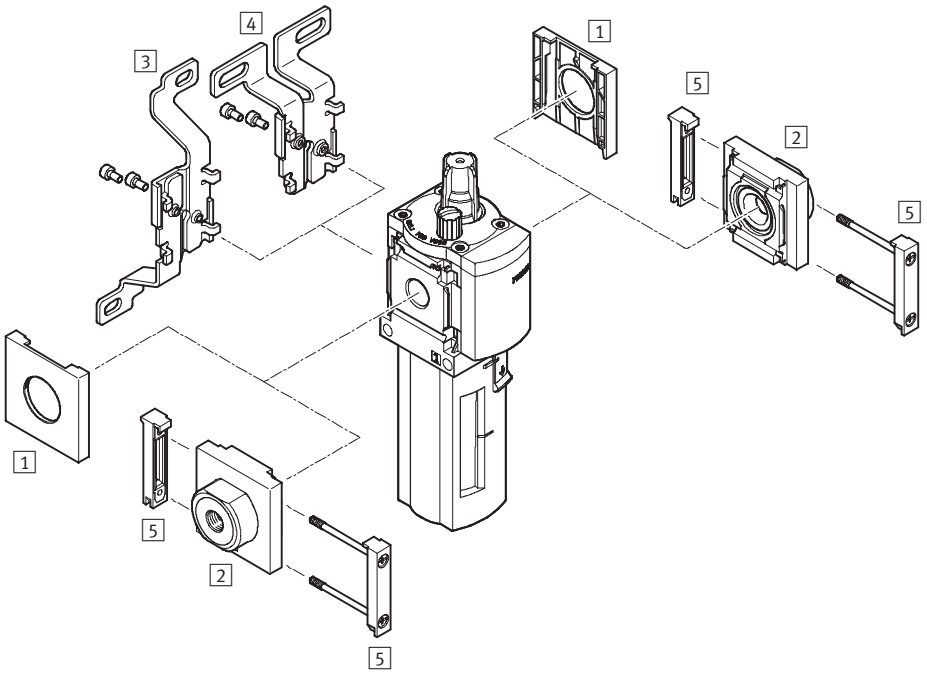
Grid dimension [mm]		40	Conditions	Code		Enter code
M	Part No.	**527701**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Function	Lubricators		**-LOE**		-LOE
	Connection size	Body thread G⅛		**-⅛**		
		Body thread G¼		**-¼**		
		Port plate G⅛ (dimensions ➔ 342)		**-AGA**		
		Port plate G¼ (dimensions ➔ 342)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 342)		**-AGC**		
	Bowl	Plastic bowl with plastic bowl guard		**-R**		
		Metal bowl		**-U**		
O	Type of mounting	Mounting bracket (dimensions ➔ 343)	1	**-WP**		
		Mounting bracket (dimensions ➔ 343)	1	**-WPM**		
		Mounting bracket (dimensions ➔ 340)		**-WB**		
		Mounting bracket (dimensions ➔ 340)		**-WBM**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP, WPM** Only with port plate AGA, AGB or AGC

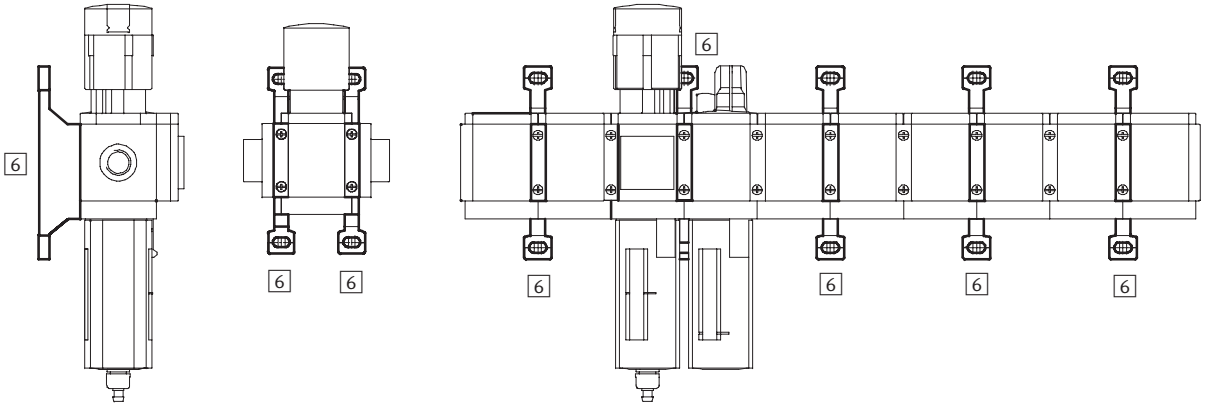
Transfer order code

527701	MS	4	–	LOE	–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Lubricators MS4-LOE – Metric Series

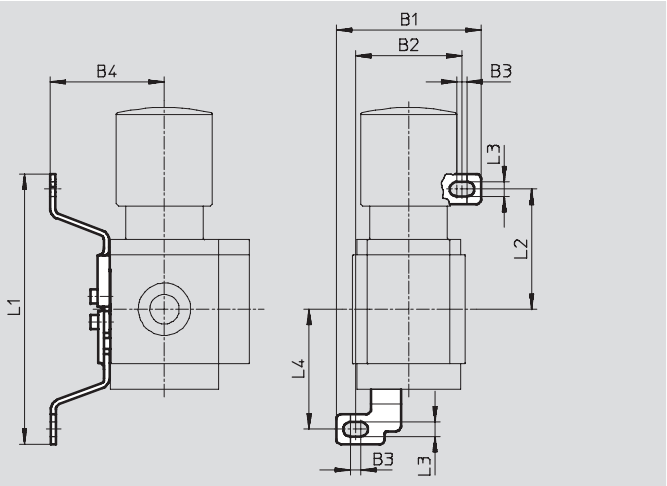
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	341
2	Port plate MS4-AG...	–	■	–	■	342
3	Mounting bracket MS4-WB	■	■	–	–	340
4	Mounting bracket MS4-WBM	■	■	–	–	340
5	Body connector MS4-MV	–	■	■	■	342
6	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	343

3 Mounting bracket MS4-WB
- For wall mounting

Material:
Steel





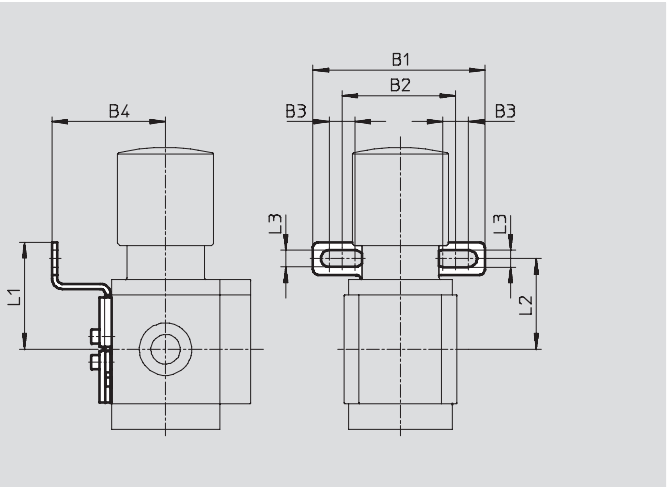
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
56.2	41.2	4	44.2	104.6	46.6	5.6	46.5	46	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

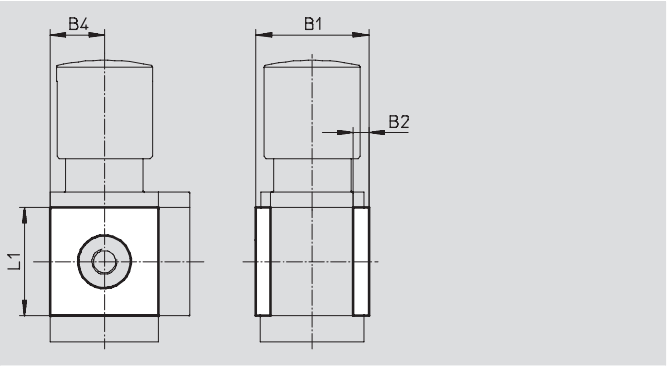
B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
66.5	44	10	44	41.3	35	6.5	48	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

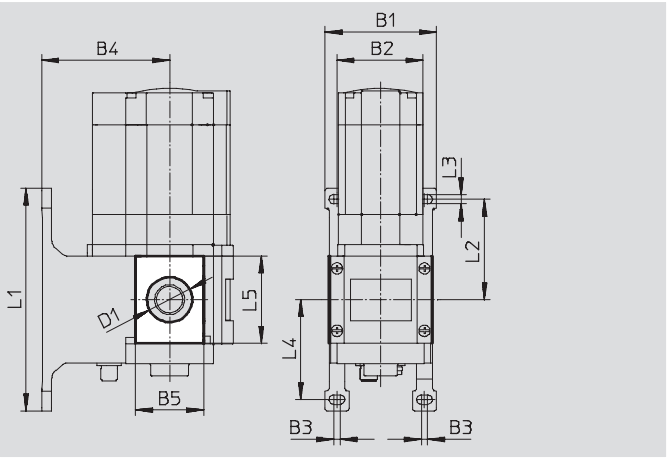
B1	B2	B4	L1	Part No.	Type
43.6	6	21	42	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

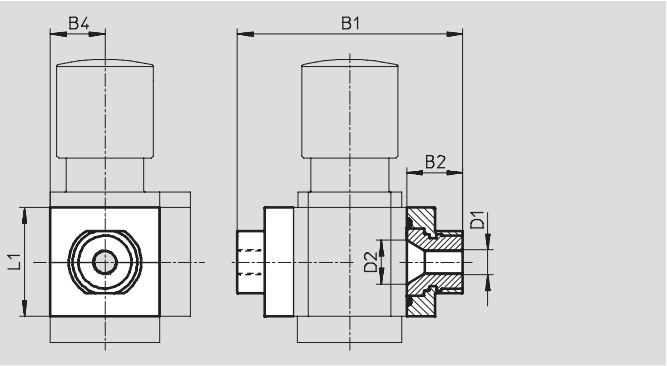
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4-AG...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
83.5	21.5	21	G1⁄8	16.8	42	128	**526068**	**MS4-AGA**
			G1⁄4				**526069**	**MS4-AGB**
			G3⁄8				**526070**	**MS4-AGC**

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

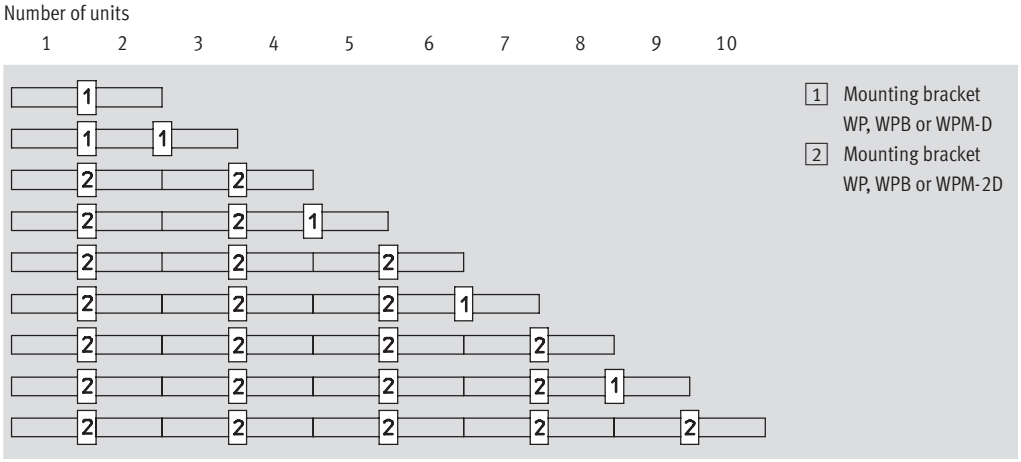
Weight [g]	Part No.	Type
36	**532798**	**MS4-MV**

6 Mounting Bracket MS4-WP...

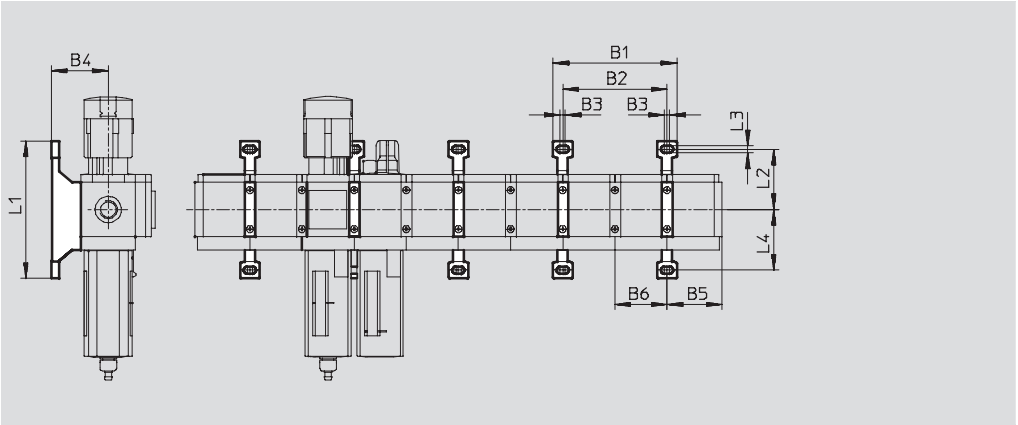
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 40 mm

2 units: 80 mm



Mounting dimensions



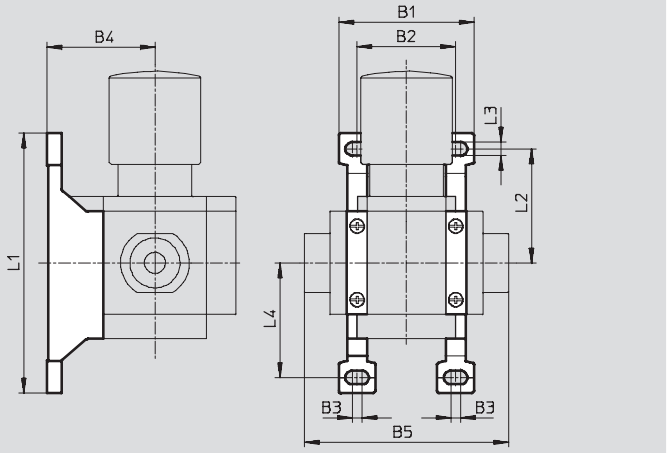
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44			92.8	34.8		40

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

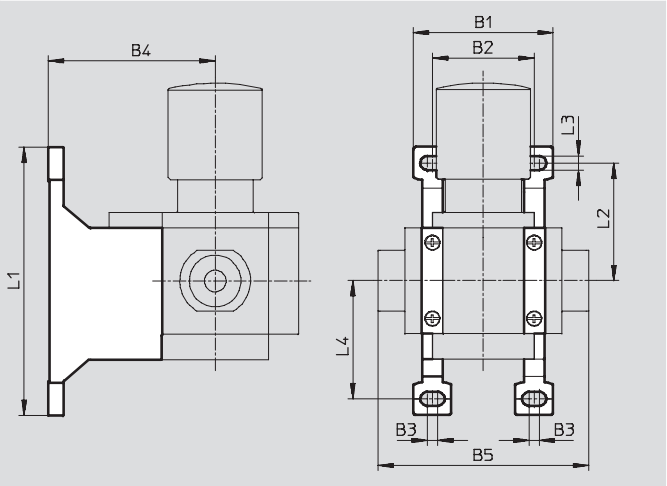
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	44	83.4	106	46.5	5.6	46.7	39	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	55	**526063**	**MS4-WPB**

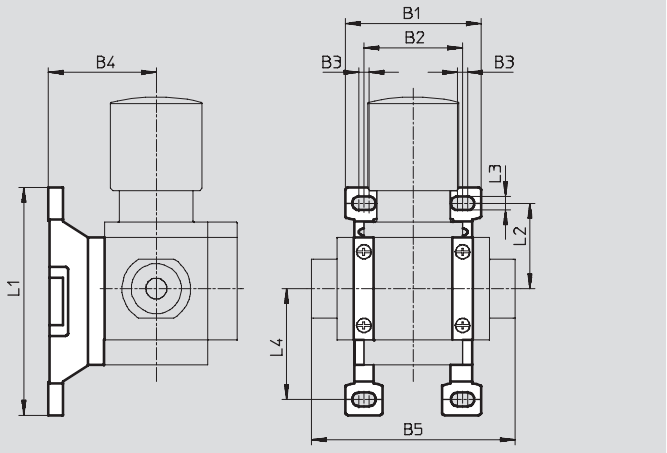
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
55.2	40	4	44	83.4	92.8	34.8	5.6	45.2	40	45	**526060**	**MS4-WPM-D**
95.2	80			123.4					80	55	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

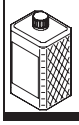
- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Ordering Data – Special Oil OFSW				
	Description	Scope of delivery	Part No.	Type
	for lubricators	1 liter	**152811**	**OFSW-32**

Lubricators MS4N-LOE – Inch Series



The proportional lubricator adds a precision adjustable quantity of oil to the compressed air stream. The pressure drop that occurs when air flows through a Venturi nozzle is used to convey oil from the container to the drip cap. From here, the oil drips into the air duct directly behind the proportional valve, where it is atomized. The oil mist component is proportional to the compressed air flow rate.

- Pneumatic connection: ⅛ NPT, ¼ NPT, ⅜ NPT
- Supply pressure: 15 ... 176 psi
- Flow rate: 38.8 ... 77.7 scfm

Product Range Overview

Type	Flow rate [scfm]	Pneumatic connections		Bowl guard		Reverse flow
		Body thread	Port plate	Plastic bowl guard	Metal bowl	Flow direction from right to left
MS4N			**AG...**	**R**	**U**	**Z**
LOE	38.8 ... 77.7	⅛ NPT, ¼ NPT	⅛ NPT, ¼ NPT, ⅜ NPT	■	■	■

Features

- Proportional lubricator with precision oil metering
- Reduces wear on drive units subject to high loading
- High flow rate
- Quick and easy oil top-up even during operation (under pressure)

The following oils are recommended for Festo components:
Viscosity range to ISO 3448, ISO class VG 32
32 mm^2/s (= cSt) at 40°C

- Festo special oil OFSW-32 ➔ 360
- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32

Contents

Technical Data ➔ 348
Dimensional Drawings ➔ 350
Ordering Data ➔ 350
Accessories ➔ 352

➔ www.festo.com/catalog/ms4n-loe

Lubricators MS4N-LOE – Inch Series

Technical Data

ISO Symbol





General Technical Data			
Pneumatic connection 1, 2		⅛ NPT	¼ NPT
Supply pressure	[psi]	15 ... 176	

Standard Nominal Flow Rate qnN [scfm]		
Pneumatic connection 1, 2	⅛ NPT	¼ NPT
In main flow direction 1 → 2	38.8	77.7

Operating and Environmental Conditions		
Minimum flow for lubricator operation	[scfm]	1.4
Operating medium		Compressed air
Max. oil capacity	[in^3]	1.83 (with plastic bowl guard) 2.20 (with metal bowl)
Bowl guard		Plastic bowl guard
		Metal bowl
Ambient temperature	[°F]	14 ... 140
Temperature of medium	[°F]	14 ... 140
Storage temperature	[°F]	14 ... 140
Assembly position		Vertical ±5°
Corrosion resistance	CRC[1)]	2

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	0.39
With metal bowl	0.71

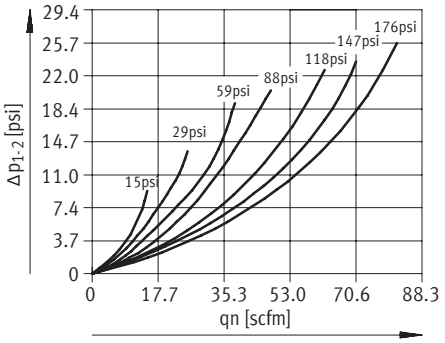
- For spare parts go to: www.festo.com/en/spare_parts_service

Lubricators MS4N-LOE – Inch Series

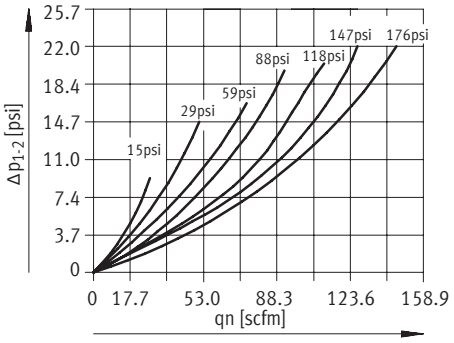
Technical Data

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

MS4N-LOE-⅛

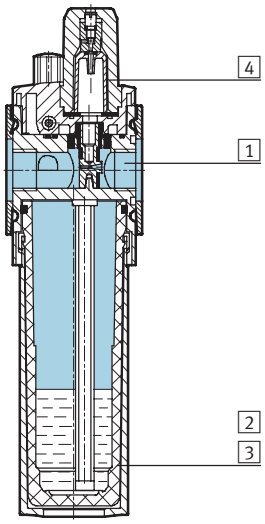


MS4N-LOE-¼



Materials

Sectional view



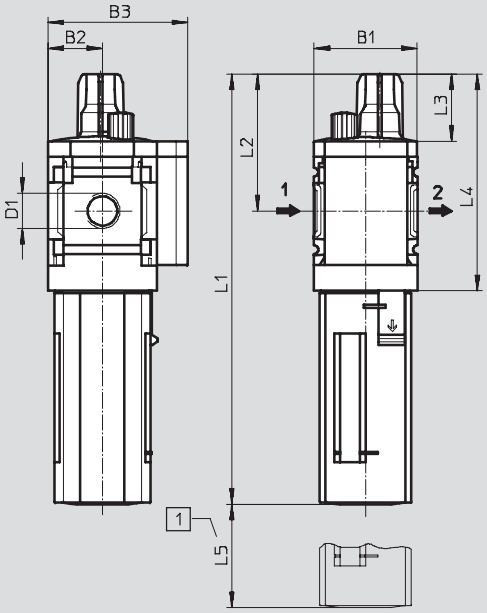
Lubricators		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Lubricator dome	Polycarbonate
–	Seals	Nitrile rubber

Lubricators MS4N-LOE – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



[1] Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L4	L5
					Plastic	Metal				
MS4N-LOE-⅛	1.65	0.83	2.13	⅛ NPT	6.56	7.28	2.09	1.02	3.31	3.15
MS4N-LOE-¼				¼ NPT						

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Plastic bowl with plastic bowl guard				Metal bowl		
	Part No.	Type	LT		Part No.	Type	LT
⅛ NPT	**531703**	**MS4N-LOE-⅛-R**	1D		**535799**	**MS4N-LOE-⅛-U**	Q
¼ NPT	**531702**	**MS4N-LOE-¼-R**	1D		**535798**	**MS4N-LOE-¼-U**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Lubricators MS4N-LOE – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options	
Part No.	Series	Size	Thread	Function	Connection size	Bowl	Type of mounting	Reverse flow direction
527702	MS	4	N	LOE	1/8, 1/4, AQK, AQN, AQP	R U	WP WPM WB WBM	Z
Order example								
527702	**MS**	**4**	**N** –	**LOE** –	**AQN** –	**R** –	**WP** –	**Z**

Ordering Table

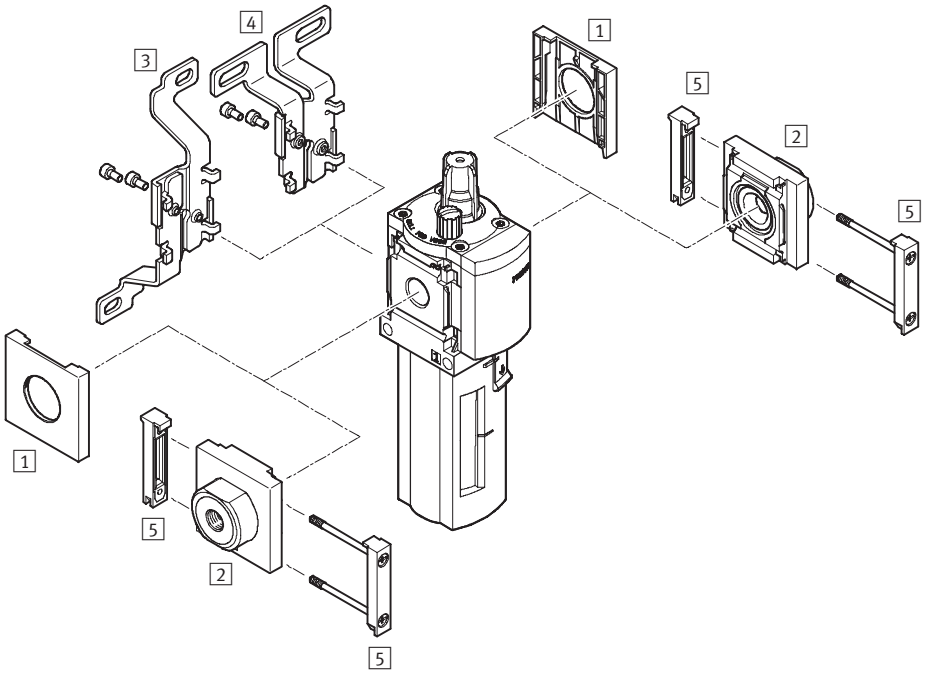
Grid dimension [mm]		40	Conditions	Code	Enter code
M	Part No.	**527702**			
	Series	Standard		**MS**	MS
	Size	4		**4**	4
	Thread	NPT thread		**N**	N
	Function	Lubricators		**-LOE**	-LOE
	Connection size	Body thread 1/8 NPT		**-1/8**	
		Body thread 1/4 NPT		**-1/4**	
		Port plate 1/8 NPT (dimensions → 356)		**-AQK**	
		Port plate 1/4 NPT (dimensions → 356)		**-AQN**	
		Port plate 3/8 NPT (dimensions → 356)		**-AQP**	
	Bowl	Plastic bowl with plastic bowl guard		**-R**	
		Metal bowl		**-U**	
O	Type of mounting	Mounting bracket (dimensions → 357)	1	**-WP**	
		Mounting bracket (dimensions → 357)	1	**-WPM**	
		Mounting bracket (dimensions → 354)		**-WB**	
		Mounting bracket (dimensions → 354)		**-WBM**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **WP, WPM** Only with port plate AQK, AQN or AQP

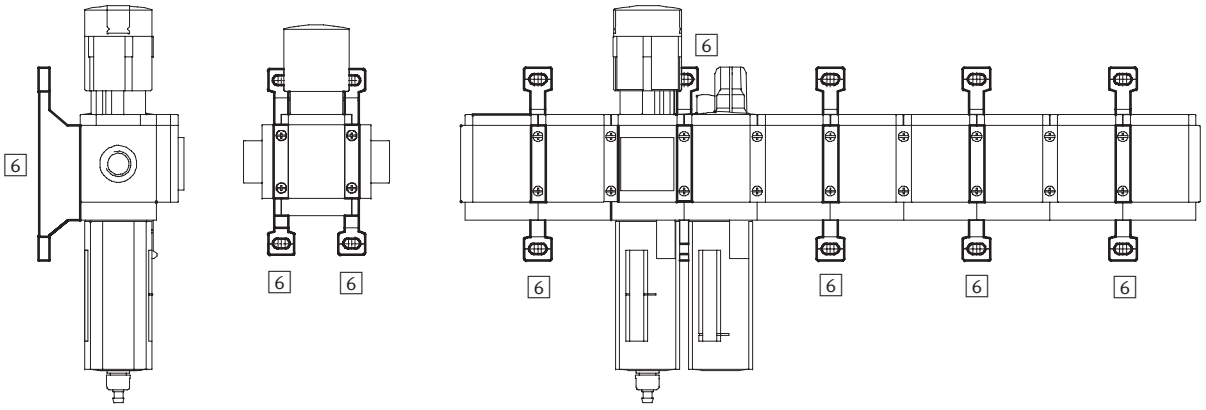
Transfer order code

527702	**MS**	**4**	**N** –	**LOE** –		–		–		–

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Lubricators MS4N-LOE – Inch Series

Accessories Overview

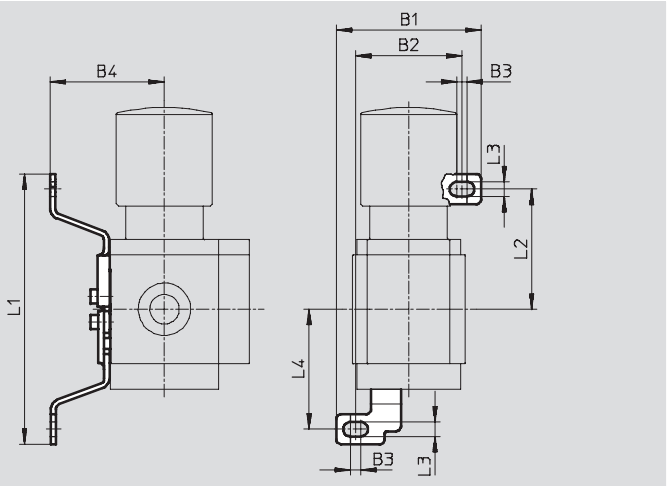
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	355
2	Port plate MS4N-AQ...	–	■	–	■	356
3	Mounting bracket MS4-WB	■	■	–	–	354
4	Mounting bracket MS4-WBM	■	■	–	–	354
5	Body connector MS4-MV	–	■	■	■	356
6	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	357

3 Mounting bracket MS4-WB

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

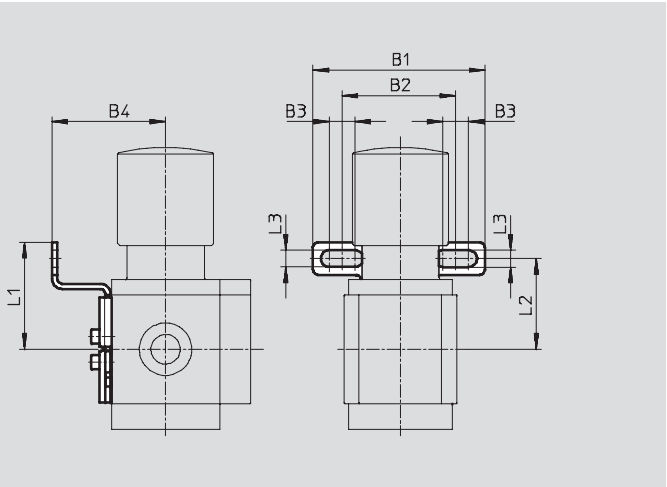
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.21	1.62	0.16	1.74	4.12	1.83	0.22	1.83	0.09	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

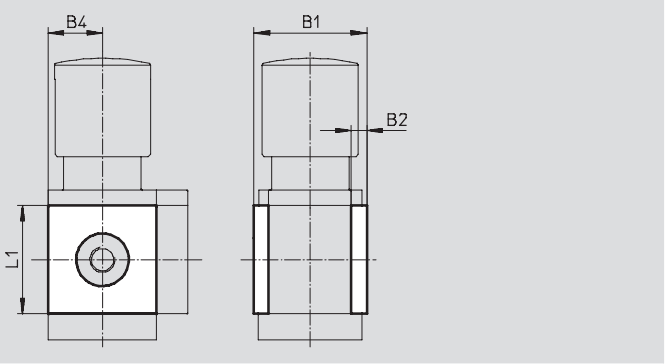
B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.62	1.73	0.39	1.73	1.63	1.38	0.26	0.10	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

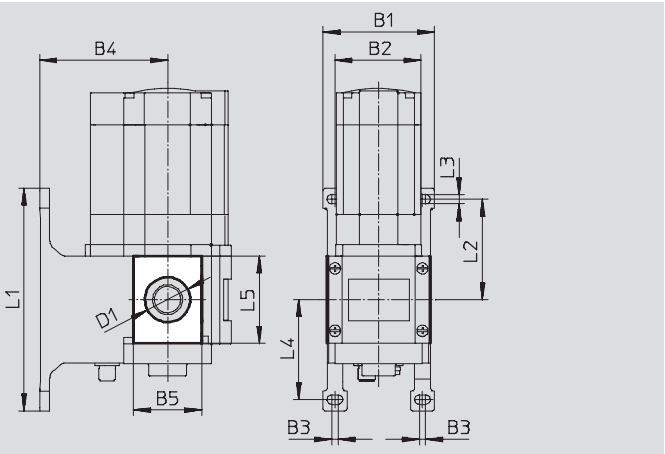
B1	B2	B4	L1	Part No.	Type
1.72	0.24	0.83	1.65	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

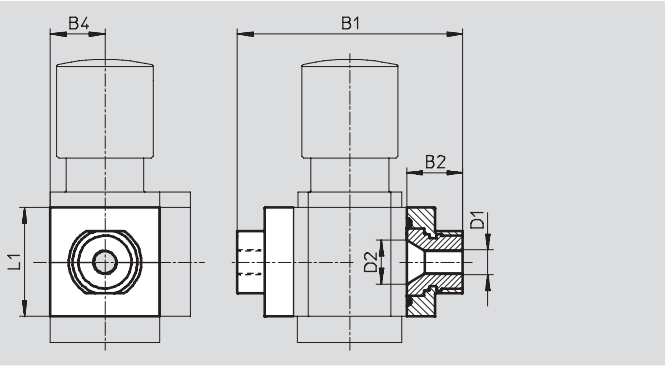
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
2.17	1.58	0.16	1.73	2.60	1.20	0.80	4.17	1.83	0.22	1.84	1.65	2	0.01	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4N-AQ...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
3.29	0.85	0.83	1/8 NPT	0.66	1.65	0.26	**526065**	**MS4N-AQK**
			1/4 NPT				**526066**	**MS4N-AQN**
			3/8 NPT				**526067**	**MS4N-AQP**

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

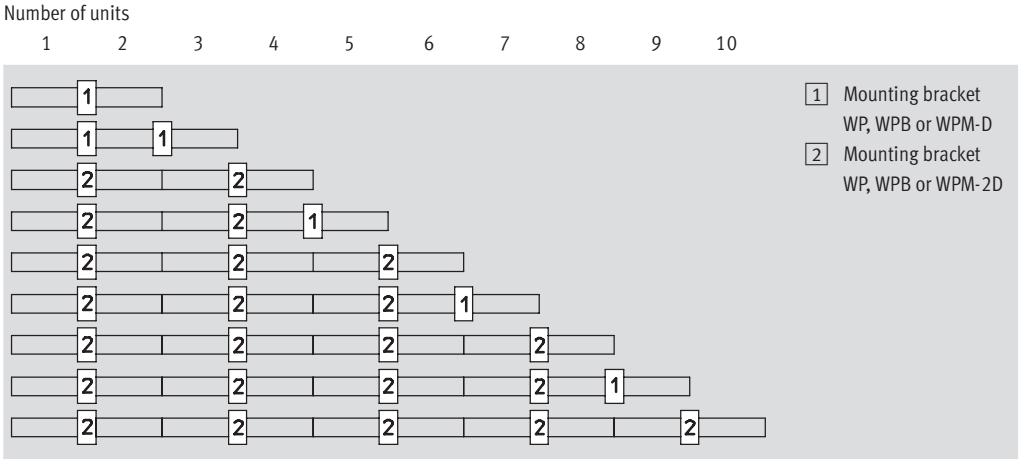
Weight [lb]	Part No.	Type
0.07	**532798**	**MS4-MV**

6 Mounting Bracket MS4-WP...

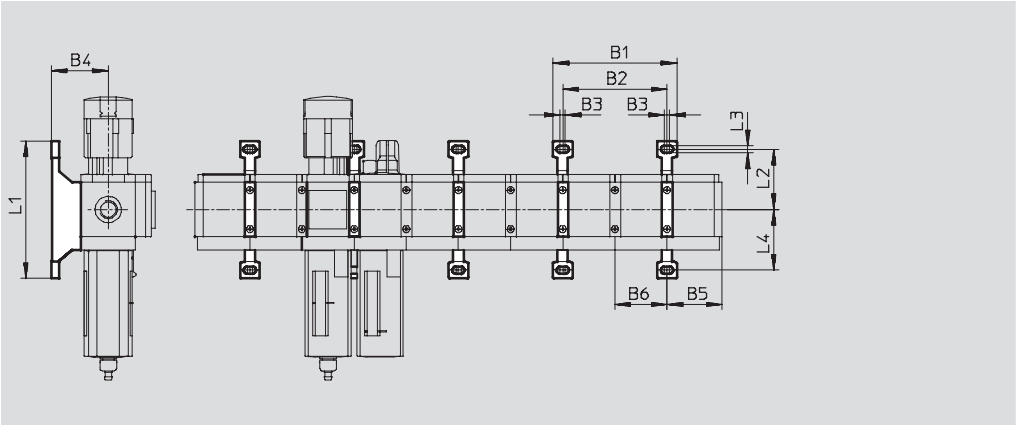
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 1.575 in

2 units: 3.15 in



Mounting dimensions



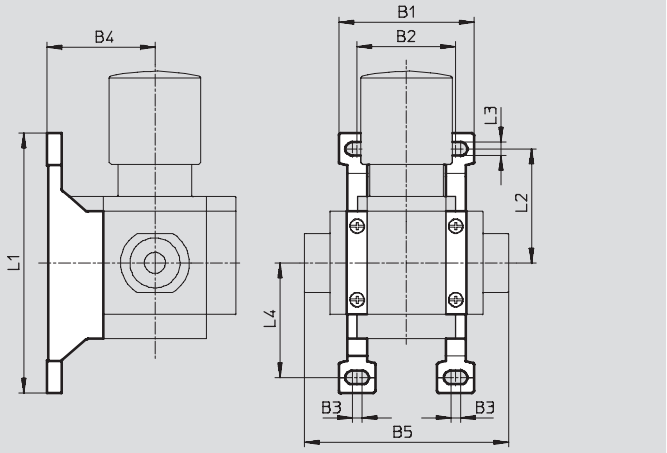
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	3.75	3.15	0.16	1.73	1.65	1.57	4.17	1.83	0.22	1.84
MS4-WPB				2.60						
MS4-WPM-...D				1.73			3.65	1.37		1.57

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

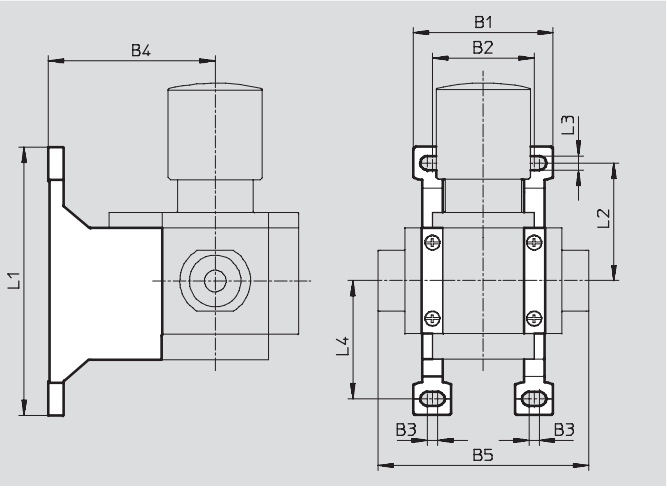
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	1.73	3.28	4.17	1.83	0.22	1.84	0.08	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	2.60	3.28	4.17	1.83	0.22	1.84	0.11	**526063**	**MS4-WPB**

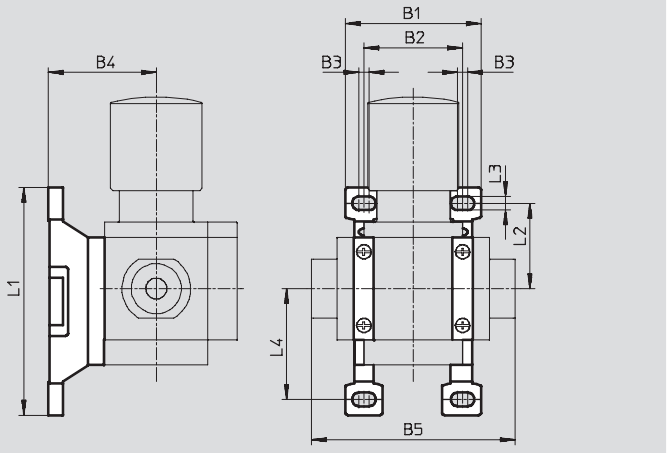
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
2.17	1.57	0.16	1.73	3.28	3.65	1.37	0.22	1.78	1.57	0.09	**526060**	**MS4-WPM-D**
3.75	3.15			4.86					3.15	0.11	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

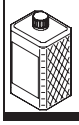
- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

Ordering Data – Special Oil OFSW				
	Description	Scope of delivery	Part No.	Type
	for lubricators	1 liter	**152811**	**OFSW-32**

On-off/Soft-start Valves MS4-EM1/EE/DL/DE – Metric Series



Manually operated and solenoid actuated on-off valves for pressurizing and venting pneumatic installations. Pneumatic and solenoid actuated soft-start valves for slowly pressurizing and venting pneumatic installation.

- On-off valves
  – MS4-EM1, manually operated
  – MS4-EE, solenoid actuated
- Soft-start valves
  – MS4-DL, pneumatically actuated
  – MS4-DE, solenoid actuated
- Pneumatic connection: G1⁄8, G1⁄4, G3⁄8
- Operating pressure
  – EM1: 0 … 14 bar
  – EE, DL and DE: 4 … 14 bar
- Flow rate: 1,000 … 2,200 l/min

Product Range Overview

Type	Flow rate [l/min]	Pneumatic connections		Supply voltage				Pressure indicator					Options	
		Body thread	Port plate	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G1⁄8	Adapter for pressure gauge G1⁄4	Pressure sensor with display	Silencer	Flow direction from right to left
MS4			AG…	V24	V24P	V110	V230	VS	AG	A8	A4	AD…	S	Z
EM1	1,200 … 2,200	G1⁄8, G1⁄4	G1⁄8, G1⁄4, G3⁄8	–	–	–	–	■	■	■	■	■	■	■
EE	1,000 … 2,000	G1⁄8, G1⁄4	G1⁄8, G1⁄4, G3⁄8,	■	–	■	■	■	■	■	■	■	■	■
DL	1,000 … 2,000	G1⁄8, G1⁄4	G1⁄8, G1⁄4, G3⁄8	–	–	–	–	■	■	■	■	■	–	■
DE	1,000 … 2,000	G1⁄8, G1⁄4	G1⁄8, G1⁄4, G3⁄8	■	–	■	■	■	■	■	■	■	–	■

Contents

MS4-EM1

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→ www.festo.com/catalog/ms4-em1

MS4-EE

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→ www.festo.com/catalog/ms4-ee

MS4-DL

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→ www.festo.com/catalog/ms4-dl

MS4-DE

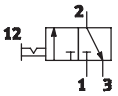
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→ www.festo.com/catalog/ms4-de

On-off Valves MS4-EM1 – Metric Series

Technical Data

ISO Symbol



- Manually operated on-off valve for pressurizing and venting pneumatic installations
- The valve is activated by turning the rotary knob
- At connection 3 there is the facility to attach a silencer and/or to duct the exhaust air
- When the valve is closed, the rotary knob can be secured with a padlock
- Optional pressure gauge
- Optional pressure sensor with display



General Technical Data			
Pneumatic connection 1, 2		G⅛	G¼
Pneumatic connection 3		G¼	
Operating pressure	[bar]	0 ... 14 (Standard)	
		0 ... 10 (Pressure sensor with display AD...)	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]		
Pneumatic connection	G⅛	G¼
In main flow direction 1 ⇢ 2	1,200	2,200
In relief direction 2 ⇢ 3	1,900	1,700

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Exhaust function		No flow control	
Switching position display		Knob actuator direction = flow direction	
Ambient temperature	[°C]	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	0 ... +50
Assembly position		Any	
Corrosion resistance	CRC[2]	2	

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Standard	190
With silencer	210

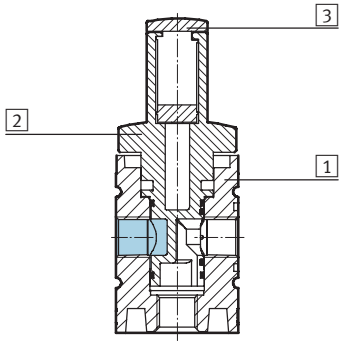
- For spare parts go to: www.festo.com/en/spare_parts_service

On-off Valves MS4-EM1 – Metric Series

Technical Data, Dimensional Drawings

Materials

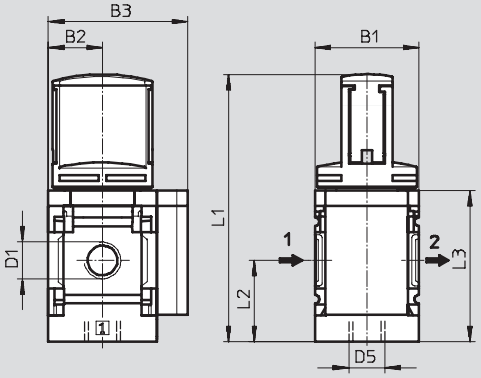
Sectional view

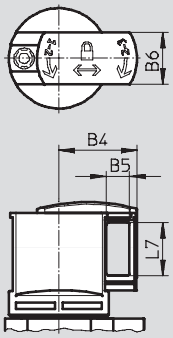


On-off valve		
1	Body	Die-cast aluminum
2	Rotary valve	Reinforced polyamide
3	Lock slide	Reinforced polyamide
–	Seals	Nitrile rubber, polyurethane
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**





➔ Flow direction

Type	B1	B2	B3	B4	B5	B6	D1	D5	L1	L2	L3	L7
MS4-EM1-⅛	40	21	54	30	9	20	G⅛	G¼	104	31.5	59	20.6
MS4-EM1-¼							G¼					

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

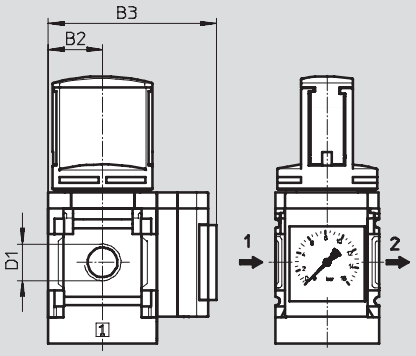
On-off Valves MS4-EM1 – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

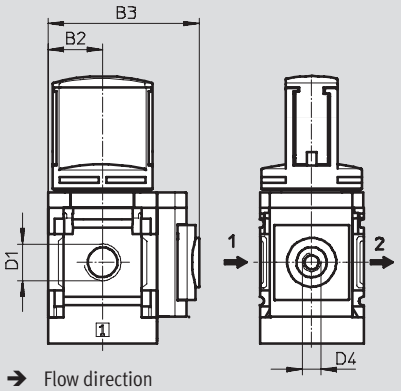
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



➔ Flow direction

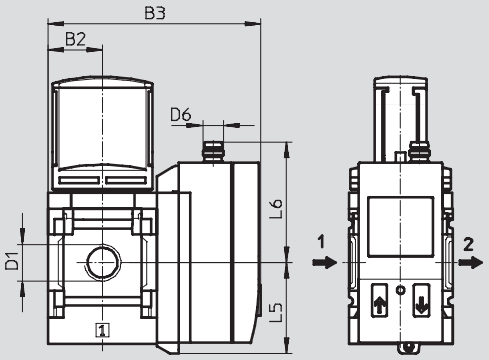
Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

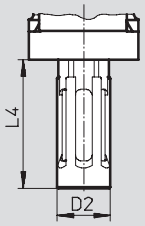
AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS4-EM1-1/8-...-AG	21	65	G1/8	–	–	–	–
MS4-EM1-1/4-...-AG			G1/4				
MS4-EM1-1/8-...-A8	21	58.5	G1/8	G1/8	–	–	–
MS4-EM1-1/4-...-A8			G1/4				
MS4-EM1-1/8-...-A4	21	58.5	G1/8	G1/4	–	–	–
MS4-EM1-1/4-...-A4			G1/4				
MS4-EM1-1/8-...-AD1/AD2	21	82.6	G1/8	–	M8x1	35.1	46.7
MS4-EM1-1/4-...-AD1/AD2			G1/4				
MS4-EM1-1/8-...-AD3/AD4	21	82.6	G1/8	–	M12x1	35.1	55.8
MS4-EM1-1/4-...-AD3/AD4			G1/4				

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Silencer Download CAD Data ➔ **www.festo.com/us/cad**



Type	D2	L4
MS4-EM1-...-S	19.5	47

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Connection	Standard				With silencer		
	Part No.	Type	LT		Part No.	Type	LT
G1/8	**541262**	**MS4-EM1-1/8[2]**	1D		**541263**	**MS4-EM1-1/8-S[2]**	1D
G1/4	**541258**	**MS4-EM1-1/4[2]**	1D		**541259**	**MS4-EM1-1/4-S[2]**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Free of copper and PTFE

On-off Valves MS4-EM1 – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data					O Options				
Part No.	Series	Size	Function	Connection size	Silencer	Pressure gauge alternatives	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
541266	MS	4	EM1	1/8, 1/4, AGA, AGB, AGC	S	AG, A8, A4, AD1, AD2, AD3, AD4	PSI MPA	WP WPM WB WBM	Z
Order example									
541266	**MS**	**4**	**– EM1**	**– 1/4**	**– S**	**– AG**	**– PSI**	**– WB**	**– Z**

Ordering Table

Grid dimension [mm]		40	Conditions	Code	Enter code
M	Part No.	**541266**			
	Series	Standard		**MS**	MS
	Size	4		**4**	4
	Function	On-off valve, manual		**-EM1**	-EM1
	Connection size	Body thread G1/8		**-1/8**	
		Body thread G1/4		**-1/4**	
		Port plate G1/8 (dimensions ➔ 390)		**-AGA**	
		Port plate G1/4 (dimensions ➔ 390)		**-AGB**	
		Port plate G3/8 (dimensions ➔ 390)		**-AGC**	
O	Silencer	Silencer		**-S**	
	Pressure gauge alternatives	MS pressure gauge, bar (with adapter)		**-AG**	
		Adapter plate for EN pressure gauge 1/8, without pressure gauge		**-A8**	
		Adapter plate for EN pressure gauge 1/4, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	1	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	1	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	1	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	1	**-AD4**	
	Alternative pressure gauge scale	psi	2	**-PSI**	
		MPa	2	**-MPA**	
	Type of mounting	Mounting bracket (dimensions ➔ 391)	3	**-WP**	
		Mounting bracket (dimensions ➔ 391)	3	**-WPM**	
		Mounting bracket (dimensions ➔ 388)		**-WB**	
		Mounting bracket (dimensions ➔ 388)		**-WBM**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **AD1 ... AD4** Measuring range max. 10 bar

2 **PSI, MPA** Only with pressure gauge AG

3 **WP, WPM** Only with port plate AGA, AGB or AGC

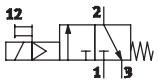
Transfer order code

541266	**MS**	**4**	**–**	**EM1**	**–**		**–**		**–**		**–**		**–**	

On-off Valves MS4-EE – Metric Series

Technical Data

ISO Symbol



- Solenoid actuated on-off valve for pressurizing and venting pneumatic installations
- Ducted exhaust possible via a threaded connection with silencer
- Pushing and detenting manual override (detenting is locked on delivery)
- Solenoid coil without plug socket, three voltage ranges available.
- Solenoid actuator can be repositioned by 180°
- Optional pressure sensor with display



General Technical Data			
Pneumatic connection 1, 2		G⅛	G¼
Pneumatic connection 3		G¼	
Operating pressure	[bar]	4 ... 14 (Coil parameter V24, V110, V230)	
		4 ... 10 (Coil parameter 10V24)	
		4 ... 10 (Pressure sensor with display AD...)	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]		
Pneumatic connection	G⅛	G¼
In main flow direction 1 ⇢ 2	1,000	2,000
In relief direction 2 ⇢ 3	1,600	1,600

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Operating and Environmental Conditions				
Variant		Coil parameter V24, V110, V230	Coil parameter 10V24	Pressure sensor with display AD...
Operating medium		Compressed air		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Coil characteristics	V24	24 V DC (For valves with max. inlet pressure 14 bar – only available via configurator)		
	10V24	24 V DC (For valves with max. inlet pressure 10 bar)		
	V110	110 V AC		
	V230	230 V AC		
Exhaust function		Without flow control		
Ambient temperature	[°C]	–10 ... +60	–10 ... +50	0 ... +50
Temperature of medium	[°C]	–10 ... +60	–10 ... +50	0 ... +50
Assembly position		Any		
Corrosion resistance	CRC[2]	2		

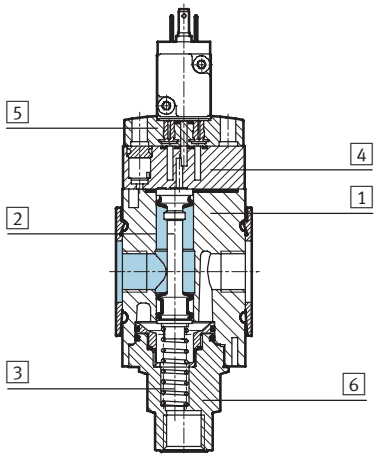
2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Standard	273
With silencer	289

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



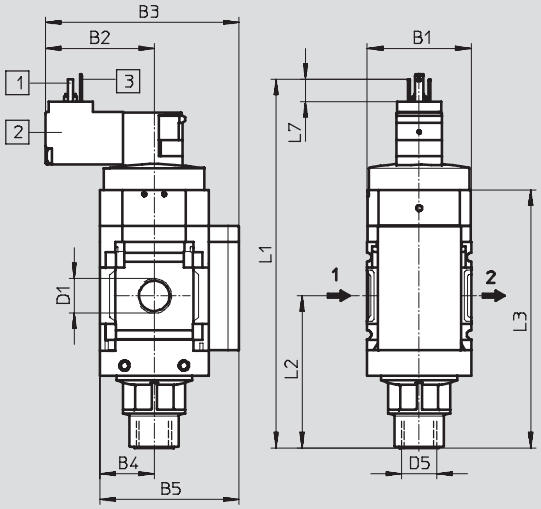
On-off valve		
1	Body	Die-cast aluminum
2	Piston spool	Nitrile rubber/Aluminum
3	Springs	High-alloy stainless steel
4	End cap	Polyamide
5	Top plate	Polyamide
6	Socket end connection	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG, 10V24 or AD...)

On-off Valves MS4-EE – Metric Series

Dimensional Drawings

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



1 Plug connection to DIN EN 175 301-803
2 Solenoid actuator can be repositioned by 180°, i.e. solenoid points to the front
3 PIN only with solenoid actuators 110 V and 230 V

➔ Flow direction

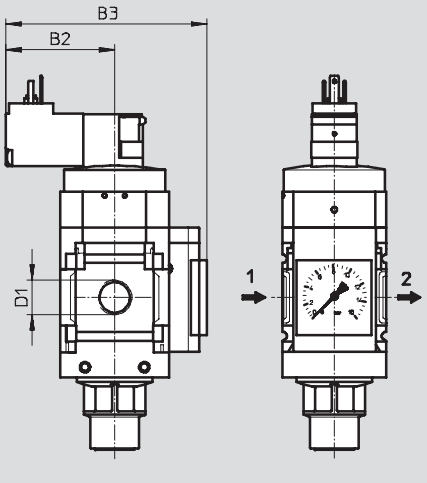
Type	B1	B2	B3	B4	B5	D1	D5	L1	L2	L3	L7
MS4-EE-⅛	40	42.2	75.2	21	54	G⅛	G¼	142.8	58.9	100	8.6
MS4-EE-¼						G¼					

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Pressure Gauge Alternatives

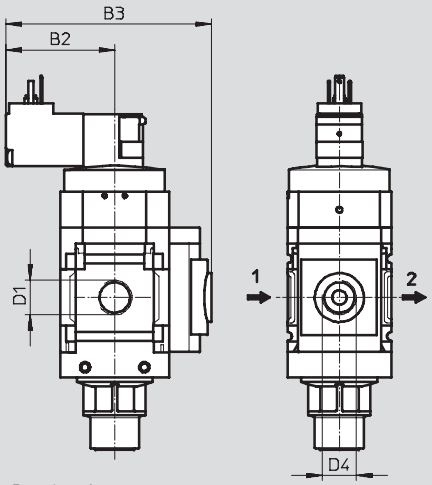
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



➔ Flow direction

Adapter plate A8/A4 for EN pressure gauge ⅛/¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS4-EE-⅛-...-AG	42.2	86.2	G⅛	–
MS4-EE-¼-...-AG			G¼	
MS4-EE-⅛-...-A8	42.2	79.7	G⅛	G⅛
MS4-EE-¼-...-A8			G¼	
MS4-EE-⅛-...-A4	42.2	79.7	G⅛	G¼
MS4-EE-¼-...-A4			G¼	

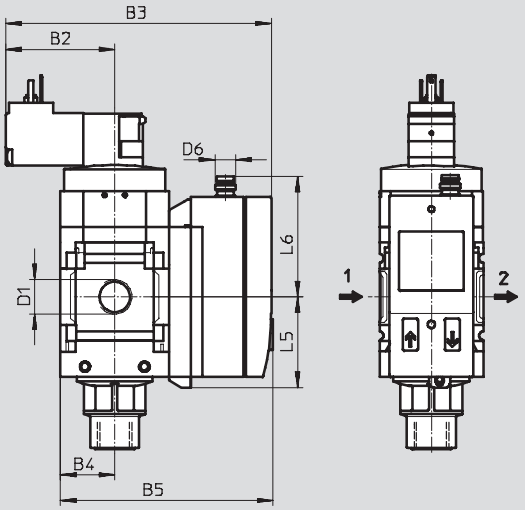
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

On-off Valves MS4-EE – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4 Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

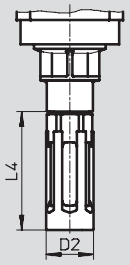
AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	B4	B5	D1	D6	L5	L6
MS4-EE-⅛-...-AD1/AD2	42.2	103.8	21	82.6	G⅛	M8x1	35.1	46.7
MS4-EE-¼-...-AD1/AD2					G¼			
MS4-EE-⅛-...-AD3/AD4	42.2	103.8	21	82.6	G⅛	M12x1	35.1	55.8
MS4-EE-¼-...-AD3/AD4					G¼			

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Silencer Download CAD Data ➔ **www.festo.com/us/cad**



Type	D2	L4
MS4-EE-...-S	19.5	48.5

1) Dimensions are in millimeters, unless otherwise noted.

On-off Valves MS4-EE – Metric Series

Ordering Data – Pre-configured Products

Ordering Data							
Connection	Without silencer				With silencer		
	Part No.	Type	LT		Part No.	Type	LT
Supply voltage 24 V DC							
G⅛	**542580**	**MS4-EE-⅛-10V24**	1D		**542600**	**MS4-EE-⅛-10V24-S**	Q
G¼	**542578**	**MS4-EE-¼-10V24**	1D		**542598**	**MS4-EE-¼-10V24-S**	Q
Supply voltage 110 V AC							
G⅛	**529541**	**MS4-EE-⅛-V110**[1)]	1D		**538725**	**MS4-EE-⅛-V110-S**[1)]	Q
G¼	**529535**	**MS4-EE-¼-V110**[1)]	1D		**538719**	**MS4-EE-¼-V110-S**[1)]	Q
Supply voltage 230 V AC							
G⅛	**529543**	**MS4-EE-⅛-V230**[1)]	1D		**538727**	**MS4-EE-⅛-V230-S**[1)]	Q
G¼	**529537**	**MS4-EE-¼-V230**[1)]	1D		**538721**	**MS4-EE-¼-V230-S**[1)]	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Free of copper and PTFE

On-off Valves MS4-EE – Metric Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data**

Part No.	Series	Size		Function		Connection size		Supply voltage
527709	MS	4		EE		⅛ ¼ AGA AGB AGC		V24 10V24 V110 V230
Order example								
527709	**MS**	**4**	–	**EE**	–	**AGB**	–	**V24**

Ordering Table

Grid dimension [mm]		40	Conditions	Code		Enter code
M	Part No.	**527709**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Function	On-off valve, electrical		**-EE**		-EE
	Connection size	Body thread G⅛		**-⅛**		
		Body thread G¼		**-¼**		
		Port plate G⅛ (dimensions ➔ 390)		**-AGA**		
		Port plate G¼ (dimensions ➔ 390)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 390)		**-AGC**		
	Supply voltage	24 V DC (connection pattern to EN 175301), 14 bar		**-V24**		
		24 V DC (connection pattern to EN 175301), 10 bar	1	**-10V24**		
		110 V AC (connection pattern to EN 175301), 14 bar		**-V110**		
↓		230 V AC (connection pattern to EN 175301), 14 bar		**-V230**		

1 **10V24** Max. inlet pressure 10 bar

Transfer order code

527709	**MS**	**4**	–	**EE**	–		–	

➔ [0] **Options**

	Silencer		Pressure gauge alternatives		Alternative pressure gauge scale		Type of mounting		Reverse flow direction
	S		AG A8 A4 AD1 AD2 AD3 AD4		PSI MPA		WP WPM WB WBM		Z
–	**S**	–	**AG**	–	**PSI**	–	**WP**	–	**Z**

Ordering Table

Grid dimension [mm]		40	Conditions	Code		Enter code
[0]	Silencer	Silencer		**-S**		
	Pressure gauge alternatives	MS pressure gauge, bar (with adapter)		**-AG**		
		Adapter plate for EN pressure gauge ⅛, without pressure gauge		**-A8**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	[2]	**-AD1**		
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	[2]	**-AD2**		
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	[2]	**-AD3**		
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	[2]	**-AD4**		
	Alternative pressure gauge scale	psi	[3]	**-PSI**		
		MPa	[3]	**-MPA**		
	Type of mounting	Mounting bracket (dimensions ➔ 391)	[4]	**-WP**		
		Mounting bracket (dimensions ➔ 391)	[4]	**-WPM**		
		Mounting bracket (dimensions ➔ 388)		**-WB**		
		Mounting bracket (dimensions ➔ 388)		**-WBM**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

[2] **AD1 ... AD4** Measuring range max. 10 bar

[3] **PSI, MPA** Only with pressure gauge AG

[4] **WP, WPM** Only with port plate AGA, AGB or AGC

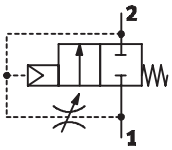
Transfer order code

–		–		–		–		–	

Soft-start Valves MS4-DL – Metric Series

Technical Data

ISO Symbol



- Pneumatically actuated soft-start valve for slowly pressurizing and venting pneumatic installations (for use with on-off valves EM1 and EE)
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. The main seat opens when the switch-through pressure is reached.
- Pressure switching approx. 50% of supply pressure
- When the valve is exhausted, the main seat remains open until the switch-through pressure is reached. The rest of the exhaust procedure is performed via the restricted passage.



- The cylinders advance slowly and reliably into the initial position, sudden and erratic movements are avoided.
- Adjustable switching time delay
- Optional pressure sensor with display

General Technical Data			
Pneumatic connection 1, 2		G⅛	G¼
Operating pressure	[bar]	4 ... 14 (Standard)	
		4 ... 10 (Pressure sensor with display AD...)	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]		
Pneumatic connection 1, 2	G⅛	G¼
In main flow direction 1 ⇢ 2	1,000	2,000
In relief direction 2 ⇢ 1	1,000	2,000

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Exhaust function		Flow control	
Direction of flow		Non-reversible	
Ambient temperature	[°C]	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	0 ... +50
Assembly position		Any	
Corrosion resistance	CRC[2]	2	

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Soft-start valve	213

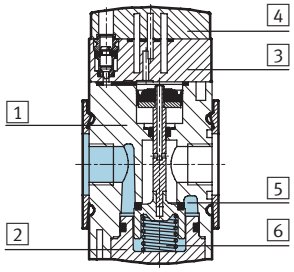
- For spare parts go to: www.festo.com/en/spare_parts_service

Soft-start Valves MS4-DL – Metric Series

Technical Data

Materials

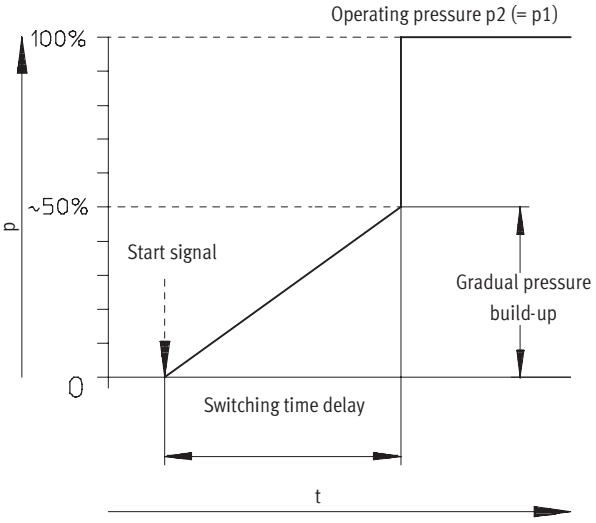
Sectional view



Soft-start valve		
1	Body	Die-cast aluminum
2	Base	Polyester
3	End cap	Polyamide
4	Top plate	Polyamide
5	Seat	Die-cast aluminum
6	Springs	Spring steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Switching Point

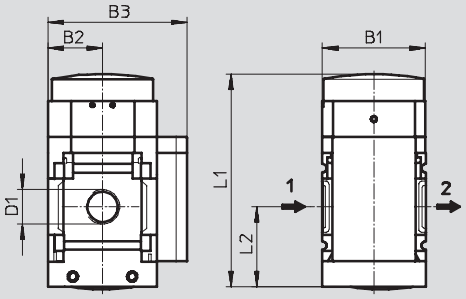
Pressure p as a function of time t



Soft-start Valves MS4-DL – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



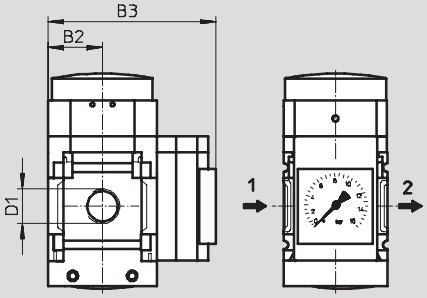
➔ Flow direction

Type	B1	B2	B3	D1	L1	L2
MS4-DL-⅛	40	21	54	G⅛	82.7	31
MS4-DL-¼				G¼		

1) Dimensions are in millimeters, unless otherwise noted.

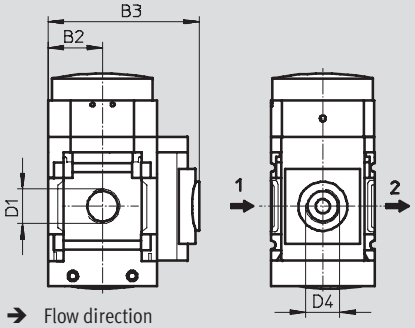
Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



➔ Flow direction

Adapter plate A8/A4 for EN pressure gauge ⅛/¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS4-DL-⅛-...-AG	21	65	G⅛	–
MS4-DL-¼-...-AG			G¼	
MS4-DL-⅛-...-A8	21	58.5	G⅛	G⅛
MS4-DL-¼-...-A8			G¼	
MS4-DL-⅛-...-A4	21	58.5	G⅛	G¼
MS4-DL-¼-...-A4			G¼	

1) Dimensions are in millimeters, unless otherwise noted.

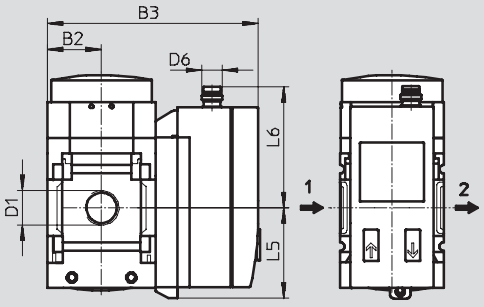
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D6	L5	L6
MS4-DL-⅛-...-AD1/AD2	21	82.6	G⅛	M8x1	35.1	46.7
MS4-DL-¼-...-AD1/AD2			G¼			
MS4-DL-⅛-...-AD3/AD4	21	82.6	G⅛	M12x1	35.1	55.8
MS4-DL-¼-...-AD3/AD4			G¼			

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
G⅛	**529533**	**MS4-DL-⅛**[2]	1D
G¼	**529531**	**MS4-DL-¼**[2]	1D

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

2) Free of copper and PTFE

Soft-start Valves MS4-DL – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data									O Options								
Part No.	Series	Size		Function		Connection size			Pressure gauge alternatives		Alternative pressure gauge scale		Type of mounting		Reverse flow direction		
527711	MS	4		DL		1/8, 1/4, AGA, AGB, AGC			AG, A8, A4, AD1, AD2, AD3, AD4		PSI MPA		WP WPM WB WBM		Z		
Order example																	
527711	MS	4	–	DL	–	AGA	–		AG	–	PSI	–	WB	–	Z		

Ordering Table						
Grid dimension [mm]		40	Conditions	Code		Enter code
M	Part No.	**527711**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Function	Soft-start valve, pneumatic		**-DL**		-DL
	Connection size	Body thread G1/8		**-1/8**		
		Body thread G1/4		**-1/4**		
		Port plate G1/8 (dimensions ➔ 390)		**-AGA**		
		Port plate G1/4 (dimensions ➔ 390)		**-AGB**		
		Port plate G3/8 (dimensions ➔ 390)		**-AGC**		
O	Pressure gauge alternatives	MS pressure gauge, bar (with adapter)		**-AG**		
		Adapter plate for EN pressure gauge 1/8, without pressure gauge		**-A8**		
		Adapter plate for EN pressure gauge 1/4, without pressure gauge		**-A4**		
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	1	**-AD1**		
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	1	**-AD2**		
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	1	**-AD3**		
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	1	**-AD4**		
	Alternative pressure gauge scale	psi	2	**-PSI**		
		MPa	2	**-MPA**		
	Type of mounting	Mounting bracket (dimensions ➔ 391)	3	**-WP**		
		Mounting bracket (dimensions ➔ 391)	3	**-WPM**		
		Mounting bracket (dimensions ➔ 388)		**-WB**		
		Mounting bracket (dimensions ➔ 388)		**-WBM**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **AD1 ... AD4** Measuring range max. 10 bar

2 **PSI, MPA** Only with pressure gauge AG

3 **WP, WPM** Only with port plate AGA, AGB or AGC

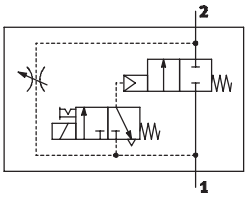
Transfer order code

527711	MS	4	–	DL	–		–		–		–		–		–		

Soft-start Valves MS4-DE – Metric Series

Technical Data

ISO Symbol



- Solenoid actuated soft-start valve for slowly pressurizing and venting pneumatic installations
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. Only the air flow from the restrictor is available when the solenoid valve is not actuated. The main seat is only opened by energizing the solenoid valve.
- The cylinders advance slowly and reliably into the initial position, sudden and erratic movements are avoided.
- When the solenoid valve is switched off, the main seat is closed and only the air flow from the flow control valve is available.



- The solenoid valve should remain switched on in order to vent a system as this increases the flow rate from 2 and 1 and reduces the exhaust time.
- Solenoid coil without plug socket, three voltage ranges available.
- Switch-through pressure can be precisely controlled using a solenoid valve
- Adjustable switching time delay
- Pushing and detenting manual override (detenting is locked on delivery)
- Solenoid actuator can be repositioned by 180°
- Optional pressure sensor with display

General Technical Data			
Pneumatic connection 1, 2		G⅛	G¼
Operating pressure	[bar]	4 ... 14 (Coil parameter V24, V110, V230	
		4 ... 10 (Coil parameter 10V24)	
		4 ... 10 (Pressure sensor with display AD...)	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]		
Pneumatic connection 1, 2	G⅛	G¼
In main flow direction 1 ⇢ 2	1,000	2,000
In relief direction 2 ⇢ 1[2]	1,000	2,000

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar
2) For energized solenoid valve.

Soft-start Valves MS4-DE – Metric Series

Technical Data

Operating and Environmental Conditions				
Variant		Coil parameter V24, V110, V230	Coil parameter 10V24	Pressure sensor with display AD...
Operating medium		Compressed air		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Coil characteristics	V24	24 V DC (For valves with max. inlet pressure 14 bar – only available via configurator)		
	10V24	24 V DC (For valves with max. inlet pressure 10 bar)		
	V110	110 V AC		
	V230	230 V AC		
Exhaust function		Flow control		
Direction of flow		Non-reversible		
Ambient temperature	[°C]	–10 ... +60	–10 ... +50	0 ... +50
Temperature of medium	[°C]	–10 ... +60	–10 ... +50	0 ... +50
Assembly position		Any		
Corrosion resistance	CRC[1)]	2		

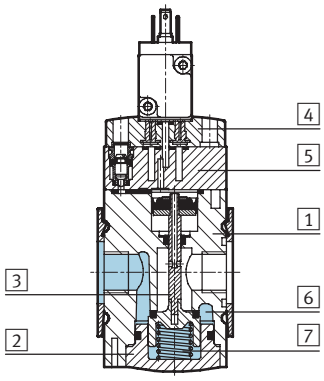
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Soft-start valve	263

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



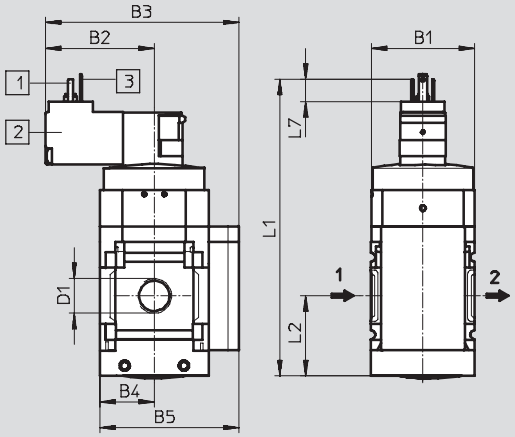
Soft-start valve		
1	Body	Die-cast aluminum
2	Base	Polyamide
3	Valve stem	Steel
4	End cap	Polyamide
5	Top plate	Polyamide
6	Seat	Aluminum/nitrile rubber
7	Springs	Spring steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG, 10V24 or AD...)

Soft-start Valves MS4-DE – Metric Series

Dimensional Drawings

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



1 Plug connection to DIN EN 175 301-803
2 Solenoid actuator can be repositioned by 180°, i.e. solenoid points to the front
3 PIN only with solenoid actuators 110 V and 230 V

➔ Flow direction

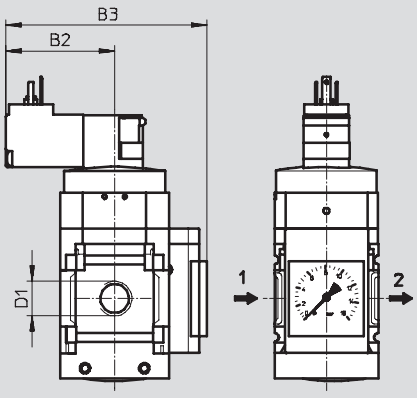
Type	B1	B2	B3	B4	B5	D1	L1	L2	L7
MS4-DE-⅛	40	42.2	75.2	21	54	G⅛	115.4	31.5	8.6
MS4-DE-¼						G¼			

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Pressure Gauge Alternatives

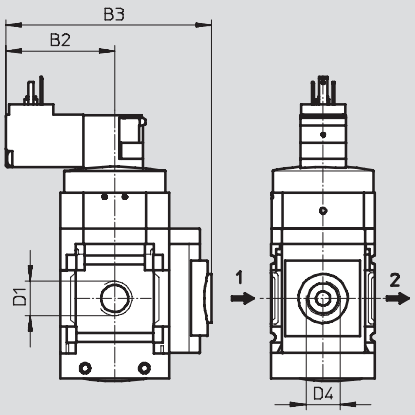
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



➔ Flow direction

Adapter plate A8/A4 for EN pressure gauge ⅛/¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS4-DE-⅛-...-AG	42.2	86.2	G⅛	–
MS4-DE-¼-...-AG			G¼	
MS4-DE-⅛-...-A8	42.2	79.7	G⅛	G⅛
MS4-DE-¼-...-A8			G¼	
MS4-DE-⅛-...-A4	42.2	79.7	G⅛	G¼
MS4-DE-¼-...-A4			G¼	

1) Dimensions are in millimeters, unless otherwise noted.

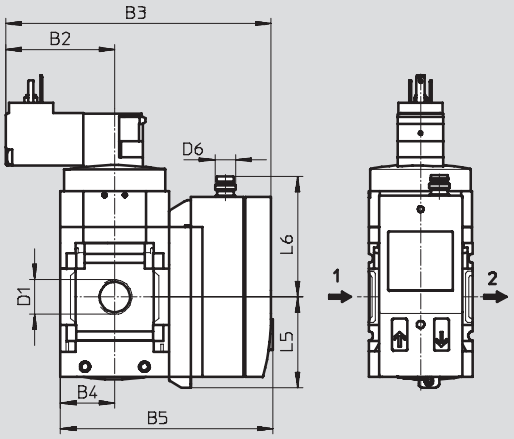
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	B4	B5	D1	D6	L5	L6
MS4-DE-⅛-...-AD1/AD2	42.2	103.8	21	82.6	G⅛	M8x1	35.1	46.7
MS4-DE-¼-...-AD1/AD2					G¼			
MS4-DE-⅛-...-AD3/AD4	42.2	103.8	21	82.6	G⅛	M12x1	35.1	55.8
MS4-DE-¼-...-AD3/AD4					G¼			

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
Supply voltage 24 V DC			
G⅛	**542560**	**MS4-DE-⅛-10V24**	1D
G¼	**542558**	**MS4-DE-¼-10V24**	1D
Supply voltage 110 V AC			
G⅛	**529525**	**MS4-DE-⅛-V110**[2]	1D
G¼	**529519**	**MS4-DE-¼-V110**[2]	1D
Supply voltage 230 V AC			
G⅛	**529527**	**MS4-DE-⅛-V230**[2]	1D
G¼	**529521**	**MS4-DE-¼-V230**[2]	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Free of copper and PTFE

Soft-start Valves MS4-DE – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data						O Options			
Part No.	Series	Size	Function	Connection size	Supply voltage	Pressure gauge alternatives	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
527713	MS	4	DE	⅛, ¼, AGA, AGB, AGC	V24 10V24 V110 V230	AG, A8, A4, AD1, AD2, AD3, AD4	PSI MPA	WP WPM WB WBM	Z
Order example									
527713	**MS**	**4**	**DE**	**AGA**	**V110**	**AG**	**PSI**	**WP**	**Z**

Ordering Table

Grid dimension [mm]		40	Conditions	Code	Enter code
M	Part No.	**527713**			
	Series	Standard		**MS**	MS
	Size	4		**4**	4
	Function	Soft-start valve, electrical		**-DE**	-DE
	Connection size	Body thread G⅛		**-⅛**	
		Body thread G¼		**-¼**	
		Port plate G⅛ (dimensions ➔ 390)		**-AGA**	
		Port plate G¼ (dimensions ➔ 390)		**-AGB**	
		Port plate G⅜ (dimensions ➔ 390)		**-AGC**	
	Supply voltage	24 V DC (connection pattern to EN 175301), 14 bar		**-V24**	
		24 V DC (connection pattern to EN 175301), 10 bar	1	**-10V24**	
		110 V AC (connection pattern to EN 175301), 14 bar		**-V110**	
		230 V AC (connection pattern to EN 175301), 14 bar		**-V230**	
O	Pressure gauge alternatives	MS pressure gauge, bar (with adapter)		**-AG**	
		Adapter plate for EN pressure gauge ⅛, without pressure gauge		**-A8**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	2	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	2	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	2	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	2	**-AD4**	
	Alternative pressure gauge scale	psi	3	**-PSI**	
		MPa	3	**-MPA**	
	Type of mounting	Mounting bracket (dimensions ➔ 391)	4	**-WP**	
		Mounting bracket (dimensions ➔ 391)	4	**-WPM**	
		Mounting bracket (dimensions ➔ 388)		**-WB**	
		Mounting bracket (dimensions ➔ 388)		**-WBM**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **10V24** Max. inlet pressunge 10 bar
2 **AD1 ... AD4** Measuring range max. 10 bar
3 **PSI, MPA** Only with pressure gauge AG
4 **WP, WPM** Only with port plate AGA, AGB or AGC

Transfer order code

527713	**MS**	**4**	–	**DE**	–		–		–		–		–	

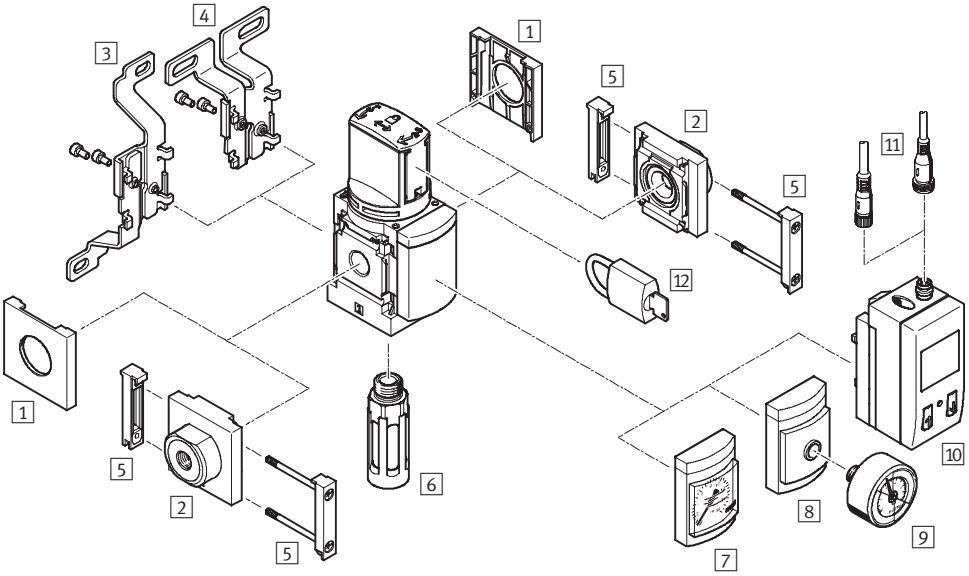
On-off/Soft-start Valves MS4-EM1/DL – Metric Series

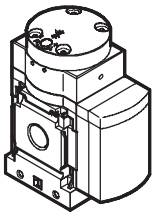
Accessories Overview

Mounting Attachments and Accessories

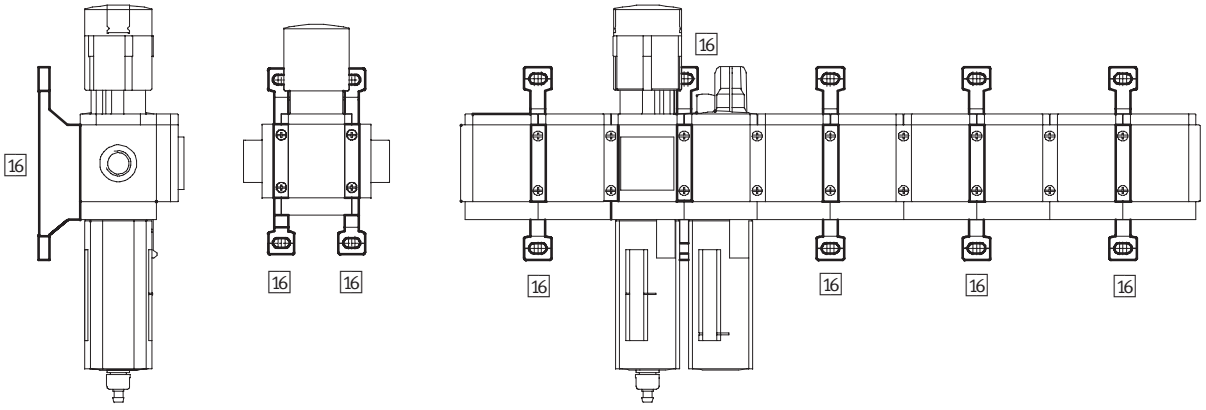
On-off Valve EM1 – manually actuated

Soft-start Valve DL – pneumatically actuated





Single unit and combination unit mounting brackets.



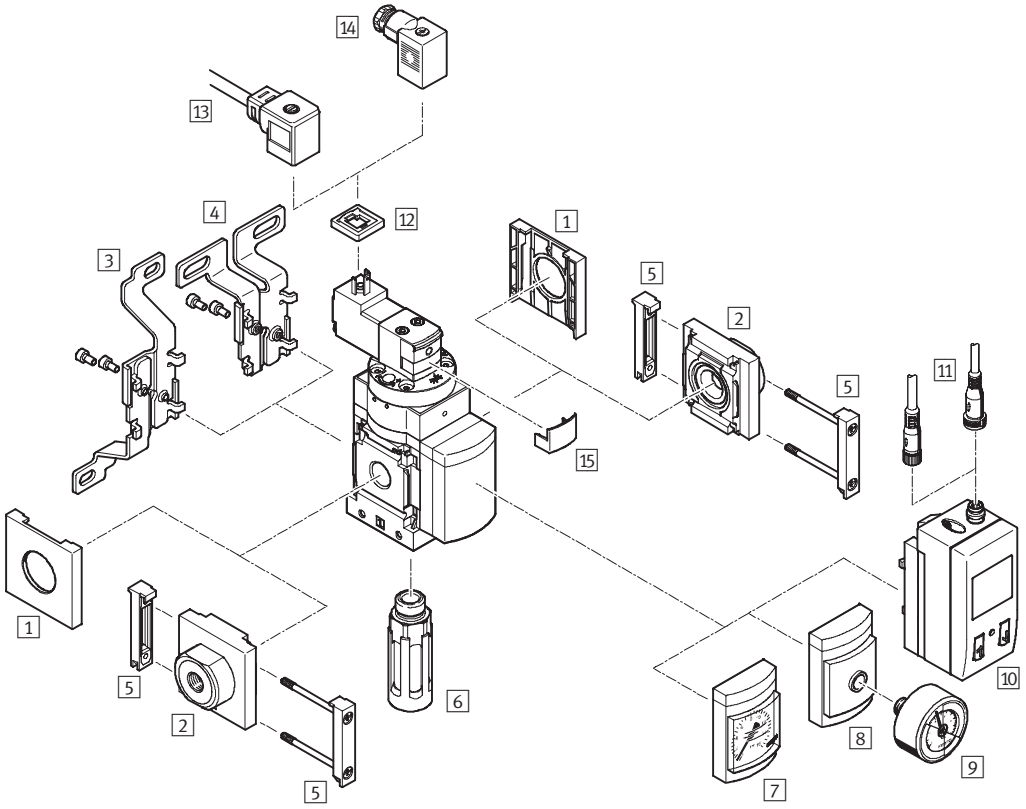
On-off/Soft-start Valves MS4-EM1/DL – Metric Series

Accessories Overview

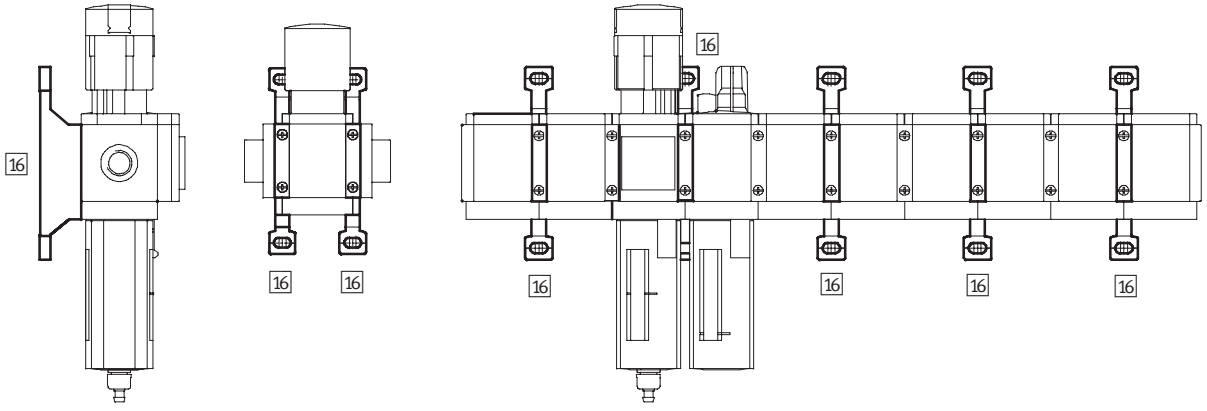
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	389
2	Port plate MS4-AG...	–	■	–	■	390
3	Mounting bracket MS4-WB	■	■	–	–	388
4	Mounting bracket MS4-WBM	■	■	–	–	388
5	Body connector MS4-MV	–	■	■	■	390
6	Silencer U	■ with EM1	■ with EM1	■ with EM1	■ with EM1	395
7	MS pressure gauge AG	■	■	■	■	EM1 366 DL 378
8	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	EM1 366 DL 378
9	Pressure gauge MA	■	■	■	■	395
10	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	EM1 366 DL 378
11	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	394
12	Padlock LRVS-D	■	■	■	■	395
16	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	391

Mounting Attachments and Accessories

On-off/Soft-start Valve EE/DE – solenoid actuated



Single unit and combination unit mounting brackets.



On-off/Soft-start Valves MS4-EE/DE – Metric Series

Accessories Overview

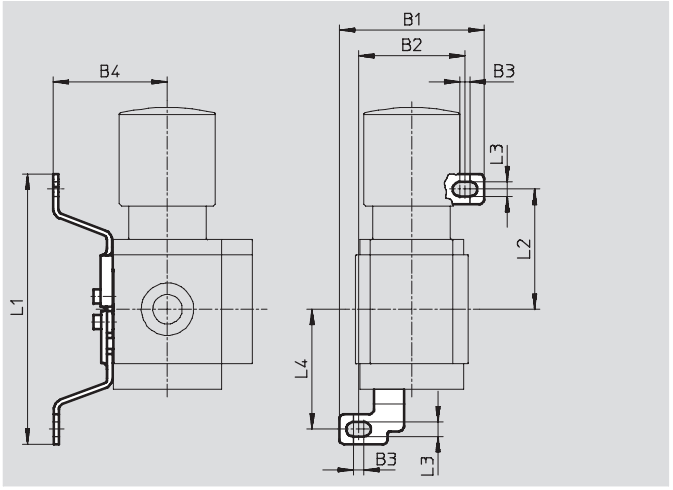
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	389
2	Port plate MS4-AG...	–	■	–	■	390
3	Mounting bracket MS4-WB	■	■	–	–	388
4	Mounting bracket MS4-WBM	■	■	–	–	388
5	Body connector MS4-MV	–	■	■	■	390
6	Silencer U	■ with EE	■ with EE	■ with EE	■ with EE	395
7	Pressure gauge MS AG	■	■	■	■	EE 372 DE 383
8	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	EE 372 DE 383
9	Pressure gauge MA	■	■	■	■	395
10	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	EE 372 DE 383
11	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	394
12	Illuminating seal MEB-LD	■	■	■	■	394
13	Plug socket with cable KMEB	■	■	■	■	394
14	Plug socket MSSD-EB	■	■	■	■	394
15	Locking clip CPV18-HV	■	■	■	■	394
16	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	391

3 Mounting bracket MS4-WB

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

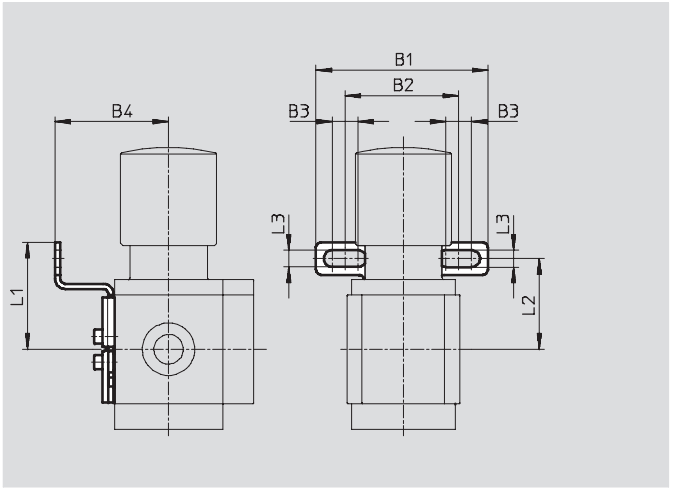
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
56.2	41.2	4	44.2	104.6	46.6	5.6	46.5	46	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

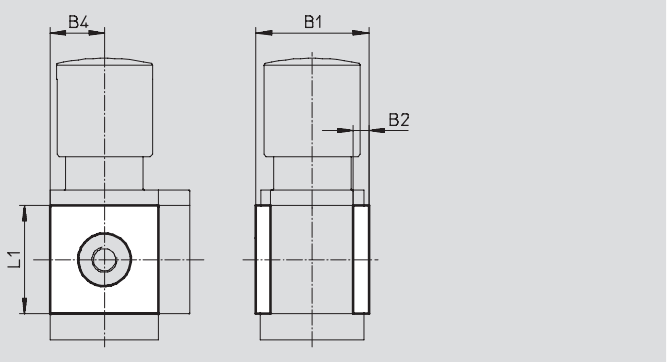
B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
66.5	44	10	44	41.3	35	6.5	48	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

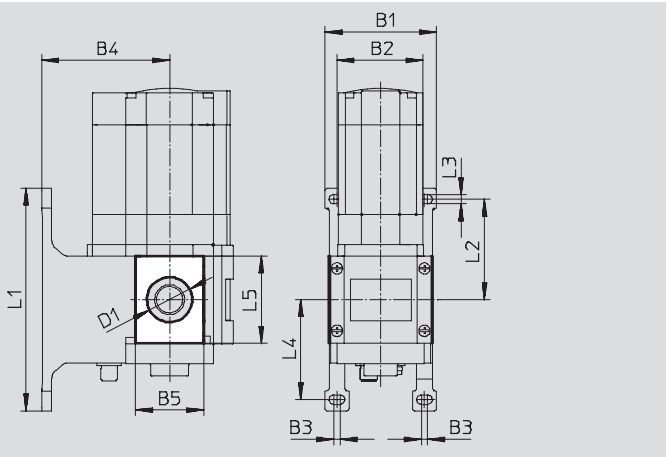
B1	B2	B4	L1	Part No.	Type
43.6	6	21	42	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

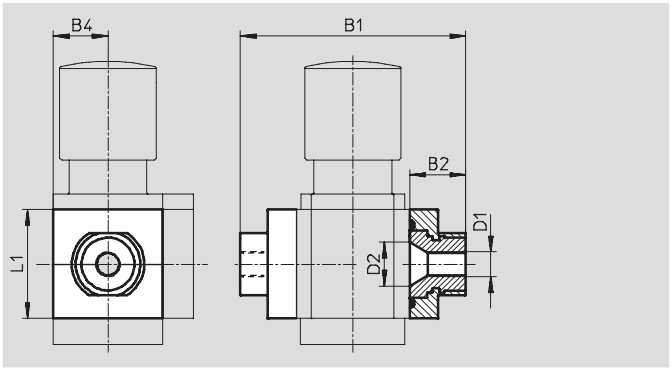
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4-AG...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
83.5	21.5	21	G1⁄8	16.8	42	128	**526068**	**MS4-AGA**
			G1⁄4				**526069**	**MS4-AGB**
			G3⁄8				**526070**	**MS4-AGC**

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

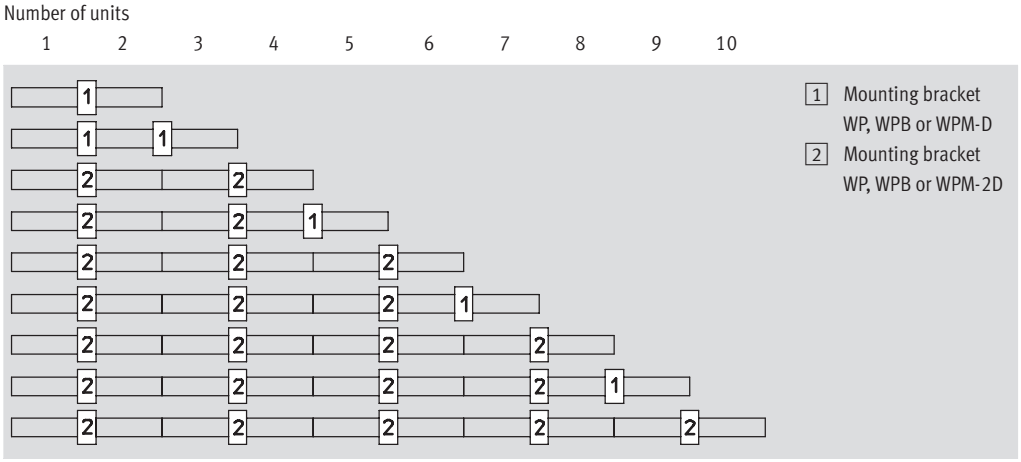
Weight [g]	Part No.	Type
36	**532798**	**MS4-MV**

16 Mounting Bracket MS4-WP...

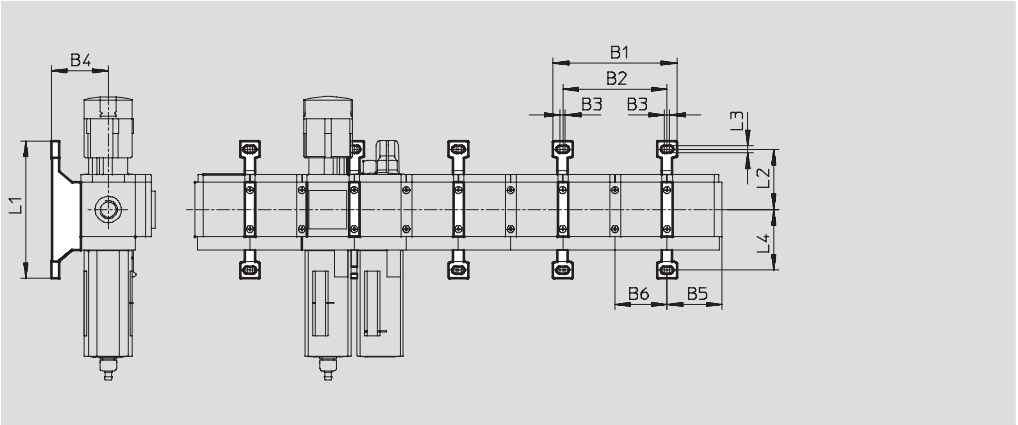
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 40 mm

2 units: 80 mm



Mounting dimensions



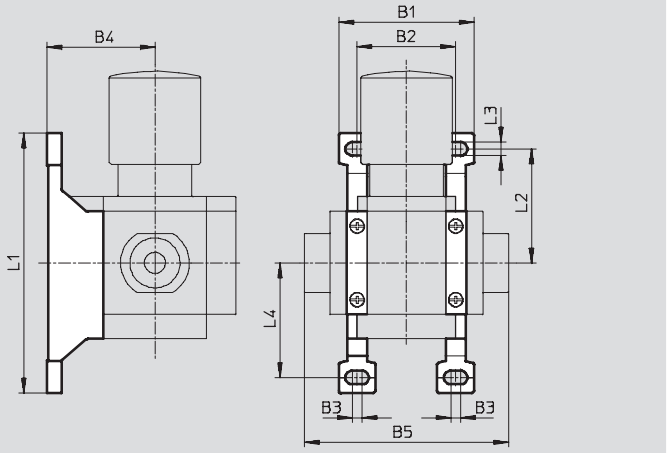
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44			92.8	34.8		40

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

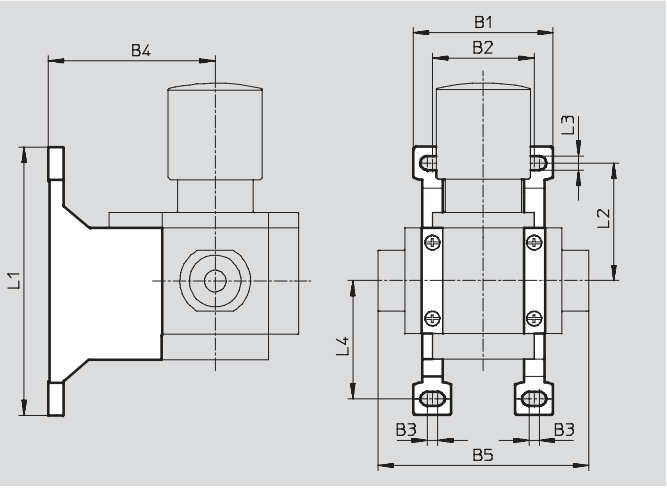
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	44	83.4	106	46.5	5.6	46.7	39	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	55	**526063**	**MS4-WPB**

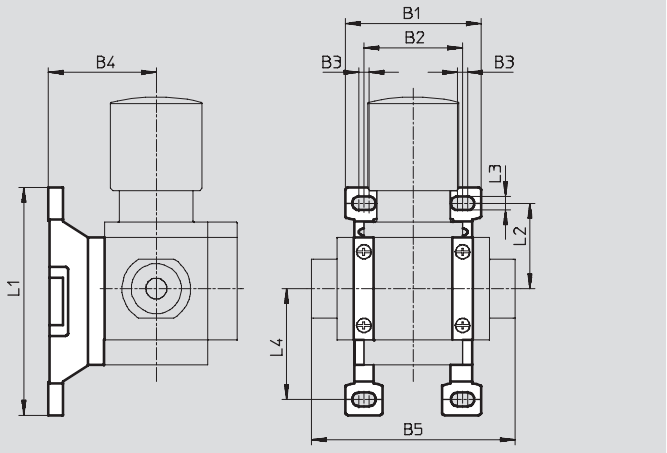
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
55.2	40	4	44	83.4	92.8	34.8	5.6	45.2	40	45	**526060**	**MS4-WPM-D**
95.2	80			123.4					80	55	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



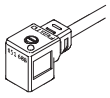
Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

14 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for MS4-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	**151687**	**MSSD-EB**
			4-pin	Insulation displacement technology	**192745**	**MSSD-EB-S-M14**

13 Ordering Data – Plug Socket with Cable KMEB — Technical data ➔ www.festo.com/catalog/kmeb

	Description	Operating voltage range	Switching status display	Cable length [m]	Part No.	Type
	for MS4-EE/DE	24 V DC	LED	2.5	**151688**	**KMEB-1-24-2,5-LED**
		24 V DC	LED	5	**151689**	**KMEB-1-24-5-LED**
		24 V DC	LED	10	**193457**	**KMEB-1-24-10-LED**
		230 V AC	–	2.5	**151690**	**KMEB-1-230AC-2,5**
		230 V AC	–	5	**151691**	**KMEB-1-230AC-5**

12 Ordering Data – Illuminating Seal MEB-LD — Technical data ➔ www.festo.com/catalog/meb-ld

	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	**151717**	**MEB-LD-12-24DC**
		230 V DC/AC ±10%	**151718**	**MEB-LD-230AC**

15 Ordering Data – Locking Clip CPV18-HV — Technical data ➔ www.festo.com/catalog/cpv18-hv

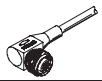
	Description		Part No.	Type	PU[1)]
	for MS4-EE/DE-...-V24	Cover for manual override, the clip prevents actuation	**530056**	**CPV18-HV**	**10**

1) Packaging unit quantity

11 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [m]	Part No.	Type
	M8x1, 3-pin	2.5	**159420**	**SIM-M8-3GD-2,5-PU**
		5	**159421**	**SIM-M8-3GD-5-PU**
		10	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	2.5	**159422**	**SIM-M8-3WD-2,5-PU**
		5	**159423**	**SIM-M8-3WD-5-PU**
		10	**192965**	**SIM-M8-3WD-10-PU**

Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 4-pin	5	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	5	**164258**	**SIM-M12-4WD-5-PU**

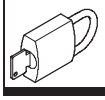
9 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	40	R⅛	0 ... 16	–	**525726**	**MA-40-16-R⅛-E-RG**
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

6 Ordering Data – Silencer U — Technical data ➔ www.festo.com/catalog/u

	Description	Pneumatic connection	Part No.	Type
	for MS4-EM1/EE	G¼	**6842**	**U-¼-B**

Ordering Data – Padlock LRVS-D

	Description	Weight [g]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	120	**193786**	**LRVS-D**

On-off/Soft-start Valves MS4N-EM1/EE/DL/DE – Inch Series



Manually operated and solenoid actuated on-off valves for pressurizing and venting pneumatic installations. Pneumatic and solenoid actuated soft-start valves for slowly pressurizing and venting pneumatic installation.

- On-off valves
  – MS4N-EM1, manually operated
  – MS4N-EE, solenoid actuated
- Soft-start valves
  – MS4N-DL, pneumatically actuated
  – MS4N-DE, solenoid actuated
- Pneumatic connection: ⅛ NPT, ¼ NPT, ⅜ NPT
- Operating pressure
  – EM1: 0 ... 206 psi
  – EE, DL and DE: 59 ... 206 psi
- Flow rate: 35.3 ... 77.7 scfm

Product Range Overview

Type	Flow rate [scfm]	Pneumatic connections		Supply voltage				Pressure indicator					Options	
		Body thread	Port plate	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge ⅛ NPT	Adapter for pressure gauge ¼ NPT	Pressure sensor with display	Silencer	Flow direction from right to left
MS4N			AG...	V24	V24P	V110	V230	VS	AG	A8	A4	AD...	S	Z
EM1	42.4 ... 77.7	⅛ NPT, ¼ NPT	⅛ NPT, ¼ NPT, ⅜ NPT	–	–	–	–	■	■	■	■	■	■	■
EE	35.3 ... 70.6	⅛ NPT, ¼ NPT	⅛ NPT, ¼ NPT, ⅜ NPT	■	–	■	■	■	■	■	■	■	■	■
DL	35.3 ... 70.6	⅛ NPT, ¼ NPT	⅛ NPT, ¼ NPT, ⅜ NPT	–	–	–	–	■	■	■	■	■	–	■
DE	35.3 ... 70.6	⅛ NPT, ¼ NPT	⅛ NPT, ¼ NPT, ⅜ NPT	■	–	■	■	■	■	■	■	■	–	■

Contents

MS4N-EM1

Technical Data	→ 398
Dimensional Drawings	→ 399
Ordering Data	→ 401
Accessories	→ 420

→ www.festo.com/catalog/msn4-em1

MS4N-EE

Technical Data	→ 403
Dimensional Drawings	→ 405
Ordering Data	→ 407
Accessories	→ 420

→ www.festo.com/catalog/msn4-ee

MS4N-DL

Technical Data	→ 410
Dimensional Drawings	→ 412
Ordering Data	→ 413
Accessories	→ 420

→ www.festo.com/catalog/msn4-dl

MS4N-DE

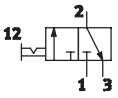
Technical Data	→ 415
Dimensional Drawings	→ 417
Ordering Data	→ 418
Accessories	→ 420

→ www.festo.com/catalog/msn4-de

On-off Valves MS4N-EM1 – Inch Series

Technical Data

ISO Symbol



- Manually operated on-off valve for pressurizing and venting pneumatic installations
- The valve is activated by turning the rotary knob
- At connection 3 there is the facility to attach a silencer and/or to duct the exhaust air
- When the valve is closed, the rotary knob can be secured with a padlock
- Optional pressure gauge
- Optional pressure sensor with display



General Technical Data			
Pneumatic connection 1, 2		⅛ NPT	¼ NPT
Pneumatic connection 3		¼ NPT	
Operating pressure	[psi]	0 ... 206 (Standard)	
		0 ... 147 (Pressure sensor with display AD...)	

Standard Nominal Flow Rate qnN[1] [scfm]		
Pneumatic connection	⅛ NPT	¼ NPT
In main flow direction 1 ⇢ 2	42.4	77.7
In relief direction 2 ⇢ 3	67.1	60.0

1) Measured at p1 = 88 psi and p2 = 74 psi, Δp = 15 psi

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Exhaust function		No flow control	
Switching position display		Knob actuator direction = flow direction	
Ambient temperature	[°F]	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	32 ... 122
Assembly position		Any	
Corrosion resistance	CRC[2]	2	

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Standard	0.38
With silencer	0.42

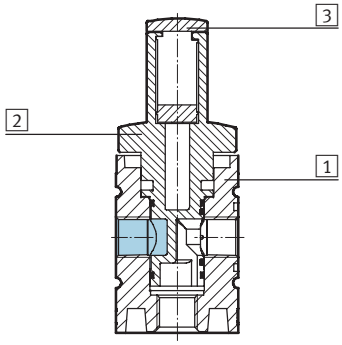
- For spare parts go to: www.festo.com/en/spare_parts_service

On-off Valves MS4N-EM1 – Inch Series

Technical Data, Dimensional Drawings

Materials

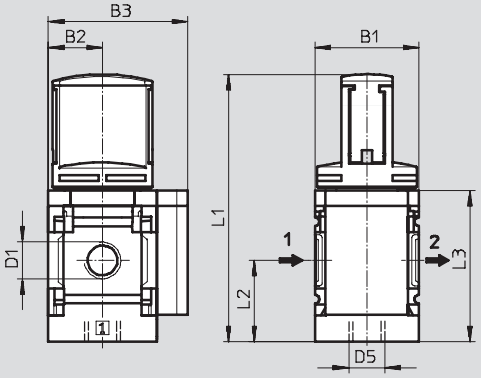
Sectional view

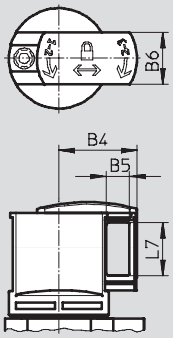


On-off valve		
1	Body	Die-cast aluminum
2	Rotary valve	Reinforced polyamide
3	Lock slide	Reinforced polyamide
–	Seals	Nitrile rubber, polyurethane
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**





➔ Flow direction

Type	B1	B2	B3	B4	B5	B6	D1	D5	L1	L2	L3	L7
MS4N-EM1-⅛	1.57	0.83	2.13	1.18	0.35	0.79	⅛ NPT	¼ NPT	4.09	1.24	2.32	0.81
MS4N-EM1-¼							¼ NPT					

1) Dimensions are in inches, unless otherwise noted.

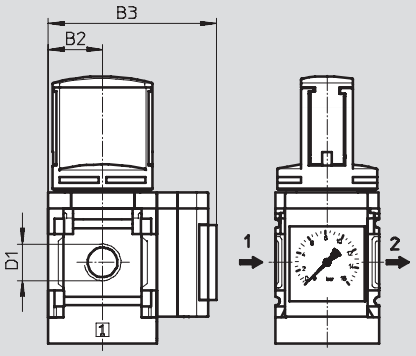
On-off Valves MS4N-EM1 – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

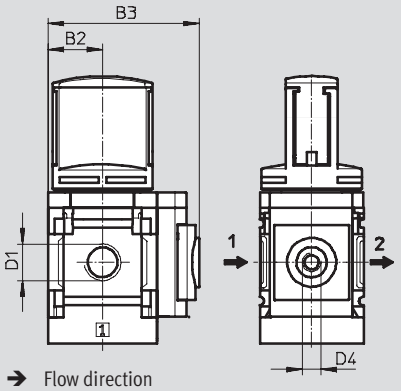
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



➔ Flow direction

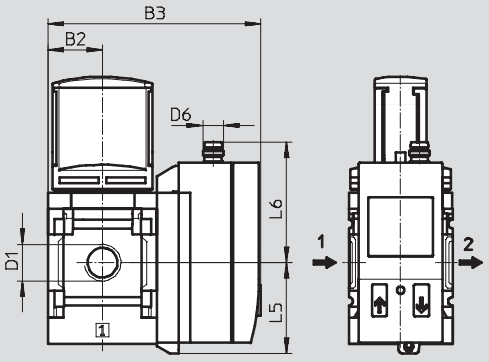
Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

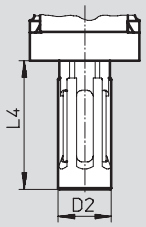
AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS4N-EM1-1/8-...-AG	0.83	2.56	1/8 NPT	–	–	–	–
MS4N-EM1-1/4-...-AG			1/4 NPT				
MS4N-EM1-1/8-...-A8	0.83	2.30	1/8 NPT	1/8 NPT	–	–	–
MS4N-EM1-1/4-...-A8			1/4 NPT				
MS4N-EM1-1/8-...-A4	0.83	2.30	1/8 NPT	1/4 NPT	–	–	–
MS4N-EM1-1/4-...-A4			1/4 NPT				
MS4N-EM1-1/8-...-AD1/AD2	0.83	3.25	1/8 NPT	–	M8x1	1.38	1.84
MS4N-EM1-1/4-...-AD1/AD2			1/4 NPT				
MS4N-EM1-1/8-...-AD3/AD4	0.83	3.25	1/8 NPT	–	M12x1	1.38	2.20
MS4N-EM1-1/4-...-AD3/AD4			1/4 NPT				

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Silencer Download CAD Data ➔ **www.festo.com/us/cad**



Type	D2	L4
MS4N-EM1-...-S	0.77	1.85

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Standard				With silencer		
	Part No.	Type	LT		Part No.	Type	LT
1/8 NPT	**541284**	**MS4N-EM1-1/8[2]**	1D		**541285**	**MS4N-EM1-1/8-S[2]**	1D
1/4 NPT	**541280**	**MS4N-EM1-1/4[2]**	1D		**541281**	**MS4N-EM1-1/4-S[2]**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Free of copper and PTFE

On-off Valves MS4N-EM1 – Inch Series

Ordering Data – Configurable Products

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M Mandatory Data						O Options				
Part No.	Series	Size	Thread	Function	Connection size	Silencer	Pressure gauge alternatives	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
541288	MS	4	N	EM1	⅛, ¼, AQK, AQN, AQP	S	AG, A8, A4, AD1, AD2, AD3, AD4	BAR MPA	WP WPM WB WBM	Z
Order example										
541288	**MS**	**4**	**N**	**EM1**	**1/4**	**S**	**AG**	**BAR**	**WB**	**Z**

Ordering Table

Grid dimension [mm]		40	Conditions	Code	Enter code
M	Part No.	**541288**			
	Series	Standard		**MS**	MS
	Size	4		**4**	4
	Thread	NPT thread		**N**	N
	Function	On-off valve, manual		**-EM1**	-EM1
	Connection size	Body thread ⅛ NPT		**-⅛**	
		Body thread ¼ NPT		**-¼**	
		Port plate ⅛ NPT (dimensions ➔ 426)		**-AQK**	
		Port plate ¼ NPT (dimensions ➔ 426)		**-AQN**	
		Port plate ⅜ NPT (dimensions ➔ 426)		**-AQP**	
O	Silencer	Silencer		**-S**	
	Pressure gauge alternatives	MS pressure gauge, bar (with adapter)		**-AG**	
		Adapter plate for EN pressure gauge ⅛, without pressure gauge		**-A8**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	1	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	1	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	1	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	1	**-AD4**	
	Alternative pressure gauge scale	bar	2	**-BAR**	
		MPa	2	**-MPA**	
	Type of mounting	Mounting bracket (dimensions ➔ 427)	3	**-WP**	
		Mounting bracket (dimensions ➔ 427)	3	**-WPM**	
		Mounting bracket (dimensions ➔ 424)		**-WB**	
		Mounting bracket (dimensions ➔ 424)		**-WBM**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **AD1 ... AD4** Measuring range max. 147 psi

2 **BAR, MPA** Only with pressure gauge AG

3 **WP, WPM** Only with port plate AQK, AQN or AQP

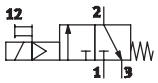
Transfer order code

541288	**MS**	**4**	**N**	–	**EM1**	–		–		–		–		–		–		–	

On-off Valves MS4N-EE – Inch Series

Technical Data

ISO Symbol



- Solenoid actuated on-off valve for pressurizing and venting pneumatic installations
- Ducted exhaust possible via a threaded connection with silencer
- Pushing and detenting manual override (detenting is locked on delivery)
- Solenoid coil without plug socket, three voltage ranges available.
- Solenoid actuator can be repositioned by 180°
- Optional pressure sensor with display



General Technical Data			
Pneumatic connection 1, 2		⅛ NPT	¼ NPT
Pneumatic connection 3		¼ NPT	
Operating pressure	[psi]	59 … 206 (Coil parameter V24, V110, V230)	
		59 … 147 (Coil parameter 10V24)	
		59 … 147 (Pressure sensor with display AD…)	

Standard Nominal Flow Rate qnN[1] [scfm]		
Pneumatic connection	⅛ NPT	¼ NPT
In main flow direction 1 ⇢ 2	35.3	70.6
In relief direction 2 ⇢ 3	56.5	56.5

1) Measured at p1 = 88 psi and p2 = 74 psi, Δp = 15psi

Operating and Environmental Conditions				
Variant		Coil parameter V24, V110, V230	Coil parameter 10V24	Pressure sensor with display AD…
Operating medium		Compressed air		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Coil characteristics	V24	24 V DC (For valves with max. inlet pressure 206 psi – only available via configurator)		
	10V24	24 V DC (For valves with max. inlet pressure 147 psi)		
	V110	110 V AC		
	V230	230 V AC		
Exhaust function		Without flow control		
Ambient temperature	[°F]	14 … 140	14 … 122	32 … 122
Temperature of medium	[°F]	14 … 140	14 … 122	32 … 122
Assembly position		Any		
Corrosion resistance	CRC[2]	2		

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Standard	0.55
With silencer	0.58

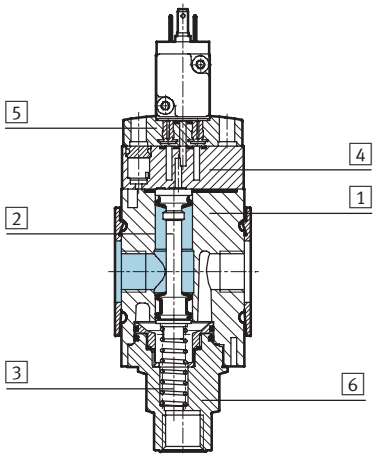
- For spare parts go to: www.festo.com/en/spare_parts_service

On-off Valves MS4N-EE – Inch Series

Technical Data

Materials

Sectional view

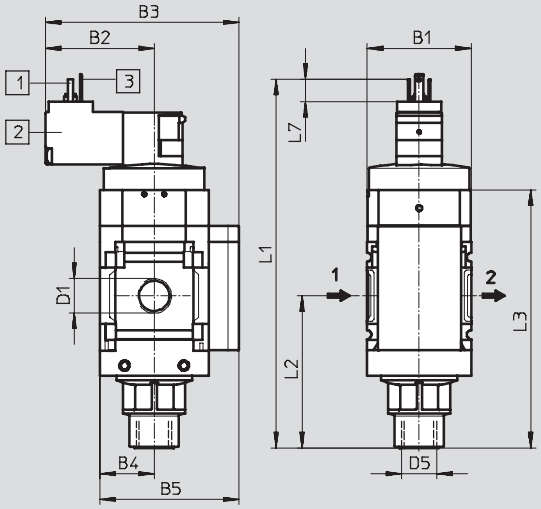


On-off valve		
1	Body	Die-cast aluminum
2	Piston spool	Nitrile rubber/Aluminum
3	Springs	High-alloy stainless steel
4	End cap	Polyamide
5	Top plate	Polyamide
6	Socket end connection	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG, 10V24 or AD...)

On-off Valves MS4N-EE – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



1 Plug connection to DIN EN 175 301-803
2 Solenoid actuator can be repositioned by 180°, i.e. solenoid points to the front
3 PIN only with solenoid actuators 110 V and 230 V

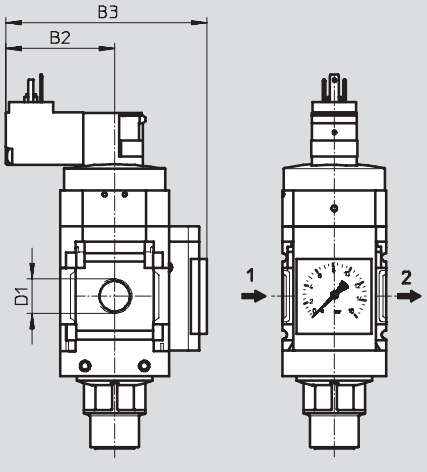
➔ Flow direction

Type	B1	B2	B3	B4	B5	D1	D5	L1	L2	L3	L7
MS4N-EE-⅛	1.57	1.66	2.96	0.83	2.13	⅛ NPT	¼ NPT	5.62	2.32	3.94	0.34
MS4N-EE-¼						¼ NPT					

1) Dimensions are in inches, unless otherwise noted.

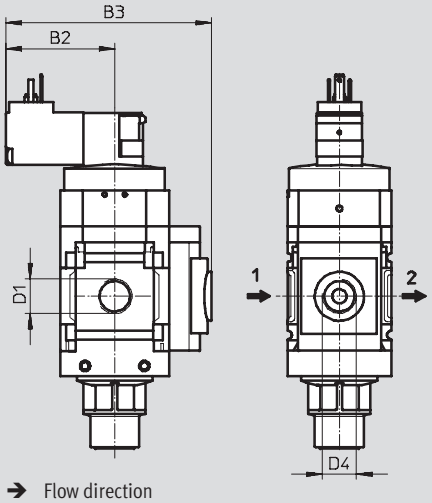
Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



➔ Flow direction

Adapter plate A8/A4 for EN pressure gauge ⅛/¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS4N-EE-⅛-...-AG	1.66	3.39	⅛ NPT	–
MS4N-EE-¼-...-AG			¼ NPT	
MS4N-EE-⅛-...-A8	1.66	3.14	⅛ NPT	⅛ NPT
MS4N-EE-¼-...-A8			¼ NPT	
MS4N-EE-⅛-...-A4	1.66	3.14	⅛ NPT	¼ NPT
MS4N-EE-¼-...-A4			¼ NPT	

On-off Valves MS4N-EE – Inch Series

Dimensional Drawings

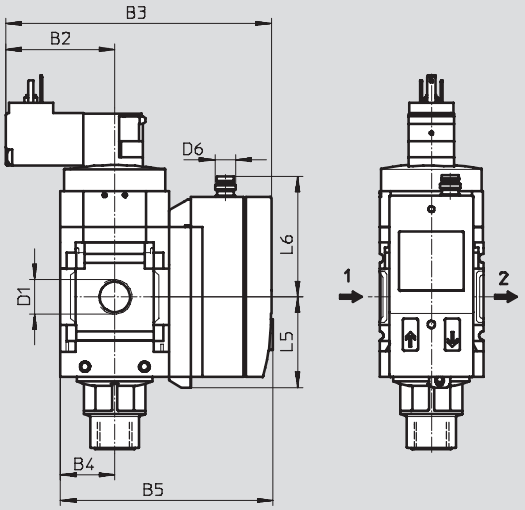
FESTO

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

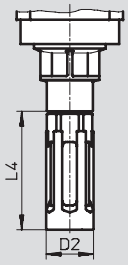
➔ Flow direction

Type	B2	B3	B4	B5	D1	D6	L5	L6
MS4N-EE-⅛-...-AD1/AD2	1.66	4.09	0.83	3.25	⅛ NPT	M8x1	1.38	1.84
MS4N-EE-¼-...-AD1/AD2					¼ NPT			
MS4N-EE-⅛-...-AD3/AD4	1.66	4.09	0.83	3.25	⅛ NPT	M12x1	1.38	2.20
MS4N-EE-¼-...-AD3/AD4					¼ NPT			

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Silencer

Download CAD Data ➔ **www.festo.com/us/cad**



Type	D2	L4
MS4N-EE-...-S	0.77	1.91

1) Dimensions are in inches, unless otherwise noted.

On-off Valves MS4N-EE – Inch Series

Ordering Data – Pre-configured Products

Ordering Data							
Connection	Without silencer				With silencer		
	Part No.	Type	LT		Part No.	Type	LT
Supply voltage 24 V DC							
1/8 NPT	**542589**	**MS4N-EE-1/8-10V24**	1D		**542610**	**MS4N-EE-1/8-10V24-S**	Q
1/4 NPT	**542588**	**MS4N-EE-1/4-10V24**	1D		**542608**	**MS4N-EE-1/4-10V24-S**	Q
Supply voltage 110 V AC							
1/8 NPT	**532084**	**MS4N-EE-1/8-V110**[1)]	1D		**538755**	**MS4N-EE-1/8-V110-S**[1)]	Q
1/4 NPT	**532083**	**MS4N-EE-1/4-V110**[1)]	1D		**538749**	**MS4N-EE-1/4-V110-S**[1)]	Q
Supply voltage 230 V AC							
1/8 NPT	**532088**	**MS4N-EE-1/8-V230**[1)]	1D		**538757**	**MS4N-EE-1/8-V230-S**[1)]	Q
1/4 NPT	**532087**	**MS4N-EE-1/4-V230**[1)]	1D		**538751**	**MS4N-EE-1/4-V230-S**[1)]	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Free of copper and PTFE

On-off Valves MS4N-EE – Inch Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data**

Part No.	Series	Size	Thread		Function		Connection size		Supply voltage
527710	MS	4	N		EE		⅛ ¼ AQK AQN AQP		V24 10V24 V110 V230
Order example									
527710	**MS**	**4**	**N**	–	**EE**	–	**AQN**	–	**V24**

Ordering Table

Grid dimension [mm]	40	Conditions	Code		Enter code
M Part No.	**527710**				
Series	Standard		**MS**		MS
Size	4		**4**		4
Thread	NPT thread		**N**		N
Function	On-off valve, electrical		**-EE**		-EE
Connection size	Body thread ⅛ NPT		**-⅛**		
	Body thread ¼ NPT		**-¼**		
	Port plate ⅛ NPT (dimensions ➔ 426)		**-AQK**		
	Port plate ¼ NPT (dimensions ➔ 426)		**-AQN**		
	Port plate ⅜ NPT (dimensions ➔ 426)		**-AQP**		
Supply voltage	24 V DC (connection pattern to EN 175301), 206 psi		**-V24**		
	24 V DC (connection pattern to EN 175301), 147 psi	1	**-10V24**		
	110 V AC (connection pattern to EN 175301), 206 psi		**-V110**		
↓	230 V AC (connection pattern to EN 175301), 206 psi		**-V230**		

1 **10V24** Max. inlet pressure 147 psi

Transfer order code

527710	**MS**	**4**	**N**	–	**EE**	–		–	

➔ [0] **Options**

Silencer	Pressure gauge alternatives	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
S	AG A8 A4 AD1 AD2 AD3 AD4	BAR MPA	WP WPM WB WBM	Z
– **S**	– **AG**	– **BAR**	– **WP**	– **Z**

Ordering Table

Grid dimension [mm]		40	Conditions	Code	Enter code
[0]	Silencer	Silencer		**-S**	
	Pressure gauge alternatives	MS pressure gauge, psi (with adapter)		**-AG**	
		Adapter plate for EN pressure gauge ⅛, without pressure gauge		**-A8**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	[2]	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	[2]	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	[2]	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	[2]	**-AD4**	
	Alternative pressure gauge scale	bar	[3]	**-BAR**	
		MPa	[3]	**-MPA**	
	Type of mounting	Mounting bracket (dimensions ➔ 427)	[4]	**-WP**	
		Mounting bracket (dimensions ➔ 427)	[4]	**-WPM**	
		Mounting bracket (dimensions ➔ 424)		**-WB**	
		Mounting bracket (dimensions ➔ 424)		**-WBM**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

[2] **AD1 ... AD4** Measuring range max. 147 psi

[3] **BAR, MPA** Only with pressure gauge AG

[4] **WP, WPM** Only with port plate AQK, AQN or AQP

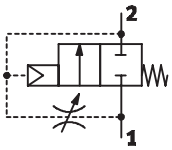
Transfer order code

–		–		–		–		–	

Soft-start Valves MS4N-DL – Inch Series

Technical Data

ISO Symbol



- Pneumatically actuated soft-start valve for slowly pressurizing and venting pneumatic installations (for use with on-off valves EM1 and EE)
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. The main seat opens when the switch-through pressure is reached.
- Pressure switching approx. 50% of supply pressure
- When the valve is exhausted, the main seat remains open until the switch-through pressure is reached. The rest of the exhaust procedure is performed using the restrictor.



- The cylinders advance slowly and reliably into the initial position.
- Sudden and erratic movements are avoided
- Adjustable switching time delay
- Optional pressure sensor with display

General Technical Data			
Pneumatic connection 1, 2		⅛ NPT	¼ NPT
Operating pressure	[psi]	59 ... 206 (Standard)	
		59 ... 147 (Pressure sensor with display AD...)	

Standard Nominal Flow Rate qnN[1] [scfm]		
Pneumatic connection 1, 2	⅛ NPT	¼ NPT
In main flow direction 1 ⇢ 2	35.3	70.6
In relief direction 2 ⇢ 1	35.3	70.6

1) Measured at p1 = 88 psi and p2 = 74 psi, Δp = 15 psi

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Exhaust function		Flow control	
Direction of flow		Non-reversible	
Ambient temperature	[°F]	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	32 ... 122
Assembly position		Any	
Corrosion resistance	CRC[2]	2	

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Soft-start valve	0.43

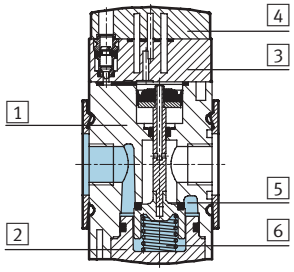
- For spare parts go to: www.festo.com/en/spare_parts_service

Soft-start Valves MS4N-DL – Inch Series

Technical Data

Materials

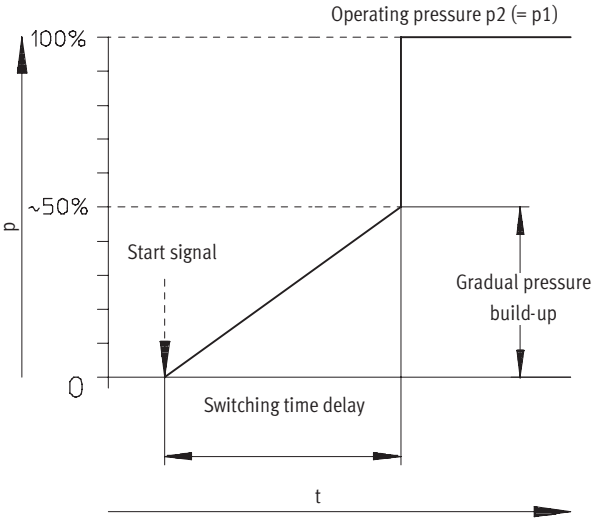
Sectional view



Soft-start valve		
1	Body	Die-cast aluminum
2	Base	Polyester
3	End cap	Polyamide
4	Top plate	Polyamide
5	Seat	Die-cast aluminum
6	Springs	Spring steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Switching Point

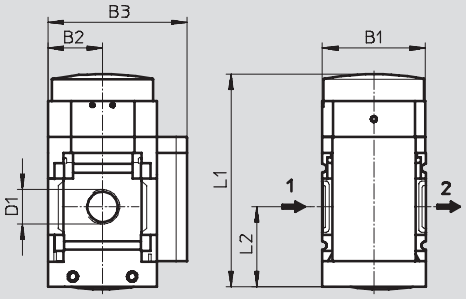
Pressure p as a function of time t



Soft-start Valves MS4N-DL – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



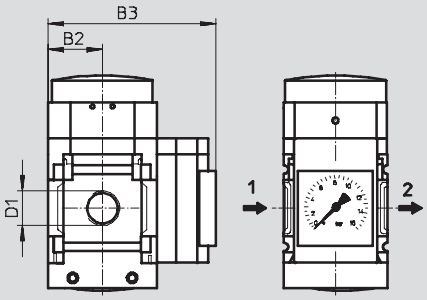
➔ Flow direction

Type	B1	B2	B3	D1	L1	L2
MS4N-DL-⅛	1.57	0.83	2.13	⅛ NPT	3.26	1.22
MS4N-DL-¼				¼ NPT		

1) Dimensions are in inches, unless otherwise noted.

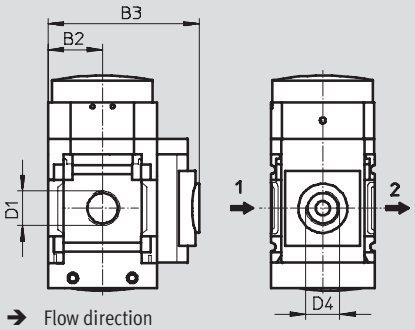
Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



➔ Flow direction

Adapter plate A8/A4 for EN pressure gauge ⅛/¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS4N-DL-⅛-...-AG	0.83	2.56	⅛ NPT	–
MS4N-DL-¼-...-AG			¼ NPT	
MS4N-DL-⅛-...-A8	0.83	2.30	⅛ NPT	⅛ NPT
MS4N-DL-¼-...-A8			¼ NPT	
MS4N-DL-⅛-...-A4	0.83	2.30	⅛ NPT	¼ NPT
MS4N-DL-¼-...-A4			¼ NPT	

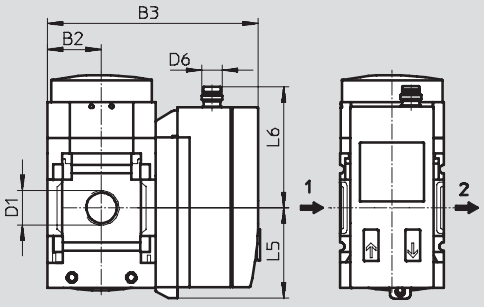
1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D6	L5	L6
MS4N-DL-⅛-...-AD1/AD2	0.83	3.25	⅛ NPT	M8x1	1.38	1.84
MS4N-DL-¼-...-AD1/AD2			¼ NPT			
MS4N-DL-⅛-...-AD3/AD4	0.83	3.25	⅛ NPT	M12x1	1.38	2.20
MS4N-DL-¼-...-AD3/AD4			¼ NPT			

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
⅛ NPT	**531992**	**MS4N-DL-⅛**[2]	1D
¼ NPT	**531991**	**MS4N-DL-¼**[2]	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Free of copper and PTFE

Soft-start Valves MS4N-DL – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data						O Options			
Part No.	Series	Size	Thread	Function	Connection size	Pressure gauge alternatives	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
527712	MS	4	N	DL	1/8, 1/4, AQK, AQN, AQP	AG, A8, A4, AD1, AD2, AD3, AD4	BAR, MPA	WP, WPM, WB, WBM	Z
Order example									
527712	**MS**	**4**	**N**	**DL**	**AQK**	**AG**	**BAR**	**WB**	**Z**

Ordering Table

Grid dimension [mm]		40	Conditions	Code	Enter code
M	Part No.	**527712**			
	Series	Standard		**MS**	MS
	Size	4		**4**	4
	Thread	NPT thread		**N**	N
	Function	Soft-start valve, pneumatic		**-DL**	-DL
	Connection size	Body thread 1/8 NPT		**-1/8**	
		Body thread 1/4 NPT		**-1/4**	
		Port plate 1/8 NPT (dimensions → 426)		**-AQK**	
		Port plate 1/4 NPT (dimensions → 426)		**-AQN**	
		Port plate 3/8 NPT (dimensions → 426)		**-AQP**	
O	Pressure gauge alternatives	MS pressure gauge, psi (with adapter)		**-AG**	
		Adapter plate for EN pressure gauge 1/8, without pressure gauge		**-A8**	
		Adapter plate for EN pressure gauge 1/4, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	1	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	1	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	1	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	1	**-AD4**	
	Alternative pressure gauge scale	bar	2	**-BAR**	
		MPa	2	**-MPA**	
	Type of mounting	Mounting bracket (dimensions → 427)	3	**-WP**	
		Mounting bracket (dimensions → 427)	3	**-WPM**	
		Mounting bracket (dimensions → 424)		**-WB**	
		Mounting bracket (dimensions → 424)		**-WBM**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **AD1 ... AD4** Measuring range max. 147 psi

2 **BAR, MPA** Only with pressure gauge AG

3 **WP, WPM** Only with port plate AQK, AQN or AQP

Transfer order code

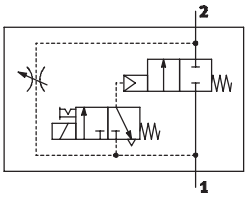
527712	**MS**	**4**	**N**	–	**DL**	–		–		–		–		–

Soft-start Valves MS4N-DE – Inch Series

Technical Data

FESTO

ISO Symbol



- Solenoid actuated soft-start valve for slowly pressurizing and venting pneumatic installations
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. Only the air flow via the restrictor is available when the solenoid valve is not actuated. The main seat is only opened by energizing the solenoid valve.
- When the solenoid valve is switched off, the main seat is closed and only the air flow from the flow control valve is available.
- The solenoid valve should remain switched on in order to vent a system as this increases the flow rate from 2 and 1 and reduces the exhaust time.



- The cylinders advance slowly and reliably into the initial position. Sudden and erratic movements are avoided
- Switch-through pressure can be precisely controlled using a solenoid valve
- Adjustable switching time delay
- Solenoid coil without plug socket, three voltage ranges available
- Solenoid actuator can be repositioned by 180°
- Pushing and detenting manual override (detenting is locked on delivery)
- Optional pressure sensor with display

General Technical Data			
Pneumatic connection 1, 2		⅛ NPT	¼ NPT
Operating pressure	[psi]	59 ... 206 (Coil parameter V24, V110, V230)	
		59 ... 147 (Coil parameter 10V24)	
		59 ... 147 (Pressure sensor with display AD...)	

Standard Nominal Flow Rate qnN[1] [scfm]		
Pneumatic connection 1, 2	⅛ NPT	¼ NPT
In main flow direction 1 → 2	35.3	70.6
In relief direction 2 → 1[2]	35.3	70.6

1) Measured at p1 = 88 psi and p2 = 74 psi, Δp = 15psi
2) For energized solenoid valve.

Soft-start Valves MS4N-DE – Inch Series

Technical Data

Operating and Environmental Conditions				
Variant		Coil parameter V24, V110, V230	Coil parameter 10V24	Pressure sensor with display AD...
Operating medium		Compressed air		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Coil characteristics	V24	24 V DC (For valves with max. inlet pressure 206 psi – only available via configurator)		
	10V24	24 V DC (For valves with max. inlet pressure 147 psi)		
	V110	110 V AC		
	V230	230 V AC		
Exhaust function		Flow control		
Direction of flow		Non-reversible		
Ambient temperature	[°F]	14 ... 140	14 ... 122	32 ... 122
Temperature of medium	[°F]	14 ... 140	14 ... 122	32 ... 122
Assembly position		Any		
Corrosion resistance	CRC[1)]	2		

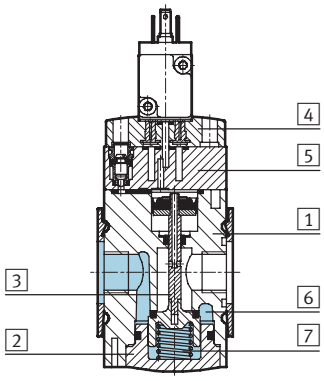
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Soft-start valve	0.53

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



Soft-start valve		
1	Body	Die-cast aluminum
2	Base	Polyamide
3	Valve stem	Steel
4	End cap	Polyamide
5	Top plate	Polyamide
6	Seat	Aluminum/nitrile rubber
7	Springs	Spring steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG, 10V24 or AD...)

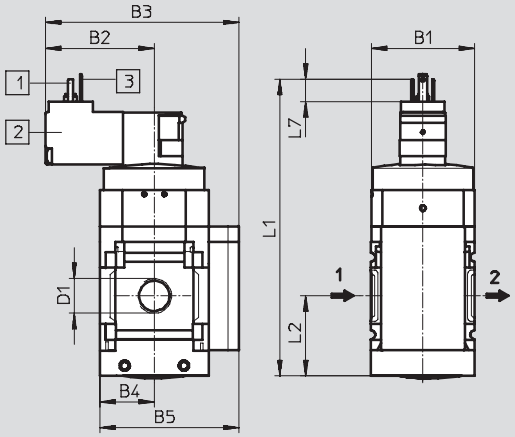
Soft-start Valves MS4N-DE – Inch Series

Dimensional Drawings

FESTO

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



1 Plug connection to DIN EN 175 301-803
2 Solenoid actuator can be repositioned by 180°, i.e. solenoid points to the front
3 PIN only with solenoid actuators 110 V and 230 V

➔ Flow direction

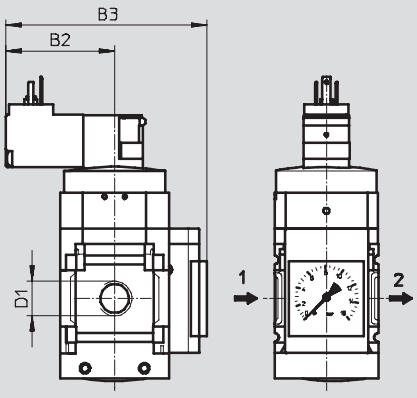
Type	B1	B2	B3	B4	B5	D1	L1	L2	L7
MS4N-DE-⅛	1.57	1.66	2.96	0.83	2.13	⅛ NPT	4.54	1.24	0.34
MS4N-DE-¼						¼ NPT			

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Pressure Gauge Alternatives

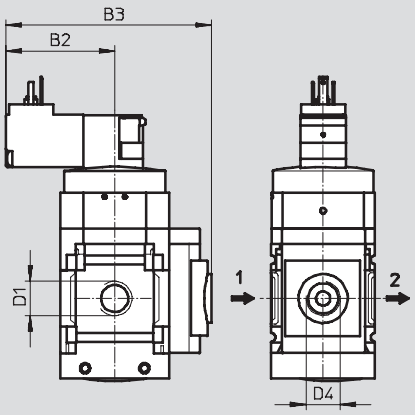
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



➔ Flow direction

Adapter plate A8/A4 for EN pressure gauge ⅛/¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS4N-DE-⅛-...-AG	1.66	3.39	⅛ NPT	–
MS4N-DE-¼-...-AG			¼ NPT	
MS4N-DE-⅛-...-A8	1.66	3.14	⅛ NPT	⅛ NPT
MS4N-DE-¼-...-A8			¼ NPT	
MS4N-DE-⅛-...-A4	1.66	3.14	⅛ NPT	¼ NPT
MS4N-DE-¼-...-A4			¼ NPT	

1) Dimensions are in inches, unless otherwise noted.

Soft-start Valves MS4N-DE – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

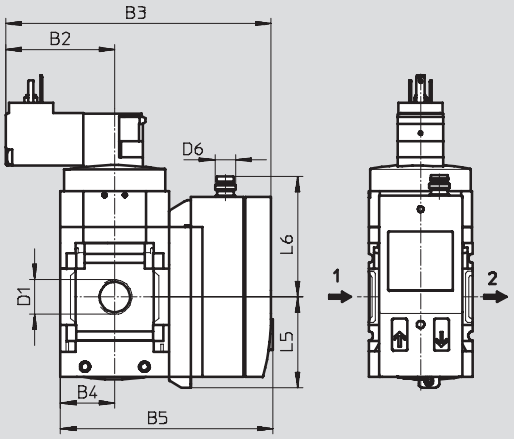
FESTO

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	B4	B5	D1	D6	L5	L6
MS4N-DE-⅛-...-AD1/AD2	1.66	4.09	0.83	3.25	⅛ NPT	M8x1	1.38	1.84
MS4N-DE-¼-...-AD1/AD2					¼ NPT			
MS4N-DE-⅛-...-AD3/AD4	1.66	4.09	0.83	3.25	⅛ NPT	M12x1	1.38	2.20
MS4N-DE-¼-...-AD3/AD4					¼ NPT			

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
Supply voltage 24 V DC			
⅛ NPT	**542569**	**MS4N-DE-⅛-10V24**	1D
¼ NPT	**542568**	**MS4N-DE-¼-10V24**	1D
Supply voltage 110 V AC			
⅛ NPT	**532004**	**MS4N-DE-⅛-V110**[2]	1D
¼ NPT	**532003**	**MS4N-DE-¼-V110**[2]	1D
Supply voltage 230 V AC			
⅛ NPT	**532008**	**MS4N-DE-⅛-V230**[2]	1D
¼ NPT	**532007**	**MS4N-DE-¼-V230**[2]	1D

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

2) Free of copper and PTFE

Soft-start Valves MS4N-DE – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options			
Part No.	Series	Size	Thread	Function	Connection size	Supply voltage	Pressure gauge alternatives	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
527714	MS	4	N	DE	⅛, ¼, AQK, AQN, AQP	V24 10V24 V110 V230	AG, A8, A4, AD1, AD2, AD3, AD4	BAR MPA	WP WPM WB WBM	Z
Order example										
527714	MS	4	N	– DE	– AQK	– V110	– AG	– BAR	– WP	– Z

Ordering Table

Grid dimension [mm]		40	Conditions	Code	Enter code
M	Part No.	**527714**			
	Series	Standard		**MS**	MS
	Size	4		**4**	4
	Thread	NPT thread		**N**	N
	Function	Soft-start valve, electrical		**-DE**	-DE
	Connection size	Body thread ⅛ NPT		**-⅛**	
		Body thread ¼ NPT		**-¼**	
		Port plate ⅛ NPT (dimensions ➔ 426)		**-AQK**	
		Port plate ¼ NPT (dimensions ➔ 426)		**-AQN**	
		Port plate ⅜ NPT (dimensions ➔ 426)		**-AQP**	
	Supply voltage	24 V DC (connection pattern to EN 175301), 206 psi		**-V24**	
		24 V DC (connection pattern to EN 175301), 147 psi	1	**-10V24**	
		110 V AC (connection pattern to EN 175301), 206 psi		**-V110**	
		230 V AC (connection pattern to EN 175301), 206 psi		**-V230**	
O	Pressure gauge alternatives	MS pressure gauge, psi (with adapter)		**-AG**	
		Adapter plate for EN pressure gauge ⅛, without pressure gauge		**-A8**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	2	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	2	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	2	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	2	**-AD4**	
	Alternative pressure gauge scale	bar	3	**-BAR**	
		MPa	3	**-MPA**	
	Type of mounting	Mounting bracket (dimensions ➔ 427)	4	**-WP**	
		Mounting bracket (dimensions ➔ 427)	4	**-WPM**	
		Mounting bracket (dimensions ➔ 424)		**-WB**	
		Mounting bracket (dimensions ➔ 424)		**-WBM**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **10V24** Max. inlet pressunge 147 psi

2 **AD1 ... AD4** Measuring range max. 147 psi

3 **BAR, MPA** Only with pressure gauge AG

4 **WP, WPM** Only with port plate AQK, AQN or AQP

Transfer order code

527714	MS	4	N	– DE	–	–	–	–	–	–

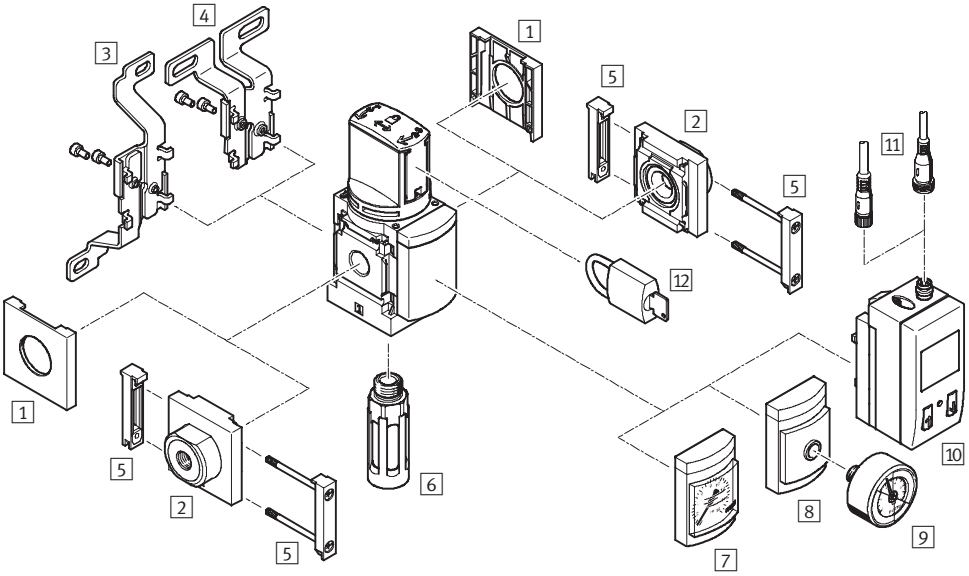
On-off/Soft-start Valves MS4N-EM1/DL – Inch Series

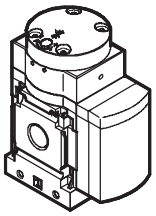
Accessories Overview

Mounting Attachments and Accessories

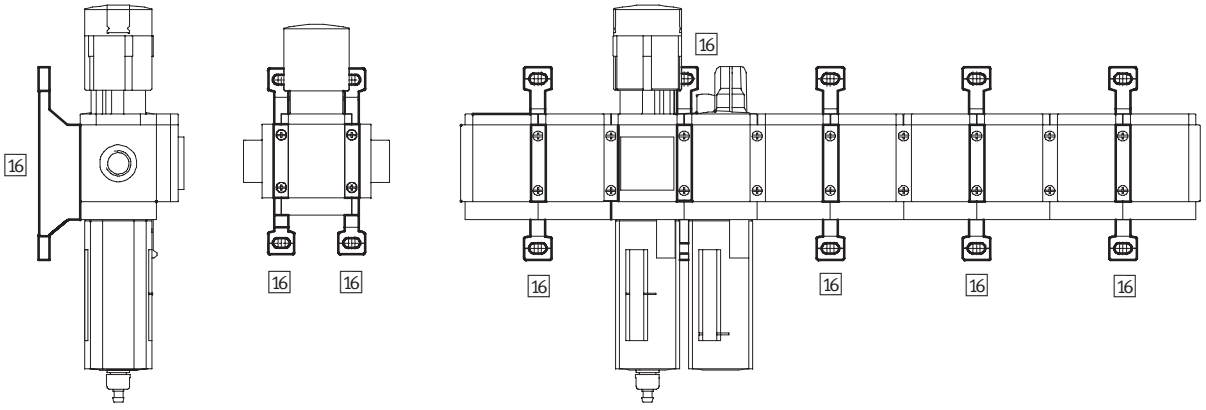
On-off Valve EM1 – manually actuated

Soft-start Valve DL – pneumatically actuated





Single unit and combination unit mounting brackets.



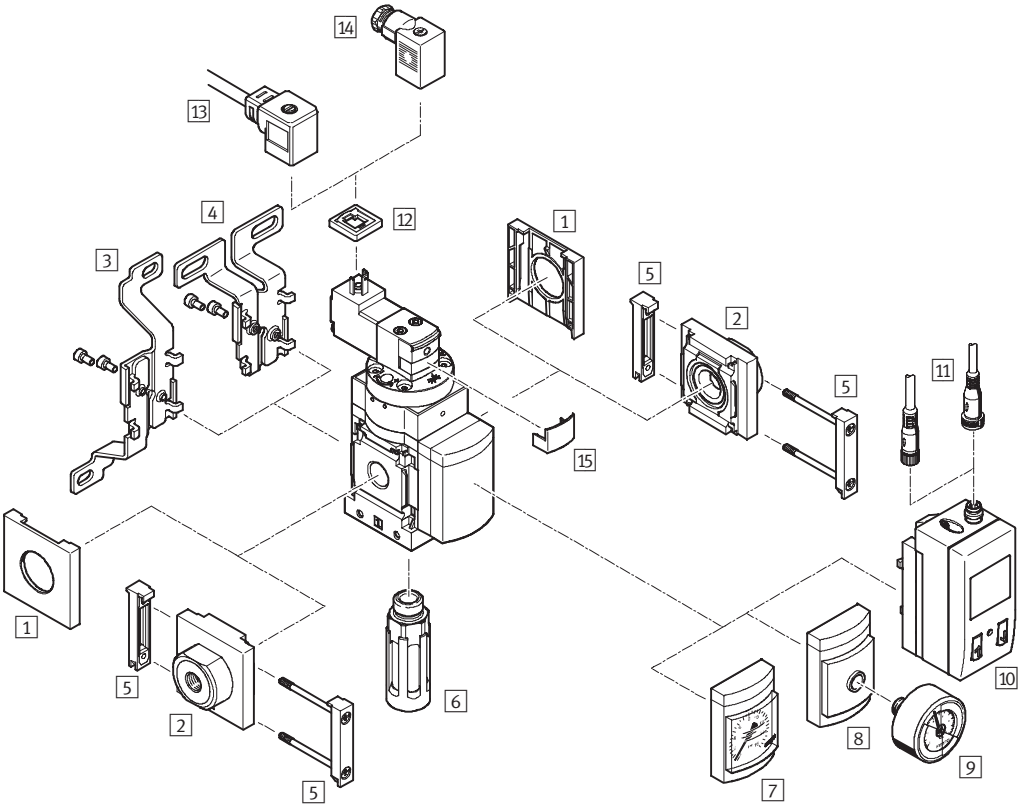
On-off/Soft-start Valves MS4N-EM1/DL – Inch Series

Accessories Overview

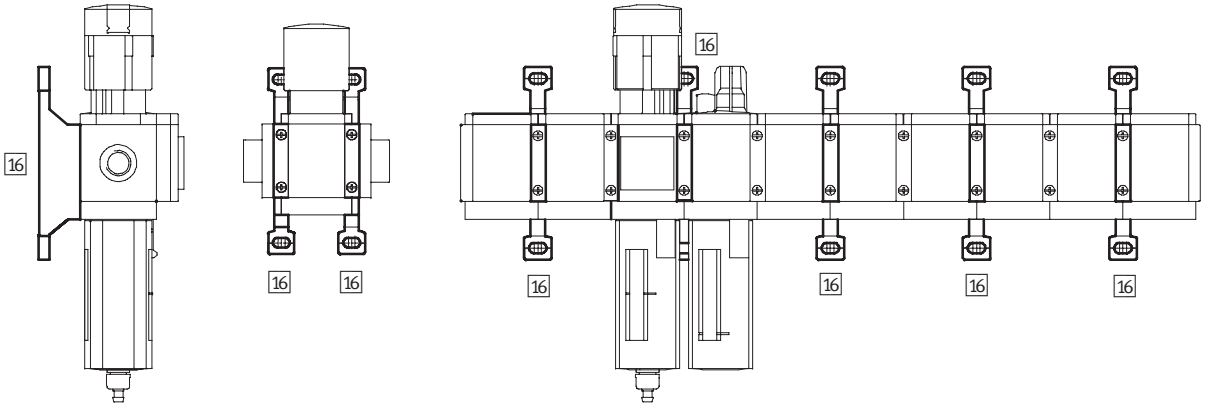
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	425
2	Port plate MS4N-AQ...	–	■	–	■	426
3	Mounting bracket MS4-WB	■	■	–	–	424
4	Mounting bracket MS4-WBM	■	■	–	–	424
5	Body connector MS4-MV	–	■	■	■	426
6	Silencer U	■ with EM1	■ with EM1	■ with EM1	■ with EM1	431
7	MS pressure gauge AG	■	■	■	■	EM1 402 DL 414
8	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	EM1 402 DL 414
9	Pressure gauge MA	■	■	■	■	431
10	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	EM1 402 DL 414
11	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	430
12	Padlock LRVS-D	■	■	■	■	431
16	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	427

Mounting Attachments and Accessories

On-off/Soft-start Valve EE/DE – solenoid actuated



Single unit and combination unit mounting brackets.



On-off/Soft-start Valves MS4N-EE/DE – Inch Series

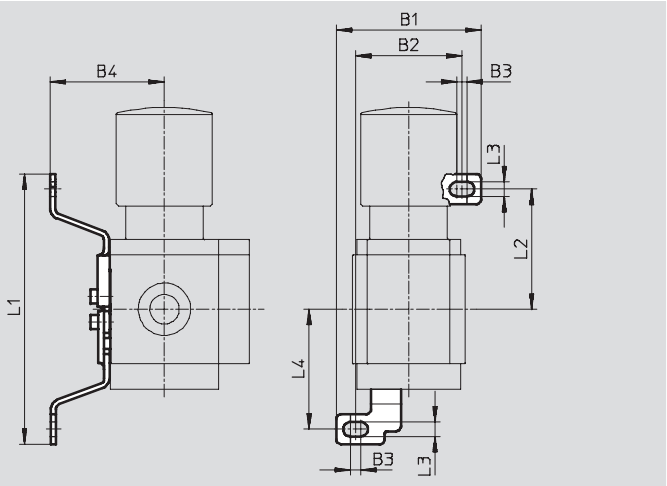
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	425
2	Port plate MS4N-AQ...	–	■	–	■	426
3	Mounting bracket MS4-WB	■	■	–	–	424
4	Mounting bracket MS4-WBM	■	■	–	–	424
5	Body connector MS4-MV	–	■	■	■	426
6	Silencer U	■ with EE	■ with EE	■ with EE	■ with EE	431
7	Pressure gauge MS AG	■	■	■	■	EE 408 DE 419
8	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	EE 408 DE 419
9	Pressure gauge MA	■	■	■	■	431
10	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	EE 408 DE 419
11	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	430
12	Illuminating seal MEB-LD	■	■	■	■	430
13	Plug socket with cable KMEB	■	■	■	■	430
14	Plug socket MSSD-EB	■	■	■	■	430
15	Locking clip CPV18-HV	■	■	■	■	430
16	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	427

3 **Mounting bracket MS4-WB**
- For wall mounting

Material:
Steel





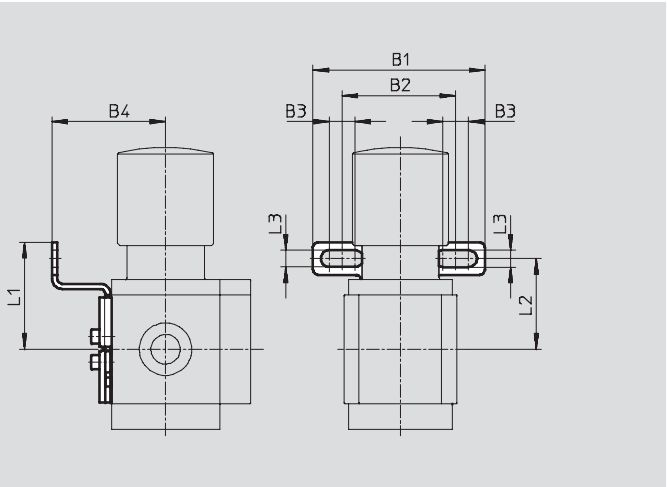
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.21	1.62	0.16	1.74	4.12	1.83	0.22	1.83	0.09	**532185**	**MS4-WB**

4 **Mounting bracket MS4-WBM**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

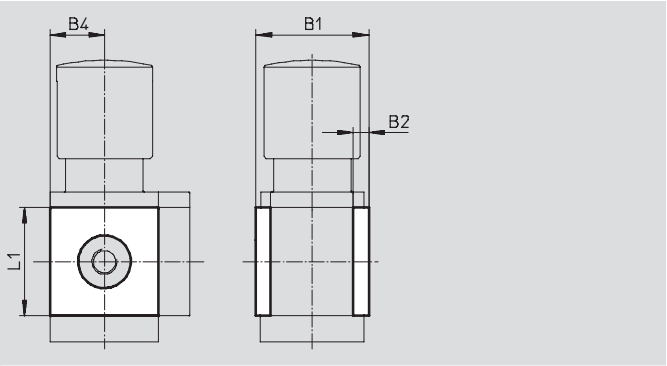
B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.62	1.73	0.39	1.73	1.63	1.38	0.26	0.10	**526062**	**MS4-WBM**

1 **Cover cap MS4-END**

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

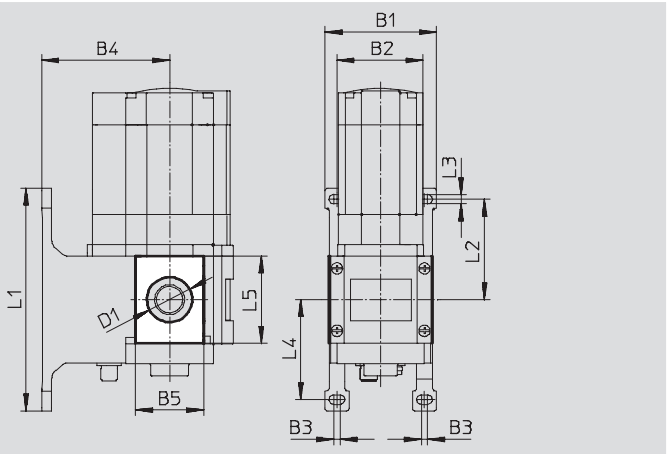
B1	B2	B4	L1	Part No.	Type
1.72	0.24	0.83	1.65	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

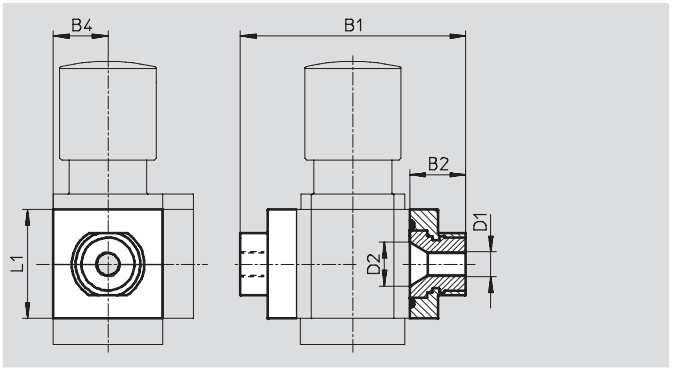
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
2.17	1.58	0.16	1.73	2.60	1.20	0.80	4.17	1.83	0.22	1.84	1.65	2	0.01	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4N-AQ...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
3.29	0.85	0.83	1/8 NPT	0.66	1.65	0.26	**526065**	**MS4N-AQK**
			1/4 NPT				**526066**	**MS4N-AQN**
			3/8 NPT				**526067**	**MS4N-AQP**

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

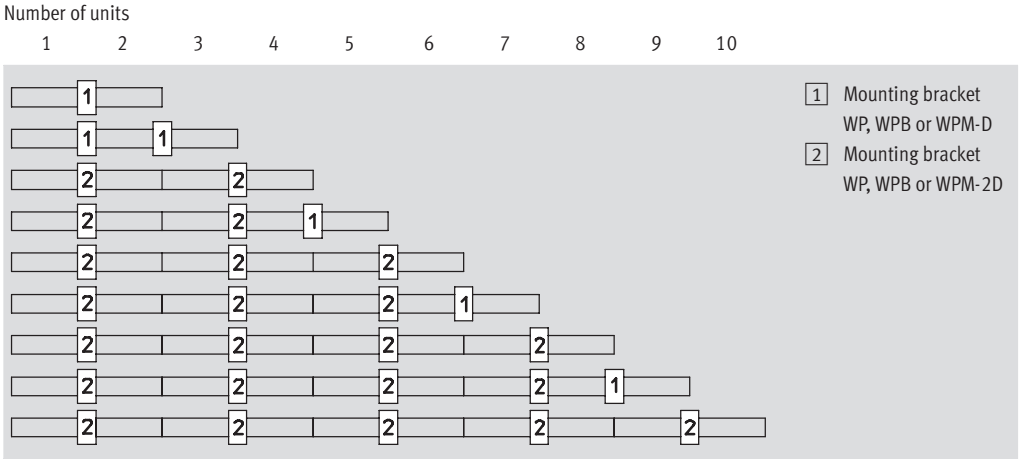
Weight [lb]	Part No.	Type
0.07	**532798**	**MS4-MV**

16 Mounting Bracket MS4-WP...

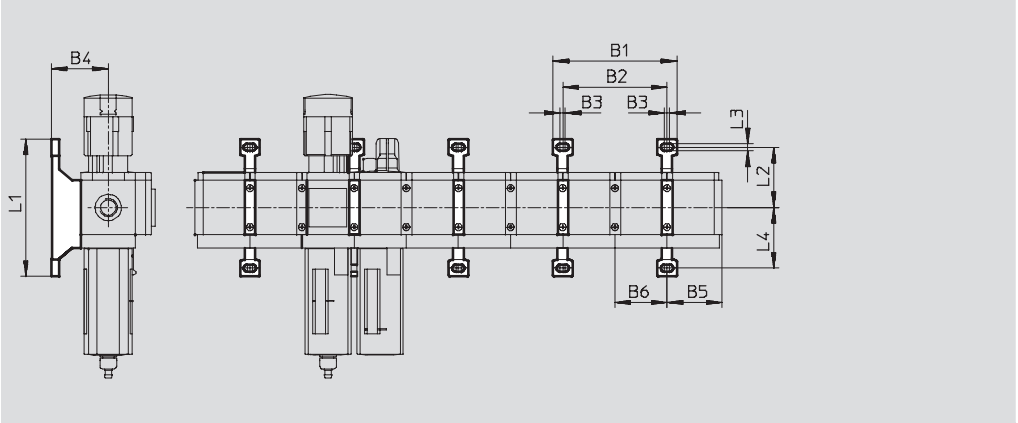
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 1.575 in

2 units: 3.15 in



Mounting dimensions



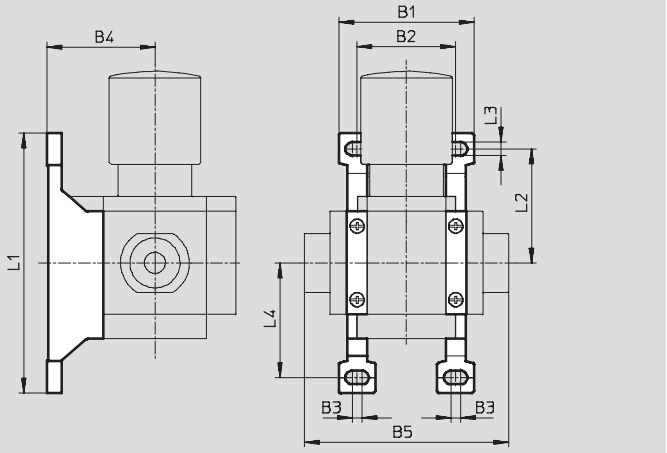
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	3.75	3.15	0.16	1.73	1.65	1.57	4.17	1.83	0.22	1.84
MS4-WPB				2.60						
MS4-WPM-...D				1.73			3.65	1.37		1.57

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

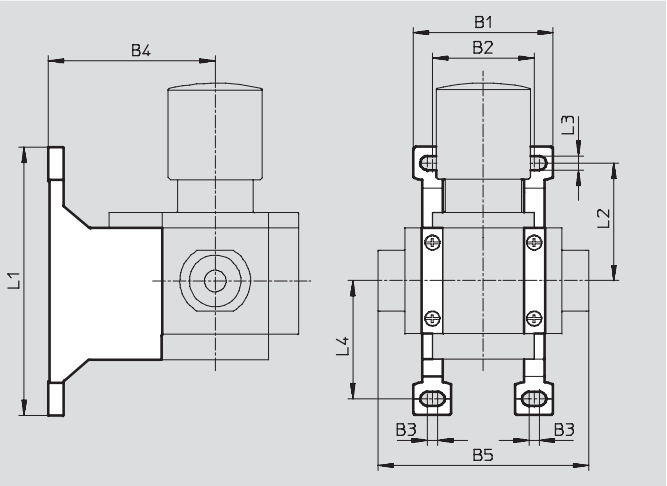
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	1.73	3.28	4.17	1.83	0.22	1.84	0.08	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	2.60	3.28	4.17	1.83	0.22	1.84	0.11	**526063**	**MS4-WPB**

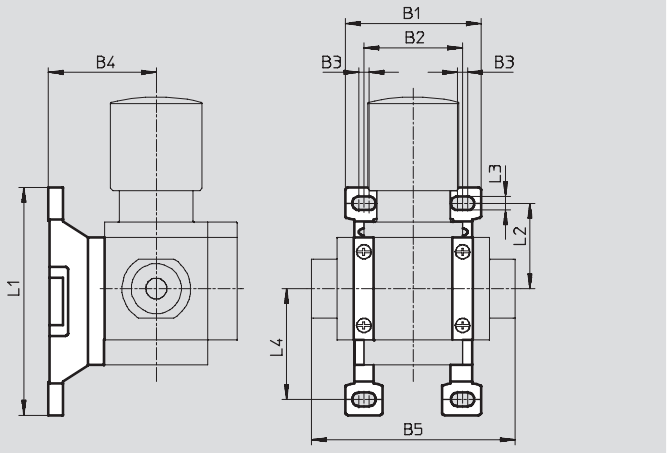
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
2.17	1.57	0.16	1.73	3.28	3.65	1.37	0.22	1.78	1.57	0.09	**526060**	**MS4-WPM-D**
3.75	3.15			4.86					3.15	0.11	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



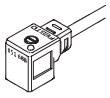
Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

14 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for MS4N-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	**151687**	**MSSD-EB**
			4-pin	Insulation displacement technology	**192745**	**MSSD-EB-S-M14**

13 Ordering Data – Plug Socket with Cable KMEB — Technical data ➔ www.festo.com/catalog/kmeb

	Description	Operating voltage range	Switching status display	Cable length [ft]	Part No.	Type
	for MS4N-EE/DE	24 V DC	LED	8.2	**151688**	**KMEB-1-24-2,5-LED**
		24 V DC	LED	16.4	**151689**	**KMEB-1-24-5-LED**
		24 V DC	LED	32.8	**193457**	**KMEB-1-24-10-LED**
		230 V AC	–	8.2	**151690**	**KMEB-1-230AC-2,5**
		230 V AC	–	16.4	**151691**	**KMEB-1-230AC-5**

12 Ordering Data – Illuminating Seal MEB-LD — Technical data ➔ www.festo.com/catalog/meb-ld

	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	**151717**	**MEB-LD-12-24DC**
		230 V DC/AC ±10%	**151718**	**MEB-LD-230AC**

15 Ordering Data – Locking Clip CPV18-HV — Technical data ➔ www.festo.com/catalog/cpv18-hv

	Description		Part No.	Type	PU[1)]
	for MS4N-EE/DE-...-V24	Cover for manual override, the clip prevents actuation	**530056**	**CPV18-HV**	**10**

1) Packaging unit quantity

11 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [ft]	Part No.	Type
	M8x1, 3-pin	8.2	**159420**	**SIM-M8-3GD-2,5-PU**
		16.4	**159421**	**SIM-M8-3GD-5-PU**
		32.8	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	8.2	**159422**	**SIM-M8-3WD-2,5-PU**
		16.4	**159423**	**SIM-M8-3WD-5-PU**
		32.8	**192965**	**SIM-M8-3WD-10-PU**

Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 4-pin	16.4	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	16.4	**164258**	**SIM-M12-4WD-5-PU**

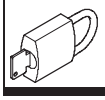
9 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	1.57	¼ NPT	0 ... 16	0 ... 232	**183908**	**MA-40-16-N¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.57	⅛ NPT	–	0 ... 232	**530388**	**MA-40-232-N⅛-PSI-E-RG**
	1.97	¼ NPT	–	0 ... 232	**530391**	**MA-50-232-N¼-PSI-E-RG**

6 Ordering Data – Silencer U — Technical data ➔ www.festo.com/catalog/u

	Description	Pneumatic connection	Part No.	Type
	for MS4N-EM1/EE	¼ NPT	**12639**	**U-¼-B-NPT**

Ordering Data – Padlock LRVS-D

	Description	Weight [lb]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	0.24	**193786**	**LRVS-D**

Distribution Blocks MS4-FRM – Metric Series



Distributor blocks provide additional air outlets to create separate pressure or air quality branches, or to attach pressure sensors.

- Pneumatic connection: G⅛, G¼, G⅜
- Operating pressure: 0 … 14 bar
- Flow rate: 1,200 … 3,500 l/min

Product Range Overview

Type	Pneumatic connections		Pressure indicator					Reverse flow
	Body thread	Port plate	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G⅛	Adapter for pressure gauge G¼	Pressure sensor with display	Flow direction from right to left
MS4		**AG…**	**VS**	**AG**	**A8**	**A4**	**AD…**	**Z**
FRM	G⅛, G¼	G⅛, G¼, G⅜	■	■	■	■	■	■

Features

- Pneumatic manifold with 4 connections
- Can be used as an intermediate distributor for varying air qualities
- Attachment facility for auxiliary modules
- Outlet top and bottom
- An optional integrated non-return valve prevents the return flow e.g. of lubricated compressed air
- Optional pressure sensor with display

Contents

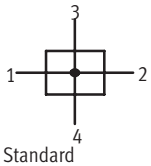
Technical Data → 434
Dimensional Drawings → 436
Ordering Data → 439
Accessories → 442

→ www.festo.com/catalog/ms4-frm

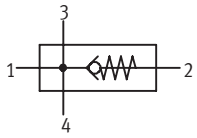
Distribution Blocks MS4-FRM – Metric Series

Technical Data

ISO Symbol



Standard



With integrated non-return function



General Technical Data			
Pneumatic connection 1, 2		G1⁄8	G1⁄4
Pneumatic connection 3, 4		G1⁄4	
Operating pressure	[bar]	0 ... 14 (Standard)	
		0 ... 10 (With non-return function)	
		0 ... 12 (Pressure switch X/Y/M12)	
		0 ... 10 (Pressure sensor with display AD...)	

1) The Distribution Block must be mounted vertically when combined with a pressure sensor as condensate must not collect in the pressure sensor.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] [l/min]		
Pneumatic connection	G1⁄8	G1⁄4
Standard		
In main flow direction 1 → 2	1,300	3,500
Outlet at top	2,200	2,300
Outlet at bottom	2,300	2,500
With non-return function		
In main flow direction 1 → 2	1,200	1,750
Outlet at top	500	500
Outlet at bottom	500	500

2) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Operating and Environmental Conditions				
Variant		Standard/With non-return function	Pressure switch X/Y/M12	Pressure sensor with display AD...
Operating medium		Compressed air	Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°C]	–10 ... +60	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	–10 ... +60	0 ... +50
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60
Assembly position		Any[1]		
Corrosion resistance class	CRC[3]	2		

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Distribution Blocks MS4-FRM – Metric Series

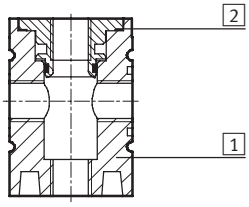
Technical Data

Weight [g]	
Standard/With non-return function	160
With pressure switch	400
With pressure sensor	250

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view (Standard)



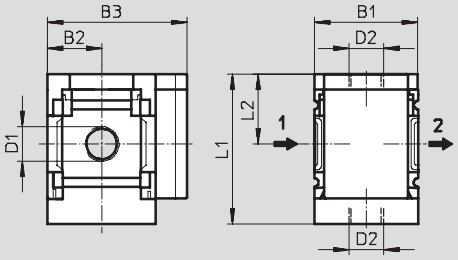
Distribution block		
1	Housing	Die-cast aluminum
2	Threaded insert	Aluminum
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Distribution Blocks MS4-FRM – Metric Series

Dimensional Drawings

Dimensions[1] – Standard/With Non-Return Function

Download CAD Data ➔ **www.festo.com/us/cad**



➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2
MS4-FRM-⅛	40	21	54	G⅛	G¼	58	27
MS4-FRM-⅛-I						59.9	28.9
MS4-FRM-¼	40	21	54	G¼	G¼	58	27
MS4-FRM-¼-I						59.9	28.9

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

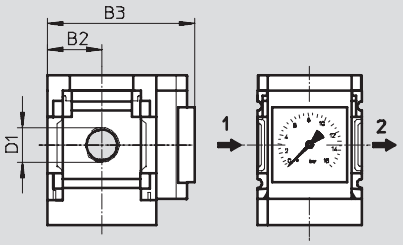
Distribution Blocks MS4-FRM – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

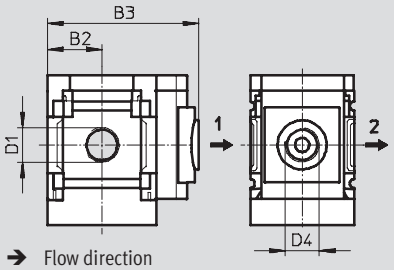
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



➔ Flow direction

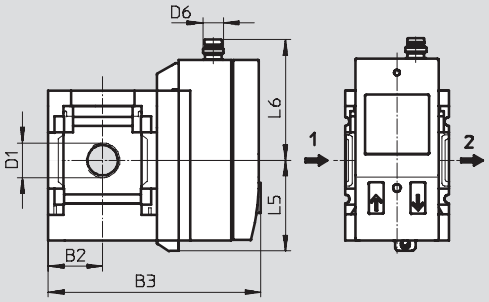
Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

Variant AD1:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switch output PNP

Variant AD2:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switch output NPN

Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switch output PNP and 4 ... 20 mA analog

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switch output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS4-FRM-1/8-...-AG	21	57	G1/8	–	–	–	–
MS4-FRM-1/4-...-AG			G1/4				
MS4-FRM-1/8-...-A8	21	58.5	G1/8	G1/8	–	–	–
MS4-FRM-1/4-...-A8			G1/4				
MS4-FRM-1/8-...-A4	21	58.5	G1/8	G1/4	–	–	–
MS4-FRM-1/4-...-A4			G1/4				
MS4-FRM-1/8-...-AD1/AD2	21	82.6	G1/8	–	M8x1	35.1	46.7
MS4-FRM-1/4-...-AD1/AD2			G1/4				
MS4-FRM-1/8-...-AD3/AD4	21	82.6	G1/8	–	M12x1	35.1	55.8
MS4-FRM-1/4-...-AD3/AD4			G1/4				

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Distribution Blocks MS4-FRM – Metric Series

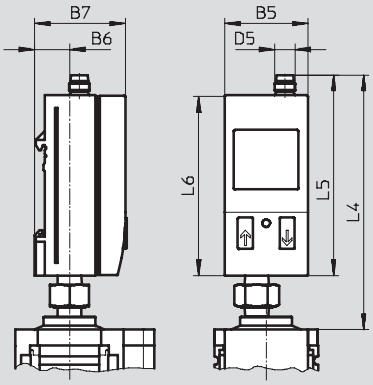
Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD5/AD6

Technical data SDE1 ➔ www.festo.com/catalog/sde1



Variant AD5:
SDE1-D10-G2-H18-C-P1-M8 with 3-pin plug M8x1, 1 switch output PNP

Variant AD6:
SDE1-D10-G2-W18-L-2I-M12 with 5-pin plug M12x1, 2 switch outputs PNP and 4 ... 20 mA analog

Type	B5	B6	B7	D5	L4	L5	L6
MS4-FRM-...-AD5	32.3	13.5	35.2	M8	99	78	70
MS4-FRM-...-AD6				M12	108	87	

1) Dimensions are in millimeters, unless otherwise noted.

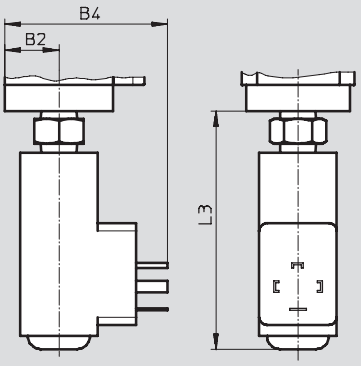
Dimensions[1] – Pressure Switch

Download CAD Data ➔ **www.festo.com/us/cad**

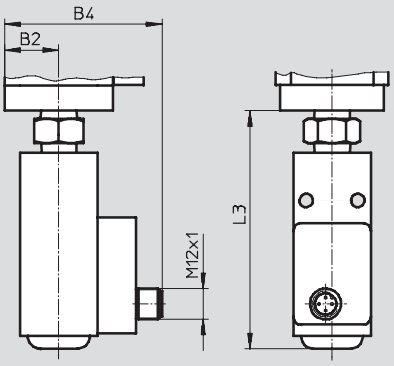
Pressure switch with adjustable pressure switching point X/Y/M12

Technical data PEV ➔ www.festo.com/catalog/pev

Variant X/Y



Variant M12



Variant X:
PEV-¼-SC-0D with display, plug, square design to DIN EN 175 301, type A

Variant Y:
PEV-¼-B-0D, plug, square design to DIN EN 175 301, type A

Variant M12:
PEV-¼-B-M12 with 4-pin plug M12x1

Type	B2	B4	L3
MS4-FRM-...-X/Y	21	63	92.3
MS4-FRM-...-M12	21	61	92.3

1) Dimensions are in millimeters, unless otherwise noted.

Distribution Blocks MS4-FRM – Metric Series

Ordering Data – Pre-configured Products

Ordering Data			
Connection	Part No.	Type	LT
Standard			
G⅛	**529559**	**MS4-FRM-⅛** [1]	1D
G¼	**529555**	**MS4-FRM-¼** [1]	1D
With integrated non-return function			
G⅛	**536965**	**MS4-FRM-⅛-I** [1]	Q
G¼	**536966**	**MS4-FRM-¼-I** [1]	Q
With pressure switch PEV-¼-B-OD (variant Y)			
G⅛	**529560**	**MS4-FRM-⅛-Y** [1]	1D
G¼	**529556**	**MS4-FRM-¼-Y** [1]	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Free of copper and PTFE

Distribution Blocks MS4-FRM – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data						
Part No.	**Series**	**Size**		**Function**		**Connection size**
527703	MS	4		FRM		1/8 ¼ AGA AGB AGC
Order example						
527703	**MS**	**4**	–	**FRM**	–	**1/8**

Ordering Table						
Grid dimension [mm]		40	Conditions	Code		Enter code
M	Part No.	**527703**				
	Series	Standard		**MS**		MS
	Size	4		**4**		4
	Function	Distribution block		**-FRM**		-FRM
	Connection size	Body thread G1/8		**-1/8**		
		Body thread G1/4		**-1/4**		
		Port plate G1/8 (dimensions ➔ 446)		**-AGA**		
		Port plate G1/4 (dimensions ➔ 446)		**-AGB**		
		Port plate G3/8 (dimensions ➔ 446)		**-AGC**		

Transfer order code

527703	**MS**	**4**	–	**FRM**	–	

➔ [0] **Options**

Additional function	Pressure gauge alternatives	Alternative pressure gauge scale	Pressure switch	Type of mounting	Reverse flow direction
I	AG	PSI	X	WP	Z
	A8	MPA	Y	WPM	
	A4		M12	WB	
	AD1			WBM	
	AD2				
	AD3				
	AD4				
	AD5				
	AD6				
–	**AG**	**PSI**	**M12**	**WB**	**Z**

Ordering Table

Grid dimension [mm]	40	Conditions	Code	Enter code
[0] Additional function	With integrated non-return function	[1]	**-I**	
Pressure gauge alternatives	MS pressure gauge, bar (with adapter)		**-AG**	
	Adapter plate for EN pressure gauge ⅛, without pressure gauge		**-A8**	
	Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
	Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	[2]	**-AD1**	
	Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin	[2]	**-AD2**	
	Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	[2]	**-AD3**	
	Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	[2]	**-AD4**	
	Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	[2]	**-AD5**	
	Pressure sensor with display, plug M12, 2 switching outputs PNP, 5-pin, analog output 4 ... 20 mA	[2]	**-AD6**	
Alternative pressure gauge scale	psi	[3]	**-PSI**	
	MPa	[3]	**-MPA**	
Pressure switch	Pressure switch PEV with display, socket, EN 175301, type A, cube	[4]	**-X**	
	Pressure switch PEV without display, socket, EN 175301, type A, cube	[4]	**-Y**	
	Pressure switch PEV without display, socket, round, M12, 4-pin	[4]	**-M12**	
Type of mounting	Mounting bracket (dimensions ➔ 447)	[5]	**-WP**	
	Mounting bracket (dimensions ➔ 447)	[5]	**-WPM**	
	Mounting bracket (dimensions ➔ 444)		**-WB**	
	Mounting bracket (dimensions ➔ 444)		**-WBM**	
Reverse flow direction	Flow direction from right to left		**-Z**	

[1] **I** Not with pressure gauge alternatives AD5 or AD6

[2] **AD1 ... AD6** Measuring range max. 10 bar

[3] **PSI, MPA** Only with pressure gauge AG

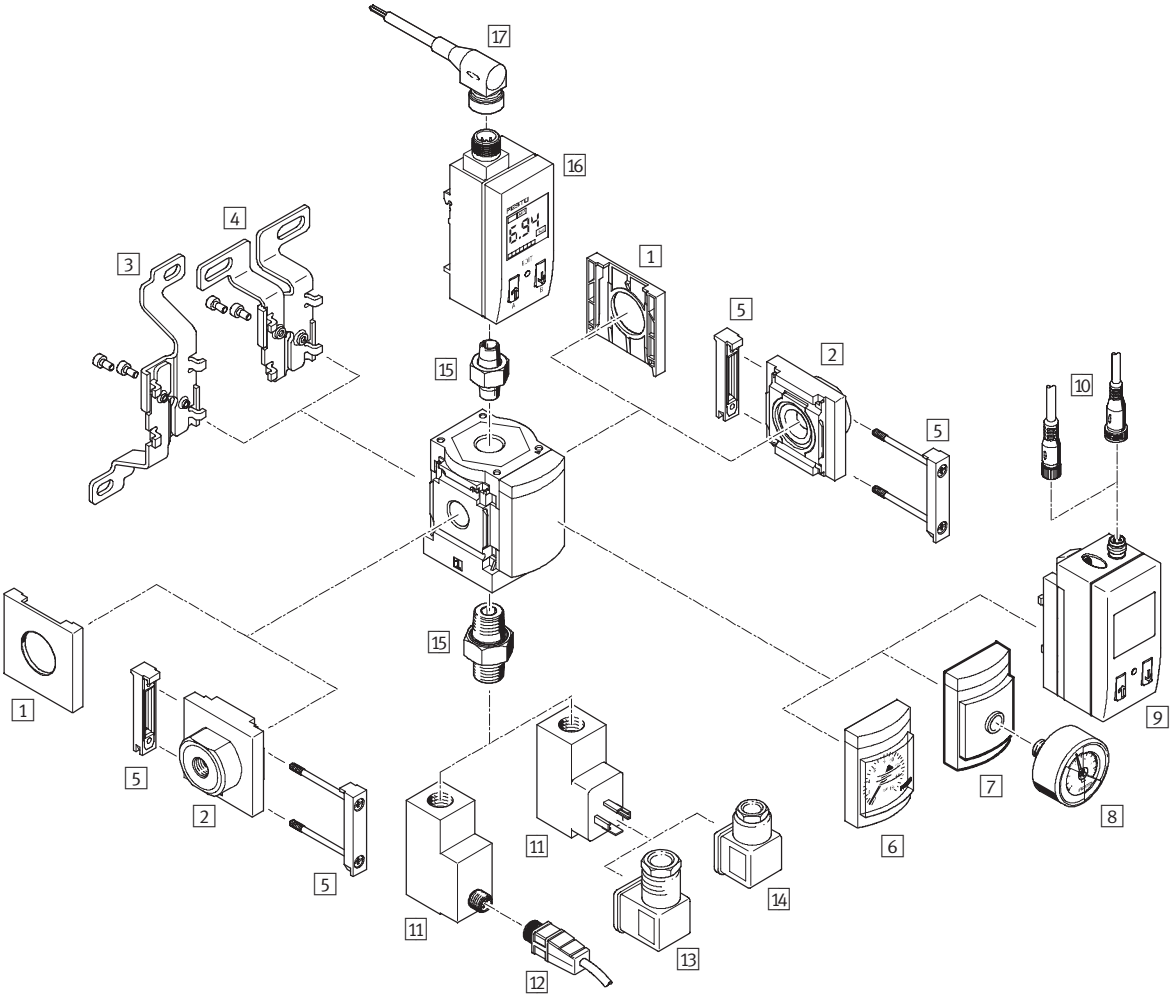
[4] **X, Y, M12** Max. permissible supply pressure P1 = 12 bar. Not with pressure gauge alternatives AD5 or AD6

[5] **WP, WPM** Only with port plate AGA, AGB or AGC

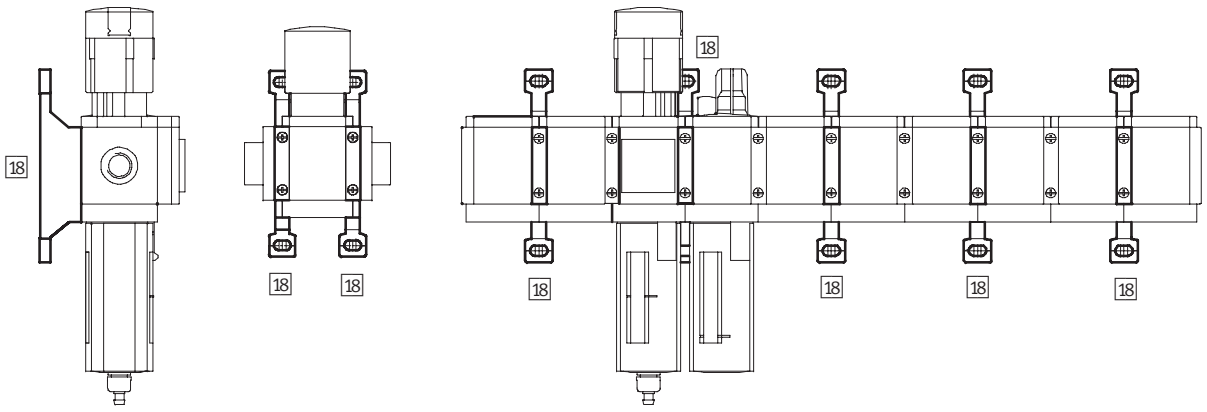
Transfer order code

–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Distribution Blocks MS4-FRM – Metric Series

Accessories Overview

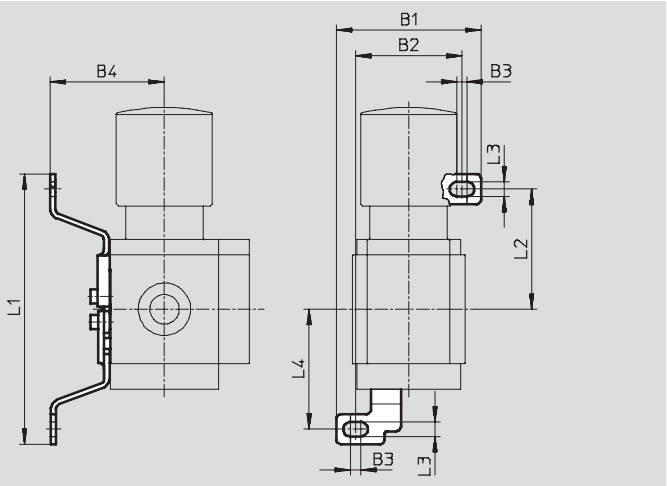
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	445
2	Port plate MS4-AG...	–	■	–	■	446
3	Mounting bracket MS4-WB	■	■	–	–	444
4	Mounting bracket MS4-WBM	■	■	–	–	444
5	Body connector MS4-MV	–	■	■	■	446
6	MS pressure gauge AG	■	■	■	■	440
7	Adapter for EN pressure gauge ⅛/¼ A8/A4	■	■	■	■	440
8	Pressure gauge MA	■	■	■	■	451
9	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	440
10	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	451
11	Pressure switch PEV X/Y/M12	■	■	■	■	450
12	Plug socket with cable SIM-M12-4...	■	■	■	■	451
13	Angled socket PEV-¼-WD-LED-...	■	■	■	■	450
14	Plug socket MSSD-C-4P	■	■	■	■	450
15	Double nipple ESK	■	■	■	■	450
16	Pressure sensor SDE1-...-H18/W18 AD5/AD6	■	■	■	■	450
17	Plug socket with cable SIM-M8-3.../SIM-M12-5...	■	■	■	■	451
18	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	447

3 Mounting bracket MS4-WB

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

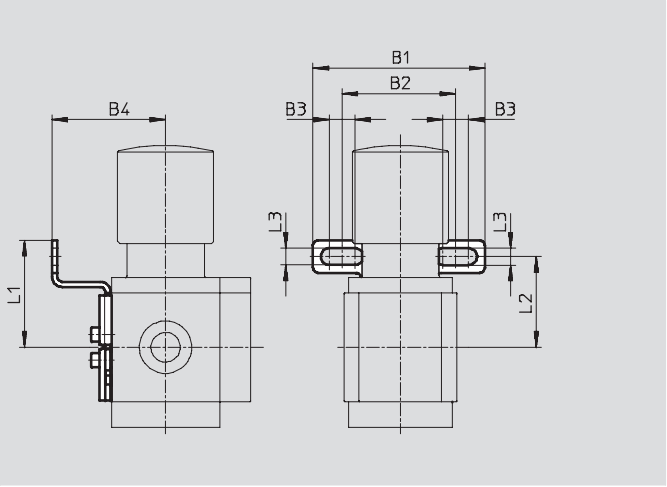
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
56.2	41.2	4	44.2	104.6	46.6	5.6	46.5	46	**532185**	**MS4-WB**

4 Mounting bracket MS4-WBM

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

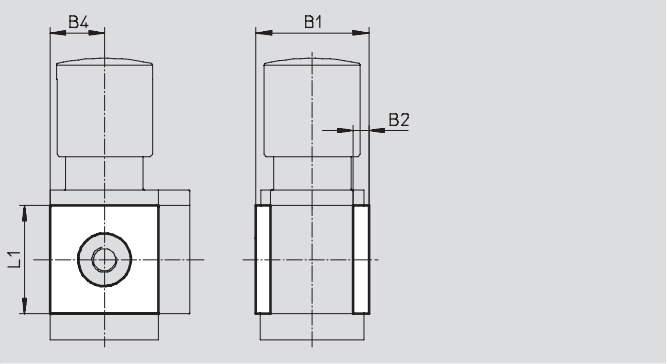
B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
66.5	44	10	44	41.3	35	6.5	48	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

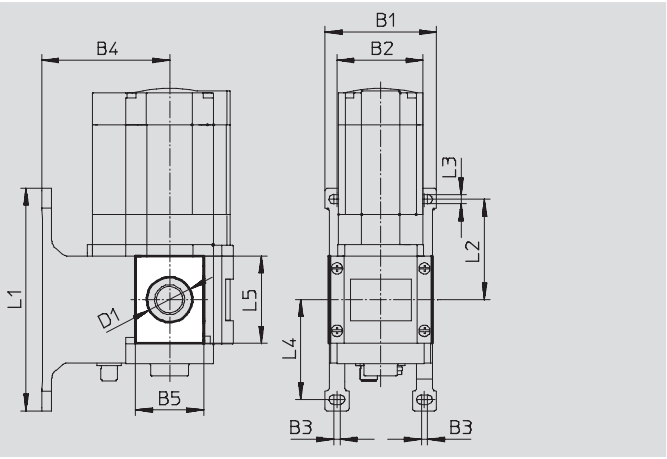
B1	B2	B4	L1	Part No.	Type
43.6	6	21	42	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	**542966**	**MS4-AEND**

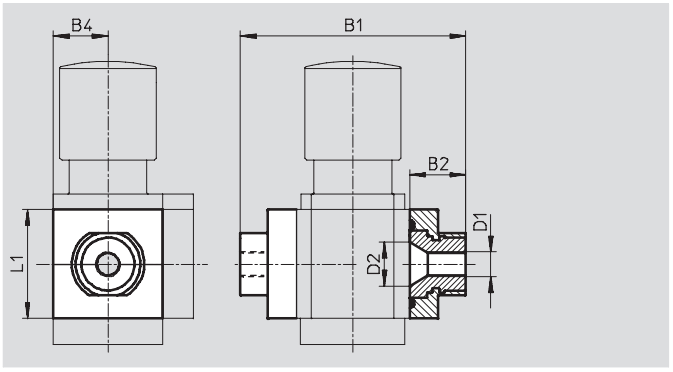
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4-AG...**

- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
83.5	21.5	21	G1⁄8	16.8	42	128	**526068**	**MS4-AGA**
			G1⁄4				**526069**	**MS4-AGB**
			G3⁄8				**526070**	**MS4-AGC**

5 **Body connector MS4-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

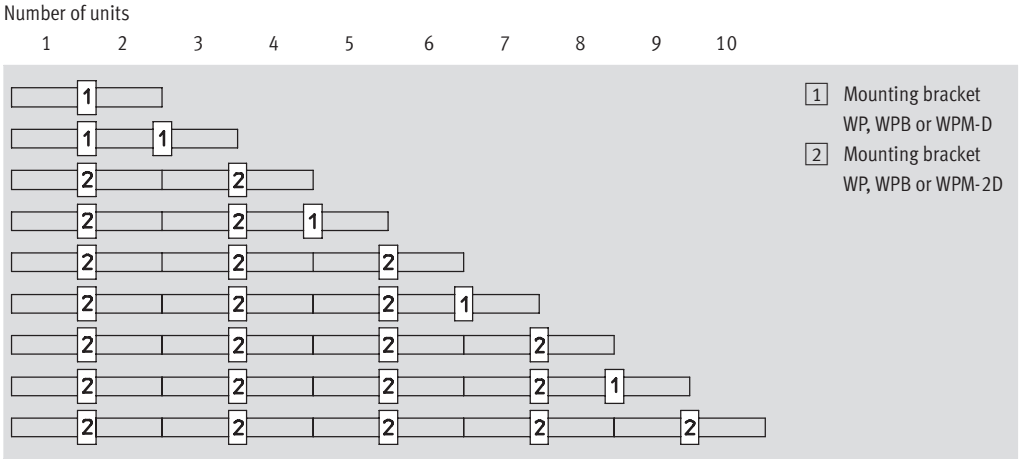
Weight [g]	Part No.	Type
36	**532798**	**MS4-MV**

18 Mounting Bracket MS4-WP...

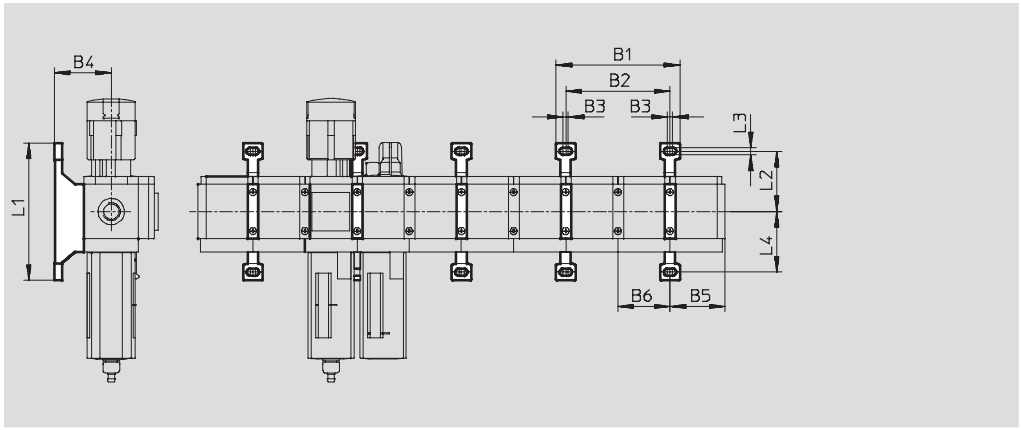
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 40 mm

2 units: 80 mm



Mounting dimensions



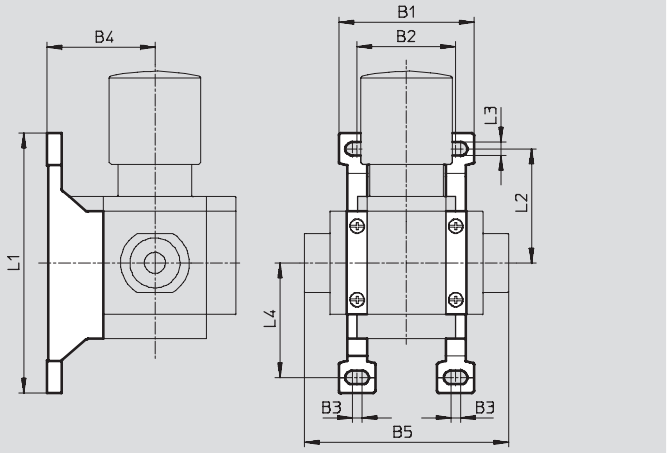
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44			92.8	34.8		40

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

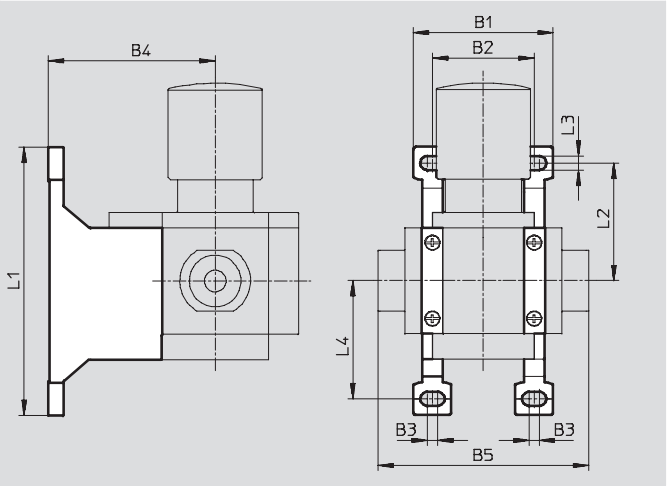
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	44	83.4	106	46.5	5.6	46.7	39	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	55	**526063**	**MS4-WPB**

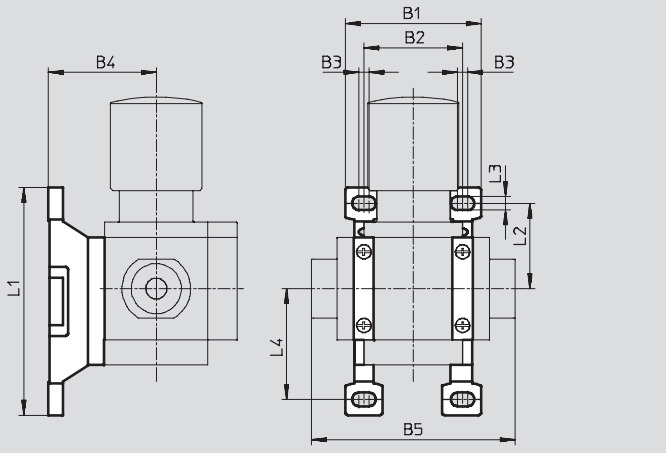
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
55.2	40	4	44	83.4	92.8	34.8	5.6	45.2	40	45	**526060**	**MS4-WPM-D**
95.2	80			123.4					80	55	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

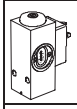
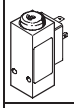
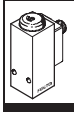
Material:
Die-cast aluminum



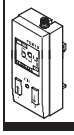
Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

11 Ordering Data – Pressure Switch PEV — Technical data ➔ www.festo.com/catalog/pev

	Pneumatic connection	Pressure switching point	Electrical connection	Order code	Part No.	Type
	G¼	Adjustable with visual scale	Plug, square design to DIN EN 175 301, type A	X	**161760**	**PEV-¼-SC-OD**
	G¼	Adjustable	Plug, square design to DIN EN 175 301, type A	Y	**175250**	**PEV-¼-B-OD**
	G¼	Adjustable	Plug M12x1, 4-pin	M12	**192488**	**PEV-¼-B-M12**

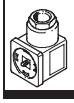
16 Ordering Data – Pressure Sensor SDE1 — Technical data ➔ www.festo.com/catalog/sde1

	Pneumatic connection	Electrical output	Electrical connection	Display	Order code	Part No.	Type
Pressure sensor SDE1 for Distribution Block MS-FRM, pressure measuring range 0 ... 10 bar, relative pressure measurement							
	Female thread G⅛	1 switch output PNP	M8x1, 3-pin	LCD	AD5	**192030**	**SDE1-D10-G2-H18-C-P1-M8**
		2 switch outputs PNP and 4 ... 20 mA analog	M12x1, 5-pin	Illuminated LCD	AD6	**534062**	**SDE1-D10-G2-W18-L-2I-M12**

13 Ordering Data – Angled Socket PEV — Technical data ➔ www.festo.com/catalog/pev

	Description	Operating voltage range	Electrical connection	Switching status display	Part No.	Type
	for PEV-¼-...-OD	15 .... 30 V DC	4-pin	Yellow LED	**164274**	**PEV-¼-WD-LED-24**
		≤ 230 V AC ≤ 180 V DC	4-pin	Yellow LED	**164275**	**PEV-¼-WD-LED-230**

14 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for PEV-¼-...-OD	≤ 250 V AC/DC	3-pin	Clamping screws	**171157**	**MSSD-C-4P**

15 Ordering Data – Double Nipple ESK

	Description	Pneumatic connection		Part No.	Type
	Adjustable for angular compensation • For retro-fitting pressure switch PEV or pressure sensor SDE1 to distribution block MS-FRM	R⅛	R¼	**534151**	**ESK-⅛-¼**
		R¼	R¼	**151521**	**ESK-¼-¼**
			R½	**534153**	**ESK-¼-½**

17 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [m]	Part No.	Type
	M8x1, 3-pin	2.5	**159420**	**SIM-M8-3GD-2,5-PU**
		5	**159421**	**SIM-M8-3GD-5-PU**
		10	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	2.5	**159422**	**SIM-M8-3WD-2,5-PU**
		5	**159423**	**SIM-M8-3WD-5-PU**
		10	**192965**	**SIM-M8-3WD-10-PU**

Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 4-pin	5	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 5-pin	2.5	**175715**	**SIM-M12-5GD-2,5-PU**
		5	**175716**	**SIM-M12-5GD-5-PU**
	M12x1, 4-pin	5	**164258**	**SIM-M12-4WD-5-PU**

8 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	40	R⅛	0 ... 16	–	**525726**	**MA-40-16-R⅛-E-RG**
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

Distribution Blocks MS4N-FRM – Inch Series



Distributor blocks provide additional air outlets to create separate pressure or air quality branches, or to attach pressure sensors.

- Pneumatic connection: ⅛ NPT, ¼ NPT, ⅜ NPT
- Operating pressure: 0 … 206 psi
- Flow rate: 42.4 … 123.6 scfm

Product Range Overview

Type	Pneumatic connections		Pressure indicator					Reverse flow
	Body thread	Port plate	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge ⅛ NPT	Adapter for pressure gauge ¼ NPT	Pressure sensor with display	Flow direction from right to left
MS4N		**AG...**	**VS**	**AG**	**A8**	**A4**	**AD...**	**Z**
FRM	⅛ NPT, ¼ NPT	⅛ NPT, ¼ NPT, ⅜ NPT	■	■	■	■	■	■

Features

- Pneumatic manifold with 4 connections
- Can be used as an intermediate distributor for varying air qualities
- Attachment facility for auxiliary modules
- Outlet top and bottom
- An optional integrated non-return valve prevents the return flow e.g. of lubricated compressed air
- Optional pressure sensor with display

Contents

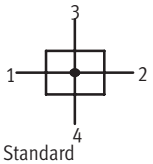
Technical Data → 454
Dimensional Drawings → 456
Ordering Data → 459
Accessories → 462

→ www.festo.com/catalog/ms4n-frm

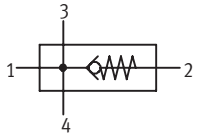
Distribution Blocks MS4N-FRM – Inch Series

Technical Data

ISO Symbol



Standard



With integrated non-return function



General Technical Data			
Pneumatic connection 1, 2		⅛ NPT	¼ NPT
Pneumatic connection 3, 4		¼ NPT	
Operating pressure	[psi]	0 ... 206 (Standard)	
		0 ... 147 (With non-return function)	
		0 ... 176 (Pressure switch X/Y/M12)	
		0 ... 147 (Pressure sensor with display AD...)	

1) The Distribution Block must be mounted vertically when combined with a pressure sensor as condensate must not collect in the pressure sensor.

Standard Nominal Flow Rate qnN[2] [scfm]		
Pneumatic connection	⅛ NPT	¼ NPT
Standard		
In main flow direction 1 ⇢ 2	45.9	123.6
Outlet at top	77.7	81.2
Outlet at bottom	81.2	88.3
With non-return function		
In main flow direction 1 ⇢ 2	42.4	61.8
Outlet at top	17.7	17.7
Outlet at bottom	17.7	17.7

2) Measured at p1 = 88 psi and p2 = 74 psi Δp = 15 psi

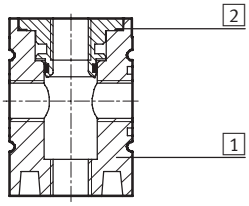
Operating and Environmental Conditions				
Variant				
Operating medium		Compressed air	Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°F]	14 ... 140	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	14 ... 140	32 ... 122
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140
Assembly position		Any[1]		
Corrosion resistance class	CRC[3]	2		

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weight [lb]	
Standard/With non-return function	0.32
With pressure switch	0.80
With pressure sensor	0.50

Materials

Sectional view (Standard)



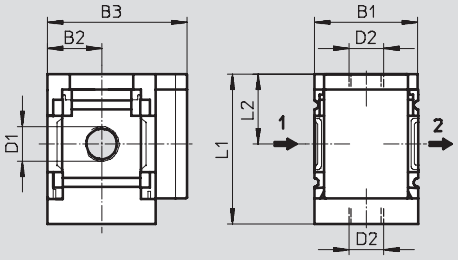
Distribution block		
1	Housing	Die-cast aluminum
2	Threaded insert	Aluminum
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Distribution Blocks MS4N-FRM – Inch Series

Dimensional Drawings

Dimensions[1] – Standard/With Non-Return Function

Download CAD Data ➔ **www.festo.com/us/cad**



➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2
MS4N-FRM-⅛	1.57	0.83	2.13	⅛ NPT	¼ NPT	2.28	1.06
MS4N-FRM-⅛-I						2.36	1.14
MS4N-FRM-¼	1.57	0.83	2.13	¼ NPT	¼ NPT	2.28	1.06
MS4N-FRM-¼-I						2.36	1.14

1) Dimensions are in inches, unless otherwise noted.

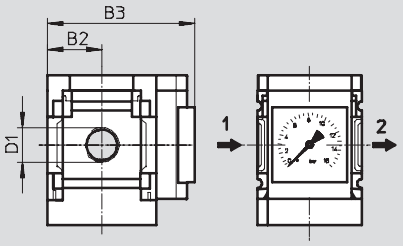
Distribution Blocks MS4N-FRM – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

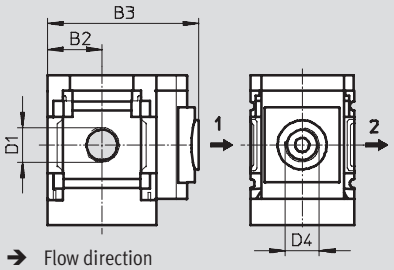
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



➔ Flow direction

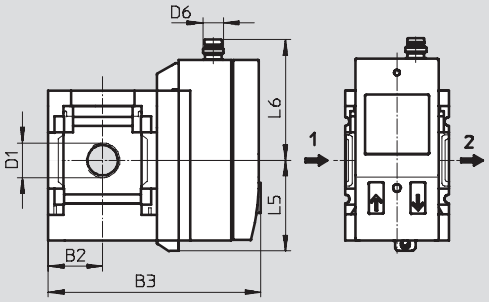
Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

Variant AD1:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switch output PNP

Variant AD2:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switch output NPN

Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switch output PNP and 4 ... 20 mA analog

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switch output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS4N-FRM-1/8-...-AG	0.83	2.24	1/8 NPT	–	–	–	–
MS4N-FRM-1/4-...-AG			1/4 NPT				
MS4N-FRM-1/8-...-A8	0.83	2.30	1/8 NPT	1/8 NPT	–	–	–
MS4N-FRM-1/4-...-A8			1/4 NPT				
MS4N-FRM-1/8-...-A4	0.83	2.30	1/8 NPT	1/4 NPT	–	–	–
MS4N-FRM-1/4-...-A4			1/4 NPT				
MS4N-FRM-1/8-...-AD1/AD2	0.83	3.25	1/8 NPT	–	M8x1	1.38	1.84
MS4N-FRM-1/4-...-AD1/AD2			1/4 NPT				
MS4N-FRM-1/8-...-AD3/AD4	0.83	3.25	1/8 NPT	–	M12x1	1.38	2.20
MS4N-FRM-1/4-...-AD3/AD4			1/4 NPT				

1) Dimensions are in inches, unless otherwise noted.

Distribution Blocks MS4N-FRM – Inch Series

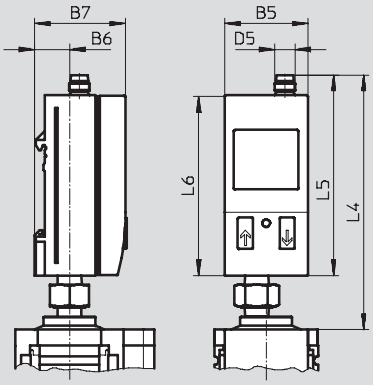
Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD5/AD6

Technical data SDE1 ➔ www.festo.com/catalog/sde1



Variant AD5:
SDE1-D10-G2-H18-C-P1-M8 with 3-pin plug M8x1, 1 switch output PNP

Variant AD6:
SDE1-D10-G2-W18-L-2I-M12 with 5-pin plug M12x1, 2 switch outputs PNP and 4 ... 20 mA analog

Type	B5	B6	B7	D5	L4	L5	L6
MS4N-FRM-...-AD5	1.27	0.53	1.39	M8	3.90	3.07	2.76
MS4N-FRM-...-AD6				M12	4.25	3.43	

1) Dimensions are in inches, unless otherwise noted.

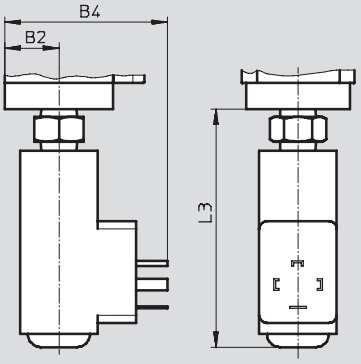
Dimensions[1] – Pressure Switch

Download CAD Data ➔ **www.festo.com/us/cad**

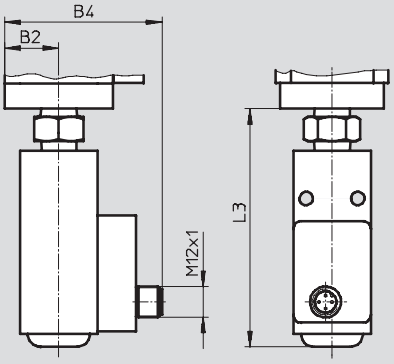
Pressure switch with adjustable pressure switching point X/Y/M12

Technical data PEV ➔ www.festo.com/catalog/pev

Variant X/Y



Variant M12



Variant X:
PEV-¼-SC-0D with display, plug, square design to DIN EN 175 301, type A

Variant Y:
PEV-¼-B-0D, plug, square design to DIN EN 175 301, type A

Variant M12:
PEV-¼-B-M12 with 4-pin plug M12x1

Type	B2	B4	L3
MS4N-FRM-...-X/Y	0.83	2.48	3.63
MS4N-FRM-...-M12	0.83	2.40	3.63

1) Dimensions are in inches, unless otherwise noted.

Distribution Blocks MS4N-FRM – Inch Series

Ordering Data – Pre-configured Products

Ordering Data			
Connection	Part No.	Type	LT
Standard			
1/8 NPT	**531950**	**MS4N-FRM-1/8** [1]	1D
1/4 NPT	**531949**	**MS4N-FRM-1/4** [1]	1D
With integrated non-return function			
1/8 NPT	**536975**	**MS4N-FRM-1/8-I** [1]	Q
1/4 NPT	**536976**	**MS4N-FRM-1/4-I** [1]	Q
With pressure switch PEV-1/4-B-OD (variant Y)			
1/8 NPT	**531954**	**MS4N-FRM-1/8-Y** [1]	1D
1/4 NPT	**531953**	**MS4N-FRM-1/4-Y** [1]	1D

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

1) Free of copper and PTFE

Distribution Blocks MS4N-FRM – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data						
Part No.	**Series**	**Size**	**Thread**	**Function**		**Connection size**
527704	MS	4	N	FRM		⅛ ¼ AQK AQN AQP
Order example						
527704	**MS**	**4**	**N**	**FRM**	**–**	**1/8**

Ordering Table

Grid dimension [mm]	40	Conditions	Code		Enter code
M Part No.	**527704**				
Series	Standard		**MS**		MS
Size	4		**4**		4
Thread	NPT thread		**N**		N
Function	Distribution block		**-FRM**		-FRM
Connection size	Body thread ⅛ NPT		**-⅛**		
	Body thread ¼ NPT		**-¼**		
	Port plate ⅛ NPT (dimensions → 466)		**-AQK**		
	Port plate ¼ NPT (dimensions → 466)		**-AQN**		
	Port plate ⅜ NPT (dimensions → 466)		**-AQP**		

Transfer order code

527704	**MS**	**4**	**N**	**FRM**	**–**	

➔ [0] **Options**

Additional function	Pressure gauge alternatives	Alternative pressure gauge scale	Pressure switch	Type of mounting	Reverse flow direction
I	AG	BAR	X	WP	Z
	A8	MPA	Y	WPM	
	A4		M12	WB	
	AD1			WBM	
	AD2				
	AD3				
	AD4				
	AD5				
	AD6				
–	**AG** –	**BAR** –	**M12** –	**WB** –	**Z**

Ordering Table

Grid dimension [mm]	40	Conditions	Code	Enter code
[0] Additional function	With integrated non-return function	[1]	**-I**	
Pressure gauge alternatives	MS pressure gauge, psi (with adapter)		**-AG**	
	Adapter plate for EN pressure gauge ⅛, without pressure gauge		**-A8**	
	Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
	Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	[2]	**-AD1**	
	Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin	[2]	**-AD2**	
	Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	[2]	**-AD3**	
	Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	[2]	**-AD4**	
	Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	[2]	**-AD5**	
	Pressure sensor with display, plug M12, 2 switching outputs PNP, 5-pin, analog output 4 ... 20 mA	[2]	**-AD6**	
Alternative pressure gauge scale	bar	[3]	**-BAR**	
	MPa	[3]	**-MPA**	
Pressure switch	Pressure switch PEV with display, socket, EN 175301, type A, cube	[4]	**-X**	
	Pressure switch PEV without display, socket, EN 175301, type A, cube	[4]	**-Y**	
	Pressure switch PEV without display, socket, round, M12, 4-pin	[4]	**-M12**	
Type of mounting	Mounting bracket (dimensions ➔ 467)	[5]	**-WP**	
	Mounting bracket (dimensions ➔ 467)	[5]	**-WPM**	
	Mounting bracket (dimensions ➔ 464)		**-WB**	
	Mounting bracket (dimensions ➔ 464)		**-WBM**	
Reverse flow direction	Flow direction from right to left		**-Z**	

[1] **I** Not with pressure gauge alternatives AD5 or AD6

[2] **AD1 ... AD6** Measuring range max. 147 psi

[3] **BAR, MPA** Only with pressure gauge AG

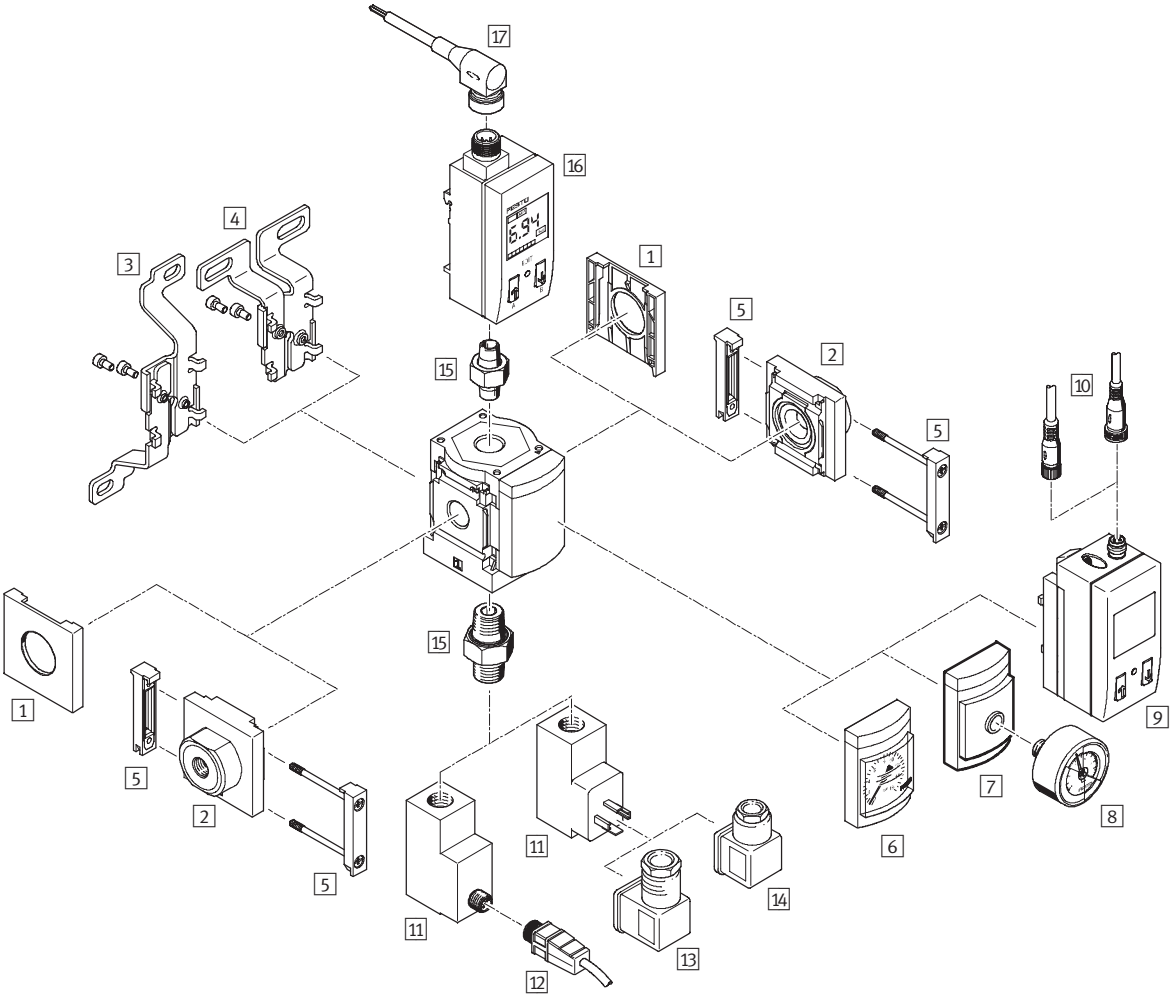
[4] **X, Y, M12** Max. permissible supply pressure P1 = 176 psi. Not with pressure gauge alternatives AD5 or AD6

[5] **WP, WPM** Only with port plate AQK, AQN or AQP

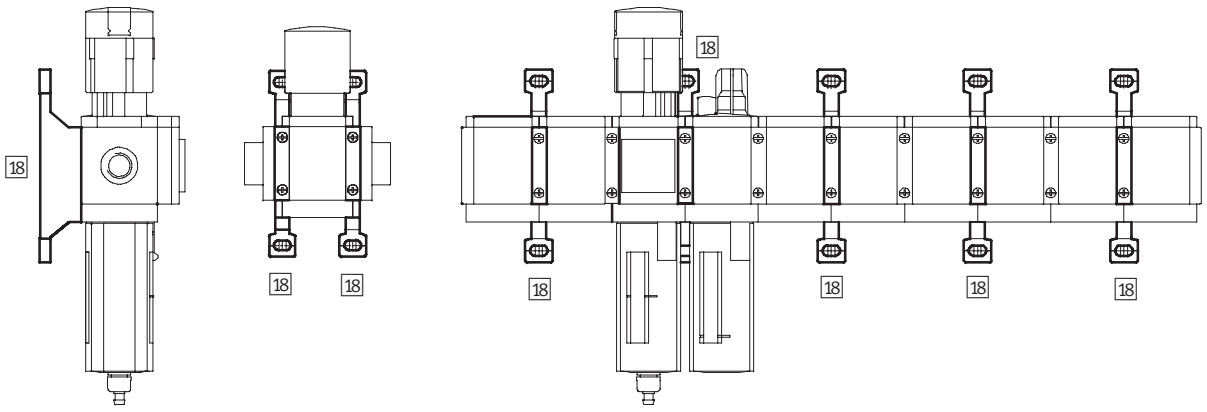
Transfer order code

–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Distribution Blocks MS4N-FRM – Inch Series

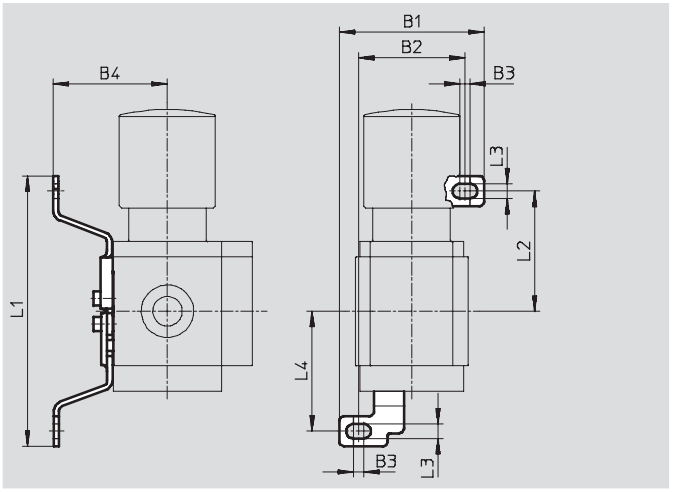
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 2.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	–	■	–	465
2	Port plate MS4N-AQ...	–	■	–	■	466
3	Mounting bracket MS4-WB	■	■	–	–	464
4	Mounting bracket MS4-WBM	■	■	–	–	464
5	Body connector MS4-MV	–	■	■	■	466
6	MS pressure gauge AG	■	■	■	■	460
7	Adapter for EN pressure gauge ⅛/¼ A8/A4	■	■	■	■	460
8	Pressure gauge MA	■	■	■	■	471
9	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	460
10	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	471
11	Pressure switch PEV X/Y/M12	■	■	■	■	470
12	Plug socket with cable SIM-M12-4...	■	■	■	■	471
13	Angled socket PEV-¼-WD-LED-...	■	■	■	■	470
14	Plug socket MSSD-C-4P	■	■	■	■	470
15	Double nipple ESK	■	■	■	■	470
16	Pressure sensor SDE1-...-H18/W18 AD5/AD6	■	■	■	■	470
17	Plug socket with cable SIM-M8-3.../SIM-M12-5...	■	■	■	■	471
18	Mounting bracket MS4-WP/WPB/WPM	–	■	■	■	467

3 **Mounting bracket MS4-WB**
- For wall mounting

Material:
Steel





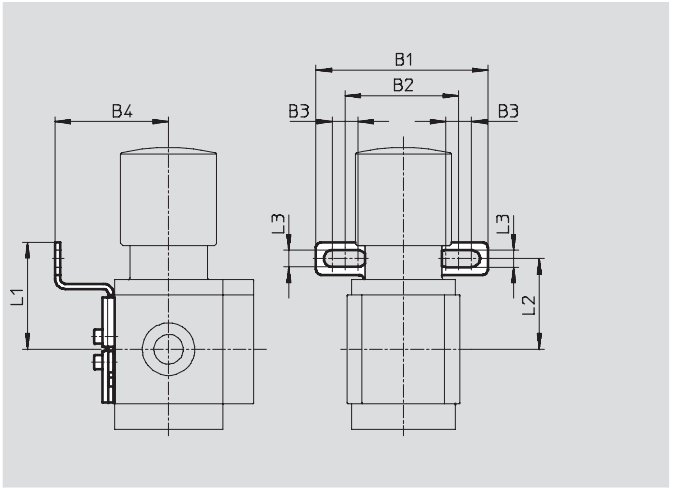
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.21	1.62	0.16	1.74	4.12	1.83	0.22	1.83	0.09	**532185**	**MS4-WB**

4 **Mounting bracket MS4-WBM**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

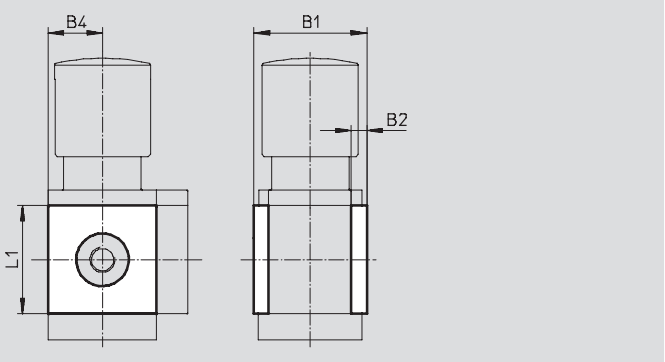
B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.62	1.73	0.39	1.73	1.63	1.38	0.26	0.10	**526062**	**MS4-WBM**

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

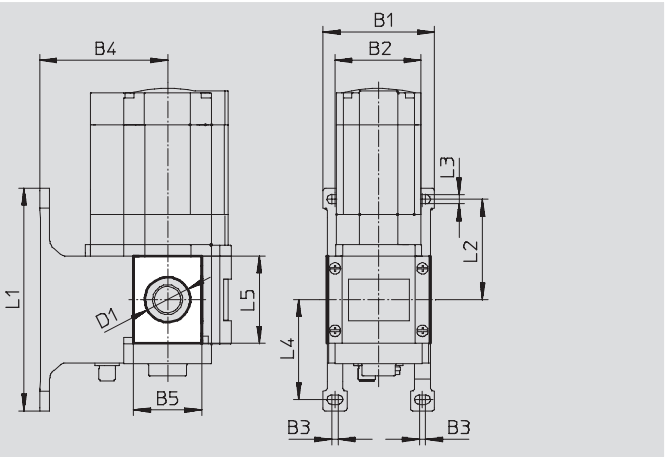
B1	B2	B4	L1	Part No.	Type
1.72	0.24	0.83	1.65	**538779**	**MS4-END**

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

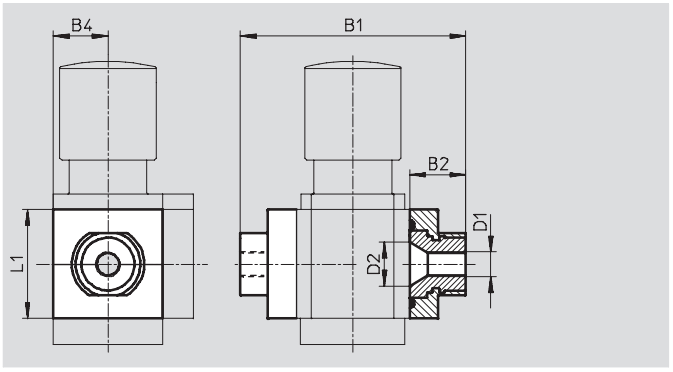
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
2.17	1.58	0.16	1.73	2.60	1.20	0.80	4.17	1.83	0.22	1.84	1.65	2	0.01	**542966**	**MS4-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS4N-AQ...**
- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
3.29	0.85	0.83	1/8 NPT	0.66	1.65	0.26	**526065**	**MS4N-AQK**
			1/4 NPT				**526066**	**MS4N-AQN**
			3/8 NPT				**526067**	**MS4N-AQP**

5 **Body connector MS4-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

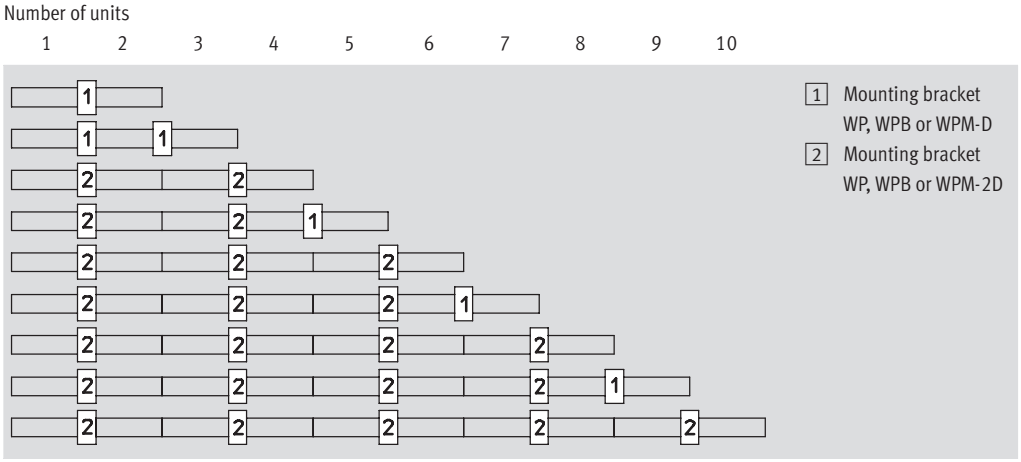
Weight [lb]	Part No.	Type
0.07	**532798**	**MS4-MV**

18 Mounting Bracket MS4-WP...

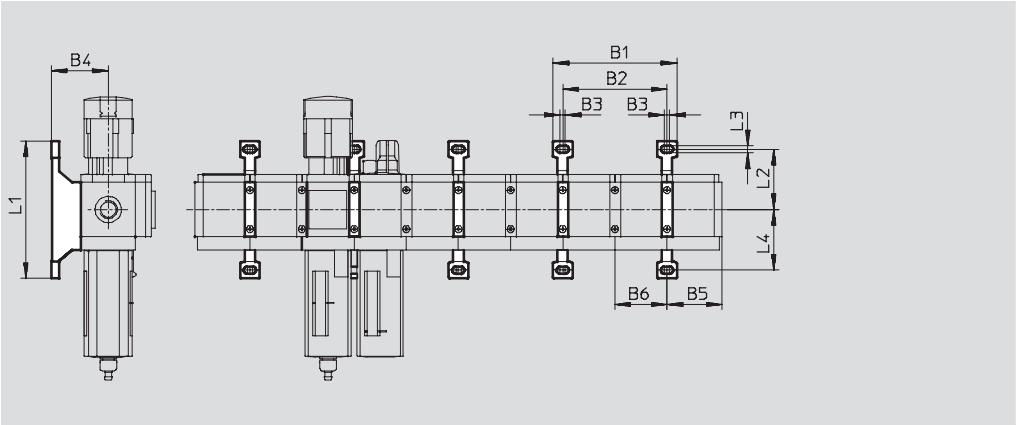
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 1.575 in

2 units: 3.15 in



Mounting dimensions



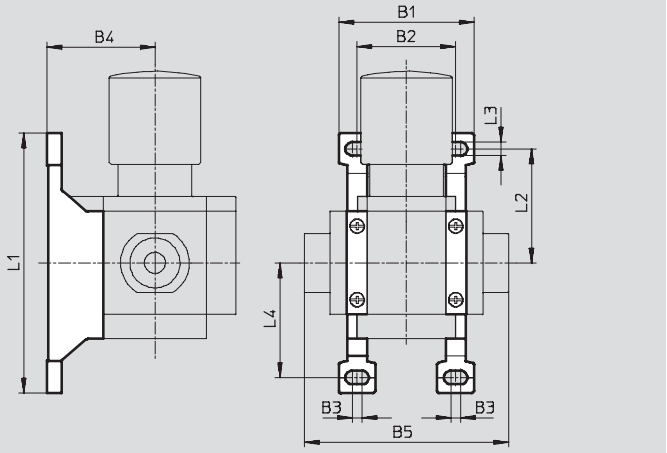
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	3.75	3.15	0.16	1.73	1.65	1.57	4.17	1.83	0.22	1.84
MS4-WPB				2.60						
MS4-WPM-...D				1.73			3.65	1.37		1.57

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

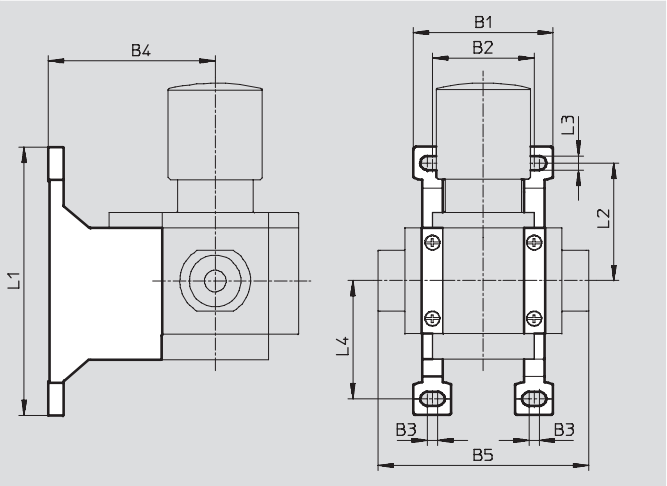
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	1.73	3.28	4.17	1.83	0.22	1.84	0.08	**532184**	**MS4-WP**

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	2.60	3.28	4.17	1.83	0.22	1.84	0.11	**526063**	**MS4-WPB**

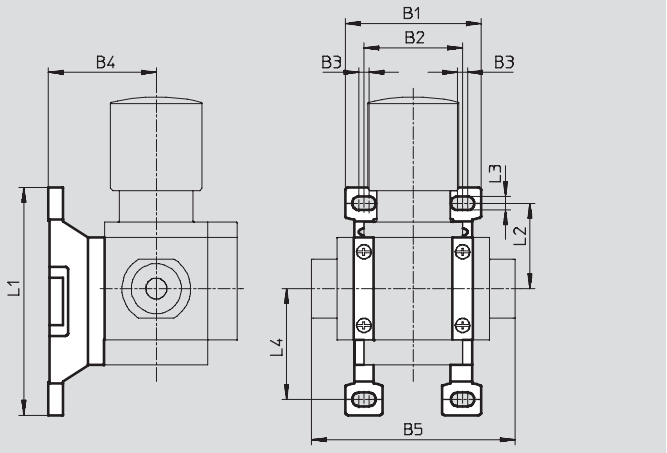
Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
2.17	1.57	0.16	1.73	3.28	3.65	1.37	0.22	1.78	1.57	0.09	**526060**	**MS4-WPM-D**
3.75	3.15			4.86					3.15	0.11	**526061**	**MS4-WPM-2D**

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

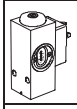
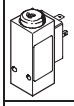
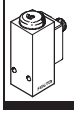
Material:
Die-cast aluminum



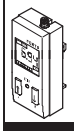
Ordering Data

Size	Part No.	Type
MS4	**532800**	**MS4-MVM**

11 Ordering Data – Pressure Switch PEV — Technical data ➔ www.festo.com/catalog/pev

	Pneumatic connection	Pressure switching point	Electrical connection	Order code	Part No.	Type
	¼ NPT	Adjustable with visual scale	Plug, square design to DIN EN 175 301, type A	X	**161760**	**PEV-¼-SC-OD**
	¼ NPT	Adjustable	Plug, square design to DIN EN 175 301, type A	Y	**175250**	**PEV-¼-B-OD**
	¼ NPT	Adjustable	Plug M12x1, 4-pin	M12	**192488**	**PEV-¼-B-M12**

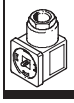
16 Ordering Data – Pressure Sensor SDE1 — Technical data ➔ www.festo.com/catalog/sde1

	Pneumatic connection	Electrical output	Electrical connection	Display	Order code	Part No.	Type
Pressure sensor SDE1 for Distribution Block MS-FRM, pressure measuring range 0 … 147 psi, relative pressure measurement							
	Female thread ⅛NPT	1 switch output PNP	M8x1, 3-pin	LCD	AD5	**192030**	**SDE1-D10-G2-H18-C-P1-M8**
		2 switch outputs PNP and 4 … 20 mA analog	M12x1, 5-pin	Illuminated LCD	AD6	**534062**	**SDE1-D10-G2-W18-L-2I-M12**

13 Ordering Data – Angled Socket PEV — Technical data ➔ www.festo.com/catalog/pev

	Description	Operating voltage range	Electrical connection	Switching status display	Part No.	Type
	for PEV-¼-…-OD	15 …. 30 V DC	4-pin	Yellow LED	**164274**	**PEV-¼-WD-LED-24**
		≤ 230 V AC ≤ 180 V DC	4-pin	Yellow LED	**164275**	**PEV-¼-WD-LED-230**

14 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for PEV-¼-…-OD	≤ 250 V AC/DC	3-pin	Clamping screws	**171157**	**MSSD-C-4P**

15 Ordering Data – Double Nipple ESK

	Description	Pneumatic connection		Part No.	Type
	Adjustable for angular compensation • For retro-fitting pressure switch PEV or pressure sensor SDE1 to distribution block MS-FRM	R⅛	R¼	**534151**	**ESK-⅛-¼**
		R¼	R¼	**151521**	**ESK-¼-¼**
			R½	**534153**	**ESK-¼-½**

17 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [ft]	Part No.	Type
	M8x1, 3-pin	8.2	**159420**	**SIM-M8-3GD-2,5-PU**
		16.4	**159421**	**SIM-M8-3GD-5-PU**
		32.8	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	8.2	**159422**	**SIM-M8-3WD-2,5-PU**
		16.4	**159423**	**SIM-M8-3WD-5-PU**
		32.8	**192965**	**SIM-M8-3WD-10-PU**

Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 4-pin	16.4	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 5-pin	8.2	**175715**	**SIM-M12-5GD-2,5-PU**
		16.4	**175716**	**SIM-M12-5GD-5-PU**
	M12x1, 4-pin	16.4	**164258**	**SIM-M12-4WD-5-PU**

8 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	1.57	¼ NPT	0 … 16	0 … 232	**183908**	**MA-40-16-N¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.57	⅛ NPT	–	0 … 232	**530388**	**MA-40-232-N⅛-PSI-E-RG**
	1.97	¼ NPT	–	0 … 232	**530391**	**MA-50-232-N¼-PSI-E-RG**

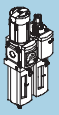
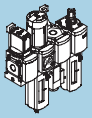
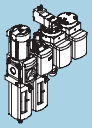
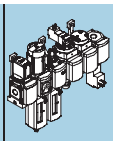
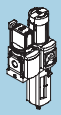
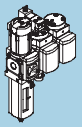
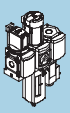
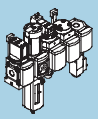
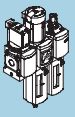
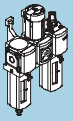
Pre-configured Combination Units MSB6 – Metric Series



Ten different types of pre-configured and assembled combination units are available. They consist of up to six different individual units with options for filtration grade and condensate drain (see table below). Mounting brackets are included. MS Series combination units have a high resistance to corrosion in typical industrial environments and offer high flow rates with compact components.

- Pneumatic connections: G¼, G⅜, G½ (G¾ with optional port plate)
- Flow rate: 1,900 ... 5,100 l/min*
- Supply pressure: 1.5 ... 20 bar*
- Pressure regulation range: 0.3 ... 12 bar*
- Filtration grade: 5 µm and 40 µm

* Individual combination units will vary depending on selected type and option.

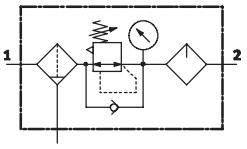
Combination Units		 MSB6-FRC	 Unit 1	 Unit 2	 Unit 3	 Unit 4	 Unit 5	 Unit 6	 Unit 7	 Unit 8	 Unit 9
Consisting of:											
On-off valve (manually actuated)	EM1	–	■	–	■	■	–	■	■	■	–
Filter regulator with pressure gauge, lockable	LFR	■	■	■	■	■	■	■	■	■	–
Pressure regulator with pressure gauge, lockable	LR	–	–	–	–	–	–	–	–	–	■
Filter	LF	–	–	–	–	–	–	–	–	–	■
Lubricator	LOE	■	■	■	■	–	–	–	–	■	■
On-off valve (solenoid actuated)	EE	–	–	■	■	–	■	–	■	–	–
Soft-start valve (pneumatically actuated)	DL	–	–	■	■	–	■	–	■	–	–
Distribution block with pressure switch	FRM	–	■	–	■	–	–	■	■	–	–
Mounting bracket	WP	–	■	■	■	■	■	■	■	■	■
Technical data → Page		474	480	483	487	491	494	498	501	505	508

Note
Should you require a custom combination unit, please go to our online catalog at: www.festo.com/catalog/msb6. Click on the blue basket icon next to P/N 531030. Then open the shopping basket on the right menu and click on the configuration icon. You can now configure your combination unit.

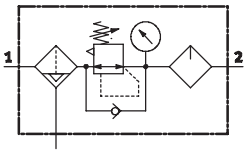
Pre-configured Combination Units MSB6-FRC – Metric Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- Filter, regulator and lubricator function in a single unit
- High flow rate and highly efficient removal of contaminants
- Good regulating characteristics with minimal pressure hysteresis
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Two pressure regulation ranges: 0.3 ... 7 bar and 0.5 ... 12 bar
- Choice of filter cartridges: 5 µm or 40 µm
- With manual or integrated, fully automatic bowl drain



General Technical Data				
Pneumatic connection 1, 2		G¼	G⅜	G½
Design		Filter regulator with pressure gauge		
		Proportional standard mist lubricator		
Regulating function		With primary pressure compensation		
		With secondary venting		
		With return flow function		
		Output pressure constant		
Type of mounting		Via accessories		
Assembly position		Vertical ±5°		
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)		
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)		
Bowl guard		Plastic bowl guard		
		Metal bowl guard		
Bowl drains		Manual		
		Fully automatic		
Pressure adjustment		Rotary knob with integrated lock		
Pressure regulation range	[bar]	0.3 ... 7		
		0.5 ... 12		
Pressure indicator		With pressure gauge		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Units MSB6-FRC – Metric Series

Technical Data

Standard Nominal Flow Rate qnN[1] [l/min]				
Pneumatic connection		G¼	G⅜	G½
Pressure regulation range 0.3... 7 bar				
Filtration grade	5 µm	2,000	4,400	4,600
	40 µm	2,100	4,600	4,800
Pressure regulation range 0.5... 12 bar				
Filtration grade	5 µm	1,700	3,400	3,600
	40 µm	1,900	3,500	3,700

1) Measured at p1 = 10 bar and p2 = 6 bar, Δp = 1 bar.

Operating and Environmental Conditions			
Bowl drains		Manual	Fully automatic
Supply pressure	[bar]	1.5 ... 20	1.5 ... 12
Operating medium		Compressed air	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[2]	2	

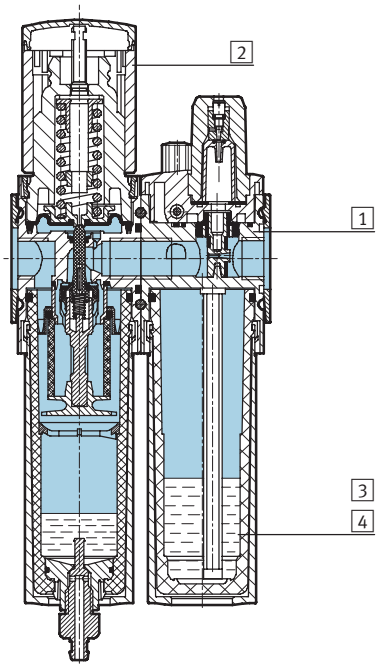
2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With plastic bowl guard	1,495
With metal bowl guard	1,713

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



Service unit		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Plastic bowl guard	Polycarbonate
4	Metal bowl guard	Wrought aluminum alloy
–	Seals	Nitrile rubber

Pre-configured Combination Units MSB6-FRC – Metric Series

Technical Data

FESTO

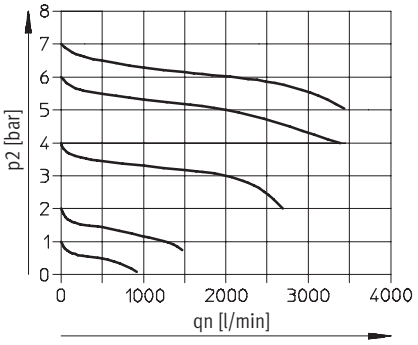
Standard Flow Rate qn as a Function of Output Pressure p2

Pressure regulation range 0.3 ... 7 bar

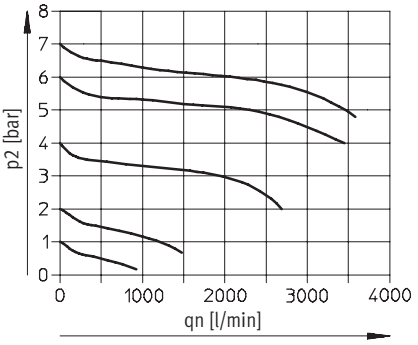
MSB6-¼

Primary pressure p1 = 10 bar

Filtration grade 5 µm

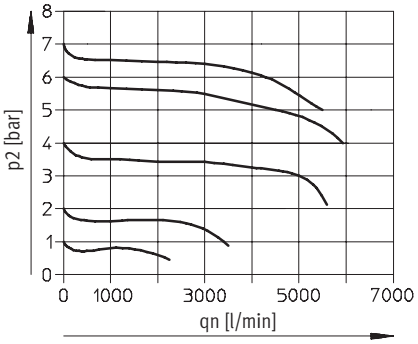


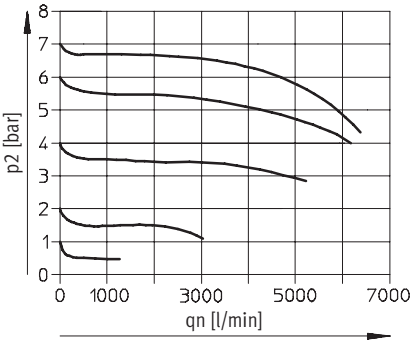
Filtration grade 40 µm



MSB6-⅜

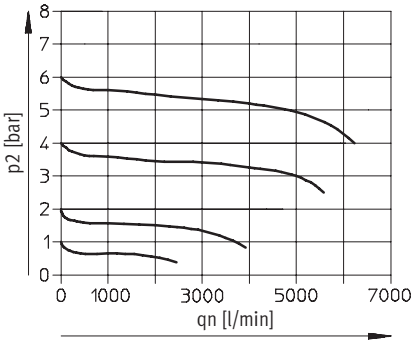
Primary pressure p1 = 10 bar

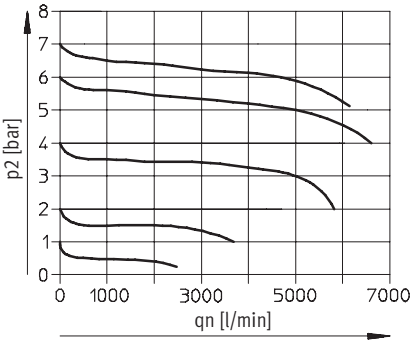




MSB6-½

Primary pressure p1 = 10 bar





Pre-configured Combination Units MSB6-FRC – Metric Series

Technical Data

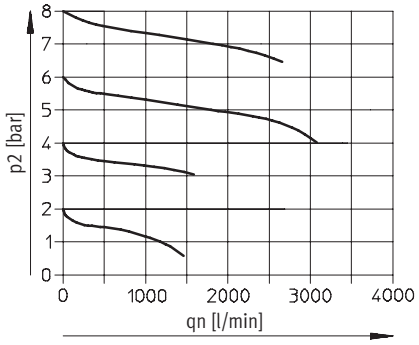
Standard Flow Rate qn as a Function of Output Pressure p2

Pressure regulation range 0.5 ... 12 bar

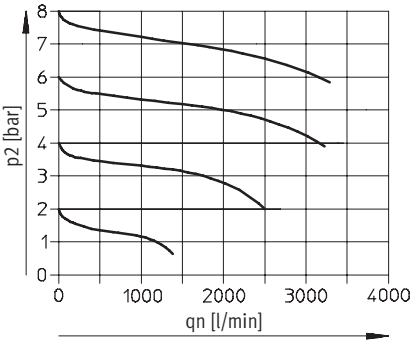
MSB6-¼

Primary pressure p1 = 10 bar

Filtration grade 5 µm

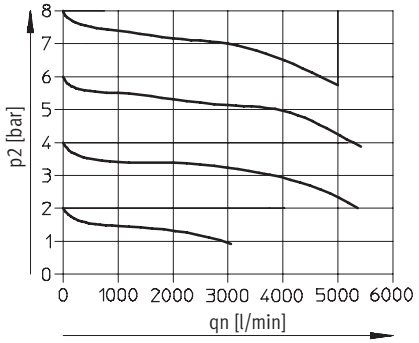


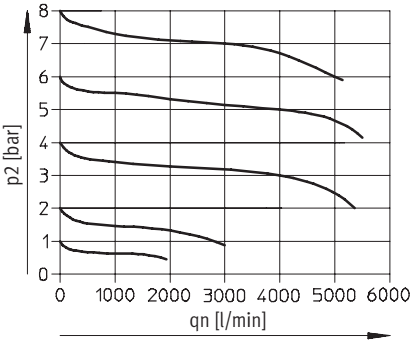
Filtration grade 40 µm



MSB6-⅜

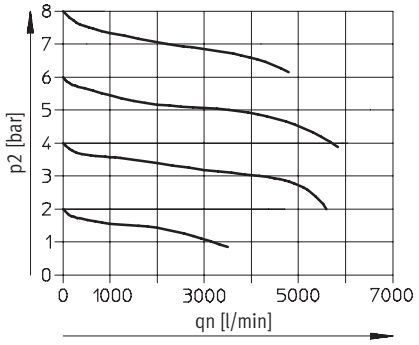
Primary pressure p1 = 10 bar

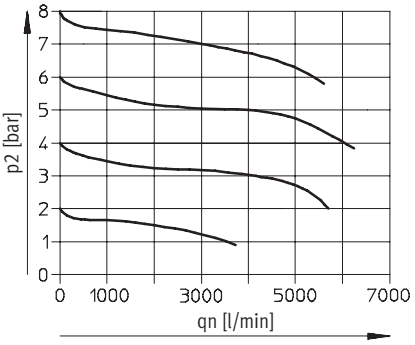




MSB6-½

Primary pressure p1 = 10 bar



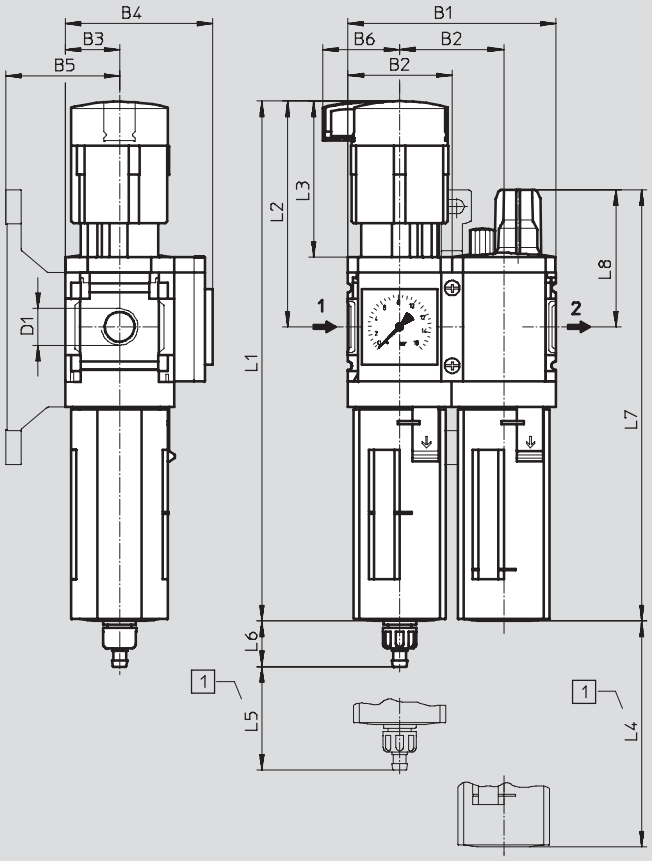


Pre-configured Combination Units MSB6-FRC – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

Type	B1	B2	B3	B4	B5	B6	D1	L1	L2	L3	L4	L5	L6 Bowl drain		L7	L8
													manual	fully automatic		
MSB6-¼	124	62	31	77	54	38.8	G¼	284.8	134.5	95.5	130	68	15.8	18.5	215.3	65.6
MSB6-⅜							G⅜									
MSB6-½							G½									

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Units MSB6-FRC – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 0.3 ... 7 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**530264**	**MSB6-¼-FRC3:J7M1**	Q		**530254**	**MSB6-¼-FRC1:J5M1**	Q
	G⅜	**530288**	**MSB6-⅜-FRC3:J7M1**	Q		**530278**	**MSB6-⅜-FRC1:J5M1**	Q
	G½	**530240**	**MSB6-½-FRC3:J7M1**	Q		**530230**	**MSB6-½-FRC1:J5M1**	Q
Fully automatic	G¼	**530266**	**MSB6-¼-FRC4:J8M1**	Q		**530262**	**MSB6-¼-FRC2:J6M1**	Q
	G⅜	**530290**	**MSB6-⅜-FRC4:J8M1**	Q		**530286**	**MSB6-⅜-FRC2:J6M1**	Q
	G½	**530242**	**MSB6-½-FRC4:J8M1**	Q		**530238**	**MSB6-½-FRC2:J6M1**	Q

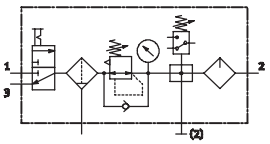
Ordering Data								
Pressure regulation range 0.5 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**530272**	**MSB4-¼-FRC7:J3M1**	1D		**530268**	**MSB6-¼-FRC5:J1M1**	1D
	G⅜	**530296**	**MSB6-⅜-FRC7:J3M1**	1D		**530292**	**MSB6-⅜-FRC5:J1M1**	1D
	G½	**530248**	**MSB6-½-FRC7:J3M1**	1W		**530244**	**MSB6-½-FRC5:J1M1**	1W
Fully automatic	G¼	**530274**	**MSB6-¼-FRC8:J4M1**	1D		**530270**	**MSB6-¼-FRC6:J2M1**	1D
	G⅜	**530298**	**MSB6-⅜-FRC8:J4M1**	1D		**530294**	**MSB6-⅜-FRC6:J2M1**	1D
	G½	**530250**	**MSB6-½-FRC8:J4M1**	1W		**530246**	**MSB6-½-FRC6:J2M1**	1W
Metal bowl								
Manual	G¼	**530258**	**MSB6-¼-FRC11:J9M2**	Q		**530276**	**MSB6-¼-FRC9:J11M2**	Q
	G⅜	**530282**	**MSB6-⅜-FRC11:J9M2**	Q		**530300**	**MSB6-⅜-FRC9:J11M2**	Q
	G½	**530234**	**MSB6-½-FRC11:J9M2**	Q		**530252**	**MSB6-½-FRC9:J11M2**	Q
Fully automatic	G¼	**530260**	**MSB6-¼-FRC12:J10M2**	Q		**530256**	**MSB6-¼-FRC10:J12M2**	Q
	G⅜	**530284**	**MSB6-⅜-FRC12:J10M2**	Q		**530280**	**MSB6-⅜-FRC10:J12M2**	Q
	G½	**530236**	**MSB6-½-FRC12:J10M2**	Q		**530232**	**MSB6-½-FRC10:J12M2**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

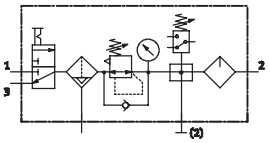
Pre-configured Combination Unit 1 – Metric Series

Technical Data

ISO Symbol

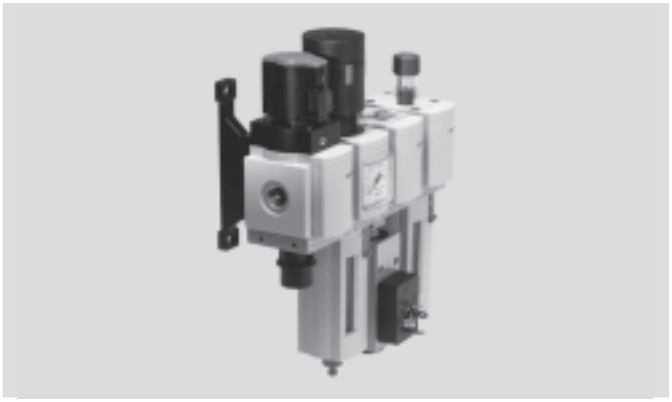


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- The unit is vented when switched off
- Electrical pressure monitoring with adjustable switching pressure
- Removal of filtered and unlubricated compressed air at the distribution block connections



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Distribution block MS...-FRM-Y with pressure switch, without display
- Lubricator MS...-LOE-R
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G½
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	1 ... 12
Pressure indicator		With pressure gauge

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	3,200
	40 µm	3,300

Pre-configured Combination Unit 1 – Metric Series

Technical Data

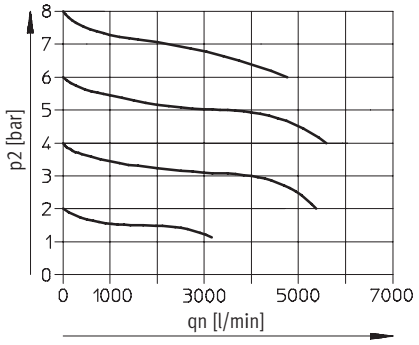
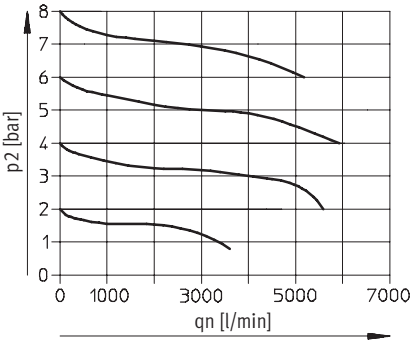
Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[bar]	1.5 ... 18	1.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	2,550
Mounting bracket	76

- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

Pressure regulation range 1 ... 12 bar MSB6-½	Filtration grade 5 µm	Filtration grade 40 µm
Primary pressure p1 = 10 bar		

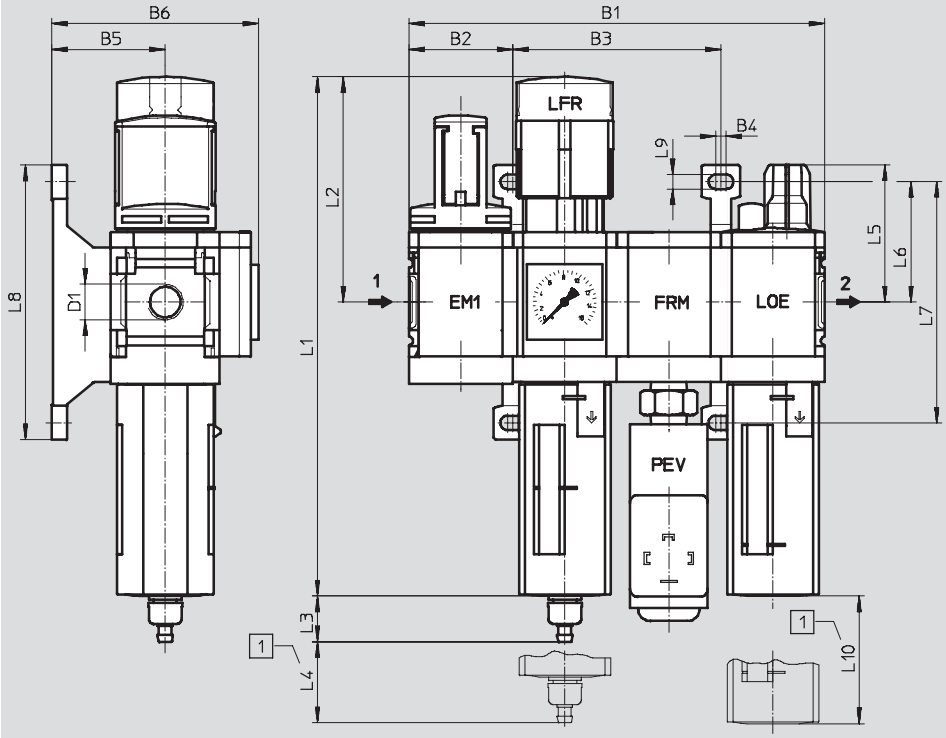
Pre-configured Combination Unit 1 – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
248	62	124	4.5	54	100	G½	285	134.5

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
15.8	18.5	68	66	71	142	158	6.6	130

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Pressure regulation range 1 ... 12 bar

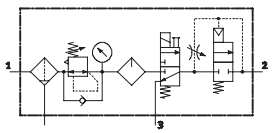
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G½	**542283**	**MSB6-½:C3J3F3M1-WP**	1W		**542271**	**MSB6-½:C3J1F3M1-WP**	1W
Fully automatic	G½	**542289**	**MSB6-½:C3J4F3M1-WP**	1W		**542277**	**MSB6-½:C3J2F3M1-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

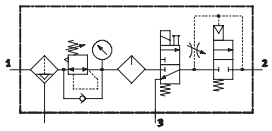
Pre-configured Combination Unit 2 – Metric Series

Technical Data

ISO Symbol

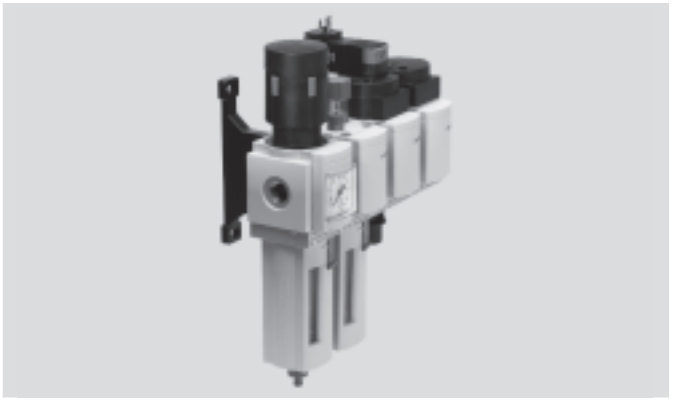


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- When supply pressure is closed, quick venting ensures rapid pressure reduction



This combination consists of:

- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G½
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	4 ... 9 (with on-off valve MS...-EE-10V24)
	[bar]	4 ... 12 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	1,900
	40 µm	2,000

Pre-configured Combination Unit 2 – Metric Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 4 ... 9 bar		Pressure regulation range 4 ... 12 bar	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[bar]	4.5 ... 10	4.5 ... 10	4.5 ... 18	4.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	3,000
Mounting bracket	76

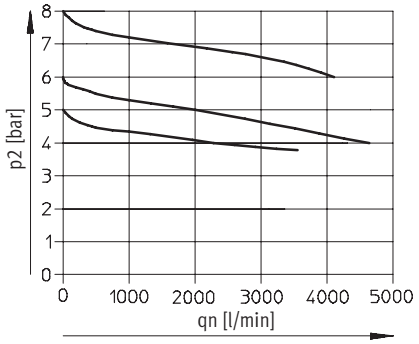
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

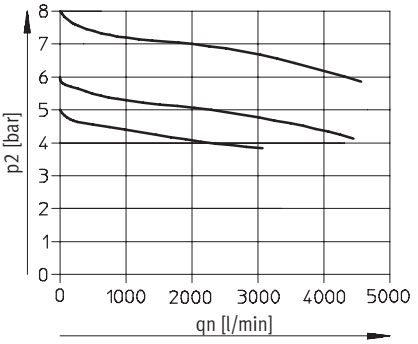
Pressure regulation range
4 ... 9 bar / 4 ... 12 bar
MSB6-½

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm

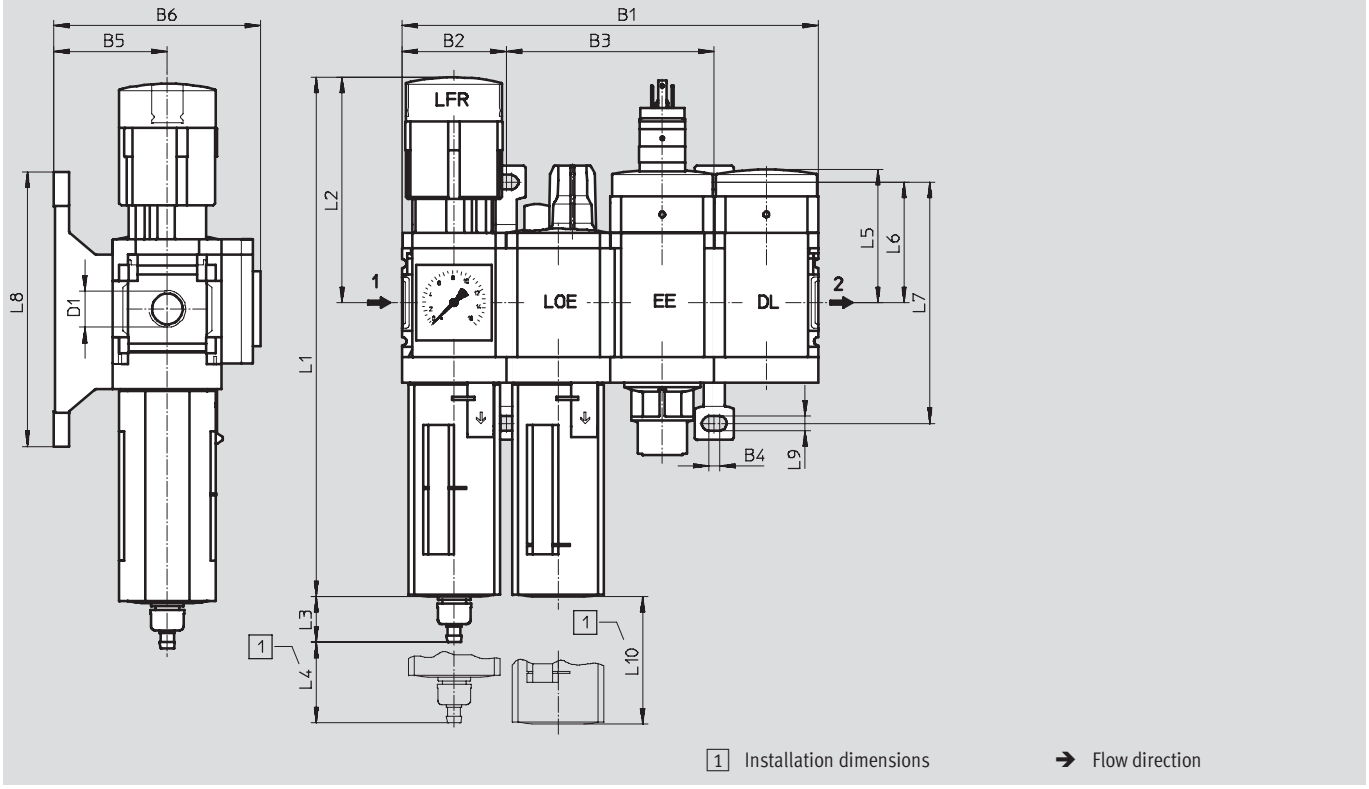


Pre-configured Combination Unit 2 – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



B1	B2	B3	B4	B5	B6	D1	L1	L2
248	62	124	4.5	54	100	G1½	285	134.5

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
15.8	18.5	68	71	71	142	158	6.6	130

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Unit 2 – Metric Series

Ordering Data – Pre-configured Products

Ordering Data									
Pressure regulation range 4 ... 9 bar									
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm			
		Part No.	Type	LT		Part No.	Type	LT	
Plastic bowl guard									
Manual	G½	**542648**	**MSB6-½:J3M1D7A1-WP**	Q		**542644**	**MSB6-½:J1M1D7A1-WP**	Q	
Fully automatic	G½	**542650**	**MSB6-½:J4M1D7A1-WP**	Q		**542646**	**MSB6-½:J2M1D7A1-WP**	Q	

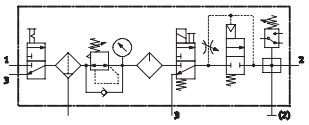
Ordering Data									
Pressure regulation range 4 ... 12 bar									
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm			
		Part No.	Type	LT		Part No.	Type	LT	
Plastic bowl guard									
Manual	G½	**530227**	**MSB6-½:J3M1D1A1-WP**	1W		**530223**	**MSB6-½:J1M1D1A1-WP**	1W	
Fully automatic	G½	**530229**	**MSB6-½:J4M1D1A1-WP**	1W		**530225**	**MSB6-½:J2M1D1A1-WP**	1W	

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

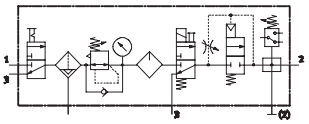
Pre-configured Combination Unit 3 – Metric Series

Technical Data

ISO Symbol

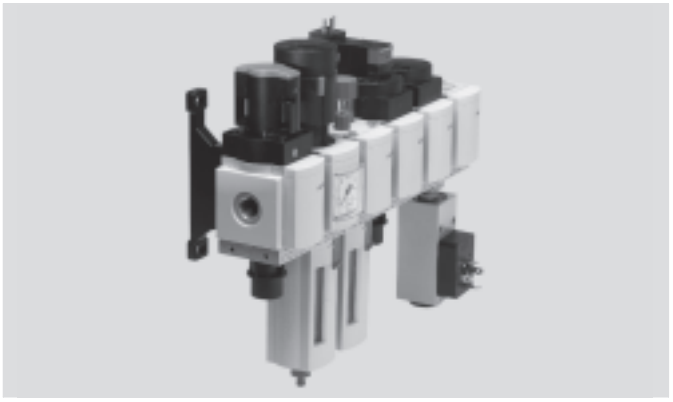


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- To shut-off and vent the following device or the system
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Distribution block MS...-FRM-Y with pressure switch, without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G½
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	4 ... 9 (with on-off valve MS...-EE-10V24)
	[bar]	4 ... 12 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	2,100
	40 µm	2,300

Pre-configured Combination Unit 3 – Metric Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 4 ... 9 bar		Pressure regulation range 4 ... 12 bar	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[bar]	4.5 ... 10	4.5 ... 10	4.5 ... 18	4.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	4,000
Mounting bracket	76

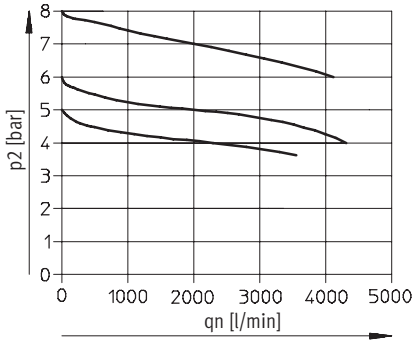
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

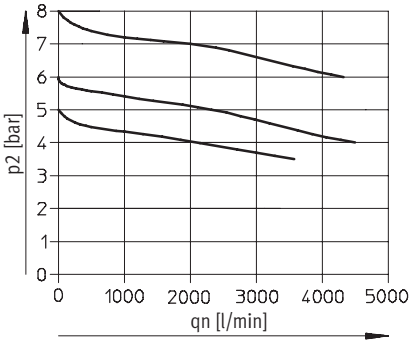
Pressure regulation range
4 ... 9 bar / 4 ... 12 bar
MSB6-½

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm

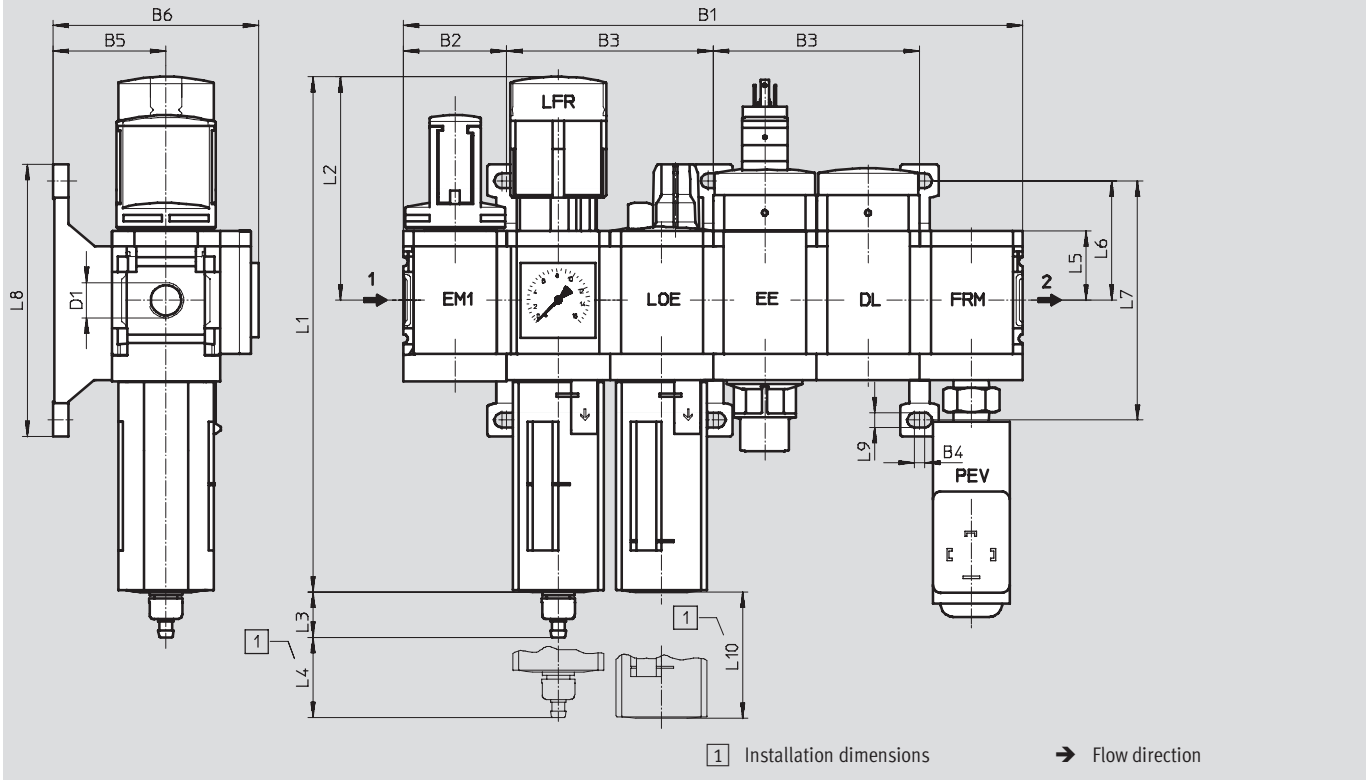


Pre-configured Combination Unit 3 – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



B1	B2	B3	B4	B5	B6	D1	L1	L2
372	62	124	4.5	54	100	G½	285	134.5

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
15.8	18.5	68	39	71	142	158	6.6	130

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Unit 3 – Metric Series

Ordering Data – Pre-configured Products

FESTO

Ordering Data								
Pressure regulation range 4 ... 9 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G½	**542640**	**MSB6-½:C3J3M1D7A1F3-WP**	Q		**542636**	**MSB6-½:C3J1M1D7A1F3-WP**	Q
Fully automatic	G½	**542642**	**MSB6-½:C3J4M1D7A1F3-WP**	Q		**542638**	**MSB6-½:C3J2M1D7A1F3-WP**	Q

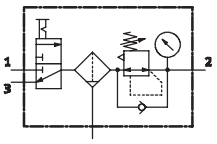
Ordering Data								
Pressure regulation range 4 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G½	**542285**	**MSB6-½:C3J3M1D1A1F3-WP**	1W		**542273**	**MSB6-½:C3J1M1D1A1F3-WP**	1W
Fully automatic	G½	**542291**	**MSB6-½:C3J4M1D1A1F3-WP**	1W		**542279**	**MSB6-½:C3J2M1D1A1F3-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

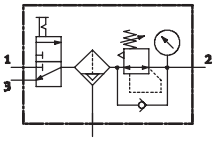
Pre-configured Combination Unit 4 – Metric Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G½
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	0.5 ... 12
Pressure indicator		With pressure gauge

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	4,800
	40 µm	5,100

Pre-configured Combination Unit 4 – Metric Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[bar]	0.8 ... 18	1.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	1,100
Mounting bracket	76

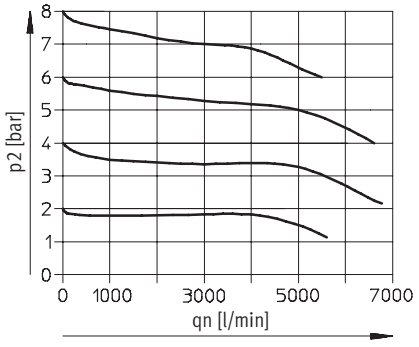
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

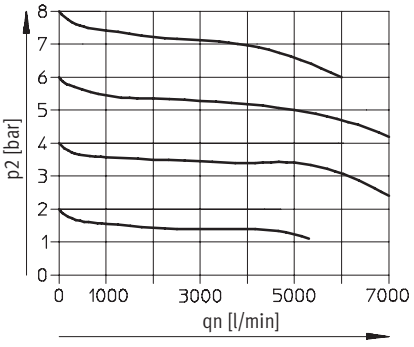
Pressure regulation range 0.5 ... 12 bar
MSB6-½

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm

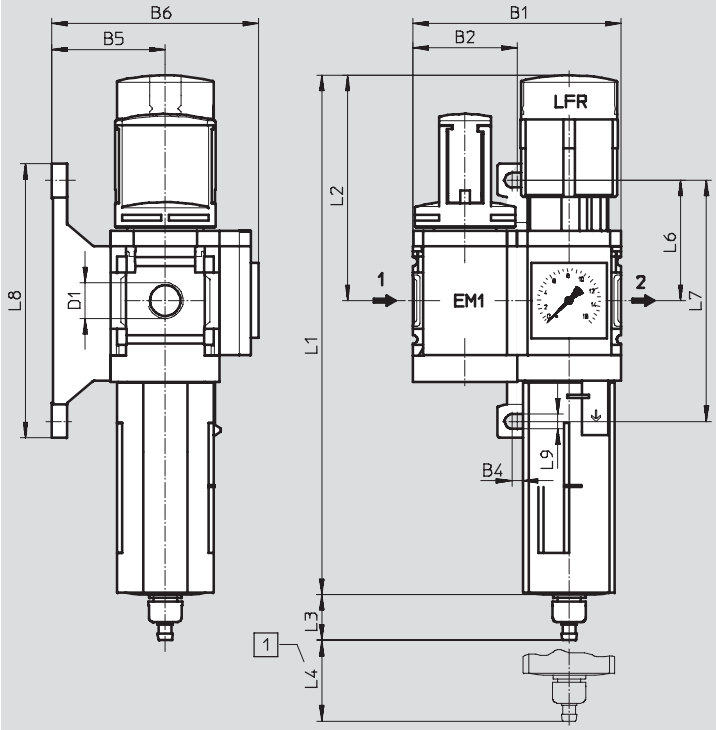


Pre-configured Combination Unit 4 – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B4	B5	B6	D1	L1	L2
124	62	4.5	54	100	G½	285	134.5

L3 Bowl drain		L4	L6	L7	L8	L9
manual	fully automatic					
15.8	18.5	68	71	142	158	6.6

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Pressure regulation range 0.5 ... 12 bar

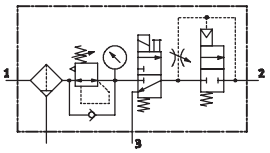
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G½	**542280**	**MSB6-½:C3J3-WP**	1W		**542268**	**MSB6-½:C3J1-WP**	1W
Fully automatic	G½	**542286**	**MSB6-½:C3J4-WP**	1W		**542274**	**MSB6-½:C3J2-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

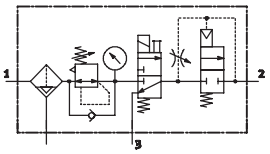
Pre-configured Combination Unit 5 – Metric Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- When supply pressure is closed, quick venting ensures rapid pressure reduction



This combination consists of:

- Filter regulator MS...-LFR-D7
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G½
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	4 ... 9 (with on-off valve MS...-EE-10V24)
	[bar]	4 ... 12 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	3,000
	40 µm	3,100

Operating and Environmental Conditions					
		Pressure regulation range 4 ... 9 bar		Pressure regulation range 4 ... 12 bar	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[bar]	4.5 ... 10	4.5 ... 10	4.5 ... 18	4.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	2,400
Mounting bracket	76

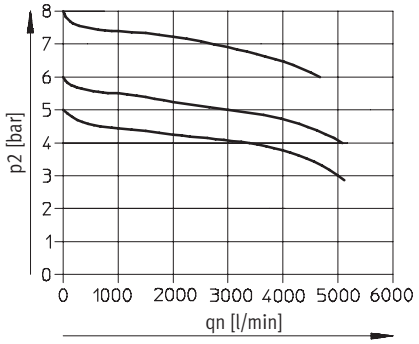
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

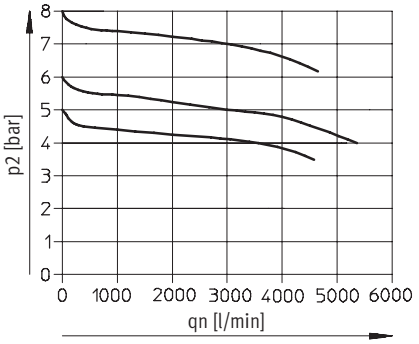
Pressure regulation range
4 ... 9 bar / 4 ... 12 bar
MSB6-½

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm

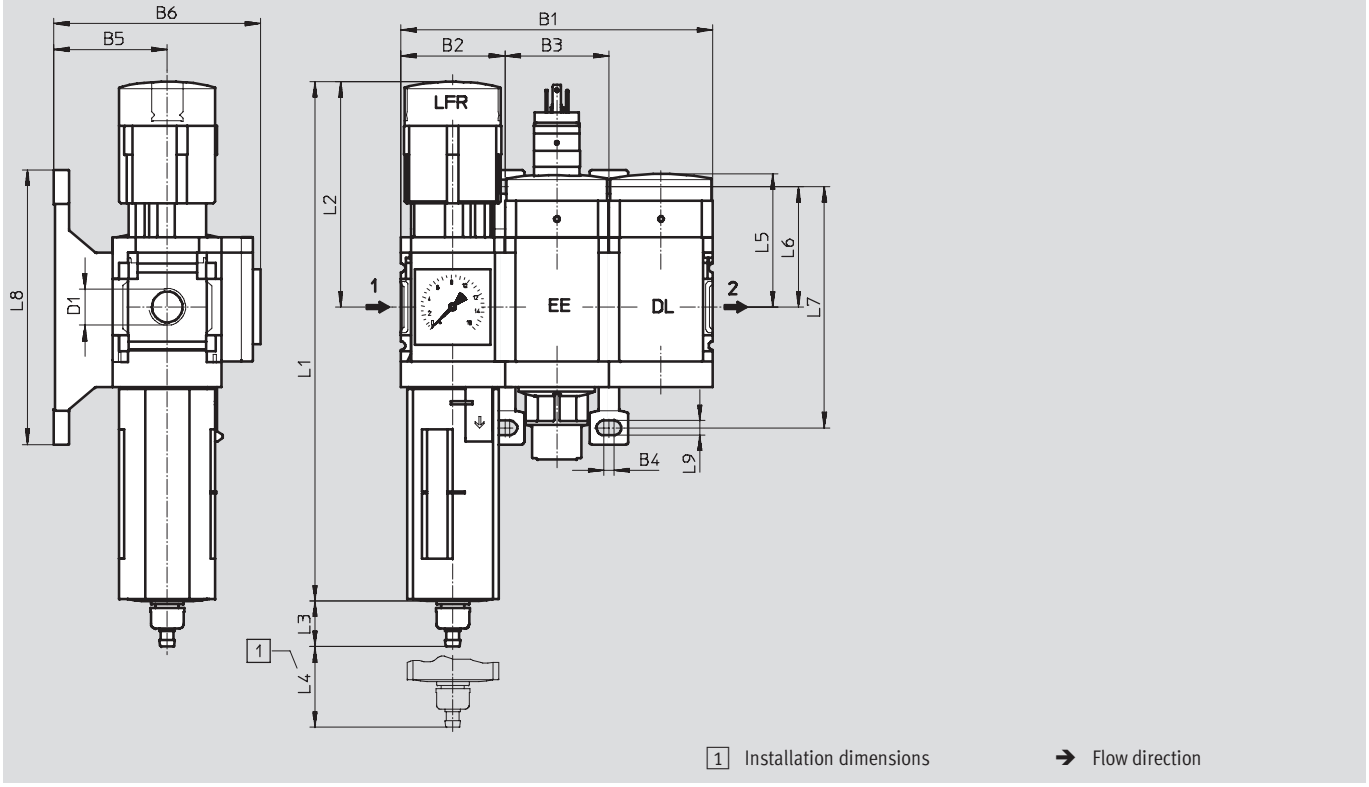


Pre-configured Combination Unit 5 – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
186	62	62	4.5	54	100	G1½	285	134.5

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
15.8	18.5	68	71	71	142	158	6.6

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Unit 5 – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 4 ... 9 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G½	**542647**	**MSB6-½:J3D7A1-WP**	Q		**542643**	**MSB6-½:J1D7A1-WP**	Q
Fully automatic	G½	**542649**	**MSB6-½:J4D7A1-WP**	Q		**542645**	**MSB6-½:J2D7A1-WP**	Q

Ordering Data								
Pressure regulation range 4 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G½	**530226**	**MSB6-½:J3D1A1-WP**	1W		**530222**	**MSB6-½:J1D1A1-WP**	1W
Fully automatic	G½	**530228**	**MSB6-½:J4D1A1-WP**	1W		**530224**	**MSB6-½:J2D1A1-WP**	1W

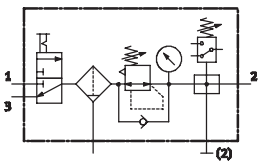
LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Pre-configured Combination Unit 6 – Metric Series

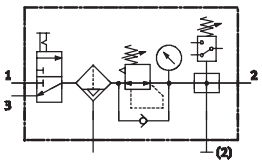
Technical Data

FESTO

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Distribution block MS...-FRM-Y with pressure switch, without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G½
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	0.5 ... 12
Pressure indicator		With pressure gauge

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	4,400
	40 µm	4,500

Pre-configured Combination Unit 6 – Metric Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[bar]	0.8 ... 18	1.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	2,000
Mounting bracket	76

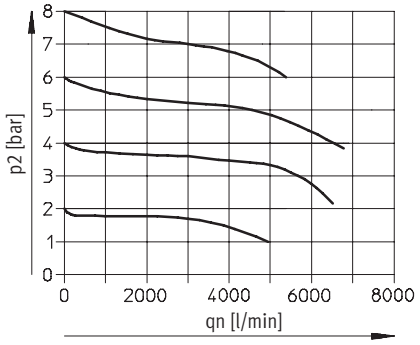
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

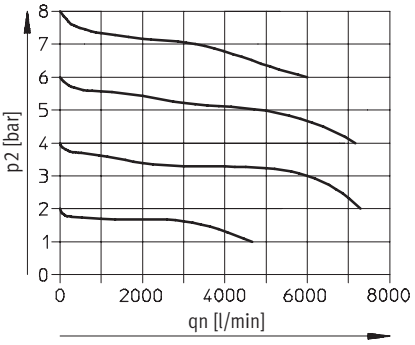
Pressure regulation range 0.5 ... 12 bar
MSB6-½

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm



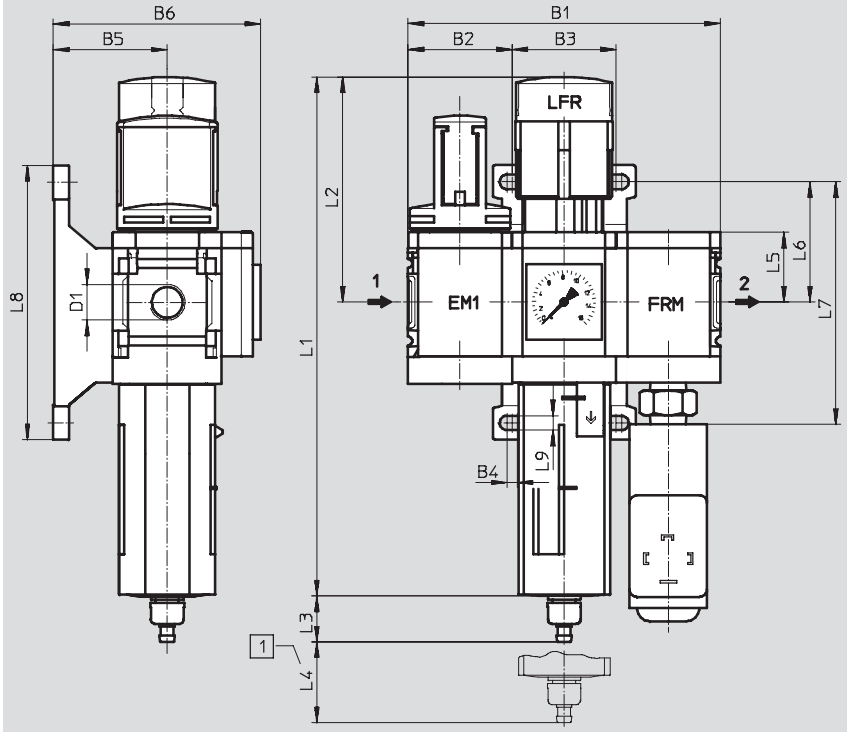
Pre-configured Combination Unit 6 – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
186	62	62	4.5	54	100	G½	285	134.5

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
15.8	18.5	68	39	71	142	158	6.6

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Pressure regulation range 0.5 ... 12 bar

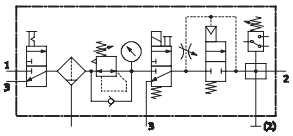
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G½	**542282**	**MSB6-½:C3J3F3-WP**	1W		**542270**	**MSB6-½:C3J1F3-WP**	1W
Fully automatic	G½	**542288**	**MSB6-½:C3J4F3-WP**	1W		**542276**	**MSB6-½:C3J2F3-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

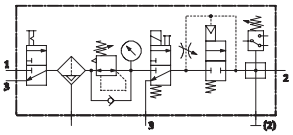
Pre-configured Combination Unit 7 – Metric Series

Technical Data

ISO Symbol

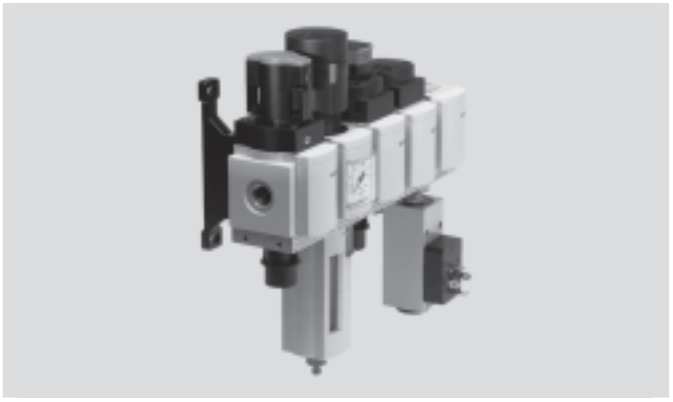


With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- To shut-off and vent the following device or the system
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Distribution block MS...-FRM-Y with pressure switch without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G½
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	4 ... 9 (with on-off valve MS...-EE-10V24)
	[bar]	4 ... 12 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	3,000
	40 µm	3,100

Pre-configured Combination Unit 7 – Metric Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 4 ... 9 bar		Pressure regulation range 4 ... 12 bar	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[bar]	4.5 ... 10	4.5 ... 10	4.5 ... 18	4.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +50	+5 ... +50	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	3,500
Mounting bracket	76

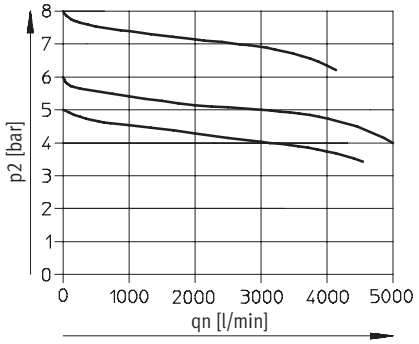
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

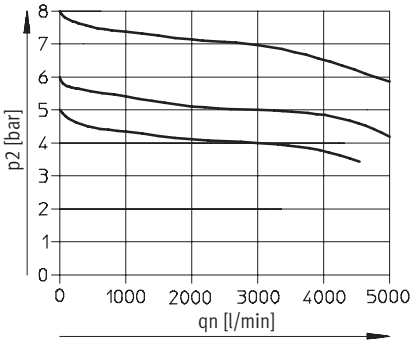
Pressure regulation range
4 ... 9 bar / 4 ... 12 bar
MSB6-½

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm

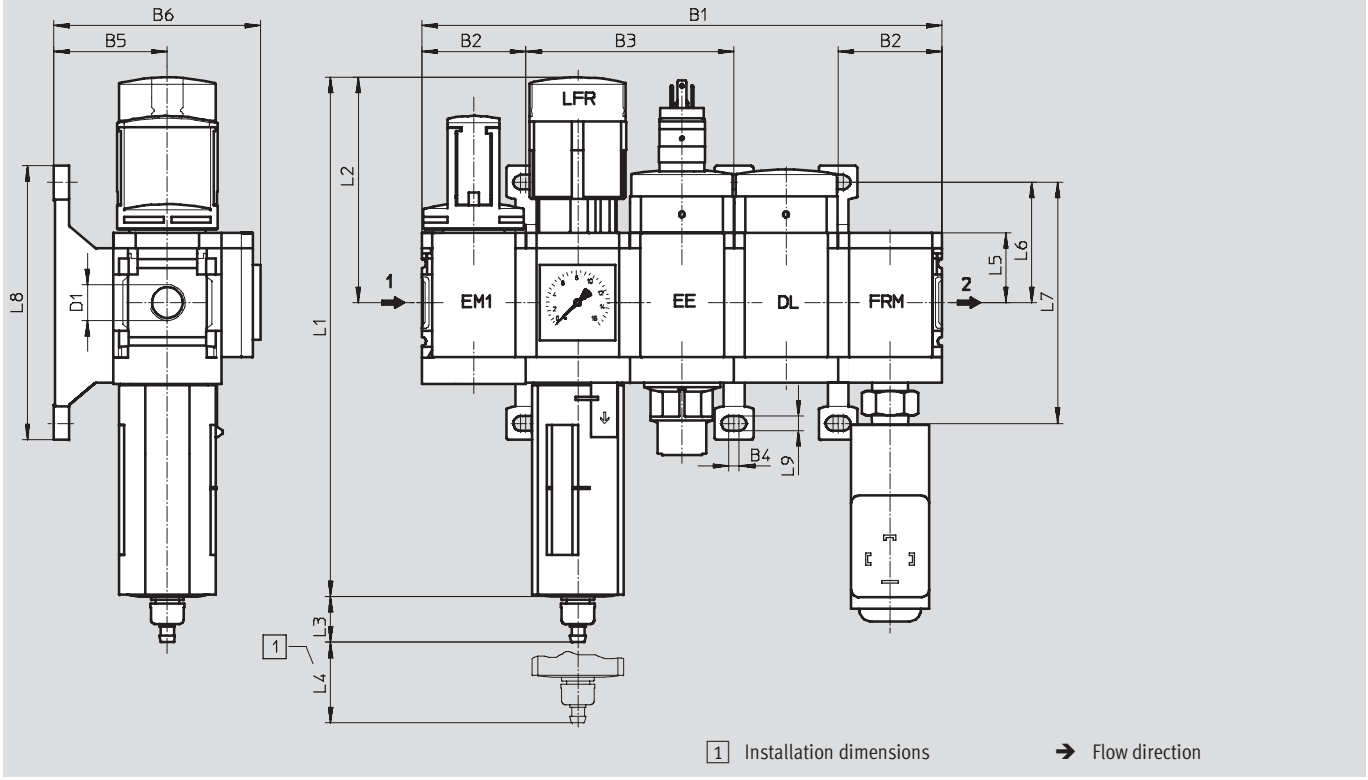


Pre-configured Combination Unit 7 – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
310	62	124	4.5	54	100	G½	285	134.5

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
15.8	18.5	68	39	71	142	158	6.6

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Unit 7 – Metric Series

Ordering Data – Pre-configured Products

Ordering Data									
Pressure regulation range 4 ... 9 bar									
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm			
		Part No.	Type	LT		Part No.	Type	LT	
Plastic bowl guard									
Manual	G½	**542639**	**MSB6-½:C3J3D7A1F3-WP**	Q		**542635**	**MSB6-½:C3J1D7A1F3-WP**	Q	
Fully automatic	G½	**542641**	**MSB6-½:C3J4D7A1F3-WP**	Q		**542637**	**MSB6-½:C3J2D7A1F3-WP**	Q	

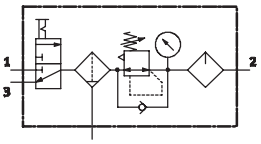
Ordering Data									
Pressure regulation range 4 ... 12 bar									
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm			
		Part No.	Type	LT		Part No.	Type	LT	
Plastic bowl guard									
Manual	G½	**542281**	**MSB6-½:C3J3D1A1F3-WP**	1W		**542269**	**MSB6-½:C3J1D1A1F3-WP**	1W	
Fully automatic	G½	**542287**	**MSB6-½:C3J4D1A1F3-WP**	1W		**542275**	**MSB6-½:C3J2D1A1F3-WP**	1W	

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

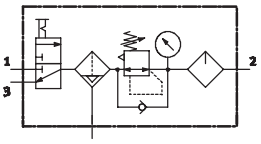
Pre-configured Combination Unit 8 – Metric Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		G½
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[bar]	1 ... 12
Pressure indicator		With pressure gauge

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Filtration grade	5 µm	3,000
	40 µm	3,100

Pre-configured Combination Unit 8 – Metric Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[bar]	1.5 ... 18	1.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	1,750
Mounting bracket	76

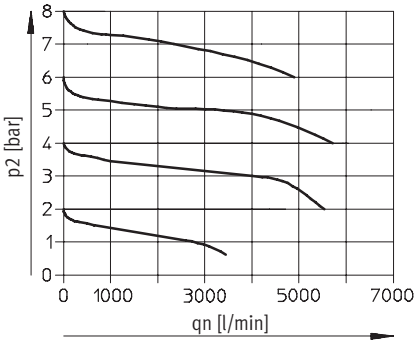
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

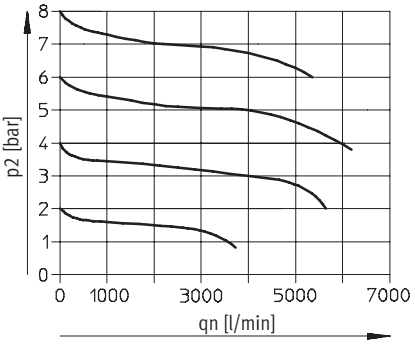
Pressure regulation range 1 ... 12 bar
MSB6-½

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm



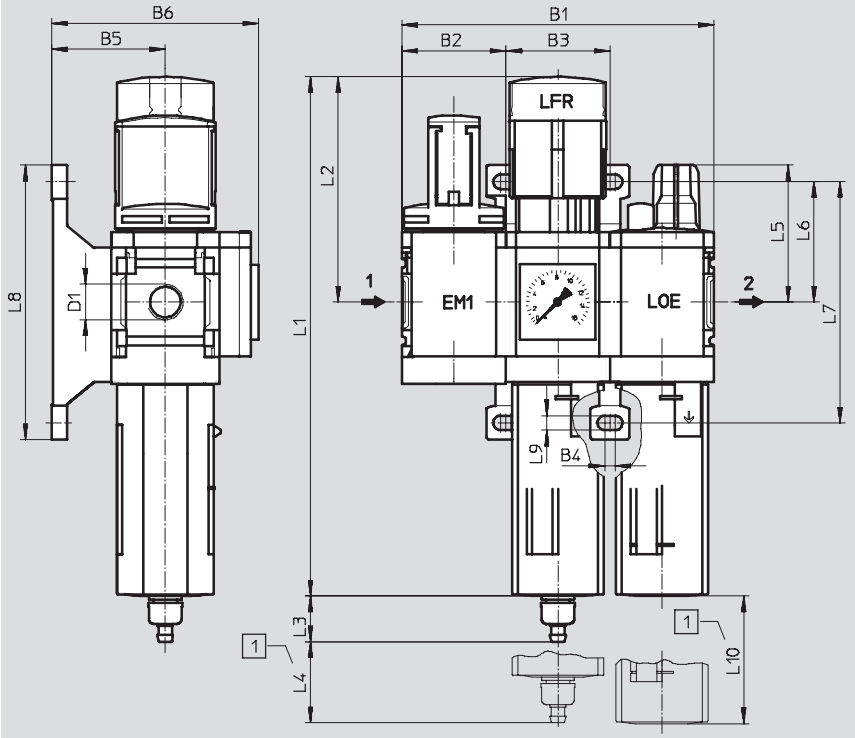
Pre-configured Combination Unit 8 – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
186	62	62	4.5	54	100	G½	285	134.5

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
15.8	18.5	68	66	71	142	158	6.6	130

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Pressure regulation range 1 ... 12 bar

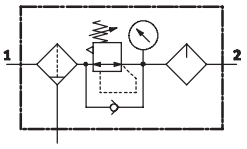
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G½	**542284**	**MSB6-½:C3J3M1-WP**	1W		**542272**	**MSB6-½:C3J1M1-WP**	1W
Fully automatic	G½	**542290**	**MSB6-½:C3J4M1-WP**	1W		**542278**	**MSB6-½:C3J2M1-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

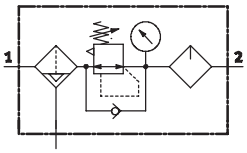
Pre-configured Combination Unit 9 – Metric Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- Filter MS...-LF
- Pressure regulator MS...-LR
- Lubricator MS...-LOE
- Mounting bracket MS...-WP

General Technical Data			
Pneumatic connection 1, 2			G½
Type of mounting			Via accessories
Assembly position			Vertical ±5°
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard			Plastic bowl guard
			Metal bowl guard
Bowl drain			Manual
			Fully automatic
Pressure adjustment			Rotary knob with detent
			Lockable with accessories
Pressure regulation range	N2	[bar]	1 ... 7
	N3	[bar]	1 ... 12
Pressure indicator			With pressure gauge

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
N2 – Pressure regulation range 1 ... 7 bar		
Filtration grade	40 µm	4,700
N3 – Pressure regulation range 1 ... 12 bar		
Filtration grade	5 µm	3,500
	40 µm	3,500

Pre-configured Combination Unit 9 – Metric Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[bar]	1.5 ... 18	1.5 ... 12
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	+5 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Service unit combination	
With plastic bowl guard	2,000
With metal bowl guard	2,400
Mounting bracket	76

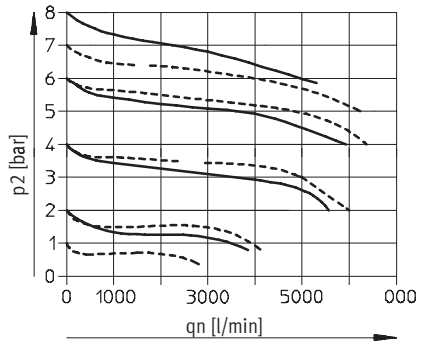
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

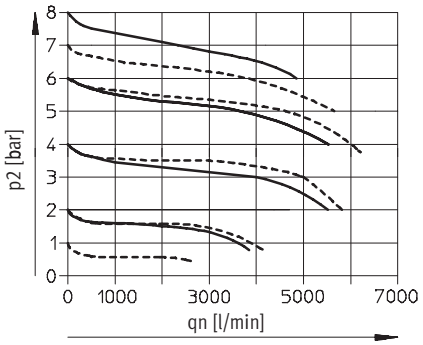
Pressure regulation range N2 or N3
MSB6-½

Primary pressure p1 = 10 bar

Filtration grade 5 µm



Filtration grade 40 µm



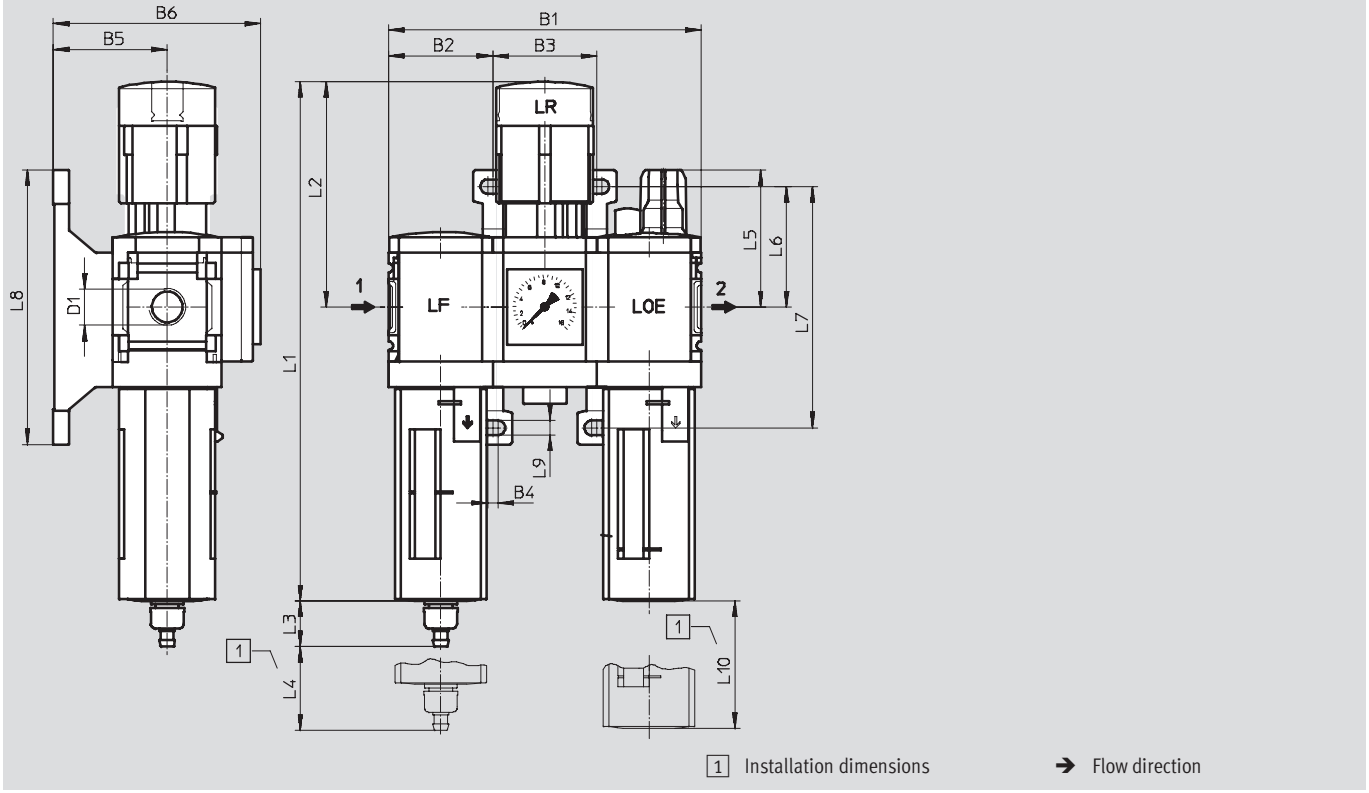
------- N2: 1 ... 7 bar
——— N3: 1 ... 12 bar

Pre-configured Combination Unit 9 – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
186	62	62	4.5	54	100	G½	285	134.5

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
15.8	18.5	68	66	71	142	158	6.6	130

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pre-configured Combination Unit 9 – Metric Series

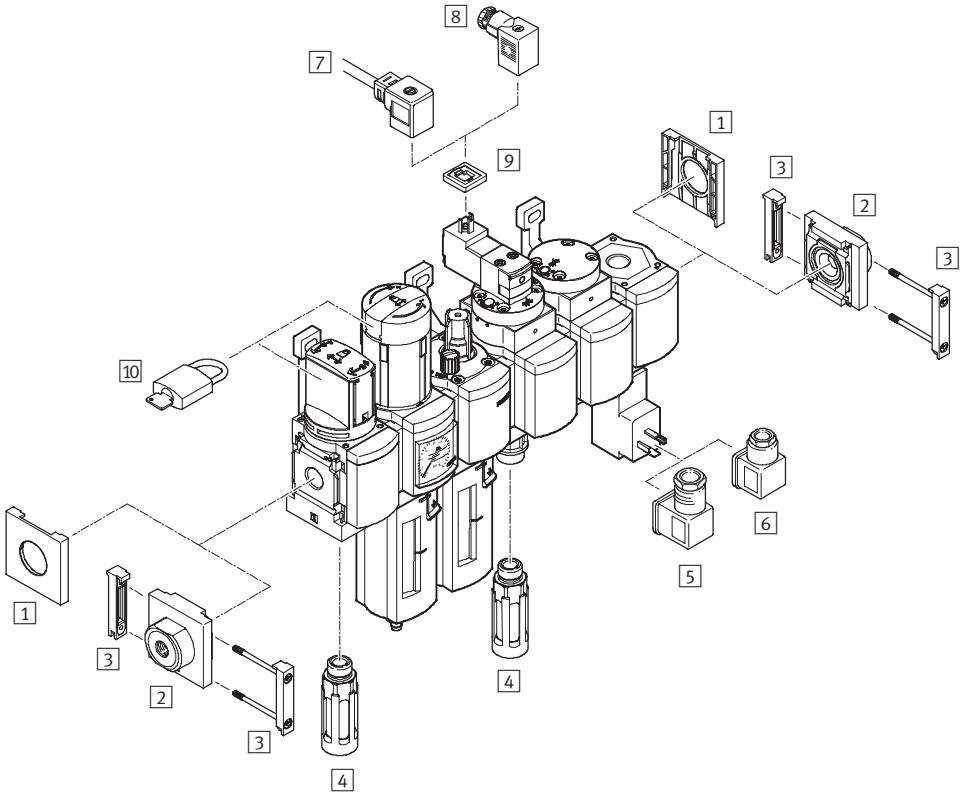
Ordering Data – Pre-configured Products

Ordering Data				
Pressure regulation range 1 ... 7 bar				
Bowl drain	Connection	Filtration grade 40 µm		
		Part No.	Type	LT
Plastic bowl guard				
Manual	G½	**530212**	**MSB6-½:H2N2M1-WP**	Q
Fully automatic	G½	**530206**	**MSB6-½:H1N2M1-WP**	Q

Ordering Data								
Pressure regulation range 1 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G½	**530218**	**MSB6-½:H3N3M1-WP**	1W		**530214**	**MSB6-½:H2N3M1-WP**	1W
Fully automatic	G½	**530220**	**MSB6-½:H4N3M1-WP**	1W		**530208**	**MSB6-½:H1N3M1-WP**	1W
Metal bowl guard								
Manual	G½	–				**530216**	**MSB6-½:H8N3M2-WP**	Q
Fully automatic	G½	–				**530210**	**MSB6-½:H7N3M2-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Mounting Attachments and Accessories



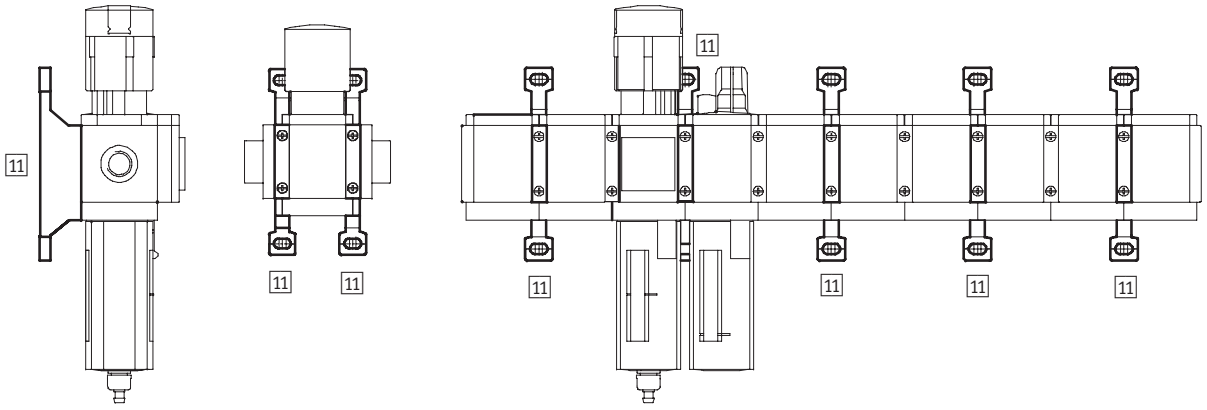
Note

The choice of accessories depends on the selected combination unit.

Range of accessories

➔ See the accessories pages of the individual devices

Single unit and combination unit mounting brackets.



Pre-configured Combination Units MSB6 – Metric Series

Accessories Overview

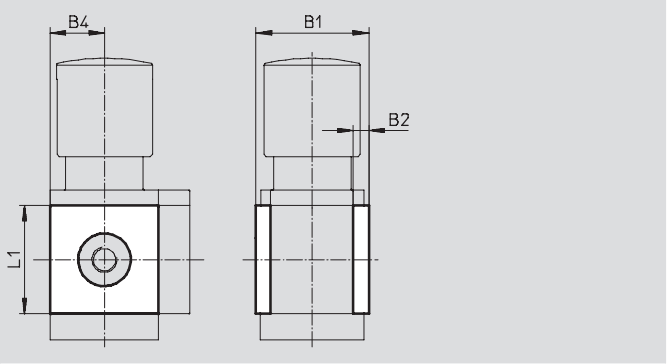
Mounting Attachments and Accessories		
		➔ Page
1	Cover cap MS6-END	514
2	Port plate MS6-AG...	515
3	Body connector MS6-MV	515
4	Silencer U	520
5	Angled socket PEV-¼-WD-LED	520
6	Plug socket MSSD-C-4P	520
7	Plug socket with cable KMEB	520
8	Plug socket MSSD-EB	520
9	Illuminating seal MEB-LD	520
10	Padlock LRVS-D	520
11	Mounting bracket (for service unit MSB-FRC) MS6-WP/WPB/WPM	516

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

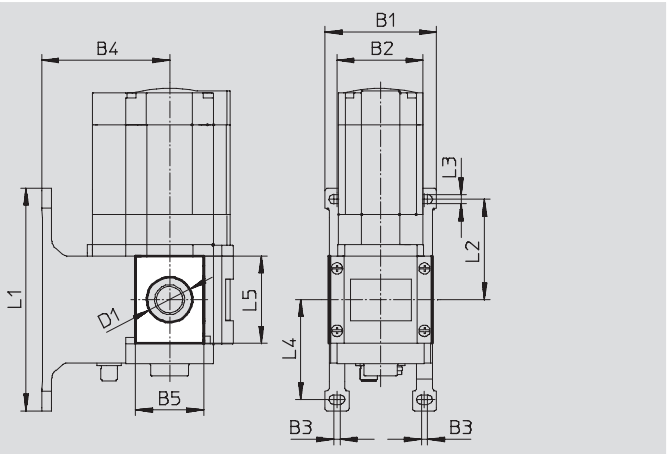
B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and ordering data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535 408**	**MS6-AEND**

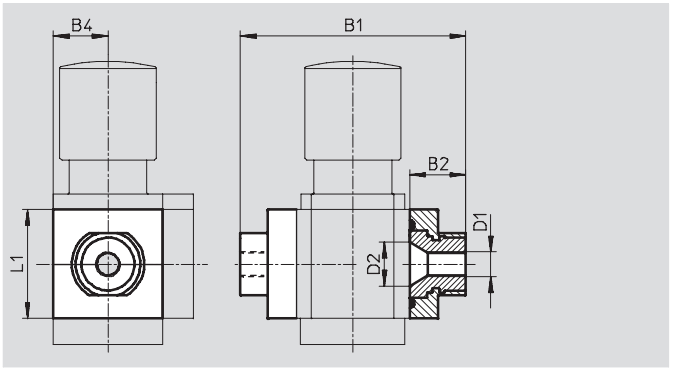
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6-AG...**

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G¾

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

3 **Body connector MS...-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

11 Mounting Bracket MS6-WP...

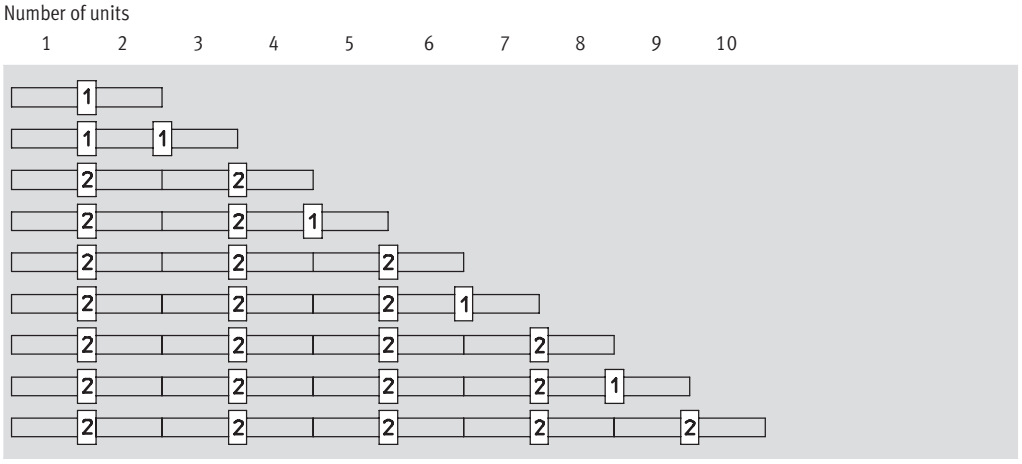
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WP, WPB
69 mm with WPM-D

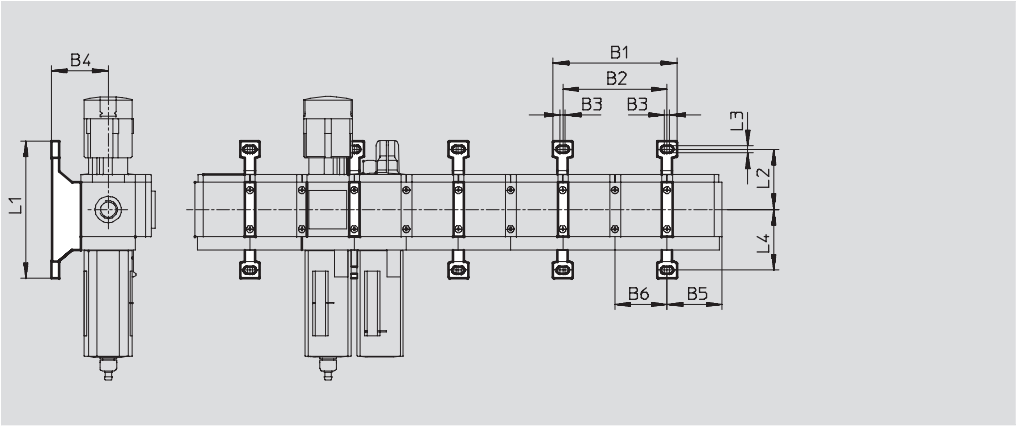
2 units: 124 mm with WP, WPB
138 mm with WPM-2D

1 Mounting bracket WP, WPB or WPM-D

2 Mounting bracket WP, WPB or WPM-2D



Mounting dimensions



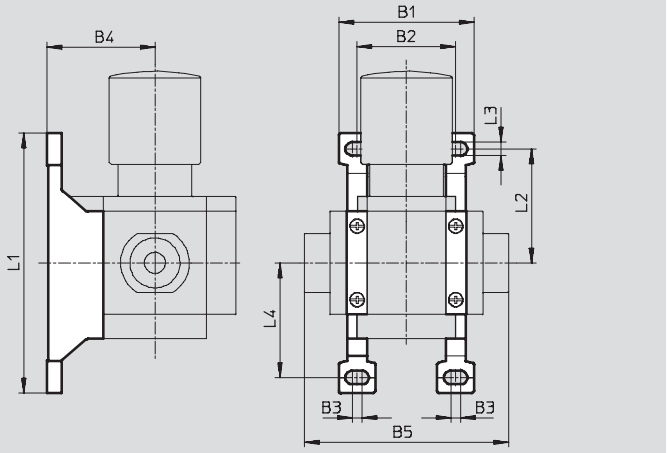
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

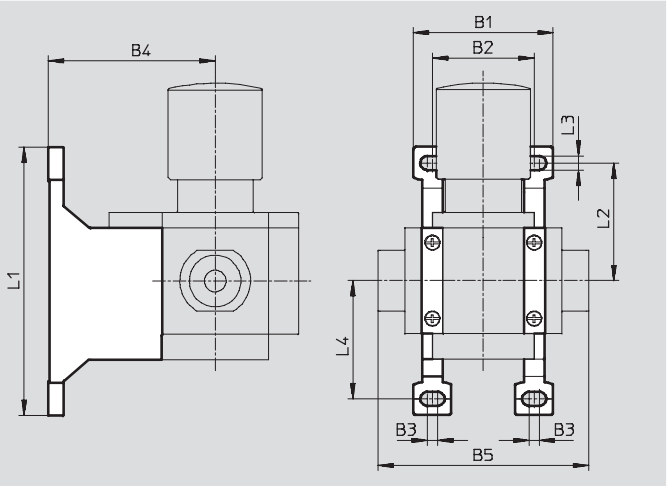
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	54	115	158	71	6.6	71	76	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

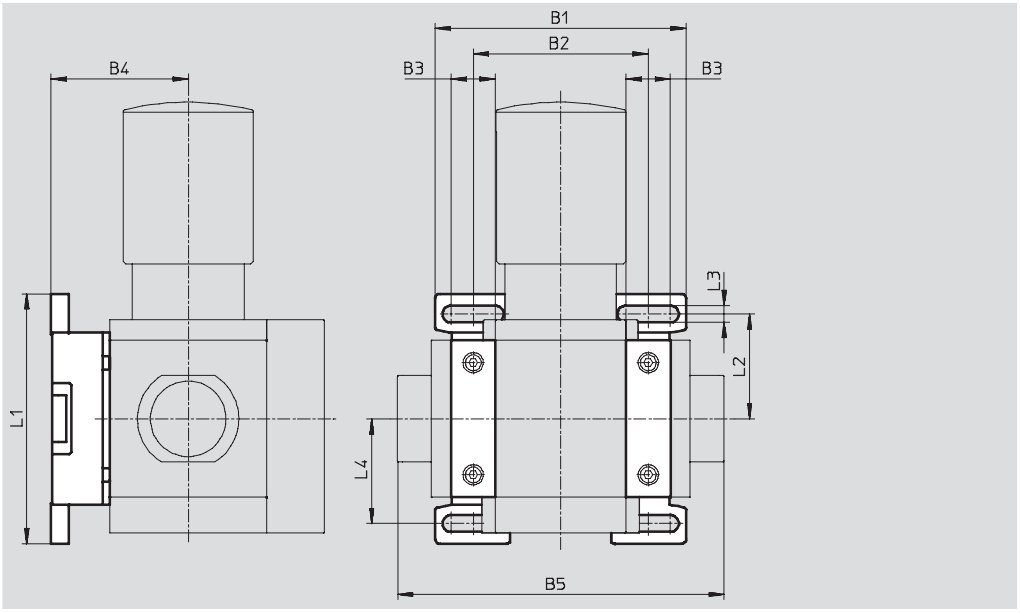
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	**526073**	**MS6-WPM-D**
168	138			198					124	154	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Filter cartridge MS6-LF...


MS...-LFM


MS...-LFP


MS...-LFX

Ordering Data

	Filtration grade [µm]	Part No.	Type
Micro-filter cartridge	0.01	**532909**	**MS6-LFM-A**
Fine-filter cartridge	1	**532910**	**MS6-LFM-B**
Filter cartridge	5	**534499**	**MS6-LFP-C**
Filter cartridge	40	**534500**	**MS6-LFP-E**
Active carbon filter cartridge	Residual oil content ≤ 0.003 mg/m^3	**532911**	**MS6-LFX**

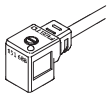
5 Ordering Data – Angled Socket PEV — Technical data ➔ www.festo.com/catalog/pev

	Description	Operating voltage range	Electrical connection	Switching status display	Part No.	Type
	for PEV-¼-...-OD	15 .... 30 V DC	4-pin	Yellow LED	**164274**	**PEV-¼-WD-LED-24**
		≤ 230 V AC ≤ 180 V DC	4-pin	Yellow LED	**164275**	**PEV-¼-WD-LED-230**

6 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for PEV-¼-...-OD	≤ 250 V AC/DC	3-pin	Clamping screws	**171157**	**MSSD-C-4P**
	for MS6-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	**151687**	**MSSD-EB**
			4-pin	Insulation displacement technology	**192745**	**MSSD-EB-S-M14**

7 Ordering Data – Plug Socket with Cable KMEB — Technical data ➔ www.festo.com/catalog/kmeb

	Description	Operating voltage range	Switching status display	Cable length [m]	Part No.	Type
	for MS6-EE/DE	24 V DC	LED	2.5	**151688**	**KMEB-1-24-2,5-LED**
		24 V DC	LED	5	**151689**	**KMEB-1-24-5-LED**
		24 V DC	LED	10	**193457**	**KMEB-1-24-10-LED**
		230 V AC	–	2.5	**151690**	**KMEB-1-230AC-2,5**
		230 V AC	–	5	**151691**	**KMEB-1-230AC-5**

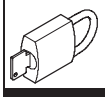
9 Ordering Data – Illuminating Seal MEB-LD — Technical data ➔ www.festo.com/catalog/meb-ld

	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	**151717**	**MEB-LD-12-24DC**
		230 V DC/AC ±10%	**151718**	**MEB-LD-230AC**

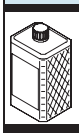
4 Ordering Data – Silencer U — Technical data ➔ www.festo.com/catalog/u

	Description	Pneumatic connection	Part No.	Type
	for MS6-EM1/EE	G½	**6844**	**U-½-B**

10 Ordering Data – Padlock LRVS-D

	Description	Weight [g]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	120	**193786**	**LRVS-D**

Ordering Data – Special Oil OFSW

	Description	Scope of delivery	Part No.	Type
	for lubricators	1 litre	**152811**	**OFSW-32**

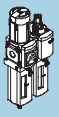
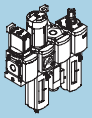
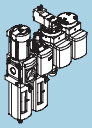
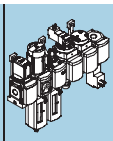
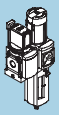
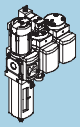
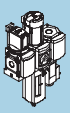
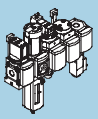
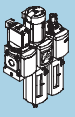
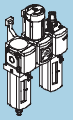
Pre-configured Combination Units MSB6N – Inch Series



Ten different types of pre-configured and assembled combination units are available. They consist of up to six different individual units with options for filtration grade and condensate drain (see table below). Mounting brackets are included. MS Series combination units have a high resistance to corrosion in typical industrial environments and offer high flow rates with compact components.

- Pneumatic connections: ¼ NPT, ⅜ NPT, ½ NPT, (G¾ NPT with optional port plate)
- Flow rates: 60 ... 180 scfm*
- Supply pressure: 22 ... 294 psi*
- Pressure regulation range: 4.4 ... 176 psi*
- Filtration grade: 5 µm and 40 µm

* Individual combination units will vary depending on selected type and option.

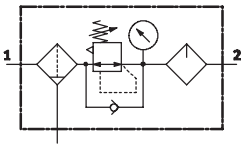
Combination Units		 MSB6N-FRC	 Unit 1	 Unit 2	 Unit 3	 Unit 4	 Unit 5	 Unit 6	 Unit 7	 Unit 8	 Unit 9
Consisting of:											
On-off valve (manually actuated)	EM1	–	■	–	■	■	–	■	■	■	–
Filter regulator with pressure gauge, lockable	LFR	■	■	■	■	■	■	■	■	■	–
Pressure regulator with pressure gauge, lockable	LR	–	–	–	–	–	–	–	–	–	■
Filter	LF	–	–	–	–	–	–	–	–	–	■
Lubricator	LOE	■	■	■	■	–	–	–	–	■	■
On-off valve (solenoid actuated)	EE	–	–	■	■	–	■	–	■	–	–
Soft-start valve (pneumatically actuated)	DL	–	–	■	■	–	■	–	■	–	–
Distribution block with pressure switch	FRM	–	■	–	■	–	–	■	■	–	–
Mounting bracket	WP	–	■	■	■	■	■	■	■	■	■
Technical data → Page		522	528	531	535	539	542	546	549	553	556

Note
Should you require a custom combination unit, please go to our online catalog at: www.festo.com/catalog/msb6n. Click on the blue basket icon next to P/N 532307. Then open the shopping basket on the right menu and click on the configuration icon . You can now configure your combination unit.

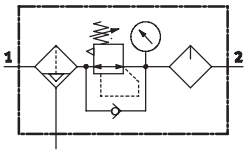
Pre-configured Combination Units MSB6N-FRC – Inch Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- Filter, regulator and lubricator function in a single unit
- High flow rate and highly efficient removal of contaminants
- Good regulating characteristics with minimal pressure hysteresis
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Two pressure regulation ranges: 4.4 ... 103 psi and 7.4 ... 176 psi
- Choice of filter cartridges: 5 µm or 40 µm
- With manual or integrated, fully automatic bowl drain



General Technical Data				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Design		Filter regulator with pressure gauge		
		Proportional standard mist lubricator		
Regulating function		With primary pressure compensation		
		With secondary venting		
		With return flow function		
		Output pressure constant		
Type of mounting		Via accessories		
Assembly position		Vertical ±5°		
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)		
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)		
Bowl guard		Plastic bowl guard		
		Metal bowl guard		
Bowl drains		Manual		
		Fully automatic		
Pressure adjustment		Rotary knob with integrated lock		
Pressure regulation range	[psi]	4.4 ... 103		
		7.4 ... 176		
Pressure indicator		With pressure gauge		

Pre-configured Combination Units MSB6N-FRC – Inch Series

Technical Data

Standard Nominal Flow Rate qnN[1] [scfm]				
Pneumatic connection		¼ NPT	⅜ NPT	½ NPT
Pressure regulation range 4.4... 103 psi				
Filtration grade	5 µm	70.6	155.3	162.4
	40 µm	74.1	162.4	169.4
Pressure regulation range 7.4... 176 psi				
Filtration grade	5 µm	60.0	120.0	127.1
	40 µm	67.1	123.6	130.6

1) Measured at p1 = 147 psi and p2 = 88 psi, Δp = 15 psi.

Operating and Environmental Conditions			
Bowl drains		Manual	Fully automatic
Supply pressure	[psi]	22 ... 294	22 ... 176
Operating medium		Compressed air	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[1]	2	

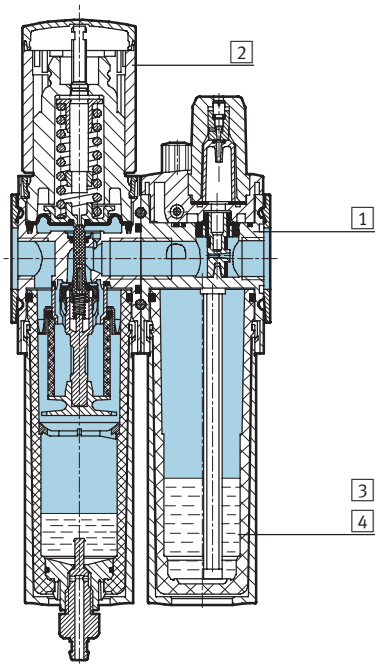
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	2.99
With metal bowl guard	3.43

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



Service unit		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Plastic bowl guard	Polycarbonate
4	Metal bowl guard	Wrought aluminum alloy
–	Seals	Nitrile rubber

Pre-configured Combination Units MSB6N-FRC – Inch Series

Technical Data

FESTO

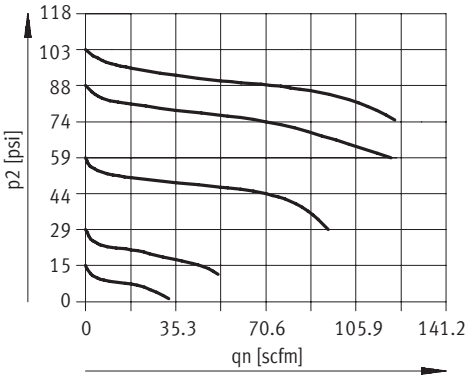
Standard Flow Rate qn as a Function of Output Pressure p2

Pressure regulation range 4.4 ... 103 psi

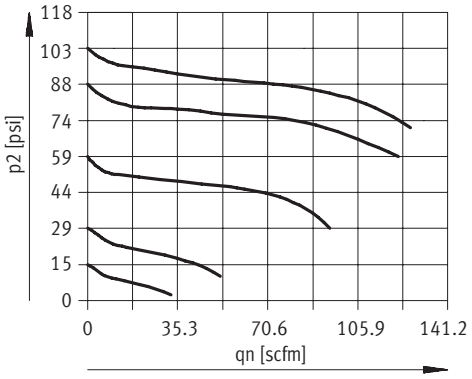
MSB6N-¼

Primary pressure p1 = 147 psi

Filtration grade 5 µm

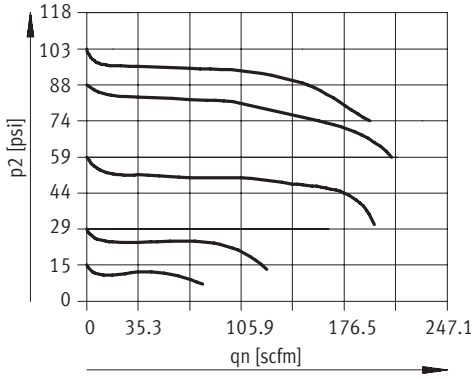


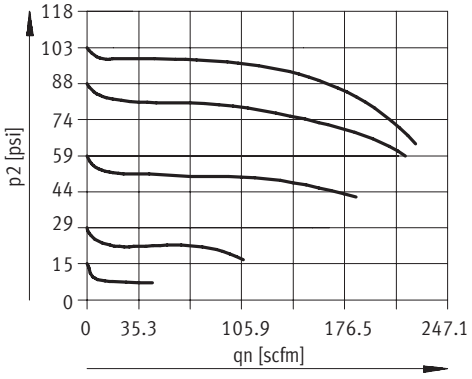
Filtration grade 40 µm



MSB6N-⅜

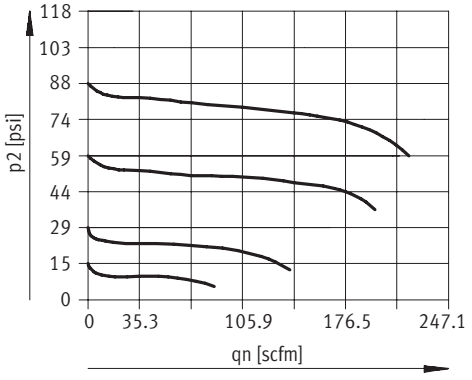
Primary pressure p1 = 147 psi

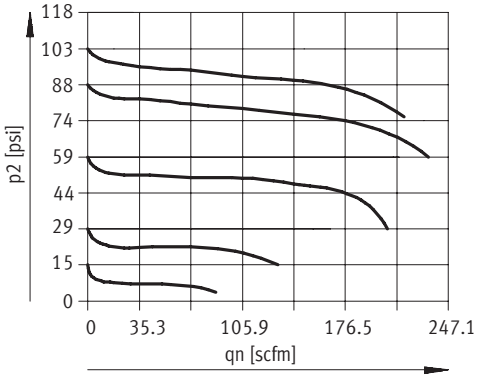




MSB6N-½

Primary pressure p1 = 147 psi





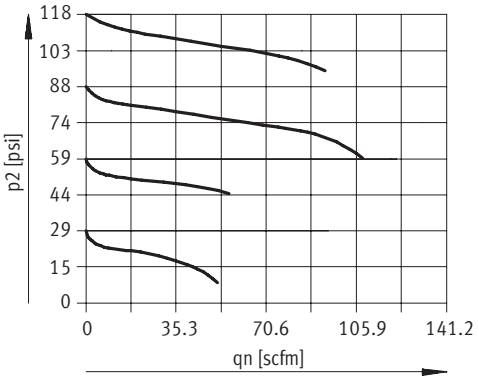
Standard Flow Rate qn as a Function of Output Pressure p2

Pressure regulation range 7.4 ... 176 psi

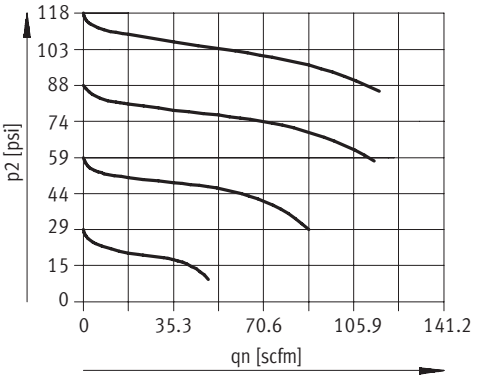
MSB6N-¼

Primary pressure p1 = 147 psi

Filtration grade 5 µm

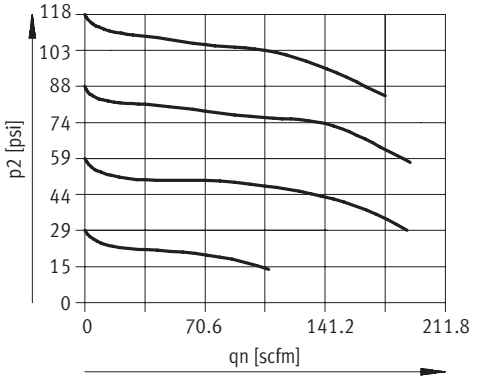


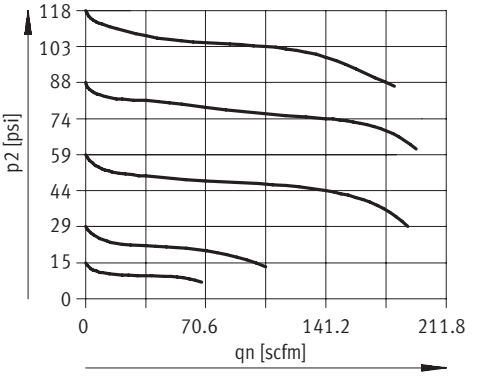
Filtration grade 40 µm



MSB6N-⅜

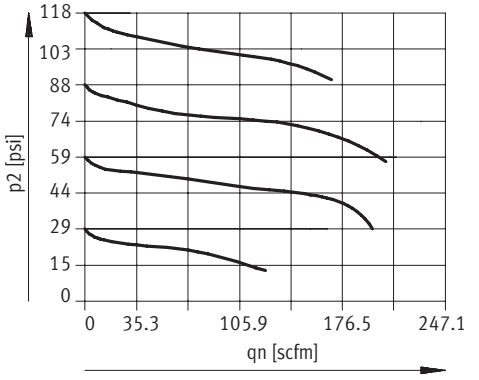
Primary pressure p1 = 147 psi

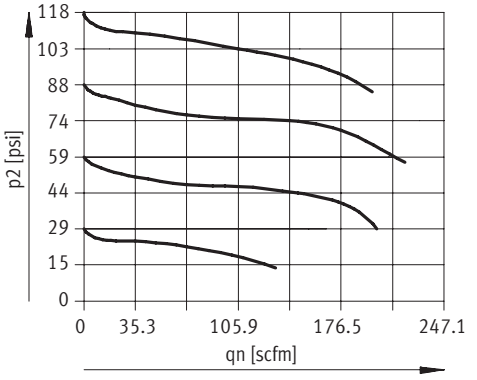




MSB6N-½

Primary pressure p1 = 147 psi



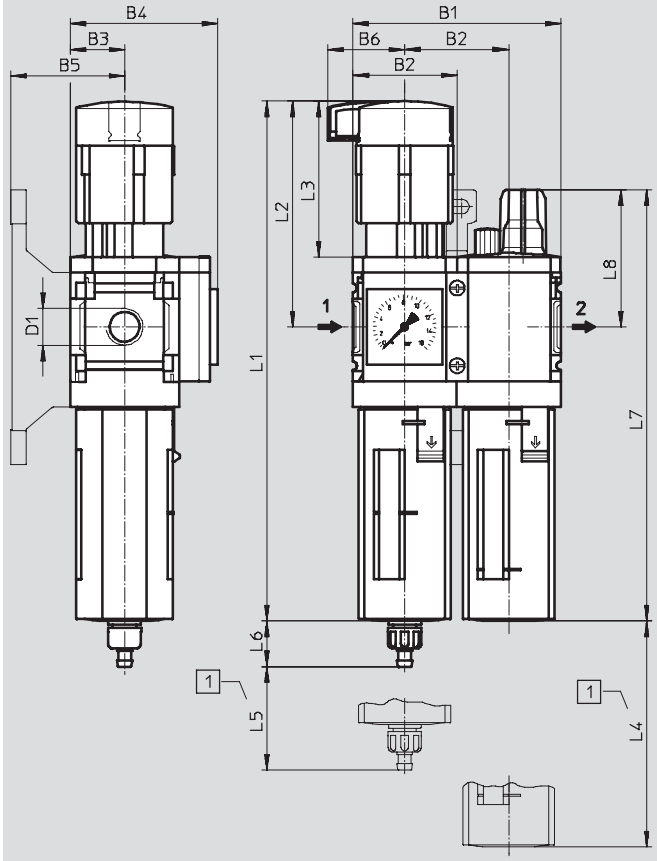


Pre-configured Combination Units MSB6N-FRC – Inch Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

Type	B1	B2	B3	B4	B5	B6	D1	L1	L2	L3	L4	L5	L6 Bowl drain		L7	L8
													manual	fully automatic		
MSB6N-¼	4.88	2.44	1.22	3.03	2.13	1.53	¼ NPT	11.21	5.30	3.76	5.12	2.68	0.62	0.73	8.48	2.58
MSB6N-⅜							⅜ NPT									
MSB6N-½							½ NPT									

1) Dimensions are in inches, unless otherwise noted.

Pre-configured Combination Units MSB6N-FRC – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 4.4 ... 103 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**534013**	**MSB6N-¼-FRC3:J7M1**	Q		**534003**	**MSB6N-¼-FRC1:J5M1**	Q
	⅜ NPT	**534037**	**MSB6N-⅜-FRC3:J7M1**	Q		**534027**	**MSB6N-⅜-FRC1:J5M1**	Q
	½ NPT	**533989**	**MSB6N-½-FRC3:J7M1**	Q		**533979**	**MSB6N-½-FRC1:J5M1**	Q
Fully automatic	¼ NPT	**534015**	**MSB6N-¼-FRC4:J8M1**	Q		**534011**	**MSB6N-¼-FRC2:J6M1**	Q
	⅜ NPT	**534039**	**MSB6N-⅜-FRC4:J8M1**	Q		**534035**	**MSB6N-⅜-FRC2:J6M1**	Q
	½ NPT	**533991**	**MSB6N-½-FRC4:J8M1**	Q		**533987**	**MSB6N-½-FRC2:J6M1**	Q

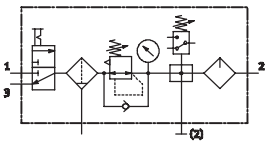
Ordering Data								
Pressure regulation range 7.4 ... 176 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**534021**	**MSB6N-¼-FRC7:J3M1**	1D		**534017**	**MSB6N-¼-FRC5:J1M1**	1D
	⅜ NPT	**534045**	**MSB6N-⅜-FRC7:J3M1**	1D		**534041**	**MSB6N-⅜-FRC5:J1M1**	1D
	½ NPT	**533997**	**MSB6N-½-FRC7:J3M1**	1W		**533993**	**MSB6N-½-FRC5:J1M1**	1W
Fully automatic	¼ NPT	**534023**	**MSB6N-¼-FRC8:J4M1**	1D		**534019**	**MSB6N-¼-FRC6:J2M1**	1D
	⅜ NPT	**534047**	**MSB6N-⅜-FRC8:J4M1**	1D		**534043**	**MSB6N-⅜-FRC6:J2M1**	1D
	½ NPT	**533999**	**MSB6N-½-FRC8:J4M1**	1W		**533995**	**MSB6N-½-FRC6:J2M1**	1W
Metal bowl								
Manual	¼ NPT	**534007**	**MSB6N-¼-FRC11:J9M2**	Q		**534025**	**MSB6N-¼-FRC9:J11M2**	Q
	⅜ NPT	**534031**	**MSB6N-⅜-FRC11:J9M2**	Q		**534049**	**MSB6N-⅜-FRC9:J11M2**	Q
	½ NPT	**533983**	**MSB6N-½-FRC11:J9M2**	Q		**534001**	**MSB6N-½-FRC9:J11M2**	Q
Fully automatic	¼ NPT	**534009**	**MSB6N-¼-FRC12:J10M2**	Q		**534005**	**MSB6N-¼-FRC10:J12M2**	Q
	⅜ NPT	**534033**	**MSB6N-⅜-FRC12:J10M2**	Q		**534029**	**MSB6N-⅜-FRC10:J12M2**	Q
	½ NPT	**533985**	**MSB6N-½-FRC12:J10M2**	Q		**533981**	**MSB6N-½-FRC10:J12M2**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

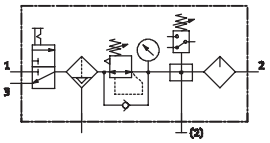
Pre-configured Combination Unit 1 – Inch Series

Technical Data

ISO Symbol

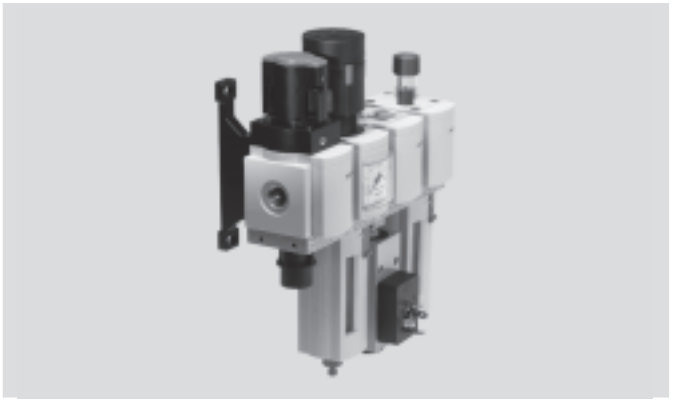


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- The unit is vented when switched off
- Electrical pressure monitoring with adjustable switching pressure
- Removal of filtered and unlubricated compressed air at the Distribution block connections



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Distribution block MS...-FRM-Y with pressure switch, without display
- Lubricator MS...-LOE-R
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		½ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	15 ... 176
Pressure indicator		With pressure gauge

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	113.0
	40 µm	116.5

Pre-configured Combination Unit 1 – Inch Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[psi]	22 ... 265	22 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	5.10
Mounting bracket	0.15

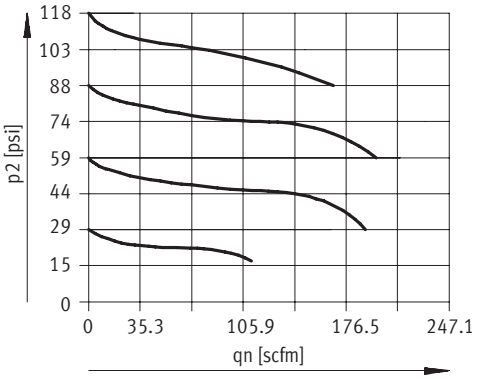
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

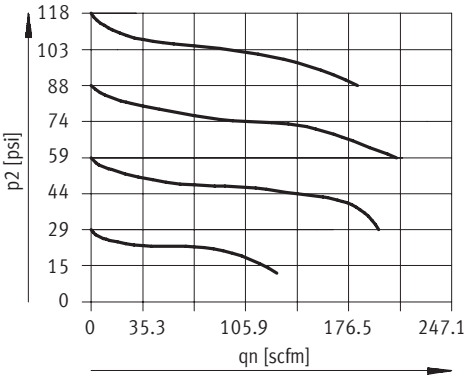
Pressure regulation range 15 ... 176 psi
MSB6N-½

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm

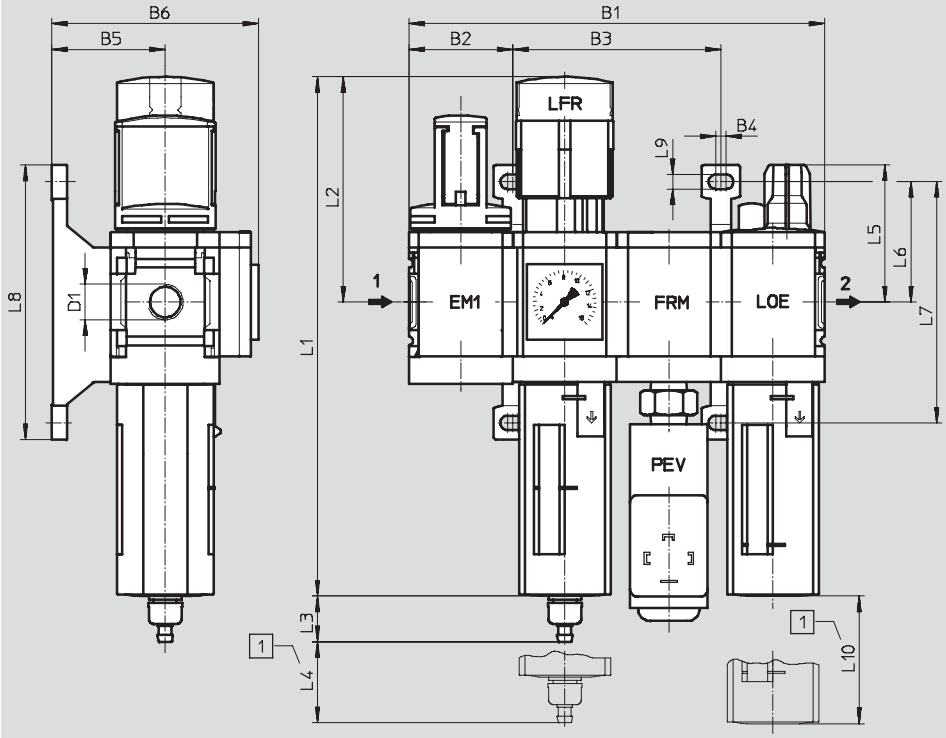


Pre-configured Combination Unit 1 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
9.76	2.44	4.88	0.18	2.13	3.94	½ NPT	11.22	5.30

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
0.62	0.73	2.68	2.60	2.80	5.59	6.22	0.26	5.12

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Pressure regulation range 15 ... 176 psi

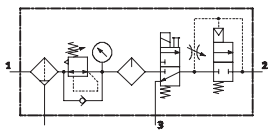
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**543585**	**MSB6N-½:C3J3F3M1-WP**	Q		**543573**	**MSB6N-½:C3J1F3M1-WP**	Q
Fully automatic	½ NPT	**543591**	**MSB6N-½:C3J4F3M1-WP**	Q		**543579**	**MSB6N-½:C3J2F3M1-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

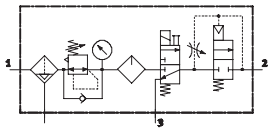
Pre-configured Combination Unit 2 – Inch Series

Technical Data

ISO Symbol

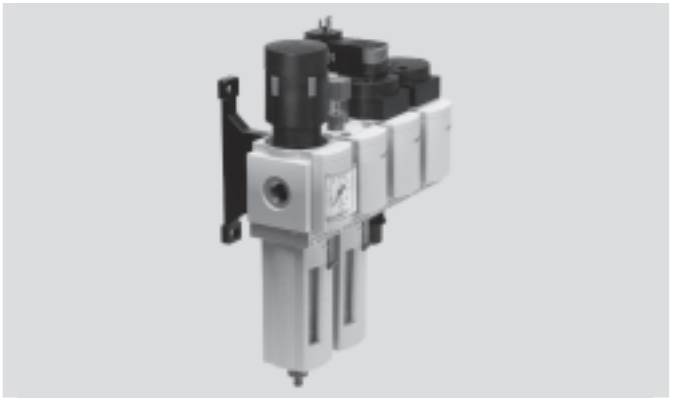


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- When supply pressure is closed, quick venting ensures rapid pressure reduction



This combination consists of:

- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		½ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	59 ... 132 (with on-off valve MS...-EE-10V24)
	[psi]	59 ... 176 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	67.1
	40 µm	70.6

Pre-configured Combination Unit 2 – Inch Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 59 ... 132 psi		Pressure regulation range 59 ... 176 psi	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[psi]	66 ... 147	66 ... 147	66 ... 265	66 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	6.00
Mounting bracket	0.15

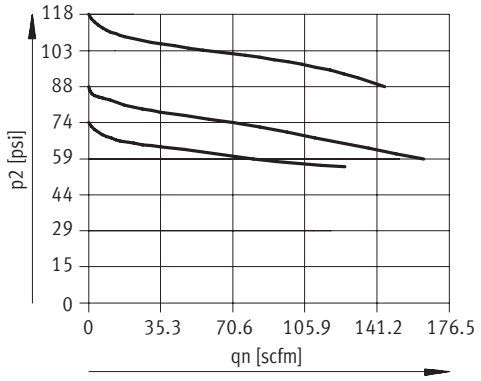
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

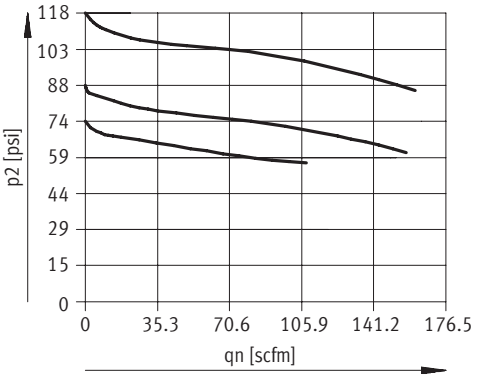
Pressure regulation range
59 ... 132 psi / 59 ... 176 psi
MSB6N-½

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm

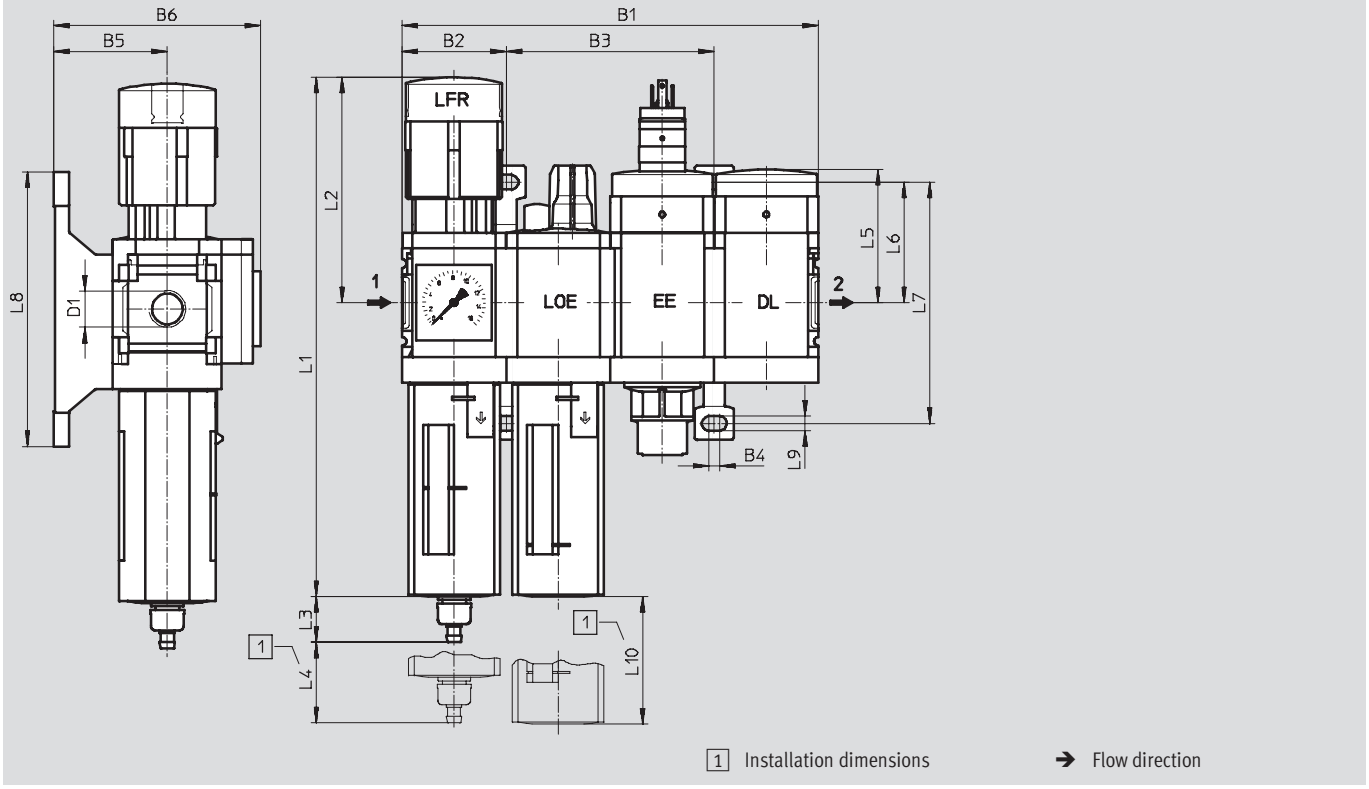


Pre-configured Combination Unit 2 – Inch Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
9.76	2.44	4.88	0.18	2.13	3.94	½ NPT	11.22	5.30

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
0.62	0.73	2.68	2.80	2.80	5.59	6.22	0.26	5.12

1) Dimensions are in inches, unless otherwise noted.

Pre-configured Combination Unit 2 – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 59 ... 132 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**550512**	**MSB6N-½:J3M1D7A1-WP**	Q		**550508**	**MSB6N-½:J1M1D7A1-WP**	Q
Fully automatic	½ NPT	**550514**	**MSB6N-½:J4M1D7A1-WP**	Q		**550510**	**MSB6N-½:J2M1D7A1-WP**	Q

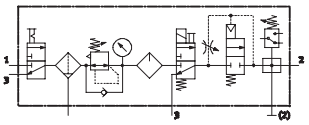
Ordering Data								
Pressure regulation range 59 ... 176 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**541476**	**MSB6N-½:J3M1D1A1-WP**	1W		**541472**	**MSB6N-½:J1M1D1A1-WP**	1W
Fully automatic	½ NPT	**541478**	**MSB6N-½:J4M1D1A1-WP**	1W		**541474**	**MSB6N-½:J2M1D1A1-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

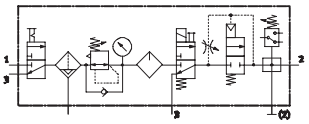
Pre-configured Combination Unit 3 – Inch Series

Technical Data

ISO Symbol

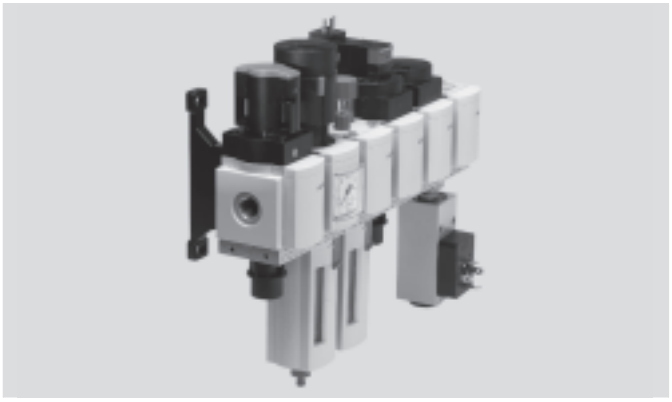


With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- To shut-off and vent the following device or the system
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Distribution block MS...-FRM-Y with pressure switch, without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		½ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	59 ... 132 (with on-off valve MS...-EE-10V24)
	[psi]	59 ... 176 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	74.1
	40 µm	81.2

Pre-configured Combination Unit 3 – Inch Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 59 ... 132 psi		Pressure regulation range 59 ... 176 psi	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[psi]	66 ... 147	66 ... 147	66 ... 265	66 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	8.00
Mounting bracket	0.15

- For spare parts go to: www.festo.com/en/spare_parts_service

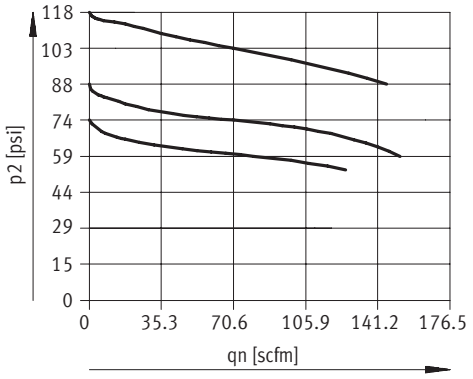
Standard Flow Rate qn as a Function of Output Pressure p2

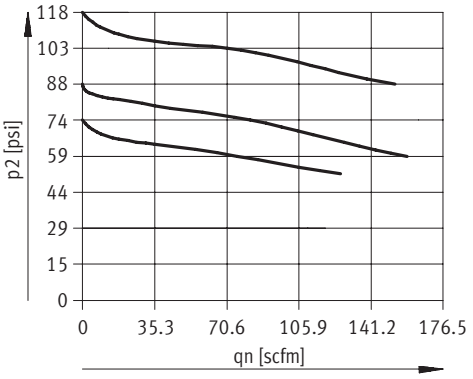
Pressure regulation range
59 ... 132 psi / 59 ... 176 psi
MSB6N-½

Filtration grade 5 µm

Filtration grade 40 µm

Primary pressure p1 = 147 psi



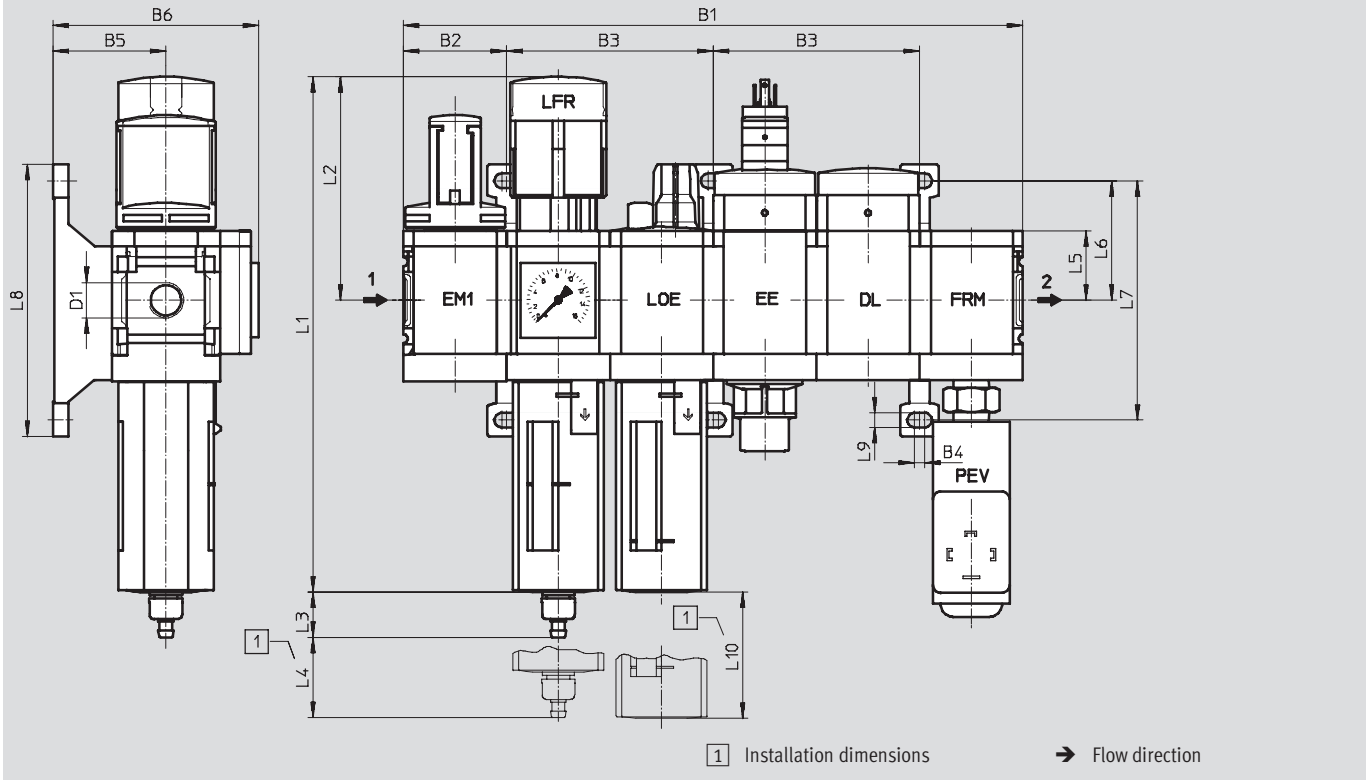


Pre-configured Combination Unit 3 – Inch Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



B1	B2	B3	B4	B5	B6	D1	L1	L2
14.65	2.44	4.88	0.18	2.13	3.94	½ NPT	11.22	5.30

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
0.62	0.73	2.68	1.54	2.80	5.59	6.22	0.26	5.12

1) Dimensions are in inches, unless otherwise noted.

Pre-configured Combination Unit 3 – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 59 ... 132 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**550504**	**MSB6N-½:C3J3M1D7A1F3-WP**	Q		**550500**	**MSB6N-½:C3J1M1D7A1F3-WP**	Q
Fully automatic	½ NPT	**550506**	**MSB6N-½:C3J4M1D7A1F3-WP**	Q		**550502**	**MSB6N-½:C3J2M1D7A1F3-WP**	Q

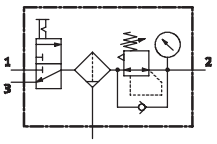
Ordering Data								
Pressure regulation range 59 ... 176 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**543587**	**MSB6N-½:C3J3M1D1A1F3-WP**	Q		**543575**	**MSB6N-½:C3J1M1D1A1F3-WP**	Q
Fully automatic	½ NPT	**543593**	**MSB6N-½:C3J4M1D1A1F3-WP**	Q		**543581**	**MSB6N-½:C3J2M1D1A1F3-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

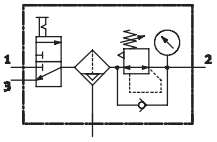
Pre-configured Combination Unit 4 – Inch Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		½ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	4.4 ... 176
Pressure indicator		With pressure gauge

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	169.4
	40 µm	180.0

Pre-configured Combination Unit 4 – Inch Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[psi]	12 ... 265	22 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	2.20
Mounting bracket	0.15

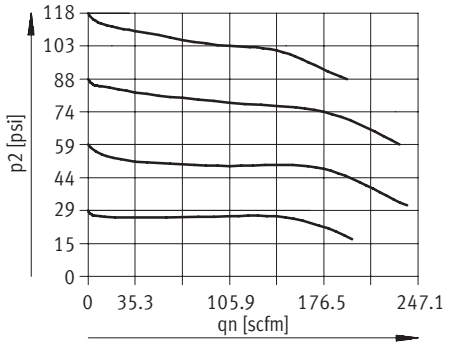
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

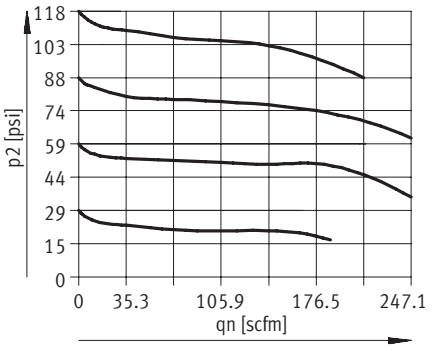
Pressure regulation range 7.4 ... 176 psi
MSB6N-½

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm



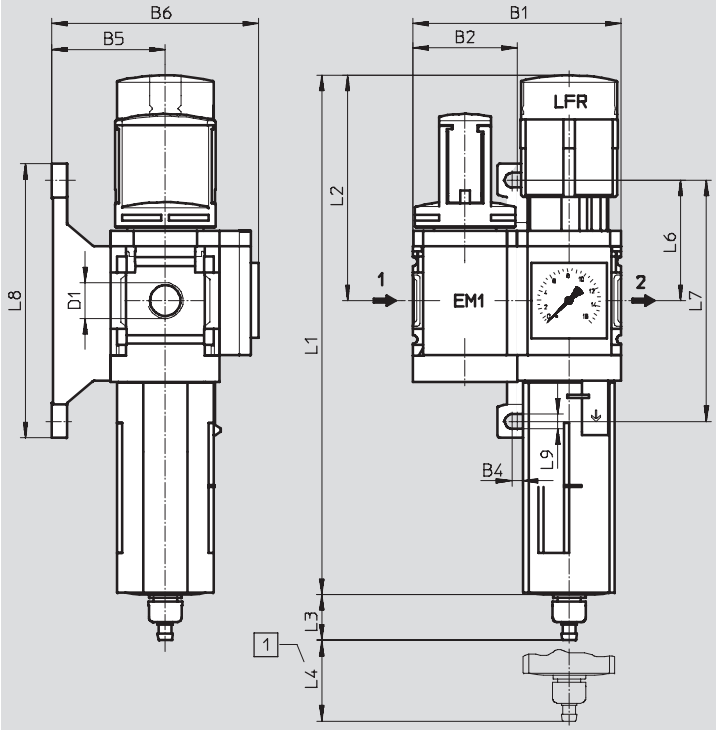
Pre-configured Combination Unit 4 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B4	B5	B6	D1	L1	L2
4.88	2.44	0.18	2.13	3.94	½ NPT	11.22	5.30

L3 Bowl drain		L4	L6	L7	L8	L9
manual	fully automatic					
0.62	0.73	2.68	2.80	5.59	6.22	0.26

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Pressure regulation range 7.4 ... 176 psi

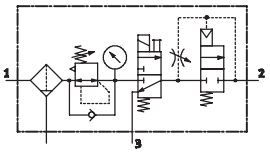
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**543589**	**MSB6N-½:C3J3-WP**	Q		**543577**	**MSB6N-½:C3J1-WP**	Q
Fully automatic	½ NPT	**543595**	**MSB6N-½:C3J4-WP**	Q		**543583**	**MSB6N-½:C3J2-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

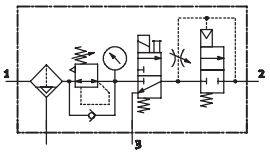
Pre-configured Combination Unit 5 – Inch Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- When supply pressure is closed, quick venting ensures rapid pressure reduction



This combination consists of:

- Filter regulator MS...-LFR-D7
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		½ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	59 ... 132 (with on-off valve MS...-EE-10V24)
	[psi]	59 ... 176 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	105.9
	40 µm	109.4

Pre-configured Combination Unit 5 – Inch Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 59 ... 132 psi		Pressure regulation range 59 ... 176 psi	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[psi]	66 ... 147	66 ... 147	66 ... 265	66 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	4.80
Mounting bracket	0.15

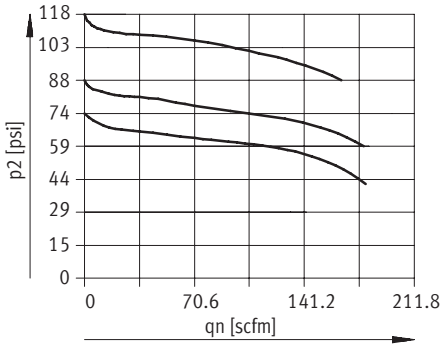
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

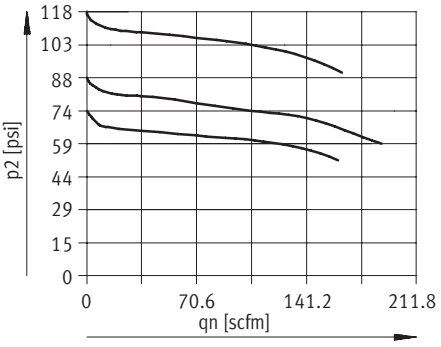
Pressure regulation range
59 ... 132 psi / 59... 176 psi
MSB6N-½

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm

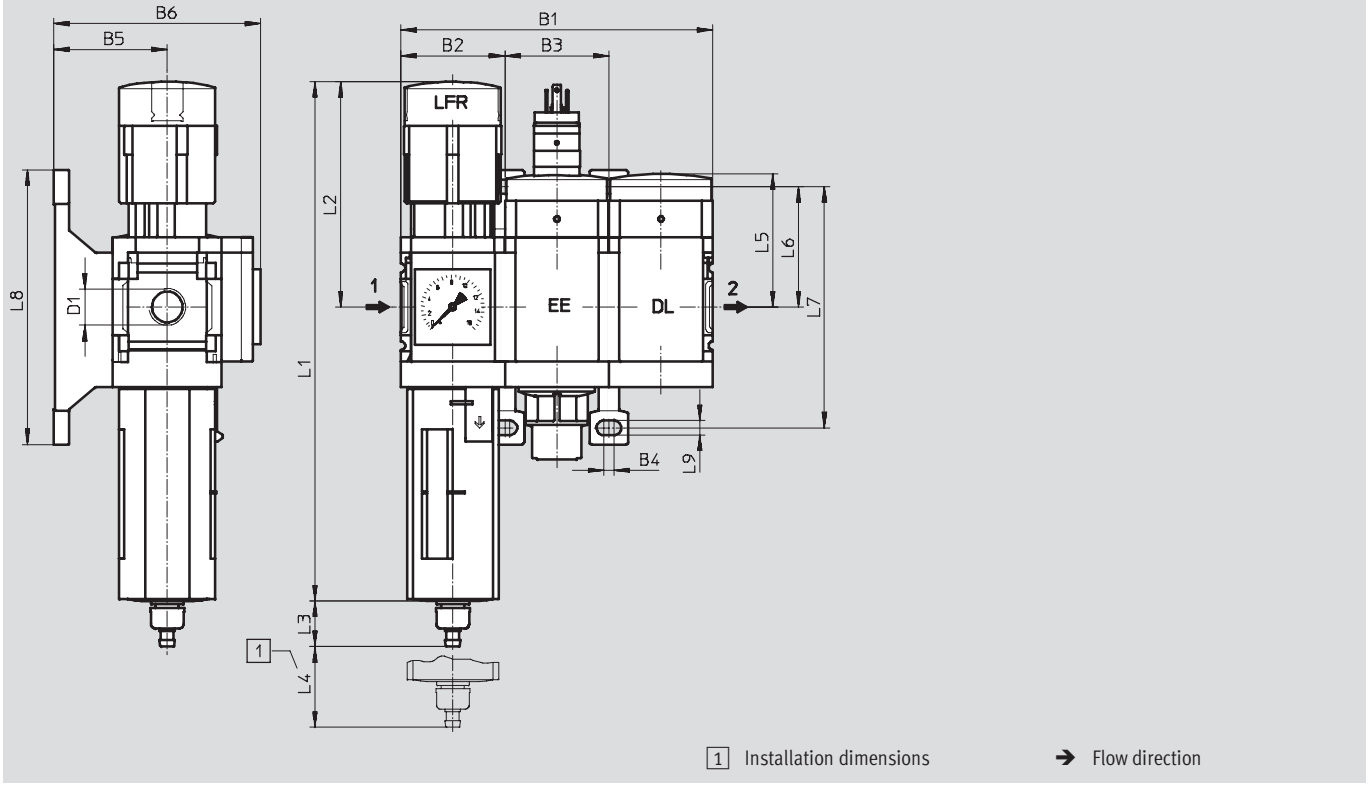


Pre-configured Combination Unit 5 – Inch Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
7.32	2.44	2.44	0.18	2.13	3.94	½ NPT	11.22	5.30

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
0.62	0.73	2.68	2.80	2.80	5.59	6.22	0.26

1) Dimensions are in inches, unless otherwise noted.

Pre-configured Combination Unit 5 – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 59 ... 132 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**550511**	**MSB6N-½:J3D7A1-WP**	Q		**550507**	**MSB6N-½:J1D7A1-WP**	Q
Fully automatic	½ NPT	**550513**	**MSB6N-½:J4D7A1-WP**	Q		**550509**	**MSB6N-½:J2D7A1-WP**	Q

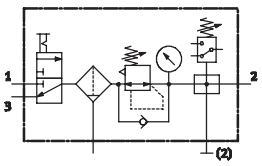
Ordering Data								
Pressure regulation range 59 ... 176 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**541475**	**MSB6N-½:J3D1A1-WP**	1W		**541471**	**MSB6N-½:J1D1A1-WP**	1W
Fully automatic	½ NPT	**541477**	**MSB6N-½:J4D1A1-WP**	1W		**541473**	**MSB6N-½:J2D1A1-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

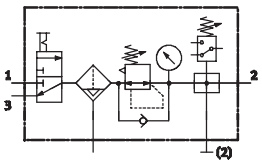
Pre-configured Combination Unit 6 – Inch Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Distribution block MS...-FRM-Y with pressure switch, without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		½ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	7.4 ... 176
Pressure indicator		With pressure gauge

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	155.3
	40 µm	158.9

Pre-configured Combination Unit 6 – Inch Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[psi]	12 ... 265	22 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	4.00
Mounting bracket	0.15

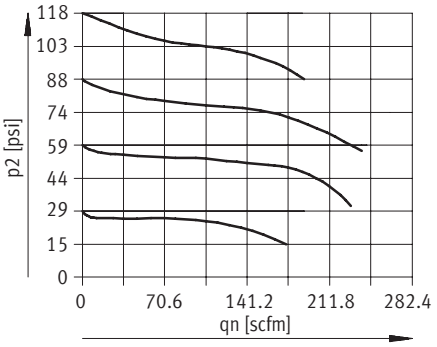
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

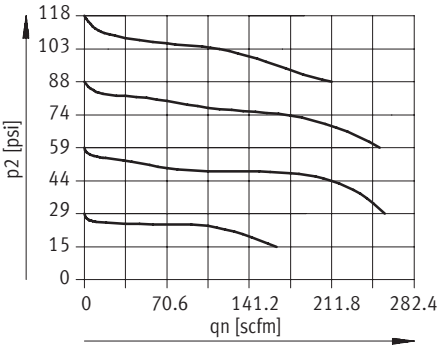
Pressure regulation range 7.4 ... 176 psi
MSB6N-½

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm



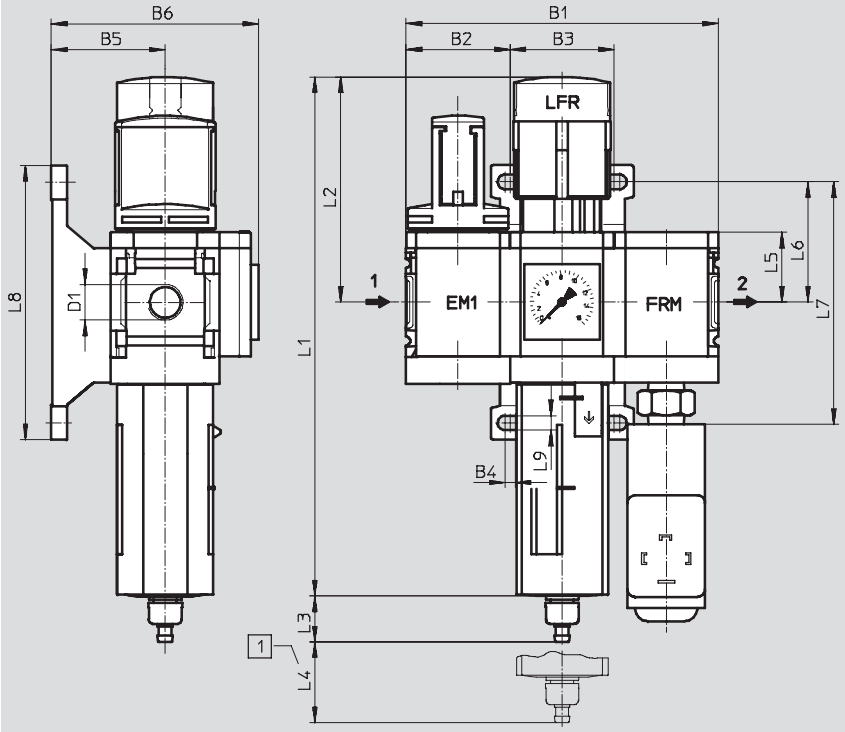
Pre-configured Combination Unit 6 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
7.32	2.44	2.44	0.18	2.13	3.94	½ NPT	11.22	5.30

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
0.62	0.73	2.68	1.54	2.80	5.59	6.22	0.26

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Pressure regulation range 7.4 ... 176 psi

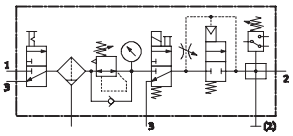
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**543586**	**MSB6N-½:C3J3F3-WP**	Q		**543574**	**MSB6N-½:C3J1F3-WP**	Q
Fully automatic	½ NPT	**543592**	**MSB6N-½:C3J4F3-WP**	Q		**543580**	**MSB6N-½:C3J2F3-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

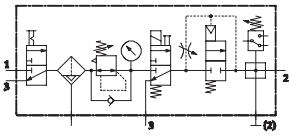
Pre-configured Combination Unit 7 – Inch Series

Technical Data

ISO Symbol

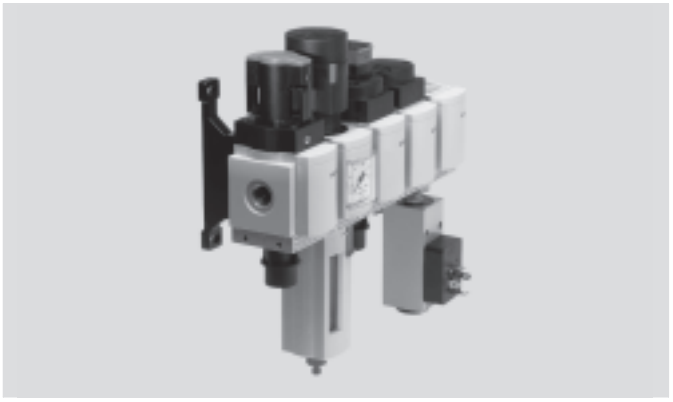


With manual bowl drain



With fully automatic bowl drain

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- To shut-off and vent the following device or the system
- Electrical pressure monitoring with adjustable switching pressure



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- On-off valve MS...-EE-10V24 or MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Distribution block MS...-FRM-Y with pressure switch, without display
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		½ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	59 ... 132 (with on-off valve MS...-EE-10V24)
	[psi]	59 ... 176 (with on-off valve MS...-EE-V24)
Pressure indicator		With pressure gauge
Coil characteristics	[V DC]	12
Supply voltage	[V DC]	24

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	105.9
	40 µm	109.4

Pre-configured Combination Unit 7 – Inch Series

Technical Data

Operating and Environmental Conditions					
		Pressure regulation range 59 ... 132 psi		Pressure regulation range 59 ... 176 psi	
Bowl drain		Manual	Fully automatic	Manual	Fully automatic
Supply pressure	[psi]	66 ... 147	66 ... 147	66 ... 265	66 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Ambient temperature	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 122	41 ... 122	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	7.00
Mounting bracket	0.15

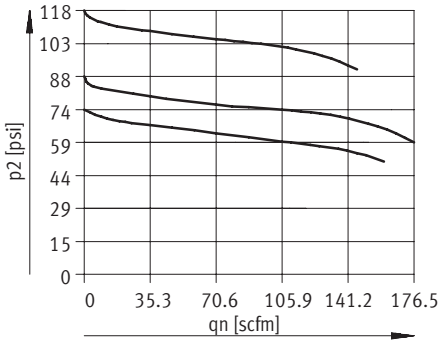
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

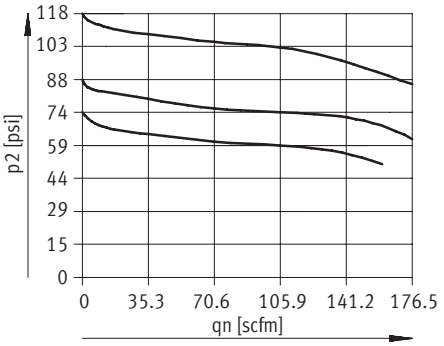
Pressure regulation range
59 ... 132 psi / 59 ... 176 psi
MSB6N-½

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm

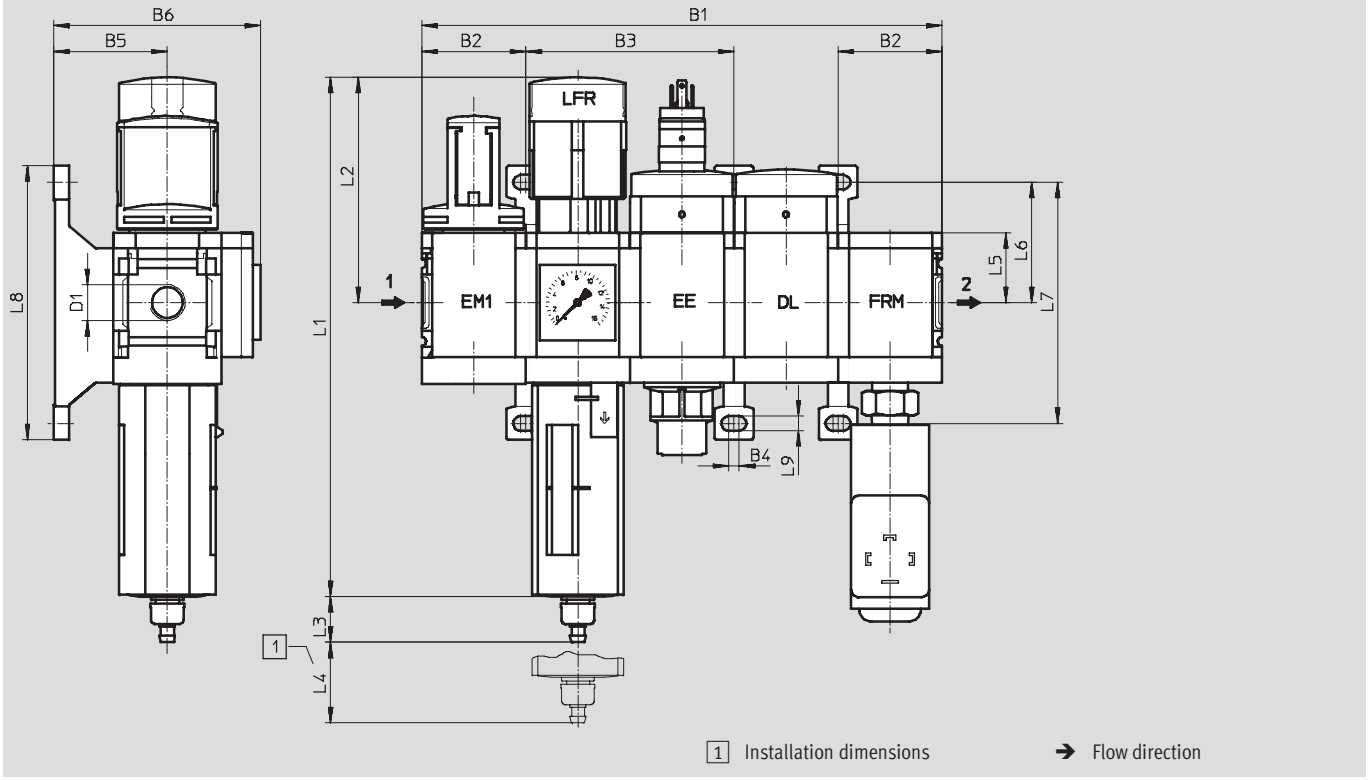


Pre-configured Combination Unit 7 – Inch Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



B1	B2	B3	B4	B5	B6	D1	L1	L2
12.20	2.44	4.88	0.18	2.13	3.94	½ NPT	11.22	5.30

L3 Bowl drain		L4	L5	L6	L7	L8	L9
manual	fully automatic						
0.62	0.73	2.68	1.54	2.80	5.59	6.22	0.26

1) Dimensions are in inches, unless otherwise noted.

Pre-configured Combination Unit 7 – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Pressure regulation range 59 ... 132 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**550503**	**MSB6N-½:C3J3D7A1F3-WP**	Q		**550499**	**MSB6N-½:C3J1D7A1F3-WP**	Q
Fully automatic	½ NPT	**550505**	**MSB6N-½:C3J4D7A1F3-WP**	Q		**550501**	**MSB6N-½:C3J2D7A1F3-WP**	Q

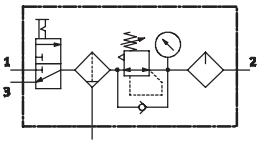
Ordering Data								
Pressure regulation range 59 ... 176 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**543584**	**MSB6N-½:C3J3D1A1F3-WP**	Q		**543572**	**MSB6N-½:C3J1D1A1F3-WP**	Q
Fully automatic	½ NPT	**543590**	**MSB6N-½:C3J4D1A1F3-WP**	Q		**543578**	**MSB6N-½:C3J2D1A1F3-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

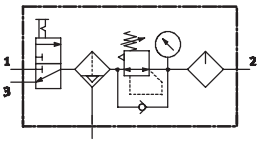
Pre-configured Combination Unit 8 – Inch Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2, 3		½ NPT
Regulating function		With primary pressure compensation
		With return flow function
		With secondary venting
		Output pressure constant
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range	[psi]	15 ... 176
Pressure indicator		With pressure gauge

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	105.9
	40 µm	109.4

Pre-configured Combination Unit 8 – Inch Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[psi]	22... 265	22 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Service unit combination	3.50
Mounting bracket	0.15

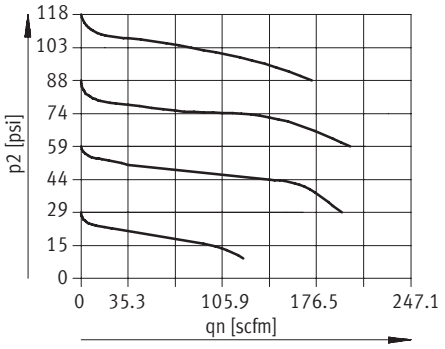
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

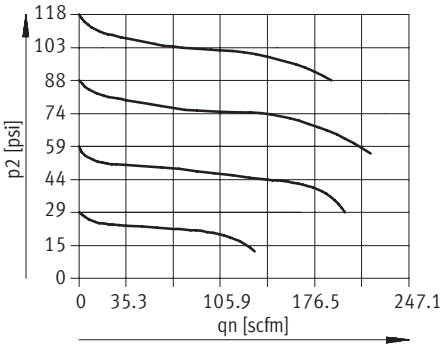
Pressure regulation range 15 ... 176 psi
MSB6N-½

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm



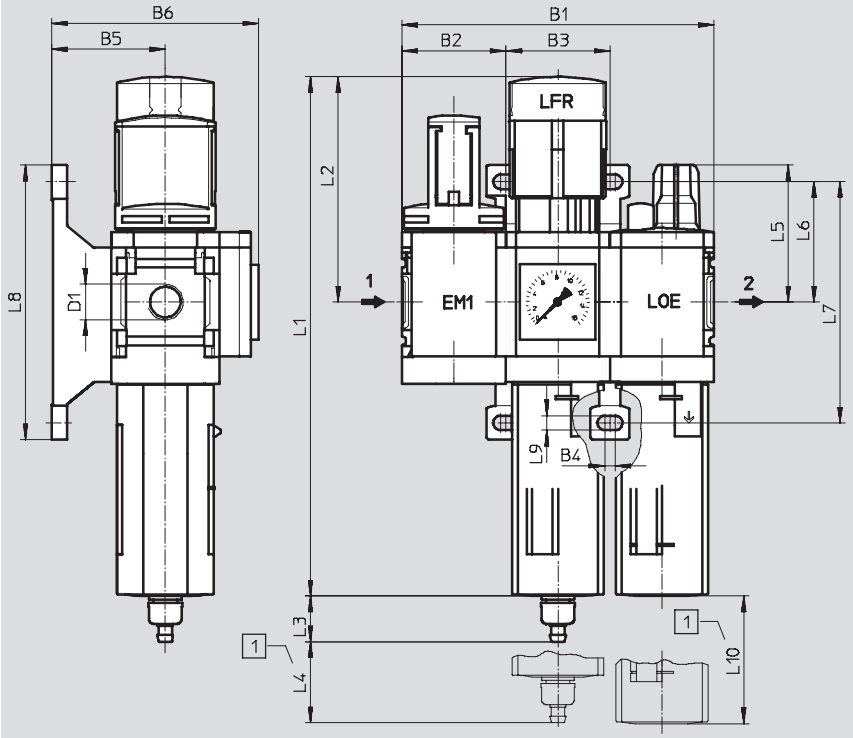
Pre-configured Combination Unit 8 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
7.32	2.44	2.44	0.18	2.13	3.94	½ NPT	11.22	5.30

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
0.62	0.73	2.68	2.60	2.80	5.59	6.22	0.26	5.12

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Pressure regulation range 15 ... 176 psi

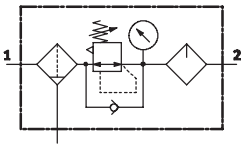
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**543588**	**MSB6N-½:C3J3M1-WP**	Q		**543576**	**MSB6N-½:C3J1M1-WP**	Q
Fully automatic	½ NPT	**543594**	**MSB6N-½:C3J4M1-WP**	Q		**543582**	**MSB6N-½:C3J2M1-WP**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

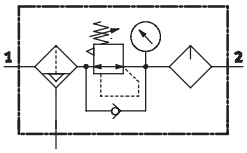
Pre-configured Combination Unit 9 – Inch Series

Technical Data

ISO Symbol



With manual bowl drain



With fully automatic bowl drain

- For filtered and lubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range



This combination consists of:

- Filter MS...-LF
- Pressure regulator MS...-LR
- Lubricator MS...-LOE
- Mounting bracket MS...-WP

General Technical Data		
Pneumatic connection 1, 2		½ NPT
Type of mounting		Via accessories
Assembly position		Vertical ±5°
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)
Bowl guard		Plastic bowl guard
Bowl drain		Manual
		Fully automatic
Pressure adjustment		Rotary knob with detent
		Lockable with accessories
Pressure regulation range N3	[psi]	15 ... 176
Pressure indicator		With pressure gauge

Standard Nominal Flow Rate qnN [scfm]		
Filtration grade	5 µm	123.6
	40 µm	123.6

Pre-configured Combination Unit 9 – Inch Series

Technical Data

Operating and Environmental Conditions			
Bowl drain		Manual	Fully automatic
Supply pressure	[psi]	22 ... 265	22 ... 176
Operating medium		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	41 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	4.00
Mounting bracket	0.15

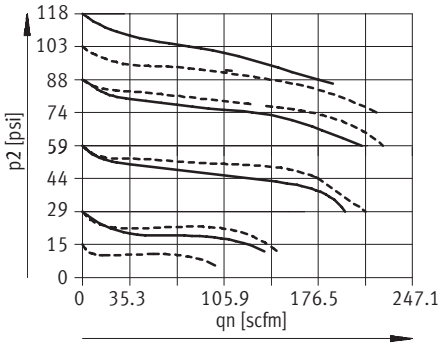
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

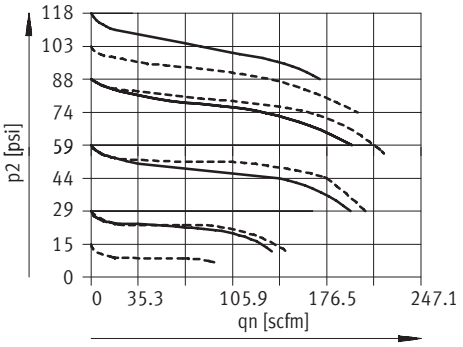
Pressure regulation range N3
MSB6N-½

Primary pressure p1 = 147 psi

Filtration grade 5 µm



Filtration grade 40 µm



------- Not available
——— N3: 15 ... 176 psi

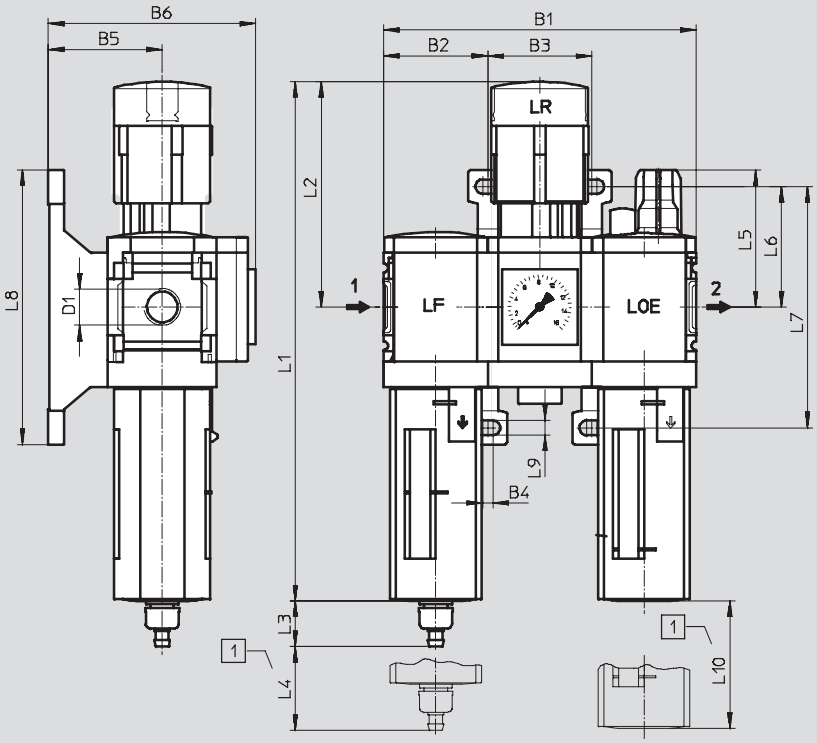
Pre-configured Combination Unit 9 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



1 Installation dimensions ➔ Flow direction

B1	B2	B3	B4	B5	B6	D1	L1	L2
7.32	2.44	2.44	0.18	2.13	3.94	½ NPT	11.22	5.30

L3 Bowl drain		L4	L5	L6	L7	L8	L9	L10
manual	fully automatic							
0.62	0.73	2.68	2.60	2.80	5.59	6.22	0.26	5.12

1) Dimensions are in inches, unless otherwise noted.

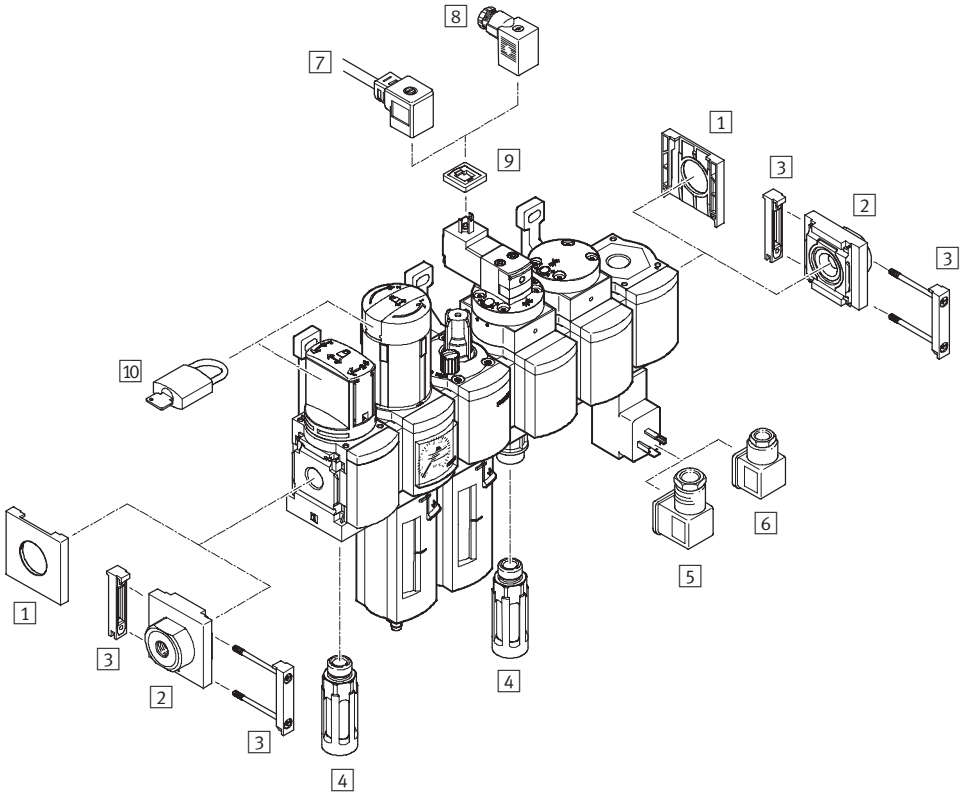
Ordering Data

Pressure regulation range 15 ... 176 psi

Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	½ NPT	**541469**	**MSB6N-½:H3N3M1-WP**	1W		**541468**	**MSB6N-½:H2N3M1-WP**	1W
Fully automatic	½ NPT	**541470**	**MSB6N-½:H4N3M1-WP**	1W		**541467**	**MSB6N-½:H1N3M1-WP**	1W

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Mounting Attachments and Accessories



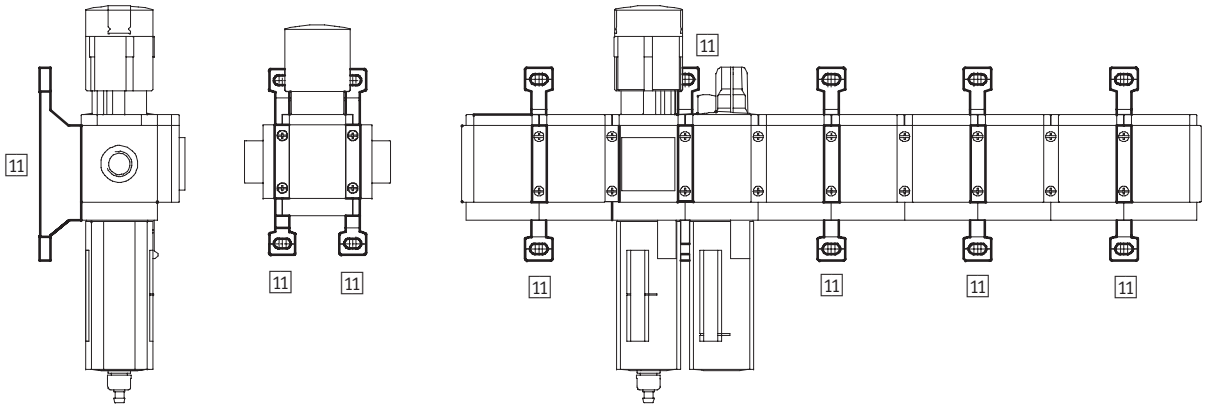
Note

The choice of accessories depends on the selected combination unit.

Range of accessories

➔ See the accessories pages of the individual devices

Single unit and combination unit mounting brackets.



Pre-configured Combination Units MSB6N – Inch Series

Accessories Overview

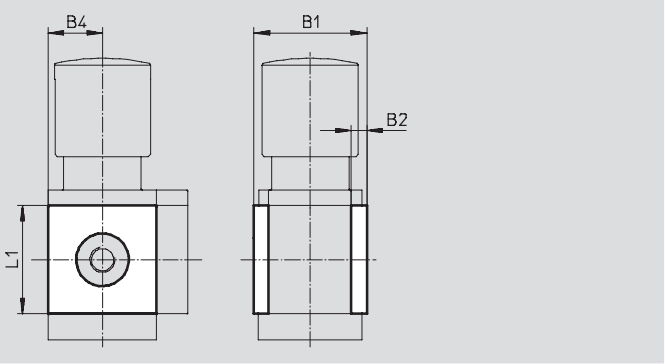
Mounting Attachments and Accessories		
		➔ Page
1	Cover cap MS6-END	561
2	Port plate MS6N-AQ...	562
3	Body connector MS6-MV	562
4	Silencer U	567
5	Angled socket PEV-¼-WD-LED	567
6	Plug socket MSSD-C-4P	567
7	Plug socket with cable KMEB	567
8	Plug socket MSSD-EB	567
9	Illuminating seal MEB-LD	567
10	Padlock LRVS-D	567
11	Mounting bracket (for service unit MSB-FRC) MS6-WP/WPB/WPM	563

1 **Cover cap MS6-END**

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

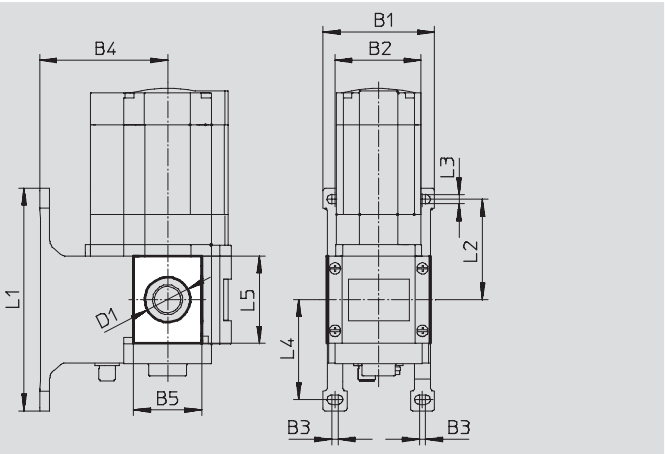
B1	B2	B4	L1	Part No.	Type
2.64	0.31	1.22	2.44	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and ordering data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	**535 408**	**MS6-AEND**

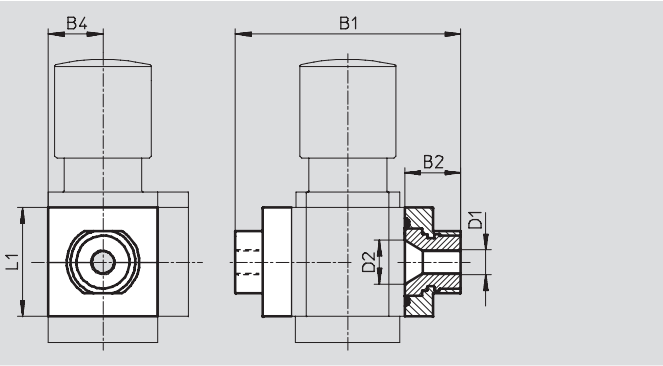
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6N-AQ...**

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection ¾ NPT

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	¼ NPT	0.94	2.44	0.60	**526076**	**MS6N-AQN**
			⅜ NPT				**526077**	**MS6N-AQP**
			½ NPT				**526078**	**MS6N-AQR**
			¾ NPT				**526079**	**MS6N-AQS**

3 **Body connector MS...-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

Weight [lb]	Part No.	Type
0.11	**532799**	**MS6-MV**

Pre-configured Combination Units MSB6N – Inch Series

Accessories

11 Mounting Bracket MS6-WP...

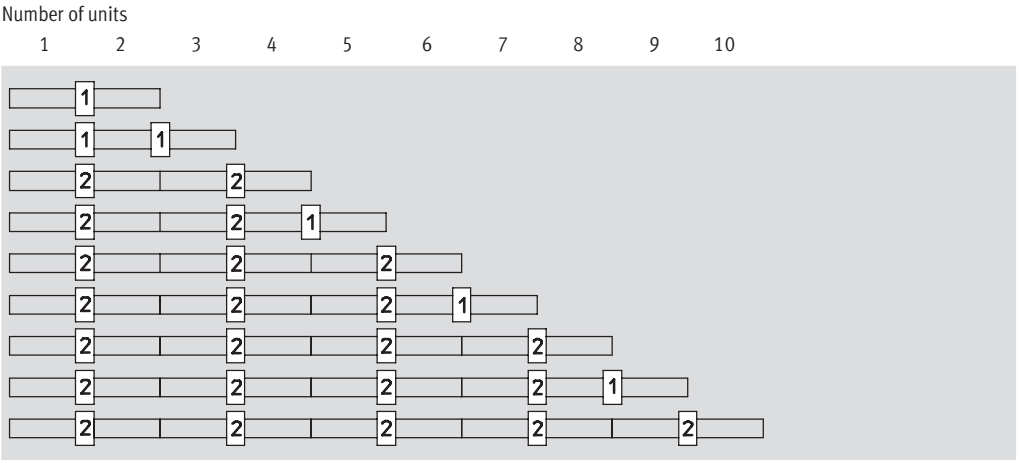
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WP, WPB
2.715 in with WPM-D

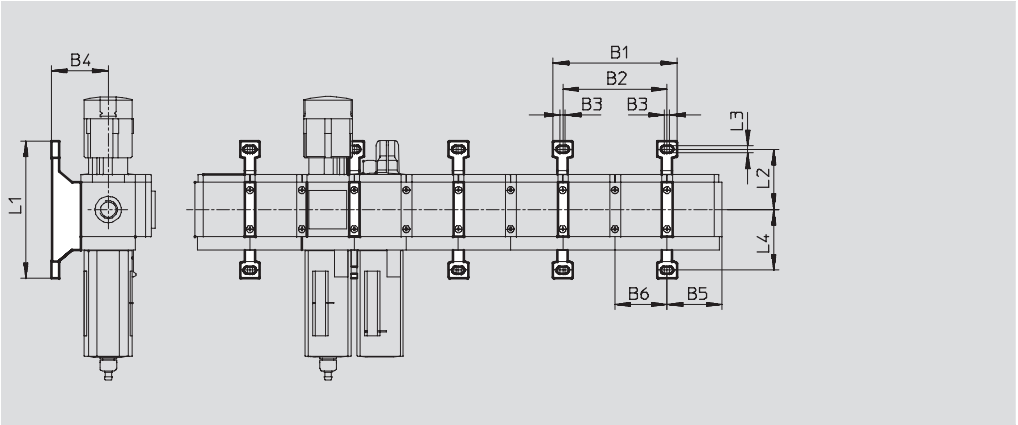
2 units: 4.88 in with WP, WPB
5.43 in with WPM-2D

1 Mounting bracket WP, WPB or WPM-D

2 Mounting bracket WP, WPB or WPM-2D



Mounting dimensions



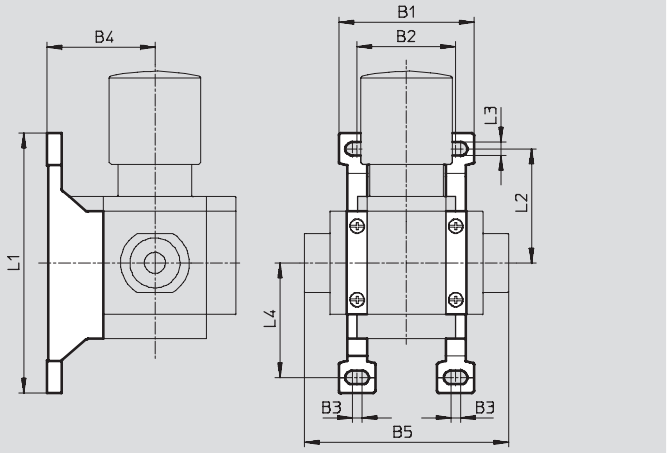
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	5.55	4.88	0.18	2.13	2.54	2.44	6.22	2.80	0.26	2.80
MS6-WPB				3.56						
MS6-WPM-...D	6.61	5.43	0.69	2.13	2.58	2.72	3.88	1.63		1.63

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

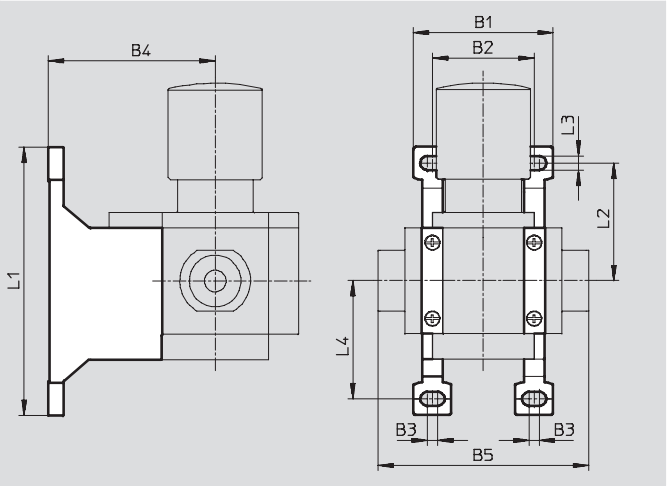
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	2.13	4.53	6.22	2.80	0.26	2.80	0.15	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	**526074**	**MS6-WPB**

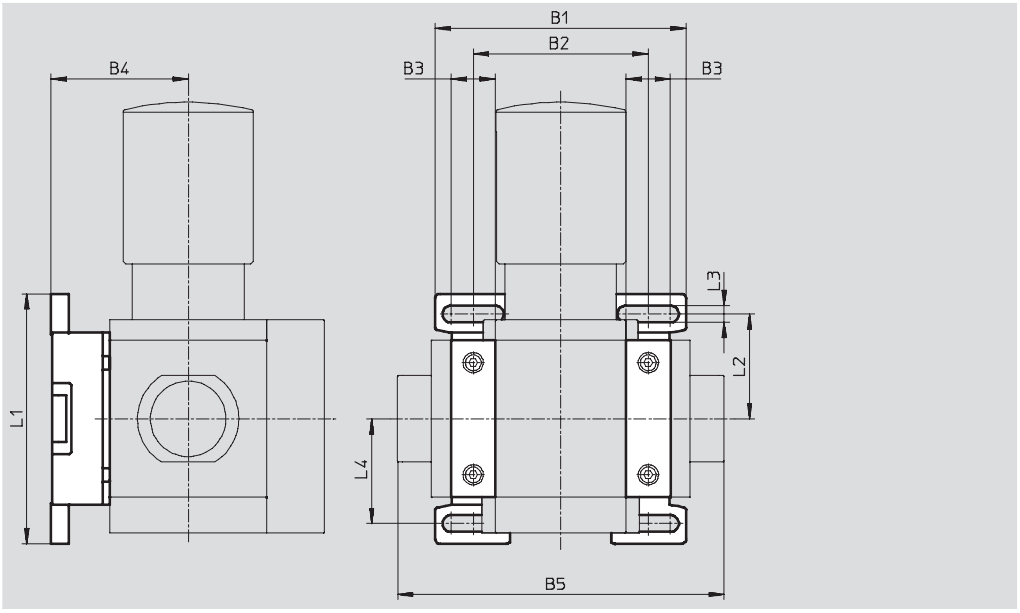
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
3.90	2.72	0.69	2.13	5.08	3.88	1.63	0.26	1.63	2.44	0.29	**526073**	**MS6-WPM-D**
6.61	5.43			7.80					4.88	0.31	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Filter cartridge MS6-LF...


MS...-LFM


MS...-LFP


MS...-LFX

Ordering Data

	Filtration grade [µm]	Part No.	Type
Micro-filter cartridge	0.01	**532909**	**MS6-LFM-A**
Fine-filter cartridge	1	**532910**	**MS6-LFM-B**
Filter cartridge	5	**534499**	**MS6-LFP-C**
Filter cartridge	40	**534500**	**MS6-LFP-E**
Active carbon filter cartridge	Residual oil content ≤ 0.003 mg/m^3	**532911**	**MS6-LFX**

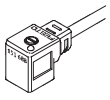
5 Ordering Data – Angled Socket PEV — Technical data ➔ www.festo.com/catalog/pev

	Description	Operating voltage range	Electrical connection	Switching status display	Part No.	Type
	for PEV-¼-...-OD	15 .... 30 V DC	4-pin	Yellow LED	**164274**	**PEV-¼-WD-LED-24**
		≤ 230 V AC ≤ 180 V DC	4-pin	Yellow LED	**164275**	**PEV-¼-WD-LED-230**

6 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for PEV-¼-...-OD	≤ 250 V AC/DC	3-pin	Clamping screws	**171157**	**MSSD-C-4P**
	for MS6N-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	**151687**	**MSSD-EB**
			4-pin	Insulation displacement technology	**192745**	**MSSD-EB-S-M14**

7 Ordering Data – Plug Socket with Cable KMEB — Technical data ➔ www.festo.com/catalog/kmeb

	Description	Operating voltage range	Switching status display	Cable length [ft]	Part No.	Type
	for MS6N-EE/DE	24 V DC	LED	8.2	**151688**	**KMEB-1-24-2,5-LED**
		24 V DC	LED	16.4	**151689**	**KMEB-1-24-5-LED**
		24 V DC	LED	32.8	**193457**	**KMEB-1-24-10-LED**
		230 V AC	–	8.2	**151690**	**KMEB-1-230AC-2,5**
		230 V AC	–	16.4	**151691**	**KMEB-1-230AC-5**

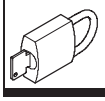
9 Ordering Data – Illuminating Seal MEB-LD — Technical data ➔ www.festo.com/catalog/meb-ld

	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	**151717**	**MEB-LD-12-24DC**
		230 V DC/AC ±10%	**151718**	**MEB-LD-230AC**

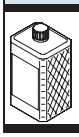
4 Ordering Data – Silencer U — Technical data ➔ www.festo.com/catalog/u

	Description	Pneumatic connection	Part No.	Type
	for MS6N-EM1/EE	½ NPT	**6844**	**U-½-B**

10 Ordering Data – Padlock LRVS-D

	Description	Weight [lb]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	0.24	**193786**	**LRVS-D**

Ordering Data – Special Oil OFSW

	Description	Scope of delivery	Part No.	Type
	for lubricators	1 liter	**152811**	**OFSW-32**

Filter Regulators MS6-LFR – Metric Series

FESTO



A filter regulator combines a filter and a pressure regulator into a single unit. The sintered filter with water separator removes contamination, pipe sinter, rust and condensate from the compressed air. The pressure setting can be adjusted with the regulator.

- Pneumatic connection: G¼, G⅜, G½, G¾
- Filtration grade: 5 µm, 40 µm
- Supply pressure
  – for manual drain: 0.8 ... 20 bar
  – for semiautomatic drain: 1.5 ... 12 bar
  – for fully automatic drain: 2 ... 12 bar
  – for fully automatic drain, electrically actuated: 0.8 ... 16 bar
- Controlled pressure range: 0.3 ... 16 bar
- Flow rate: 2,000 ... 7,200 l/min

Product Range Overview

Type	Pneumatic connections		Pressure regulation range [bar]				Filtration grade [µm]		Bowl guard		Bowl drain							Pressure indicator				Pressure adjustment		Reverse flow
	Body thread	Port plate	0.3 ... 4	0.3 ... 7	0.5 ... 12	0.5 ... 16	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G¼	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS6		AG...	D5	D6	D7	D8	C	E	R	U	M	H	V	E1	E2	E3	E4	VS	AG	A4	AD...	AS	LD	Z
LFR	G¼, G⅜, G½	G¼, G⅜, G½, G¾	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Features

- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rates
- Directly actuated diaphragm regulator
- Four pressure regulation ranges
- Modular, in-line or panel mounting
- Lockable rotary knob
- Available with or without secondary venting
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display and electric output

Contents

Technical Data	→ 570
Dimensional Drawings	→ 574
Ordering Data	→ 577
Accessories	→ 580
Replacement Parts	→ 590

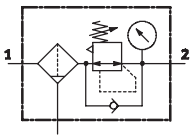
→ www.festo.com/catalog/ms6-lfr

Filter Regulators MS6-LFR – Metric Series

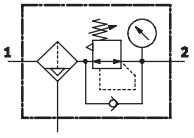
Technical Data

FESTO

ISO Symbol



Manual bowl drain



Semi or fully automatic bowl drain



General Technical Data					
Pneumatic connection 1, 2			G¼	G⅜	G½
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)		
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)		
Supply pressure	M	[bar]	0.8 ... 20 (manual drain)		
	H	[bar]	1.5 ... 12 (semiautomatic drain)		
	V	[bar]	2 ... 12 (fully automatic drain)		
	E...	[bar]	0.8 ... 16 (fully automatic drain, electrically actuated)		
Pressure regulation range	D5	[bar]	0.3 ... 4		
	D6	[bar]	0.3 ... 7		
	D7	[bar]	0.5 ... 12 (0.5 ... 10 with variant pressure sensor AD...)		
	D8	[bar]	0.5 ... 16		
Max. hysteresis		[bar]	0.25		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]				
Pneumatic connection 1, 2		G¼	G⅜	G½
D5 – Pressure regulation range 0.3 ... 4 bar				
Filtration grade	5 µm	2,000[2]	5,500[2]	6,900[2]
	40 µm	2,200[2]	6,000[2]	7,200[2]
D6 – Pressure regulation range 0.3 ... 7 bar				
Filtration grade	5 µm	2,700	5,000	5,600
	40 µm	2,800	5,700	6,200
D7 – Pressure regulation range 0.5 ... 12 bar				
Filtration grade	5 µm	2,200	3,500	4,000
	40 µm	2,500	4,000	4,500
D8 – Pressure regulation range 0.5 ... 16 bar				
Filtration grade	5 µm	2,000	3,300	3,800
	40 µm	2,300	3,500	4,000

1) Measured at p1 = 10 bar and p2 = 6 bar, Δp = 1 bar
2) Measured at p1 = 10 bar and p2 = 3 bar, Δp = 1 bar

Filter Regulators MS6-LFR – Metric Series

Technical Data

Operating and Environmental Conditions					
Bowl drain		Manual M	Semiautomatic H	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium without pressure sensor AD...		Compressed air			
Operating medium with pressure sensor AD...		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Max. condensate volume	[cm^3]	38			
Bowl guard		Plastic bowl guard			
		Metal bowl			
Ambient temperature without pressure sensor AD...	[°C]	–10 ... +60	+5 ... +60	+5 ... +60	+1 ... +60
Ambient temperature with pressure sensor AD...	[°C]	0 ... +50	+5 ... +50	+5 ... +50	+1 ... +50
Medium temperature without pressure sensor AD...	[°C]	–10 ... +60	+5 ... +60	+5 ... +60	+1 ... +60
Medium temperature with pressure sensor AD...	[°C]	0 ... +50	+5 ... +50	+5 ... +50	+1 ... +50
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	+1 ... +60
Assembly position		Vertical ±5°			
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With plastic bowl guard	875
With metal bowl	1,087
With metal bowl and fully automatic, electrically actuated bowl drain	1,800

- Wearing parts kits ➔ 590
- Filter cartridges ➔ 590
- For spare parts go to: www.festo.com/en/spare_parts_service

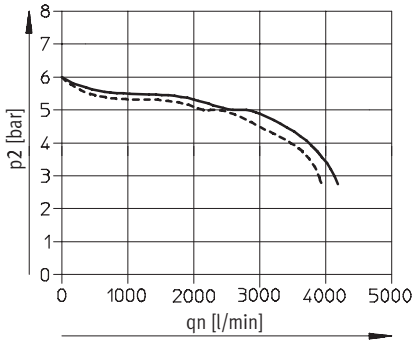
Standard Flow Rate qn as a Function of Output Pressure p2

Pressure regulation range D6 or D7

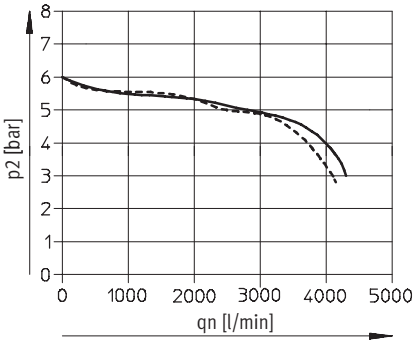
MS6-LFR-¼

Primary pressure p1 = 10 bar

Filtration grade 5 µm



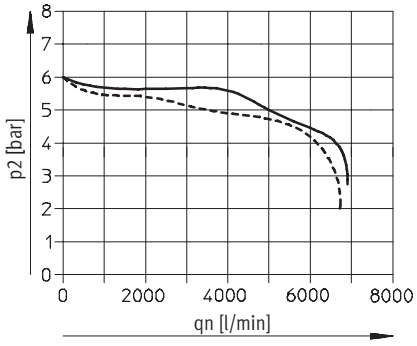
Filtration grade 40 µm

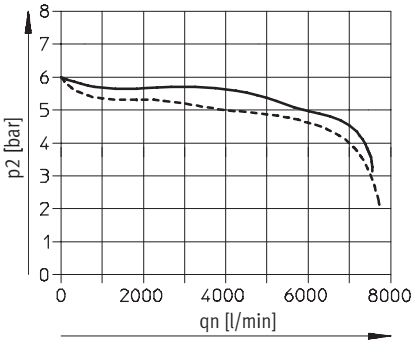


——— D6: 0.3 ... 7 bar
- - - - - - - D7: 0.5 ... 12 bar

MS6-LFR-⅜

Primary pressure p1 = 10 bar

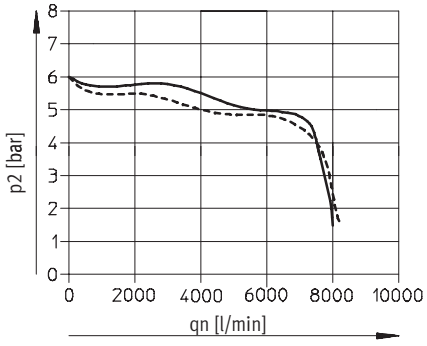


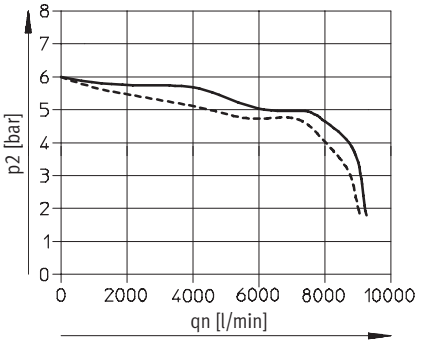


——— D6: 0.3 ... 7 bar
- - - - - - - D7: 0.5 ... 12 bar

MS6-LFR-½

Primary pressure p1 = 10 bar

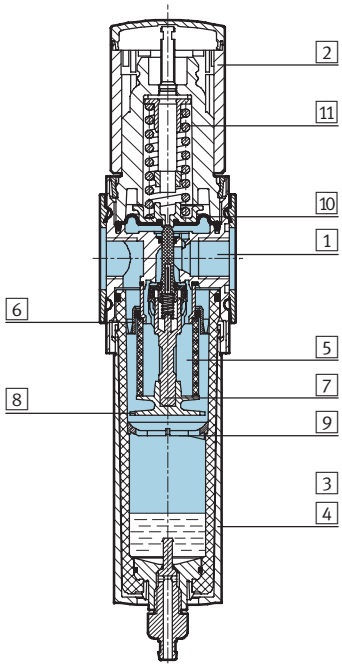




——— D6: 0.3 ... 7 bar
- - - - - - - D7: 0.5 ... 12 bar

Materials

Sectional view



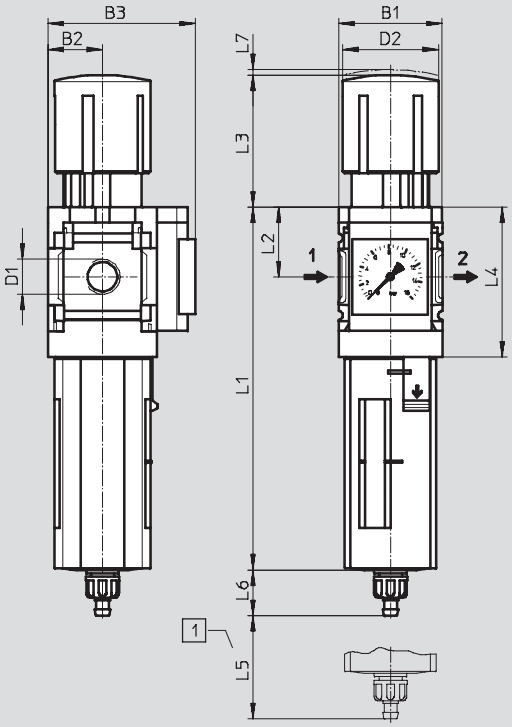
Filter regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Plastic bowl guard	Polycarbonate/polyamide
4	Metal bowl	Aluminum
	Viewing window	Polyamide
5	Filter element	Polyethylene
6	Spin disk	Polyacetate
7	Filter holder	Polyacetate
8	Separating plate	Polyacetate
9	Stabilizing disk	Polyacetate
10	Diaphragm	Nitrile rubber
11	Spring	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Filter Regulators MS6-LFR – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar], rotary knob as standard, manual bowl drain



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	D2	L1 Bowl guard		L2	L3	L4	L5	L6 Bowl guard		L7
						Plastic	Metal					Plastic	Metal	
MS6-LFR-¼	62	31	77	G¼	51	189	194.4	39	86	84	68	15.8	19	5
MS6-LFR-⅜				G⅜										
MS6-LFR-½				G½										

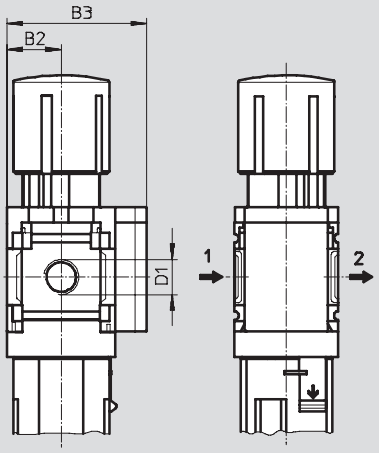
1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Pressure Gauge Alternatives

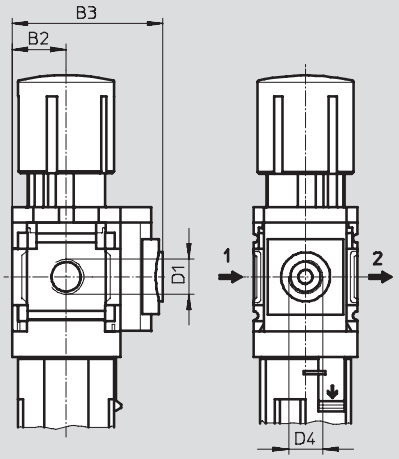
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

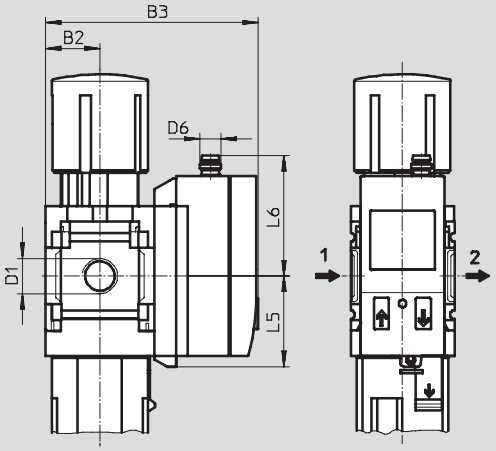
Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS6-LFR-¼-...-VS	31	76	G¼	–	–	–	–
MS6-LFR-⅜-...-VS			G⅜				
MS6-LFR-½-...-VS			G½				
MS6-LFR-¼-...-A4	31	78.5	G¼	G¼	–	–	–
MS6-LFR-⅜-...-A4			G⅜				
MS6-LFR-½-...-A4			G½				
MS6-LFR-¼-...-AD1/AD2	31	103	G¼	–	M8x1	35.1	46.7
MS6-LFR-⅜-...-AD1/AD2			G⅜				
MS6-LFR-½-...-AD1/AD2			G½				
MS6-LFR-¼-...-AD3/AD4	31	103	G¼	–	M12x1	35.1	55.8
MS6-LFR-⅜-...-AD3/AD4			G⅜				
MS6-LFR-½-...-AD3/AD4			G½				

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

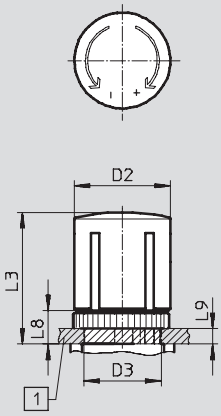
Filter Regulators MS6-LFR – Metric Series

Dimensional Drawings

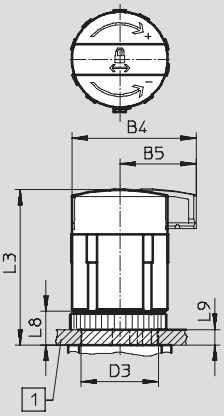
Dimensions[1] – Rotary Knob Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

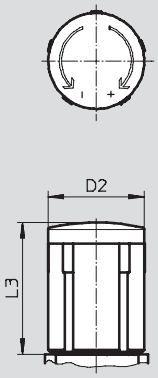


Standard, lockable AS

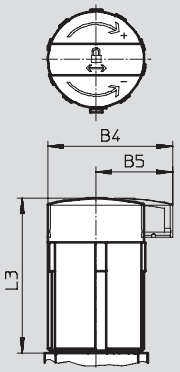


1 Max. control panel thickness

Long LD



Long, lockable LD-AS

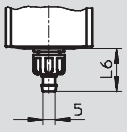


Type	B4	B5	D2	D3 +1	L3	L8	L9
MS6-LFR-...	–	–	51	44	86	22	14
MS6-LFR-...-AS	67.7	42			95.5		
MS6-LFR-...-LD	–	–	51	–	86	–	–
MS6-LFR-...-LD-AS	67.7	42			95.5		

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

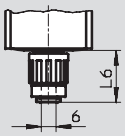
Manual M



Barbed fitting for plastic tubing PCN-4

Type	L6
Plastic bowl guard	
MS6-LFR-...-M	15.8
Metal bowl	
MS6-LFR-...-M	19

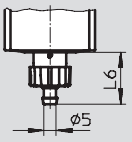
Semiautomatic H



QS fitting for plastic tubing PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS6-LFR-...-H	20.2
Metal bowl	
MS6-LFR-...-H	22.8

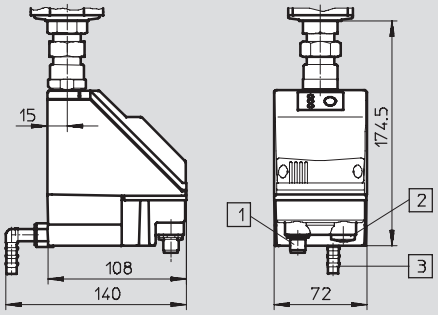
Fully automatic V



Barbed fitting for plastic tubing PCN-4

Type	L6
Plastic bowl guard	
MS6-LFR-...-V	18.5
Metal bowl	
MS6-LFR-...-V	22

Fully automatic, electrically actuated E1 ... E4 Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...

2 Variant E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9

3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

Filter Regulators MS6-LFR – Metric Series

Ordering Data – Pre-configured Products

FESTO

Ordering Data								
Pressure regulation range 0.3 ... 7 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**529196**	**MS6-LFR-¼-D6-CRM-AS**	1D		**529200**	**MS6-LFR-¼-D6-ERM-AS**	1D
	G⅜	**529216**	**MS6-LFR-⅜-D6-CRM-AS**	1D		**529220**	**MS6-LFR-⅜-D6-ERM-AS**	1D
	G½	**529176**	**MS6-LFR-½-D6-CRM-AS**	1D		**529180**	**MS6-LFR-½-D6-ERM-AS**	1D
Fully automatic	G¼	**529198**	**MS6-LFR-¼-D6-CRV-AS**	1D		**529202**	**MS6-LFR-¼-D6-ERV-AS**	1D
	G⅜	**529218**	**MS6-LFR-⅜-D6-CRV-AS**	1D		**529222**	**MS6-LFR-⅜-D6-ERV-AS**	1D
	G½	**529178**	**MS6-LFR-½-D6-CRV-AS**	1D		**529182**	**MS6-LFR-½-D6-ERV-AS**	1D

Ordering Data								
Pressure regulation range 0.5 ... 12 bar								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**529204**	**MS6-LFR-¼-D7-CRM-AS**	1D		**529208**	**MS6-LFR-¼-D7-ERM-AS**	1D
	G⅜	**529224**	**MS6-LFR-⅜-D7-CRM-AS**	1D		**529228**	**MS6-LFR-⅜-D7-ERM-AS**	1D
	G½	**529184**	**MS6-LFR-½-D7-CRM-AS**	1D		**529188**	**MS6-LFR-½-D7-ERM-AS**	1D
Fully automatic	G¼	**529206**	**MS6-LFR-¼-D7-CRV-AS**	1D		**529210**	**MS6-LFR-¼-D7-ERV-AS**	1D
	G⅜	**529226**	**MS6-LFR-⅜-D7-CRV-AS**	1D		**529230**	**MS6-LFR-⅜-D7-ERV-AS**	1D
	G½	**529186**	**MS6-LFR-½-D7-CRV-AS**	1D		**529190**	**MS6-LFR-½-D7-ERV-AS**	1D
Metal bowl								
Manual	G¼	**530342**	**MS6-LFR-¼-D7-CUM-AS**	Q		**529212**	**MS6-LFR-¼-D7-EUM-AS**	Q
	G⅜	**530346**	**MS6-LFR-⅜-D7-CUM-AS**	Q		**529232**	**MS6-LFR-⅜-D7-EUM-AS**	Q
	G½	**530338**	**MS6-LFR-½-D7-CUM-AS**	Q		**529192**	**MS6-LFR-½-D7-EUM-AS**	Q
Fully automatic	G¼	**530344**	**MS6-LFR-¼-D7-CUV-AS**	Q		**529214**	**MS6-LFR-¼-D7-EUV-AS**	Q
	G⅜	**530348**	**MS6-LFR-⅜-D7-CUV-AS**	Q		**529234**	**MS6-LFR-⅜-D7-EUV-AS**	Q
	G½	**530340**	**MS6-LFR-½-D7-CUV-AS**	Q		**529194**	**MS6-LFR-½-D7-EUV-AS**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Filter Regulators MS6-LFR – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data ➔

Part No.	Series	Size		Function		Connection size		Pressure regulation range		Filtration grade		Bowl
526490	MS	6		LFR		¼, ⅜, ½, AGB, AGC, AGD, AGE		D5 D6 D7 D8		E C		R U
Order example												
526490	**MS**	**6**	–	**LFR**	–	**AGB**	–	**D6**	–	**C**	–	**R**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**526490**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Function	Filter regulator		**-LFR**		-LFR
	Connection size	Body thread G¼		**-¼**		
		Body thread G⅜		**-⅜**		
		Body thread G½		**-½**		
		Port plate G¼ (dimensions ➔ 585)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 585)		**-AGC**		
		Port plate G½ (dimensions ➔ 585)		**-AGD**		
		Port plate G¾ (dimensions ➔ 585)		**-AGE**		
	Pressure regulation range	0.3 ... 4 bar		**-D5**		
		0.3 ... 7 bar		**-D6**		
		0.5 ... 12 bar		**-D7**		
		0.5 ... 16 bar		**-D8**		
	Filtration grade	40 µm		**-E**		
		5 µm		**-C**		
	Bowl	Plastic bowl with plastic bowl guard		**-R**		
↓		Metal bowl		**-U**		

Transfer order code

526490	**MS**	**6**	–	**LFR**	–		–		–		–	

Filter Regulators MS6-LFR – Metric Series

Ordering Data – Configurable Products

FESTO

→ M	O Options

	Bowl drain		Pressure gauge alternatives		Alternative pressure gauge scale		Secondary venting		Rotary knob		Security		Type of mounting		Reverse flow direction
	M H V E1 E2 E3 E4		VS A4 AD1 AD2 AD3 AD4		PSI MPA		OS		LD		AS		WR WP WPM WB		Z
–	**M**	–	**A4**	–		–		–	**LD**	–	**AS**	–	**WPM**	–	**Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
↓	Bowl drain	Manual		**-M**		
M		Semiautomatic (P1 max. 12 bar)	1	**-H**		
		Fully automatic (P1 max. 12 bar)	1	**-V**		
	External, fully-automatic, electrical	24 V DC, M12	2	**-E1**		
		110 V AC, terminals	2	**-E2**		
		230 V AC, terminals	2	**-E3**		
		24 V DC, terminals	2	**-E4**		
O	Pressure gauge alternatives	Cover plate		**-VS**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	3	**-AD1**		
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	3	**-AD2**		
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	3	**-AD3**		
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	3	**-AD4**		
	Alternative pressure gauge scale	psi	4	**-PSI**		
		MPa	4	**-MPA**		
	Secondary venting	Without secondary venting		**-OS**		
	Rotary knob	Long rotary knob		**-LD**		
	Security	Lockable rotary knob		**-AS**		
	Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions → 583)	5	**-WR**		
		Mounting bracket (dimensions → 586)	6	**-WP**		
		Mounting bracket (dimensions → 586)	6	**-WPM**		
		Mounting bracket (dimensions → 582)		**-WB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **H, V** Not with pressure regulation range D8

2 **E1 ... E4** Only with metal bowl U

3 **AD1 ... AD4** Measuring range max. 10 bar. Not with pressure regulation range D8

4 **PSI, MPA** Not with pressure gauge alternatives VS, A4, AD1, AD2, AD3, AD4

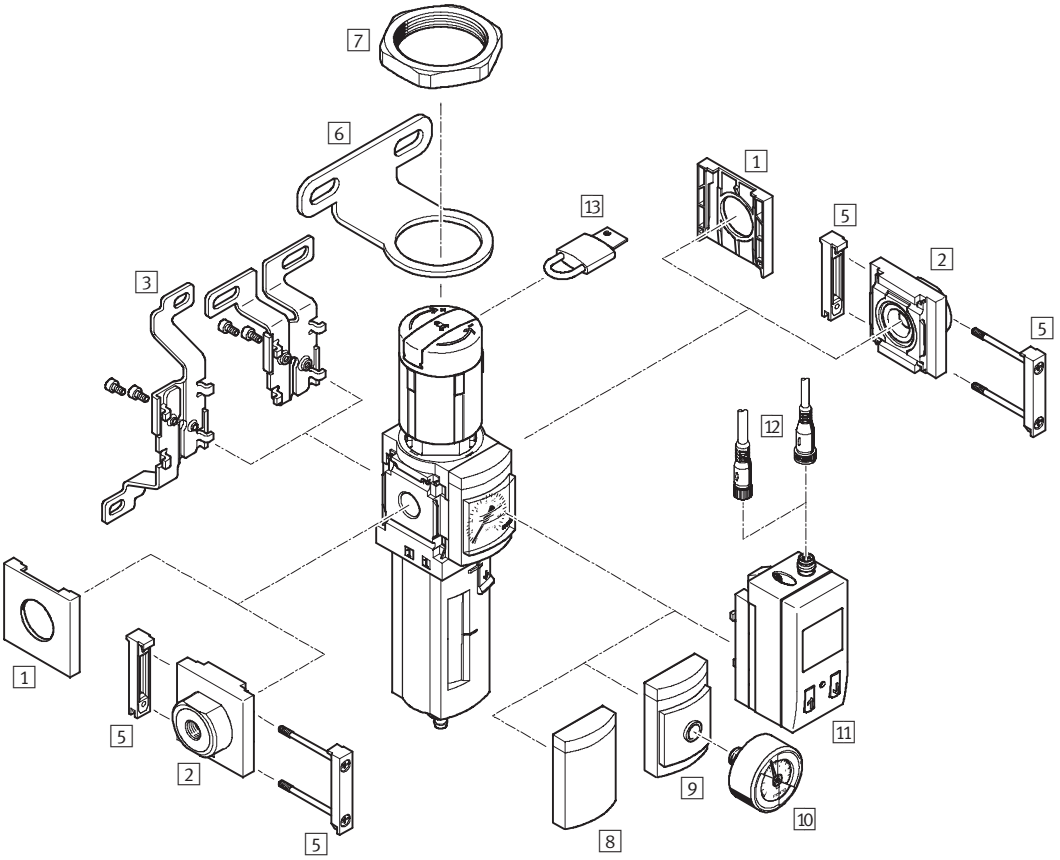
5 **WR** Not with long rotary knob LD

6 **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

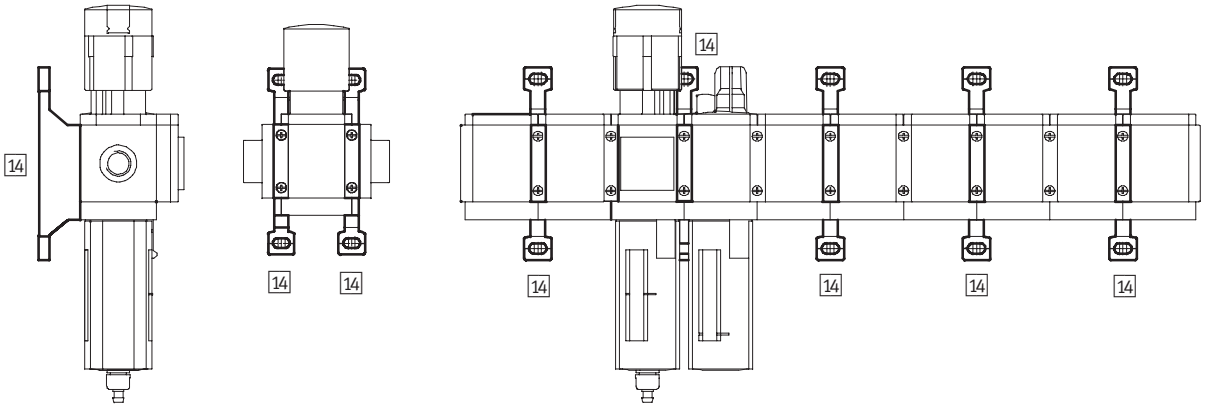
Transfer order code

–		–		–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Filter Regulators MS6-LFR – Metric Series

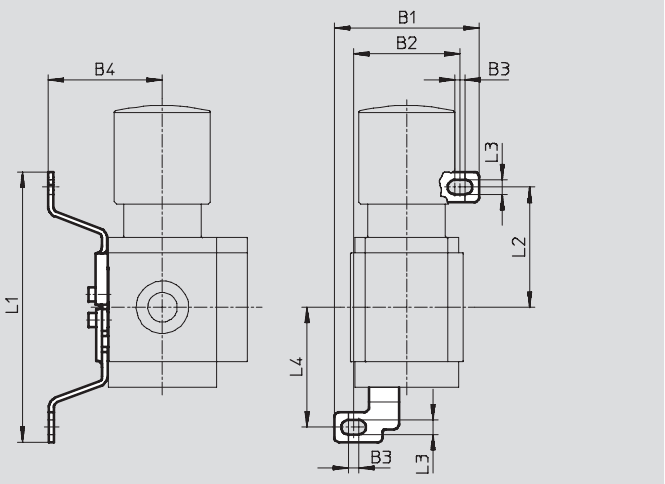
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	584
2	Port plate MS6-AG...	–	■	–	■	585
3	Mounting bracket MS6-WB	■	■	–	–	582
5	Body connector MS6-MV	–	■	■	■	585
6	Regulator wall bracket MS6-WR	■	■	–	–	583
7	Hex nut MS6-WRS	■	■	■	■	583
8	Cover plate VS	■	■	■	■	578
9	Adapter for EN pressure gauge ¼ A4	■	■	■	■	578
10	Pressure gauge MA	■	■	■	■	589
11	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	578
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	589
13	Padlock LRVS-D	■	■	■	■	589
14	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	586

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

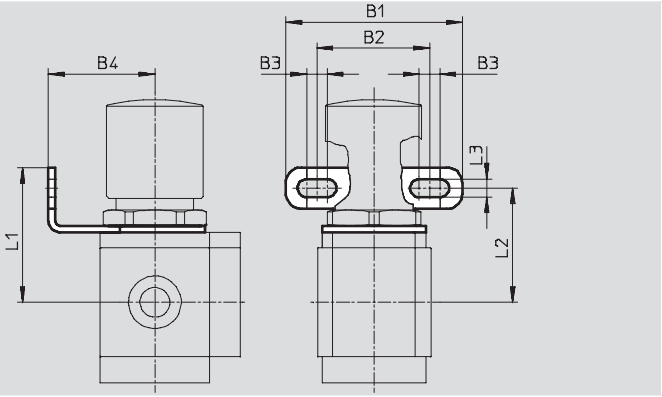
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
79.4	61.9	4.5	55	157.6	71	6.6	71	121	**532196**	**MS6-WB**

6 **Mounting bracket MS6-WR**
- For wall mounting a filter regulator and pressure regulator

Material:
Steel

Note
The hex nut for attaching components to this bracket must be ordered separately.





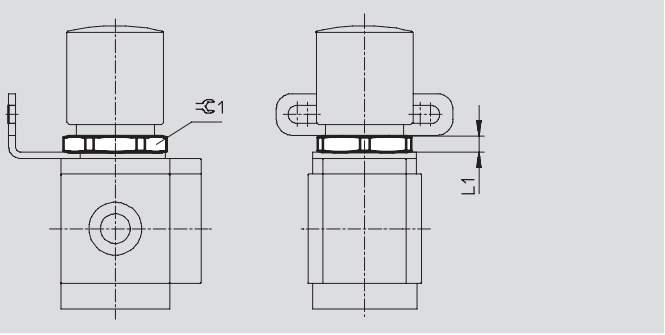
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
70	42	8.2	40	67	57	7.1	90	**526075**	**MS6-WR**

7 **Hex nut MS6-WRS**
- For front panel mounting
- For attaching components to the mounting bracket MS...-WR

Material:
Aluminum





Dimensions and Ordering Data

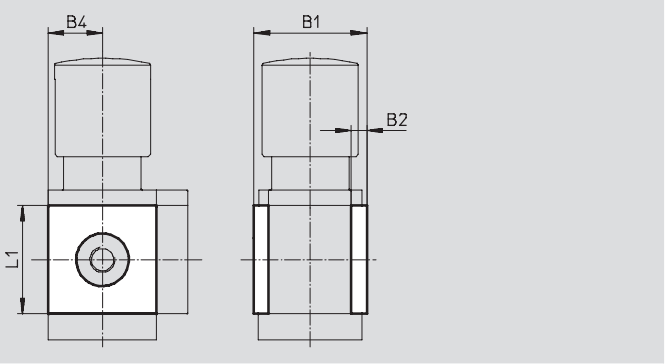
L1	⌀1	Weight [g]	Part No.	Type
7	55	20.9	**532188**	**MS6-WRS**

1 **Cover cap MS6-END**

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

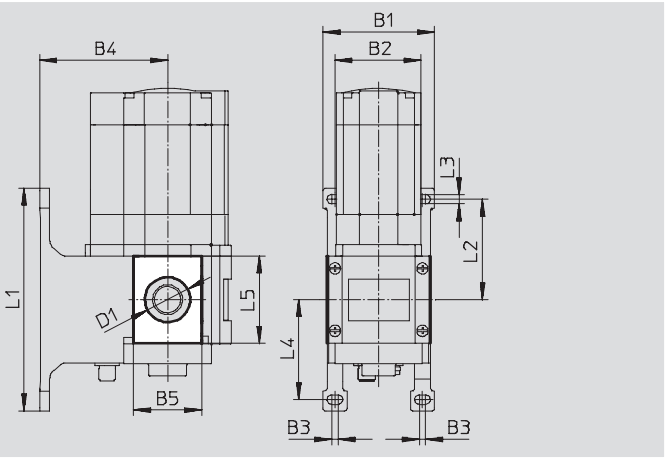
B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

Mounting plate MS6-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

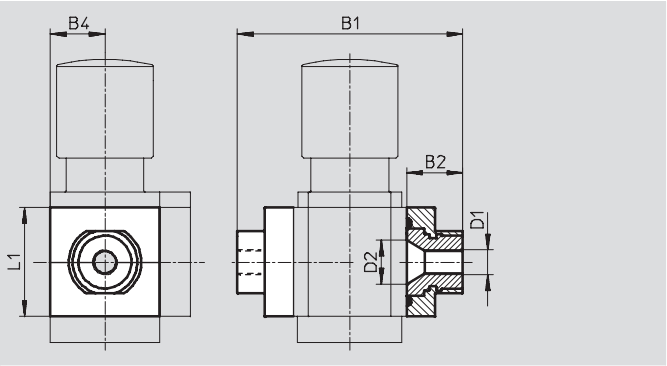
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6-AG...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G¾

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

5 **Body connector MS...-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

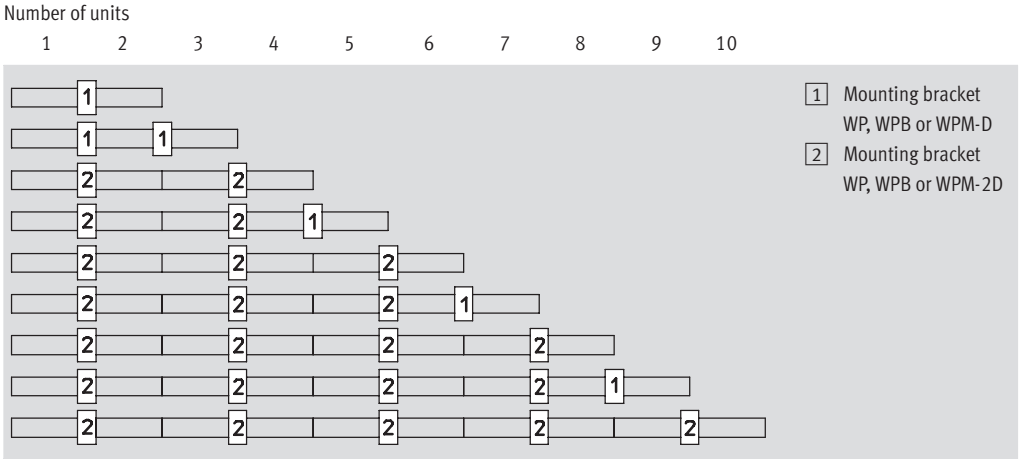
Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

14 Mounting Bracket MS6-WP...

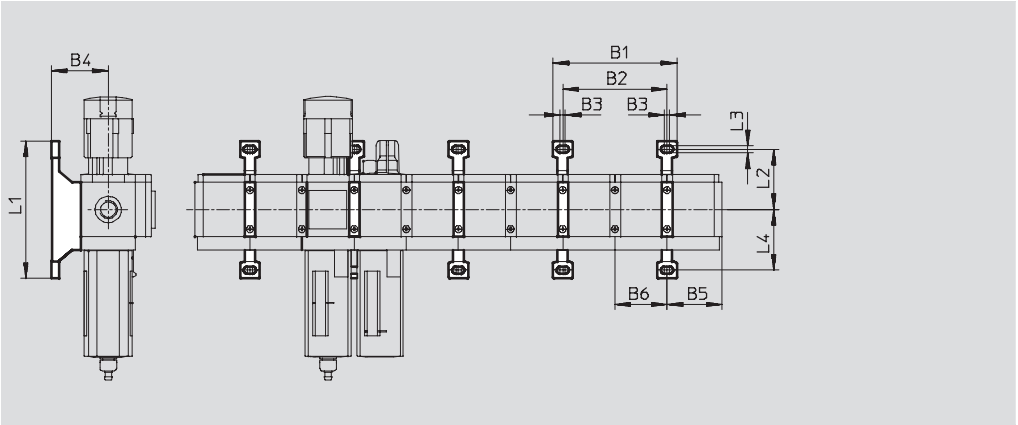
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WP, WPB
69 mm with WPM-D

2 units: 124 mm with WP, WPB
138 mm with WPM-2D



Mounting dimensions



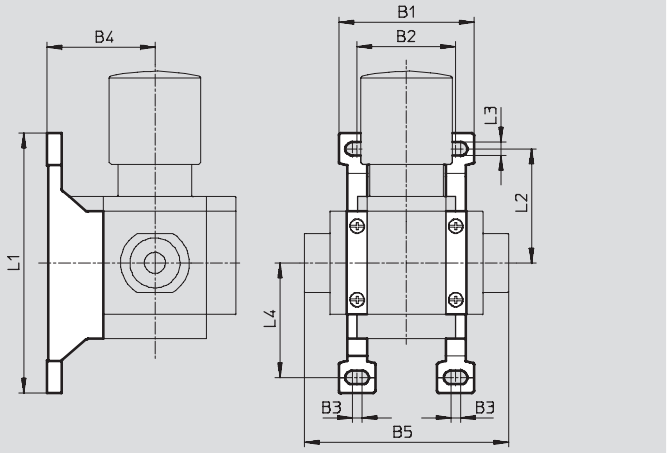
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

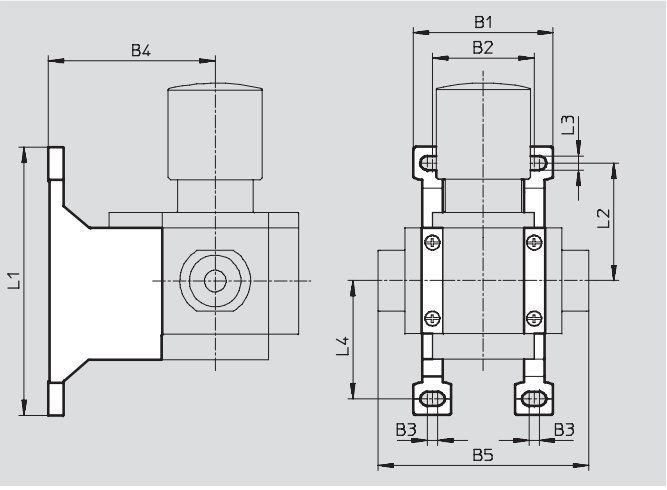
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	54	115	158	71	6.6	71	76	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

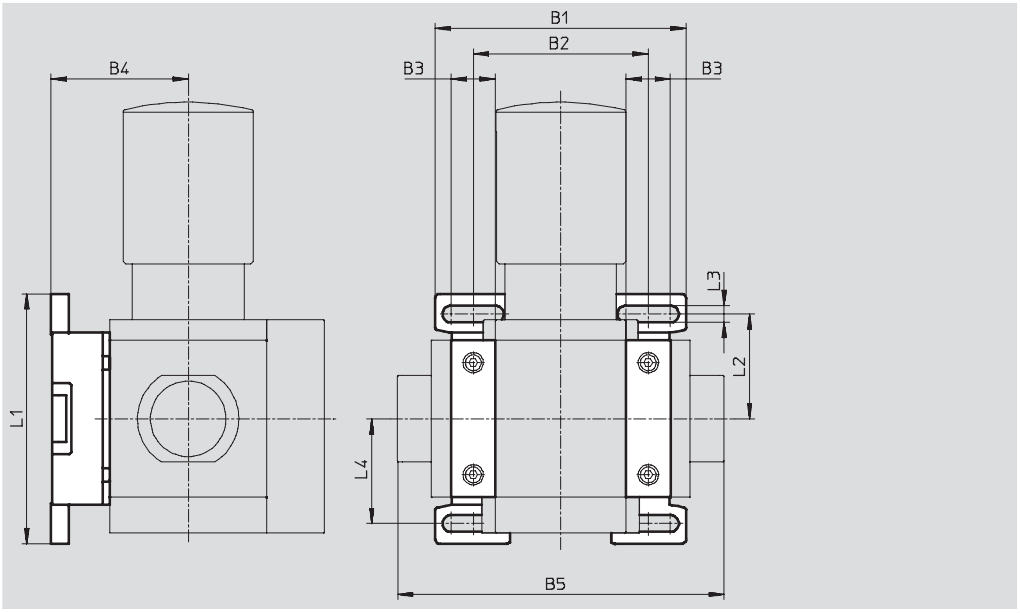
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	**526073**	**MS6-WPM-D**
168	138			198					124	154	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



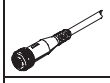
Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

11 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [m]	Part No.	Type
	M8x1, 3-pin	2.5	**159420**	**SIM-M8-3GD-2,5-PU**
		5	**159421**	**SIM-M8-3GD-5-PU**
		10	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	2.5	**159422**	**SIM-M8-3WD-2,5-PU**
		5	**159423**	**SIM-M8-3WD-5-PU**
		10	**192965**	**SIM-M8-3WD-10-PU**

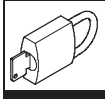
11 Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 4-pin	5	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	5	**164258**	**SIM-M12-4WD-5-PU**

10 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

13 Ordering Data – Padlock LRVS-D

	Description	Weight [g]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	120	**193786**	**LRVS-D**

Filter Regulators MS6-LFR – Metric Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS6	Snap-ring, membrane, bellows, O-rings, screws, stem	**673648**	**MS6-LFR**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS6	5	**534499**	**MS6-LFP-C**
	40	**534500**	**MS6-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Filter Regulators MS6N-LFR – Inch Series

FESTO



A filter regulator combines a filter and a pressure regulator into a single unit. The sintered filter with water separator removes contamination, pipe sinter, rust and condensate from the compressed air. The pressure setting can be adjusted with the regulator.

- Pneumatic connection: ¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT
- Filtration grade: 5 µm, 40 µm
- Supply pressure
  – for manual drain: 12 … 294 psi
  – for semiautomatic drain: 22 … 176 psi
  – for fully automatic drain: 29 … 176 psi
  – for fully automatic drain, electrically actuated: 12 … 235 psi
- Controlled pressure range: 4.4 … 235 psi
- Flow rate: 70.6 … 254.2 scfm

Product Range Overview

Type	Pneumatic connections		Pressure regulation range [psi]				Filtration grade [µm]		Bowl guard		Bowl drain							Pressure indicator				Pressure adjustment		Reverse flow
	Body thread	Port plate	4.4 … 59	4.4 … 103	7.4 … 176	7.4 … 235	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge ¼ NPT	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS6N		**AG…**	**D5**	**D6**	**D7**	**D8**	**C**	**E**	**R**	**U**	**M**	**H**	**V**	**E1**	**E2**	**E3**	**E4**	**VS**	**AG**	**A4**	**AD…**	**AS**	**LD**	**Z**
LFR	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Features

- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rates
- Directly actuated diaphragm regulator
- Four pressure regulation ranges
- Modular, in-line or panel mounting
- Lockable rotary knob
- Available with or without secondary venting
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display and electric output

Contents

Technical Data	→ 592
Dimensional Drawings	→ 596
Ordering Data	→ 599
Accessories	→ 602
Replacement Parts	→ 612

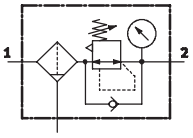
→ www.festo.com/catalog/ms6n-lfr

Filter Regulators MS6N-LFR – Inch Series

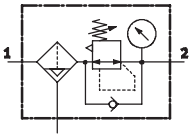
Technical Data

FESTO

ISO Symbol



Manual bowl drain



Semi or fully automatic bowl drain



General Technical Data					
Pneumatic connection 1, 2			¼ NPT	⅜ NPT	½ NPT
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)		
		[µm]	40 (air purity class at the output 5.7.– to DIN ISO 8573-1)		
Supply pressure	M	[psi]	12 ... 294 (manual drain)		
	H	[psi]	22 ... 176 (semiautomatic drain)		
	V	[psi]	29 ... 176 (fully automatic drain)		
	E...	[psi]	12 ... 235 (fully automatic drain, electrically actuated)		
Pressure regulation range	D5	[psi]	4.4 ... 59		
	D6	[psi]	4.4 ... 103		
	D7	[psi]	7.4 ... 176 (7.4 ... 147 with variant pressure sensor AD...)		
	D8	[psi]	7.4 ... 235		
Max. hysteresis		[psi]	3.7		

Standard Nominal Flow Rate qnN[1] [scfm]				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
D5 – Pressure regulation range 4.4 ... 59 psi				
Filtration grade	5 µm	70.6[2]	194.2[2]	243.6[2]
	40 µm	77.7[2]	211.8[2]	254.2[2]
D6 – Pressure regulation range 4.4 ... 103 psi				
Filtration grade	5 µm	95.3	176.5	197.7
	40 µm	98.8	201.2	218.9
D7 – Pressure regulation range 7.4 ... 176 psi				
Filtration grade	5 µm	77.7	123.6	141.2
	40 µm	88.3	141.2	158.9
D8 – Pressure regulation range 7.4 ... 235 psi				
Filtration grade	5 µm	70.6	116.5	134.1
	40 µm	81.2	123.6	141.2

1) Measured at p1 = 147 psi and p2 = 88 psi, Δp = 15 psi
2) Measured at p1 = 147 psi and p2 = 44 psi, Δp = 15 psi

Filter Regulators MS6N-LFR – Inch Series

Technical Data

Operating and Environmental Conditions					
Bowl drain		Manual M	Semiautomatic H	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium without pressure sensor AD...		Compressed air			
Operating medium with pressure sensor AD...		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm			
Max. condensate volume	[in^3]	2.32			
Bowl guard		Plastic bowl guard			
		Metal bowl			
Ambient temperature without pressure sensor AD...	[°F]	14 ... 140	41 ... 140	41 ... 140	34 ... 140
Ambient temperature with pressure sensor AD...	[°F]	32 ... 122	41 ... 122	41 ... 122	34 ... 122
Medium temperature without pressure sensor AD...	[°F]	14 ... 140	41 ... 140	41 ... 140	34 ... 140
Medium temperature with pressure sensor AD...	[°F]	32 ... 122	41 ... 122	41 ... 122	34 ... 122
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140	34 ... 140
Assembly position		Vertical ±5°			
Corrosion resistance	CRC[1)]	2			

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	1.75
With metal bowl	2.17
With metal bowl and fully automatic, electrically actuated bowl drain	3.60

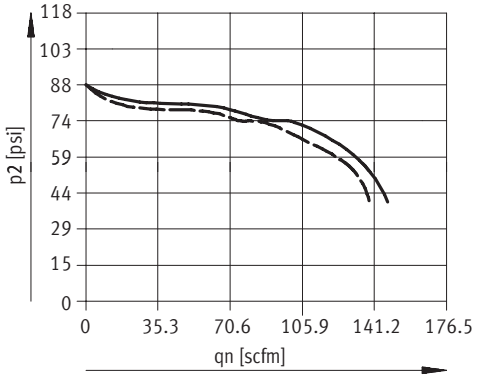
- Wearing parts kits ➔ 612
- Filter cartridges ➔ 612
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

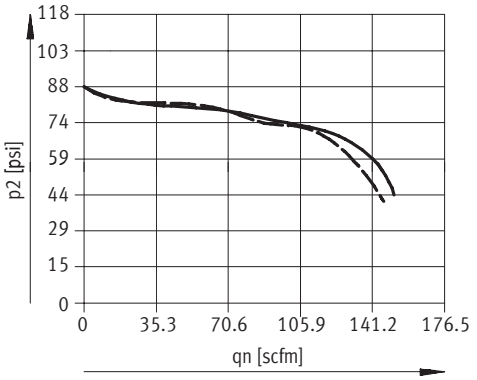
Pressure regulation range D6 or D7

MS6N-LFR-¼

Primary pressure p1 = 147 psi



Filtration grade 5 µm

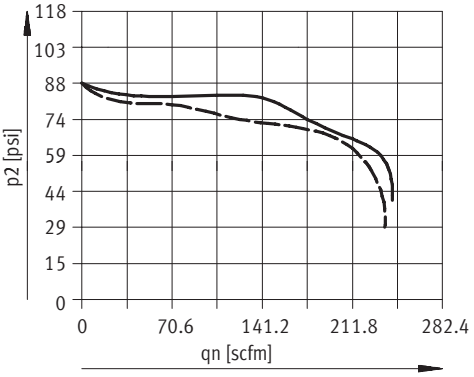


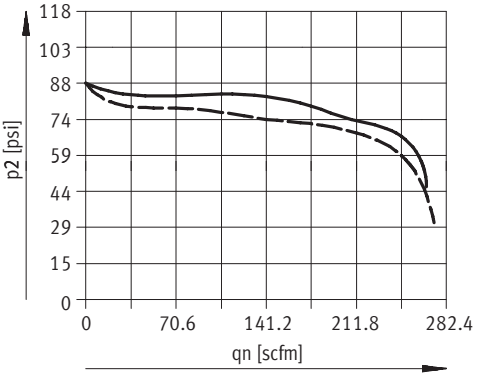
Filtration grade 40 µm

D6: 4.4 ... 103 psi
D7: 7.4 ... 176 psi

MS6N-LFR-⅜

Primary pressure p1 = 147 psi

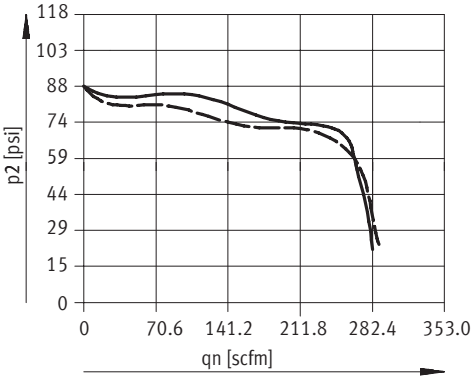


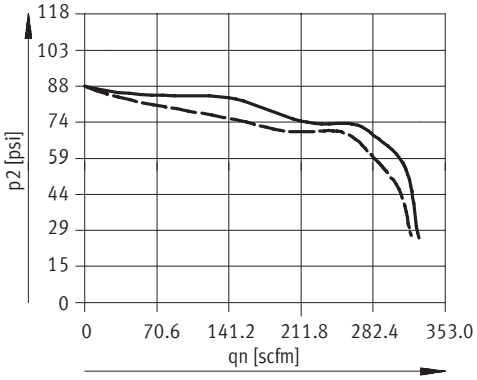


D6: 4.4 ... 103 psi
D7: 7.4 ... 176 psi

MS6N-LFR-½

Primary pressure p1 = 147 psi

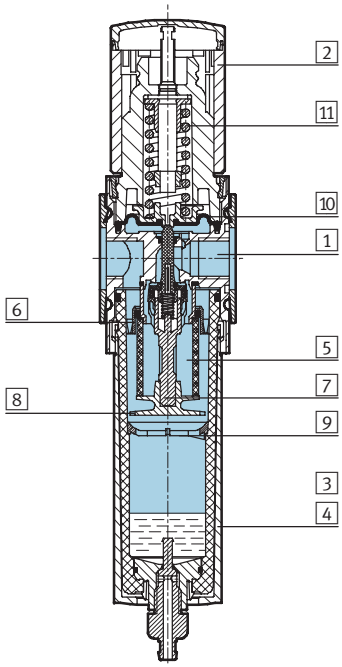




D6: 4.4 ... 103 psi
D7: 7.4 ... 176 psi

Materials

Sectional view



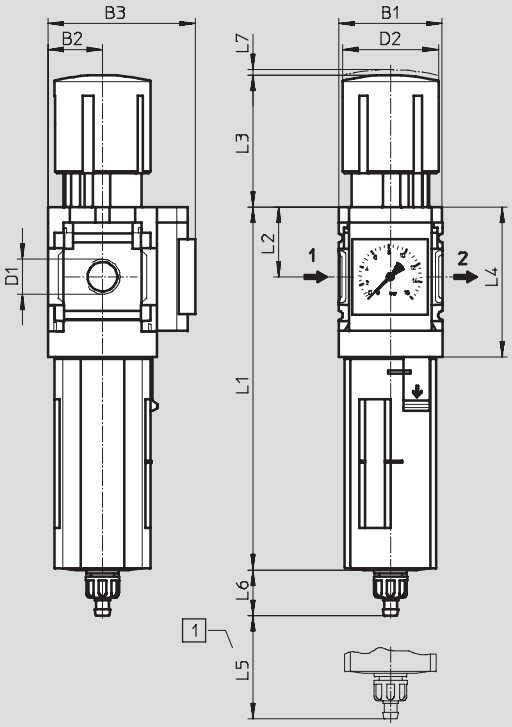
Filter regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Plastic bowl guard	Polycarbonate/polyamide
4	Metal bowl	Aluminum
	Viewing window	Polyamide
5	Filter element	Polyethylene
6	Spin disk	Polyacetate
7	Filter holder	Polyacetate
8	Separating plate	Polyacetate
9	Stabilizing disk	Polyacetate
10	Diaphragm	Nitrile rubber
11	Spring	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Filter Regulators MS6N-LFR – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi], rotary knob as standard, manual bowl drain



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	D2	L1 Bowl guard		L2	L3	L4	L5	L6 Bowl guard		L7
						Plastic	Metal					Plastic	Metal	
MS6N-LFR-¼	2.44	1.22	3.03	¼ NPT	2.01	7.44	7.65	1.54	3.39	3.31	2.68	0.62	0.75	0.20
MS6N-LFR-⅜				⅜ NPT										
MS6N-LFR-½				½ NPT										

1) Dimensions are in inches, unless otherwise noted.

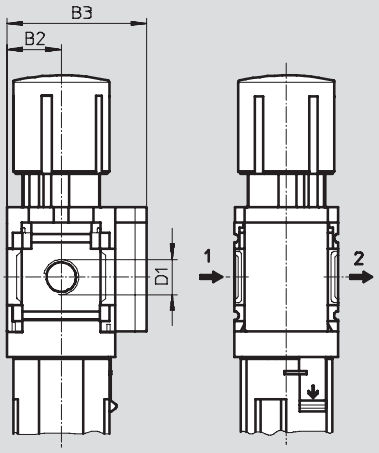
Filter Regulators MS6N-LFR – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

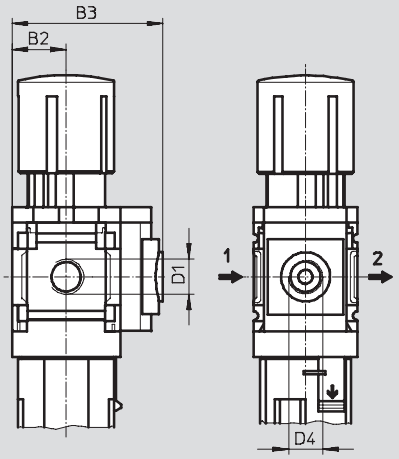
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

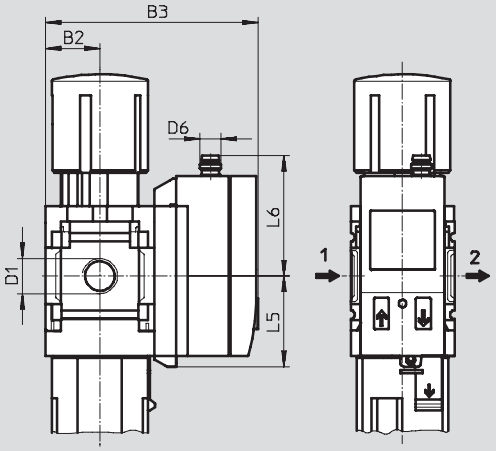
Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS6N-LFR-¼-...-VS	1.22	2.99	¼ NPT	–	–	–	–
MS6N-LFR-⅜-...-VS			⅜ NPT				
MS6N-LFR-½-...-VS			½ NPT				
MS6N-LFR-¼-...-A4	1.22	3.09	¼ NPT	¼ NPT	–	–	–
MS6N-LFR-⅜-...-A4			⅜ NPT				
MS6N-LFR-½-...-A4			½ NPT				
MS6N-LFR-¼-...-AD1/AD2	1.22	4.06	¼ NPT	–	M8x1	1.38	1.84
MS6N-LFR-⅜-...-AD1/AD2			⅜ NPT				
MS6N-LFR-½-...-AD1/AD2			½ NPT				
MS6N-LFR-¼-...-AD3/AD4	1.22	4.06	¼ NPT	–	M12x1	1.38	2.20
MS6N-LFR-⅜-...-AD3/AD4			⅜ NPT				
MS6N-LFR-½-...-AD3/AD4			½ NPT				

1) Dimensions are in inches, unless otherwise noted.

Filter Regulators MS6N-LFR – Inch Series

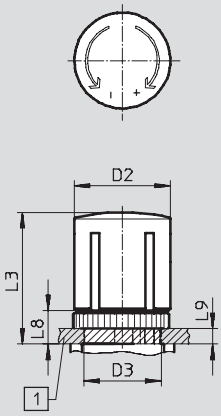
Dimensional Drawings

FESTO

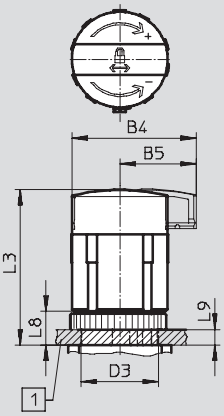
Dimensions[1] – Rotary Knob Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

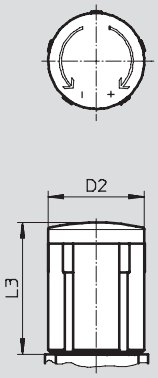


Standard, lockable AS

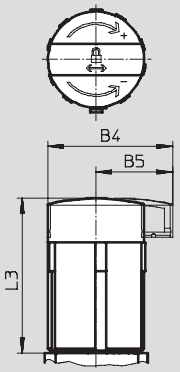


1 Max. control panel thickness

Long LD



Long, lockable LD-AS

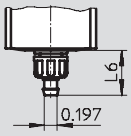


Type	B4	B5	D2	D3 +0.04	L3	L8	L9
MS6N-LFR-...	–	–	2.01	1.73	3.39	0.87	0.55
MS6N-LFR-...-AS	2.67	1.65			3.76		
MS6N-LFR-...-LD	–	–	2.01	–	3.39	–	–
MS6N-LFR-...-LD-AS	2.67	1.65			3.76		

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

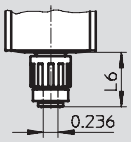
Manual M



Barbed fitting for plastic tubing PCN-4

Type	L6
Plastic bowl guard	
MS6N-LFR-...-M	0.62
Metal bowl	
MS6N-LFR-...-M	0.75

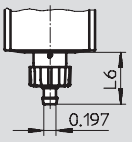
Semiautomatic H



QS fitting for plastic tubing PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS6N-LFR-...-H	0.80
Metal bowl	
MS6N-LFR-...-H	0.90

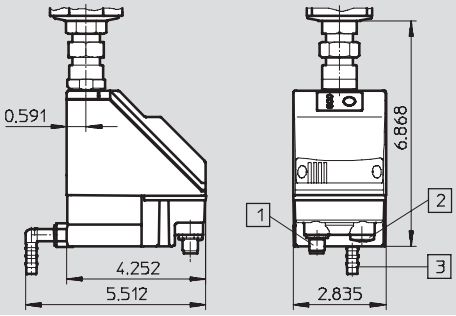
Fully automatic V



Barbed fitting for plastic tubing PCN-4

Type	L6
Plastic bowl guard	
MS6N-LFR-...-V	0.73
Metal bowl	
MS6N-LFR-...-V	0.87

Fully automatic, electrically actuated E1 ... E4 Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...

2 Variant E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9

3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

Filter Regulators MS6N-LFR – Inch Series

Ordering Data – Pre-configured Products

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Ordering Data								
Pressure regulation range 4.4 ... 103 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**531305**	**MS6N-LFR-¼-D6-CRM-AS**	1D		**531293**	**MS6N-LFR-¼-D6-ERM-AS**	1D
	⅜ NPT	**531307**	**MS6N-LFR-⅜-D6-CRM-AS**	1D		**531295**	**MS6N-LFR-⅜-D6-ERM-AS**	1D
	½ NPT	**531306**	**MS6N-LFR-½-D6-CRM-AS**	1D		**531294**	**MS6N-LFR-½-D6-ERM-AS**	1D
Fully automatic	¼ NPT	**531311**	**MS6N-LFR-¼-D6-CRV-AS**	1D		**531299**	**MS6N-LFR-¼-D6-ERV-AS**	1D
	⅜ NPT	**531313**	**MS6N-LFR-⅜-D6-CRV-AS**	1D		**531301**	**MS6N-LFR-⅜-D6-ERV-AS**	1D
	½ NPT	**531312**	**MS6N-LFR-½-D6-CRV-AS**	1D		**531300**	**MS6N-LFR-½-D6-ERV-AS**	1D

Ordering Data								
Pressure regulation range 7.4 ... 176 psi								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**531281**	**MS6N-LFR-¼-D7-CRM-AS**	1D		**531269**	**MS6N-LFR-¼-D7-ERM-AS**	1D
	⅜ NPT	**531283**	**MS6N-LFR-⅜-D7-CRM-AS**	1D		**531271**	**MS6N-LFR-⅜-D7-ERM-AS**	1D
	½ NPT	**531282**	**MS6N-LFR-½-D7-CRM-AS**	1D		**531270**	**MS6N-LFR-½-D7-ERM-AS**	1D
Fully automatic	¼ NPT	**531287**	**MS6N-LFR-¼-D7-CRV-AS**	1D		**531275**	**MS6N-LFR-¼-D7-ERV-AS**	1D
	⅜ NPT	**531289**	**MS6N-LFR-⅜-D7-CRV-AS**	1D		**531277**	**MS6N-LFR-⅜-D7-ERV-AS**	1D
	½ NPT	**531288**	**MS6N-LFR-½-D7-CRV-AS**	1D		**531276**	**MS6N-LFR-½-D7-ERV-AS**	1D
Metal bowl								
Manual	¼ NPT	**531317**	**MS6N-LFR-¼-D7-CUM-AS**	Q		**531329**	**MS6N-LFR-¼-D7-EUM-AS**	Q
	⅜ NPT	**531319**	**MS6N-LFR-⅜-D7-CUM-AS**	Q		**531331**	**MS6N-LFR-⅜-D7-EUM-AS**	Q
	½ NPT	**531318**	**MS6N-LFR-½-D7-CUM-AS**	Q		**531330**	**MS6N-LFR-½-D7-EUM-AS**	Q
Fully automatic	¼ NPT	**531323**	**MS6N-LFR-¼-D7-CUV-AS**	Q		**531335**	**MS6N-LFR-¼-D7-EUV-AS**	Q
	⅜ NPT	**531325**	**MS6N-LFR-⅜-D7-CUV-AS**	Q		**531337**	**MS6N-LFR-⅜-D7-EUV-AS**	Q
	½ NPT	**531324**	**MS6N-LFR-½-D7-CUV-AS**	Q		**531336**	**MS6N-LFR-½-D7-EUV-AS**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Filter Regulators MS6N-LFR – Inch Series

Ordering Data – Configurable Products

FESTO

[M] **Mandatory Data** →

Part No.	Series	Size	Thread	Function	Connection size	Pressure regulation range	Filtration grade	Bowl
527667	MS	6	N	LFR	¼, ⅜, ½, AQN, AQP, AQR, AQS	D5 D6 D7 D8	E C	R U
Order example								
527667	**MS**	**6**	**N**	**– LFR**	**– AQN**	**– D6**	**– C**	**– R**

Ordering Table

Grid dimension [mm]	62	Conditions	Code	Enter code
[M] Part No.	**527667**			
Series	Standard		**MS**	MS
Size	6		**6**	6
Thread	NPT thread		**N**	N
Function	Filter regulator		**-LFR**	-LFR
Connection size	Body thread ¼ NPT		**-¼**	
	Body thread ⅜ NPT		**-⅜**	
	Body thread ½ NPT		**-½**	
	Port plate ¼ NPT (dimensions → 607)		**-AQN**	
	Port plate ⅜ NPT (dimensions → 607)		**-AQP**	
	Port plate ½ NPT (dimensions → 607)		**-AQR**	
	Port plate ¾ NPT (dimensions → 607)		**-AQS**	
Pressure regulation range	4.4 ... 59 psi		**-D5**	
	4.4 ... 103 psi		**-D6**	
	7.4 ... 176 psi		**-D7**	
	7.4 ... 235 psi		**-D8**	
Filtration grade	40 µm		**-E**	
	5 µm		**-C**	
Bowl	Plastic bowl with plastic bowl guard		**-R**	
↓	Metal bowl		**-U**	

Transfer order code

527667	**MS**	**6**	**N**	**–**	**LFR**	**–**		**–**		**–**		**–**	

Filter Regulators MS6N-LFR – Inch Series

Ordering Data – Configurable Products

FESTO

➔ M	O Options							
Bowl drain	**Pressure gauge alternatives**	**Alternative pressure gauge scale**	**Secondary venting**	**Rotary knob**	**Security**	**Type of mounting**	**Reverse flow direction**
M H V E1 E2 E3 E4	VS A4 AD1 AD2 AD3 AD4	BAR MPA	OS	LD	AS	WR WP WPM WB	Z
– **M**	– **A4**	–	–	– **LD**	– **AS**	– **WPM**	– **Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code	Enter code
↓ Bowl drain		Manual		**-M**	
M		Semiautomatic (P1 max. 176 psi)	1	**-H**	
		Fully automatic (P1 max. 176 psi)	1	**-V**	
	External, fully-automatic, electrical	24 V DC, M12	2	**-E1**	
		110 V AC, terminals	2	**-E2**	
		230 V AC, terminals	2	**-E3**	
		24 V DC, terminals	2	**-E4**	
O Pressure gauge alternatives		Cover plate		**-VS**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	3	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	3	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	3	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	3	**-AD4**	
Alternative pressure gauge scale		bar	4	**-BAR**	
		MPa	4	**-MPA**	
Secondary venting		Without secondary venting		**-OS**	
Rotary knob		Long rotary knob		**-LD**	
Security		Lockable rotary knob		**-AS**	
Type of mounting		Mounting bracket with knurled nut for regulator head (dimensions ➔ 605)	5	**-WR**	
		Mounting bracket (dimensions ➔ 608)	6	**-WP**	
		Mounting bracket (dimensions ➔ 608)	6	**-WPM**	
		Mounting bracket (dimensions ➔ 604)		**-WB**	
Reverse flow direction		Flow direction from right to left		**-Z**	

1 **H, V** Not with pressure regulation range D8

2 **E1 ... E4** Only with metal bowl U

3 **AD1 ... AD4** Measuring range max. 147 psi. Not with pressure regulation range D8

4 **BAR, MPA** Not with pressure gauge alternatives VS, A4, AD1, AD2, AD3, AD4

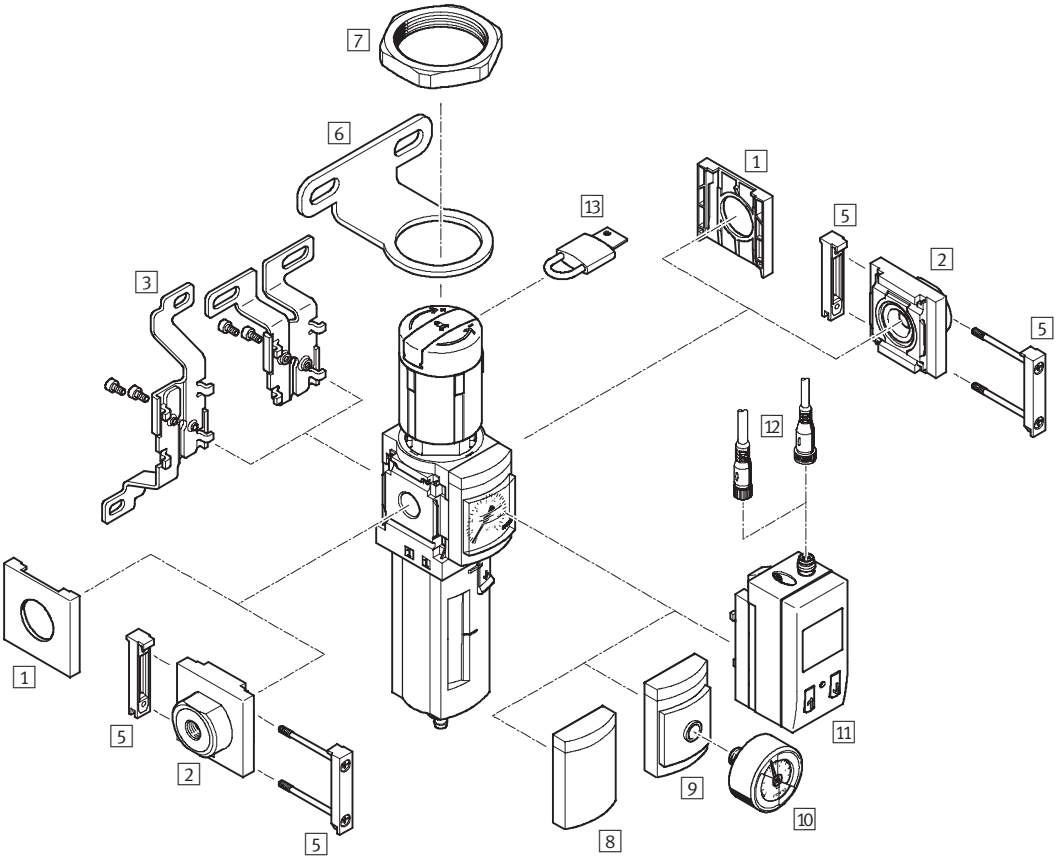
5 **WR** Not with long rotary knob LD

6 **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

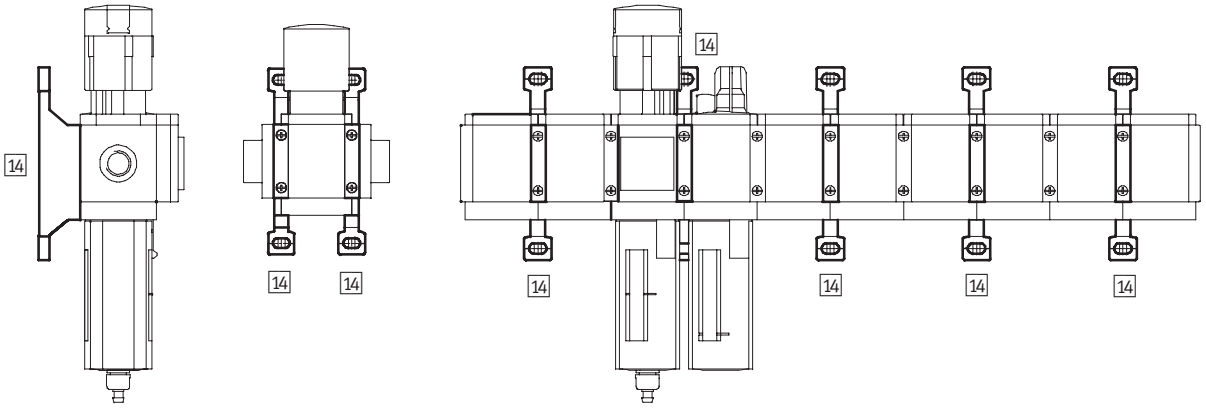
Transfer order code

–		–		–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Filter Regulators MS6N-LFR – Inch Series

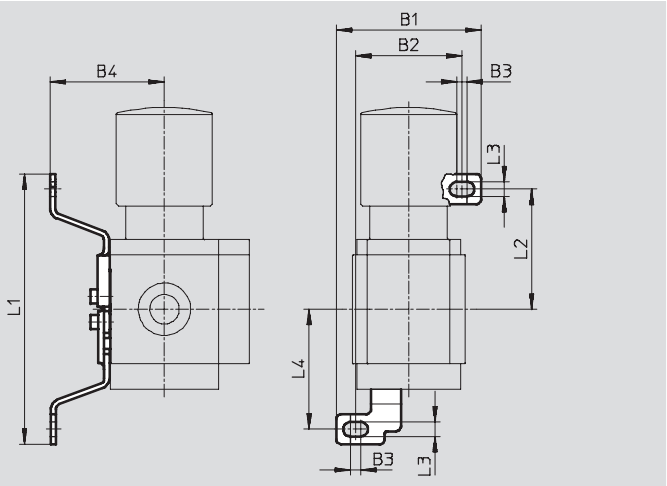
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	606
2	Port plate MS6N-AQ...	–	■	–	■	607
3	Mounting bracket MS6-WB	■	■	–	–	604
5	Body connector MS6-MV	–	■	■	■	607
6	Regulator wall bracket MS6-WR	■	■	–	–	605
7	Hex nut MS6-WRS	■	■	■	■	605
8	Cover plate VS	■	■	■	■	600
9	Adapter for EN pressure gauge ¼ A4	■	■	■	■	600
10	Pressure gauge MA	■	■	■	■	611
11	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	600
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	611
13	Padlock LRVS-D	■	■	■	■	611
14	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	608

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

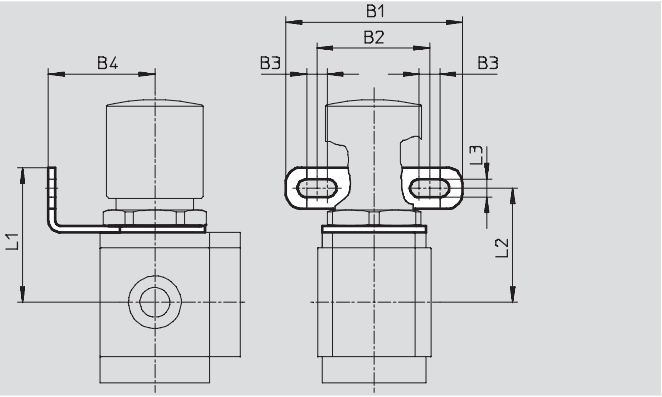
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.13	2.44	0.18	2.17	6.20	2.80	0.26	2.80	0.24	**532196**	**MS6-WB**

6 **Mounting bracket MS6-WR**
- For wall mounting a filter regulator and pressure regulator

Material:
Steel

Note
The hex nut for attaching components to this bracket must be ordered separately.





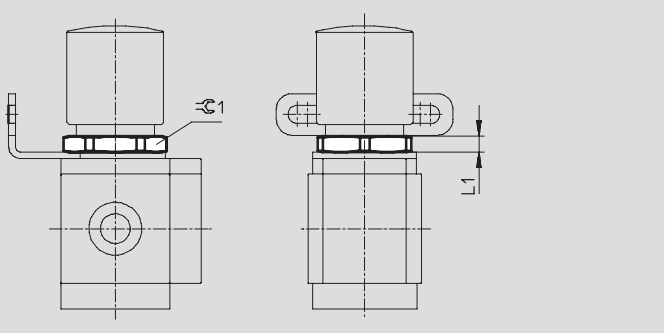
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.76	1.65	0.32	1.57	2.64	2.24	0.28	0.18	**526075**	**MS6-WR**

7 **Hex nut MS6-WRS**
- For front panel mounting
- For attaching components to the mounting bracket MS...-WR

Material:
Aluminum





Dimensions and Ordering Data

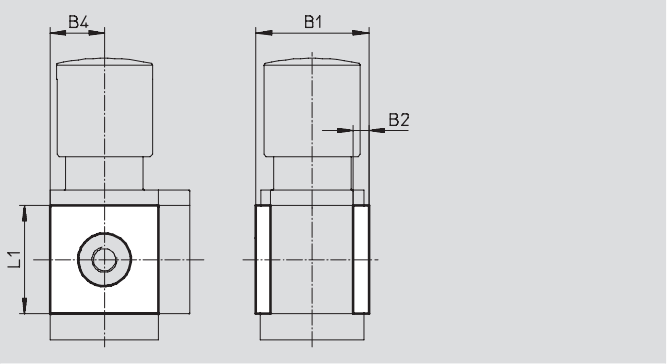
L1	⌀1	Weight [lb]	Part No.	Type
0.28	2.17	0.04	**532188**	**MS6-WRS**

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

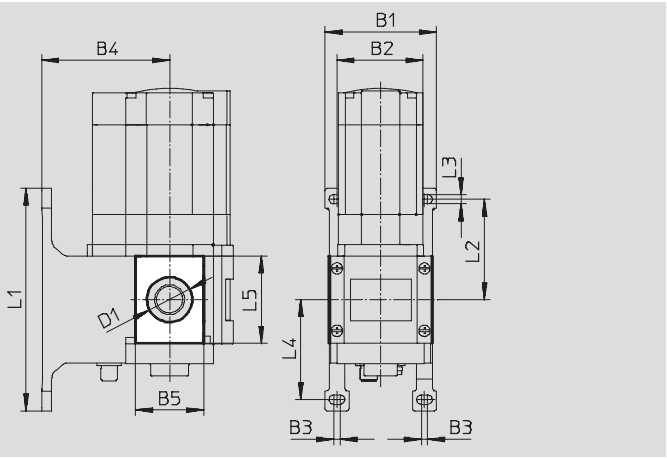
B1	B2	B4	L1	Part No.	Type
2.64	0.31	1.22	2.44	**538780**	**MS6-END**

Mounting plate MS6-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

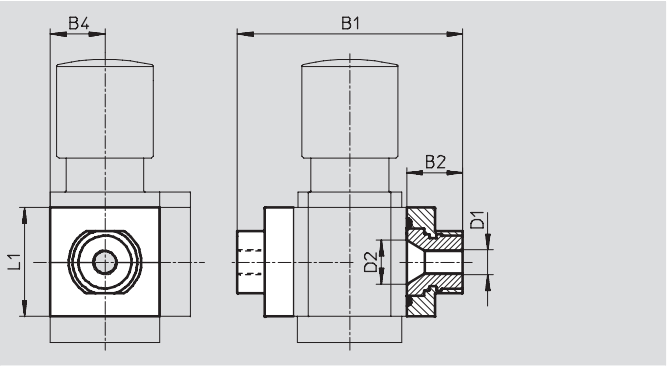
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6N-AQ...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection ¾ NPT

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	¼ NPT	0.94	2.44	0.60	**526076**	**MS6N-AQN**
			⅜ NPT				**526077**	**MS6N-AQP**
			½ NPT				**526078**	**MS6N-AQR**
			¾ NPT				**526079**	**MS6N-AQS**

5 **Body connector MS...-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

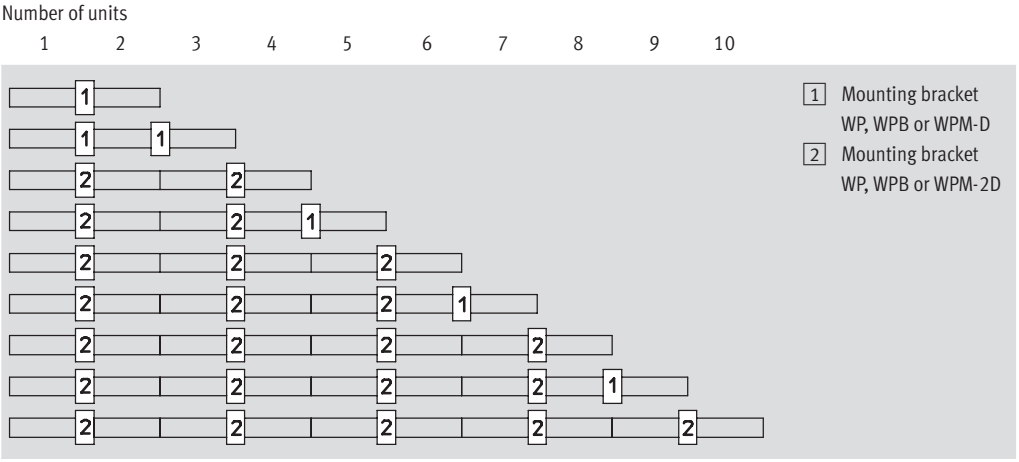
Weight [lb]	Part No.	Type
0.11	**532799**	**MS6-MV**

14 Mounting Bracket MS6-WP...

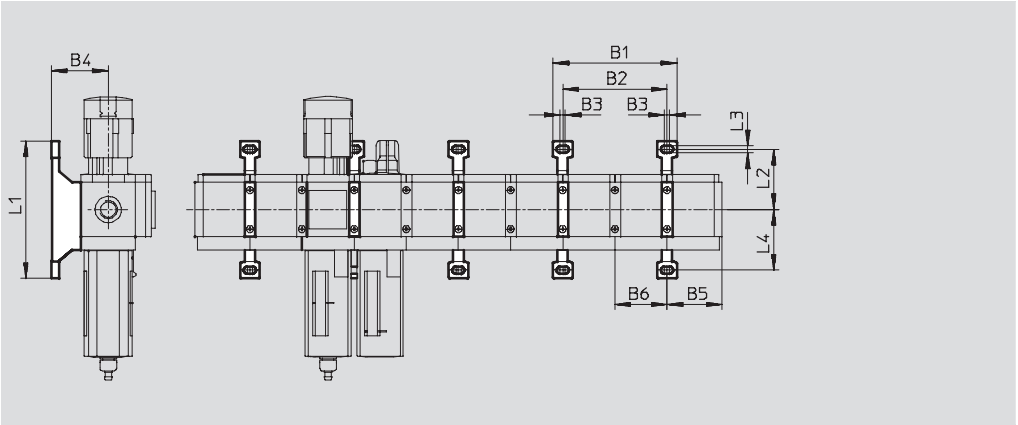
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WP, WPB
2.715 in with WPM-D

2 units: 4.88 in with WP, WPB
5.43 in with WPM-2D



Mounting dimensions



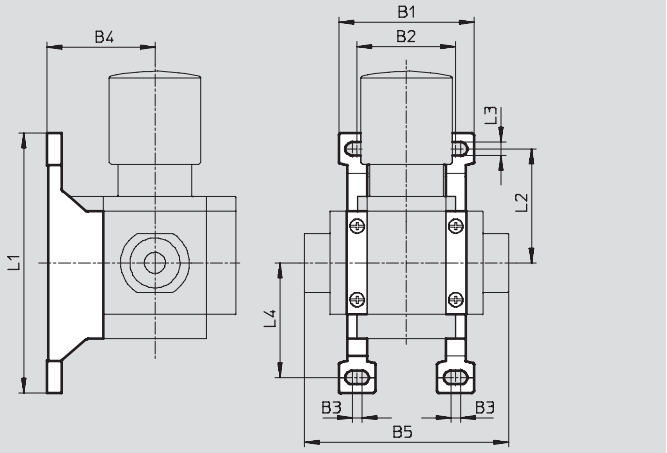
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	5.55	4.88	0.18	2.13	2.54	2.44	6.22	2.80	0.26	2.80
MS6-WPB				3.56						
MS6-WPM-...D	6.61	5.43	0.69	2.13	2.58	2.72	3.88	1.63		1.63

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

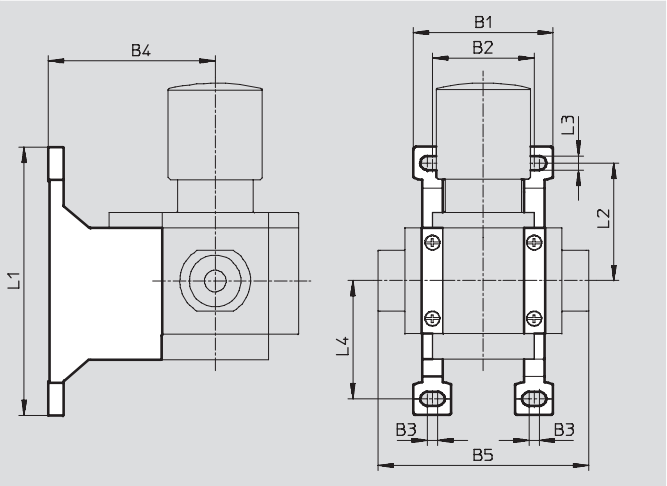
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	2.13	4.53	6.22	2.80	0.26	2.80	0.15	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	**526074**	**MS6-WPB**

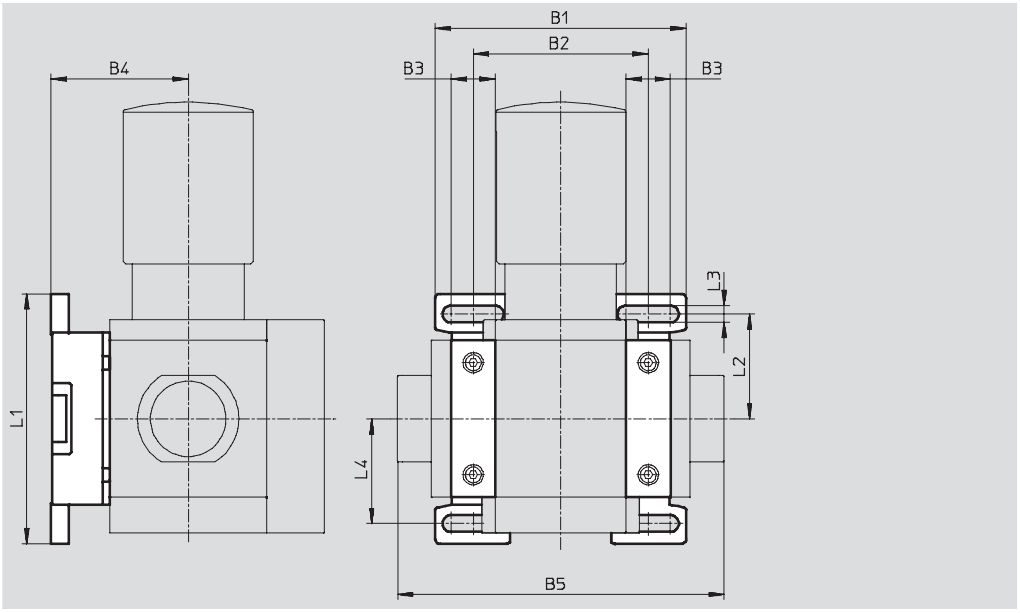
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
3.90	2.72	0.69	2.13	5.08	3.88	1.63	0.26	1.63	2.44	0.29	**526073**	**MS6-WPM-D**
6.61	5.43			7.80					4.88	0.31	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



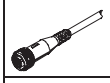
Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

11 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [ft]	Part No.	Type
	M8x1, 3-pin	8.2	**159420**	**SIM-M8-3GD-2,5-PU**
		16.4	**159421**	**SIM-M8-3GD-5-PU**
		32.8	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	8.2	**159422**	**SIM-M8-3WD-2,5-PU**
		16.4	**159423**	**SIM-M8-3WD-5-PU**
		32.8	**192965**	**SIM-M8-3WD-10-PU**

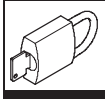
11 Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 4-pin	16.8	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	16.8	**164258**	**SIM-M12-4WD-5-PU**

10 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	1.57	¼ NPT	0 ... 16	0 ... 232	**183908**	**MA-40-16-N¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.97	¼ NPT	–	0 ... 232	**530391**	**MA-50-232-N¼-PSI-E-RG**

13 Ordering Data – Padlock LRVS-D

	Description	Weight [lb]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	0.24	**193786**	**LRVS-D**

Filter Regulators MS6N-LFR – Inch Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS6	Snap-ring, membrane, bellows, O-rings, screws, stem	**673648**	**MS6-LFR**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS6	5	**534499**	**MS6-LFP-C**
	40	**534500**	**MS6-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Pressure Regulators MS6-LR/LRB, MS6-LRP/LRPB – Metric Series



The pressure regulator maintains a constant working pressure (secondary side), regardless of the pressure variations in the system (primary side) and the air consumption.

- Pressure regulators
  - MS6-LR
  - MS6-LRB, manifold units
  - MS6-LRP, precision
  - MS6-LRPB, precision, manifold units
- Pneumatic connection: G¼, G⅜, G½, G¾
- Supply pressure
  - LR and LRB: 0.8 … 20 bar
  - LRP and LRB: 1 … 14 bar
- Flow rate: 600 … 7,500 l/min

Product Range Overview

Type	Flow rate [l/min]	Pneumatic connections		Pressure regulation range [bar]						Pressure indicator					Pressure adjustment		Reverse flow
		Body thread	Port plate	0.05 … 0.7	0.05 … 2.5	0.3 … 4	0.3 … 7	0.5 … 12	0.5 … 16	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G1/8	Adapter for pressure gauge G1/4	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS6			AG…	D2	D4	D5	D6	D7	D8	VS	AG	A8	A4	AD…	AS	LD	Z
LR	2,200 … 7,500	G¼, G⅜, G½	G¼, G⅜, G½, G¾	–	–	■	■	■	■	■	■	–	■	■	■	■	■
LRB	600 … 7,300	G½	G¼, G⅜, G½, G¾	–	–	■	■	■	■	■	■	–	■	■	■	■	■
LRP	800 … 5,000	G¼, G⅜, G½	G¼, G⅜, G½, G¾	■	■	■	–	■	–	■	–	■	■	■	■	■	■
LRPB	1,600 … 5,000	G½	G¼, G⅜, G½, G¾	■	■	■	–	■	–	■	–	■	■	■	■	■	■

Contents

MS6-LR

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Accessories	→ 624
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→ www.festo.com/catalog/ms6-lr

MS6-LRB

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Dimensional Drawings	→ 628
Ordering Data	→ 631
Accessories	→ 634
Replacement Parts	→ 671

→ www.festo.com/catalog/ms6-lrb

MS6-LRP

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Dimensional Drawings	→ 641
Ordering Data	→ 645
Accessories	→ 648
Replacement Parts	→ 671

→ www.festo.com/catalog/ms6-lrp

MS6-LRPB

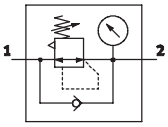
Technical Data	→ 650
Dimensional Drawings	→ 652
Ordering Data	→ 657
Accessories	→ 660
Replacement Parts	→ 671

→ www.festo.com/catalog/ms6-lrpb

Pressure Regulators MS6-LR – Metric Series

Technical Data

ISO Symbol



- Four pressure regulation ranges
- Two pressure gauge connections for different fitting options
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display
- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Available with or without secondary venting
- Setting values are secured by locking the rotary knob
- Lockable rotary knob



General Technical Data					
Pneumatic connection 1, 2			G¼	G⅜	G½
Supply pressure		[bar]	0.8 ... 20		
Pressure regulation range	D5	[bar]	0.3 ... 4		
	D6	[bar]	0.3 ... 7		
	D7	[bar]	0.5 ... 12 (0.5 ... 10 with variant pressure sensor AD...)		
	D8	[bar]	0.5 ... 16		
Max. hysteresis		[bar]	0.25		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]				
Pneumatic connection 1, 2		G¼	G⅜	G½
Pressure regulation range	D5	2,400[2]	5,500[2]	7,500[2]
	D6	3,000	5,800	6,500
	D7	2,700	4,500	5,500
	D8	2,200	4,000	4,500

1) Measured at p1 = 10 bar and p2 = 6 bar, Δp = 1 bar
2) Measured at p1 = 10 bar and p2 = 3 bar, Δp = 1 bar

Pressure Regulators MS6-LR – Metric Series

Technical Data

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°C]	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	0 ... +50
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Assembly position		Any	
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Pressure regulator	730

- Wearing parts kits ➔ 671
- For spare parts go to: www.festo.com/en/spare_parts_service

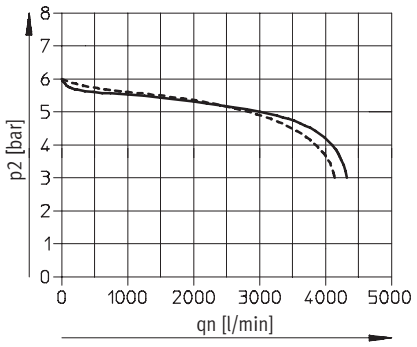
Pressure Regulators MS6-LR – Metric Series

Technical Data

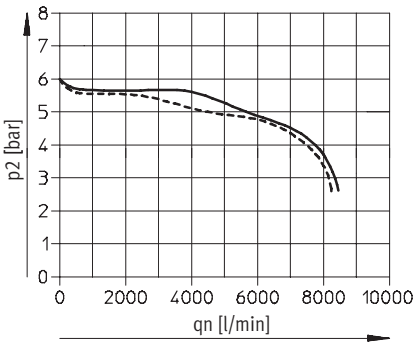
Standard Flow Rate qn as a Function of Output Pressure p2

MS6-LR-¼

Primary pressure p1 = 10 bar



MS6-LR-⅜

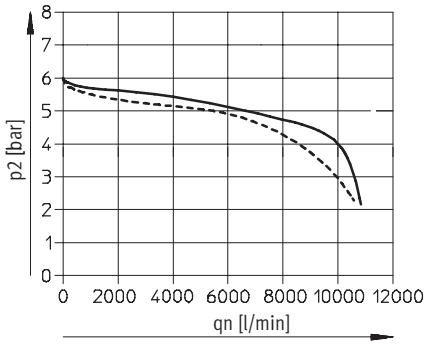


D6: 0.3 ... 7 bar

D7: 0.5 ... 12 bar

MS6-LR-½

Primary pressure p1 = 10 bar



D6: 0.3 ... 7 bar

D7: 0.5 ... 12 bar

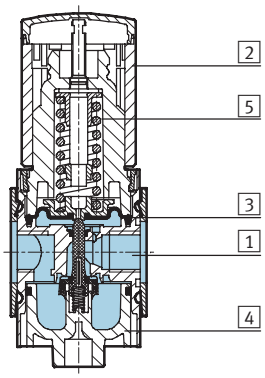
Pressure Regulators MS6-LR – Metric Series

Technical Data

FESTO

Materials

Sectional view



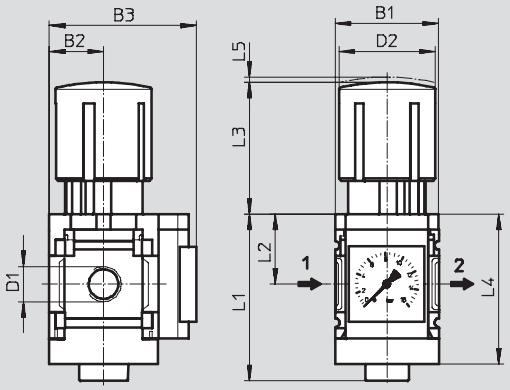
Pressure regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Bottom cap	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Pressure Regulators MS6-LR – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



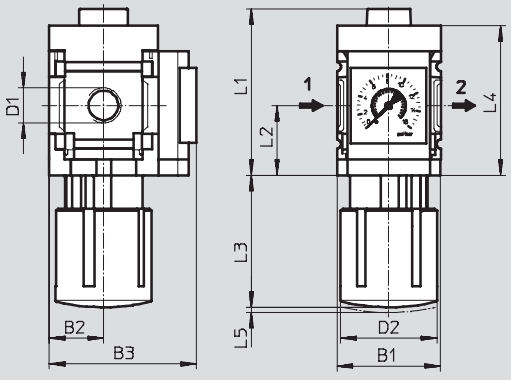
➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS6-LR-¼	62	31	77	G¼	51	93	39	86	84	5
MS6-LR-⅜				G⅜						
MS6-LR-½				G½						

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Alternative Mounting Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob underneath KD, standard rotary knob, with pressure gauge



➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS6-LR-¼-...-KD	62	31	77	G¼	51	93	39	86	84	5
MS6-LR-⅜-...-KD				G⅜						
MS6-LR-½-...-KD				G½						

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

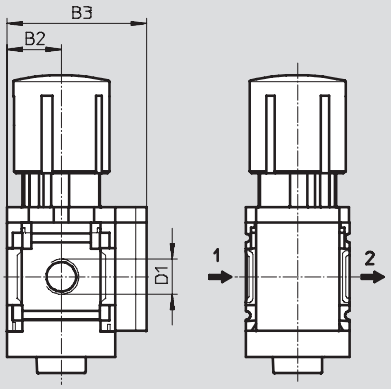
Pressure Regulators MS6-LR – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

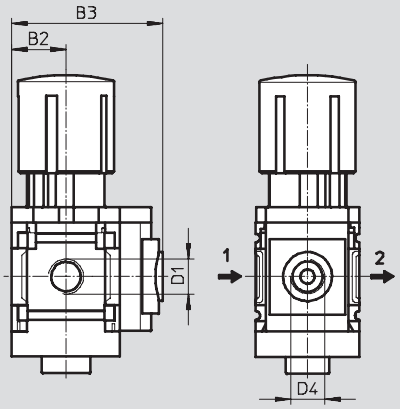
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

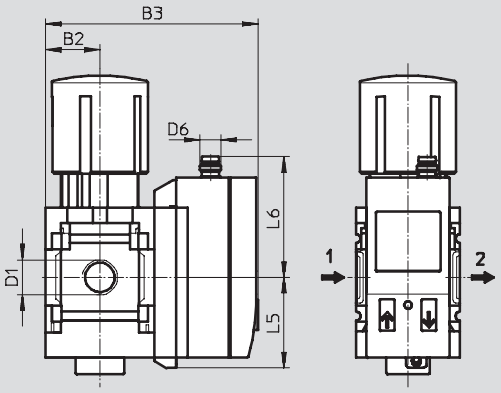
Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS6-LR-¼-...-VS	31	76	G¼	–	–	–	–
MS6-LR-⅜-...-VS			G⅜				
MS6-LR-½-...-VS			G½				
MS6-LR-¼-...-A4	31	78.5	G¼	G¼	–	–	–
MS6-LR-⅜-...-A4			G⅜				
MS6-LR-½-...-A4			G½				
MS6-LR-¼-...-AD1/AD2	31	103	G¼	–	M8x1	35.1	46.7
MS6-LR-⅜-...-AD1/AD2			G⅜				
MS6-LR-½-...-AD1/AD2			G½				
MS6-LR-¼-...-AD3/AD4	31	103	G¼	–	M12x1	35.1	55.8
MS6-LR-⅜-...-AD3/AD4			G⅜				
MS6-LR-½-...-AD3/AD4			G½				

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

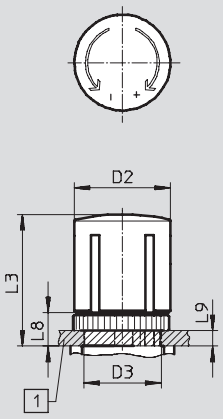
Pressure Regulators MS6-LR – Metric Series

Dimensional Drawings

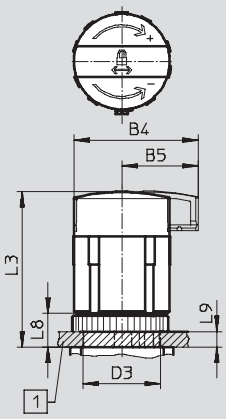
Dimensions[1] – Rotary Knob Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

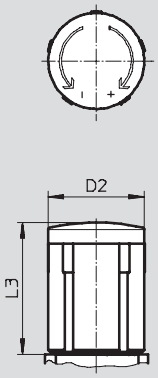


Standard, lockable AS

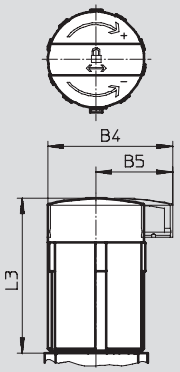


1 Max. control panel thickness

Long LD



Long, lockable LD-AS



Type	B4	B5	D2	D3 +1	L3	L8	L9
MS6-LR-...	–	–	51	44	86	22	14
MS6-LR-...-AS	67.7	42			95.5		
MS6-LR-...-LD	–	–	51	–	86	–	–
MS6-LR-...-LD-AS	67.7	42			95.5		

1) Dimensions are in millimeters, unless otherwise noted.

Pressure Regulators MS6-LR – Metric Series

Ordering Data – Pre-configured Products

Ordering Data			
Pressure gauge, lockable standard type rotary knob			
Connection	Part No.	Type	LT
Pressure regulation range 0.3 ... 4 bar			
G¼	**529995**	**MS6-LR-¼-D5-AS**	1D
G⅜	**530001**	**MS6-LR-⅜-D5-AS**	1D
G½	**529989**	**MS6-LR-½-D5-AS**	1D
Pressure regulation range 0.3 ... 7 bar			
G¼	**529997**	**MS6-LR-¼-D6-AS**	1D
G⅜	**530003**	**MS6-LR-⅜-D6-AS**	1D
G½	**529991**	**MS6-LR-½-D6-AS**	1D
Pressure regulation range 0.5 ...12 bar			
G¼	**529999**	**MS6-LR-¼-D7-AS**	1D
G⅜	**530005**	**MS6-LR-⅜-D7-AS**	1D
G½	**529993**	**MS6-LR-½-D7-AS**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Pressure Regulators MS6-LR – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data

Part No.	Series	Size		Function		Connection size		Pressure regulation range
527663	MS	6		LR		¼, ⅜, ½, AGB, AGC, AGD, AGE		D5 D6 D7 D8
Order example								
527663	**MS**	**6**	**–**	**LR**	**–**	**AGB**	**–**	**D6**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**527663**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Function	Pressure regulator		**-LR**		-LR
	Connection size	Body thread G¼		**-¼**		
		Body thread G⅜		**-⅜**		
		Body thread G½		**-½**		
		Port plate G¼ (dimensions ➔ 665)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 665)		**-AGC**		
		Port plate G½ (dimensions ➔ 665)		**-AGD**		
		Port plate G¾ (dimensions ➔ 665)		**-AGE**		
	Pressure regulation range	0.3 ... 4 bar		**-D5**		
		0.3 ... 7 bar		**-D6**		
		0.5 ... 12 bar		**-D7**		
↓		0.5 ... 16 bar		**-D8**		

Transfer order code

527663	**MS**	**6**	**–**	**LR**	**–**		**–**	

Pressure Regulators MS6-LR – Metric Series

Ordering Data – Configurable Products

FESTO

➔ [0] **Options**

	Pressure gauge alternatives		Alternative pressure gauge scale		Secondary venting		Rotary knob alternative		Alternative assembly position		Security		Type of mounting		Reverse flow direction
	VS A4 AD1 AD2 AD3 AD4		PSI MPA		OS		LD		KD		AS		WR WP WPM WB		Z
–	**AD3**	–		–	**OS**	–	**LD**	–		–	**AS**	–	**WB**	–	**Z**

Ordering Table

Grid dimension [mm]	62	Conditions	Code		Enter code
[0] Pressure gauge alternatives	Cover plate		**-VS**		
	Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
	Pressure sensor with display, plug M8, 1 switch output PNP, 3-pin	[1]	**-AD1**		
	Pressure sensor with display, plug M8, 1 switch output NPN, 3-pin	[1]	**-AD2**		
	Pressure sensor with display, plug M12, 1 switch output PNP, 4-pin, analog output 4 ... 20 mA	[1]	**-AD3**		
	Pressure sensor with display, plug M12, 1 switch output NPN, 4-pin, analog output 4 ... 20 mA	[1]	**-AD4**		
Alternative pressure gauge scale	psi	[2]	**-PSI**		
	MPa	[2]	**-MPA**		
Secondary venting	Without secondary venting		**-OS**		
Rotary knob alternative	Long rotary knob		**-LD**		
Alternative assembly position	Rotary knob at bottom	[3]	**-KD**		
Security	Lockable rotary knob		**-AS**		
Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 664)	[4]	**-WR**		
	Mounting bracket (dimensions ➔ 667)	[5]	**-WP**		
	Mounting bracket (dimensions ➔ 667)	[5]	**-WPM**		
	Mounting bracket (dimensions ➔ 663)		**-WB**		
Reverse flow direction	Flow direction from right to left		**-Z**		

[1] **AD1 ... AD4** Measuring range max. 10 bar.
Not with pressure regulation range D8

[2] **PSI, MPA** Not with pressure gauge alternatives VS, A4, AD1, AD2, AD3, AD4

[3] **KD** Not with alternative pressure gauge scale PSI, MPA.
Not with mounting type WP

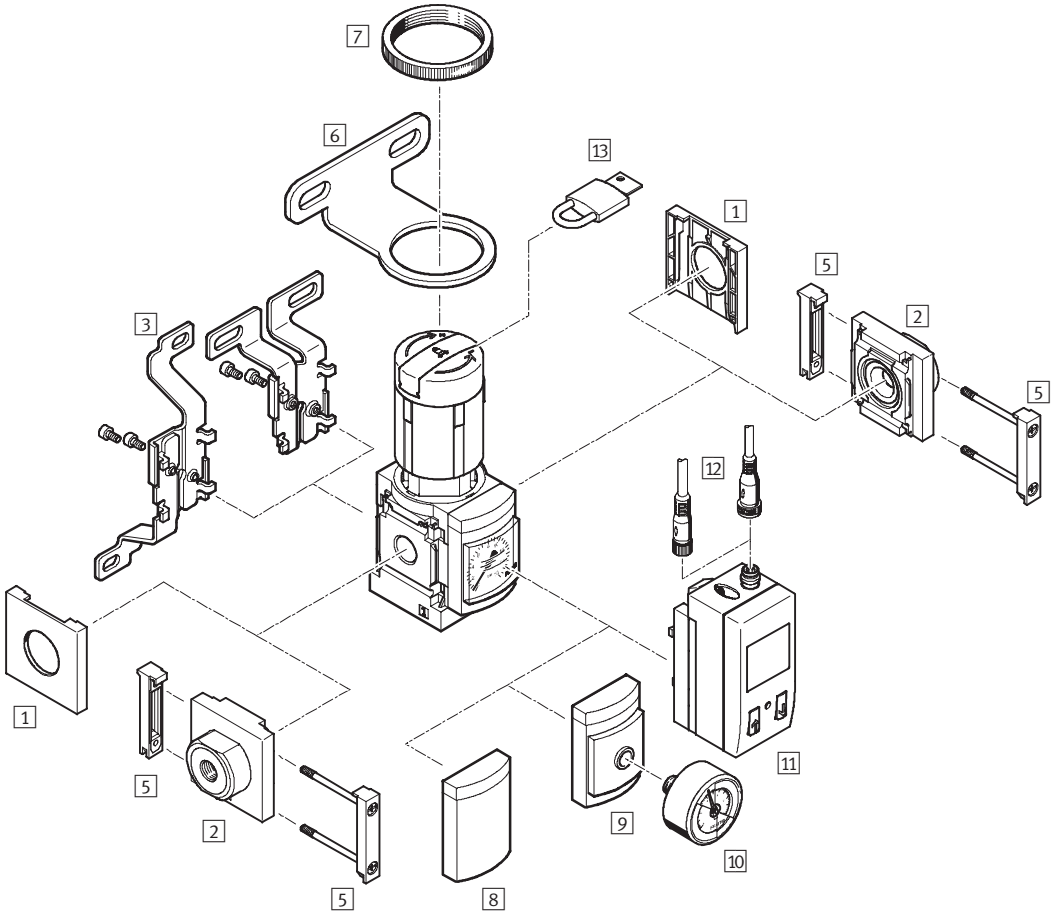
[4] **WR** Not with long rotary knob LD

[5] **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

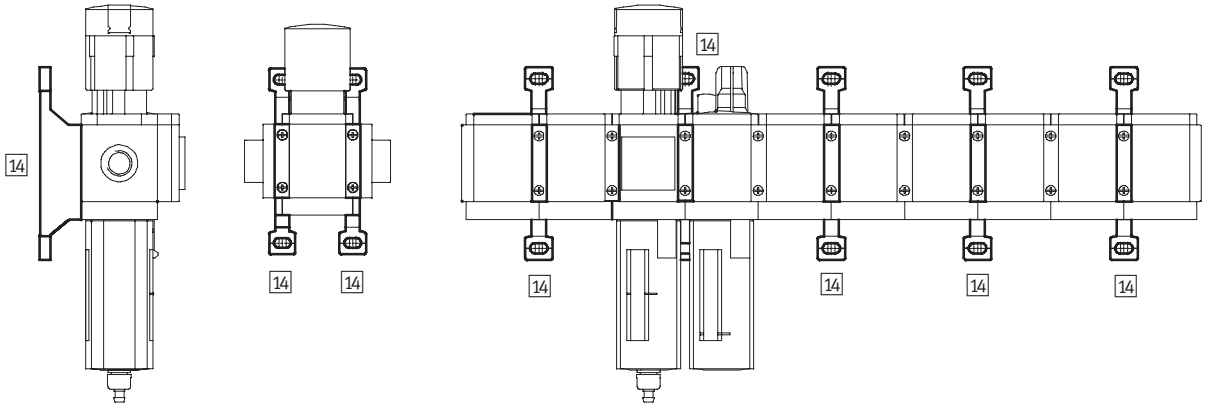
Transfer order code

–		–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Pressure Regulators MS6-LR – Metric Series

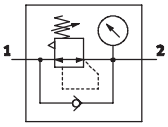
Accessories Overview

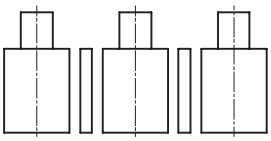
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	665
2	Port plate MS6-AG...	–	■	–	■	665
3	Mounting bracket MS6-WB	■	■	–	–	663
5	Body connector MS6-MV	–	■	■	■	666
6	Regulator wall bracket MS6-WR	■	■	–	–	664
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Cover plate VS	■	■	■	■	622
9	Adapter for EN pressure gauge ¼ A4	■	■	■	■	622
10	Pressure gauge MA	■	■	■	■	670
11	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	622
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	670
13	Padlock LRVS-D	■	■	■	■	670
14	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	667

Pressure Regulators MS6-LRB – Metric Series

Technical Data

ISO Symbol





LRB-manifold
with through pressure supply for manifold assembly

- This pressure regulator is suitable for manifold assemblies with through air supply on both sides. Pressure output is at the front or rear.
- For configuring a regulator manifold with independent pressure regulation ranges
- Good control characteristics with low hysteresis and primary pressure compensation
- Available with or without secondary venting
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Four pressure regulation ranges
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display



General Technical Data			
Pneumatic connection 1			G½
Pneumatic connection 2			G½
			QS-8 push-in tubing connector
			QS-10 push-in tubing connector
Supply pressure		[bar]	0.8 ... 20
Pressure regulation range	D5	[bar]	0.3 ... 4
	D6	[bar]	0.3 ... 7
	D7	[bar]	0.5 ... 12 (0.5 ... 10 with variant pressure sensor AD...)
	D8	[bar]	0.5 ... 16
Max. hysteresis		[bar]	0.25

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]				
Variant		Standard	Angled outlet block	
			QS-8	QS-10
Pressure regulation range	D5	7,300[2]	600[2]	750[2]
	D6	6,300	880	1,000
	D7	5,500	800	950
	D8	4,500	750	850

1) Measured at p1 = 10 bar and p2 = 6 bar, Δp = 1 bar
2) Measured at p1 = 10 bar and p2 = 3 bar, Δp = 1 bar

Pressure Regulators MS6-LRB – Metric Series

Technical Data

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°C]	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	0 ... +50
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Assembly position		Any	
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

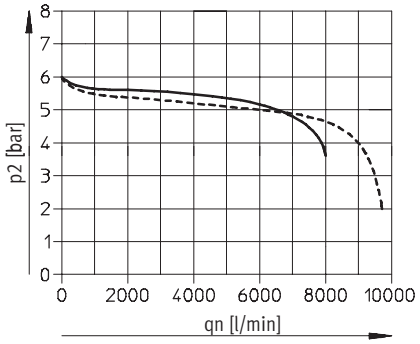
Weights [g]	
Pressure regulator	747

- Wearing parts kits ➔ 671
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

MS6-LRB-½

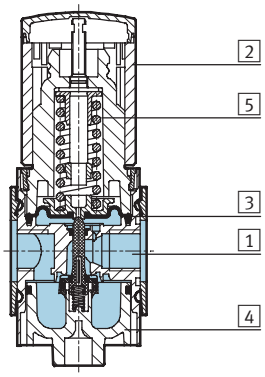
Primary pressure p1 = 10 bar



D6: 0.3 ... 7 bar
D7: 0.5 ... 12 bar

Materials

Sectional view



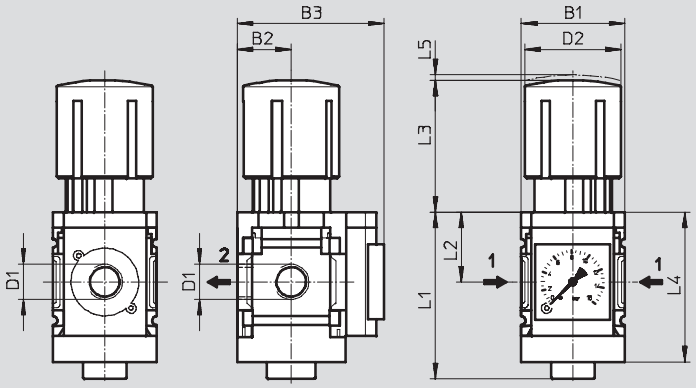
Pressure regulator (manifold assembly)		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Bottom cap	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Pressure Regulators MS6-LRB – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



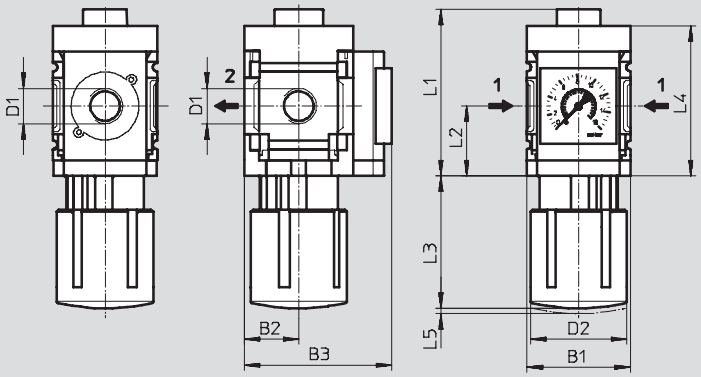
➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS6-LRB-½	62	31	77	G½	51	93	39	86	84	5

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Alternative Mounting Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob underneath KD, standard rotary knob, with pressure gauge



➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS6-LRB-½-...-KD	62	31	77	G½	51	93	39	86	84	5

1) Dimensions are in millimeters, unless otherwise noted.

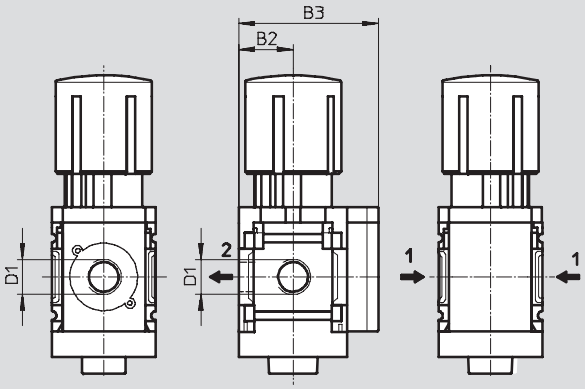
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pressure Regulators MS6-LRB – Metric Series

Dimensional Drawings

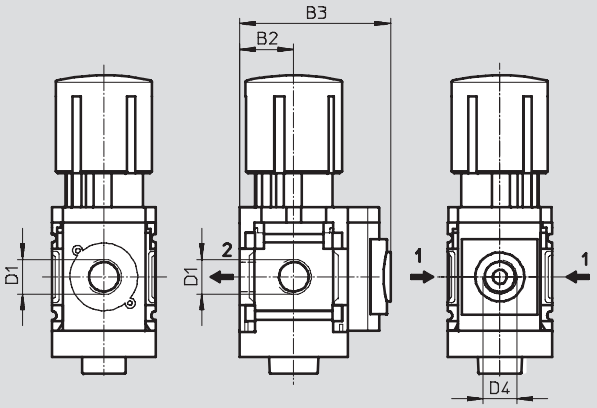
Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



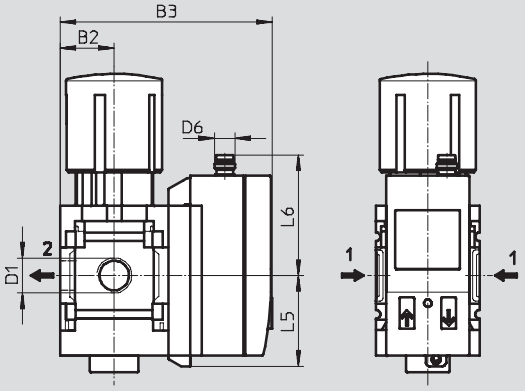
➔ Flow direction

Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4 Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS6-LRB-½-...-VS	31	76	G½	–	–	–	–
MS6-LRB-½-...-A4	31	78.5	G½	G¼	–	–	–
MS6-LRB-½-...-AD1/AD2	31	103	G½	–	M8x1	35.1	46.7
MS6-LRB-½-...-AD3/AD4	31	103	G½	–	M12x1	35.1	55.8

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pressure Regulators MS6-LRB – Metric Series

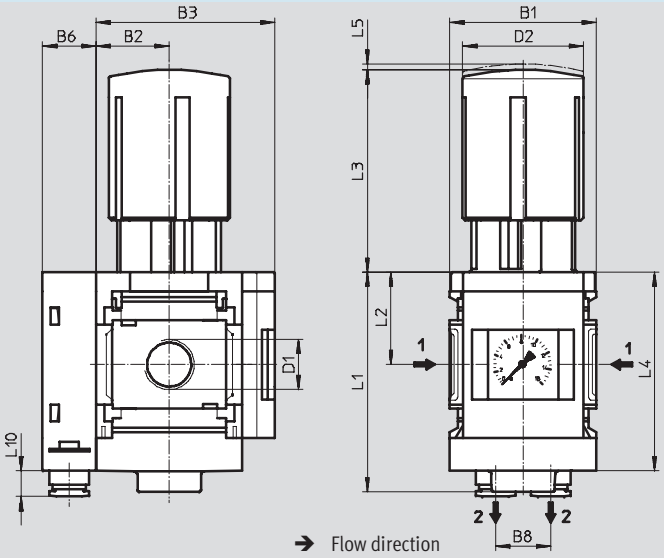
Dimensional Drawings

FESTO

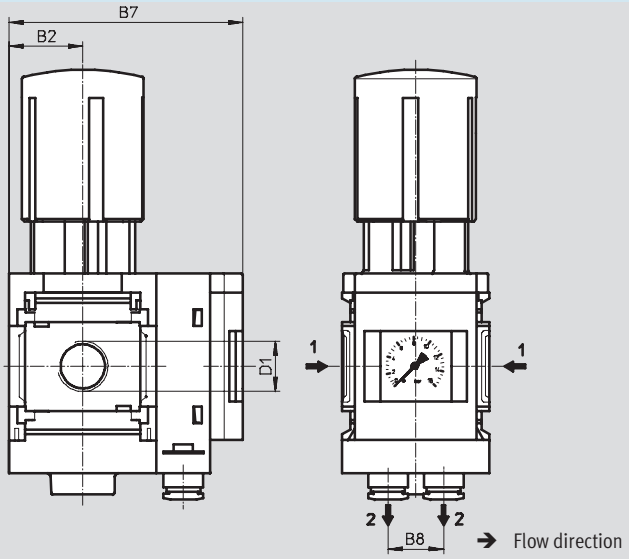
Dimensions[1] – Angled Outlet Block BD/BE

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure output at rear



Pressure output to front Z



Type	B1	B2	B3	B6	B7	B8	D1	D2	L1	L2	L3	L4	L5	L10
MS6-LRB-½-...-B...	62	31	77	22.6	99.6	23.4	G½	51	93	39	86	84	5	11

1) Dimensions are in millimeters, unless otherwise noted.

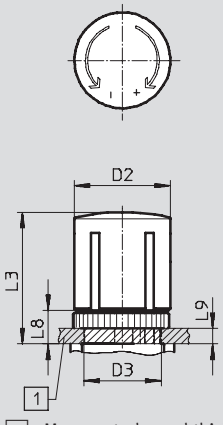
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Rotary Knob

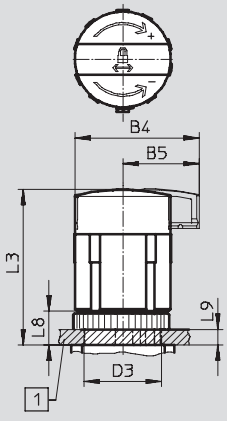
Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

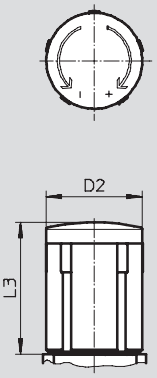


Standard, lockable AS

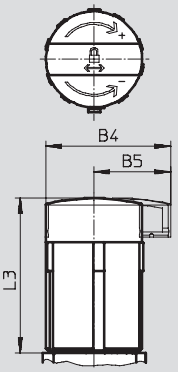


1 Max. control panel thickness

Long LD



Long, lockable LD-AS



Type	B4	B5	D2	D3 +1	L3	L8	L9
MS6-LRB-...	–	–	51	44	86	22	14
MS6-LRB-...-AS	67.7	42			95.5		
MS6-LRB-...-LD	–	–	51	–	86	–	–
MS6-LRB-...-LD-AS	67.7	42			95.5		

Pressure Regulators MS6-LRB – Metric Series

Ordering Data – Pre-configured Products

Ordering Data							
Pressure gauge, lockable standard type rotary knob							
Connection	Pressure output to rear without angled outlet block				Pressure output to rear with angled outlet block QS-8		
	Part No.	Type	LT		Part No.	Type	LT
Pressure regulation range 0.3 ... 4 bar							
G½	**530322**	**MS6-LRB-½-D5-AS**	1D		**530323**	**MS6-LRB-½-D5-AS-BD**	Q
Pressure regulation range 0.3 ... 7 bar							
G½	**530328**	**MS6-LRB-½-D6-AS**	1D		**530329**	**MS6-LRB-½-D6-AS-BD**	Q
Pressure regulation range 0.5 ... 12 bar							
G½	**530334**	**MS6-LRB-½-D7-AS**	1D		**530335**	**MS6-LRB-½-D7-AS-BD**	Q

Ordering Data			
Adapter plate A4 for EN pressure gauge ¼, lockable standard-type rotary knob			
Connection	Pressure output to rear without angled outlet block		
	Part No.	Type	LT
Pressure regulation range 0.3 ... 4 bar			
G½	**530320**	**MS6-LRB-½-D5-A4-AS**	Q
Pressure regulation range 0.3 ... 7 bar			
G½	**530326**	**MS6-LRB-½-D6-A4-AS**	Q
Pressure regulation range 0.5 ... 12 bar			
G½	**530332**	**MS6-LRB-½-D7-A4-AS**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Pressure Regulators MS6-LRB – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data						O Options →
Part No.	**Series**	**Size**	**Function**	**Connection size**	**Pressure regulation range**	**Pressure gauge alternatives**
527665	MS	6	LRB	½ AGB AGC AGD AGE	D5 D6 D7 D8	VS A4 AD1 AD2 AD3 AD4
Order example						
527665	**MS**	**6**	**– LRB**	**– AGC**	**– D5**	**– A4**

Ordering Table						
Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**527665**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Function	Pressure regulator for manifold assembly		**-LRB**		-LRB
	Connection size	Body thread G½		**-½**		
		Port plate G¼ (dimensions → 665)		**-AGB**		
		Port plate G⅜ (dimensions → 665)		**-AGC**		
		Port plate G½ (dimensions → 665)		**-AGD**		
		Port plate G¾ (dimensions → 665)		**-AGE**		
	Pressure regulation range	0.3 ... 4 bar		**-D5**		
		0.3 ... 7 bar		**-D6**		
		0.5 ... 12 bar		**-D7**		
		0.5 ... 16 bar		**-D8**		
O	Pressure gauge alternatives	Cover plate	1	**-VS**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge	2	**-A4**		
		Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	2 3	**-AD1**		
		Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin	2 3	**-AD2**		
		Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	2 3	**-AD3**		
↓		Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	2 3	**-AD4**		

1 **VS** Must be selected if alternative flow direction Z is selected without alternative assembly position KD and without pressure output BD, BE.
Must be selected if alternative assembly position KD is selected without alternative flow direction Z and without pressure output BD, BE

2 **A4, AD1 ... AD4** In combination with alternative flow direction Z only with alternative assembly position KD

3 **AD1 ... AD4** Measuring range max. 10 bar.
Not with pressure regulation range D8

Transfer order code

527665	**MS**	**6**	**–**	**LRB**	**–**		**–**		**–**	

Pressure Regulators MS6-LRB – Metric Series

Ordering Data – Configurable Products

FESTO

➔ [0] **Options**

Alternative pressure gauge scale	Secondary venting	Rotary knob alternative	Alternative assembly position	Security	Pressure output	Type of mounting	Reverse flow direction
PSI MPA	OS	LD	KD	AS	BD BE	WR WP WPM WPB WB	Z
–	– OS	– LD	–	– AS	– BE	– WP	–

Ordering Table

Grid dimension [mm]	62	Conditions	Code	Enter code
↓ Alternative pressure gauge scale	psi	[4]	-PSI	
[0]	MPa	[4]	-MPA	
Secondary venting	Without secondary venting		-OS	
Rotary knob alternative	Long rotary knob		-LD	
Alternative assembly position	Rotary knob, underneath	[5]	-KD	
Security	Lockable rotary knob		-AS	
Pressure output (p_{max} = 10 bar)	Angled outlet block QS-8		-BD	
	Angled outlet block QS-10		-BE	
Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 664)	[6] [7]	-WR	
	Mounting bracket (dimensions ➔ 667)	[8] [9]	-WP	
	Mounting bracket (dimensions ➔ 667)	[6] [8]	-WPM	
	Mounting bracket for large wall gap (dimensions ➔ 667)	[8] [10]	-WPB	
	Mounting bracket (dimensions ➔ 663)	[6]	-WB	
Reverse flow direction	Pressure output at front (for gauge connection an angled outlet block is required)		-Z	

[4] **PSI, MPA** Not with pressure gauge alternatives VS, A4, AD1, AD2, AD3, AD4.
Not with alternative assembly position KD.
In combination with alternative flow direction Z only with pressure output BD, BE

[5] **KD** Not with alternative pressure gauge scale PSI, MPA.
Not with mounting type WP, WPB.
In combination with mounting type WR, WPM, WB not with alternative flow direction Z.
In combination with pressure gauge alternatives A4, AD1, AD2, AD3, AD4 only with alternative flow direction Z

[6] **WR, WPM, WB**
In combination with alternative flow direction Z not with alternative assembly position KD

[7] **WR** Only with alternative flow direction Z.
Not with rotary knob alternative LD

[8] **WP, WPM, WPB**
Only with port plate AGB, AGC, AGD, AGE

[9] **WP** Only with alternative flow direction Z and/or only with pressure output BD, BE

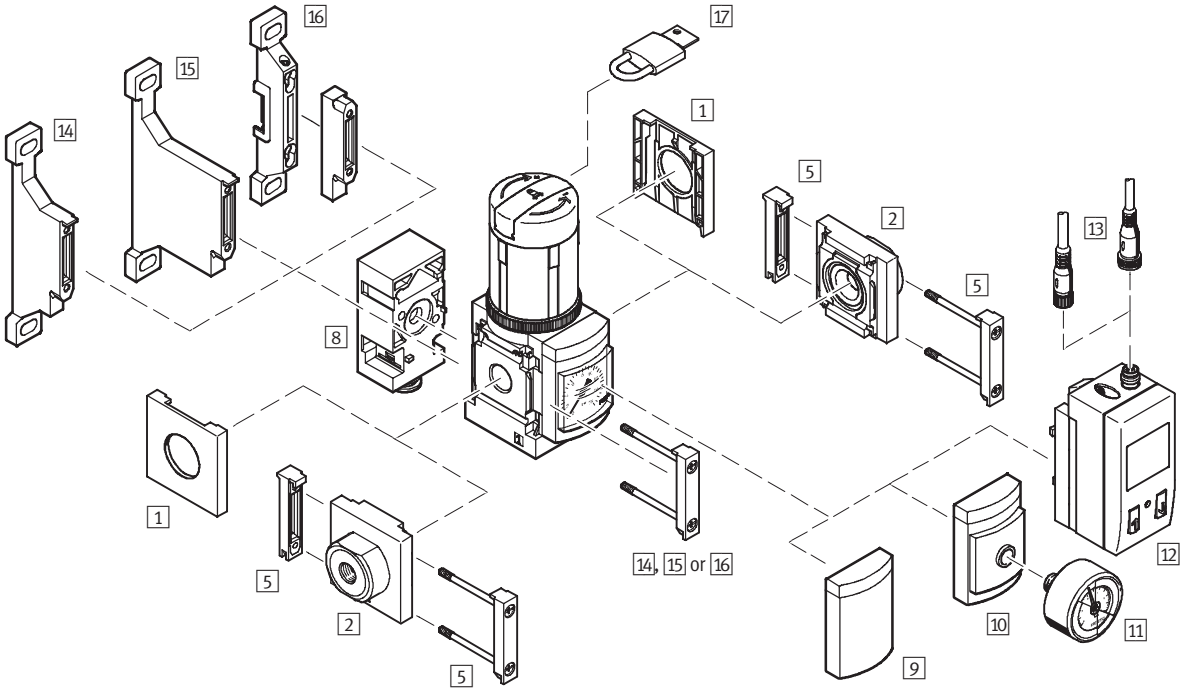
[10] **WPB** Not with alternative flow direction Z.
Not with pressure output BD, BE

Transfer order code

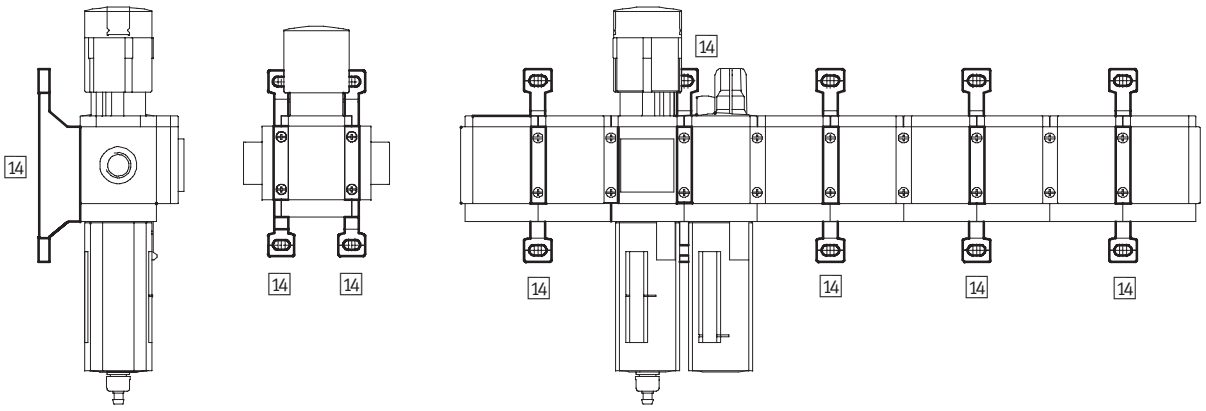
–		–		–		–		–		–		–		–	

Mounting Attachments and Accessories

Pressure output at rear



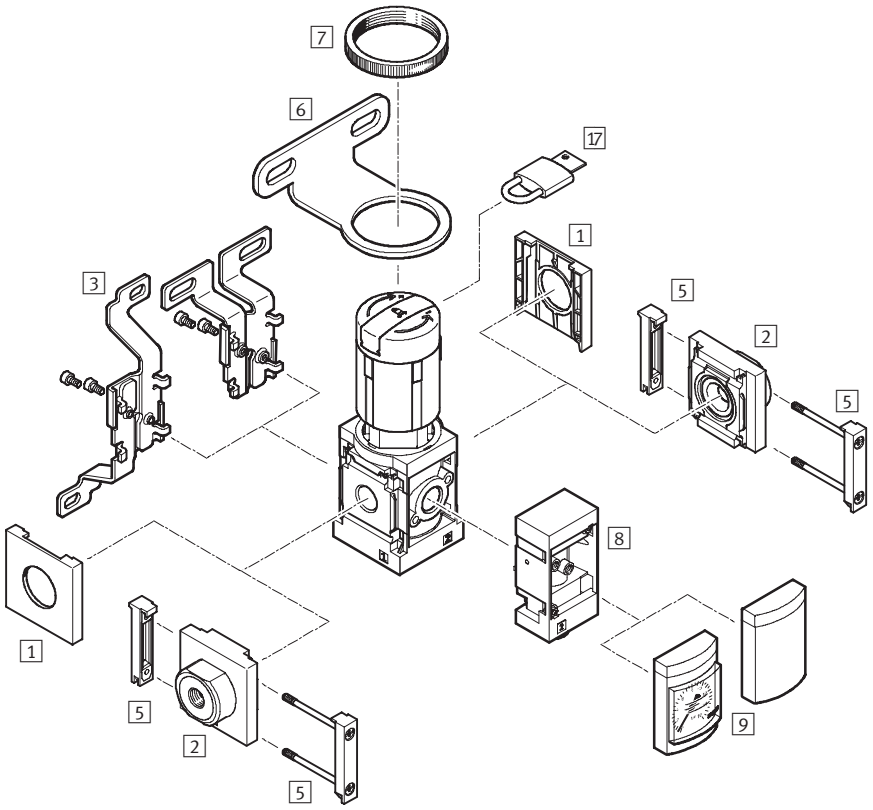
Single unit and combination unit mounting brackets.



Pressure Regulators MS6-LRB – Metric Series

Accessories Overview

Pressure output at front



Pressure Regulators MS6-LRB – Metric Series

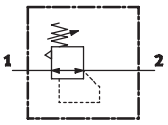
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	665
2	Port plate MS6-AG...	–	■	–	■	665
3	Mounting bracket MS6-WB	■	■	–	–	663
5	Body connector MS6-MV	–	■	■	■	666
6	Regulator wall bracket MS6-WR	■	■	–	–	664
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Angled outlet block B...	■	■	■	■	633
9	Cover plate VS	■	■	■	■	632
10	Adapter for EN pressure gauge ¼ A4	■	■	■	■	632
11	Pressure gauge MA	■	■	■	■	632
12	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	632
13	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	670
14	Mounting bracket MS6-WP	–	■	■	■	667
15	Mounting bracket MS6-WPB	–	■	■	■	667
16	Mounting bracket MS6-WPM	–	■	■	■	667
17	Padlock LRVS-D	■	■	■	■	670

Precision Pressure Regulators MS6-LRP – Metric Series

Technical Data

ISO Symbol



- The precision pressure regulator is suitable for sensitive applications with a required pressure hysteresis of 0.02 bar.
- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Setting values are secured by locking the rotary knob
- Lockable rotary knob (optional)
- Four pressure regulation ranges
- Optional pressure sensor with display
- With secondary venting



General Technical Data					
Pneumatic connection 1, 2			G¼	G⅜	G½
Pneumatic connection of secondary venting			G¼		
Supply pressure		[bar]	1 ... 14		
Pressure regulation range	D2	[bar]	0.05 ... 0.7		
	D4	[bar]	0.05 ... 2.5		
	D5	[bar]	0.1 ... 4		
	D7	[bar]	0.1 ... 12 (0.1 ... 10 with pressure sensor variant AD...)		
Max. hysteresis		[bar]	0.02		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]				
Pneumatic connection 1, 2		G¼	G⅜	G½
Pressure regulation range	D2	800[1]	1,100[1]	1,600[1]
	D4	1,100[2]	1,400[2]	2,300[2]
	D5	1,400[3]	1,700[3]	3,000[3]
	D7	3,000[4]	3,300[4]	5,000[4]

1) Measured at p1 = 10 bar and p2 = 0.5 bar, Δp = 0.1 bar
2) Measured at p1 = 10 bar and p2 = 1.5 bar, Δp = 0.1 bar
3) Measured at p1 = 10 bar and p2 = 2.5 bar, Δp = 0.1 bar
4) Measured at p1 = 10 bar and p2 = 6.0 bar, Δp = 0.1 bar

Precision Pressure Regulators MS6-LRP – Metric Series

Technical Data

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air, filtered, unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	0 ... +50
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Installation position		Any	
Corrosion resistance class	CRC[1)]	2	

1) Corrosion resistance class 2 to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

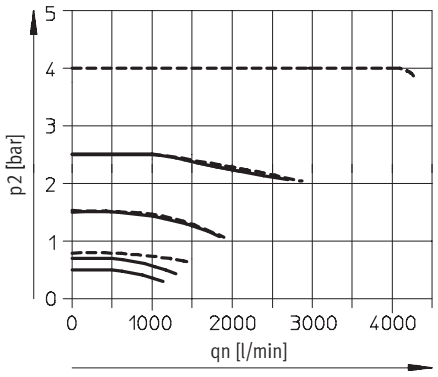
Weight [g]	
Precision pressure regulator	1,000

- For spare parts go to: www.festo.com/en/spare_parts_service

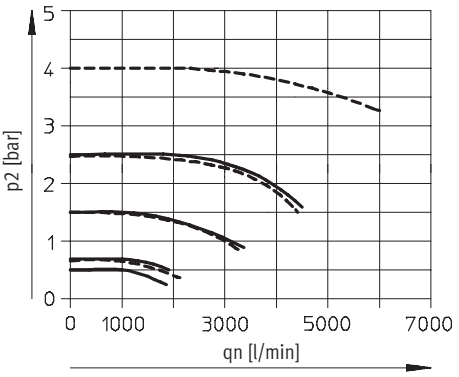
Standard Flow Rate qn as a Function of Output Pressure p2

MS6-LRP-¼

Primary pressure p1 = 10 bar



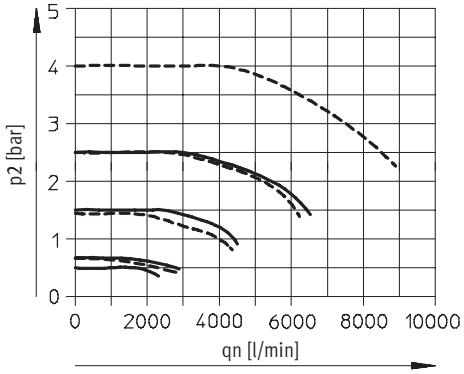
MS6-LRP-⅜



D4: 0.05 ... 2.5 bar
D5: 0.1 ... 4 bar

MS6-LRP-½

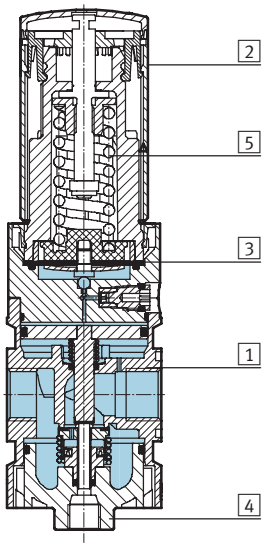
Primary pressure p1 = 10 bar



D4: 0.05 ... 2.5 bar
D5: 0.1 ... 4 bar

Materials

Sectional view



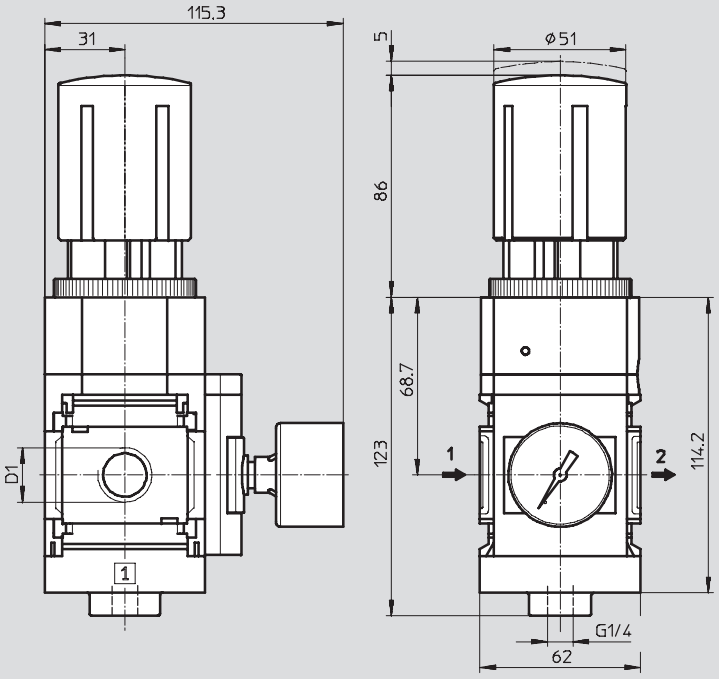
Precision pressure regulator		
1	Housing	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Cap, bottom	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants A8M or AD...)

Precision Pressure Regulators MS6-LRP – Metric Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

Adapter plate A8M for EN pressure gauge ⅛, with precision pressure gauge Technical data for gauge MAP ➔ www.festo.com/catalog/map



➔ Flow direction

Type	D1
MS6-LRP-¼-...-A8M	G¼
MS6-LRP-⅜-...-A8M	G⅜
MS6-LRP-½-...-A8M	G½

1) Dimensions are in millimeters, unless otherwise noted.

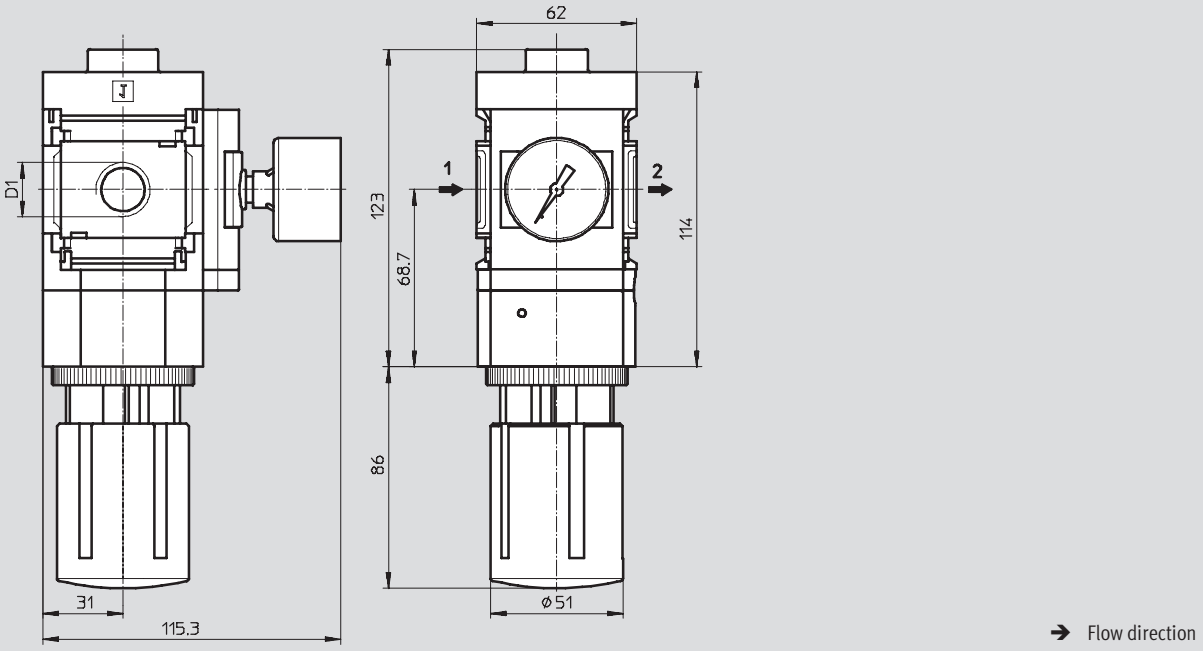
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Precision Pressure Regulators MS6-LRP – Metric Series

Dimensional Drawings

Dimensions[1] – Alternative Assembly Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob at bottom KD



Type	D1
MS6-LRP-¼-...-KD	G¼
MS6-LRP-⅜-...-KD	G⅜
MS6-LRP-½-...-KD	G½

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

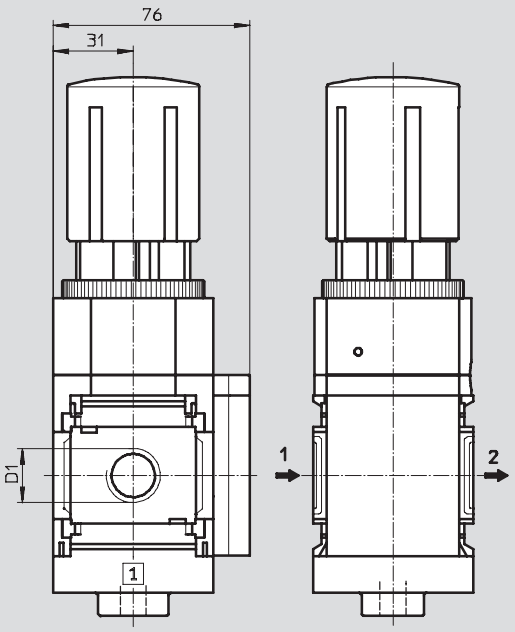
Precision Pressure Regulators MS6-LRP – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

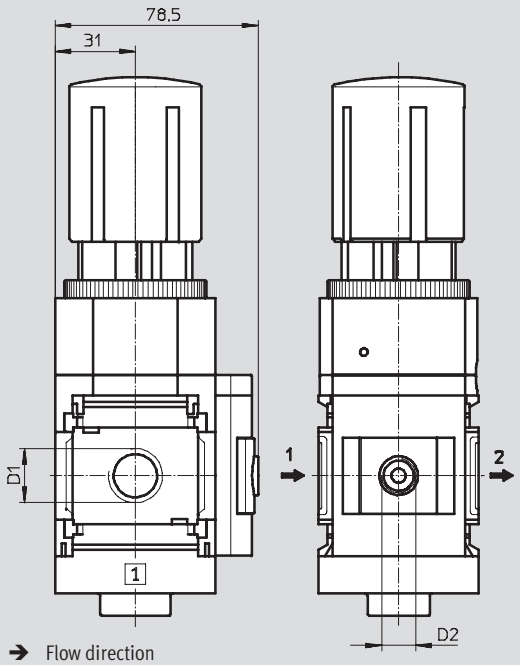
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Type	D1	D2
MS6-LRP-1/4-...-VS	G1/4	–
MS6-LRP-3/8-...-VS	G3/8	
MS6-LRP-1/2-...-VS	G1/2	
MS6-LRP-1/4-...-A8	G1/4	G1/8
MS6-LRP-3/8-...-A8	G3/8	
MS6-LRP-1/2-...-A8	G1/2	
MS6-LRP-1/4-...-A4	G1/4	G1/4
MS6-LRP-3/8-...-A4	G3/8	
MS6-LRP-1/2-...-A4	G1/2	

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Precision Pressure Regulators MS6-LRP – Metric Series

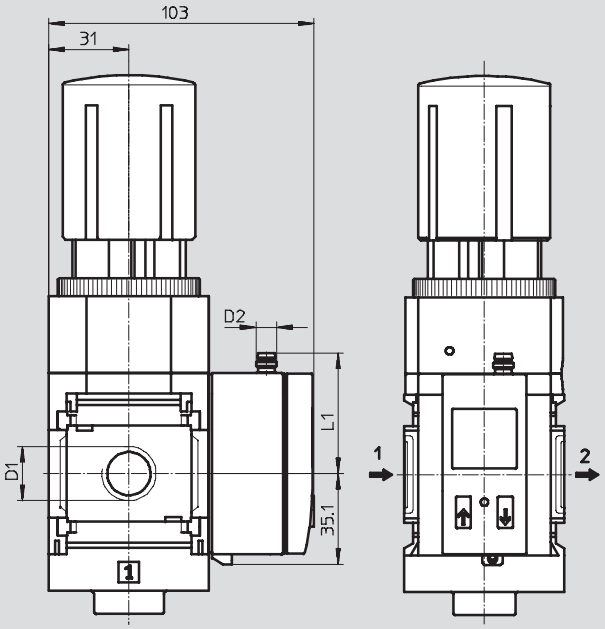
Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

Variant AD1:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switch output PNP.

Variant AD2:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switch output NPN.

Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switch output PNP and 4 ... 20 mA analog.

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switch output NPN and 4 ... 20 mA analog.

Type	D1	D2	L1
MS6-LRP-¼-...-AD1/AD2	G¼	M8x1	46.7
MS6-LRP-⅜-...-AD1/AD2	G⅜		
MS6-LRP-½-...-AD1/AD2	G½		
MS6-LRP-¼-...-AD3/AD4	G¼	M12x1	55.8
MS6-LRP-⅜-...-AD3/AD4	G⅜		
MS6-LRP-½-...-AD3/AD4	G½		

1) Dimensions are in millimeters, unless otherwise noted.

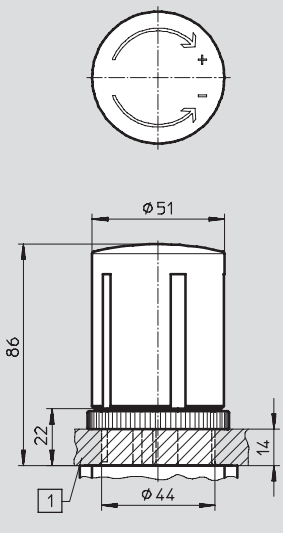
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Rotary Knob

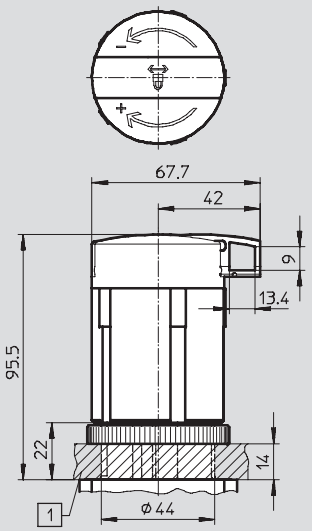
Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

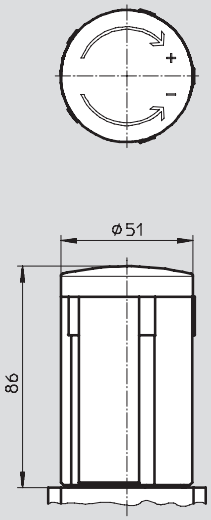
Standard



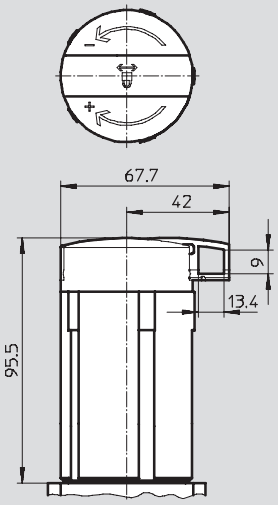
Standard, lockable AS



Long LD



Long, lockable LD-AS



1 Max. control panel thickness

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Adapter plate for EN pressure gauge 1/8, standard rotary knob

Connection	Part No.	Type	LT
Pressure regulation range 0.05 ... 0.7 bar			
G1/4	**538004**	**MS6-LRP-1/4-D2-A8**[2]	Q
G3/8	**538012**	**MS6-LRP-3/8-D2-A8**[2]	Q
G1/2	**538020**	**MS6-LRP-1/2-D2-A8**[2]	Q
Pressure regulation range 0.05 ... 2.5 bar			
G1/4	**538006**	**MS6-LRP-1/4-D4-A8**[2]	Q
G3/8	**538014**	**MS6-LRP-3/8-D4-A8**[2]	Q
G1/2	**538022**	**MS6-LRP-1/2-D4-A8**[2]	Q
Pressure regulation range 0.1 ... 4 bar			
G1/4	**538008**	**MS6-LRP-1/4-D5-A8**[2]	Q
G3/8	**538016**	**MS6-LRP-3/8-D5-A8**[2]	Q
G1/2	**538024**	**MS6-LRP-1/2-D5-A8**[2]	Q
Pressure regulation range 0.1 ... 12 bar			
G1/4	**538010**	**MS6-LRP-1/4-D7-A8**[2]	Q
G3/8	**538018**	**MS6-LRP-3/8-D7-A8**[2]	Q
G1/2	**538026**	**MS6-LRP-1/2-D7-A8**[2]	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Free of copper and PTFE

Precision Pressure Regulators MS6-LRP – Metric Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data** →

Part No.	Series	Size		Function		Connection size		Pressure regulation range		Pressure gauge alternatives
538028	MS	6		LRP		¼, ⅜, ½, AGB, AGC, AGD, AGE		D2 D4 D5 D7		VS A8 A8M A4 AD1 AD2 AD3 AD4
Order example										
538028	**MS**	**6**	–	**LRP**	–	**1/2**	–	**D4**	–	**A4**

Ordering Table

Grid dimension [mm]	62	Conditions	Code	Enter code
M Part No.	**538028**			
Series	Standard		**MS**	MS
Size	6		**6**	6
Function	Precision pressure regulator		**-LRP**	-LRP
Connection size	Body thread G¼		**-¼**	
	Body thread G⅜		**-⅜**	
	Body thread G½		**-½**	
	Port plate G¼ (dimensions → 665)		**-AGB**	
	Port plate G⅜ (dimensions → 665)		**-AGC**	
	Port plate G½ (dimensions → 665)		**-AGD**	
	Port plate G¾ (dimensions → 665)		**-AGE**	
Pressure regulation range	0.05 ... 0.7 bar		**-D2**	
	0.05 ... 2.5 bar		**-D4**	
	0.1 ... 4 bar		**-D5**	
	0.1 ... 12 bar		**-D7**	
Pressure gauge alternatives	Cover plate		**-VS**	
	Adapter plate for EN pressure gauge ⅛, without pressure gauge		**-A8**	
	Adapter plate for EN pressure gauge ⅛, with precision pressure gauge		**-A8M**	
	Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
	Pressure sensor with display, plug M8, 1 switch output PNP, 3-pin	1	**-AD1**	
	Pressure sensor with display, plug M8, 1 switch output NPN, 3-pin	1	**-AD2**	
	Pressure sensor with display, plug M12, 1 switch output PNP, 4-pin, analog output 4 ... 20 mA	1	**-AD3**	
	Pressure sensor with display, plug M12, 1 switch output NPN, 4-pin, analog output 4 ... 20 mA	1	**-AD4**	

1 **AD1** ... **AD4** Measuring range max. 10 bar.
Not with pressure regulation range D2, D4.

Transfer order code

538028	**MS**	**6**	–	**LRP**	–		–		–	

➔ [0] **Options**

Rotary knob alternative	Alternative assembly position	Security	Type of mounting	Reverse flow direction
LD	KD	AS	WR WP WPM WB	Z
– **LD**	–	– **AS**	– **WB**	– **Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
[0]	Rotary knob alternative	Long rotary knob		**-LD**		
	Alternative assembly position	Rotary knob at bottom	[2]	**-KD**		
	Security	Lockable rotary knob		**-AS**		
	Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 664)	[3]	**-WR**		
		Mounting bracket (dimensions ➔ 667)	[4]	**-WP**		
		Mounting bracket (dimensions ➔ 667)	[4]	**-WPM**		
		Mounting bracket (dimensions ➔ 663)		**-WB**		
	Reverse flow direction	Flow direction from right to left (without pressure output, no pressure gauge)		**-Z**		

[2] **KD** Not with mounting type WP

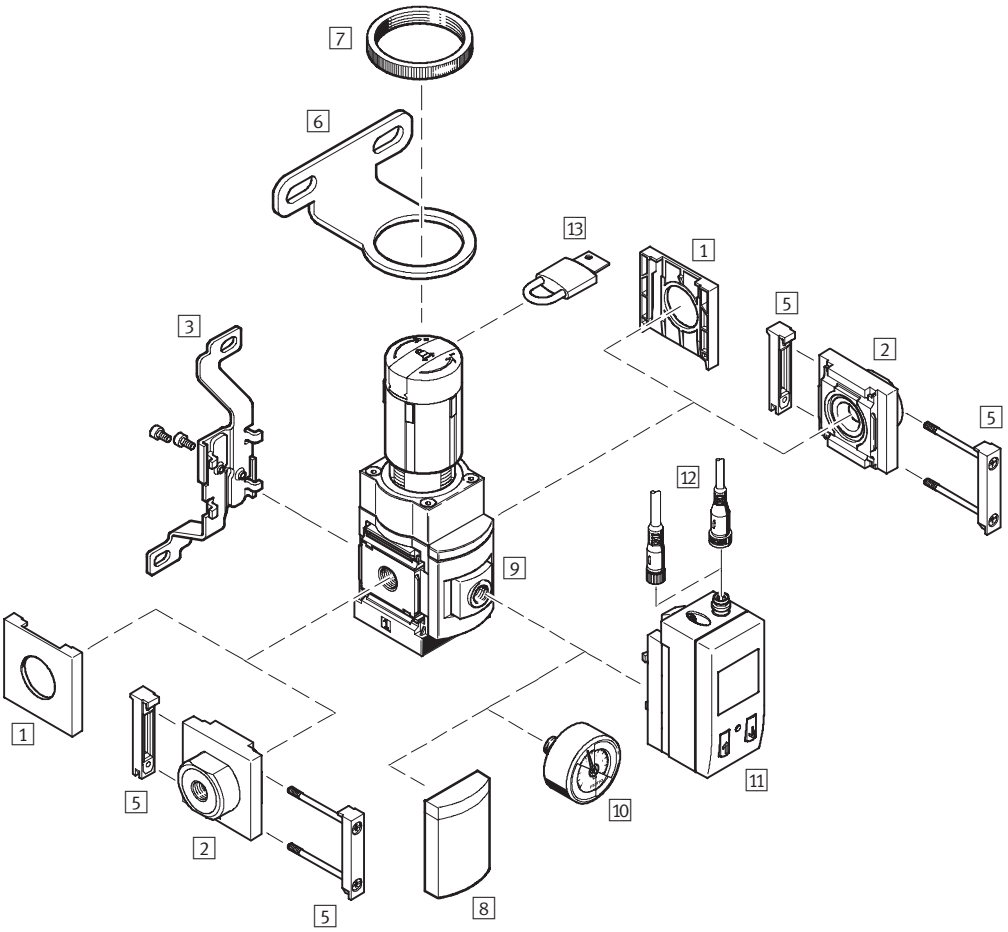
[3] **WR** Not with long rotary knob LD

[4] **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

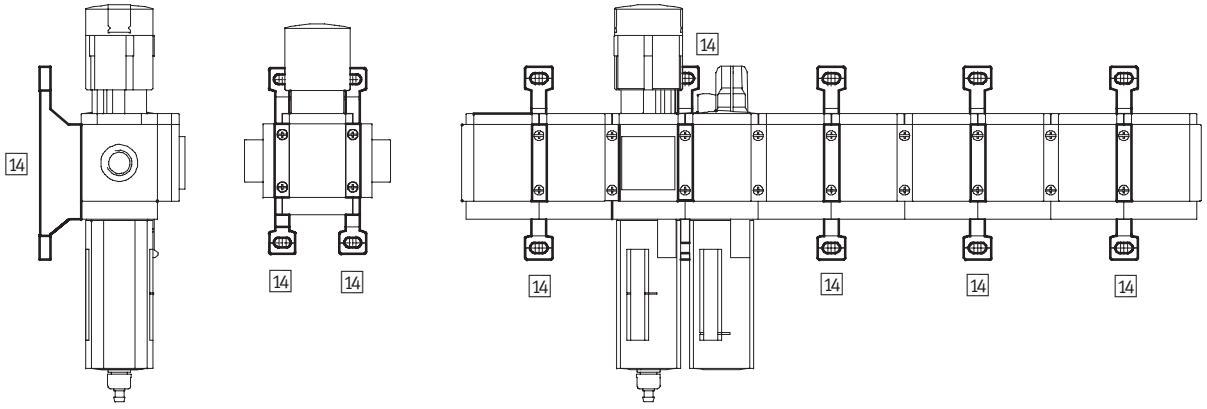
Transfer order code

– [ ] – [ ] – [ ] – [ ] – [ ]

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Precision Pressure Regulators MS6-LRP – Metric Series

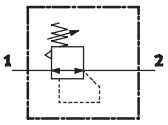
Accessories Overview

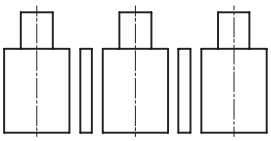
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	665
2	Port plate MS6-AG...	–	■	–	■	665
3	Mounting bracket MS6-WB	■	■	–	–	663
5	Body connector MS6-MV	–	■	■	■	666
6	Regulator wall bracket MS6-WR	■	■	–	–	664
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Cover plate VS	■	■	■	■	646
9	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	646
10	Precision pressure gauge A8M/MAP	■	■	■	■	646
11	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	646
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	670
13	Padlock LRVS-D	■	■	■	■	670
14	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	667

Precision Pressure Regulators MS6-LRPB – Metric Series

Technical Data

ISO Symbol





LRPB combination
with through pressure supply for
manifold assembly

- The precision pressure regulator is suitable for sensitive applications with a required pressure hysteresis of 0.02 bar.
- The pressure regulator is suitable for manifold assemblies with through air supply on both sides. Pressure output is at the front or rear.
- For configuring a regulator manifold with separate, independent pressure regulation ranges
- Good control characteristics with low hysteresis and primary pressure compensation
- Setting values are secured by locking the rotary knob
- Lockable rotary knob (optional)
- Four pressure regulation ranges
- Optional pressure sensor with display
- With secondary venting



General Technical Data			
Pneumatic connection 1			G½
Pneumatic connection 2			G½
			QS-8 push-in tubing connector
			QS-10 push-in tubing connector
Pneumatic connection of secondary venting			G¼
Supply pressure		[bar]	1 ... 14
Pressure regulation range	D2	[bar]	0.05 ... 0.7
	D4	[bar]	0.05 ... 2.5
	D5	[bar]	0.1 ... 4
	D7	[bar]	0.1 ... 12 (0.1 ... 10 with pressure sensor variant AD...)
Max. hysteresis		[bar]	0.02

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]		
Pressure regulation range	D2	1,600[1]
	D4	2,300[2]
	D5	3,000[3]
	D7	5,000[4]

1) Measured at p1 = 10 bar and p2 = 0.5 bar, Δp = 0.1 bar
2) Measured at p1 = 10 bar and p2 = 1.5 bar, Δp = 0.1 bar
3) Measured at p1 = 10 bar and p2 = 2.5 bar, Δp = 0.1 bar
4) Measured at p1 = 10 bar and p2 = 6.0 bar, Δp = 0.1 bar

Precision Pressure Regulators MS6-LRPB – Metric Series

Technical Data

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air, filtered, unlubricated, filtration grade 40 µm	
Ambient temperature	[°C]	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	0 ... +50
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Installation position		Any	
Corrosion resistance class	CRC[1)]	2	

1) Corrosion resistance class 2 to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

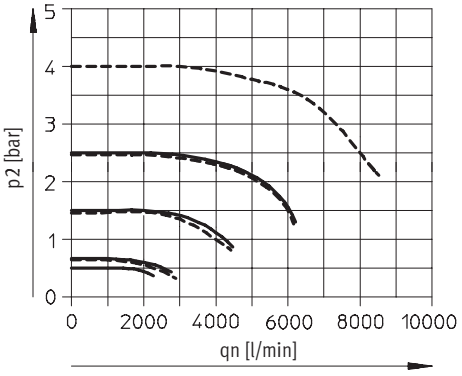
Weight [g]	
Precision pressure regulator	1,000

- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

MS6-LRPB-½

Primary pressure p1 = 10 bar



——— D4: 0.05 ... 2.5 bar
- - - - - - - D5: 0.1 ... 4 bar

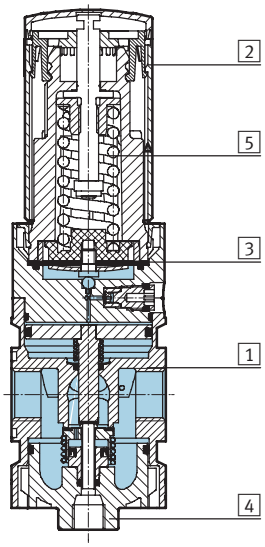
Precision Pressure Regulators MS6-LRPB – Metric Series

Technical Data, Dimensional Drawings

FESTO

Materials

Sectional view



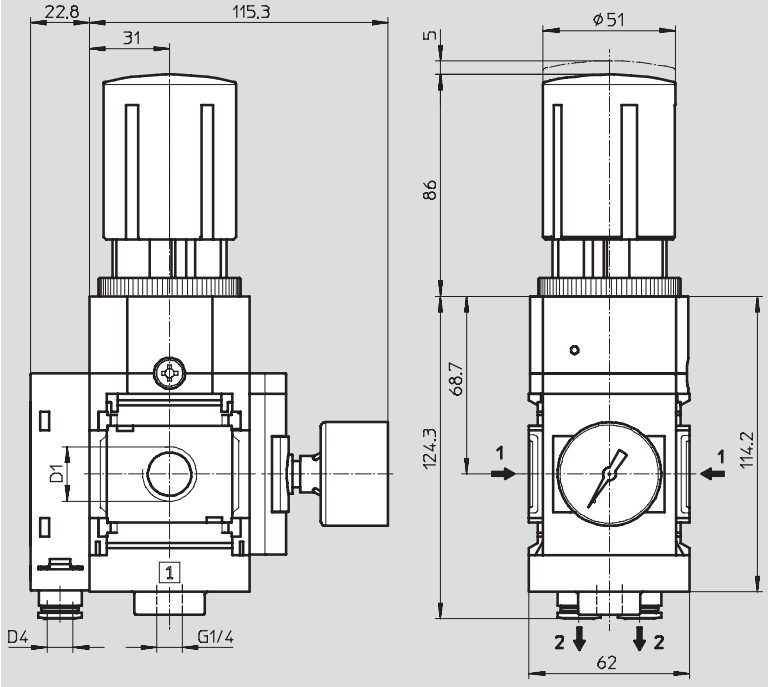
Precision pressure regulator (manifold assembly)		
1	Housing	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Cap, bottom	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants A8M or AD...)

Dimensions

Download CAD Data ➔ **www.festo.com/us/cad**

Technical data for gauge MAP ➔ www.festo.com/catalog/map

Adapter plate A8M for EN pressure gauge ⅛, with precision pressure gauge, angled outlet block BD/BE



➔ Flow direction

Type	D1	D4
MS6-LRPB-½-...-A8M-BD	G½	QS-8
MS6-LRPB-½-...-A8M-BE		QS-10

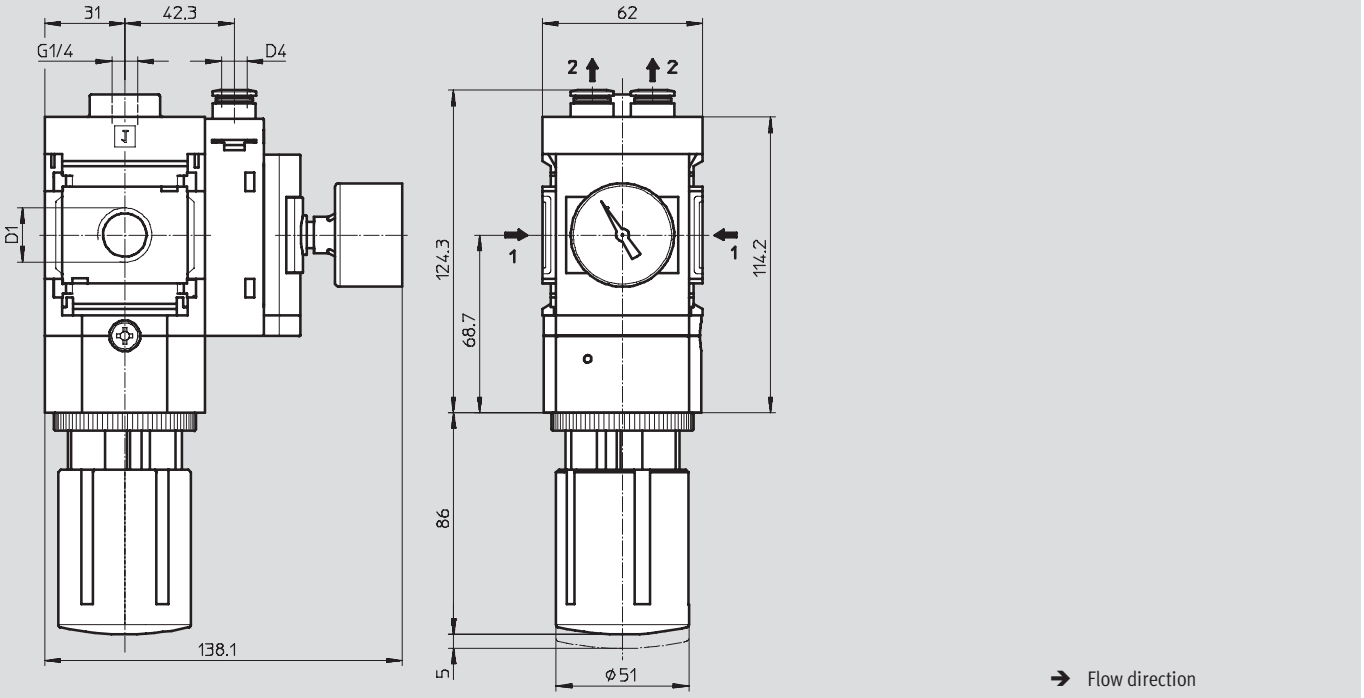
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Precision Pressure Regulators MS6-LRPB – Metric Series

Dimensional Drawings

Dimensions[1] – Alternative Assembly Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob at bottom KD, angled outlet block BD/BE



Type	D1	D4
MS6-LRPB-½-...-KD-BD	G½	QS-8
MS6-LRPB-½-...-KD-BE		QS-10

1) Dimensions are in millimeters, unless otherwise noted.

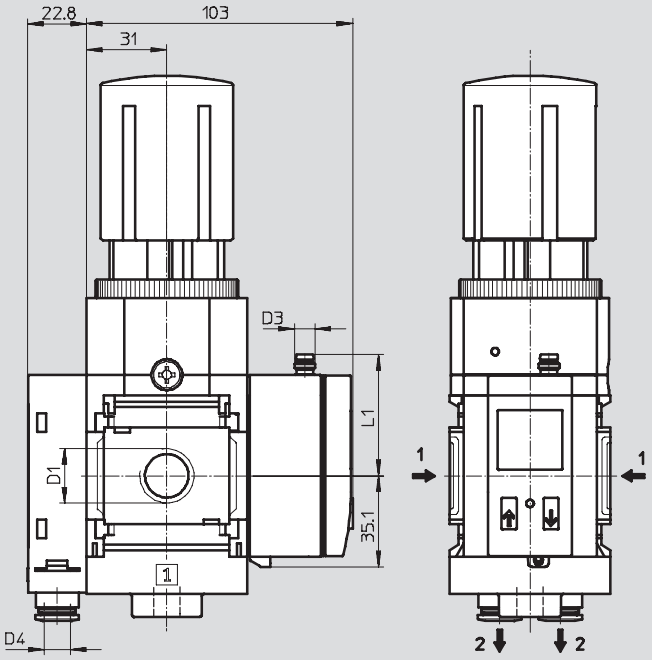
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Precision Pressure Regulators MS6-LRPB – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4, angled outlet block BD/BE Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

Variant AD1:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switch output PNP.

Variant AD2:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switch output NPN.

Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switch output PNP and 4 ... 20 mA analog.

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switch output NPN and 4 ... 20 mA analog.

Type	D1	D3	D4	L1
MS6-LRPB-½-...-AD1/AD2-BD	G½	M8x1	QS-8	46.7
MS6-LRPB-½-...-AD1/AD2-BE			QS-10	
MS6-LRPB-½-...-AD3/AD4-BD	G½	M12x1	QS-8	55.8
MS6-LRPB-½-...-AD3/AD4-BE			QS-10	

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

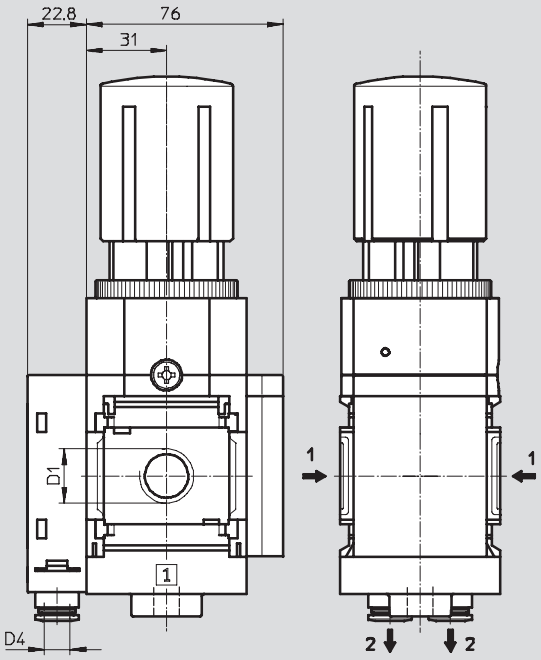
Precision Pressure Regulators MS6-LRPB – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

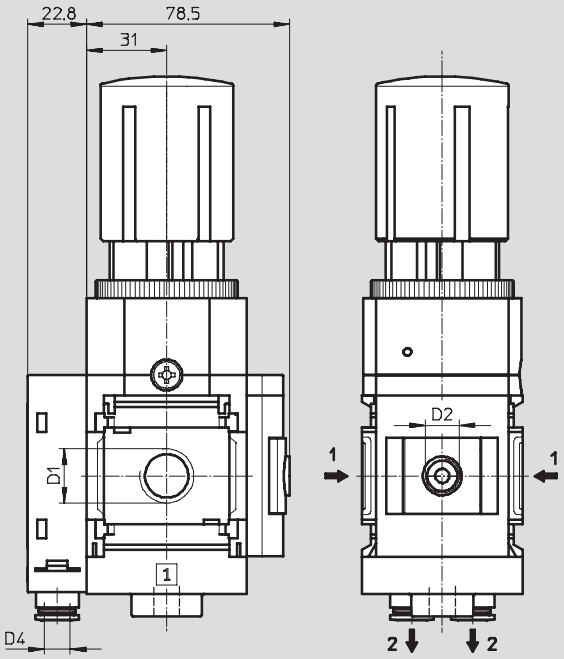
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS, angled outlet block BD/BE



➔ Flow direction

Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge, angled outlet block BD/BE



➔ Flow direction

Type	D1	D2	D4
MS6-LRPB-1/2-...-VS-BD	G1/2	–	QS-8
MS6-LRPB-1/2-...-VS-BE			QS-10
MS6-LRPB-1/2-...-A8-BD	G1/2	G1/8	QS-8
MS6-LRPB-1/2-...-A8-BE			QS-10
MS6-LRPB-1/2-...-A4-BD	G1/2	G1/4	QS-8
MS6-LRPB-1/2-...-A4-BE			QS-10

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

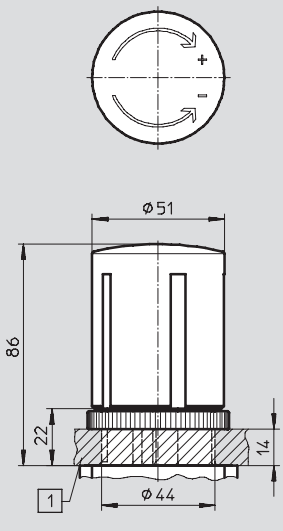
Precision Pressure Regulators MS6-LRPB – Metric Series

Dimensional Drawings

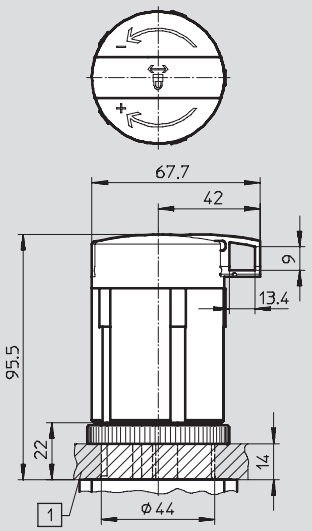
Dimensions[1] – Rotary Knob Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

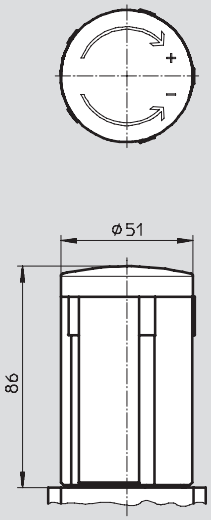
Standard



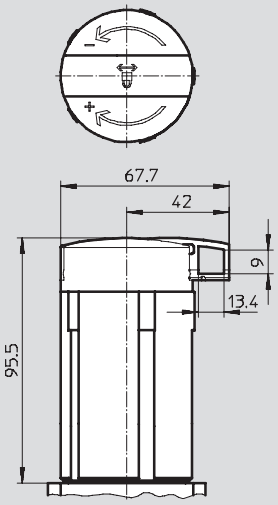
Standard, lockable AS



Long LD



Long, lockable LD-AS



1 Max. control panel thickness

1) Dimensions are in millimeters, unless otherwise noted.

Precision Pressure Regulators MS6-LRPB – Metric Series

Ordering Data – Pre-configured Products

Ordering Data			
Adapter plate A8 for EN pressure gauge ⅛, standard rotary knob			
Connection	Pressure output to rear without angled outlet block		
	Part No.	Type	LT
Pressure regulation range 0.05 ... 0.7 bar			
G½	**534911**	**MS6-LRPB-½-D2-A8**[1)]	Q
Pressure regulation range 0.05 ... 2.5 bar			
G½	**534914**	**MS6-LRPB-½-D4-A8**[1)]	Q
Pressure regulation range 0.1 ... 4 bar			
G½	**534917**	**MS6-LRPB-½-D5-A8**[1)]	Q
Pressure regulation range 0.1 ... 12 bar			
G½	**534920**	**MS6-LRPB-½-D7-A8**[1)]	Q

Ordering Data							
Adapter plate A8 for EN pressure gauge ⅛, standard rotary knob							
Connection	Pressure output to rear with angled outlet block QS-8				Pressure output to rear with angled outlet block QS-10		
	Part No.	Type	LT		Part No.	Type	LT
Pressure regulation range 0.05 ... 0.7 bar							
G½	**534865**	**MS6-LRPB-½-D2-A8-BD**[1)]	Q		**534 913**	**MS6-LRPB-½-D2-A8-BE**[1)]	Q
Pressure regulation range 0.05 ... 2.5 bar							
G½	**534868**	**MS6-LRPB-½-D4-A8-BD**[1)]	Q		**534 916**	**MS6-LRPB-½-D4-A8-BE**[1)]	Q
Pressure regulation range 0.1 ... 4 bar							
G½	**534871**	**MS6-LRPB-½-D5-A8-BD**[1)]	Q		**534 919**	**MS6-LRPB-½-D5-A8-BE**[1)]	Q
Pressure regulation range 0.1 ... 12 bar							
G½	**534874**	**MS6-LRPB-½-D7-A8-BD**[1)]	Q		**534 922**	**MS6-LRPB-½-D7-A8-BE**[1)]	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Free of copper and PTFE

Precision Pressure Regulators MS6-LRPB – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data

Part No.	Series	Size		Function		Connection size		Pressure regulation range		Pressure gauge alternatives
535007	MS	6		LRPB		½, AGB, AGC, AGD, AGE		D2 D4 D5 D7		VS A8 A8M A4 AD1 AD2 AD3 AD4
Order example										
535007	**MS**	**6**	–	**LRPB**	–	**AGD**	–	**D5**	–	**VS**

Ordering Table

Grid dimension [mm]	62	Conditions	Code	Enter code
M Part No.	**535007**			
Series	Standard		**MS**	MS
Size	6		**6**	6
Function	Precision pressure regulator for manifold assembly		**-LRPB**	-LRPB
Connection size	Body thread G½		**-½**	
	Port plate G¼ (dimensions ➔ 665)		**-AGB**	
	Port plate G⅜ (dimensions ➔ 665)		**-AGC**	
	Port plate G½ (dimensions ➔ 665)		**-AGD**	
	Port plate G¾ (dimensions ➔ 665)		**-AGE**	
Pressure regulation range	0.05 ... 0.7 bar		**-D2**	
	0.05 ... 2.5 bar		**-D4**	
	0.1 ... 4 bar		**-D5**	
	0.1 ... 12 bar		**-D7**	
Pressure gauge alternatives	Cover plate	1	**-VS**	
	Adapter plate for EN pressure gauge ⅛, without pressure gauge	2	**-A8**	
	Adapter plate for EN pressure gauge ⅛, with precision pressure gauge	2	**-A8M**	
	Adapter plate for EN pressure gauge ¼, without pressure gauge	2	**-A4**	
	Pressure sensor with display, plug M8, 1 switch output PNP, 3-pin	2 3	**-AD1**	
	Pressure sensor with display, plug M8, 1 switch output NPN, 3-pin	2 3	**-AD2**	
	Pressure sensor with display, plug M12, 1 switch output PNP, 4-pin, analog output 4 ... 20 mA	2 3	**-AD3**	
	Pressure sensor with display, plug M12, 1 switch output NPN, 4-pin, analog output 4 ... 20 mA	2 3	**-AD4**	

1 **VS** Must be selected with alternative flow direction Z without alternative assembly position KD or without alternative pressure output BD, BE.
Must be selected with alternative assembly position KD without alternative flow direction Z or without alternative pressure output BD, BE

2 **A8, A8M, A4, AD1 ... AD4** In combination with alternative flow direction Z only with alternative assembly position KD

3 **AD1 ... AD4** Measuring range max. 10 bar.
Not with pressure regulation range D2, D4.

Transfer order code

535007	**MS**	**6**	–	**LRPB**	–		–		–	

➔ 0 **Options**

	Rotary knob alternative		Alternative assembly position		Security		Alternative pressure output		Type of mounting		Reverse flow direction
	LD		KD		AS		BD BE		WR WP WPM WPB WB		Z
–	**LD**	–		–	**AS**	–	**BE**	–	**WP**	–	**Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
0	Rotary knob alternative	Long rotary knob		**-LD**		
	Alternative assembly position	Rotary knob at bottom	4	**-KD**		
	Security	Lockable rotary knob		**-AS**		
	Alternative pressure output	Angled outlet block QS-8		**-BD**		
		Angled outlet block QS-10		**-BE**		
	Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 664)	5 6	**-WR**		
		Mounting bracket (dimensions ➔ 667)	7 8	**-WP**		
		Mounting bracket (dimensions ➔ 667)	5 7	**-WPM**		
		Mounting bracket for large wall gap (dimensions ➔ 667)	7 9	**-WPB**		
		Mounting bracket (dimensions ➔ 663)	5	**-WB**		
	Reverse flow direction	Pressure output at front (without pressure output, no pressure gauge)		**-Z**		

4 **KD** In combination with pressure gauge alternatives A8, A4, AD1, AD2, AD3, AD4 only with alternative flow direction Z

5 **WR, WPM, WB** Either only with alternative flow direction Z or only with alternative assembly position KD

6 **WR** Only with alternative flow direction Z.
Not with long rotary knob LD

7 **WP, WPM, WPB** Only with port plate AGB, AGC, AGD or AGE

8 **WP** Not with alternative assembly position KD
Either only with alternative flow direction Z or only with alternative pressure output BD, BE

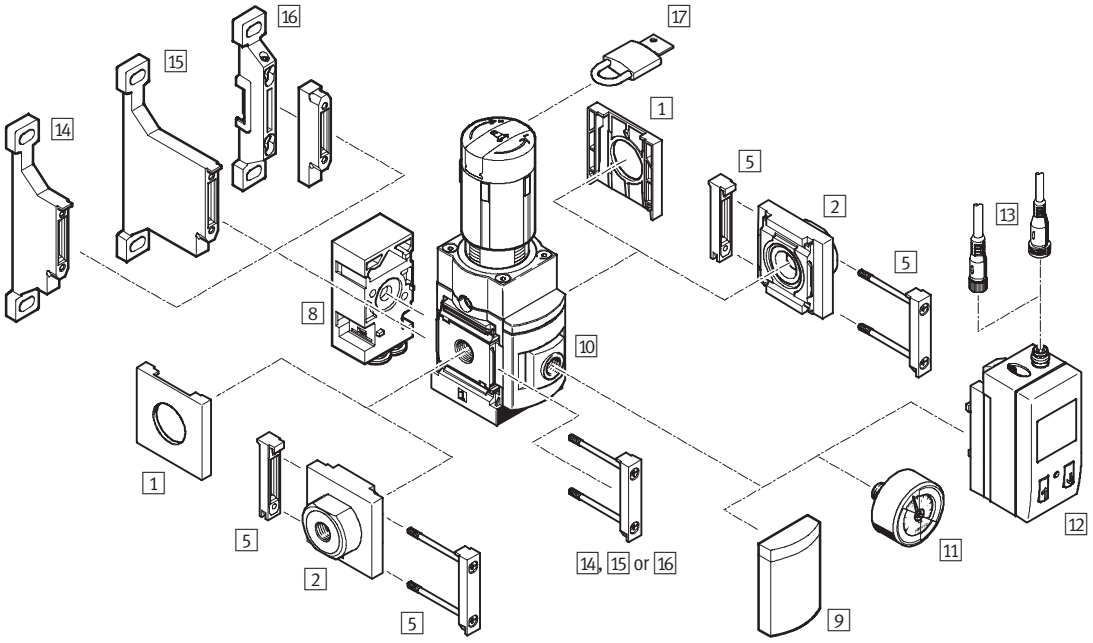
9 **WPB** Not with alternative assembly position KD
Not with alternative pressure output BD, BE
Not with alternative flow direction Z

Transfer order code

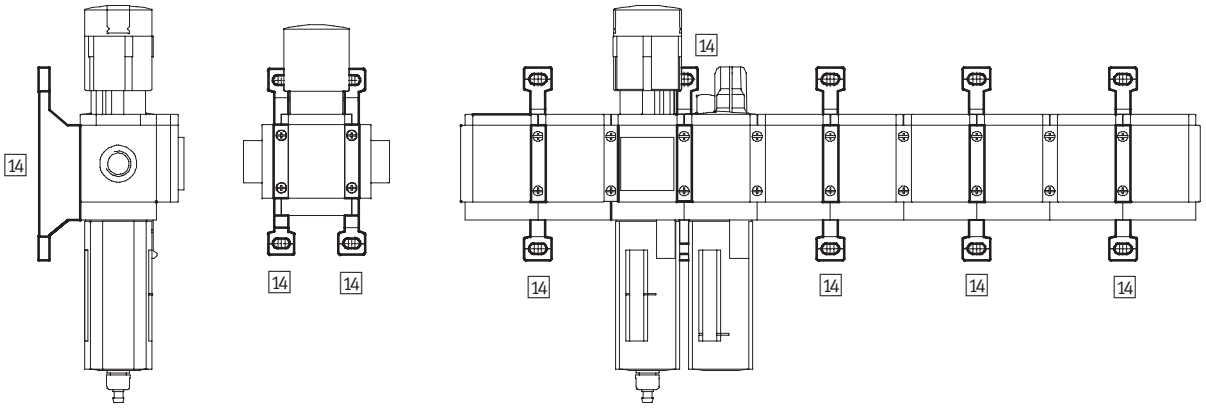
–		–		–		–		–		–	

Mounting Attachments and Accessories

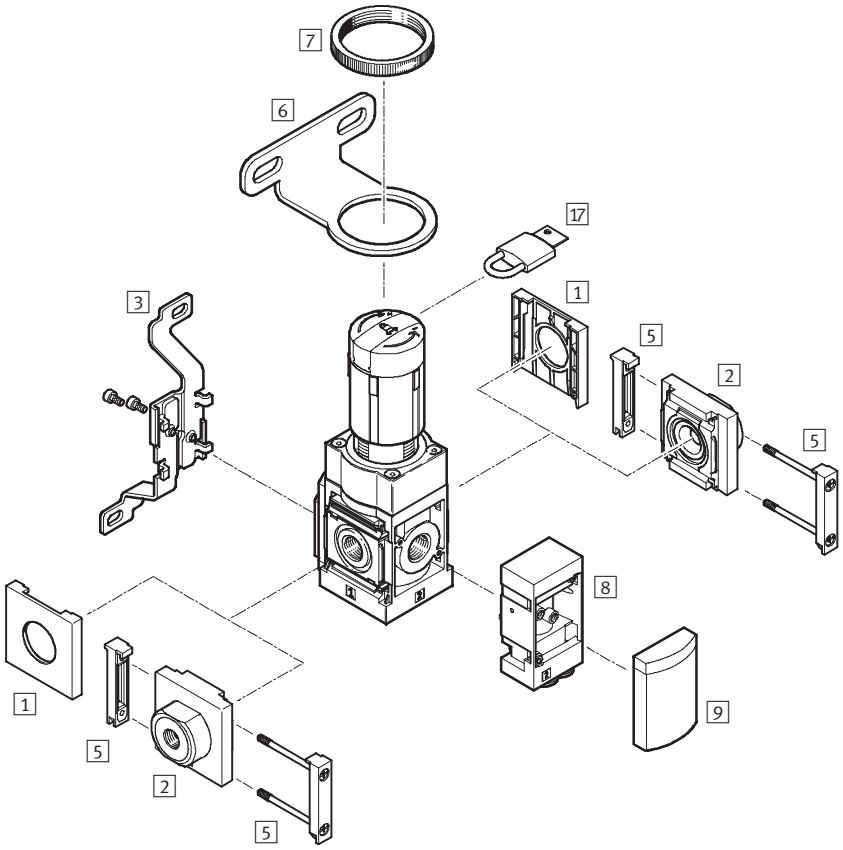
Pressure output at rear



Single unit and combination unit mounting brackets.



Pressure output at front



Precision Pressure Regulators MS6-LRPB – Metric Series

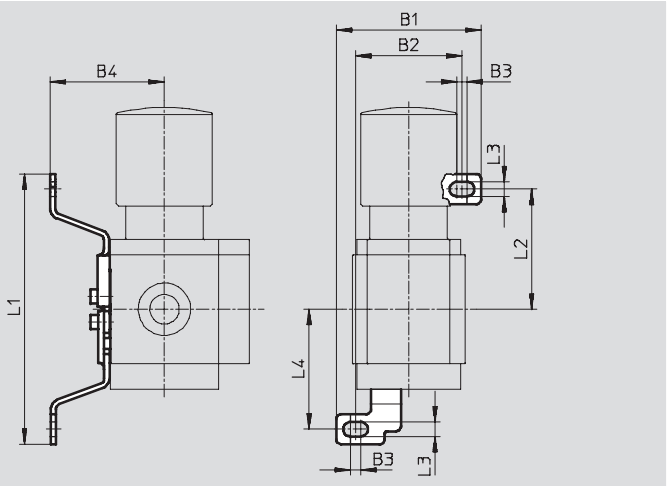
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	665
2	Port plate MS6-AG...	–	■	–	■	665
3	Mounting bracket MS6-WB	■	■	–	–	663
5	Body connector MS6-MV	–	■	■	■	666
6	Regulator wall bracket MS6-WR	■	■	–	–	664
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Angled outlet block B...	■	■	■	■	659
9	Cover plate VS	■	■	■	■	658
10	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	658
11	Precision pressure gauge A8M/MAP	■	■	■	■	658
12	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	658
13	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	670
14	Mounting bracket MS6-WP	–	■	■	■	667
15	Mounting bracket MS6-WPB	–	■	■	■	667
16	Mounting bracket MS6-WPM	–	■	■	■	667
17	Padlock LRVS-D	■	■	■	■	670

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

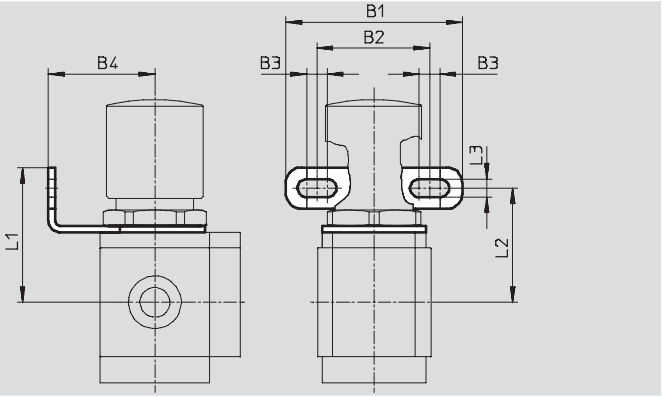
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
79.4	61.9	4.5	55	157.6	71	6.6	71	121	**532196**	**MS6-WB**

6 **Mounting bracket MS6-WR**
- For wall mounting a filter regulator and pressure regulator

Material:
Steel

Note
The hex nut for attaching components to this bracket must be ordered separately.





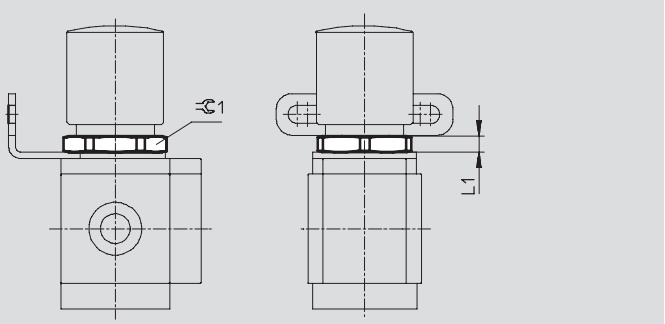
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
70	42	8.2	40	67	57	7.1	90	**526075**	**MS6-WR**

Hex nut MS6-WRS
- For front panel mounting
- For attaching components to the mounting bracket MS...-WR

Material:
Aluminum





Dimensions and Ordering Data

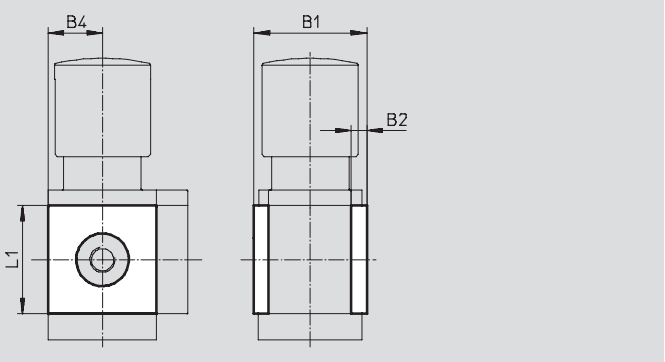
L1	⌀1	Weight [g]	Part No.	Type
7	55	20.9	**532188**	**MS6-WRS**

1 **Cover cap MS6-END**

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

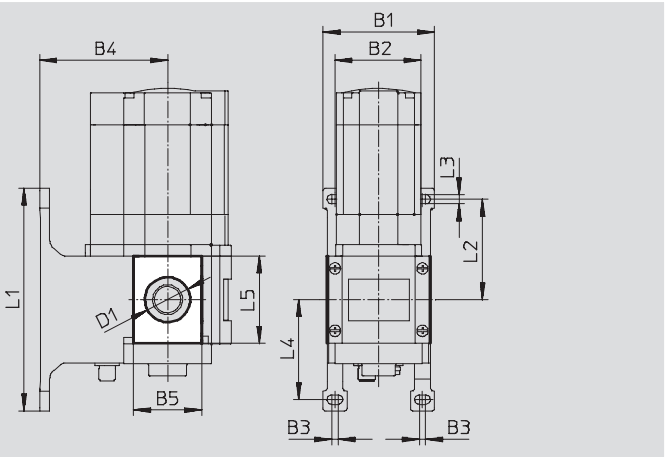
B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

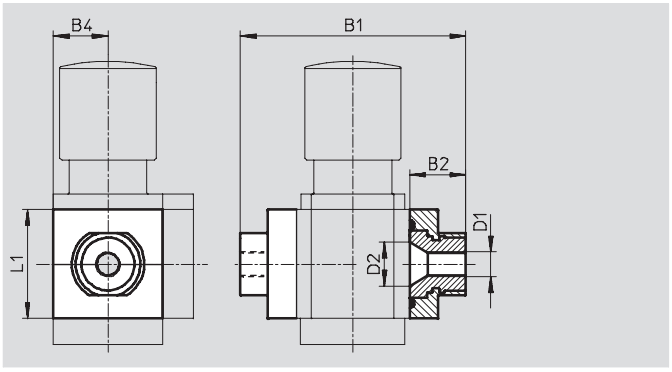
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6-AG...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G¾

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

5 **Body connector MS...-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

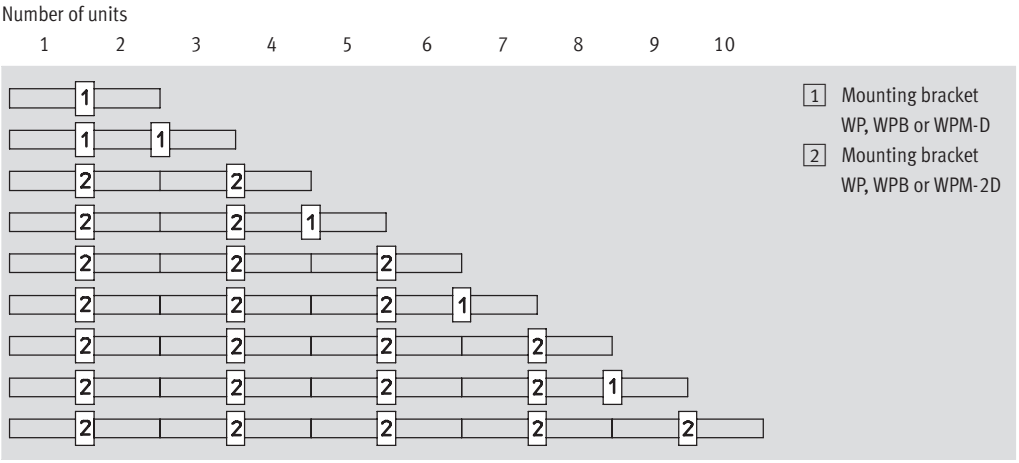
Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

14 Mounting Bracket MS6-WP...

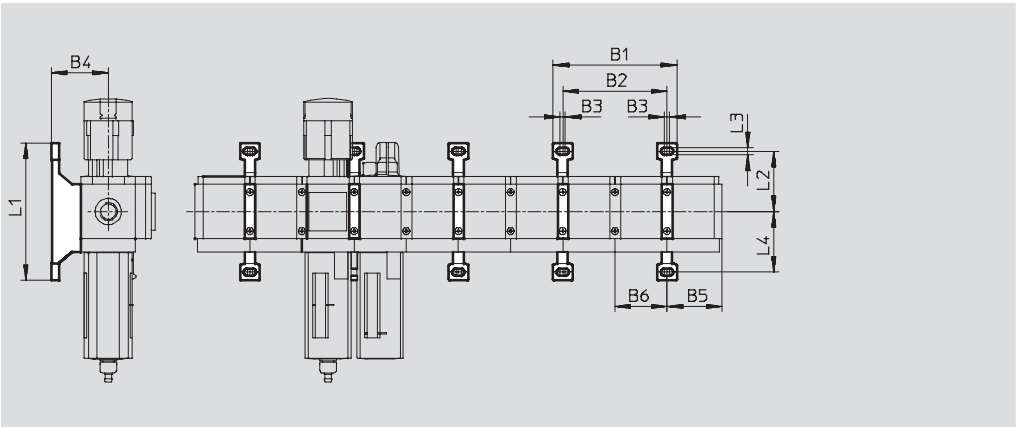
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WP, WPB
69 mm with WPM-D

2 units: 124 mm with WP, WPB
138 mm with WPM-2D



Mounting dimensions



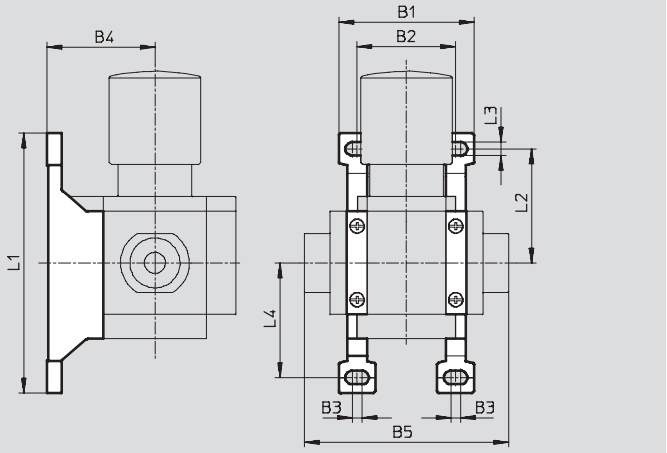
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

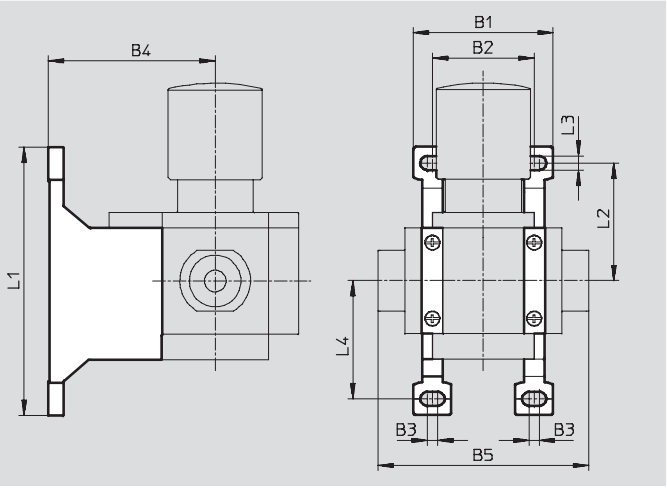
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	54	115	158	71	6.6	71	76	**532195**	**MS6-WP**

15 **Mounting bracket MS6-WPB**

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

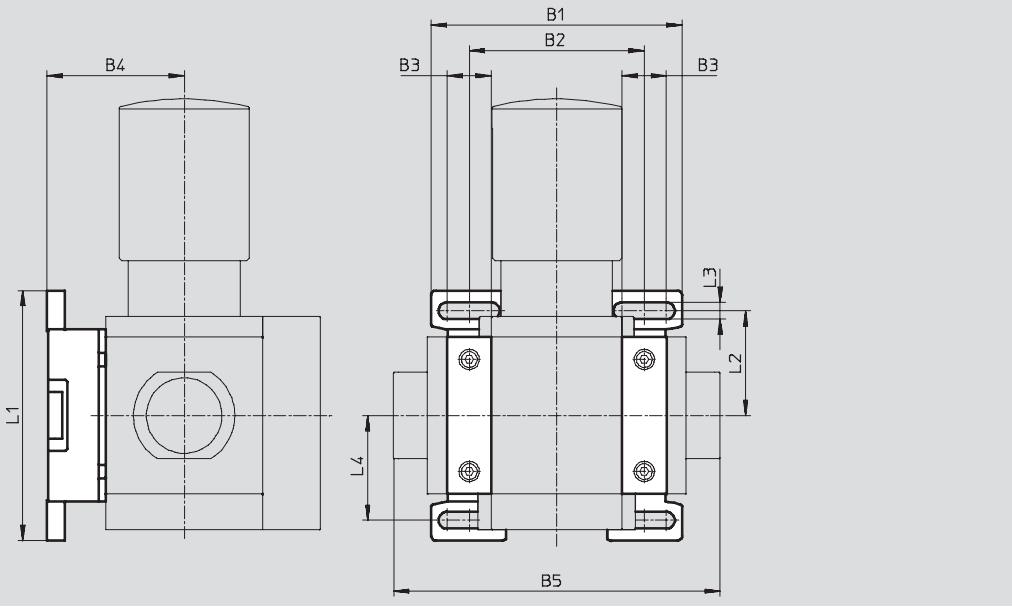
16 Mounting bracket MS6-WPM
(order code: WPM)

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	**526073**	**MS6-WPM-D**
168	138			198					124	154	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



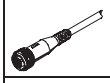
Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

13 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [m]	Part No.	Type
	M8x1, 3-pin	2.5	**159420**	**SIM-M8-3GD-2,5-PU**
		5	**159421**	**SIM-M8-3GD-5-PU**
		10	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	2.5	**159422**	**SIM-M8-3WD-2,5-PU**
		5	**159423**	**SIM-M8-3WD-5-PU**
		10	**192965**	**SIM-M8-3WD-10-PU**

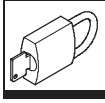
Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 4-pin	5	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	5	**164258**	**SIM-M12-4WD-5-PU**

11 Ordering Data – Pressure Gauge MA

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1				Technical data ➔ www.festo.com/catalog/ma	
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range				Technical data ➔ www.festo.com/catalog/ma	
	40	R⅛	0 ... 16	–	**525726**	**MA-40-16-R⅛-E-RG**
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**
	Precision pressure gauge MAP, DIN EN 837-1				Technical data ➔ www.festo.com/catalog/map	
	40	R⅛	0 ... 1	0 ... 15	**161126**	**MAP-40-1-⅛-EN**
			0 ... 4	0 ... 58	**162842**	**MAP-40-4-⅛-EN**
			0 ... 6	0 ... 87	**161127**	**MAP-40-6-⅛-EN**
			0 ... 16	0 ... 232	**161128**	**MAP-40-16-⅛-EN**

17 Ordering Data – Padlock LRVS-D

	Description	Weight [g]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	120	**193786**	**LRVS-D**

Pressure Regulators MS6-LR/LRB/LRP/LRPB – Metric Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS6	Snap-ring, membrane, bellows, O-rings, screws, stem	**673650**	**MS6-LR/LRB**

- For spare parts go to: www.festo.com/en/spare_parts_service

Pressure Regulators MS6N-LR/LRB, MS6N-LRP/LRPB – Inch Series



The pressure regulator maintains a constant working pressure (secondary side), regardless of the pressure variations in the system (primary side) and the air consumption.

- Pressure regulators
  – MS6-LR
  – MS6-LRB, manifold units
  – MS6-LRP, precision – MS6-LRPB, precision, manifold units
- Pneumatic connection: ¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT
- Supply pressure
  – LR and LRB: 12 … 294 psi
  – LRP and LRB: 15 … 206 psi
- Flow rate: 21.2 … 264.8 scfm

Product Range Overview

Type	Flow rate [scfm]	Pneumatic connections		Pressure regulation range [psi]						Pressure indicator					Pressure adjust-ment		Reverse flow
		Body thread	Port plate	0.7 … 10.3	0.7 … 36.8	4.4 … 58.8	4.4 … 103	7.4 … 176	7.4 … 235	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge ⅛ NPT	Adapter for pressure gauge ¼ NPT	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS6N			AG…	D2	D4	D5	D6	D7	D8	VS	AG	A8	A4	AD…	AS	LD	Z
LR	77.7 … 264.8	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	–	–	■	■	■	■	■	■	–	■	■	■	■	■
LRB	21.2 … 257.7	½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	–	–	■	■	■	■	■	■	–	■	■	■	■	■
LRP	28.2 … 176.5	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	■	■	■	–	■	–	■	–	■	■	■	■	■	■
LRPB	56.5 … 176.5	½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	■	■	■	–	■	–	■	–	■	■	■	■	■	■

Contents

MS6N-LR

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→ www.festo.com/catalog/ms6n-lr

MS6N-LRB

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Ordering Data	→ 691
Accessories	→ 694
Replacement Parts	→ 731

→ www.festo.com/catalog/ms6n-lrb

MS6N-LRP

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Dimensional Drawings	→ 701
Ordering Data	→ 705
Accessories	→ 708
Replacement Parts	→ 731

→ www.festo.com/catalog/ms6n-lrp

MS6N-LRPB

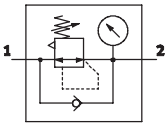
Technical Data	→ 710
Dimensional Drawings	→ 712
Ordering Data	→ 717
Accessories	→ 720
Replacement Parts	→ 731

→ www.festo.com/catalog/ms6n-lrpb

Pressure Regulators MS6N-LR – Inch Series

Technical Data

ISO Symbol



- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Available with or without secondary venting
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Four pressure regulation ranges
- Two pressure gauge connections for different fitting options
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display



General Technical Data					
Pneumatic connection 1, 2			¼ NPT	⅜ NPT	½ NPT
Supply pressure		[psi]	12 ... 294		
Pressure regulation range	D5	[psi]	4.4 ... 59		
	D6	[psi]	4.4 ... 103		
	D7	[psi]	7.4 ... 176 (7.4 ... 147 with variant pressure sensor AD...)		
	D8	[psi]	7.4 ... 235		
Max. hysteresis		[psi]	3.7		

Standard Nominal Flow Rate qnN[1] [scfm]				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Pressure regulation range	D5	84.7[2]	194.2[2]	264.8[2]
	D6	105.9	204.7	229.5
	D7	95.3	158.9	194.2
	D8	77.7	141.2	158.9

1) Measured at p1 = 147 psi and p2 = 88 psi, Δp = 15 psi
2) Measured at p1 = 147 psi and p2 = 44 psi, Δp = 15 psi

Pressure Regulators MS6N-LR – Inch Series

Technical Data

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°F]	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	32 ... 122
Storage temperature	[°F]	14 ... 140	14 ... 140
Assembly position		Any	
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Pressure regulator	1.46

- Wearing parts kits ➔ 731
- For spare parts go to: www.festo.com/en/spare_parts_service

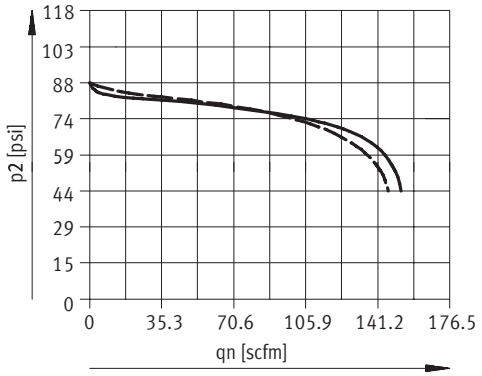
Pressure Regulators MS6N-LR – Inch Series

Technical Data

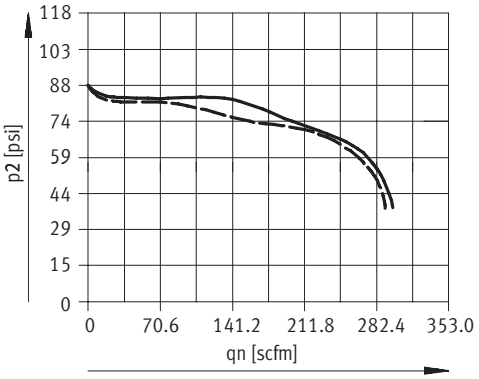
Standard Flow Rate qn as a Function of Output Pressure p2

MS6N-LR-¼

Primary pressure p1 = 147 psi



MS6N-LR-⅜

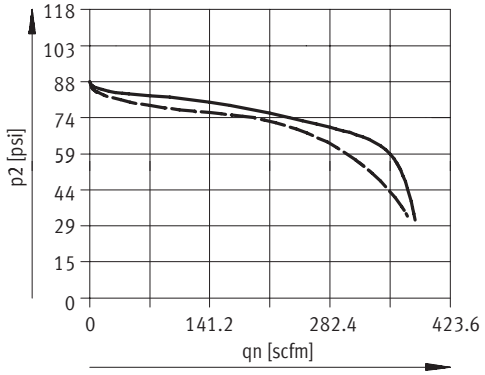


D6: 4.4 ... 103 psi

D7: 7.4 ... 176 psi

MS6N-LR-½

Primary pressure p1 = 147 psi



D6: 4.4 ... 103 psi

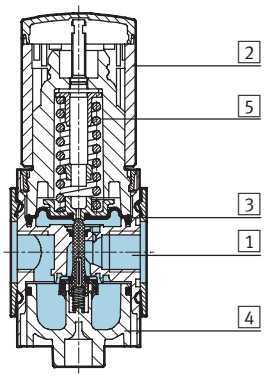
D7: 7.4 ... 176 psi

Pressure Regulators MS6N-LR – Inch Series

Technical Data

Materials

Sectional view



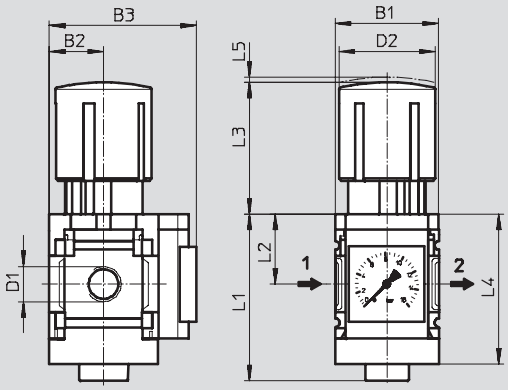
Pressure regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Bottom cap	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Pressure Regulators MS6N-LR – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



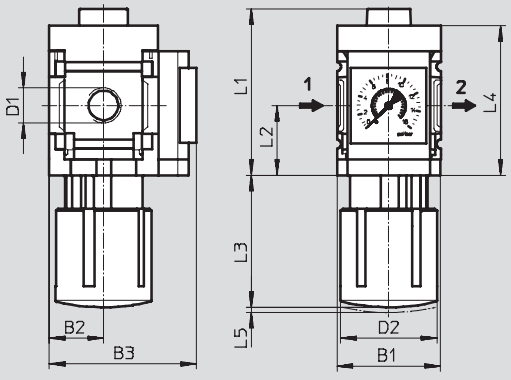
➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS6N-LR-¼	2.44	1.22	3.03	¼ NPT	2.01	3.66	1.54	3.39	3.31	0.20
MS6N-LR-⅜				⅜ NPT						
MS6N-LR-½				½ NPT						

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Alternative Mounting Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob underneath KD, standard rotary knob, with pressure gauge



➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS6N-LR-¼-...-KD	2.44	1.22	3.03	¼ NPT	2.01	3.66	1.54	3.39	3.31	0.20
MS6N-LR-⅜-...-KD				⅜ NPT						
MS6N-LR-½-...-KD				½ NPT						

1) Dimensions are in inches, unless otherwise noted.

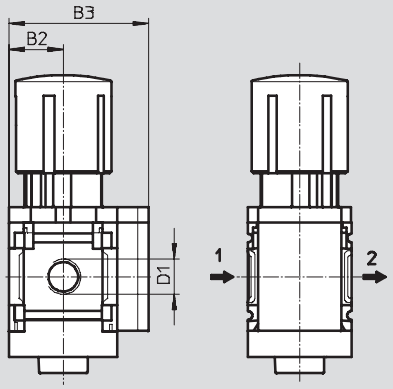
Pressure Regulators MS6N-LR – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

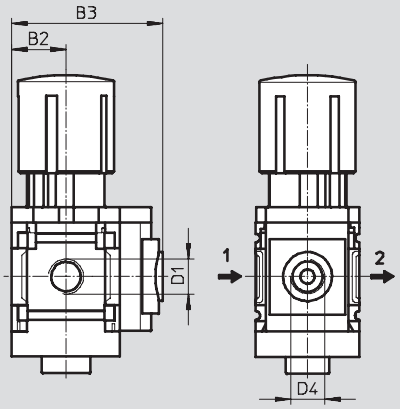
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

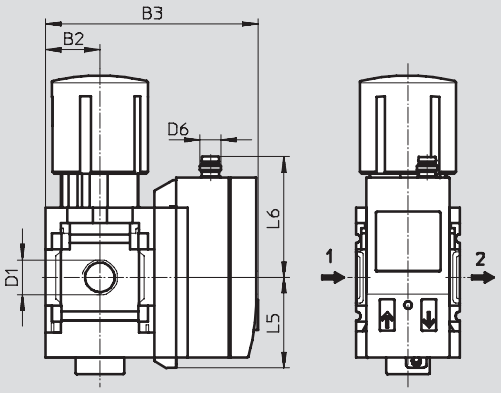
Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS6N-LR-¼-...-VS	1.22	2.99	¼ NPT	–	–	–	–
MS6N-LR-⅜-...-VS			⅜ NPT				
MS6N-LR-½-...-VS			½ NPT				
MS6N-LR-¼-...-A4	1.22	3.09	¼ NPT	¼ NPT	–	–	–
MS6N-LR-⅜-...-A4			⅜ NPT				
MS6N-LR-½-...-A4			½ NPT				
MS6N-LR-¼-...-AD1/AD2	1.22	4.06	¼ NPT	–	M8x1	1.38	1.84
MS6N-LR-⅜-...-AD1/AD2			⅜ NPT				
MS6N-LR-½-...-AD1/AD2			½ NPT				
MS6N-LR-¼-...-AD3/AD4	1.22	4.06	¼ NPT	–	M12x1	1.38	2.20
MS6N-LR-⅜-...-AD3/AD4			⅜ NPT				
MS6N-LR-½-...-AD3/AD4			½ NPT				

1) Dimensions are in inches, unless otherwise noted.

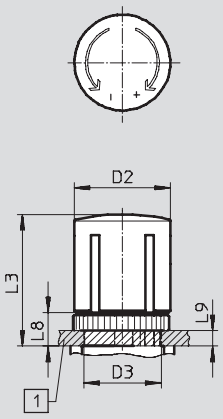
Pressure Regulators MS6N-LR – Inch Series

Dimensional Drawings

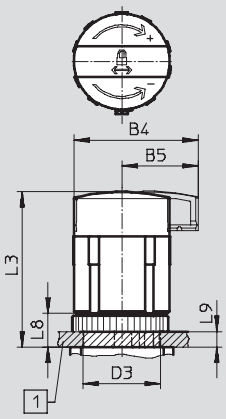
Dimensions[1] – Rotary Knob Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

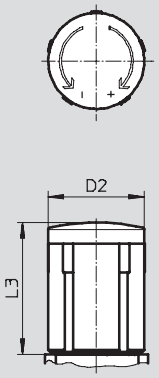


Standard, lockable AS

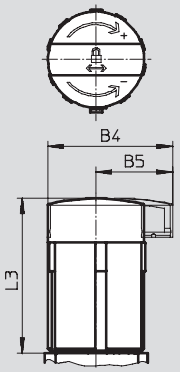


1 Max. control panel thickness

Long LD



Long, lockable LD-AS



Type	B4	B5	D2	D3 +0.04	L3	L8	L9
MS6N-LR-...	–	–	2.01	1.73	3.39	0.87	0.55
MS6N-LR-...-AS	2.67	1.65			3.76		
MS6N-LR-...-LD	–	–	2.0.1	–	3.39	–	–
MS6N-LR-...-LD-AS	2.67	1.65			3.76		

1) Dimensions are in inches, unless otherwise noted.

Pressure Regulators MS6N-LR – Inch Series

Ordering Data – Pre-configured Products

Ordering Data			
Pressure gauge, lockable standard type rotary knob			
Connection	Part No.	Type	LT
Pressure regulation range 4.4 ... 59 psi			
¼ NPT	**531442**	**MS6N-LR-¼-D5-AS**	1D
⅜ NPT	**531444**	**MS6N-LR-⅜-D5-AS**	1D
½ NPT	**531443**	**MS6N-LR-½-D5-AS**	1D
Pressure regulation range 4.4 ... 103 psi			
¼ NPT	**531448**	**MS6N-LR-¼-D6-AS**	1D
⅜ NPT	**531450**	**MS6N-LR-⅜-D6-AS**	1D
½ NPT	**531449**	**MS6N-LR-½-D6-AS**	1D
Pressure regulation range 7.4 ...176 psi			
¼ NPT	**531454**	**MS6N-LR-¼-D7-AS**	1D
⅜ NPT	**531456**	**MS6N-LR-⅜-D7-AS**	1D
½ NPT	**531455**	**MS6N-LR-½-D7-AS**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Pressure Regulators MS6N-LR – Inch Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data** →

Part No.	Series	Size	Thread		Function		Connection size		Pressure regulation range
527664	MS	6	N		LR		¼, ⅜, ½, AQN, AQP, AQR, AQS		D5 D6 D7 D8
Order example									
527664	**MS**	**6**	**N**	–	**LR**	–	**AQN**	–	**D6**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**527664**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Thread	NPT thread		**N**		N
	Function	Pressure regulator		**-LR**		-LR
	Connection size	Body thread ¼ NPT		**-¼**		
		Body thread ⅜ NPT		**-⅜**		
		Body thread ½ NPT		**-½**		
		Port plate ¼ NPT (dimensions → 726)		**-AQN**		
		Port plate ⅜ NPT (dimensions → 726)		**-AQP**		
		Port plate ½ NPT (dimensions → 726)		**-AQR**		
		Port plate ¾ NPT (dimensions → 726)		**-AQS**		
	Pressure regulation range	4.4 ... 59 psi		**-D5**		
		4.4 ... 103 psi		**-D6**		
		7.4 ... 176 psi		**-D7**		
↓		7.4 ... 235 psi		**-D8**		

Transfer order code

527664	**MS**	**6**	**N**	–	**LR**	–		–

Pressure Regulators MS6N-LR – Inch Series

Ordering Data – Configurable Products

FESTO

➔ [0] **Options**

Pressure gauge alternatives	Alternative pressure gauge scale	Secondary venting	Rotary knob alternative	Alternative assembly position	Security	Type of mounting	Reverse flow direction
VS A4 AD1 AD2 AD3 AD4	BAR MPA	OS	LD	KD	AS	WR WP WPM WB	Z
– **AD3**	–	– **OS**	– **LD**	–	– **AS**	– **WB**	– **Z**

Ordering Table

Grid dimension [mm]	62	Conditions	Code		Enter code
[0] Pressure gauge alternatives	Cover plate		**-VS**		
	Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
	Pressure sensor with display, plug M8, 1 switch output PNP, 3-pin	[1]	**-AD1**		
	Pressure sensor with display, plug M8, 1 switch output NPN, 3-pin	[1]	**-AD2**		
	Pressure sensor with display, plug M12, 1 switch output PNP, 4-pin, analog output 4 ... 20 mA	[1]	**-AD3**		
	Pressure sensor with display, plug M12, 1 switch output NPN, 4-pin, analog output 4 ... 20 mA	[1]	**-AD4**		
Alternative pressure gauge scale	bar	[2]	**-BAR**		
	MPa	[2]	**-MPA**		
Secondary venting	Without secondary venting		**-OS**		
Rotary knob alternative	Long rotary knob		**-LD**		
Alternative assembly position	Rotary knob at bottom	[3]	**-KD**		
Security	Lockable rotary knob		**-AS**		
Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 724)	[4]	**-WR**		
	Mounting bracket (dimensions ➔ 727)	[5]	**-WP**		
	Mounting bracket (dimensions ➔ 727)	[5]	**-WPM**		
	Mounting bracket (dimensions ➔ 723)		**-WB**		
Reverse flow direction	Flow direction from right to left		**-Z**		

[1] **AD1 ... AD4** Measuring range max. 147 psi.
Not with pressure regulation range D8

[2] **BAR, MPA** Not with pressure gauge alternatives VS, A4, AD1, AD2, AD3, AD4

[3] **KD** Not with alternative pressure gauge scale MPA.
Not with mounting type WP

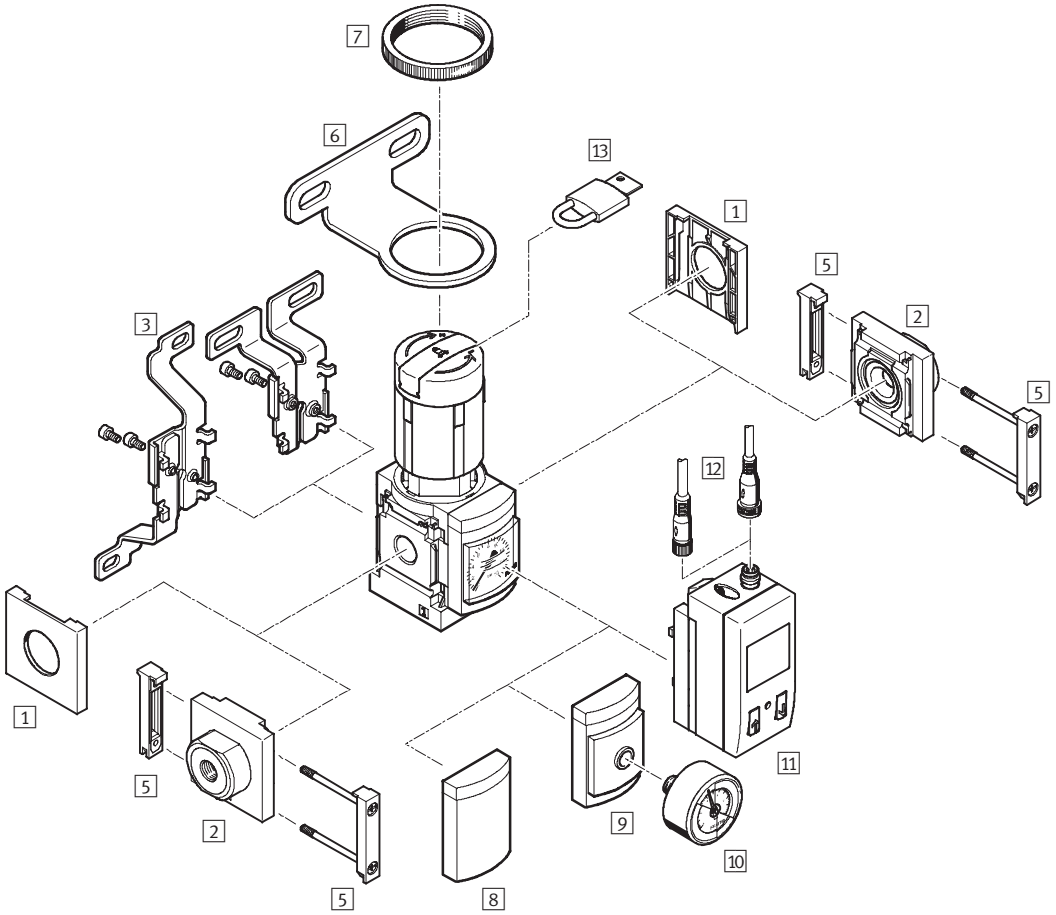
[4] **WR** Not with long rotary knob LD

[5] **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

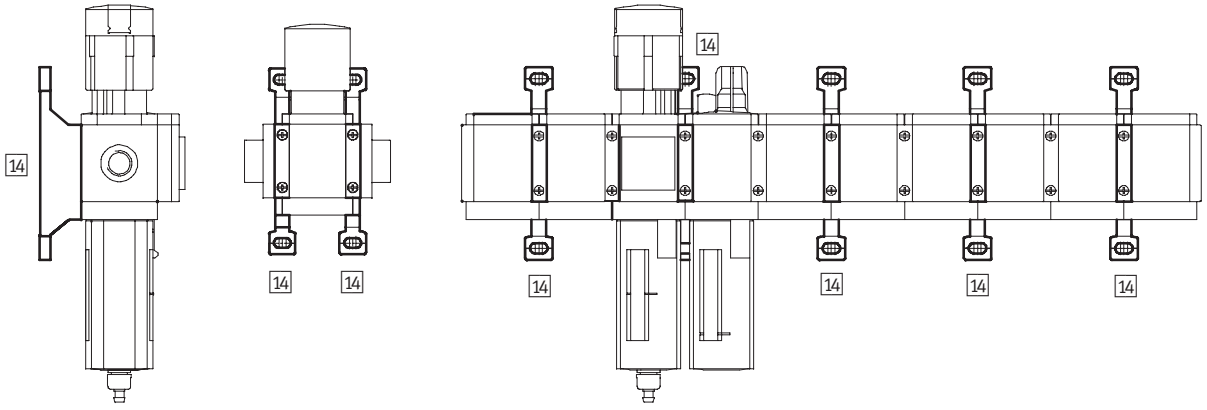
Transfer order code

– [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ]

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Pressure Regulators MS6N-LR – Inch Series

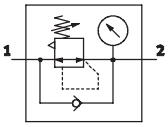
Accessories Overview

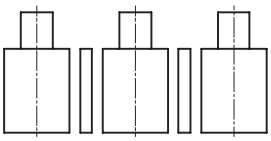
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	725
2	Port plate MS6N-AQ...	–	■	–	■	726
3	Mounting bracket MS6-WB	■	■	–	–	723
5	Body connector MS6-MV	–	■	■	■	726
6	Regulator wall bracket MS6-WR	■	■	–	–	724
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Cover plate VS	■	■	■	■	682
9	Adapter for EN pressure gauge ¼ A4	■	■	■	■	682
10	Pressure gauge MA	■	■	■	■	730
11	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	682
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	730
13	Padlock LRVS-D	■	■	■	■	730
14	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	727

Pressure Regulators MS6N-LRB – Inch Series

Technical Data

ISO Symbol





LRB-manifold
with through pressure supply for manifold assembly

- The pressure regulator is suitable for manifold assemblies with through air supply on both sides. Pressure output is at the front or rear.
- For configuring a regulator manifold with independent pressure regulation ranges
- Good control characteristics with low hysteresis and primary pressure compensation
- Available with or without secondary venting
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Four pressure regulation ranges
- Reverse flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display



General Technical Data			
Pneumatic connection 1			½ NPT
Pneumatic connection 2			½ NPT
			QS-5/16-U push-in tubing connector
			QS-3/8-U push-in tubing connector
Supply pressure		[psi]	12 ... 294
Pressure regulation range	D5	[psi]	4.4 ... 59
	D6	[psi]	4.4 ... 103
	D7	[psi]	7.4 ... 176 (7.4 ... 147 with variant pressure sensor AD...)
	D8	[psi]	7.4 ... 235
Max. hysteresis		[psi]	3.7

Standard Nominal Flow Rate qnN[1] [scfm]				
Variant		Standard	Angled outlet block	
			QS-5/16-U	QS-3/8-U
Pressure regulation range	D5	257.7[2]	21.2[2]	26.5[2]
	D6	222.4	31.1	35.3
	D7	194.2	28.2	33.5
	D8	158.9	26.5	30.0

1) Measured at p1 = 147 psi and p2 = 88 psi, Δp = 15 psi
2) Measured at p1 = 147 psi and p2 = 44 psi, Δp = 15 psi

Pressure Regulators MS6N-LRB – Inch Series

Technical Data

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°F]	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	32 ... 122
Storage temperature	[°F]	14 ... 140	14 ... 140
Assembly position		Any	
Corrosion resistance	CRC[1)]	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

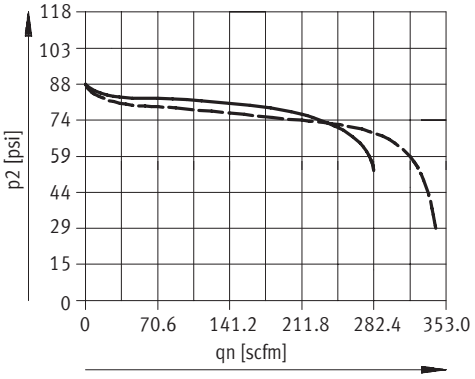
Weights [lb]	
Pressure regulator	1.49

- Wearing parts kits ➔ 731
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

MS6N-LRB-½

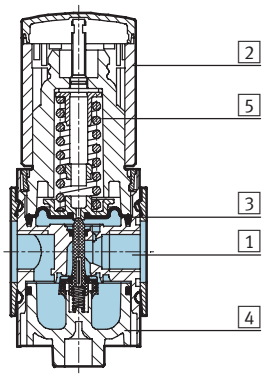
Primary pressure p1 = 147 psi



D6: 4.4 ... 103 psi
D7: 7.4 ... 176 psi

Materials

Sectional view



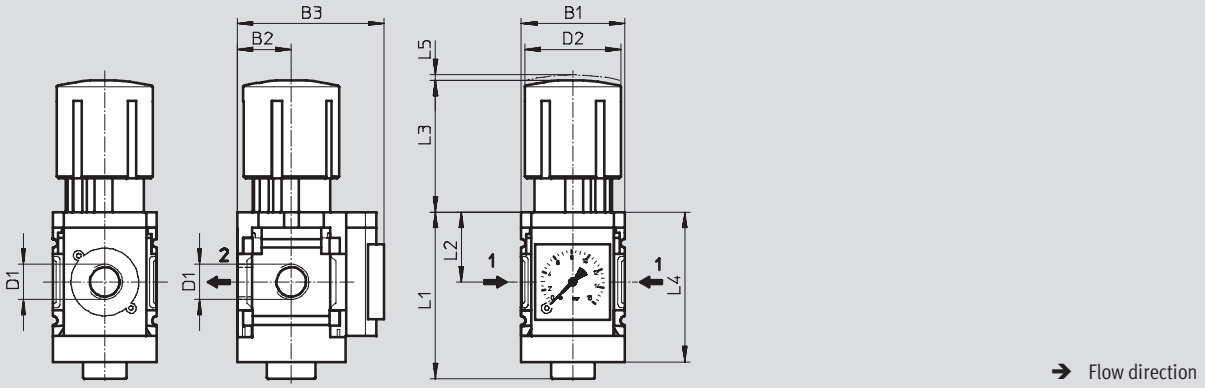
Pressure regulator (manifold assembly)		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Bottom cap	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Pressure Regulators MS6N-LRB – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]

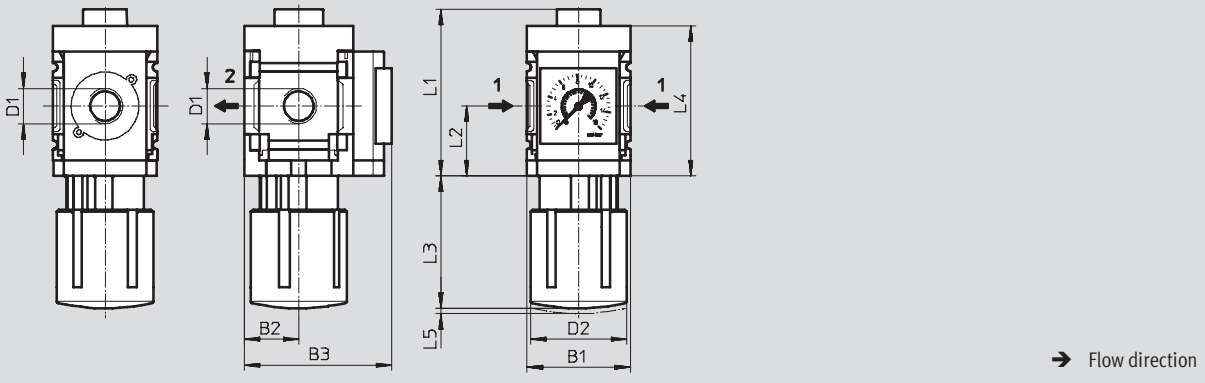


Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS6N-LRB-½	2.44	1.22	3.03	½ NPT	2.01	3.66	1.54	3.39	3.31	0.20

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Alternative Mounting Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob underneath KD, standard rotary knob, with pressure gauge



Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS6N-LRB-½-...-KD	2.44	1.22	3.03	½ NPT	2.01	3.66	1.54	3.39	3.31	0.20

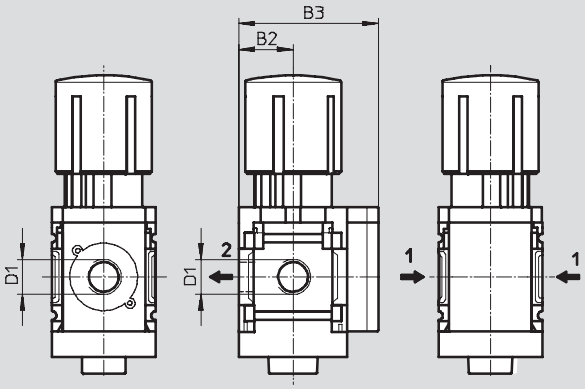
1) Dimensions are in inches, unless otherwise noted.

Pressure Regulators MS6N-LRB – Inch Series

Dimensional Drawings

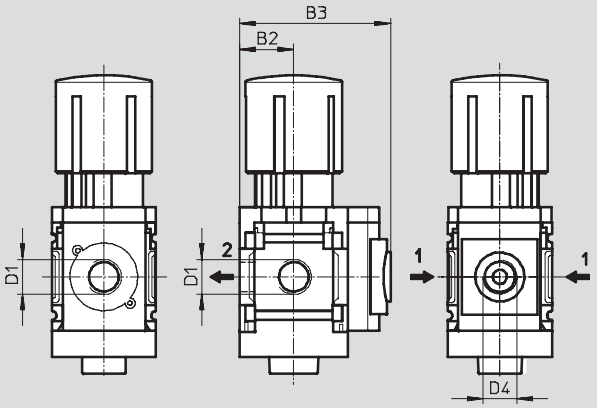
Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



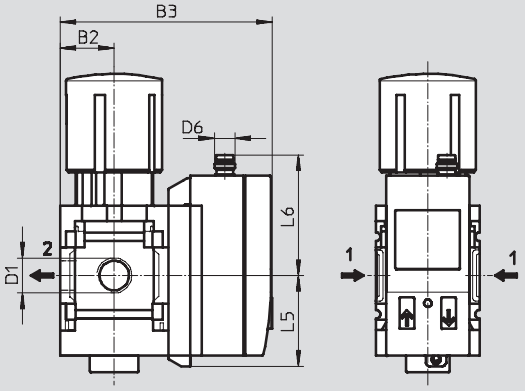
➔ Flow direction

Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4 Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS6N-LRB-½-...-VS	1.22	2.99	½ NPT	–	–	–	–
MS6N-LRB-½-...-A4	1.22	3.09	½ NPT	¼ NPT	–	–	–
MS6N-LRB-½-...-AD1/AD2	1.22	4.06	½ NPT	–	M8x1	1.38	1.84
MS6N-LRB-½-...-AD3/AD4	1.22	4.06	½ NPT	–	M12x1	1.38	2.20

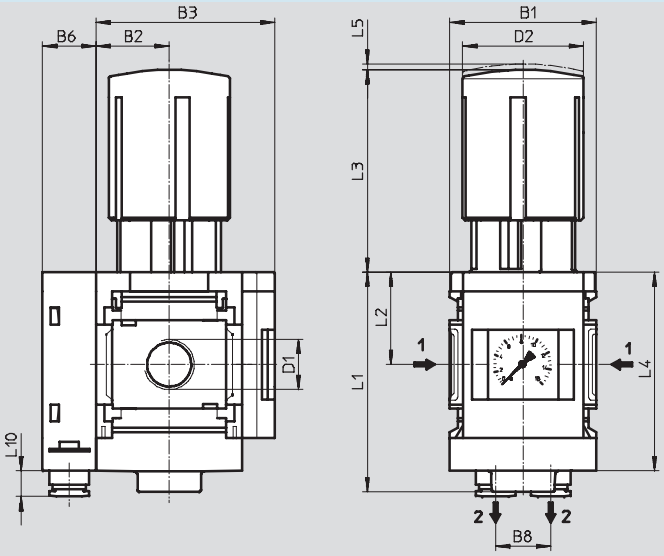
1) Dimensions are in inches, unless otherwise noted.

Pressure Regulators MS6N-LRB – Inch Series

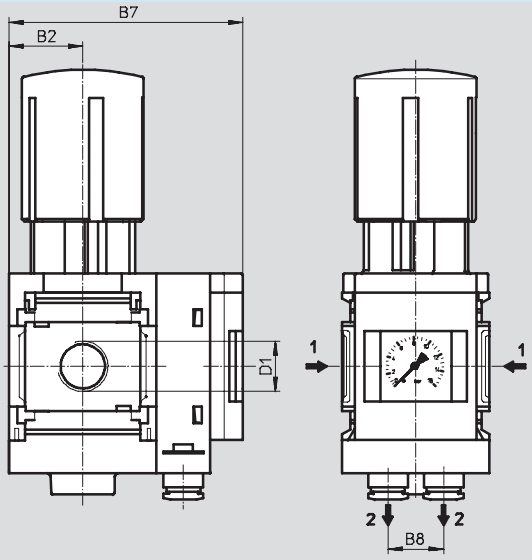
Dimensional Drawings

Dimensions[1] – Angled Outlet Block BI/BJ Download CAD Data ➔ **www.festo.com/us/cad**

Pressure output at rear



Pressure output to front Z



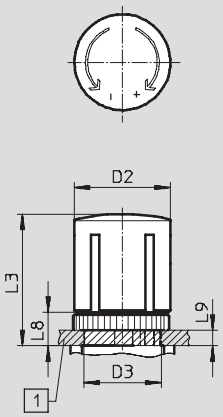
Type	B1	B2	B3	B6	B7	B8	D1	D2	L1	L2	L3	L4	L5	L10
MS6N-LRB-½-...-B...	2.44	1.22	3.03	0.89	3.92	0.92	½ NPT	2.01	3.66	1.54	3.39	3.31	0.20	0.43

1) Dimensions are in inches, unless otherwise noted.

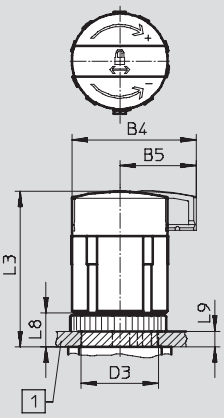
Dimensions[1] – Rotary Knob Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

Standard

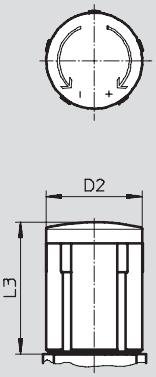


Standard, lockable AS

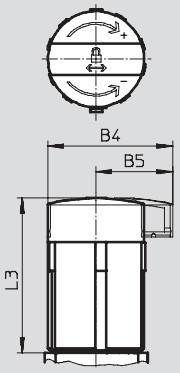


1 Max. control panel thickness

Long LD



Long, lockable LD-AS



Type	B4	B5	D2	D3 +0.04	L3	L8	L9
MS6N-LRB-...	–	–	2.01	1.73	3.39	0.87	0.55
MS6N-LRB-...-AS	2.67	1.65			3.76		
MS6N-LRB-...-LD	–	–	2.01	–	3.39	–	–
MS6N-LRB-...-LD-AS	2.67	1.65			3.76		

Pressure Regulators MS6N-LRB – Inch Series

Ordering Data – Pre-configured Products

Ordering Data							
Pressure gauge, lockable standard type rotary knob							
Connection	Pressure output to rear without angled outlet block				Pressure output to rear with angled outlet block QS-5/16-U		
	Part No.	Type	LT		Part No.	Type	LT
Pressure regulation range 4.4 ... 59 psi							
1/2 NPT	**531818**	**MS6N-LRB-1/2-D5-AS**	1D		**531824**	**MS6N-LRB-1/2-D5-AS-BI**	Q
Pressure regulation range 4.4 ... 103 psi							
1/2 NPT	**531820**	**MS6N-LRB-1/2-D6-AS**	1D		**531826**	**MS6N-LRB-1/2-D6-AS-BI**	Q
Pressure regulation range 7.4 ... 176 psi							
1/2 NPT	**531822**	**MS6N-LRB-1/2-D7-AS**	1D		**531828**	**MS6N-LRB-1/2-D7-AS-BI**	Q

Ordering Data			
Adapter plate A4 for EN pressure gauge 1/4, lockable standard-type rotary knob			
Connection	Pressure output to rear without angled outlet block		
	Part No.	Type	LT
Pressure regulation range 4.4 ... 59 psi			
1/2 NPT	**531830**	**MS6N-LRB-1/2-D5-A4-AS**	Q
Pressure regulation range 4.4 ... 103 psi			
1/2 NPT	**531831**	**MS6N-LRB-1/2-D6-A4-AS**	Q
Pressure regulation range 7.4 ... 176 psi			
1/2 NPT	**531832**	**MS6N-LRB-1/2-D7-A4-AS**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Pressure Regulators MS6N-LRB – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data								O Options →
Part No.	**Series**	**Size**	**Thread**	**Function**	**Connection size**	**Pressure regulation range**		**Pressure gauge alternatives**
527666	MS	6	N	LRB	½ AQN AQP AQR AQS	D5 D6 D7 D8		VS A4 AD1 AD2 AD3 AD4
Order example								
527666	**MS**	**6**	**N**	– **LRB**	– **AQP**	– **D5**	–	**A4**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**527666**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Thread	NPT thread		**N**		N
	Function	Pressure regulator for manifold assembly		**-LRB**		-LRB
	Connection size	Body thread ½ NPT		**-½**		
		Port plate ¼ NPT (dimensions → 726)		**-AQN**		
		Port plate ⅜ NPT (dimensions → 726)		**-AQP**		
		Port plate ½ NPT (dimensions → 726)		**-AQR**		
		Port plate ¾ NPT (dimensions → 726)		**-AQS**		
	Pressure regulation range	4.4 ... 59 psi		**-D5**		
		4.4 ... 103 psi		**-D6**		
		7.4 ... 176 psi		**-D7**		
		7.4 ... 235 psi		**-D8**		
O	Pressure gauge alternatives	Cover plate	1	**-VS**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge	2	**-A4**		
		Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	2 3	**-AD1**		
		Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin	2 3	**-AD2**		
		Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	2 3	**-AD3**		
↓		Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	2 3	**-AD4**		

1 **VS**
Must be selected if alternative flow direction Z is selected without alternative assembly position KD and without pressure output BI, BJ.
Must be selected if alternative assembly position KD is selected without alternative flow direction Z and without pressure output BI, BJ

2 **A4, AD1 ... AD4**
In combination with alternative flow direction Z only with alternative assembly position KD

3 **AD1 ... AD4**
Measuring range max. 147 psi.
Not with pressure regulation range D8

Transfer order code

527666	**MS**	**6**	**N**	–	**LRB**	–		–		–

Pressure Regulators MS6N-LRB – Inch Series

Ordering Data – Configurable Products

FESTO

➔ 0 Options

Alternative pressure gauge scale	Secondary venting	Rotary knob alternative	Alternative assembly position	Security	Pressure output	Type of mounting	Reverse flow direction
BAR MPA	OS	LD	KD	AS	BI BJ	WR WP WPM WPB WB	Z
–	– OS	– LD	–	– AS	– BJ	– WP	–

Ordering Table

Grid dimension [mm]	62	Conditions	Code	Enter code
➔ 0 Alternative pressure gauge scale	bar	4	-BAR	
	MPa	4	-MPA	
Secondary venting	Without secondary venting		-OS	
Rotary knob alternative	Long rotary knob		-LD	
Alternative assembly position	Rotary knob, underneath	5	-KD	
Security	Lockable rotary knob		-AS	
Pressure output (p_{max} = 147 psi)	Angled outlet block QS-5/16-U		-BI	
	Angled outlet block QS-3/8-U		-BJ	
Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 724)	6 7	-WR	
	Mounting bracket (dimensions ➔ 727)	8 9	-WP	
	Mounting bracket (dimensions ➔ 727)	6 8	-WPM	
	Mounting bracket for large wall gap (dimensions ➔ 727)	8 10	-WPB	
	Mounting bracket (dimensions ➔ 723)	6	-WB	
Reverse flow direction	Pressure output at front (for gauge connection an angled outlet block is required)		-Z	

4 **BAR, MPA** Not with pressure gauge alternatives VS, A4, AD1, AD2, AD3, AD4.
Not with alternative assembly position KD.
In combination with alternative flow direction Z only with pressure output BI, BJ

5 **KD** With alternative pressure gauge scale BAR only if alternative flow direction Z or pressure output BI, BJ has been selected.
Not with mounting type WP, WPB.
In combination with mounting type WR, WPM, WB not with alternative flow direction Z.
In combination with pressure gauge alternatives A4, AD1, AD2, AD3, AD4 only with alternative flow direction Z

6 **WR, WPM, WB**
In combination with alternative flow direction Z not with alternative assembly position KD

7 **WR** Only with alternative flow direction Z.
Not with rotary knob alternative LD

8 **WP, WPM, WPB**
Only with port plate AQN, AQP, AQR, AQS

9 **WP** Only with alternative flow direction Z and/or only with pressure output BI, BJ

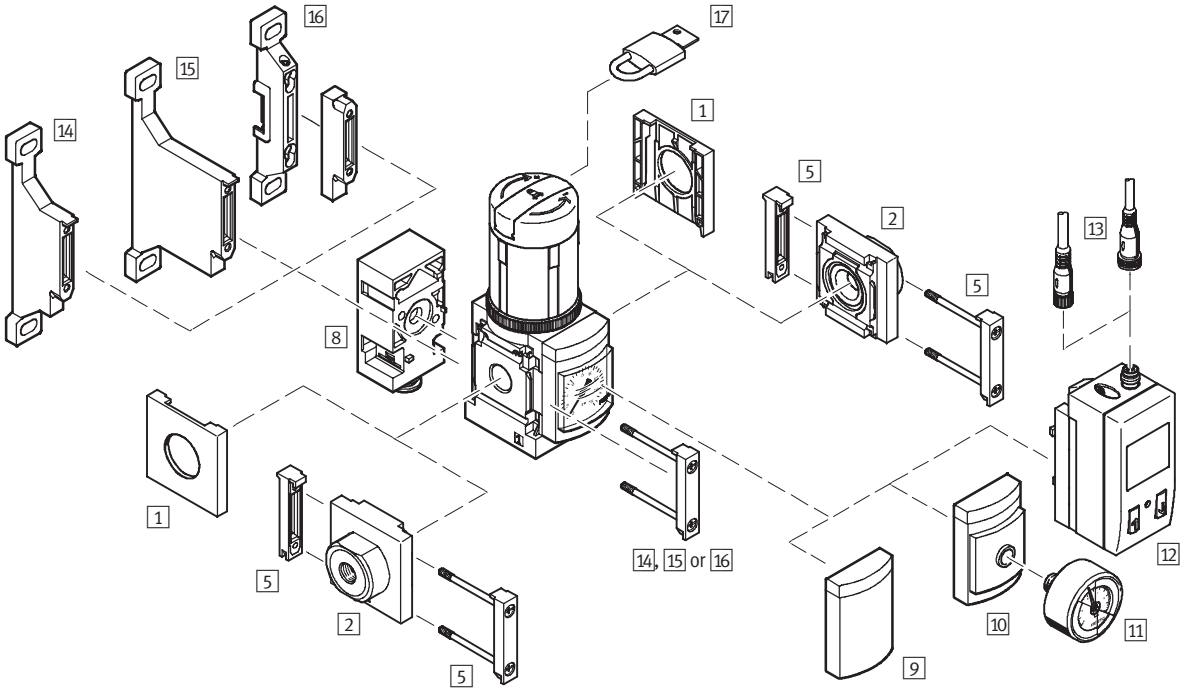
10 **WPB** Not with alternative flow direction Z.
Not with pressure output BI, BJ

Transfer order code

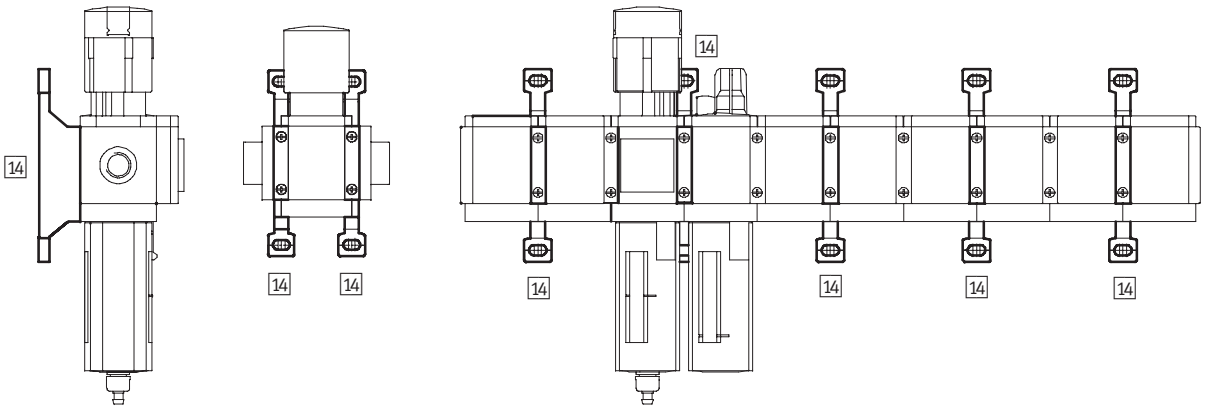
–		–		–		–		–		–		–		–	

Mounting Attachments and Accessories

Pressure output at rear



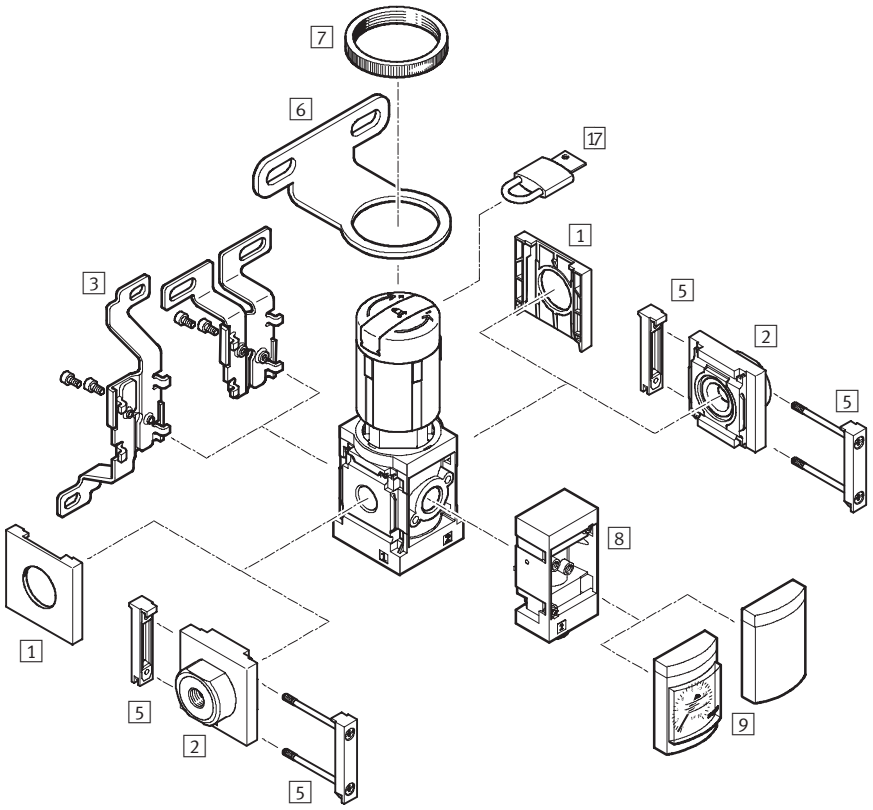
Single unit and combination unit mounting brackets.



Pressure Regulators MS6N-LRB – Inch Series

Accessories Overview

Pressure output at front



Pressure Regulators MS6N-LRB – Inch Series

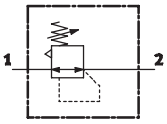
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	725
2	Port plate MS6N-AQ...	–	■	–	■	726
3	Mounting bracket MS6-WB	■	■	–	–	723
5	Body connector MS6-MV	–	■	■	■	726
6	Regulator wall bracket MS6-WR	■	■	–	–	724
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Angled outlet block B...	■	■	■	■	693
9	Cover plate VS	■	■	■	■	692
10	Adapter for EN pressure gauge ¼ A4	■	■	■	■	692
11	Pressure gauge MA	■	■	■	■	730
12	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	692
13	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	730
14	Mounting bracket MS6-WP	–	■	■	■	727
15	Mounting bracket MS6-WPB	–	■	■	■	727
16	Mounting bracket MS6-WPM	–	■	■	■	727
17	Padlock LRVS-D	■	■	■	■	730

Precision Pressure Regulators MS6N-LRP – Inch Series

Technical Data

ISO Symbol



- The precision pressure regulator is suitable for sensitive applications with a required pressure hysteresis of 0.3 psi.
- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Setting values are secured by locking the rotary knob
- Lockable rotary knob (optional)
- Four pressure regulation ranges
- Optional pressure sensor with display
- With secondary venting



General Technical Data					
Pneumatic connection 1, 2			¼ NPT	⅜ NPT	½ NPT
Pneumatic connection of secondary venting			¼ NPT		
Supply pressure		[psi]	15 ... 206		
Pressure regulation range	D2	[psi]	0.7 ... 10		
	D4	[psi]	0.7 ... 37		
	D5	[psi]	1.5 ... 59		
	D7	[psi]	1.5 ... 176 (1.5 ... 147 with pressure sensor variant AD...)		
Max. hysteresis		[psi]	0.3		

Standard Nominal Flow Rate qnN [scfm]				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Pressure regulation range	D2	28.2[1)]	38.8[1)]	56.5[1)]
	D4	38.8[2)]	49.4[2)]	81.2[2)]
	D5	49.4[3)]	60.0[3)]	105.9[3)]
	D7	105.9[4)]	116.5[4)]	176.5[4)]

1) Measured at p1 = 147 psi and p2 = 7.4 psi, Δp = 1.5 psi
2) Measured at p1 = 147 psi and p2 = 22 psi, Δp = 1.5 psi
3) Measured at p1 = 147 psi and p2 = 37 psi, Δp = 1.5 psi
4) Measured at p1 = 147 psi and p2 = 88 psi, Δp = 1.5 psi

Precision Pressure Regulators MS6N-LRP – Inch Series

Technical Data

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air, filtered, unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	32 ... 122
Storage temperature	[°F]	14 ... 140	14 ... 140
Installation position		Any	
Corrosion resistance class	CRC[1)]	2	

1) Corrosion resistance class 2 to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weight [lb]	
Precision pressure regulator	2.00

- For spare parts go to: www.festo.com/en/spare_parts_service

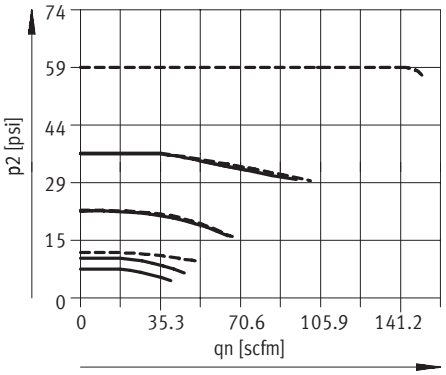
Precision Pressure Regulators MS6N-LRP – Inch Series

Technical Data

Standard Flow Rate qn as a Function of Output Pressure p2

MS6N-LRP-¼

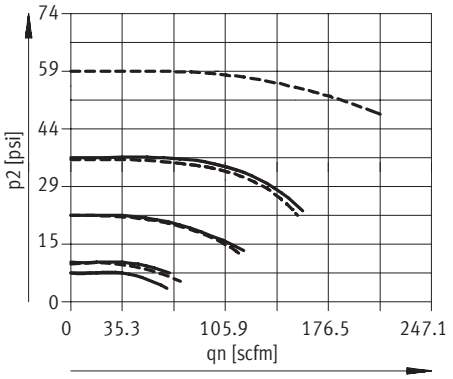
Primary pressure p1 = 147 psi



D4: 0.7 ... 37 psi

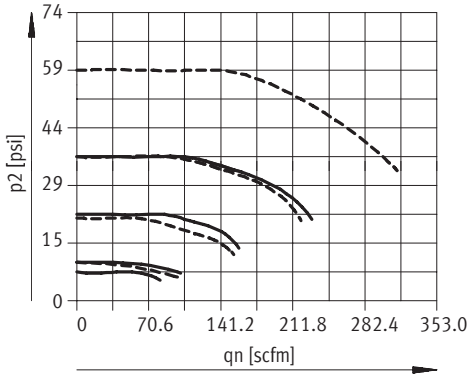
D5: 1.5 ... 59 psi

MS6N-LRP-⅜



MS6N-LRP-½

Primary pressure p1 = 147 psi



D4: 0.7 ... 37 psi

D5: 1.5 ... 59 psi

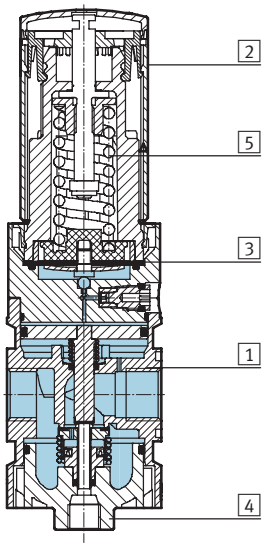
Precision Pressure Regulators MS6N-LRP – Inch Series

Technical Data

FESTO

Materials

Sectional view



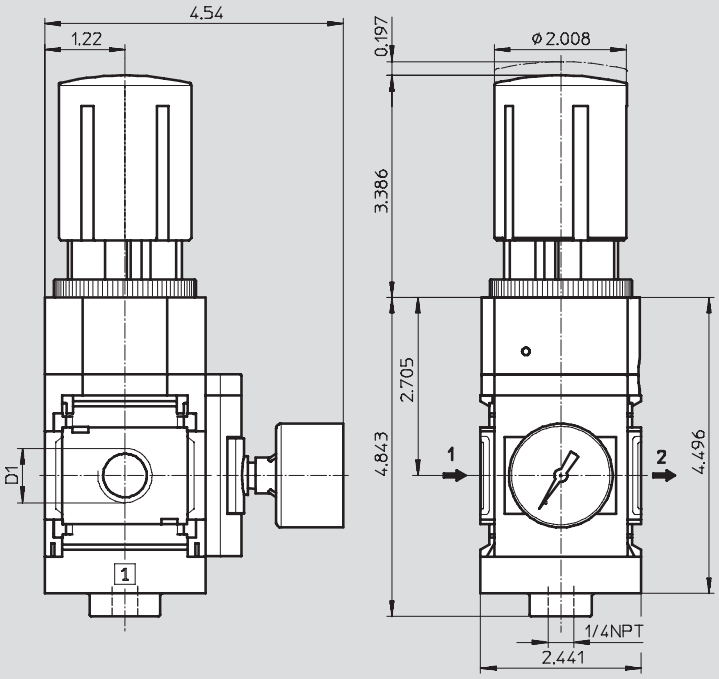
Precision pressure regulator		
1	Housing	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Cap, bottom	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants A8M or AD...)

Precision Pressure Regulators MS6N-LRP – Inch Series

Dimensional Drawings

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**

Adapter plate A8M for EN pressure gauge 1/8, with precision pressure gauge Technical data for gauge MAP ➔ www.festo.com/catalog/map



➔ Flow direction

Type	D1
MS6N-LRP-1/4-...-A8M	1/4 NPT
MS6N-LRP-3/8-...-A8M	3/8 NPT
MS6N-LRP-1/2-...-A8M	1/2 NPT

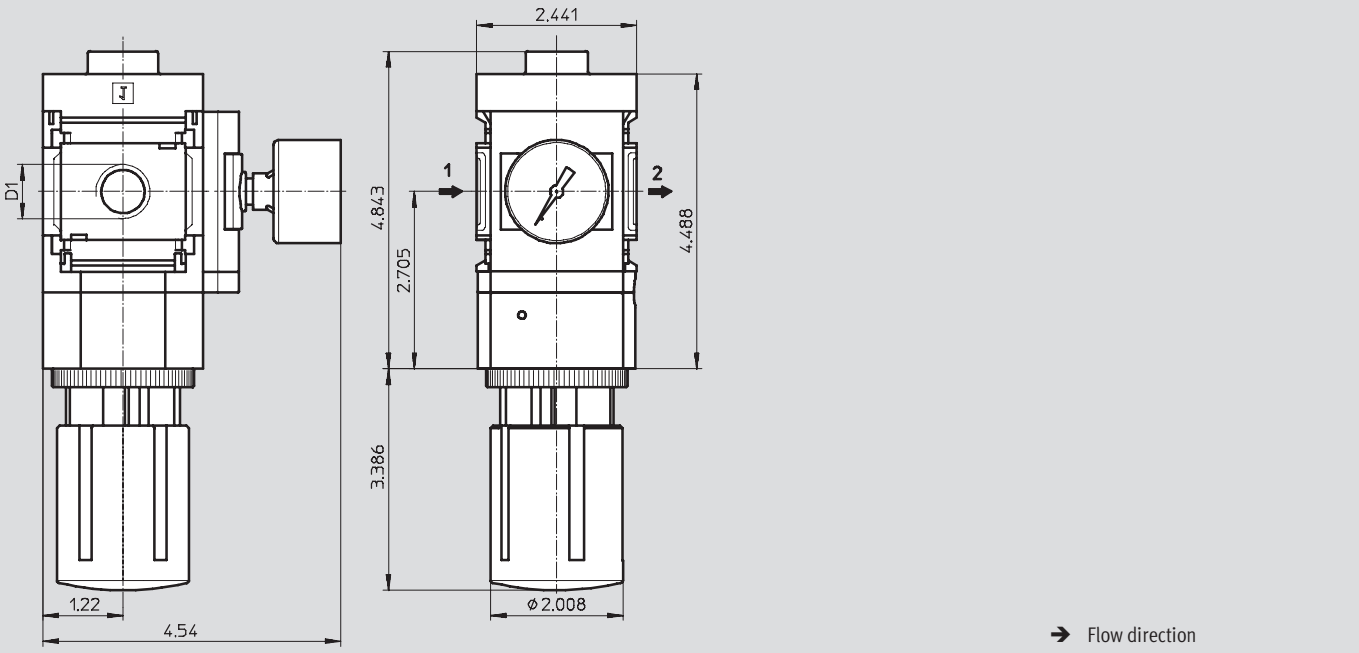
1) Dimensions are in inches, unless otherwise noted.

Precision Pressure Regulators MS6N-LRP – Inch Series

Dimensional Drawings

Dimensions[1] – Alternative Assembly Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob at bottom KD



Type	D1
MS6N-LRP-¼-...-KD	¼ NPT
MS6N-LRP-⅜-...-KD	⅜ NPT
MS6N-LRP-½-...-KD	½ NPT

1) Dimensions are in inches, unless otherwise noted.

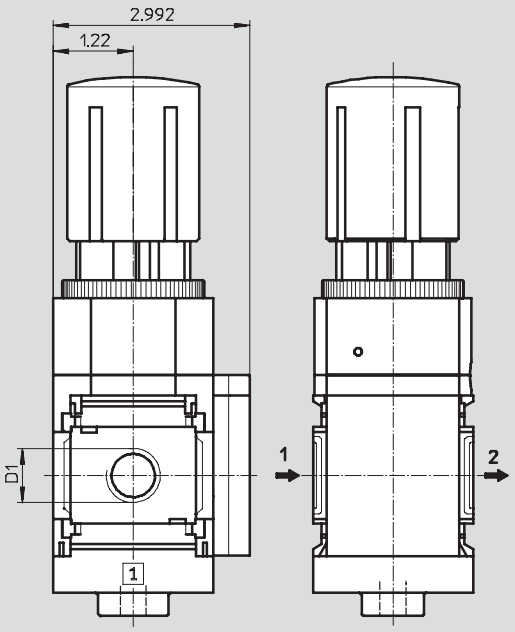
Precision Pressure Regulators MS6N-LRP – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

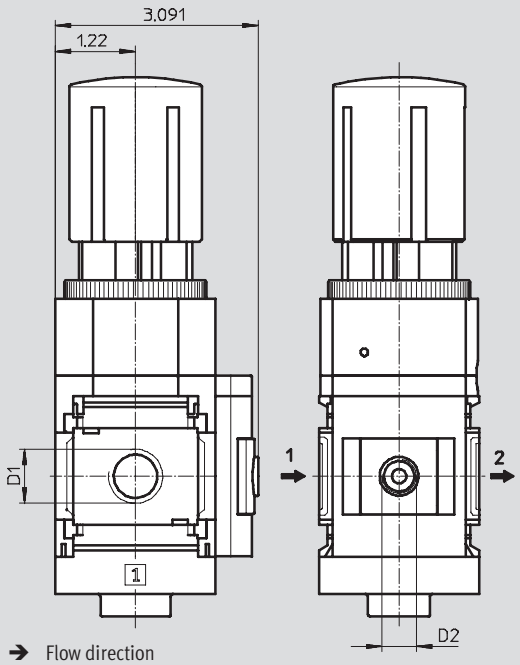
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



➔ Flow direction

Type	D1	D2
MS6N-LRP-1/4-...-VS	1/4 NPT	–
MS6N-LRP-3/8-...-VS	3/8 NPT	
MS6N-LRP-1/2-...-VS	1/2 NPT	
MS6N-LRP-1/4-...-A8	1/4 NPT	1/8 NPT
MS6N-LRP-3/8-...-A8	3/8 NPT	
MS6N-LRP-1/2-...-A8	1/2 NPT	
MS6N-LRP-1/4-...-A4	1/4 NPT	1/4 NPT
MS6N-LRP-3/8-...-A4	3/8 NPT	
MS6N-LRP-1/2-...-A4	1/2 NPT	

1) Dimensions are in inches, unless otherwise noted.

Precision Pressure Regulators MS6N-LRP – Inch Series

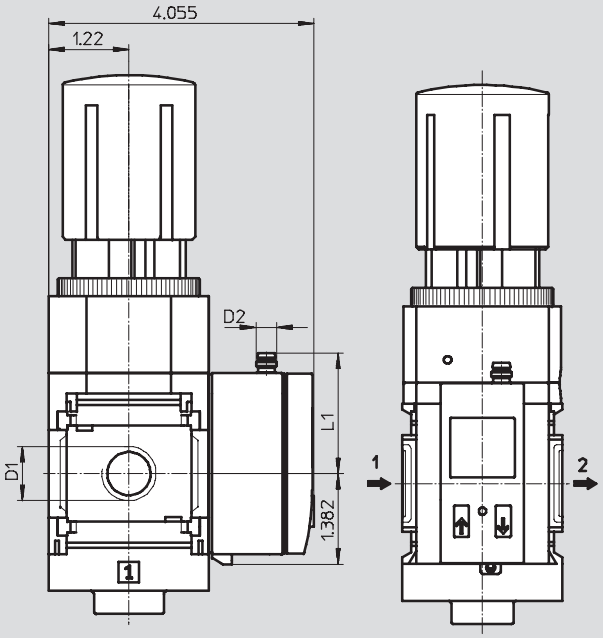
Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

Variant AD1:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switch output PNP.

Variant AD2:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switch output NPN.

Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switch output PNP and 4 ... 20 mA analog.

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switch output NPN and 4 ... 20 mA analog.

Type	D1	D2	L1
MS6N-LRP-¼-...-AD1/AD2	¼ NPT	M8x1	1.84
MS6N-LRP-⅜-...-AD1/AD2	⅜ NPT		
MS6N-LRP-½-...-AD1/AD2	½ NPT		
MS6N-LRP-¼-...-AD3/AD4	¼ NPT	M12x1	2.20
MS6N-LRP-⅜-...-AD3/AD4	⅜ NPT		
MS6N-LRP-½-...-AD3/AD4	½ NPT		

1) Dimensions are in inches, unless otherwise noted.

Precision Pressure Regulators MS6N-LRP – Inch Series

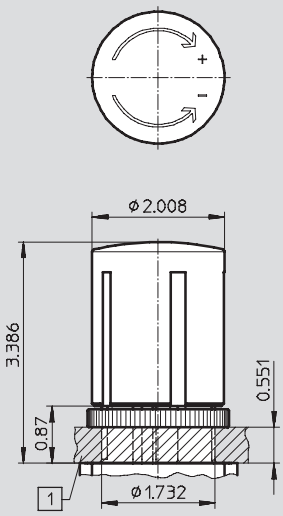
Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

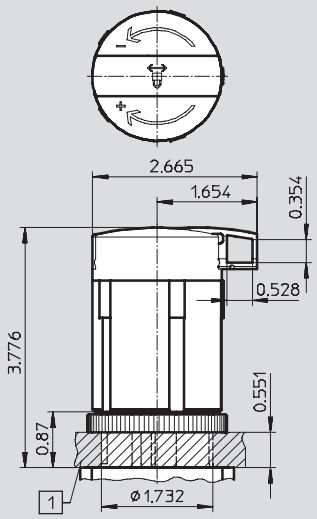
Dimensions[1] – Rotary Knob Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

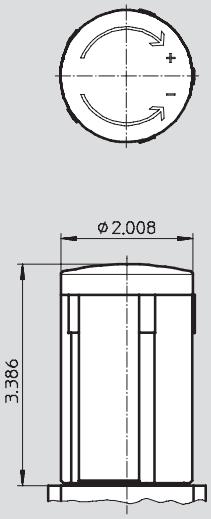
Standard



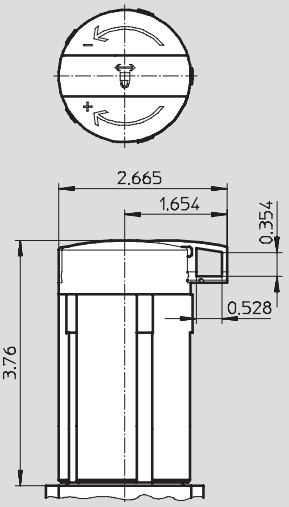
Standard, lockable AS



Long LD



Long, lockable LD-AS



1 Max. control panel thickness

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Adapter plate for EN pressure gauge ⅛, standard rotary knob

Connection	Part No.	Type	LT
Pressure regulation range 0.7 ... 10 psi			
¼ NPT	**538029**	**MS6N-LRP-¼-D2-A8**[2]	Q
⅜ NPT	**538037**	**MS6N-LRP-⅜-D2-A8**[2]	Q
½ NPT	**538045**	**MS6N-LRP-½-D2-A8**[2]	Q
Pressure regulation range 0.7 ... 37 psi			
¼ NPT	**538031**	**MS6N-LRP-¼-D4-A8**[2]	Q
⅜ NPT	**538039**	**MS6N-LRP-⅜-D4-A8**[2]	Q
½ NPT	**538047**	**MS6N-LRP-½-D4-A8**[2]	Q
Pressure regulation range 1.5 ... 59 psi			
¼ NPT	**538033**	**MS6N-LRP-¼-D5-A8**[2]	Q
⅜ NPT	**538041**	**MS6N-LRP-⅜-D5-A8**[2]	Q
½ NPT	**538049**	**MS6N-LRP-½-D5-A8**[2]	Q
Pressure regulation range 1.5 ... 176 psi			
¼ NPT	**538035**	**MS6N-LRP-¼-D7-A8**[2]	Q
⅜ NPT	**538043**	**MS6N-LRP-⅜-D7-A8**[2]	Q
½ NPT	**538051**	**MS6N-LRP-½-D7-A8**[2]	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Free of copper and PTFE

Precision Pressure Regulators MS6N-LRP – Inch Series

Ordering Data – Configurable Products

FESTO

[M] **Mandatory Data** →

Part No.	Series	Size	Thread		Function		Connection size		Pressure regulation range		Pressure gauge alternatives
538053	MS	6	N		LRP		¼, ⅜, ½, AQN, AQP, AQR, AQS		D2 D4 D5 D7		VS A8 A8M A4 AD1 AD2 AD3 AD4
Order example											
538053	**MS**	**6**	**N**	–	**LRP**	–	**1/2**	–	**D4**	–	**A4**

Ordering Table

Grid dimension [mm]		62	Conditions	Code	Enter code
[M]	Part No.	**538053**			
	Series	Standard		**MS**	MS
	Size	6		**6**	6
	Thread	NPT thread		**N**	N
	Function	Precision pressure regulator		**-LRP**	-LRP
	Connection size	Body thread ¼ NPT		**-¼**	
		Body thread ⅜ NPT		**-⅜**	
		Body thread ½ NPT		**-½**	
		Port plate ¼ NPT (dimensions → 726)		**-AQN**	
		Port plate ⅜ NPT (dimensions → 726)		**-AQP**	
		Port plate ½ NPT (dimensions → 726)		**-AQR**	
		Port plate ¾ NPT (dimensions → 726)		**-AQS**	
	Pressure regulation range	0.7 ... 10 psi		**-D2**	
		0.7 ... 37 psi		**-D4**	
		1.5 ... 59 psi		**-D5**	
		1.5 ... 176 psi		**-D7**	
	Pressure gauge alternatives	Cover plate		**-VS**	
		Adapter plate for EN pressure gauge ⅛, without pressure gauge		**-A8**	
		Adapter plate for EN pressure gauge ⅛, with precision pressure gauge		**-A8M**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, plug M8, 1 switch output PNP, 3-pin	[1]	**-AD1**	
		Pressure sensor with display, plug M8, 1 switch output NPN, 3-pin	[1]	**-AD2**	
		Pressure sensor with display, plug M12, 1 switch output PNP, 4-pin, analog output 4 ... 20 mA	[1]	**-AD3**	
↓		Pressure sensor with display, plug M12, 1 switch output NPN, 4-pin, analog output 4 ... 20 mA	[1]	**-AD4**	

[1] **AD1 ... AD4** Measuring range max. 147 psi.
Not with pressure regulation range D2, D4.

Transfer order code

538053	**MS**	**6**	**N**	–	**LRP**	–		–		–	

➔ [0] **Options**

	Rotary knob alternative		Alternative assembly position		Security		Type of mounting		Reverse flow direction
	LD		KD		AS		WR WP WPM WB		Z
–	**LD**	–		–	**AS**	–	**WB**	–	**Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
[0]	Rotary knob alternative	Long rotary knob		**-LD**		
	Alternative assembly position	Rotary knob at bottom	[2]	**-KD**		
	Security	Lockable rotary knob		**-AS**		
	Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 724)	[3]	**-WR**		
		Mounting bracket (dimensions ➔ 727)	[4]	**-WP**		
		Mounting bracket (dimensions ➔ 727)	[4]	**-WPM**		
		Mounting bracket (dimensions ➔ 723)		**-WB**		
	Reverse flow direction	Flow direction from right to left (without pressure output, no pressure gauge)		**-Z**		

[2] **KD** Not with mounting type WP

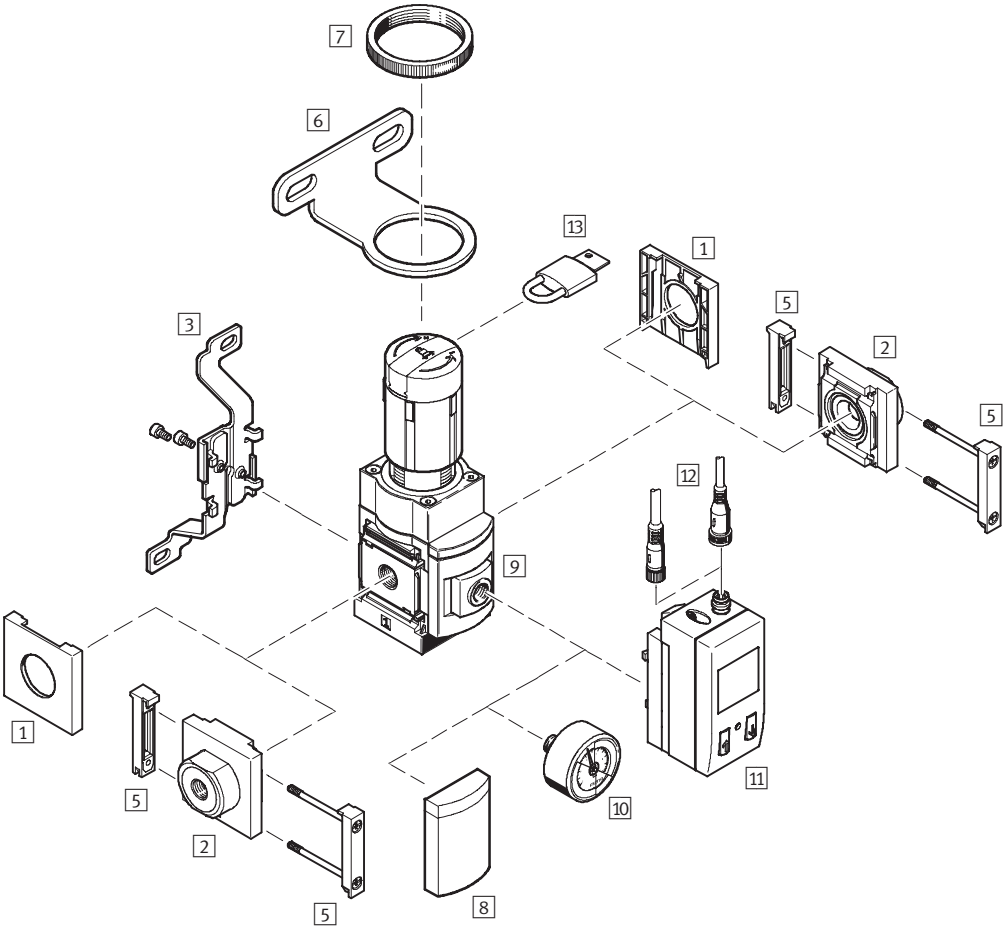
[3] **WR** Not with long rotary knob LD

[4] **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

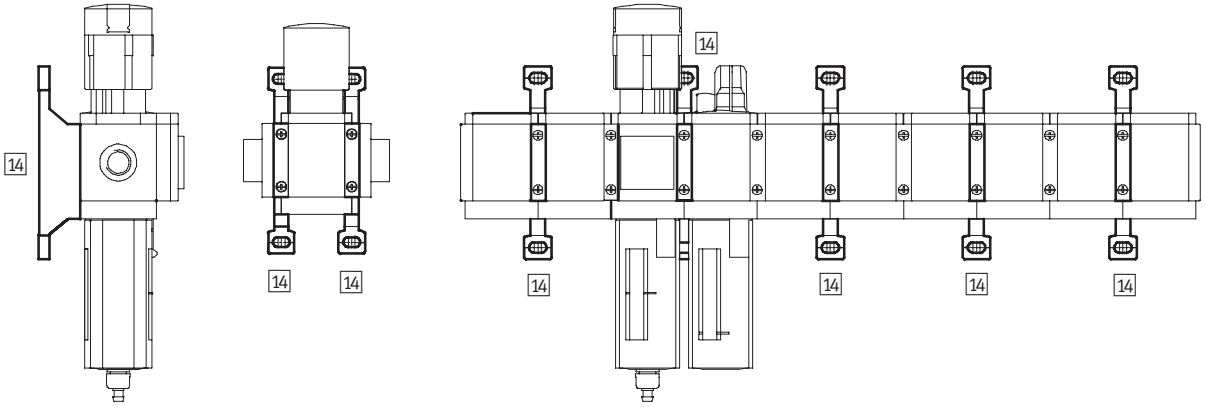
Transfer order code

–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Precision Pressure Regulators MS6N-LRP – Inch Series

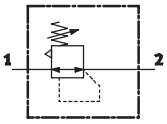
Accessories Overview

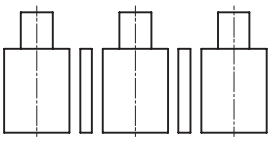
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	725
2	Port plate MS6N-AQ...	–	■	–	■	726
3	Mounting bracket MS6-WB	■	■	–	–	723
5	Body connector MS6-MV	–	■	■	■	726
6	Regulator wall bracket MS6-WR	■	■	–	–	724
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Cover plate VS	■	■	■	■	706
9	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	706
10	Precision pressure gauge A8M/MAP	■	■	■	■	706
11	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	706
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	730
13	Padlock LRVS-D	■	■	■	■	730
14	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	727

Precision Pressure Regulators MS6N-LRPB – Inch Series

Technical Data

ISO Symbol





LRPB combination
with through pressure supply for
manifold assembly

- The precision pressure regulator is suitable for sensitive applications with a required pressure hysteresis of 0.3 psi.
- The pressure regulator is suitable for manifold assemblies with through air supply on both sides. Pressure output is at the front or rear.
- For configuring a regulator manifold with separate, independent pressure regulation ranges
- Good control characteristics with low hysteresis and primary pressure compensation
- Setting values are secured by locking the rotary knob
- Lockable rotary knob (optional)
- Four pressure regulation ranges
- Optional pressure sensor with display
- With secondary venting



General Technical Data			
Pneumatic connection 1			½ NPT
Pneumatic connection 2			½ NPT
			QS-5/16-U push-in tubing connector
			QS-3/8-U push-in tubing connector
Pneumatic connection of secondary venting			¼ NPT
Supply pressure		[psi]	15 ... 206
Pressure regulation range	D2	[psi]	0.7 ... 10
	D4	[psi]	0.7 ... 37
	D5	[psi]	1.5 ... 59
	D7	[psi]	1.5 ... 176 (1.5 ... 147 with pressure sensor variant AD...)
Max. hysteresis		[psi]	0.3

Standard Nominal Flow Rate qnN [scfm]		
Pressure regulation range	D2	56.5[1)]
	D4	81.2[2)]
	D5	105.9[3)]
	D7	176.5[4)]

1) Measured at p1 = 147 psi and p2 = 7.4 psi, Δp = 1.5 psi
2) Measured at p1 = 147 psi and p2 = 22 psi, Δp = 1.5 psi
3) Measured at p1 = 147 psi and p2 = 37 psi, Δp = 1.5 psi
4) Measured at p1 = 147 psi and p2 = 88 psi, Δp = 1.5 psi

Precision Pressure Regulators MS6N-LRPB – Inch Series

Technical Data

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air, filtered, unlubricated, filtration grade 40 µm	
Ambient temperature	[°F]	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	32 ... 122
Storage temperature	[°F]	14 ... 140	14 ... 140
Installation position		Any	
Corrosion resistance class	CRC[1)]	2	

1) Corrosion resistance class 2 to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

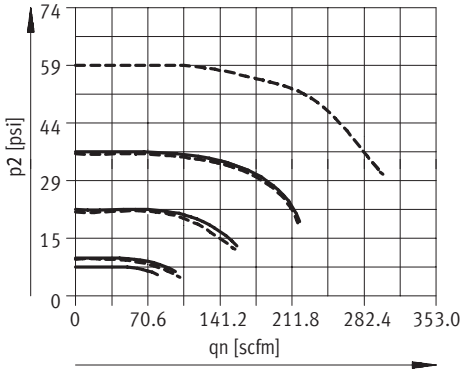
Weight [lb]	
Precision pressure regulator	2.00

- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of Output Pressure p2

MS6N-LRPB-½

Primary pressure p1 = 147 psi



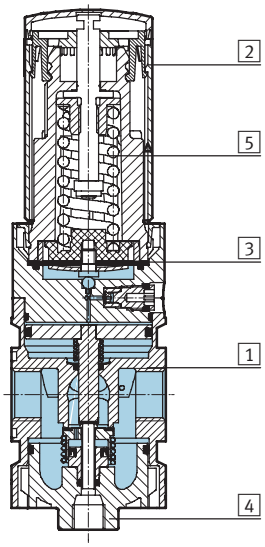
D4: 0.7 ... 37 psi
D5: 1.5 ... 59 psi

Precision Pressure Regulators MS6N-LRPB – Inch Series

Technical Data, Dimensional Drawings

Materials

Sectional view



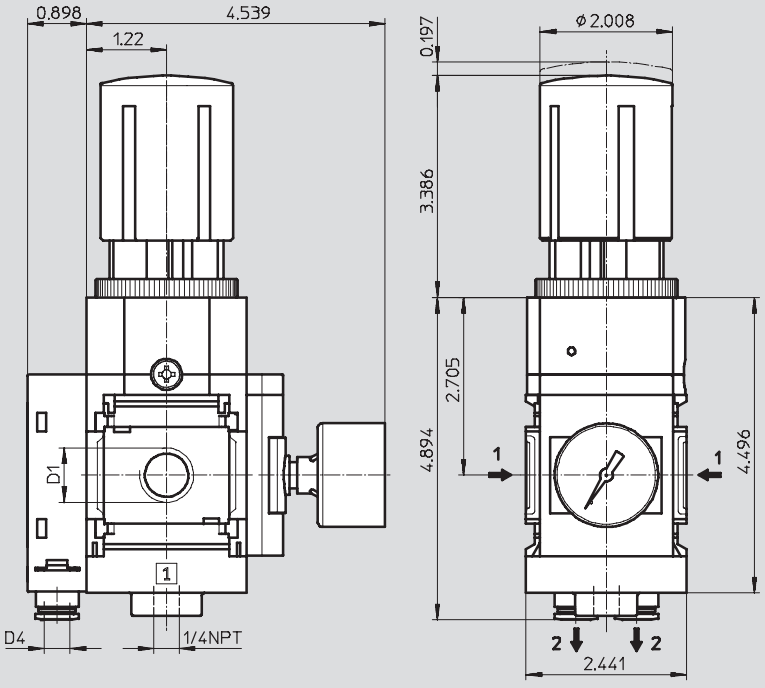
Precision pressure regulator (manifold assembly)		
1	Housing	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Cap, bottom	Polyester, fiberglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants A8M or AD...)

Dimensions

Download CAD Data ➔ **www.festo.com/us/cad**

Adapter plate A8M for EN pressure gauge ⅛, with precision pressure gauge, angled outlet block BI/BJ

Technical data for gauge MAP ➔ www.festo.com/catalog/map



➔ Flow direction

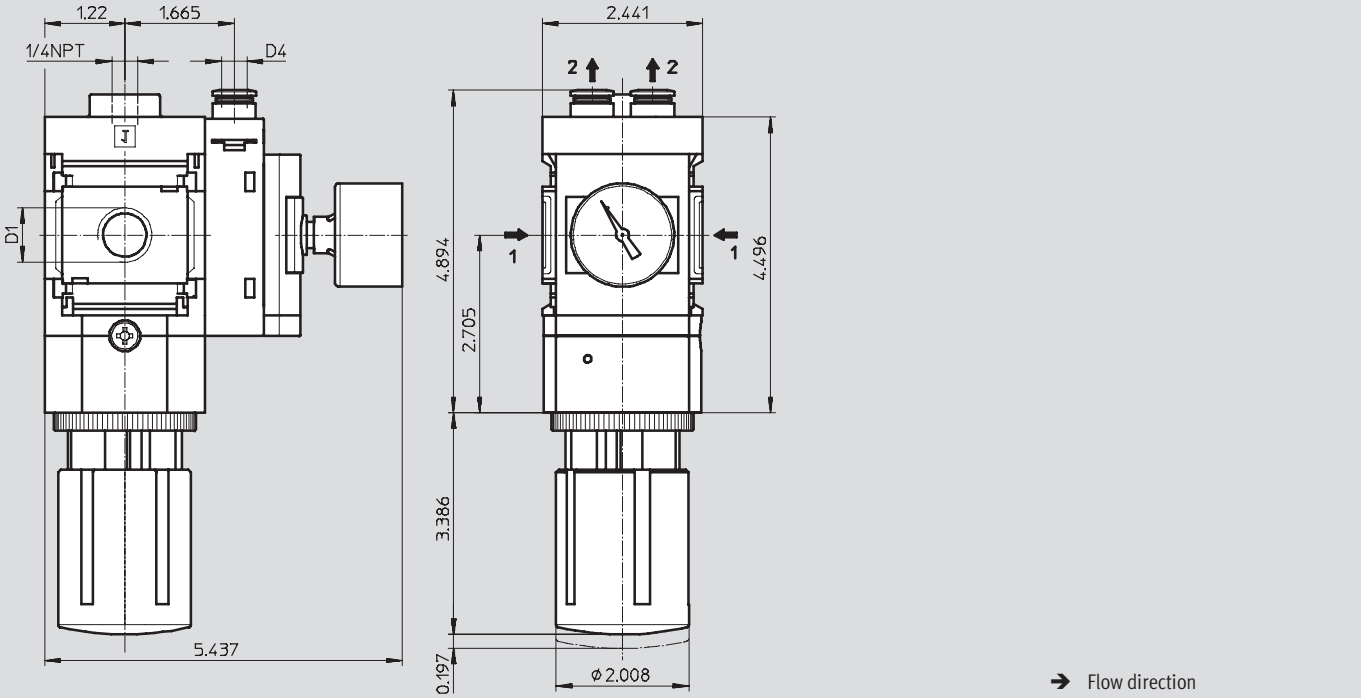
Type	D1	D4
MS6N-LRPB-½-...-A8M-BI	½ NPT	QS-5/16-U
MS6N-LRPB-½-...-A8M-BJ		QS-⅜-U

Precision Pressure Regulators MS6N-LRPB – Inch Series

Dimensional Drawings

Dimensions[1] – Alternative Assembly Position Download CAD Data ➔ **www.festo.com/us/cad**

Rotary knob at bottom KD, angled outlet block BI/BJ



Type	D1	D4
MS6N-LRPB-½-...-KD-BI	½ NPT	QS-5/16-U
MS6N-LRPB-½-...-KD-BJ		QS-3/8-U

1) Dimensions are in inches, unless otherwise noted.

Precision Pressure Regulators MS6N-LRPB – Inch Series

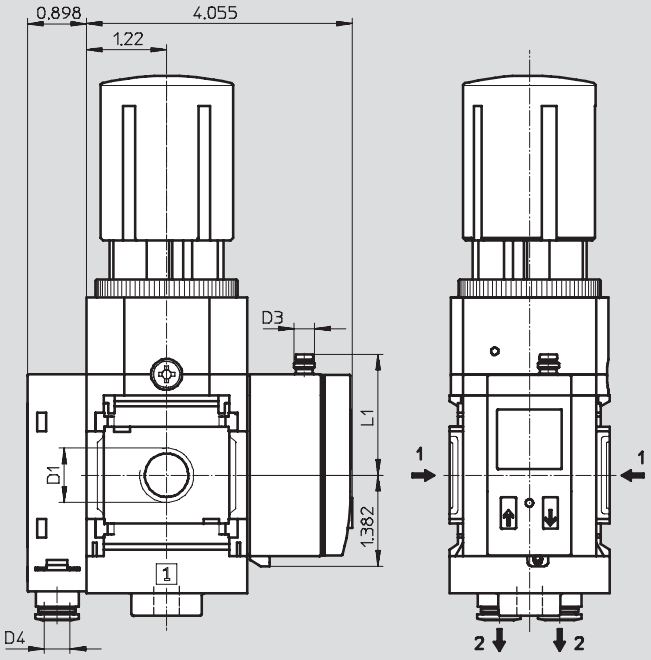
Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4, angled outlet block BI/BJ

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

Variant AD1:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switch output PNP.

Variant AD2:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switch output NPN.

Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switch output PNP and 4 ... 20 mA analog.

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switch output NPN and 4 ... 20 mA analog.

Type	D1	D3	D4	L1
MS6N-LRPB-½-...-AD1/AD2-BI	½ NPT	M8x1	QS-5/16-U	1.84
MS6N-LRPB-½-...-AD1/AD2-BJ			QS-3/8-U	
MS6N-LRPB-½-...-AD3/AD4-BI	½ NPT	M12x1	QS-5/16-U	2.20
MS6N-LRPB-½-...-AD3/AD4-BJ			QS-3/8-U	

1) Dimensions are in inches, unless otherwise noted.

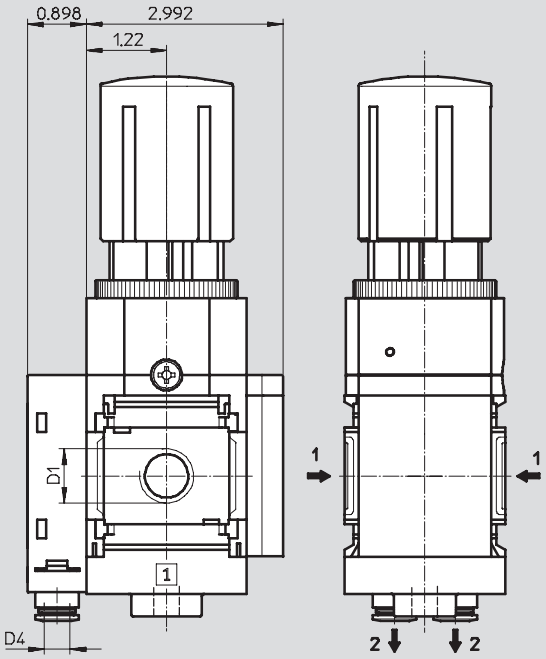
Precision Pressure Regulators MS6N-LRPB – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

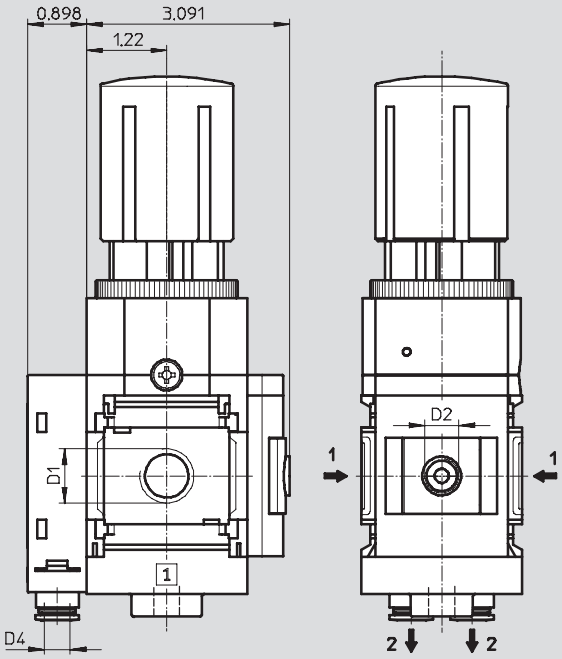
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS, angled outlet block BI/BJ



➔ Flow direction

Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge, angled outlet block BI/BJ



➔ Flow direction

Type	D1	D2	D4
MS6N-LRPB-1/2-...-VS-BI	1/2 NPT	–	QS-5/16-U
MS6N-LRPB-1/2-...-VS-BJ			QS-3/8-U
MS6N-LRPB-1/2-...-A8-BI	1/2 NPT	1/8 NPT	QS-5/16-U
MS6N-LRPB-1/2-...-A8-BJ			QS-3/8-U
MS6N-LRPB-1/2-...-A4-BI	1/2 NPT	1/4 NPT	QS-5/16-U
MS6N-LRPB-1/2-...-A4-BJ			QS-3/8-U

1) Dimensions are in inches, unless otherwise noted.

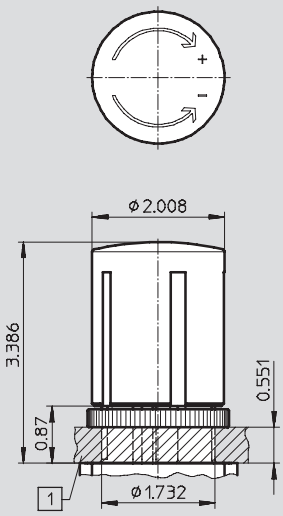
Precision Pressure Regulators MS6N-LRPB – Inch Series

Dimensional Drawings

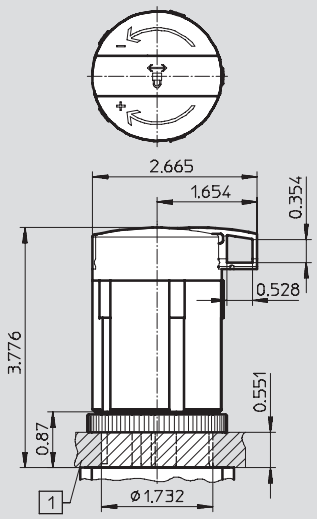
Dimensions[1] – Rotary Knob Download CAD Data ➔ **www.festo.com/us/cad**

For installation into control panel

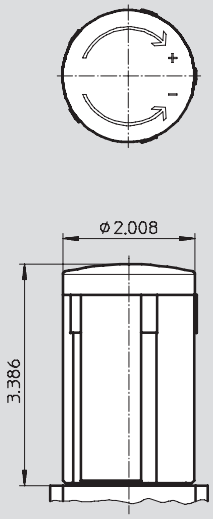
Standard



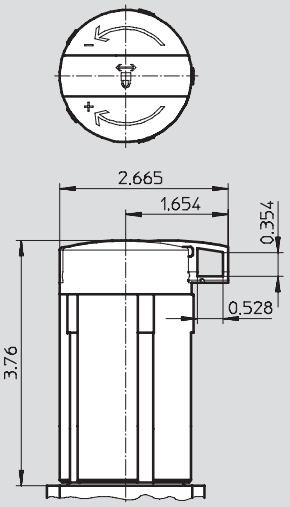
Standard, lockable AS



Long LD



Long, lockable LD-AS



1 Max. control panel thickness

1) Dimensions are in inches, unless otherwise noted.

Precision Pressure Regulators MS6N-LRPB – Inch Series

Ordering Data – Pre-configured Products

Ordering Data			
Adapter plate A8 for EN pressure gauge 1/8, standard rotary knob			
Connection	Pressure output to rear without angled outlet block		
	Part No.	Type	LT
Pressure regulation range 0.7 ... 10 psi			
1/2 NPT	**534983**	**MS6N-LRPB-1/2-D2-A8**[1)]	Q
Pressure regulation range 0.7 ... 37 psi			
1/2 NPT	**534986**	**MS6N-LRPB-1/2-D4-A8**[1)]	Q
Pressure regulation range 1.5 ... 59 psi			
1/2 NPT	**534989**	**MS6N-LRPB-1/2-D5-A8**[1)]	Q
Pressure regulation range 1.5 ... 176 psi			
1/2 NPT	**534992**	**MS6N-LRPB-1/2-D7-A8**[1)]	Q

Ordering Data							
Adapter plate A8 for EN pressure gauge 1/8, standard rotary knob							
Connection	Pressure output to rear with angled outlet block QS-5/16-U				Pressure output to rear with angled outlet block QS-3/8-U		
	Part No.	Type	LT		Part No.	Type	LT
Pressure regulation range 0.7 ... 10 psi							
1/2 NPT	**534937**	**MS6N-LRPB-1/2-D2-A8-BI**[1)]	Q		**534985**	**MS6N-LRPB-1/2-D2-A8-BJ**[1)]	Q
Pressure regulation range 0.7 ... 37 psi							
1/2 NPT	**534940**	**MS6N-LRPB-1/2-D4-A8-BI**[1)]	Q		**534988**	**MS6N-LRPB-1/2-D4-A8-BJ**[1)]	Q
Pressure regulation range 1.5 ... 59 psi							
1/2 NPT	**534943**	**MS6N-LRPB-1/2-D5-A8-BI**[1)]	Q		**534991**	**MS6N-LRPB-1/2-D5-A8-BJ**[1)]	Q
Pressure regulation range 1.5 ... 176 psi							
1/2 NPT	**534946**	**MS6N-LRPB-1/2-D7-A8-BI**[1)]	Q		**534994**	**MS6N-LRPB-1/2-D7-A8-BJ**[1)]	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Free of copper and PTFE

Precision Pressure Regulators MS6N-LRPB – Inch Series

Ordering Data – Configurable Products

FESTO

[M] **Mandatory Data** →

Part No.	Series	Size	Thread		Function		Connection size		Pressure regulation range		Pressure gauge alternatives
535008	MS	6	N		LRPB		½, AQN, AQP, AQR, AQS		D2 D4 D5 D7		VS A8 A8M A4 AD1 AD2 AD3 AD4
Order example											
535008	**MS**	**6**	**N**	–	**LRPB**	–	**AQR**	–	**D5**	–	**VS**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
[M]	Part No.	**535008**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Thread	NPT thread		**N**		N
	Function	Precision pressure regulator for manifold assembly		**-LRPB**		-LRPB
	Connection size	Body thread ½ NPT		**-½**		
		Port plate ¼ NPT (dimensions → 726)		**-AQN**		
		Port plate ⅜ NPT (dimensions → 726)		**-AQP**		
		Port plate ½ NPT (dimensions → 726)		**-AQR**		
		Port plate ¾ NPT (dimensions → 726)		**-AQS**		
	Pressure regulation range	0.7 ... 10 psi		**-D2**		
		0.7 ... 37 psi		**-D4**		
		1.5 ... 59 psi		**-D5**		
		1.5 ... 176 psi		**-D7**		
	Pressure gauge alternatives	Cover plate	[1]	**-VS**		
		Adapter plate for EN pressure gauge ⅛, without pressure gauge	[2]	**-A8**		
		Adapter plate for EN pressure gauge ⅛, with precision pressure gauge	[2]	**-A8M**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge	[2]	**-A4**		
		Pressure sensor with display, plug M8, 1 switch output PNP, 3-pin	[2] [3]	**-AD1**		
		Pressure sensor with display, plug M8, 1 switch output NPN, 3-pin	[2] [3]	**-AD2**		
		Pressure sensor with display, plug M12, 1 switch output PNP, 4-pin, analog output 4 ... 20 mA	[2] [3]	**-AD3**		
↓		Pressure sensor with display, plug M12, 1 switch output NPN, 4-pin, analog output 4 ... 20 mA	[2] [3]	**-AD4**		

[1] **VS** Must be selected with alternative flow direction Z without alternative assembly position KD or without alternative pressure output BI, BJ.
Must be selected with alternative assembly position KD without alternative flow direction Z or without alternative pressure output BI, BJ

[2] **A8, A8M, A4, AD1 ... AD4** In combination with alternative flow direction Z only with alternative assembly position KD

[3] **AD1 ... AD4** Measuring range max. 147 psi.
Not with pressure regulation range D2, D4.

Transfer order code

535008	**MS**	**6**	**N**	–	**LRPB**	–		–		–

Precision Pressure Regulators MS6N-LRPB – Inch Series

Ordering Data – Configurable Products

FESTO

➔ 0 **Options**

Rotary knob alternative	Alternative assembly position	Security	Alternative pressure output	Type of mounting	Reverse flow direction
LD	KD	AS	BI BJ	WR WP WPM WPB WB	Z
– **LD**	–	– **AS**	– **BJ**	– **WP**	– **Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code	Enter code
0	Rotary knob alternative	Long rotary knob		**-LD**	
	Alternative assembly position	Rotary knob at bottom	4	**-KD**	
	Security	Lockable rotary knob		**-AS**	
	Alternative pressure output	Angled outlet block QS-5/16-U		**-BI**	
		Angled outlet block QS-3/8-U		**-BJ**	
	Type of mounting	Mounting bracket with knurled nut for regulator head (dimensions ➔ 724)	5 6	**-WR**	
		Mounting bracket (dimensions ➔ 727)	7 8	**-WP**	
		Mounting bracket (dimensions ➔ 727)	5 7	**-WPM**	
		Mounting bracket for large wall gap (dimensions ➔ 727)	7 9	**-WPB**	
		Mounting bracket (dimensions ➔ 723)	5	**-WB**	
	Reverse flow direction	Pressure output at front (without pressure output, no pressure gauge)		**-Z**	

4 **KD** In combination with pressure gauge alternatives A8, A4, AD1, AD2, AD3, AD4 only with alternative flow direction Z

5 **WR, WPM, WB** Either only with alternative flow direction Z or only with alternative assembly position KD

6 **WR** Only with alternative flow direction Z.
Not with long rotary knob LD

7 **WP, WPM, WPB** Only with port plate AQN, AQP, AQR or AQS

8 **WP** Not with alternative assembly position KD
Either only with alternative flow direction Z or only with alternative pressure output BI, BJ

9 **WPB** Not with alternative assembly position KD
Not with alternative pressure output BI, BJ
Not with alternative flow direction Z

Transfer order code

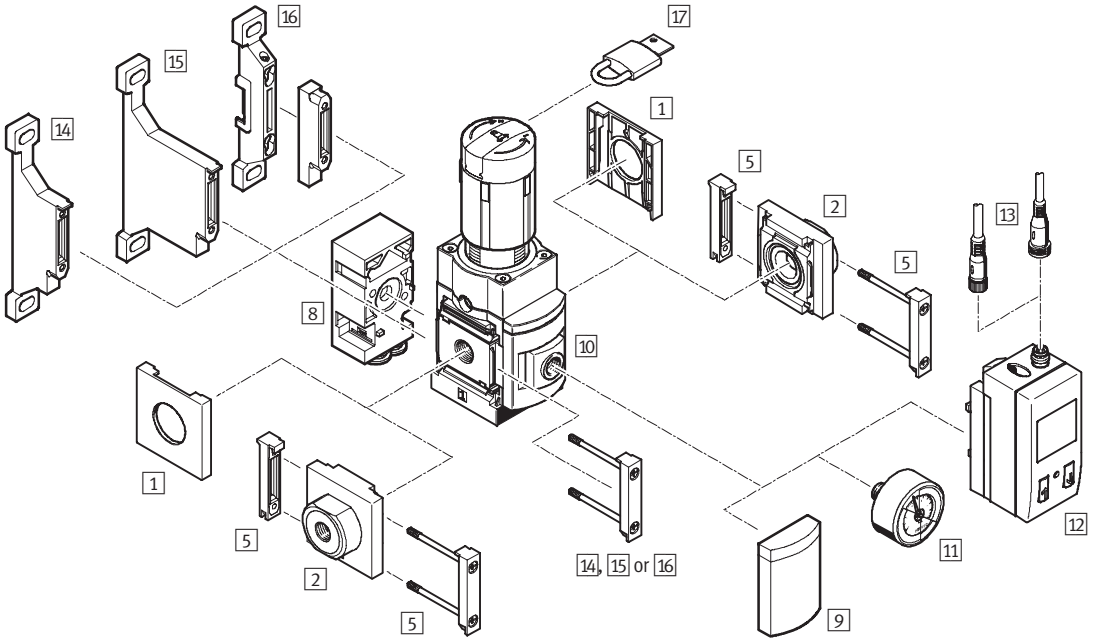
–		–		–		–		–		–	

Precision Pressure Regulators MS6N-LRPB – Inch Series

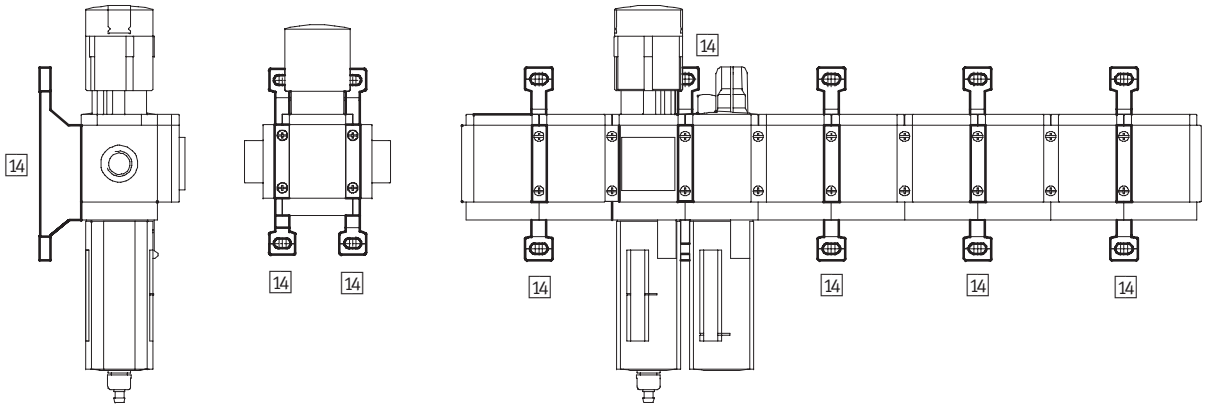
Accessories Overview

Mounting Attachments and Accessories

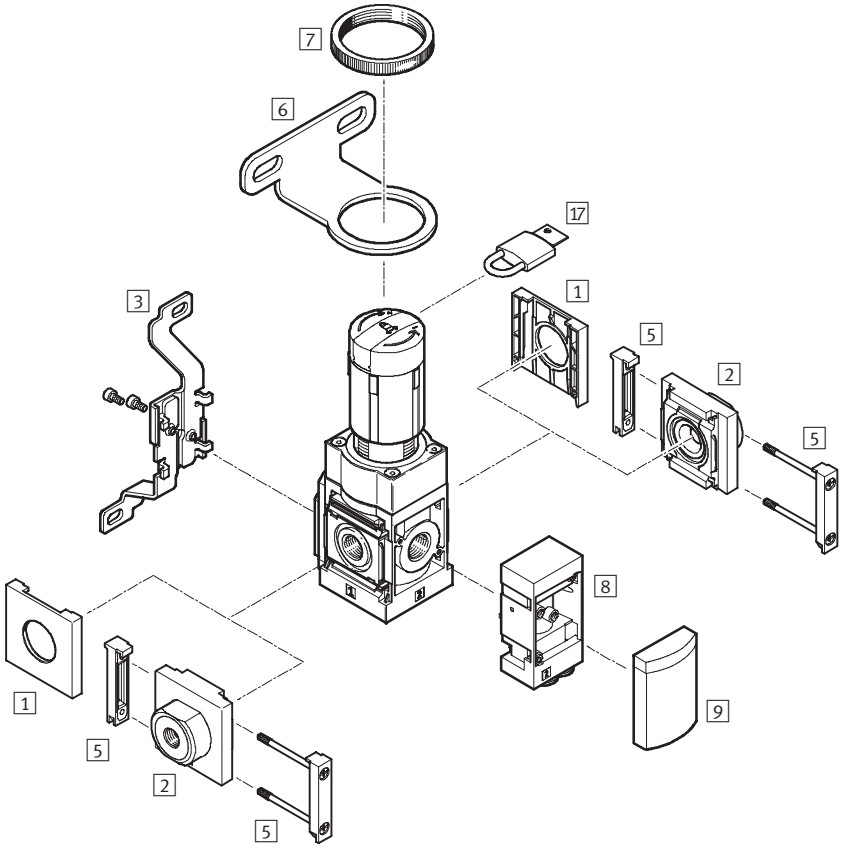
Pressure output at rear



Single unit and combination unit mounting brackets.



Pressure output at front



Precision Pressure Regulators MS6N-LRPB – Inch Series

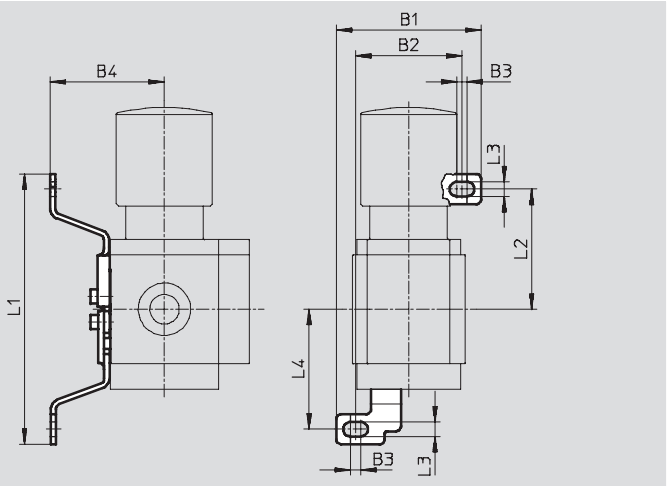
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	725
2	Port plate MS6N-AQ...	–	■	–	■	726
3	Mounting bracket MS6-WB	■	■	–	–	723
5	Body connector MS6-MV	–	■	■	■	726
6	Regulator wall bracket MS6-WR	■	■	–	–	724
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Angled outlet block B...	■	■	■	■	719
9	Cover plate VS	■	■	■	■	718
10	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	718
11	Precision pressure gauge A8M/MAP	■	■	■	■	718
12	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	718
13	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	730
14	Mounting bracket MS6-WP	–	■	■	■	727
15	Mounting bracket MS6-WPB	–	■	■	■	727
16	Mounting bracket MS6-WPM	–	■	■	■	727
17	Padlock LRVS-D	■	■	■	■	730

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

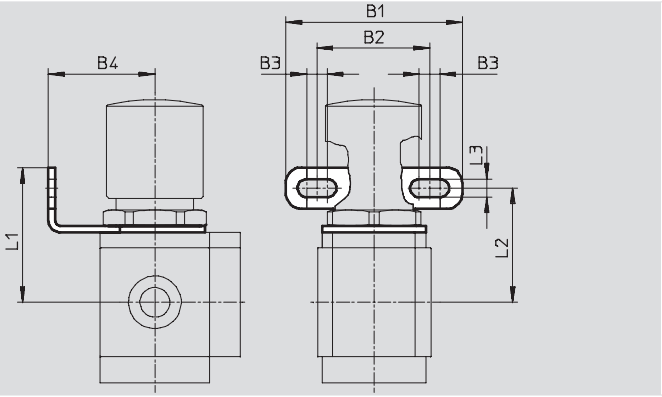
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.13	2.44	0.18	2.17	6.20	2.80	0.26	2.80	0.24	**532196**	**MS6-WB**

6 **Mounting bracket MS6-WR**
- For wall mounting a filter regulator and pressure regulator

Material:
Steel

Note
The hex nut for attaching components to this bracket must be ordered separately.





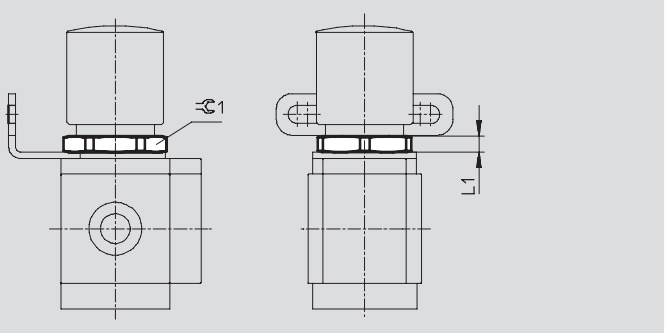
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.76	1.65	0.32	1.57	2.64	2.24	0.28	0.18	**526075**	**MS6-WR**

Hex nut MS6-WRS
- For front panel mounting
- For attaching components to the mounting bracket MS...-WR

Material:
Aluminum





Dimensions and Ordering Data

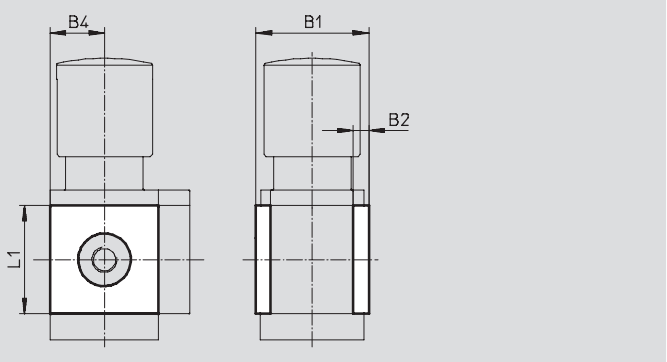
L1	⌀1	Weight [lb]	Part No.	Type
0.28	2.17	0.04	**532188**	**MS6-WRS**

1 **Cover cap MS6-END**

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

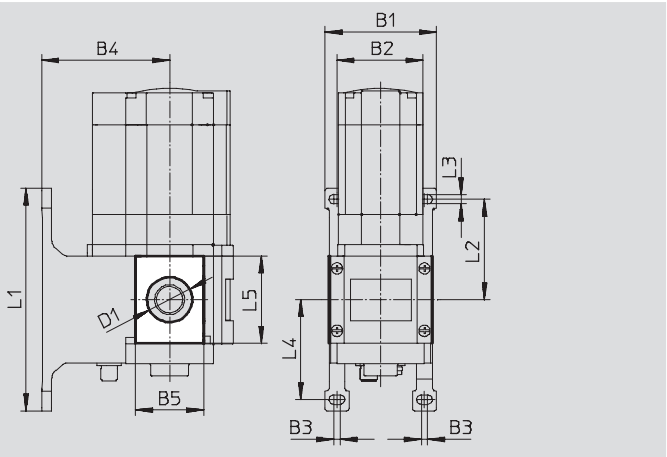
B1	B2	B4	L1	Part No.	Type
2.64	0.31	1.22	2.44	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

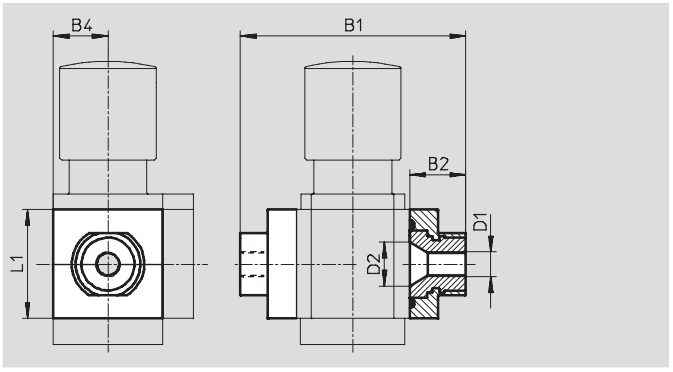
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6N-AQ...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection ¾ NPT

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	¼ NPT	0.94	2.44	0.60	**526076**	**MS6N-AQN**
			⅜ NPT				**526077**	**MS6N-AQP**
			½ NPT				**526078**	**MS6N-AQR**
			¾ NPT				**526079**	**MS6N-AQS**

5 **Body connector MS...-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

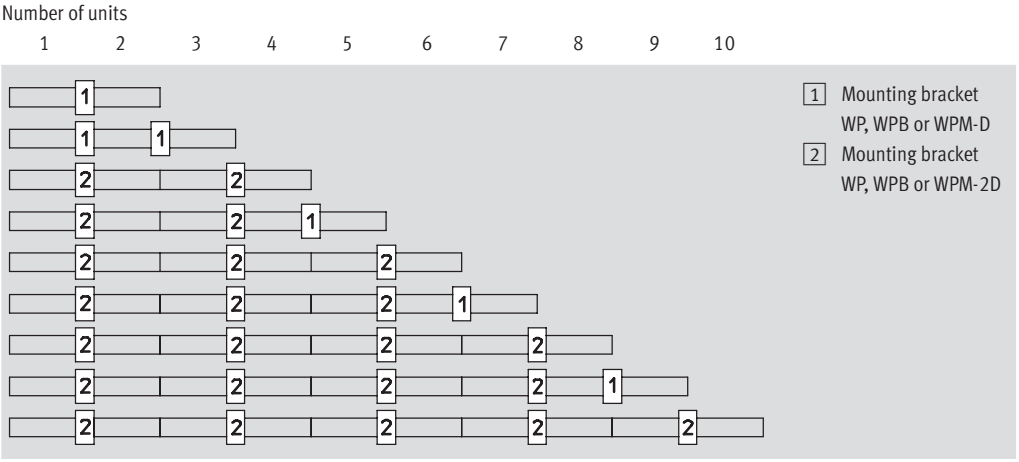
Weight [lb]	Part No.	Type
0.11	**532799**	**MS6-MV**

14 Mounting Bracket MS6-WP...

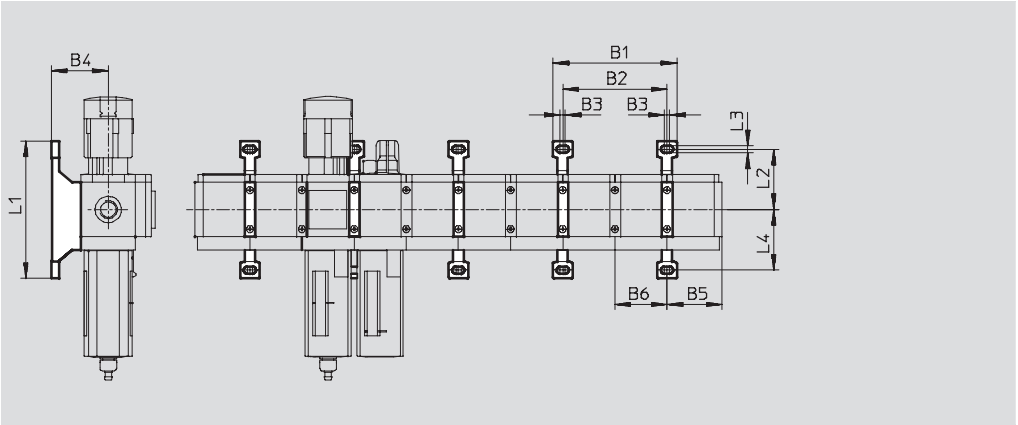
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WP, WPB
2.715 in with WPM-D

2 units: 4.88 in with WP, WPB
5.43 in with WPM-2D



Mounting dimensions



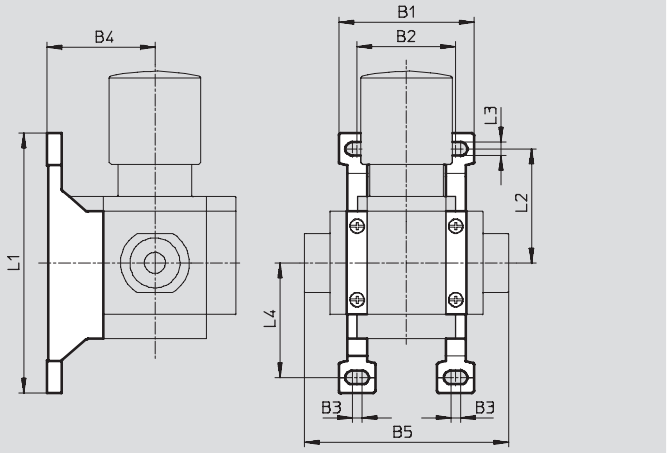
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	5.55	4.88	0.18	2.13	2.54	2.44	6.22	2.80	0.26	2.80
MS6-WPB				3.56						
MS6-WPM-...D	6.61	5.43	0.69	2.13	2.58	2.72	3.88	1.63		1.63

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

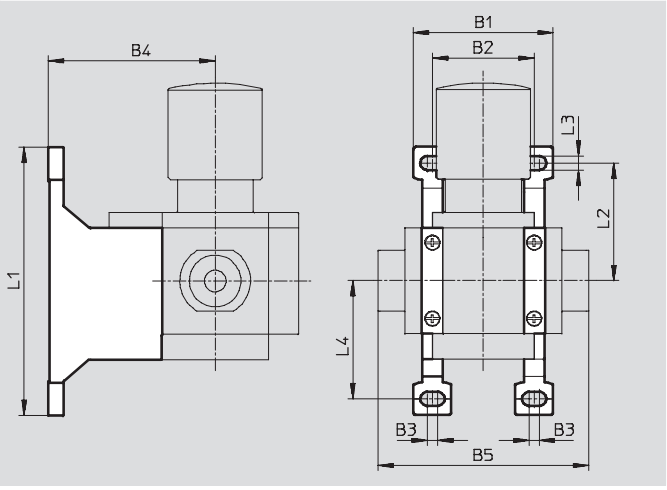
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	2.13	4.53	6.22	2.80	0.26	2.80	0.15	**532195**	**MS6-WP**

15 **Mounting bracket MS6-WPB**

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	**526074**	**MS6-WPB**

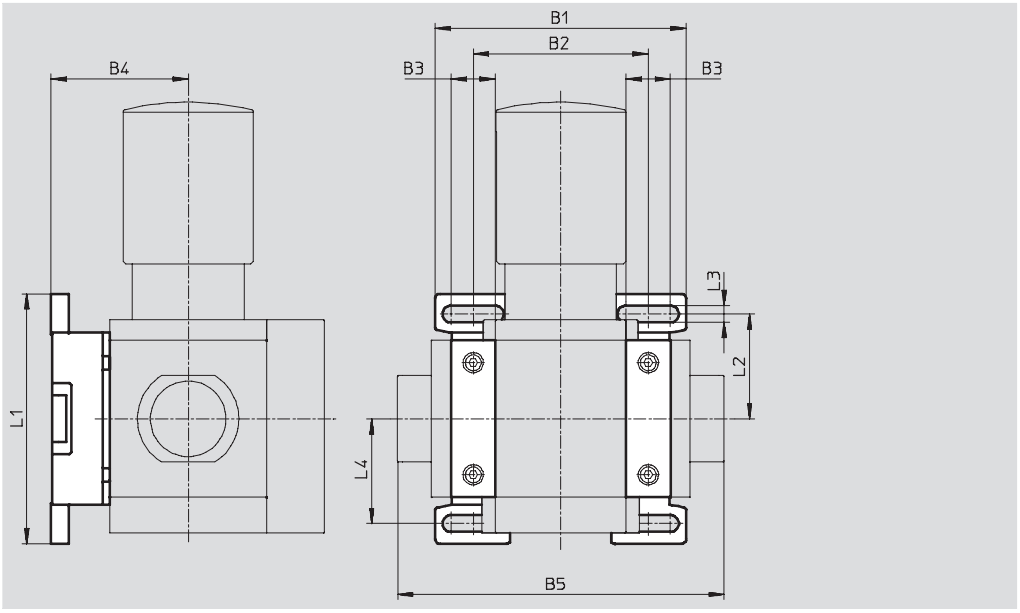
16 Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
3.90	2.72	0.69	2.13	5.08	3.88	1.63	0.26	1.63	2.44	0.29	**526073**	**MS6-WPM-D**
6.61	5.43			7.80					4.88	0.31	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

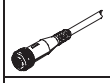
13 Ordering Data – Plug Socket with Cable SIM-M8

Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [ft]	Part No.	Type
	M8x1, 3-pin	8.2	**159420**	**SIM-M8-3GD-2,5-PU**
		16.4	**159421**	**SIM-M8-3GD-5-PU**
		32.8	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	8.2	**159422**	**SIM-M8-3WD-2,5-PU**
		16.4	**159423**	**SIM-M8-3WD-5-PU**
		32.8	**192965**	**SIM-M8-3WD-10-PU**

Ordering Data – Plug Socket with Cable SIM-M12

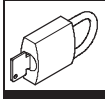
Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 4-pin	16.4	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	16.4	**164258**	**SIM-M12-4WD-5-PU**

11 Ordering Data – Pressure Gauge MA

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1				Technical data ➔ www.festo.com/catalog/ma	
	1.57	¼ NPT	0 … 16	0 … 232	**183908**	**MA-40-16-N¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range				Technical data ➔ www.festo.com/catalog/ma	
	1.57	⅛ NPT	–	0 … 232	**530388**	**MA-40-232-N⅛-PSI-E-RG**
	1.97	¼ NPT	–	0 … 232	**530391**	**MA-50-232-N¼-PSI-E-RG**
	Precision pressure gauge MAP, DIN EN 837-1				Technical data ➔ www.festo.com/catalog/map	
	1.57	R⅛	0 … 1	0 … 15	**161126**	**MAP-40-1-⅛-EN**
			0 … 4	0 … 58	**162842**	**MAP-40-4-⅛-EN**
			0 … 6	0 … 87	**161127**	**MAP-40-6-⅛-EN**
			0 … 16	0 … 232	**161128**	**MAP-40-16-⅛-EN**

17 Ordering Data – Padlock LRVS-D

	Description	Weight [lb]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	0.24	**193786**	**LRVS-D**

Pressure Regulators MS6N-LR/LRB/LRP/LRPB – Inch Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS6	Snap-ring, membrane, bellows, O-rings, screws, stem	**673650**	**MS6-LR/LRB**

- For spare parts go to: www.festo.com/en/spare_parts_service

Electrical Pressure Regulators MS6-LRE – Metric Series



The electrical pressure regulator maintains incoming compressed air at the set output pressure. It also maintains a constant output pressure independent of pressure fluctuations and air consumption. The output pressure is set indirectly via an integrated electrical drive unit. The drive unit can be operated either with digital inputs via the M12 plug or using the optional control and display unit. The direction of rotation of the drive unit is thus pre-set, which makes adjustment of the output pressure in the rising or falling direction possible. In the event of a power failure, the last drive unit or output pressure setting is saved. Pneumatic pressure regulation continues to function.

- Pneumatic connection: G¼, G⅜, G½, G¾
- Supply pressure: 0.8 ... 20 bar
- Flow rate: 2,200 ... 7,500 l/min

Product Range Overview

Type	Pneumatic connections		Pressure regulation range [bar]				Pressure indicator				Reverse flow
	Body thread	Port plate	0.3 ... 4	0.3 ... 7	0.5 ... 12	0.5 ... 16	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G1/8	Adapter for pressure gauge G1/4	Flow direction from right to left
MS6		AG...	D5	D6	D7	D8	VS	AG	A8	A4	Z
LRE	G¼, G⅜, G½	G¼, G⅜, G½, G¾	■	■	■	■	■	■	–	■	■

Features

- Constant output pressure even in the event of a power failure thanks to the fail-safe function
- Four pressure regulation ranges
- Available with or without secondary venting
- Optional control unit with display
- Optional integrated pressure sensor with electrical output

Contents

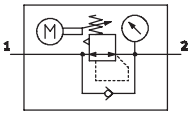
Technical Data → 734
Dimensional Drawings → 737
Ordering Data → 739
Accessories → 742

→ www.festo.com/catalog/ms6-lre

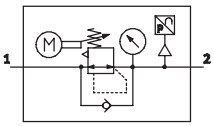
Electrical Pressure Regulators MS6-LRE – Metric Series

Technical Data

ISO Symbol



With pressure gauge



With pressure gauge and integrated pressure sensor



Note
The electrical pressure regulator is not suitable for the set-up of closed control loops.

General Technical Data					
Pneumatic connection 1, 2			G¼	G⅜	G½
Supply pressure		[bar]	0.8 ... 20		
Pressure regulation range	D5	[bar]	0.3 ... 4		
	D6	[bar]	0.3 ... 7		
	D7	[bar]	0.5 ... 12		
	D8	[bar]	0.5 ... 16		
Max. hysteresis		[bar]	0.25		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]				
Pneumatic connection 1, 2		G¼	G⅜	G½
Pressure regulation range	D5	2,400[2]	5,500[2]	7,500[2]
	D6	3,000	5,800	6,500
	D7	2,700	4,500	5,500
	D8	2,200	4,000	4,500

1) Measured at p1 = 10 bar and p2 = 6 bar, Δp = 1 bar
2) Measured at p1 = 10 bar and p2 = 3 bar, Δp = 1 bar

Electrical Pressure Regulators MS6-LRE – Metric Series

Technical Data

Electrical Data					
			Without integrated pressure sensor	With integrated pressure sensor	
				PI (I out)	PU (V out)
Analog output		[V]	–	–	0 … 10
		[mA]	–	4 … 20	–
Analog outputs, absolute accuracy at 25 °C		[%]	–	±3	±3
Cable interface	Inputs		Plug M12x1, 5-pin		
	Outputs		–	Plug M8x1, 3-pin	
Design of inputs			To IEC 61131-2, no electrical isolation		
Nominal operating voltage		[V DC]	24		
Permissible voltage fluctuations		[%]	±10		
Current consumption at 24 V DC		[A]	Max. 3.5		
Current consumption at nominal operating voltage		[A]	Max. 1		
Duration of actuation at 25°C		[s]	Max. 90[1)]		
Protection against short circuit			For all electrical connections		
Protection class			IP65		

1) In order to prevent the drive from overheating, a control/pause ratio of 1:3 must be observed.

Operating and Environmental Conditions		
Operating medium		Compressed air, air quality class 5.4.– to DIN ISO 8573-1
Ambient temperature	[°C]	0 … +50
Temperature of medium	[°C]	0 … +50
Storage temperature	[°C]	0 … +50
Assembly position		Any, preferably vertical
Corrosion resistance	CRC[1)]	2

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Electrical pressure regulator	1,280

- For spare parts go to: www.festo.com/en/spare_parts_service

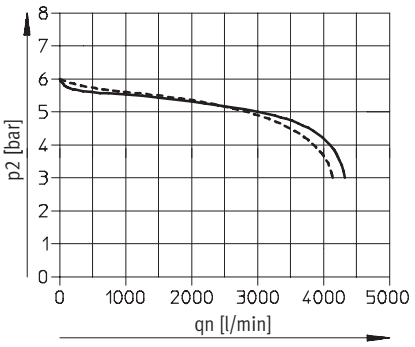
Electrical Pressure Regulators MS6-LRE – Metric Series

Technical Data

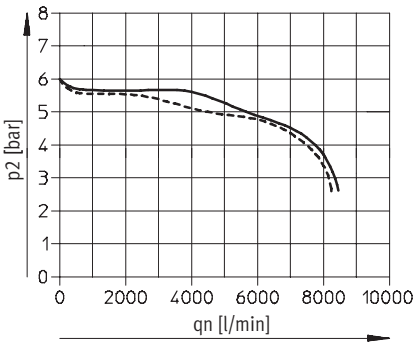
Standard Flow Rate qn as a Function of Output Pressure p2

MS6-LRE-¼

Primary pressure p1 = 10 bar



MS6-LRE-⅜

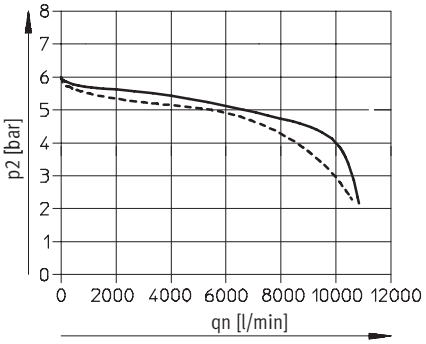


D6: 0.3 ... 7 bar

D7: 0.5 ... 12 bar

MS6-LRE-½

Primary pressure p1 = 10 bar

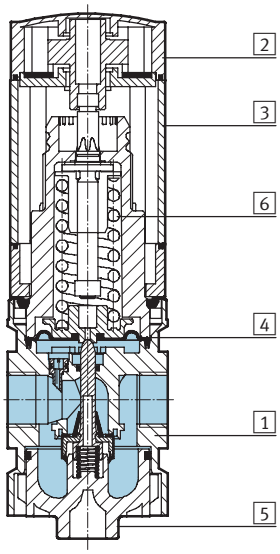


D6: 0.3 ... 7 bar

D7: 0.5 ... 12 bar

Materials

Sectional view



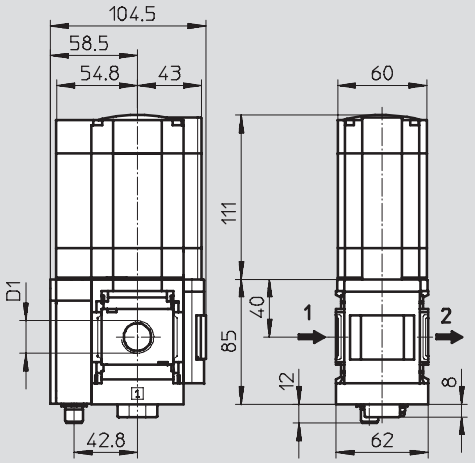
Electrical pressure regulator		
1	Body	Die-cast aluminum
2	Drive housing	Reinforced polyamide
3	Profile housing	Wrought aluminum alloy
4	Diaphragm	Nitrile rubber
5	Bottom cap	Polyester, fiberglass reinforced
6	Springs	Steel
–	Display and control unit	Polyamide
–	Seals	Nitrile rubber

Electrical Pressure Regulators MS6-LRE – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar]



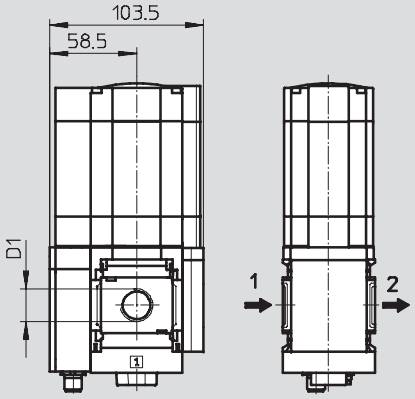
➔ Flow direction

Type	D1
MS6-LRE-¼	G¼
MS6-LRE-⅜	G⅜
MS6-LRE-½	G½

1) Dimensions are in millimeters, unless otherwise noted.

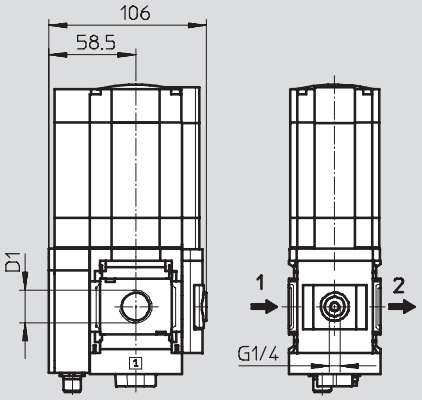
Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	D1
MS6-LRE-¼	G¼
MS6-LRE-⅜	G⅜
MS6-LRE-½	G½

1) Dimensions are in millimeters, unless otherwise noted.

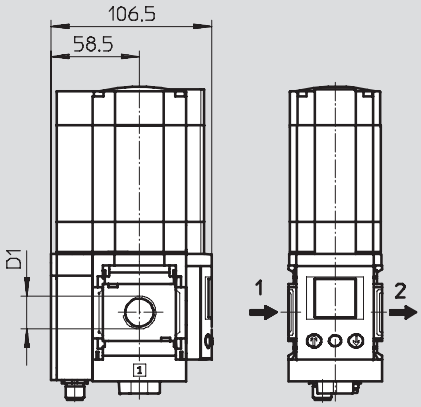
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Electrical Pressure Regulators MS6-LRE – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Control unit with display OP



➔ Flow direction

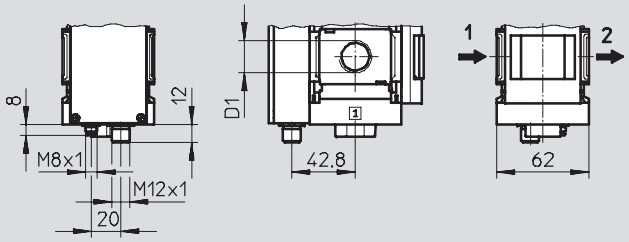
Type	D1
MS6-LRE-¼	G¼
MS6-LRE-⅜	G⅜
MS6-LRE-½	G½

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Electrically Controlled Pressure Output Download CAD Data ➔ **www.festo.com/us/cad**

Integrated pressure sensor with electrical output PI/PU



➔ Flow direction

1) Dimensions are in millimeters, unless otherwise noted.

Electrical Pressure Regulators MS6-LRE – Metric Series

Ordering Data – Pre-configured Products

Ordering Data							
Pressure gauge							
Connection	Pressure regulation range 0.3... 7 bar				Pressure regulation range 0.5... 12 bar		
	Part No.	Type	LT		Part No.	Type	LT
Standard							
G¼	**535358**	**MS6-LRE-¼-D6**	Q		**535364**	**MS6-LRE-¼-D7**	Q
G⅜	**535372**	**MS6-LRE-⅜-D6**	Q		**535378**	**MS6-LRE-⅜-D7**	Q
G½	**535348**	**MS6-LRE-½-D6**	Q		**535354**	**MS6-LRE-½-D7**	Q
Electrically controlled pressure output (integrated pressure sensor with voltage output), M8x1 plug, 3-pin							
G¼	**535360**	**MS6-LRE-¼-D6-PI**	Q		**535366**	**MS6-LRE-¼-D7-PI**	Q
G⅜	**535374**	**MS6-LRE-⅜-D6-PI**	Q		**535380**	**MS6-LRE-⅜-D7-PI**	Q
G½	**535350**	**MS6-LRE-½-D6-PI**	Q		**535356**	**MS6-LRE-½-D7-PI**	Q
Electrically controlled pressure output (integrated pressure sensor with voltage output), M8x1 plug, 3-pin							
G¼	**535362**	**MS6-LRE-¼-D6-PU**	Q		**535369**	**MS6-LRE-¼-D7-PU**	Q
G⅜	**535376**	**MS6-LRE-⅜-D6-PU**	Q		**535382**	**MS6-LRE-⅜-D7-PU**	Q
G½	**535352**	**MS6-LRE-½-D6-PU**	Q		**535357**	**MS6-LRE-½-D7-PU**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Electrical Pressure Regulators MS6-LRE – Metric Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data**

Part No.	Series	Size		Function		Connection size		Pressure regulation range
535191	MS	6		LRE		¼, ⅜, ½, AGB, AGC, AGD, AGE		D5 D6 D7 D8
Order example								
535191	**MS**	**6**	–	**LRE**	–	**AGC**	–	**D6**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**535191**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Function	Electrical pressure regulator		**-LRE**		-LRE
	Connection size	Body thread G¼		**-¼**		
		Body thread G⅜		**-⅜**		
		Body thread G½		**-½**		
		Port plate G¼ (dimensions ➔ 745)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 745)		**-AGC**		
		Port plate G½ (dimensions ➔ 745)		**-AGD**		
		Port plate G¾ (dimensions ➔ 745)		**-AGE**		
	Pressure regulation range	0.3 ... 4 bar		**-D5**		
		0.3 ... 7 bar		**-D6**		
		0.5 ... 12 bar		**-D7**		
↓		0.5 ... 16 bar		**-D8**		

Transfer order code

535191	**MS**	**6**	–	**LRE**	–		–	

Electrical Pressure Regulators MS6-LRE – Metric Series

Ordering Data – Configurable Products

FESTO

[0] Options							
Pressure gauge alternatives	**Alternative pressure gauge scale**	**Secondary venting**	**Electrically controlled pressure output**	**Sensor cables**	**Supply cables**	**Type of mounting**	**Reverse flow direction**
VS A4 OP	PSI MPA	OS	PI PU	SK2 SK5	VK2 VK5	WBE WPB	Z
– **OP**	–	– **OS**	– **PU**	– **SK5**	–	–	– **Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
[0]	Pressure gauge alternatives	Cover plate		**-VS**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
		Control unit with display	[1]	**-OP**		
	Alternative pressure gauge scale	psi	[2]	**-PSI**		
		MPa	[2]	**-MPA**		
	Secondary venting	Without secondary venting		**-OS**		
	Electrically controlled pressure output	Plug, M8, 3-pin, I out		**-PI**		
		Plug, M8, 3-pin, V out		**-PU**		
	Sensor cables	Plug socket, M8, with cable, 2.5 m	[1]	**-SK2**		
		Plug socket, M8, with cable, 5 m	[1]	**-SK5**		
	Supply cable	Plug socket, M12, with cable, 2.5 m		**-VK2**		
		Plug socket, M12, with cable, 5 m		**-VK5**		
	Type of mounting	Connecting plate for direct thread MS6-AEND (dimensions → 744)	[3]	**-WBE**		
		Mounting bracket for large wall gap (dimensions → 746)	[4]	**-WPB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

[1] **OP, SK2, SK5** Only with electrical pressure output PI, PU

[2] **PSI, MPA** Not with pressure gauge alternatives VS, A4, OP

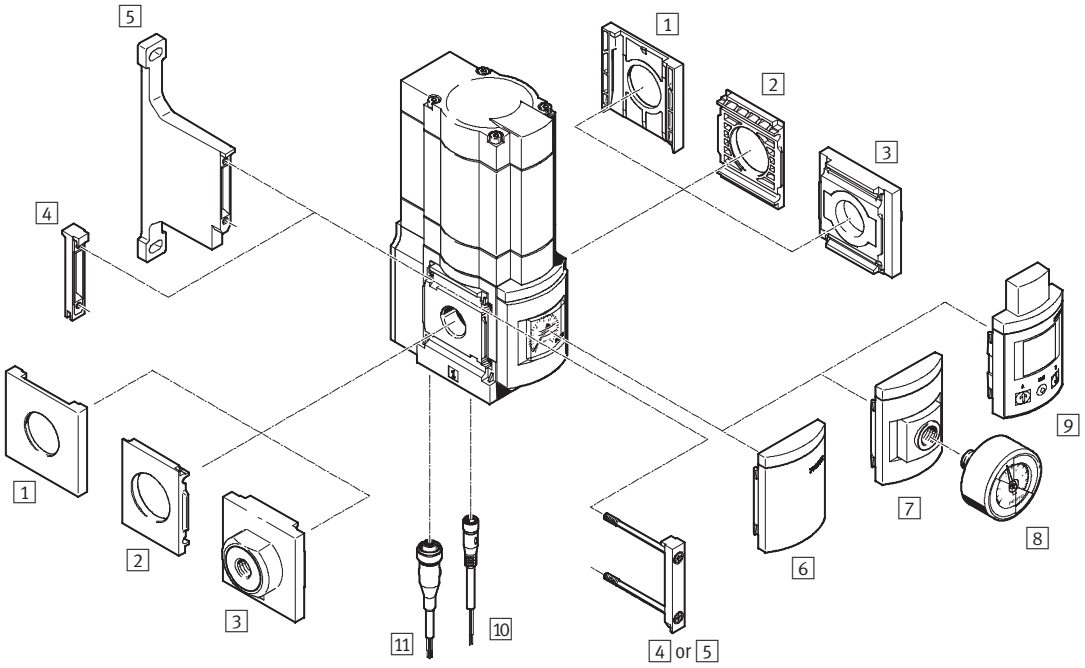
[3] **WBE** Only with connection thread size ¼, ⅜, ½

[4] **WPB** Only with port plate size AGB, AGC, AGD, AGE

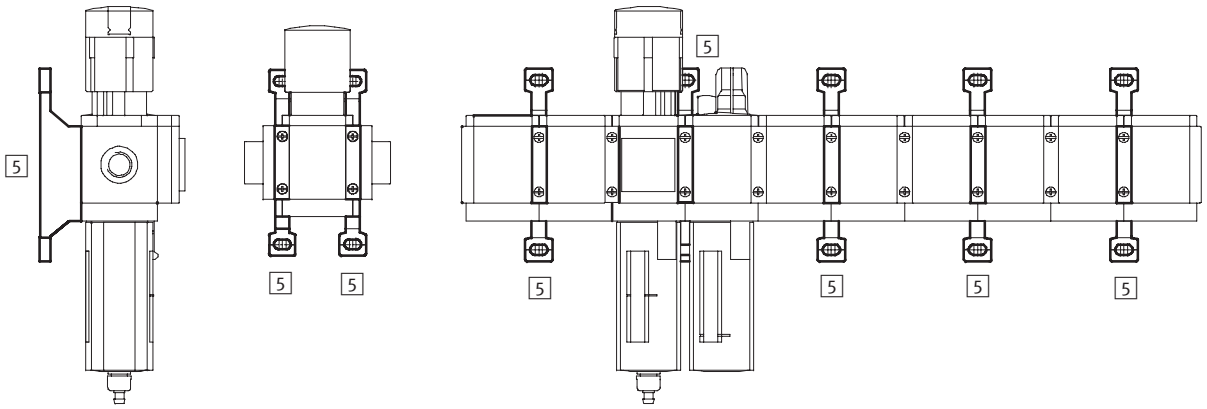
Transfer order code

–		–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Electrical Pressure Regulators MS6-LRE – Metric Series

Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-1		➔ Page
		Without port plate	With port plate	Without port plate	With port plate	
1	Cover cap MS6-END	–	–	■	–	744
2	Mounting plate MS6-AEND	■1)	–	■2)	–	744
3	Port plate MS6-AG...	–	■1)	–	■2)	745
4	Body connector MS6-MV	–	–	■	■	745
5	Mounting bracket MS6-WPB	■	■	■	■	746
6	Cover plate VS	■	■	■	■	741
7	Adapter plate for EN pressure gauge ¼ A4	■	■	■	■	741
8	Pressure gauge MA	■	■	■	■	748
9	Control unit with display OP	■	■	■	■	740
10	Plug socket with cable SIM-M8-3...	■	■	■	■	748
11	Plug socket with cable SIM-M12-5...	■	■	■	■	748

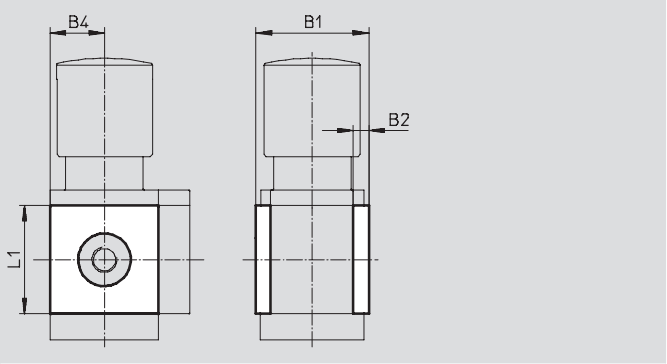
1) Mounting bracket MS6-WPB is required for mounting.
2) Module connector MS6-MV or mounting bracket MS6-WPB is required for mounting.

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

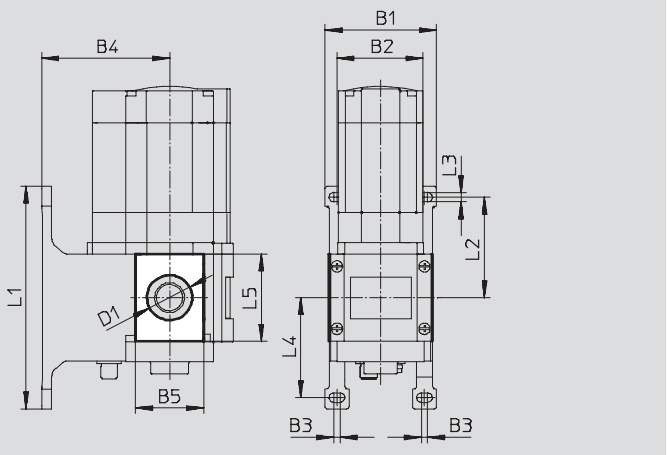
B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

2 Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535408**	**MS6-AEND**

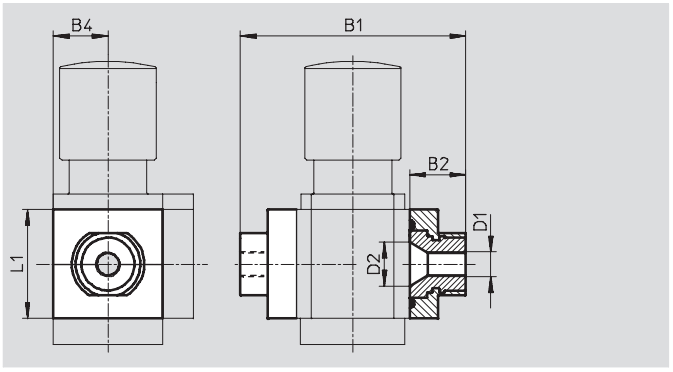
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

3 **Port plate MS6-AG...**

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G¾

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

4 **Body connector MS...-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

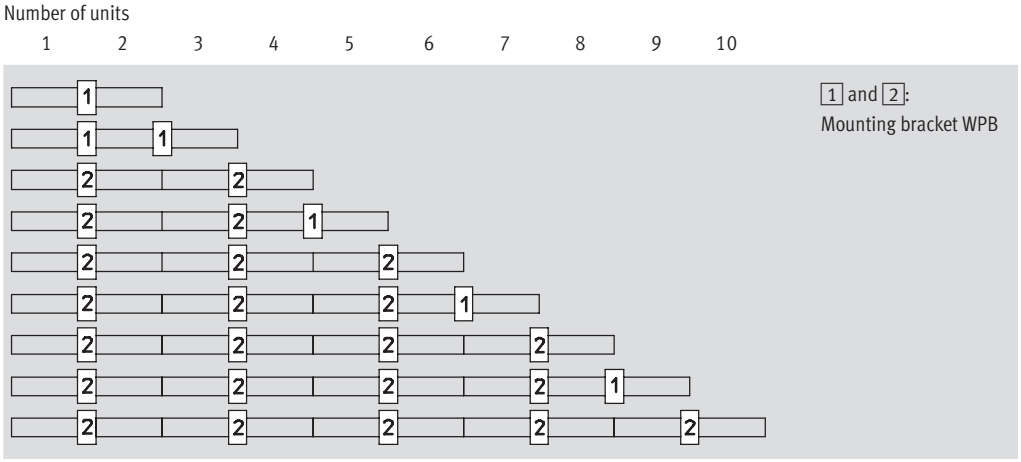
Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

5 Mounting Bracket MS6-WP...

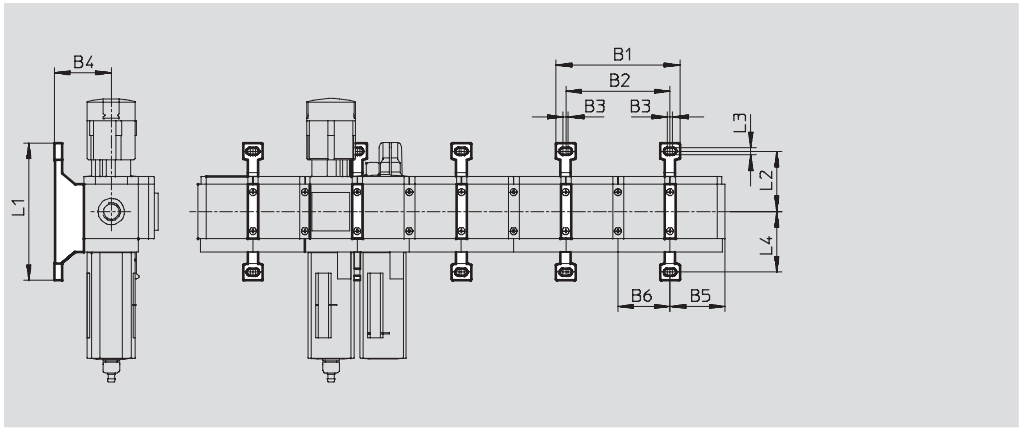
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WPB

2 units: 124 mm with WPB



Mounting dimensions



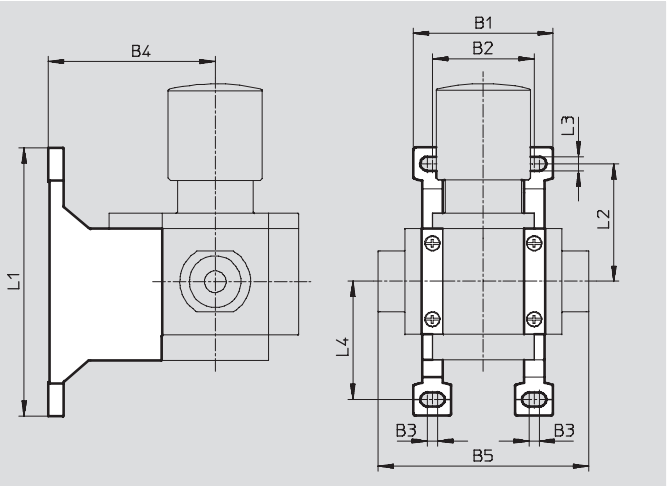
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WPB	141	124	4.5	90.5	64.5	62	158	71	6.6	71

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

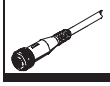
10 Ordering Data – Plug Socket with Cable SIM-M8

Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [m]	Part No.	Type
	M8x1, 3-pin	2.5	**159420**	**SIM-M8-3GD-2,5-PU**
		5	**159421**	**SIM-M8-3GD-5-PU**
		10	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	2.5	**159422**	**SIM-M8-3WD-2,5-PU**
		5	**159423**	**SIM-M8-3WD-5-PU**
		10	**192965**	**SIM-M8-3WD-10-PU**

11 Ordering Data – Plug Socket with Cable SIM-M12

Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 5-pin	2.5	**175715**	**SIM-M12-5GD-2,5-PU**
		5	**175716**	**SIM-M12-5GD-5-PU**

8 Ordering Data – Pressure Gauge MA

Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

Electrical Pressure Regulators MS6N-LRE – Inch Series



The electrical pressure regulator maintains incoming compressed air at the set output pressure. It also maintains a constant output pressure independent of pressure fluctuations and air consumption. The output pressure is set indirectly via an integrated electrical drive unit. The drive unit can be operated either with digital inputs via the M12 plug or using the optional control and display unit. The direction of rotation of the drive unit is thus pre-set, which makes adjustment of the output pressure in the rising or falling direction possible. In the event of a power failure, the last drive unit or output pressure setting is saved. Pneumatic pressure regulation continues to function.

- Pneumatic connection: ¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT
- Supply pressure: 12 … 294 psi
- Flow rate: 77.7 … 264.8 scfm

Product Range Overview

Type	Pneumatic connections		Pressure regulation range [psi]				Pressure indicator				Reverse flow
	Body thread	Port plate	4.4 … 59	4.4 … 103	7.4 … 176	7.4 … 235	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge ⅛ NPT	Adapter for pressure gauge ¼ NPT	Flow direction from right to left
MS6N		AG…	D5	D6	D7	D8	VS	AG	A8	A4	Z
LRE	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	■	■	■	■	■	■	–	■	■

Features

- Constant output pressure even in the event of a power failure thanks to the fail-safe function
- Four pressure regulation ranges
- Available with or without secondary venting
- Optional control unit with display
- Optional integrated pressure sensor with electrical output

Contents

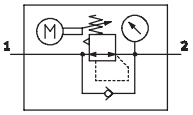
Technical Data → 750
Dimensional Drawings → 753
Ordering Data → 755
Accessories → 758

→ www.festo.com/catalog/ms6n-lre

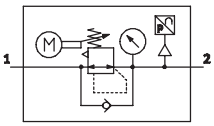
Electrical Pressure Regulators MS6N-LRE – Inch Series

Technical Data

ISO Symbol



With pressure gauge



With pressure gauge and integrated pressure sensor



Note
The electrical pressure regulator is not suitable for the set-up of closed control loops.

General Technical Data					
Pneumatic connection 1, 2			¼ NPT	⅜ NPT	½ NPT
Supply pressure		[psi]	12 ... 294		
Pressure regulation range	D5	[psi]	4.4 ... 59		
	D6	[psi]	4.4 ... 103		
	D7	[psi]	7.4 ... 176		
	D8	[psi]	7.4 ... 235		
Max. hysteresis		[psi]	3.7		

Standard Nominal Flow Rate qnN[1] [scfm]					
Pneumatic connection 1, 2			¼ NPT	⅜ NPT	½ NPT
Pressure regulation range	D5		84.7[2]	194.2[2]	264.8[2]
	D6		105.9	204.7	229.5
	D7		95.3	158.9	194.2
	D8		77.7	141.2	158.9

1) Measured at p1 = 147 psi and p2 = 88 psi, Δp = 15 psi
2) Measured at p1 = 147 psi and p2 = 44 psi, Δp = 15 psi

Electrical Pressure Regulators MS6N-LRE – Inch Series

Technical Data

Electrical Data					
			Without integrated pressure sensor	With integrated pressure sensor	
				PI (I out)	PU (V out)
Analog output		[V]	–	–	0 ... 10
		[mA]	–	4 ... 20	–
Analog outputs, absolute accuracy at 77 °F		[%]	–	±3	±3
Cable interface	Inputs		Plug M12x1, 5-pin		
	Outputs		–	Plug M8x1, 3-pin	
Design of inputs			To IEC 61131-2, no electrical isolation		
Nominal operating voltage		[V DC]	24		
Permissible voltage fluctuations		[%]	±10		
Current consumption at 24 V DC		[A]	Max. 3.5		
Current consumption at nominal operating voltage		[A]	Max. 1		
Duration of actuation at 77°F		[s]	Max. 90[1)]		
Protection against short circuit			For all electrical connections		
Protection class			IP65		

1) In order to prevent the drive from overheating, a control/pause ratio of 1:3 must be observed.

Operating and Environmental Conditions		
Operating medium		Compressed air, air quality class 5.4.– to DIN ISO 8573-1
Ambient temperature	[°F]	32 ... 122
Temperature of medium	[°F]	32 ... 122
Storage temperature	[°F]	32 ... 122
Assembly position		Any, preferably vertical
Corrosion resistance	CRC[1)]	2

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Electrical pressure regulator	2.56

- For spare parts go to: www.festo.com/en/spare_parts_service

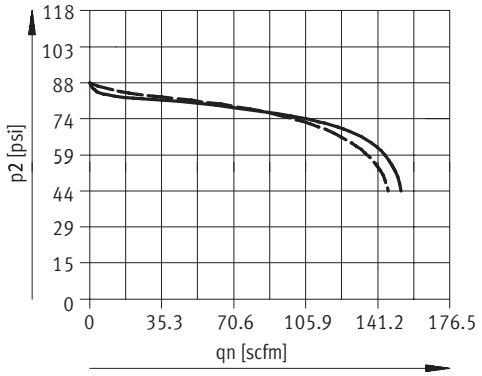
Electrical Pressure Regulators MS6N-LRE – Inch Series

Technical Data

Standard Flow Rate qn as a Function of Output Pressure p2

MS6N-LRE-¼

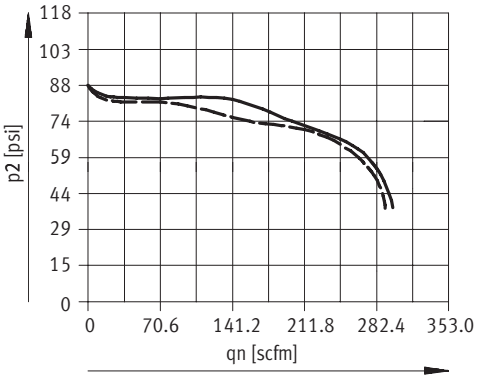
Primary pressure p1 = 147 psi



D6: 4.4 ... 103 psi

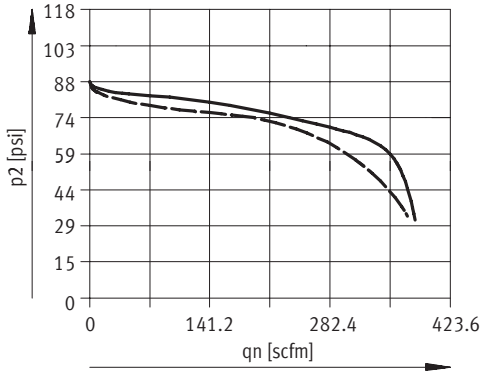
D7: 7.4 ... 176 psi

MS6N-LRE-⅜



MS6N-LRE-½

Primary pressure p1 = 147 psi

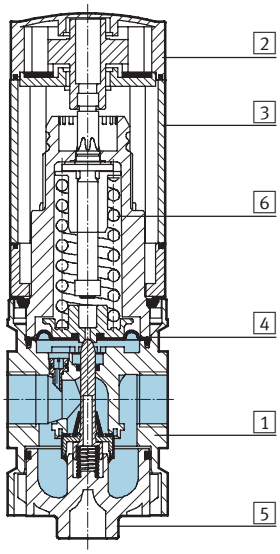


D6: 4.4 ... 103 psi

D7: 7.4 ... 176 psi

Materials

Sectional view



Electrical pressure regulator		
1	Body	Die-cast aluminum
2	Drive housing	Reinforced polyamide
3	Profile housing	Wrought aluminum alloy
4	Diaphragm	Nitrile rubber
5	Bottom cap	Polyester, fiberglass reinforced
6	Springs	Steel
–	Display and control unit	Polyamide
–	Seals	Nitrile rubber

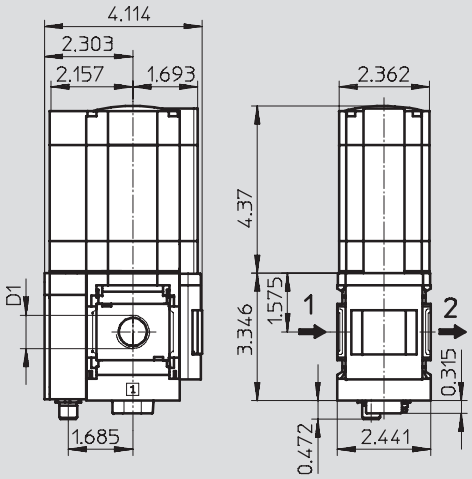
Electrical Pressure Regulators MS6N-LRE – Inch Series

Dimensional Drawings

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi]



➔ Flow direction

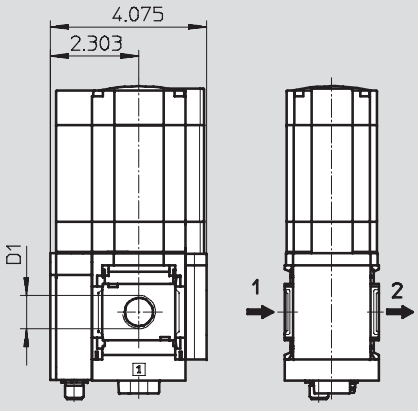
Type	D1
MS6N-LRE-¼	¼ NPT
MS6N-LRE-⅜	⅜ NPT
MS6N-LRE-½	½ NPT

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Pressure Gauge Alternatives

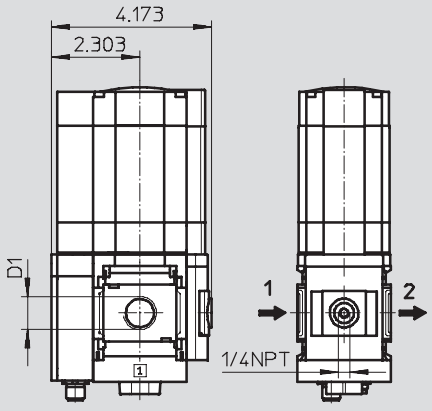
Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



➔ Flow direction

Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	D1
MS6N-LRE-¼	¼ NPT
MS6N-LRE-⅜	⅜ NPT
MS6N-LRE-½	½ NPT

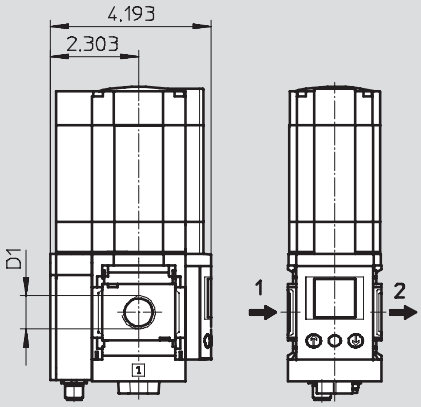
1) Dimensions are in inches, unless otherwise noted.

Electrical Pressure Regulators MS6N-LRE – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Control unit with display OP



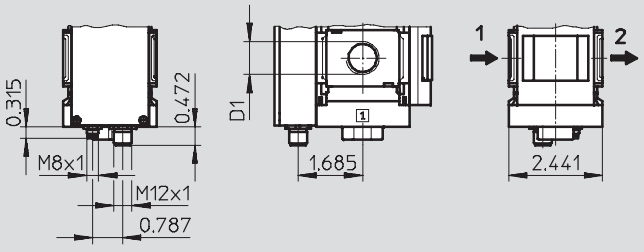
➔ Flow direction

Type	D1
MS6N-LRE-¼	¼ NPT
MS6N-LRE-⅜	⅜ NPT
MS6N-LRE-½	½ NPT

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Electrically Controlled Pressure Output Download CAD Data ➔ **www.festo.com/us/cad**

Integrated pressure sensor with electrical output PI/PU



➔ Flow direction

1) Dimensions are in inches, unless otherwise noted.

Electrical Pressure Regulators MS6N-LRE – Inch Series

Ordering Data – Pre-configured Products

Ordering Data							
Pressure gauge							
Connection	Pressure regulation range 4.4... 103 psi				Pressure regulation range 7.4... 176 psi		
	Part No.	Type	LT		Part No.	Type	LT
Standard							
¼ NPT	**536506**	**MS6N-LRE-¼-D6**	Q		**536515**	**MS6N-LRE-¼-D7**	Q
⅜ NPT	**536507**	**MS6N-LRE-⅜-D6**	Q		**536516**	**MS6N-LRE-⅜-D7**	Q
½ NPT	**536505**	**MS6N-LRE-½-D6**	Q		**536514**	**MS6N-LRE-½-D7**	Q
Electrically controlled pressure output (integrated pressure sensor with voltage output), M8x1 plug, 3-pin							
¼ NPT	**536524**	**MS6N-LRE-¼-D6-PI**	Q		**536533**	**MS6N-LRE-¼-D7-PI**	Q
⅜ NPT	**536525**	**MS6N-LRE-⅜-D6-PI**	Q		**536534**	**MS6N-LRE-⅜-D7-PI**	Q
½ NPT	**536523**	**MS6N-LRE-½-D6-PI**	Q		**536532**	**MS6N-LRE-½-D7-PI**	Q
Electrically controlled pressure output (integrated pressure sensor with voltage output), M8x1 plug, 3-pin							
¼ NPT	**536542**	**MS6N-LRE-¼-D6-PU**	Q		**536551**	**MS6N-LRE-¼-D7-PU**	Q
⅜ NPT	**536543**	**MS6N-LRE-⅜-D6-PU**	Q		**536552**	**MS6N-LRE-⅜-D7-PU**	Q
½ NPT	**536541**	**MS6N-LRE-½-D6-PU**	Q		**536550**	**MS6N-LRE-½-D7-PU**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Electrical Pressure Regulators MS6N-LRE – Inch Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data**

Part No.	Series	Size	Thread		Function		Connection size		Pressure regulation range
535192	MS	6	N		LRE		¼, ⅜, ½, AQN, AQP, AQR, AQS		D5 D6 D7 D8
Order example									
535192	**MS**	**6**	**N**	–	**LRE**	–	**AQP**	–	**D6**

Ordering Table

Grid dimension [mm]	62	Conditions	Code		Enter code
M Part No.	**535192**				
Series	Standard		**MS**		MS
Size	6		**6**		6
Thread	NPT thread		**N**		N
Function	Electrical pressure regulator		**-LRE**		-LRE
Connection size	Body thread ¼ NPT		**-¼**		
	Body thread ⅜ NPT		**-⅜**		
	Body thread ½ NPT		**-½**		
	Port plate ¼ NPT (dimensions → 761)		**-AQN**		
	Port plate ⅜ NPT (dimensions → 761)		**-AQP**		
	Port plate ½ NPT (dimensions → 761)		**-AQR**		
	Port plate ¾ NPT (dimensions → 761)		**-AQS**		
Pressure regulation range	4.4 ... 59 psi		**-D5**		
	4.4 ... 103 psi		**-D6**		
	7.4 ... 176 psi		**-D7**		
↓	7.4 ... 235 psi		**-D8**		

Transfer order code

535192	**MS**	**6**	**N**	–	**LRE**	–		–	

Electrical Pressure Regulators MS6N-LRE – Inch Series

Ordering Data – Configurable Products

FESTO

0 Options

	Pressure gauge alternatives		Alternative pressure gauge scale		Secondary venting		Electrically controlled pressure output		Sensor cables		Supply cables		Type of mounting		Reverse flow direction
	VS A4 OP		BAR MPA		OS		PI PU		SK2 SK5		VK2 VK5		WBE WPB		Z
–	**OP**	–		–	**OS**	–	**PU**	–	**SK5**	–		–		–	**Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
0	Pressure gauge alternatives	Cover plate		**-VS**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
		Control unit with display	1	**-OP**		
	Alternative pressure gauge scale	bar	2	**-BAR**		
		MPa	2	**-MPA**		
	Secondary venting	Without secondary venting		**-OS**		
	Electrically controlled pressure output	Plug, M8, 3-pin, I out		**-PI**		
		Plug, M8, 3-pin, V out		**-PU**		
	Sensor cables	Plug socket, M8, with cable, 8.2 ft	1	**-SK2**		
		Plug socket, M8, with cable, 16.4 ft	1	**-SK5**		
	Supply cable	Plug socket, M12, with cable, 8.2 ft		**-VK2**		
		Plug socket, M12, with cable, 16.4 ft		**-VK5**		
	Type of mounting	Mounting plate for direct thread MS6-AEND (dimensions ➔ 760)	3	**-WBE**		
		Mounting bracket for large wall gap (dimensions ➔ 762)	4	**-WPB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **OP, SK2, SK5** Only with electrical pressure output PI, PU

2 **BAR, MPA** Not with pressure gauge alternatives VS, A4, OP

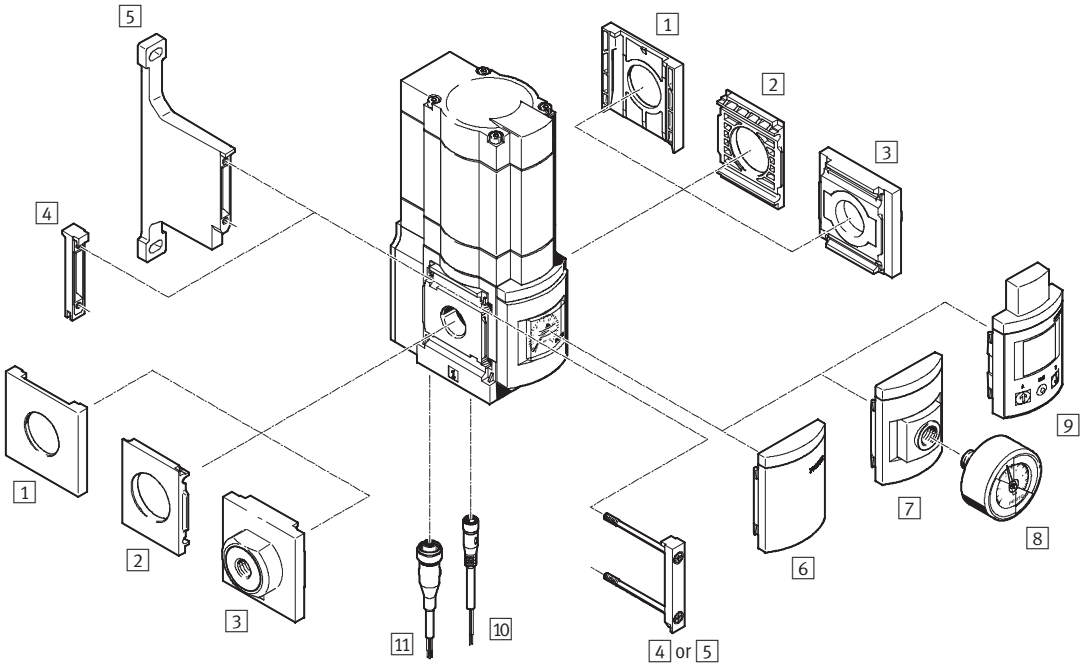
3 **WBE** Only with connection thread size ¼, ⅜, ½

4 **WPB** Only with port plate size AQN, AQP, AQR, AQS

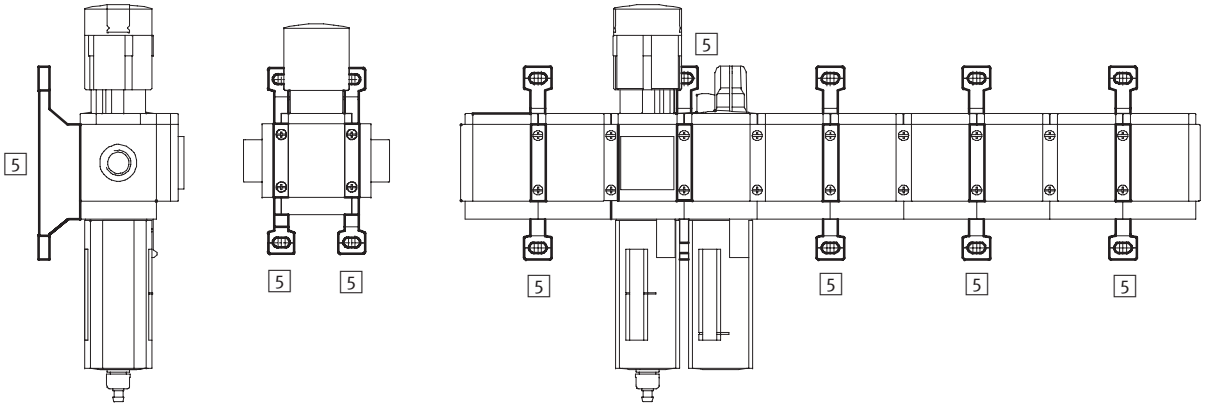
Transfer order code

–		–		–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Electrical Pressure Regulators MS6N-LRE – Inch Series

Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-49		➔ Page
		Without port plate	With port plate	Without port plate	With port plate	
1	Cover cap MS6-END	–	–	■	–	760
2	Mounting plate MS6-AEND	■1)	–	■2)	–	760
3	Port plate MS6N-AQ...	–	■1)	–	■2)	761
4	Body connector MS6-MV	–	–	■	■	761
5	Mounting bracket MS6-WPB	■	■	■	■	762
6	Cover plate VS	■	■	■	■	757
7	Adapter plate for EN pressure gauge ¼ A4	■	■	■	■	757
8	Pressure gauge MA	■	■	■	■	764
9	Control unit with display OP	■	■	■	■	757
10	Plug socket with cable SIM-M8-3...	■	■	■	■	764
11	Plug socket with cable SIM-M12-5...	■	■	■	■	764

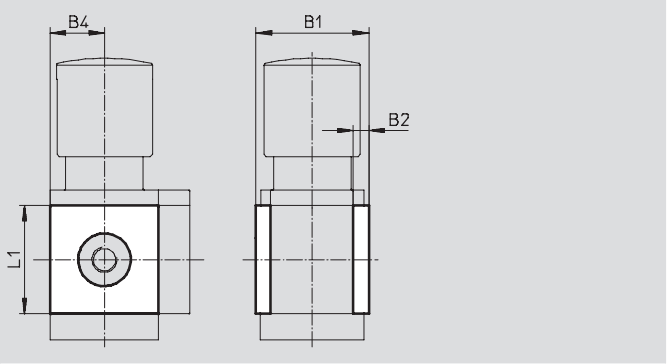
1) Mounting bracket MS6-WPB is required for mounting.
2) Module connector MS6-MV or mounting bracket MS6-WPB is required for mounting.

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

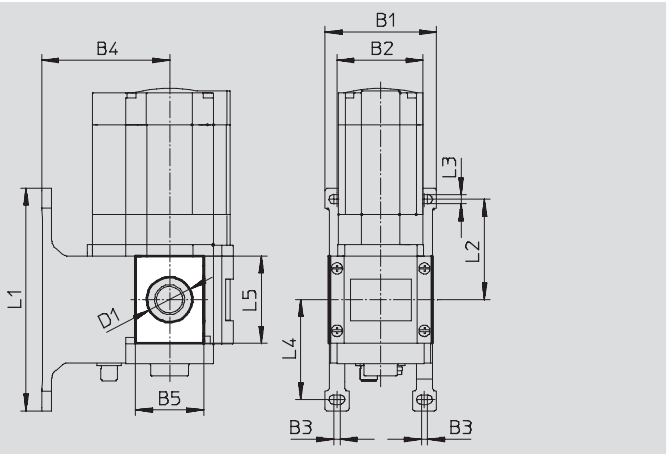
B1	B2	B4	L1	Part No.	Type
2.64	0.31	1.22	2.44	**538780**	**MS6-END**

2 Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	**535408**	**MS6-AEND**

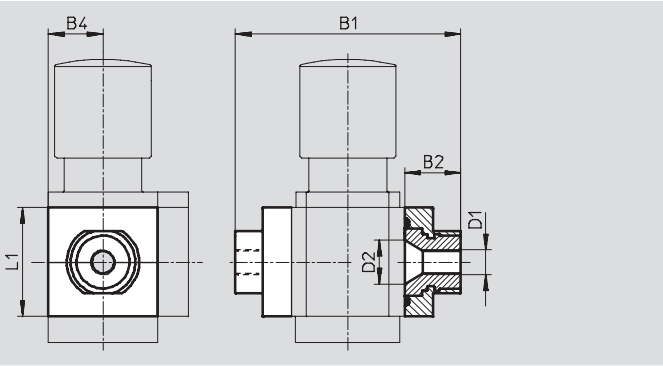
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

3 **Port plate MS6N-AQ...**

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection ¾ NPT

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	¼ NPT	0.94	2.44	0.60	**526076**	**MS6N-AQN**
			⅜ NPT				**526077**	**MS6N-AQP**
			½ NPT				**526078**	**MS6N-AQR**
			¾ NPT				**526079**	**MS6N-AQS**

4 **Body connector MS...-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

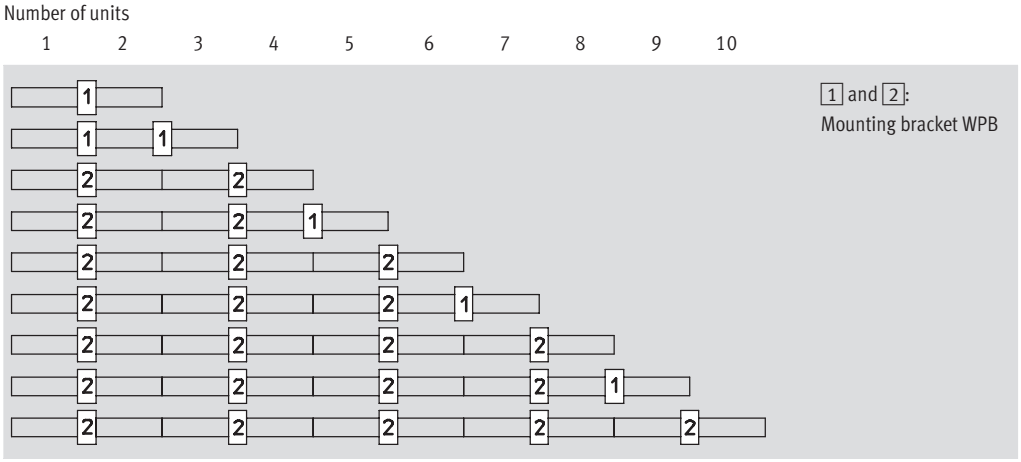
Weight [lb]	Part No.	Type
0.11	**532799**	**MS6-MV**

5 Mounting Bracket MS6-WP...

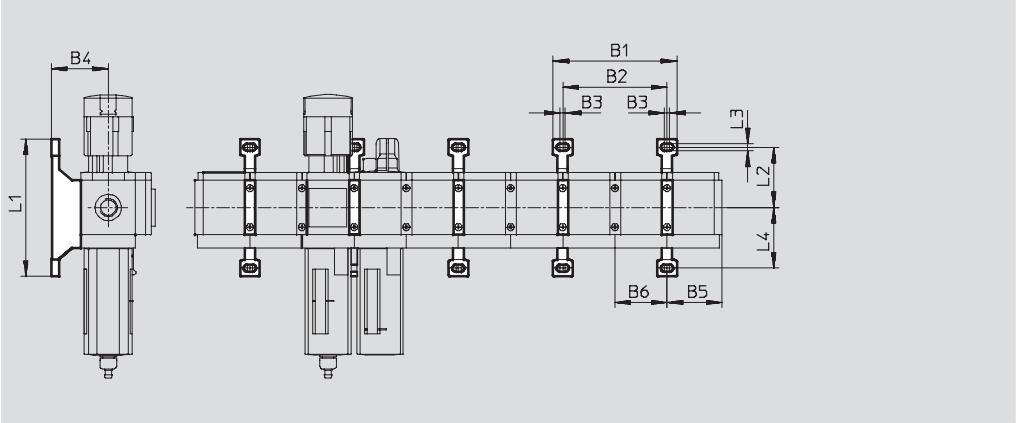
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WPB

2 units: 4.88 in with WPB



Mounting dimensions



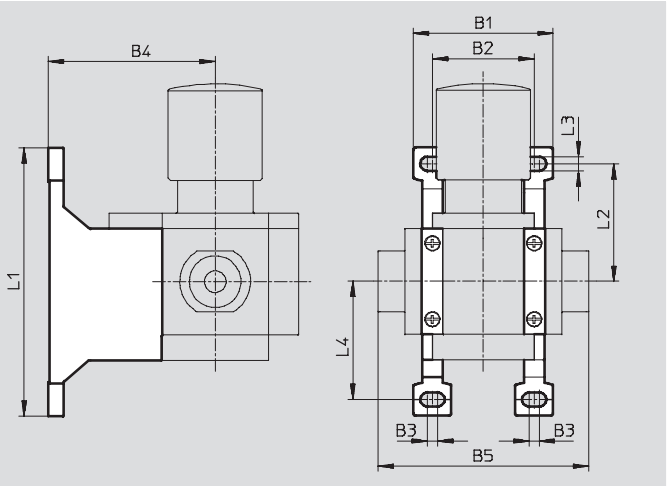
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WPB	5.55	4.88	0.18	3.56	2.54	2.44	6.22	2.80	0.26	2.80

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	**526074**	**MS6-WPB**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



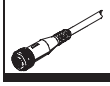
Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

10 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [ft]	Part No.	Type
	M8x1, 3-pin	8.2	**159420**	**SIM-M8-3GD-2,5-PU**
		16.4	**159421**	**SIM-M8-3GD-5-PU**
		32.8	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	8.2	**159422**	**SIM-M8-3WD-2,5-PU**
		16.4	**159423**	**SIM-M8-3WD-5-PU**
		32.8	**192965**	**SIM-M8-3WD-10-PU**

11 Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 5-pin	8.2	**175715**	**SIM-M12-5GD-2,5-PU**
		16.4	**175716**	**SIM-M12-5GD-5-PU**

8 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	1.57	¼ NPT	0 … 16	0 … 232	**183908**	**MA-40-16-N¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.97	¼ NPT	–	0 … 232	**530391**	**MA-50-232-N¼-PSI-E-RG**

Standard Filters MS6-LF – Metric Series



Standard filters, with filtration grades of 5 microns or 40 microns, are equipped with a water separator that cleans the compressed air of impurities, rust, and condensate. For pre-filtering in pneumatic systems or for special applications.

- Pneumatic connection: G¼, G⅜, G½, G¾
- Supply pressure
  – For manual drain: 0 … 20 bar
  – For semiautomatic drain: 1.5 … 12 bar
  – For fully automatic drain: 2 … 12 bar
  – For fully automatic drain, electrically actuated: 0.8 … 16 bar
- Flow rate: 2,000 … 4,100 l/min

Product Range Overview

Type	Pneumatic connections		Filtration grade [µm]				Bowl guard		Bowl drain							Contamination control	Reverse flow
	Body thread	Port plate	0.01	1	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals	Differential pressure indicator	Flow direction from right to left
MS6		AG…	A	B	C	E	R	U	M	H	V	E1	E2	E3	E4	DA	Z
LF	G¼, G⅜, G½	G¼, G⅜, G½, G¾	–	–	■	■	■	■	■	■	■	■	■	■	■	–	■

Features

- Sintered filter with centrifugal separation removes contamination, rust and condensate from the compressed air.
- High flow rate with minimal pressure drop
- Replaceable filter cartridges

Contents

Technical Data	→ 766
Dimensional Drawings	→ 769
Ordering Data	→ 771
Accessories	→ 774
Replacement Parts	→ 782

→ www.festo.com/catalog/ms6-lf

Standard Filters MS6-LF – Metric Series

Technical Data

ISO Symbol



Manual bowl drain



Semi or fully automatic bowl drain



General Technical Data					
Pneumatic connection 1, 2			G¼	G⅜	G½
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)		
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)		
Supply pressure	M	[bar]	0 ... 20 (manual drain)		
	H	[bar]	1.5 ... 12 (semiautomatic drain)		
	V	[bar]	2 ... 12 (fully automatic drain)		
	E...	[bar]	0.8 ... 16 (fully automatic drain, electrically actuated)		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]				
Pneumatic connection 1, 2		G¼	G⅜	G½
Filtration grade	5 µm	2,000	3,000	3,200
	40 µm	2,500	3,800	4,100

1) Measured at p1 = 6 bar and Δp = 1 bar

Standard Filters MS6-LF – Metric Series

Technical Data

Operating and Environmental Conditions					
Bowl drain		Manual M	Semiautomatic H	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium		Compressed air			
Max. condensate volume	[cm³]	38			
Bowl guard		Plastic bowl guard			
		Metal bowl			
Ambient temperature	[°C]	–10 ... +60	+5 ... +60	+5 ... +60	+1 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60	+5 ... +60	+1 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	+1 ... +60
Assembly position		Vertical ±5°			
Corrosion resistance	CRC[1)]	2			

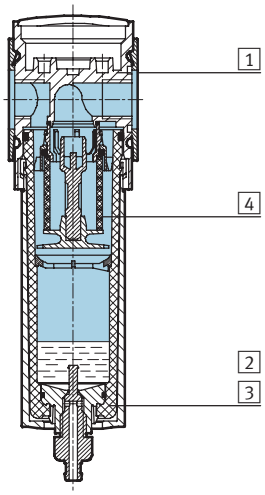
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With plastic bowl guard	600
With metal bowl	820
With metal bowl and fully automatic, electrically actuated bowl drain	1,800

- Wearing parts kits ➔ 782
- Filter cartridges ➔ 782
- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view

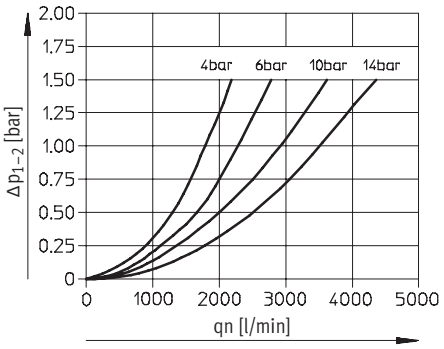


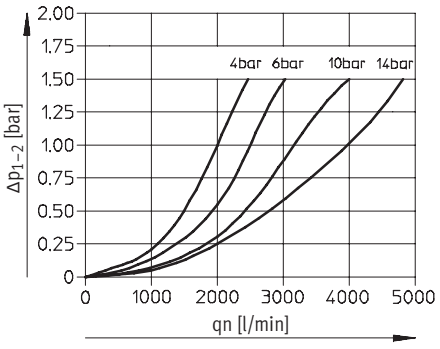
Filters		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filter element	Polyethylene
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

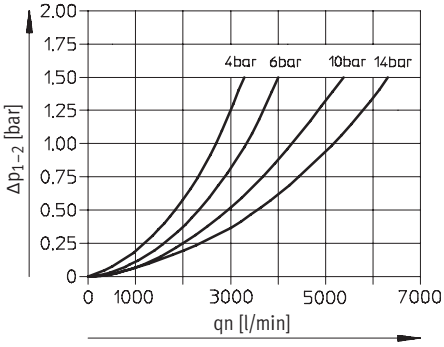
Filtration grade 5 µm | Filtration grade 40 µm

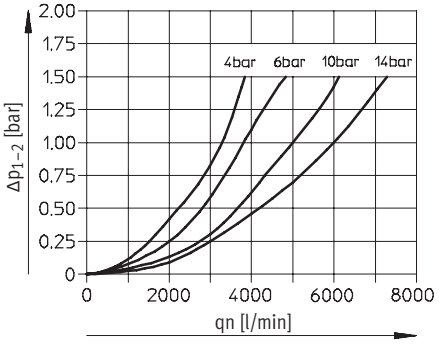
MS6-LF-¼



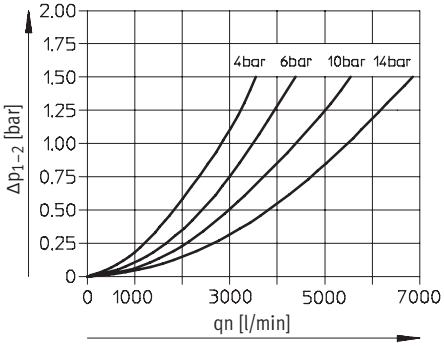


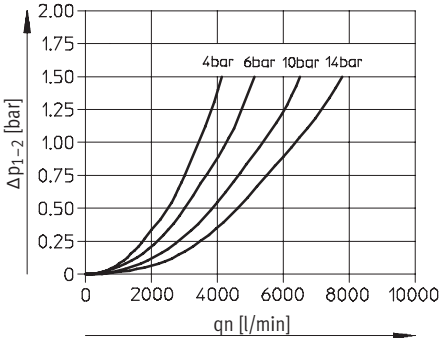
MS6-LF-⅜





MS6-LF-½



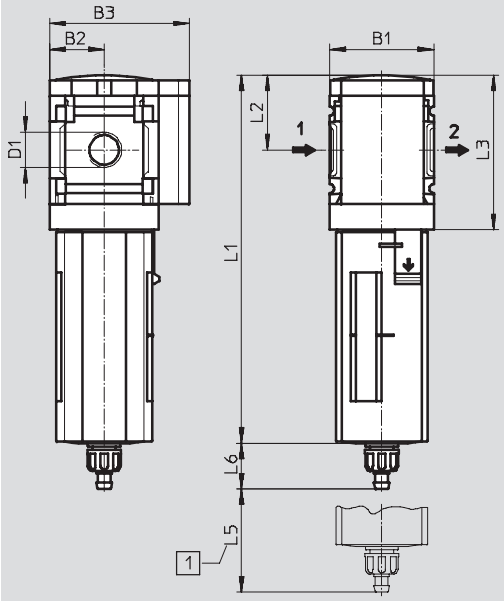


Standard Filters MS6-LF – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS6-LF-¼	62	31	76	G¼	192	198	42	87	68	15.8	19
MS6-LF-⅜				G⅜							
MS6-LF-½				G½							

1) Dimensions are in millimeters, unless otherwise noted.

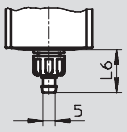
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Filters MS6-LF – Metric Series

Dimensional Drawings

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

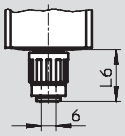
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS6-LF-...-M	15.8
Metal bowl	
MS6-LF-...-M	19

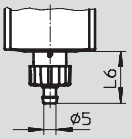
Semiautomatic H



QS fitting for plastic tubing
PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS6-LF-...-H	20.2
Metal bowl	
MS6-LF-...-H	22.8

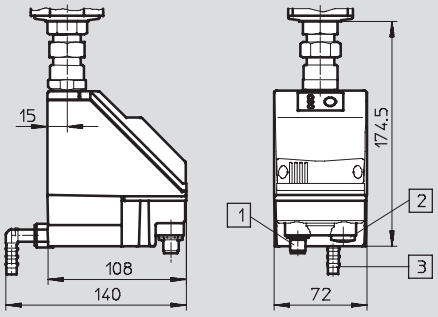
Fully automatic V



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS6-LF-...-V	18.5
Metal bowl	
MS6-LF-...-V	22

Fully automatic, electrically actuated E1 ... E4 Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...

2 Variant E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9

3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

1) Dimensions are in millimeters, unless otherwise noted.

Standard Filters MS6-LF – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**529623**	**MS6-LF-¼-CRM**	1D		**529631**	**MS6-LF-¼-ERM**	1D
	G⅜	**529639**	**MS6-LF-⅜-CRM**	1D		**529647**	**MS6-LF-⅜-ERM**	1D
	G½	**529607**	**MS6-LF-½-CRM**	1D		**529615**	**MS6-LF-½-ERM**	1D
Fully automatic	G¼	**529625**	**MS6-LF-¼-CRV**	1D		**529633**	**MS6-LF-¼-ERV**	1D
	G⅜	**529641**	**MS6-LF-⅜-CRV**	1D		**529649**	**MS6-LF-⅜-ERV**	1D
	G½	**529609**	**MS6-LF-½-CRV**	1D		**529617**	**MS6-LF-½-ERV**	1D
Metal bowl								
Manual	G¼	**529627**	**MS6-LF-¼-CUM**	Q		**529635**	**MS6-LF-¼-EUM**	Q
	G⅜	**529643**	**MS6-LF-⅜-CUM**	Q		**529651**	**MS6-LF-⅜-EUM**	Q
	G½	**529611**	**MS6-LF-½-CUM**	Q		**529619**	**MS6-LF-½-EUM**	Q
Fully automatic	G¼	**529629**	**MS6-LF-¼-CUV**	Q		**529637**	**MS6-LF-¼-EUV**	Q
	G⅜	**529645**	**MS6-LF-⅜-CUV**	Q		**529653**	**MS6-LF-⅜-EUV**	Q
	G½	**529613**	**MS6-LF-½-CUV**	Q		**529621**	**MS6-LF-½-EUV**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Standard Filters MS6-LF – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data												
Part No.	**Series**	**Size**		**Function**		**Connection size**		**Filtration grade**		**Bowl**		
527668	MS	6		LF		¼, ⅜, ½, AGB, AGC, AGD, AGE		E C		R U		
Order example												
527668	**MS**	**6**	–	**LF**	–	**AGB**	–	**E**	–	**R**		

Ordering Table

Grid dimension [mm]	62	Conditions	Code		Enter code
M Part No.	**527668**				
Series	Standard		**MS**		MS
Size	6		**6**		6
Function	Filters		**-LF**		-LF
Connection size	Body thread G¼		**-¼**		
	Body thread G⅜		**-⅜**		
	Body thread G½		**-½**		
	Port plate G¼ (dimensions ➔ 778)		**-AGB**		
	Port plate G⅜ (dimensions ➔ 778)		**-AGC**		
	Port plate G½ (dimensions ➔ 778)		**-AGD**		
	Port plate G¾ (dimensions ➔ 778)		**-AGE**		
Filtration grade	40 µm		**-E**		
	5 µm		**-C**		
Bowl	Plastic bowl with plastic bowl guard		**-R**		
	Metal bowl		**-U**		

Transfer order code

527668	**MS**	**6**	–	**LF**	–		–		–			

Standard Filters MS6-LF – Metric Series

Ordering Data – Configurable Products

FESTO

➔ M Mandatory Data		O Options		
Bowl drain		**Type of mounting**		**Reverse flow direction**
M H V E1 E2 E3 E4		WP WPM WB		Z
– **M**		– **WP**		– **Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
↓ M	Bowl drain	Manual		**-M**		
		Semiautomatic (P1 max. 12 bar)		**-H**		
		Fully automatic (P1 max. 12 bar)		**-V**		
		External fully automatic bowl drain, electrical, 24 V DC, M12	1	**-E1**		
		External fully automatic bowl drain, electrical, 110 V AC, terminals	1	**-E2**		
		External fully automatic bowl drain, electrical, 230 V AC, terminals	1	**-E3**		
		External fully automatic bowl drain, electrical, 24 V DC, terminals	1	**-E4**		
O	Type of mounting	Mounting bracket (dimensions ➔ 779)	2	**-WP**		
		Mounting bracket (dimensions ➔ 779)	2	**-WPM**		
		Mounting bracket (dimensions ➔ 776)		**-WB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

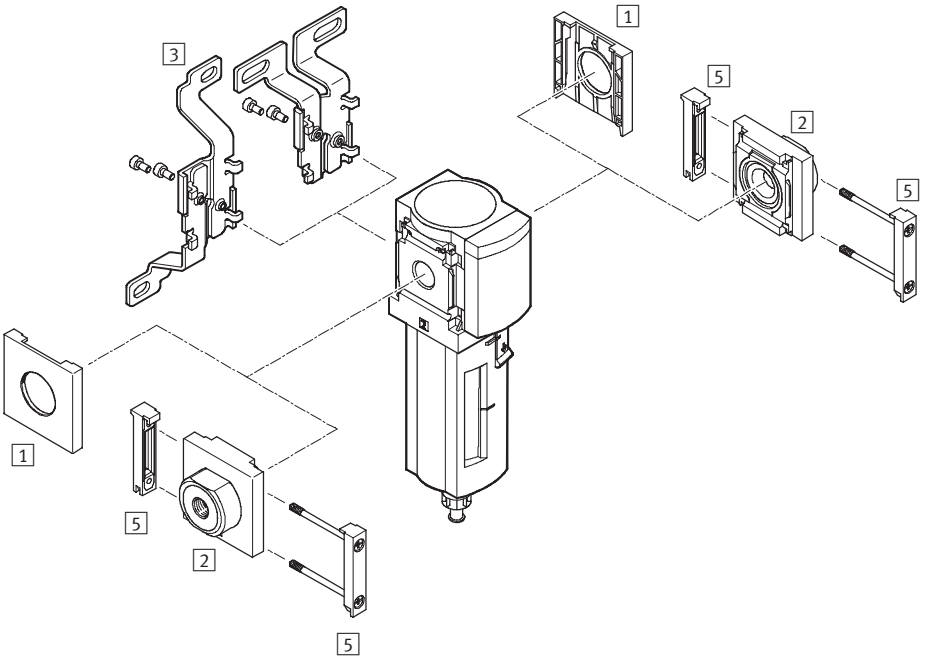
1 **E1, E2, E3, E4** Only with metal bowl U

2 **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

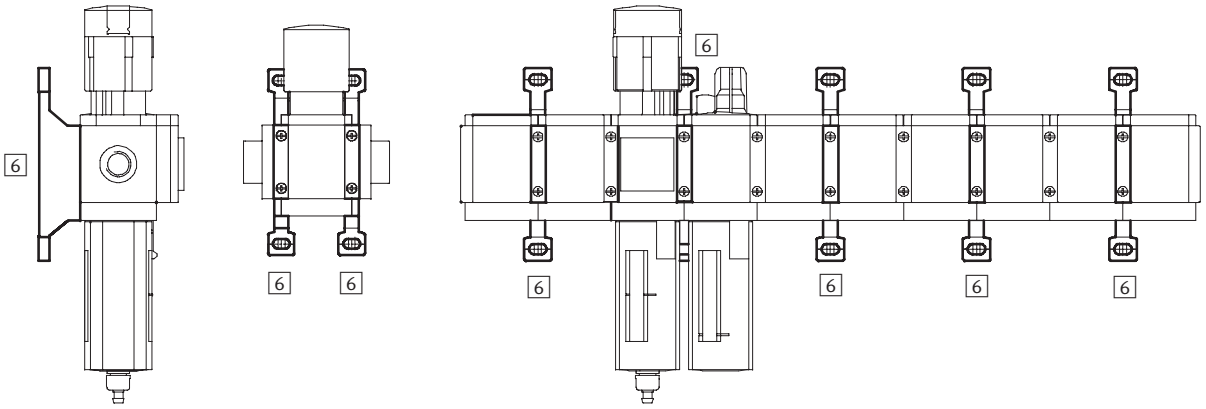
Transfer order code

– | | – | | – | |

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Standard Filters MS6-LF – Metric Series

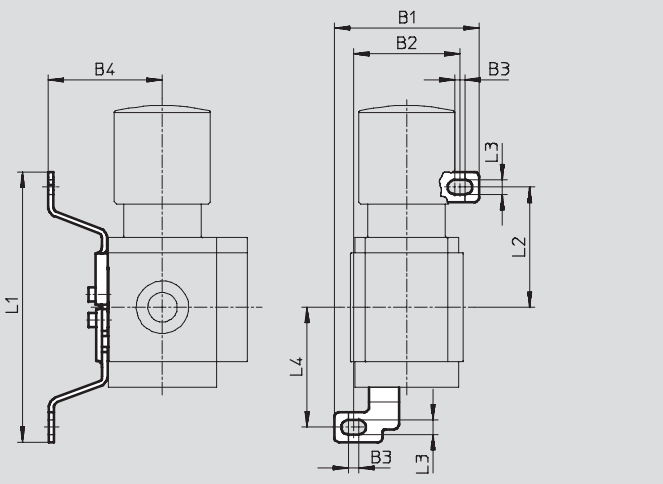
Accessories Overview

Mounting Attachments and Accessories					
	Single unit		Combination unit ➔ 3.1-1		➔ Page
	without port plate	with port plate	without port plate	with port plate	
1 Cover cap MS6-END	■	–	■	–	777
2 Port plate MS6-AG...	–	■	–	■	778
3 Mounting bracket MS6-WB	■	■	–	–	776
5 Body connector MS6-MV	–	■	■	■	778
6 Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	779

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

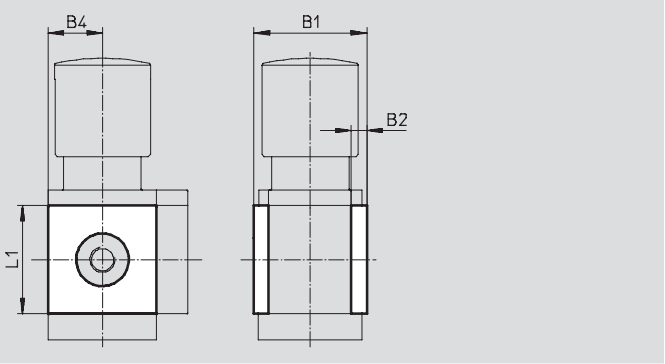
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
79.4	61.9	4.5	55	157.6	71	6.6	71	121	**532196**	**MS6-WB**

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

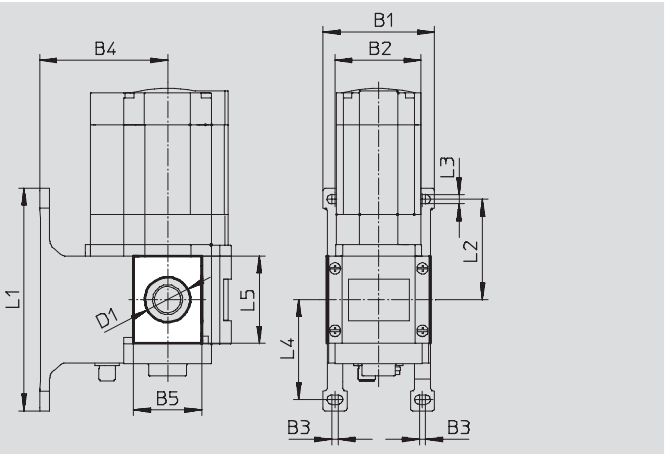
B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

Mounting plate MS6-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

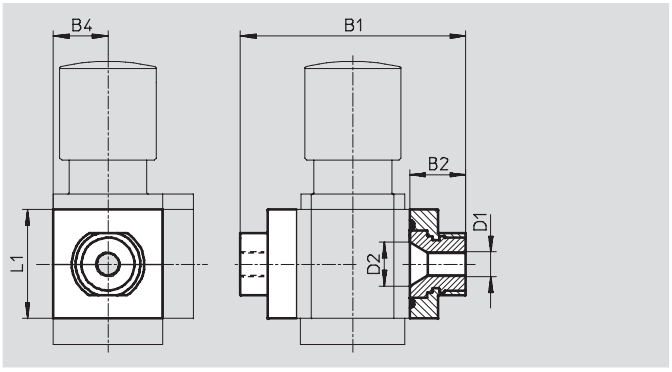
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6-AG...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G¾

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

5 **Body connector MS...-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

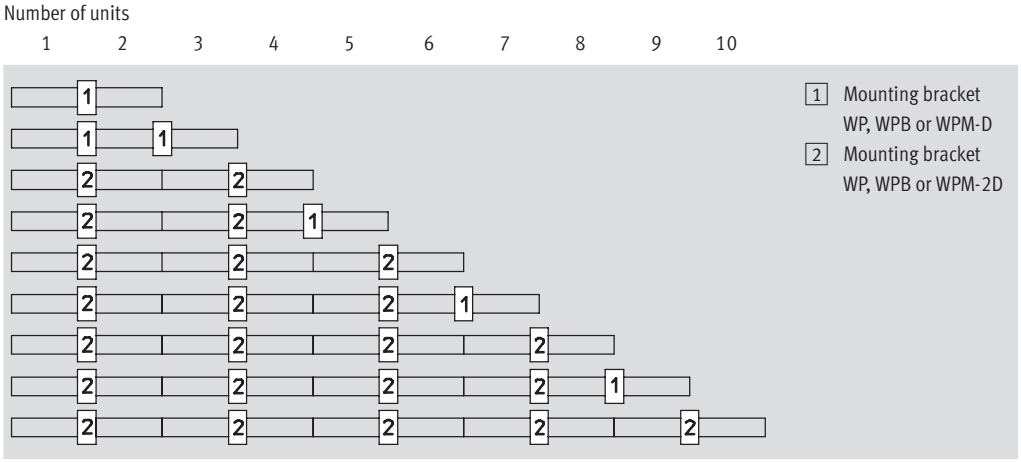
Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

6 Mounting Bracket MS6-WP...

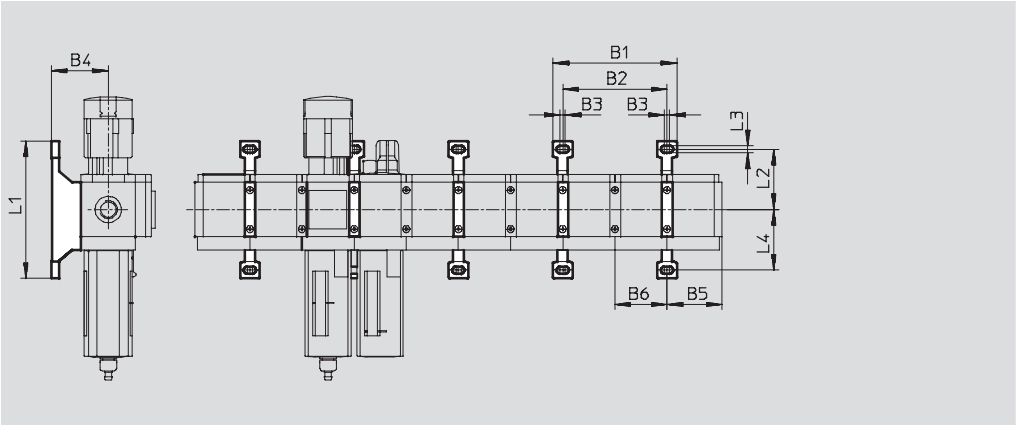
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WP, WPB
69 mm with WPM-D

2 units: 124 mm with WP, WPB
138 mm with WPM-2D



Mounting dimensions



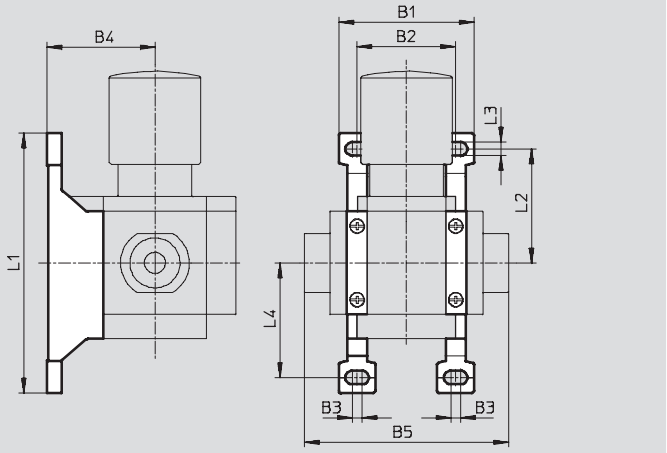
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

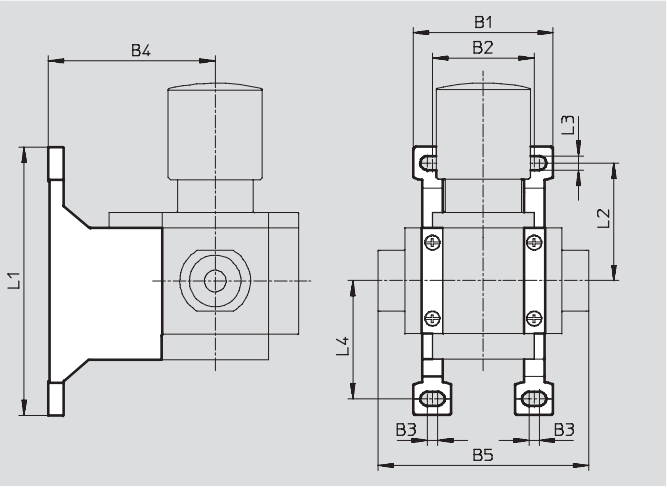
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	54	115	158	71	6.6	71	76	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

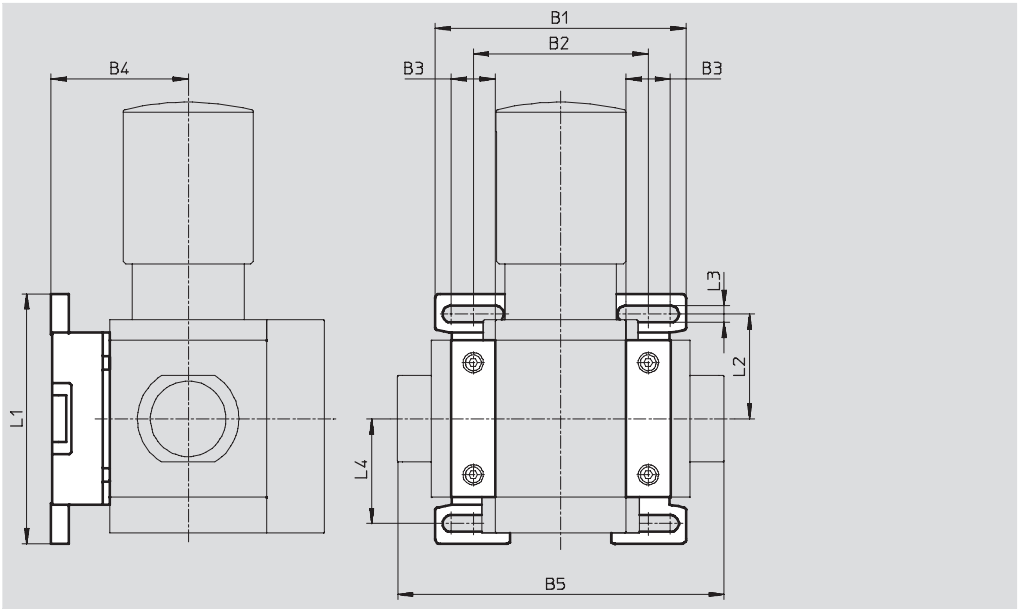
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	**526073**	**MS6-WPM-D**
168	138			198					124	154	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Standard Filters MS6-LF – Metric Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS6	O-rings, screws, sealing ring	**673640**	**MS6-LF**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS6	5	**534499**	**MS6-LFP-C**
	40	**534500**	**MS6-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Filters MS6N-LF – Inch Series



Standard filters, with filtration grades of 5 microns or 40 microns, are equipped with a water separator that cleans the compressed air of impurities, rust, and condensate. For pre-filtering in pneumatic systems or for special applications.

- Pneumatic connection: ¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT
- Supply pressure
  – For manual drain: 0 ... 294 psi
  – For semiautomatic drain: 22 ... 176 psi
  – For fully automatic drain: 29 ... 176 psi
  – For fully automatic drain, electrically actuated: 12 ... 235 psi
- Flow rate: 70.6 ... 144.7 scfm

Product Range Overview

Type	Pneumatic connections		Filtration grade [µm]				Bowl guard		Bowl drain							Contamination control	Reverse flow
	Body thread	Port plate	0.01	1	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals	Differential pressure indicator	Flow direction from right to left
MS6N		AG...	A	B	C	E	R	U	M	H	V	E1	E2	E3	E4	DA	Z
LF	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	–	–	■	■	■	■	■	■	■	■	■	■	■	–	■

Features

- Sintered filter with centrifugal separation removes contamination, rust and condensate from the compressed air.
- High flow rate with minimal pressure drop
- Replaceable filter cartridges

Contents

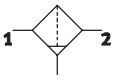
Technical Data	→ 784
Dimensional Drawings	→ 787
Ordering Data	→ 789
Accessories	→ 792
Replacement Parts	→ 800

→ www.festo.com/catalog/ms6n-lf

Standard Filters MS6N-LF – Inch Series

Technical Data

ISO Symbol



Manual bowl drain



Semi or fully automatic bowl drain



General Technical Data					
Pneumatic connection 1, 2			¼ NPT	⅜ NPT	½ NPT
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)		
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)		
Supply Pressure	M	[psi]	0 ... 294 (manual drain)		
	H	[psi]	22 ... 176 (semiautomatic drain)		
	V	[psi]	29 ... 176 (fully automatic drain)		
	E...	[psi]	12 ... 235 (fully automatic drain, electrically actuated)		

Standard Nominal Flow Rate qnN[1] [scfm]				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Filtration grade	5 µm	70.6	105.9	113.0
	40 µm	88.3	134.1	144.7

1) Measured at p1 = 88 psi and Δp = 15 psi

Standard Filters MS6N-LF – Inch Series

Technical Data

Operating and Environmental Conditions					
Bowl drain		Manual M	Semiautomatic H	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium		Compressed air			
Max. condensate volume	[in^3]	2.32			
Bowl guard		Plastic bowl guard			
		Metal bowl			
Ambient temperature	[°F]	14 ... 140	41 ... 140	41 ... 140	34 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140	41 ... 140	34 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140	34 ... 140
Assembly position		Vertical ±5°			
Corrosion resistance	CRC[1)]	2			

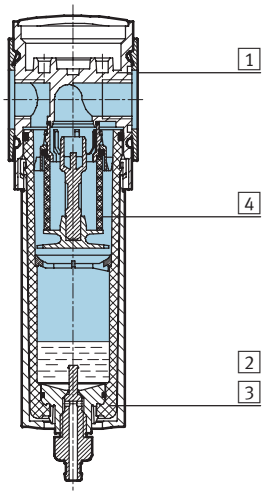
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	1.20
With metal bowl	1.64
With metal bowl and fully automatic, electrically actuated bowl drain	3.60

- Wearing parts kits ➔ 800
- Filter cartridges ➔ 800
- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



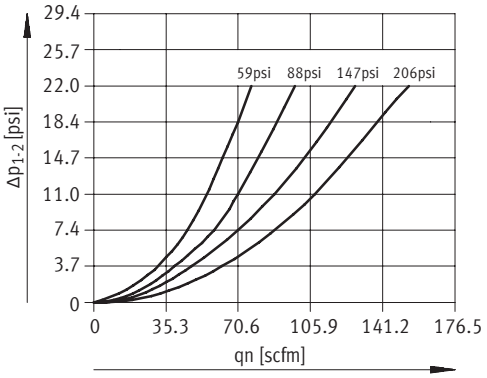
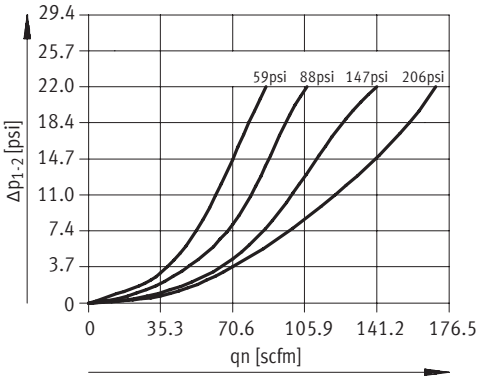
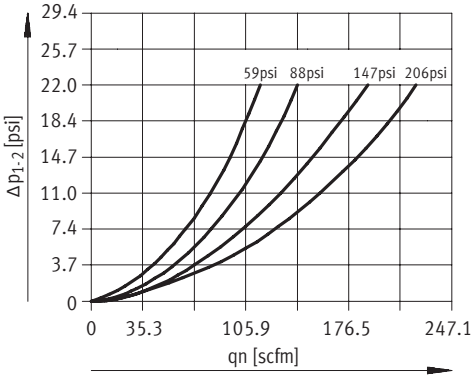
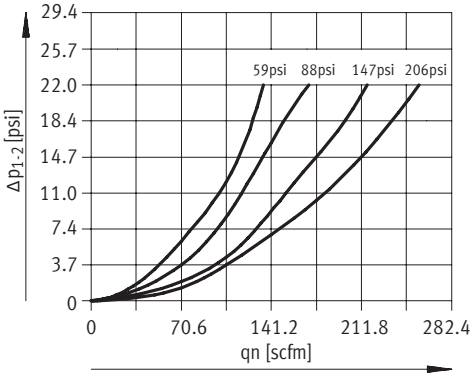
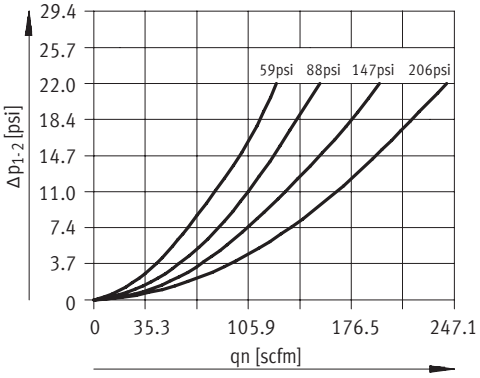
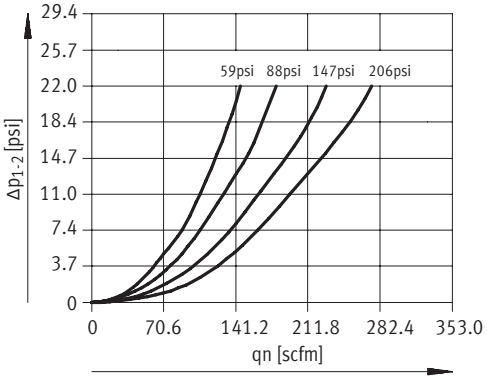
Filters		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filter element	Polyethylene
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Standard Filters MS6N-LF – Inch Series

Technical Data

FESTO

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

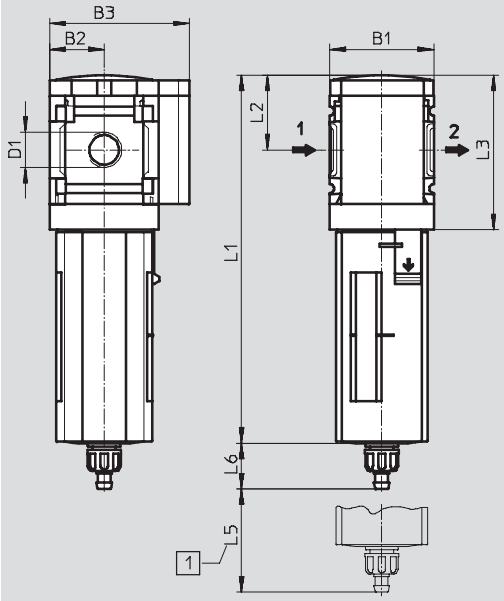
	Filtration grade 5 µm	Filtration grade 40 µm
MS6N-LF-¼		
MS6N-LF-⅜		
MS6N-LF-½		

Standard Filters MS6N-LF – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS6N-LF-¼	2.44	1.22	2.99	¼ NPT	7.56	7.80	1.65	3.43	2.68	0.62	0.75
MS6N-LF-⅜				⅜ NPT							
MS6N-LF-½				½ NPT							

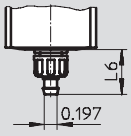
1) Dimensions are in inches, unless otherwise noted.

Standard Filters MS6N-LF – Inch Series

Dimensional Drawings

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

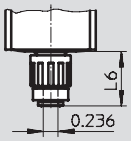
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS6N-LF-...-M	0.62
Metal bowl	
MS6N-LF-...-M	0.75

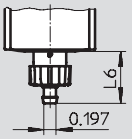
Semiautomatic H



QS fitting for plastic tubing
PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS6N-LF-...-H	0.80
Metal bowl	
MS6N-LF-...-H	0.90

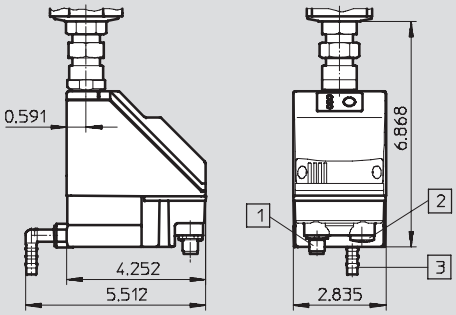
Fully automatic V



Barbed fitting for plastic tubing
PCN-4

Type	L6
Plastic bowl guard	
MS6N-LF-...-V	0.73
Metal bowl	
MS6N-LF-...-V	0.87

Fully automatic, electrically actuated E1 ... E4 Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...
2 Variant E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9
3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

1) Dimensions are in inches, unless otherwise noted.

Standard Filters MS6N-LF – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**531525**	**MS6N-LF-¼-CRM**	1D		**531519**	**MS6N-LF-¼-ERM**	1D
	⅜ NPT	**531527**	**MS6N-LF-⅜-CRM**	1D		**531521**	**MS6N-LF-⅜-ERM**	1D
	½ NPT	**531526**	**MS6N-LF-½-CRM**	1D		**531520**	**MS6N-LF-½-ERM**	1D
Fully automatic	¼ NPT	**531531**	**MS6N-LF-¼-CRV**	1D		**531513**	**MS6N-LF-¼-ERV**	1D
	⅜ NPT	**531533**	**MS6N-LF-⅜-CRV**	1D		**531515**	**MS6N-LF-⅜-ERV**	1D
	½ NPT	**531532**	**MS6N-LF-½-CRV**	1D		**531514**	**MS6N-LF-½-ERV**	1D
Metal bowl								
Manual	¼ NPT	**531537**	**MS6N-LF-¼-CUM**	Q		**531555**	**MS6N-LF-¼-EUM**	Q
	⅜ NPT	**531539**	**MS6N-LF-⅜-CUM**	Q		**531557**	**MS6N-LF-⅜-EUM**	Q
	½ NPT	**531538**	**MS6N-LF-½-CUM**	Q		**531556**	**MS6N-LF-½-EUM**	Q
Fully automatic	¼ NPT	**531543**	**MS6N-LF-¼-CUV**	Q		**531549**	**MS6N-LF-¼-EUV**	Q
	⅜ NPT	**531545**	**MS6N-LF-⅜-CUV**	Q		**531551**	**MS6N-LF-⅜-EUV**	Q
	½ NPT	**531544**	**MS6N-LF-½-CUV**	Q		**531550**	**MS6N-LF-½-EUV**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Standard Filters MS6N-LF – Inch Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data** ➔

Part No.	Series	Size	Thread		Function		Connection size		Filtration grade		Bowl
527669	MS	6	N		LF		¼, ⅜, ½, AQN, AQP, AQR, AQS		E C		R U
Order example											
527669	**MS**	**6**	**N**	–	**LF**	–	**AQN**	–	**E**	–	**R**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**527669**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Thread	NPT thread		**N**		N
	Function	Filters		**-LF**		-LF
	Connection size	Body thread ¼ NPT		**-¼**		
		Body thread ⅜ NPT		**-⅜**		
		Body thread ½ NPT		**-½**		
		Port plate ¼ NPT (dimensions ➔ 796)		**-AQN**		
		Port plate ⅜ NPT (dimensions ➔ 796)		**-AQP**		
		Port plate ½ NPT (dimensions ➔ 796)		**-AQR**		
		Port plate ¾ NPT (dimensions ➔ 796)		**-AQS**		
	Filtration grade	40 µm		**-E**		
		5 µm		**-C**		
	Bowl	Plastic bowl with plastic bowl guard		**-R**		
↓		Metal bowl		**-U**		

Transfer order code

527669	**MS**	**6**	**N**	–	**LF**	–		–		–	

Standard Filters MS6N-LF – Inch Series

Ordering Data – Configurable Products

FESTO

➔ M Mandatory Data		O Options		
Bowl drain		**Type of mounting**		**Reverse flow direction**
M H V E1 E2 E3 E4		WP WPM WB		Z
– **M**		– **WP**		– **Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
↓ M	Bowl drain	Manual		**-M**		
		Semiautomatic (P1 max. 176 psi)		**-H**		
		Fully automatic (P1 max. 176 psi)		**-V**		
		External fully automatic bowl drain, electrical, 24 V DC, M12	1	**-E1**		
		External fully automatic bowl drain, electrical, 110 V AC, terminals	1	**-E2**		
		External fully automatic bowl drain, electrical, 230 V AC, terminals	1	**-E3**		
		External fully automatic bowl drain, electrical, 24 V DC, terminals	1	**-E4**		
O	Type of mounting	Mounting bracket (dimensions ➔ 797)	2	**-WP**		
		Mounting bracket (dimensions ➔ 797)	2	**-WPM**		
		Mounting bracket (dimensions ➔ 794)		**-WB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **E1, E2, E3, E4** Only with metal bowl U

2 **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

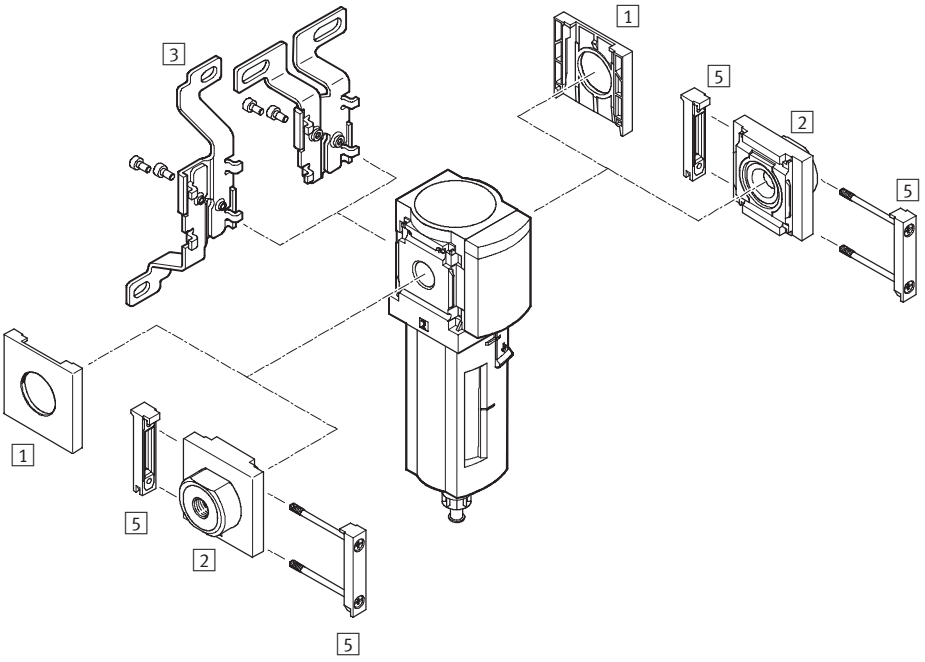
Transfer order code

– | | – | | – | |

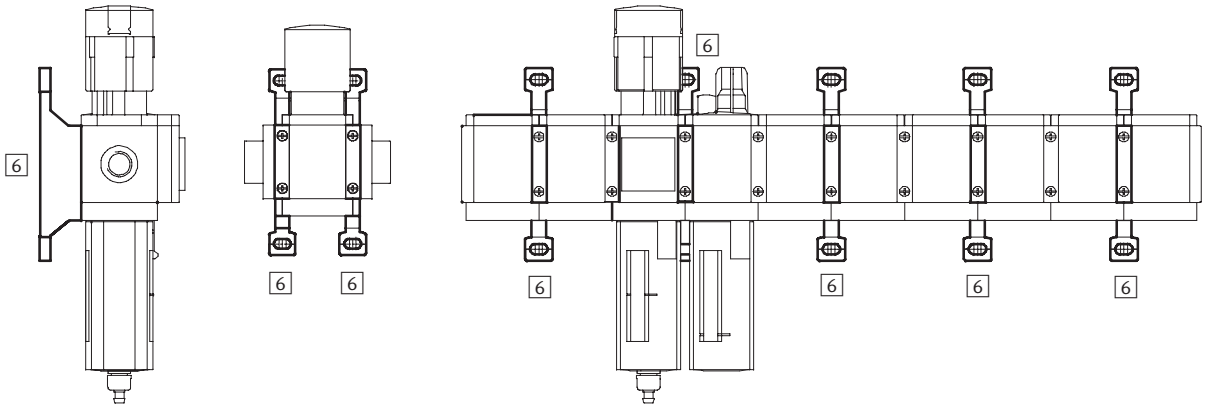
Standard Filters MS6N-LF – Inch Series

Accessories Overview

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Standard Filters MS6N-LF – Inch Series

Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	795
2	Port plate MS6N-AQ...	–	■	–	■	796
3	Mounting bracket MS6-WB	■	■	–	–	794
5	Body connector MS6-MV	–	■	■	■	796
6	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	797

Standard Filters MS6N-LF – Inch Series

Accessories

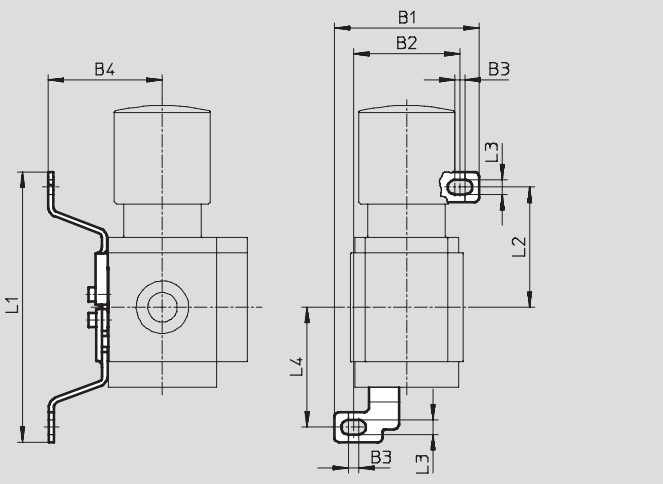
FESTO

3 **Mounting bracket MS6-WB**

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

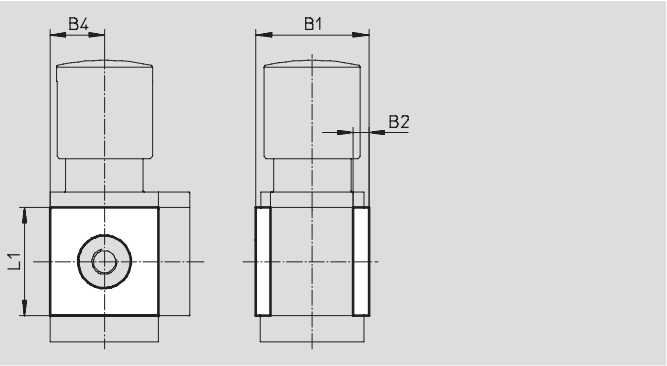
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.13	2.44	0.18	2.17	6.20	2.80	0.26	2.80	0.24	**532196**	**MS6-WB**

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

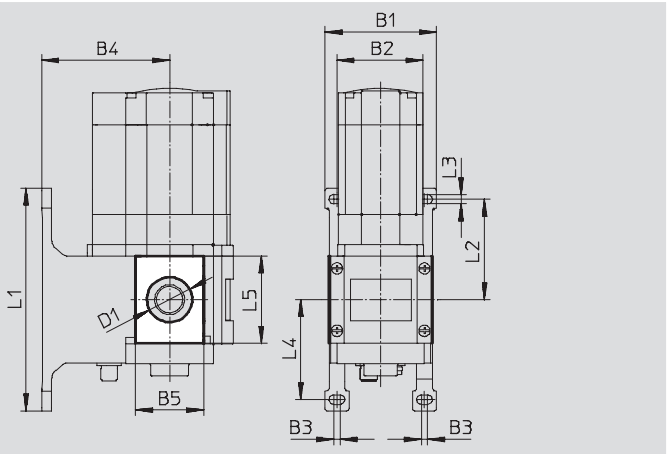
B1	B2	B4	L1	Part No.	Type
2.64	0.31	1.22	2.44	**538780**	**MS6-END**

Mounting plate MS6-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Standard Filters MS6N-LF – Inch Series

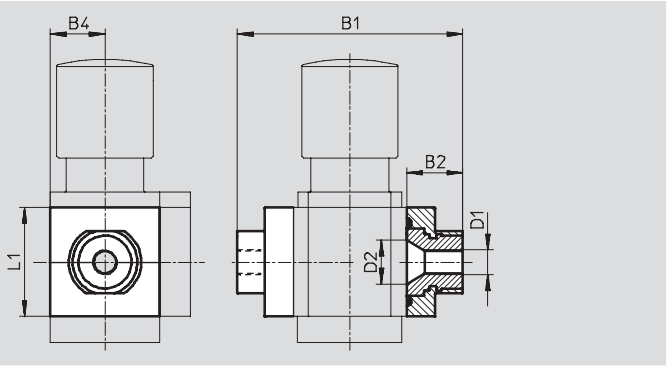
Accessories

FESTO

2 **Port plate MS6N-AQ...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection ¾ NPT

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	¼ NPT	0.94	2.44	0.60	**526076**	**MS6N-AQN**
			⅜ NPT				**526077**	**MS6N-AQP**
			½ NPT				**526078**	**MS6N-AQR**
			¾ NPT				**526079**	**MS6N-AQS**

5 **Body connector MS6-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

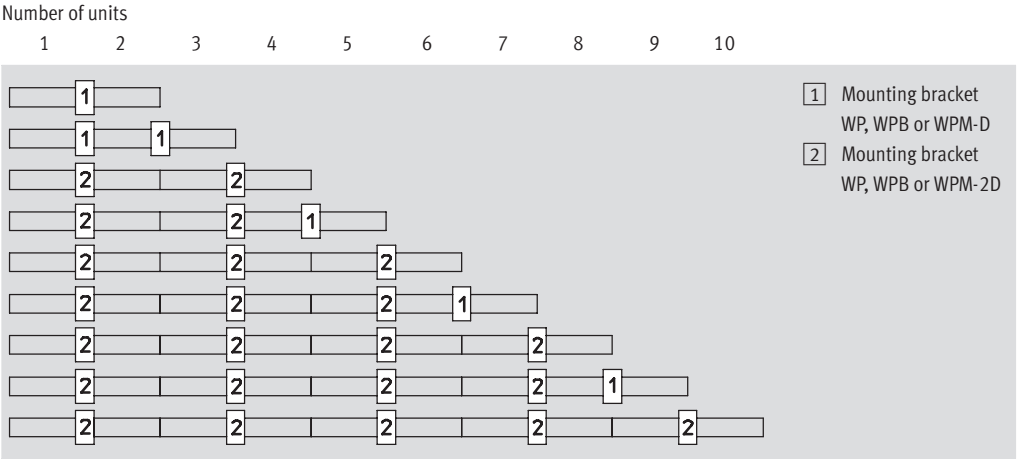
Weight [lb]	Part No.	Type
0.11	**532799**	**MS6-MV**

6 Mounting Bracket MS6-WP...

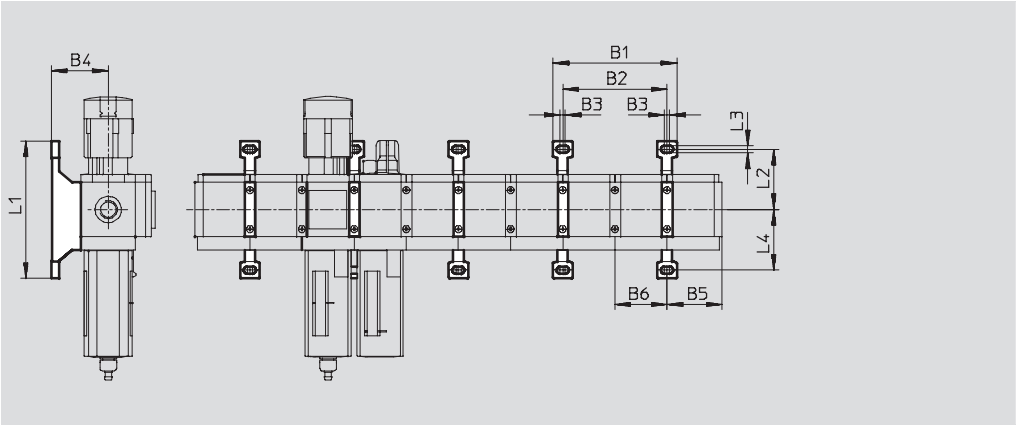
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WP, WPB
2.715 in with WPM-D

2 units: 4.88 in with WP, WPB
5.43 in with WPM-2D



Mounting dimensions



Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	5.55	4.88	0.18	2.13	2.54	2.44	6.22	2.80	0.26	2.80
MS6-WPB				3.56						
MS6-WPM-...D	6.61	5.43	0.69	2.13	2.58	2.72	3.88	1.63		1.63

Standard Filters MS6N-LF – Inch Series

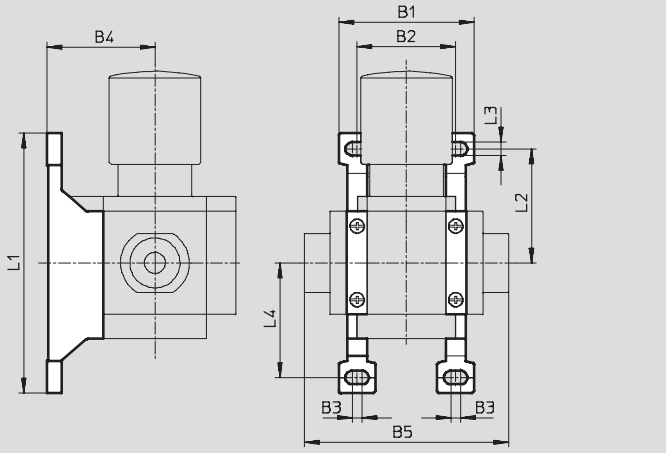
Accessories

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

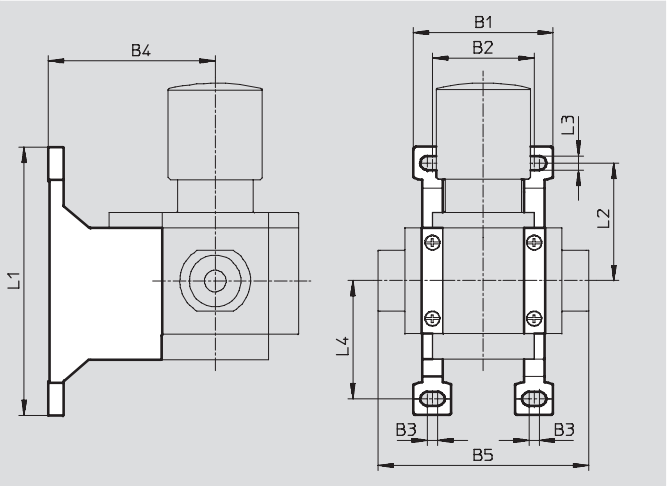
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	2.13	4.53	6.22	2.80	0.26	2.80	0.15	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	**526074**	**MS6-WPB**

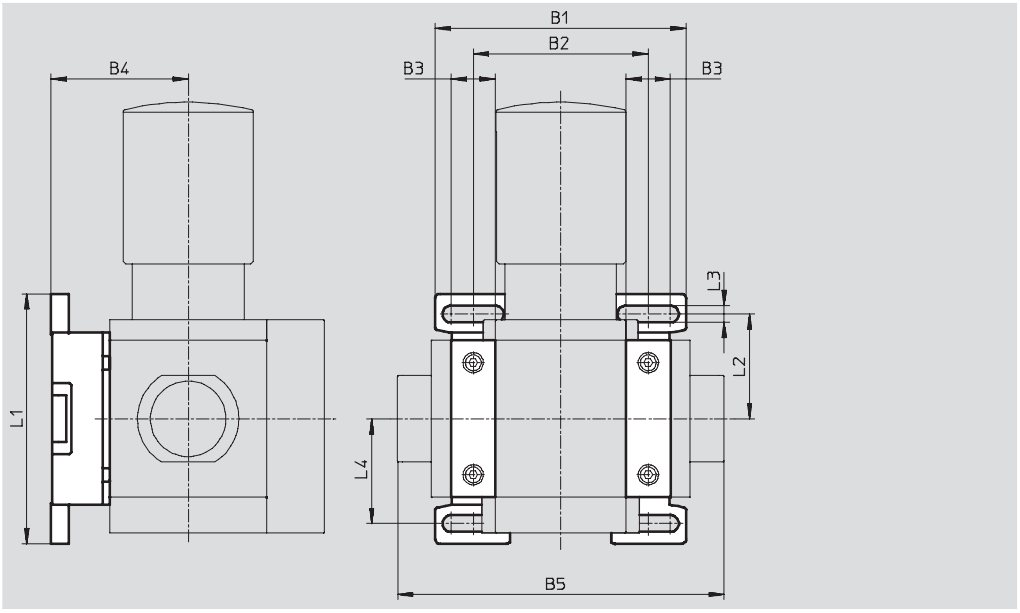
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
3.90	2.72	0.69	2.13	5.08	3.88	1.63	0.26	1.63	2.44	0.29	**526073**	**MS6-WPM-D**
6.61	5.43			7.80					4.88	0.31	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Standard Filters MS6N-LF – Inch Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS6	O-rings, screws, sealing ring	**673640**	**MS6-LF**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS6	5	**534499**	**MS6-LFP-C**
	40	**534500**	**MS6-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Fine and Micro Filters MS6-LFM – Metric Series



Fine and micro filters, with 1 micron or 0.01 micron filtration grades, remove submicronic water or oil droplets and dirt particles for exceptionally clean compressed air.

- Pneumatic connection: G¼, G⅜, G½, G¾
- Supply pressure
  – For manual drain: 0 ... 20 bar
  – For semiautomatic drain: 1.5 ... 12 bar
  – For fully automatic drain: 2 ... 12 bar
  – For fully automatic drain, electrically actuated: 0.8 ... 16 bar
- Flow rate: 380 ... 850 l/min

Product Range Overview

Type	Pneumatic connections		Filtration grade [µm]				Bowl guard		Bowl drain							Contamination control	Reverse flow
	Body thread	Port plate	0.01	1	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals	Differential pressure indicator	Flow direction from right to left
MS6		AG...	A	B	C	E	R	U	M	H	V	E1	E2	E3	E4	DA	Z
LFM	G¼, G⅜, G½	G¼, G⅜, G½, G¾	■	■	–	–	■	■	■	■	■	■	■	■	■	■	■

Features

- High-performance filter for exceptionally clean compressed air
- Air quality to DIN ISO 8573-1
- Available with differential pressure indicator for optical indication of filter contamination
- LFM-A:
  ISO class 1 for particles:
  max. particle density 0.1 mg/m³
  ISO class 2 for oil aerosols:
  max. oil concentration 0.1 mg/m³
  Filter efficiency 99.9999%
- LFM-B:
  ISO class 2 for particles:
  max. particle density 1 mg/m³
  ISO class 3 for oil aerosols:
  max. oil concentration 1 mg/m³
  Filter efficiency 99.99%

Contents

Technical Data → 802
Dimensional Drawings → 805
Ordering Data → 807
Accessories → 810
Replacement Parts → 818

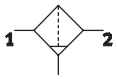
→ www.festo.com/catalog/ms6-lfm

Fine and Micro Filters MS6-LFM – Metric Series

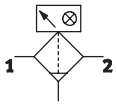
Technical Data

FESTO

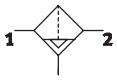
ISO Symbol



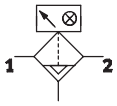
Manual bowl drain
without differential pressure indicator



with differential pressure indicator



Semi or fully automatic bowl drain
without differential pressure indicator



with differential pressure indicator



General Technical Data					
Pneumatic connection 1, 2			G¼	G⅜	G½
Filtration grade		[µm]	0.01 (micro filter LFM-A, air purity class at the output 1.7.2 to DIN ISO 8573-1)		
			1 (fine filter LFM-B, air purity class at the output 2.7.3 to DIN ISO 8573-1)		
Supply pressure	M	[bar]	0 ... 20 (manual drain)		
	H	[bar]	1.5 ... 12 (semiautomatic drain)		
	V	[bar]	2 ... 12 (fully automatic drain)		
	E...	[bar]	0.8 ... 16 (fully automatic drain, electrically actuated)		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] and Standard Flow Rate qn [l/min]			
Pneumatic connection 1, 2	G¼	G⅜	G½
Micro filter LFM-A			
qnN 1 ⇢ 2	380	430	480
qn min	135	135	135
qn max	900	900	900
Fine filter LFM-B			
qnN 1 ⇢ 2	550	700	850
qn min	140	140	140
qn max	950	950	950

1) Measured at p1 = 6 bar and Δp = 70 mbar

Fine and Micro Filters MS6-LFM – Metric Series

Technical Data

Operating and Environmental Conditions					
Bowl drain		Manual M	Semiautomatic H	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium micro filter LFM-A		Compressed air, filtered, unlubricated, filtration grade 1 µm			
Operating medium fine filter LFM-B		Compressed air, filtered, unlubricated, filtration grade 5 µm			
Max. condensate volume	[cm^3]	38			
Bowl guard		Plastic bowl guard			
		Metal bowl			
Ambient temperature	[°C]	–10 ... +60	+5 ... +60	+5 ... +60	+1 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60	+5 ... +60	+1 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	+1 ... +60
Assembly position		Vertical ±5°			
Corrosion resistance	CRC[1)]	2			

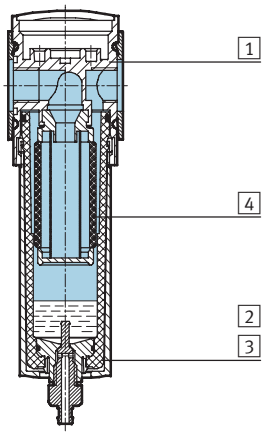
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With plastic bowl guard	600
With metal bowl	820
With metal bowl and fully automatic, electrically actuated bowl drain	1,800

- Wearing parts kits ➔ 782
- Filter cartridges ➔ 782
- For spare parts go to: www.festo.com/en/spare_parts_service

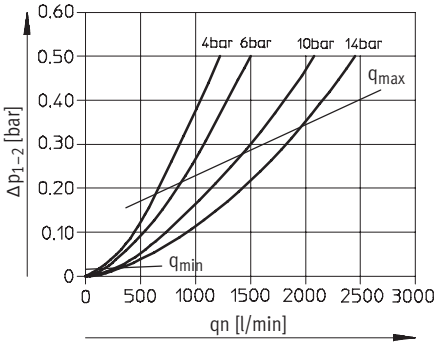
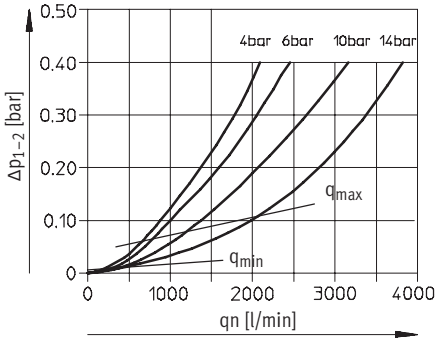
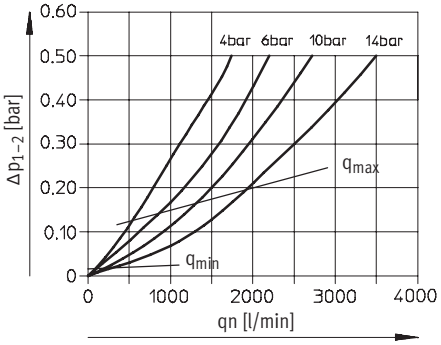
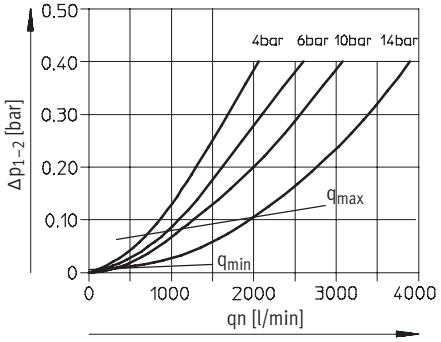
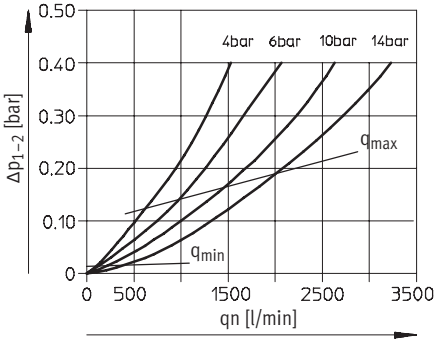
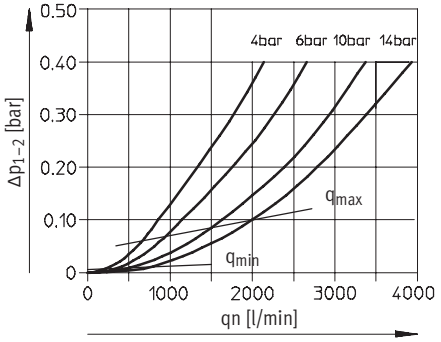
Materials

Sectional view



Fine and micro filter		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filters	Borosilicate fiber
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

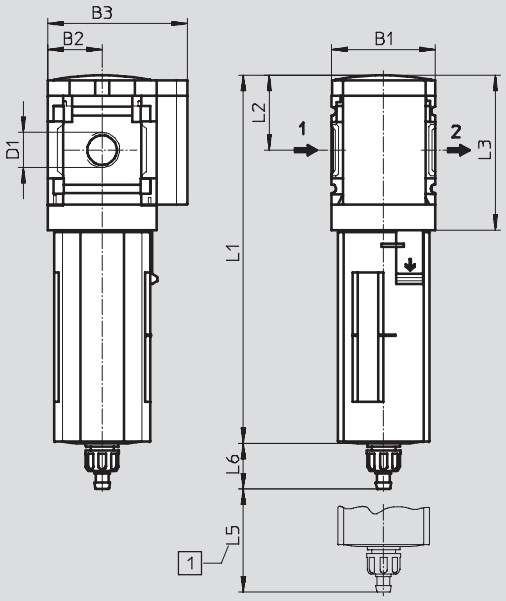
	Filtration grade 0.01 µm	Filtration grade 1 µm
MS6-LFM-¼		
MS6-LFM-⅜		
MS6-LFM-½		

Fine and Micro Filters MS6-LFM – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS6-LFM-¼	62	31	76	G¼	189	198	42	87	75	15.8	19
MS6-LFM-⅜				G⅜							
MS6-LFM-½				G½							

1) Dimensions are in millimeters, unless otherwise noted.

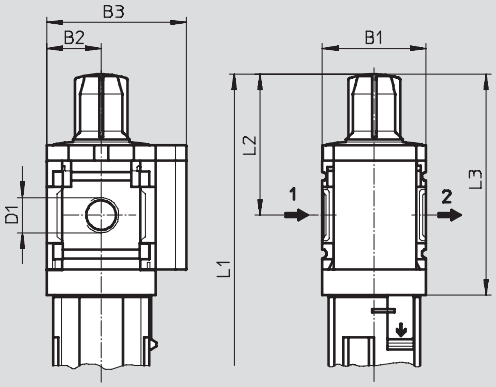
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Fine and Micro Filters MS6-LFM – Metric Series

Dimensional Drawings

Dimensions[1] – Differential Pressure Indicator

Download CAD Data ➔ **www.festo.com/us/cad**



➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3
					Plastic	Metal		
MS6-LFM-¼-...-DA	62	31	76	G¼	218	224	68	113
MS6-LFM-⅜-...-DA				G⅜				
MS6-LFM-½-...-DA				G½				

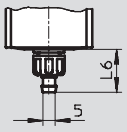
1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Bowl Drain

Download CAD Data ➔ **www.festo.com/us/cad**

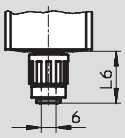
Manual M



Barbed fitting for plastic tubing PCN-4

Type	L6
Plastic bowl guard	
MS6-LFM-...-M	15.8
Metal bowl	
MS6-LFM-...-M	19

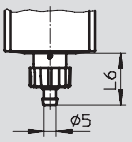
Semiautomatic H



QS fitting for plastic tubing PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS6-LFM-...-H	20.2
Metal bowl	
MS6-LFM-...-H	22.8

Fully automatic V

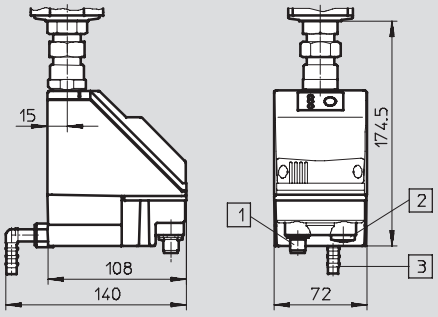


Barbed fitting for plastic tubing PCN-4

Type	L6
Plastic bowl guard	
MS6-LFM-...-V	18.5
Metal bowl	
MS6-LFM-...-V	22

Fully automatic, electrically actuated E1 ... E4

Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...

2 Variants E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9

3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

1) Dimensions are in millimeters, unless otherwise noted.

Fine and Micro Filters MS6-LFM – Metric Series

Ordering Data – Pre-configured Products

FESTO

Ordering Data								
Without differential pressure indicator								
Bowl drain	Connection	Micro filter Filtration grade 0.01 µm				Fine filter Filtration grade 1 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**529663**	**MS6-LFM-¼-ARM**			**529667**	**MS6-LFM-¼-BRM**	
	G⅜	**529671**	**MS6-LFM-⅜-ARM**			**529675**	**MS6-LFM-⅜-BRM**	
	G½	**529655**	**MS6-LFM-½-ARM**			**529659**	**MS6-LFM-½-BRM**	
Fully automatic	G¼	**530510**	**MS6-LFM-¼-ARV**			**530514**	**MS6-LFM-¼-BRV**	
	G⅜	**530518**	**MS6-LFM-⅜-ARV**			**530522**	**MS6-LFM-⅜-BRV**	
	G½	**530502**	**MS6-LFM-½-ARV**			**530506**	**MS6-LFM-½-BRV**	
Metal bowl								
Fully automatic	G¼	**529665**	**MS6-LFM-¼-AUV**			**529669**	**MS6-LFM-¼-BUV**	
	G⅜	**529673**	**MS6-LFM-⅜-AUV**			**529677**	**MS6-LFM-⅜-BUV**	
	G½	**529657**	**MS6-LFM-½-AUV**			**529661**	**MS6-LFM-½-BUV**	

Ordering Data								
With differential pressure indicator								
Bowl drain	Connection	Micro filter Filtration grade 0.01 µm				Fine filter Filtration grade 1 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	G¼	**536869**	**MS6-LFM-¼-ARM-DA**	1D		**536833**	**MS6-LFM-¼-BRM-DA**	1D
	G⅜	**536870**	**MS6-LFM-⅜-ARM-DA**	1D		**536834**	**MS6-LFM-⅜-BRM-DA**	1D
	G½	**536871**	**MS6-LFM-½-ARM-DA**	1D		**536835**	**MS6-LFM-½-BRM-DA**	1D
Fully automatic	G¼	**536875**	**MS6-LFM-¼-ARV-DA**	1D		**536839**	**MS6-LFM-¼-BRV-DA**	1D
	G⅜	**536876**	**MS6-LFM-⅜-ARV-DA**	1D		**536840**	**MS6-LFM-⅜-BRV-DA**	1D
	G½	**536877**	**MS6-LFM-½-ARV-DA**	1D		**536841**	**MS6-LFM-½-BRV-DA**	1D
Metal bowl								
Fully automatic	G¼	**536881**	**MS6-LFM-¼-AUV-DA**	Q		**536845**	**MS6-LFM-¼-BUV-DA**	Q
	G⅜	**536882**	**MS6-LFM-⅜-AUV-DA**	Q		**536846**	**MS6-LFM-⅜-BUV-DA**	Q
	G½	**536883**	**MS6-LFM-½-AUV-DA**	Q		**536847**	**MS6-LFM-½-BUV-DA**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Fine and Micro Filters MS6-LFM – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data →

Part No.	Series	Size	Function	Connection size	Filtration grade	Bowl
527670	MS	6	LFM	¼, ⅜, ½, AGB, AGC, AGD, AGE	B A	R U
Order example						
527670	**MS**	**6**	**–** **LFM**	**–** **AGB**	**–** **B**	**–** **R**

Ordering Table

Grid dimension [mm]	62	Conditions	Code	Enter code
M Part No.	**527670**			
Series	Standard		**MS**	MS
Size	6		**6**	6
Function	Fine and micro filter		**-LFM**	-LFM
Connection size	Body thread G¼		**-¼**	
	Body thread G⅜		**-⅜**	
	Body thread G½		**-½**	
	Port plate G¼ (dimensions → 814)		**-AGB**	
	Port plate G⅜ (dimensions → 814)		**-AGC**	
	Port plate G½ (dimensions → 814)		**-AGD**	
	Port plate G¾ (dimensions → 814)		**-AGE**	
Filtration grade	1 µm		**-B**	
	0.01 µm		**-A**	
Bowl	Plastic bowl with plastic bowl guard		**-R**	
↓	Metal bowl		**-U**	

Transfer order code

527670	**MS**	**6**	**–**	**LFM**	**–**		**–**		**–**	

Fine and Micro Filters MS6-LFM – Metric Series

Ordering Data – Configurable Products

FESTO

➔ M **Mandatory Data** | O **Options**

	Bowl drain		Filter change sensor		Type of mounting		Reverse flow direction
	M H V E1 E2 E3 E4		DA		WP WPM WB		Z
–	**M**	–		–	**WP**	–	**Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
↓ M	Bowl drain	Manual		**-M**		
		Semiautomatic (P1 max. 12 bar)		**-H**		
		Fully automatic (P1 max. 12 bar)		**-V**		
		External fully automatic bowl drain, electrical, 24 V DC, M12	1	**-E1**		
		External fully automatic bowl drain, electrical, 110 V AC, terminals	1	**-E2**		
		External fully automatic bowl drain, electrical, 230 V AC, terminals	1	**-E3**		
		External fully automatic bowl drain, electrical, 24 V DC, terminals	1	**-E4**		
O	Filter change sensor	Differential pressure indicator, optical		**-DA**		
	Type of mounting	Mounting bracket (dimensions ➔ 815)	2	**-WP**		
		Mounting bracket (dimensions ➔ 815)	2	**-WPM**		
		Mounting bracket (dimensions ➔ 812)		**-WB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

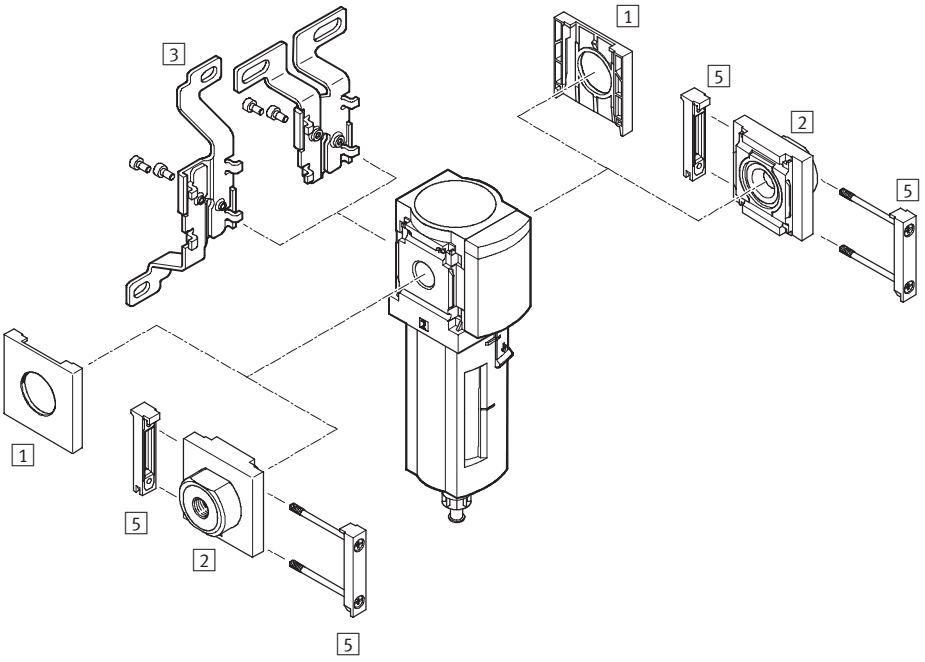
1 **E1, E2, E3, E4** Only with metal bowl U

2 **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

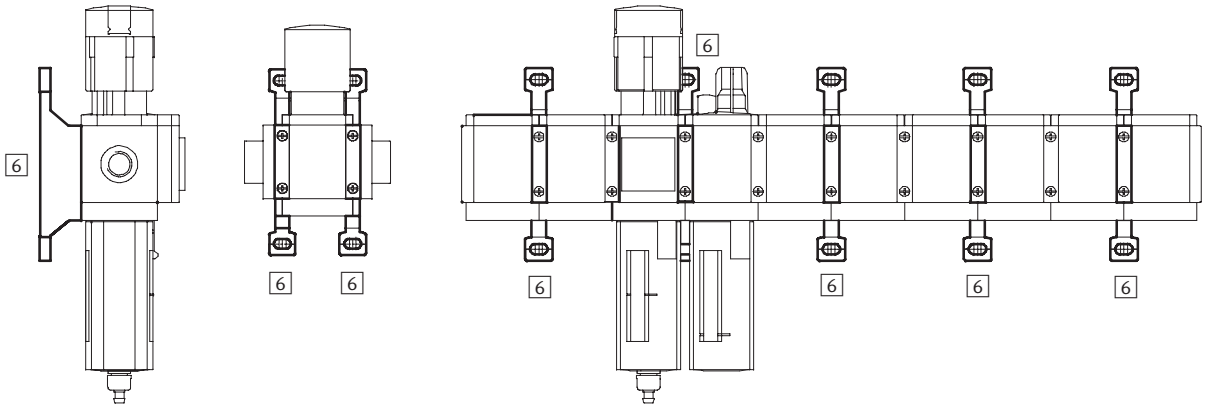
Transfer order code

–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Fine and Micro Filters MS6-LFM – Metric Series

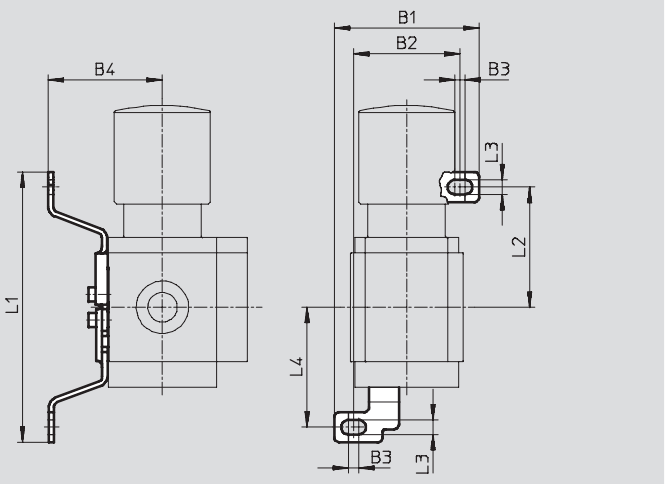
Accessories Overview

Mounting Attachments and Accessories					
	Single unit		Combination unit ➔ 3.1-1		➔ Page
	without port plate	with port plate	without port plate	with port plate	
1 Cover cap MS6-END	■	–	■	–	813
2 Port plate MS6-AG...	–	■	–	■	814
3 Mounting bracket MS6-WB	■	■	–	–	812
5 Body connector MS6-MV	–	■	■	■	814
6 Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	815

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





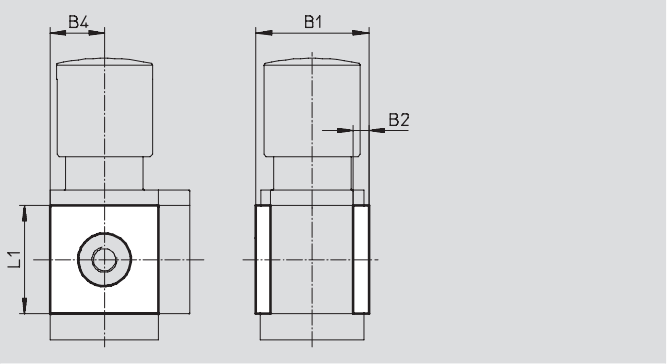
Dimensions and Ordering Data

B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
79.4	61.9	4.5	55	157.6	71	6.6	71	121	**532196**	**MS6-WB**

1 **Cover cap MS6-END**
- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





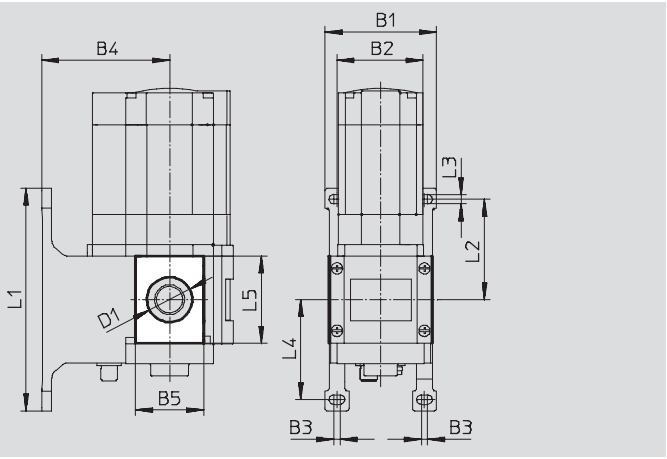
Dimensions and Ordering Data

B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

Mounting plate MS6-AEND
- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

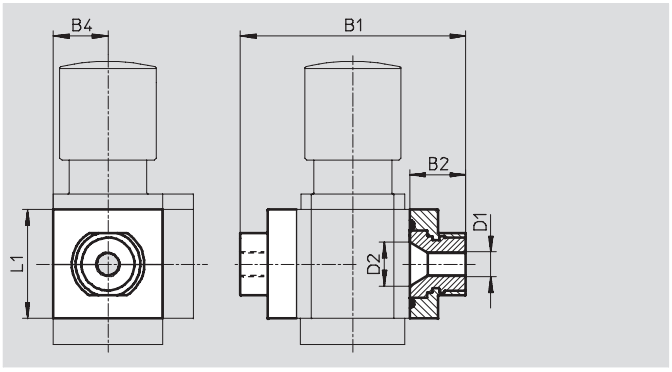
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6-AG...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G¾

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

5 **Body connector MS...-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

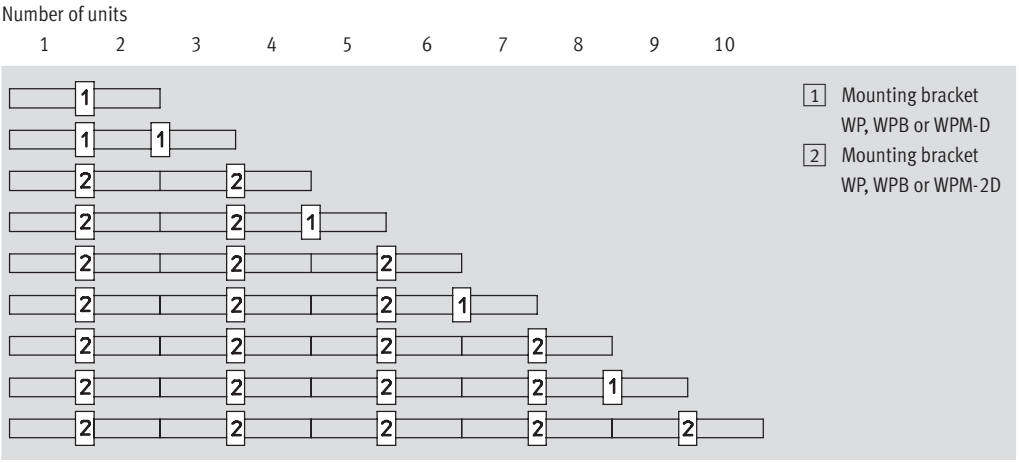
Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

6 Mounting Bracket MS6-WP...

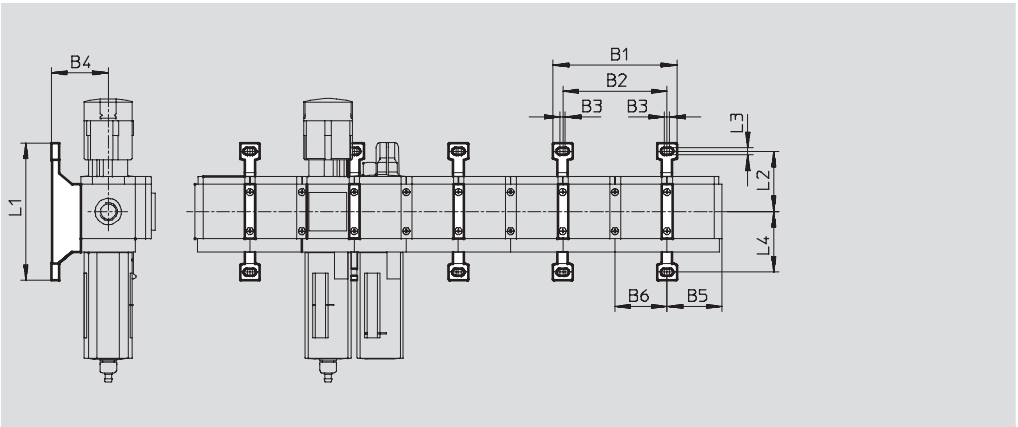
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WP, WPB
69 mm with WPM-D

2 units: 124 mm with WP, WPB
138 mm with WPM-2D



Mounting dimensions



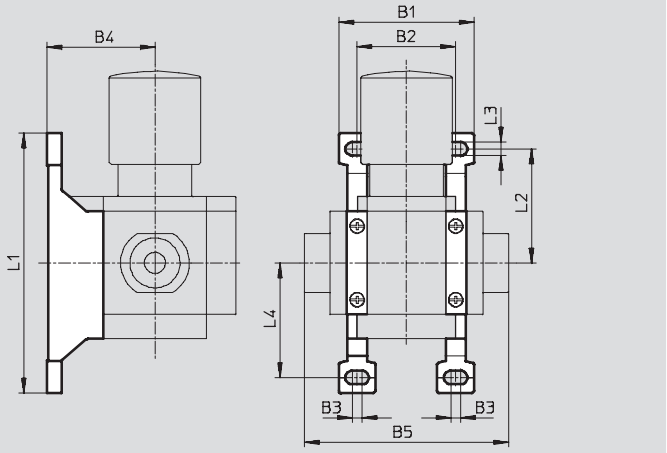
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

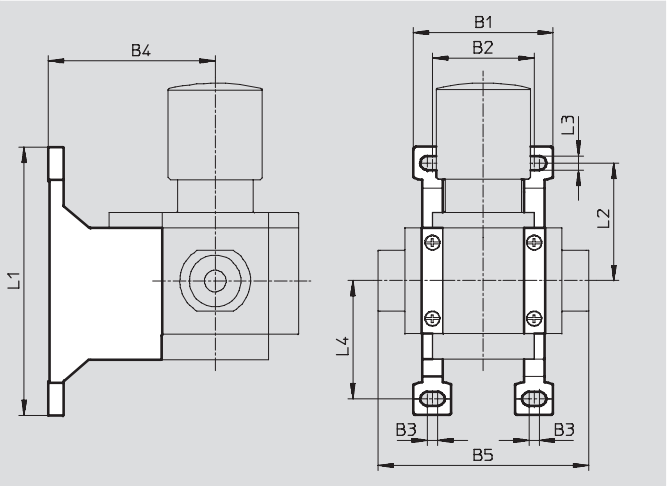
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	54	115	158	71	6.6	71	76	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

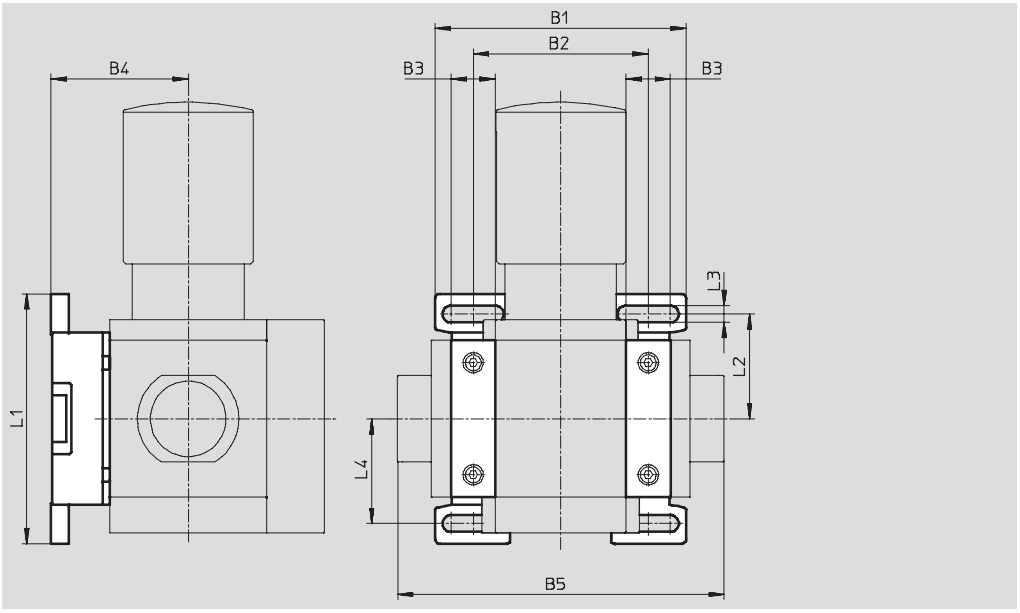
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	**526073**	**MS6-WPM-D**
168	138			198					124	154	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Fine and Micro Filters MS6-LFM – Metric Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS6	Flat seal, O-rings, screws	**673642**	**MS6-LFM**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS6	0.01	**532909**	**MS6-LFM-A**
	1	**532910**	**MS6-LFM-B**

- For spare parts go to: www.festo.com/en/spare_parts_service

Fine and Micro Filters MS6N-LFM – Inch Series

FESTO



Fine and micro filters, with 1 micron or 0.01 micron filtration grades, remove submicronic water or oil droplets and dirt particles for exceptionally clean compressed air.

- Pneumatic connection: ¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT
- Supply pressure
  – For manual drain: 0 ... 294 psi
  – For semiautomatic drain: 22 ... 176 psi
  – For fully automatic drain: 29 ... 176 psi
  – For fully automatic drain, electrically actuated: 12 ... 235 psi
- Flow rate: 13.4 ... 30.0 scfm

Product Range Overview

Type	Pneumatic connections		Filtration grade [µm]				Bowl guard		Bowl drain							Contamination control	Reverse flow
	Body thread	Port plate	0.01	1	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals	Differential pressure indicator	Flow direction from right to left
MS6N		AG...	A	B	C	E	R	U	M	H	V	E1	E2	E3	E4	DA	Z
LFM	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	■	■	–	–	■	■	■	■	■	■	■	■	■	■	■

Features

- High-performance filter for exceptionally clean compressed air
- Air quality to DIN ISO 8573-1
- Available with differential pressure indicator for optical indication of filter contamination
- LFM-A:
  ISO class 1 for particles:
  max. particle density 0.1 mg/m³
  ISO class 2 for oil aerosols:
  max. oil concentration 0.1 mg/m³
  Filter efficiency 99.9999%
- LFM-B:
  ISO class 2 for particles:
  max. particle density 1 mg/m³
  ISO class 3 for oil aerosols:
  max. oil concentration 1 mg/m³
  Filter efficiency 99.99%

Contents

Technical Data → 820
Dimensional Drawings → 823
Ordering Data → 825
Accessories → 828
Replacement Parts → 836

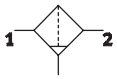
→ www.festo.com/catalog/ms6n-lfm

Fine and Micro Filters MS6N-LFM – Inch Series

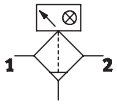
Technical Data

FESTO

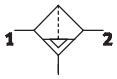
ISO Symbol



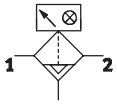
Manual bowl drain
without differential pressure indicator



with differential pressure indicator



Semi or fully automatic bowl drain
without differential pressure indicator



with differential pressure indicator



General Technical Data					
Pneumatic connection 1, 2			¼ NPT	⅜ NPT	½ NPT
Filtration grade		[µm]	0.01 (micro filter LFM-A, air purity class at the output 1.7.2 to DIN ISO 8573-1)		
			1 (fine filter LFM-B, air purity class at the output 2.7.3 to DIN ISO 8573-1)		
Supply pressure	M	[psi]	0 ... 294 (manual drain)		
	H	[psi]	22 ... 176 (semiautomatic drain)		
	V	[psi]	29 ... 176 (fully automatic drain)		
	E...	[psi]	12 ... 235 (fully automatic drain, electrically actuated)		

Standard Nominal Flow Rate qnN[1] and Standard Flow Rate qn [scfm]			
Pneumatic connection 1, 2	¼ NPT	⅜ NPT	½ NPT
Micro filter LFM-A			
qnN 1 ⇢ 2	13.4	15.2	16.9
qn min	4.8	4.8	4.8
qn max	31.8	31.8	31.8
Fine filter LFM-B			
qnN 1 ⇢ 2	19.4	24.7	30.0
qn min	4.9	4.9	4.9
qn max	33.5	33.5	33.5

1) Measured at p1 = 88 psi and Δp = 1.0 psi

Fine and Micro Filters MS6N-LFM – Inch Series

Technical Data

Operating and Environmental Conditions					
Bowl drain		Manual M	Semiautomatic H	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium micro filter LFM-A		Compressed air, filtered, unlubricated, filtration grade 1 µm			
Operating medium fine filter LFM-B		Compressed air, filtered, unlubricated, filtration grade 5 µm			
Max. condensate volume	[in^3]	2.32			
Bowl guard		Plastic bowl guard			
		Metal bowl			
Ambient temperature	[°F]	14 ... 140	41 ... 140	41 ... 140	34 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140	41 ... 140	34 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140	34 ... 140
Assembly position		Vertical ±5°			
Corrosion resistance	CRC[1)]	2			

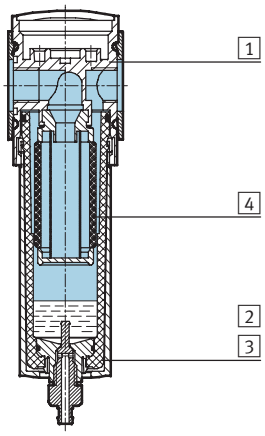
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	1.20
With metal bowl	1.64
With metal bowl and fully automatic, electrically actuated bowl drain	3.60

- Wearing parts kits ➔ 800
- Filter cartridges ➔ 800
- For spare parts go to: www.festo.com/en/spare_parts_service

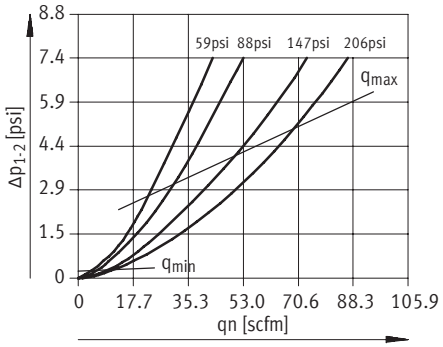
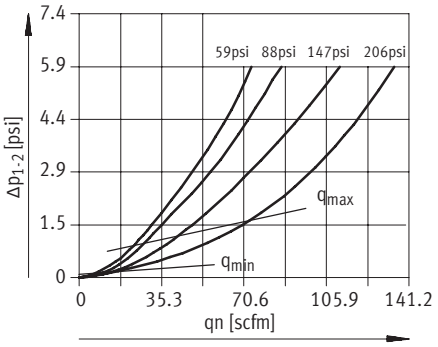
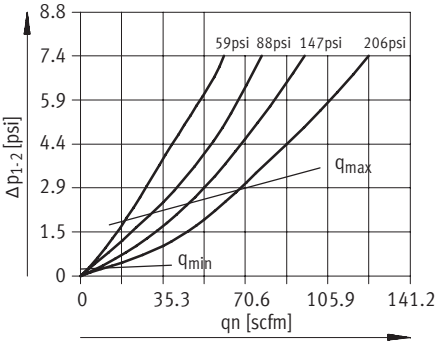
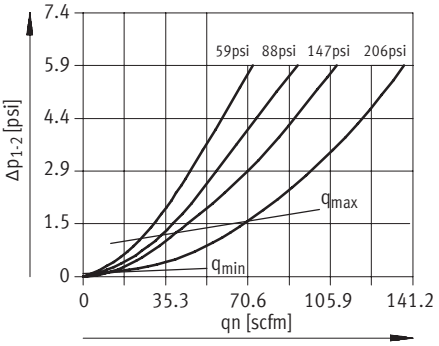
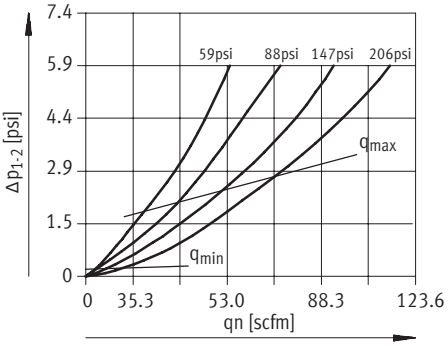
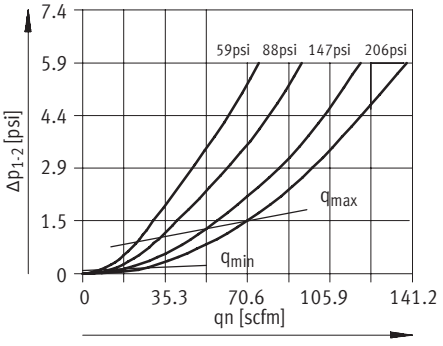
Materials

Sectional view



Fine and micro filter		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filters	Borosilicate fiber
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

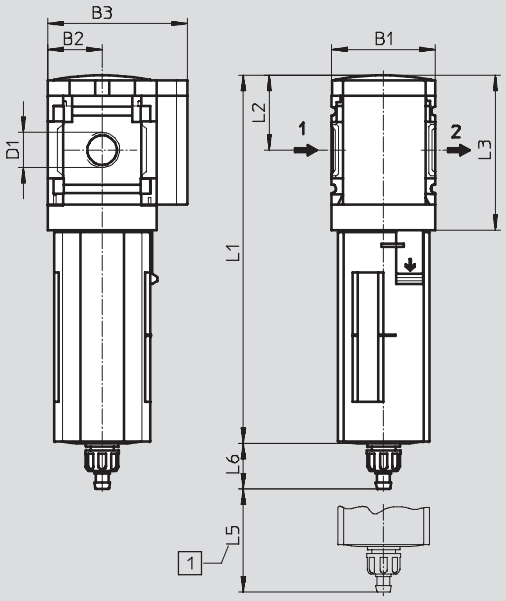
	Filtration grade 0.01 µm	Filtration grade 1 µm
MS6N-LFM-¼		
MS6N-LFM-⅜		
MS6N-LFM-½		

Fine and Micro Filters MS6N-LFM – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS6N-LFM-¼	2.44	1.22	2.99	¼ NPT	7.44	7.80	1.65	3.43	2.95	0.62	0.75
MS6N-LFM-⅜				⅜ NPT							
MS6N-LFM-½				½ NPT							

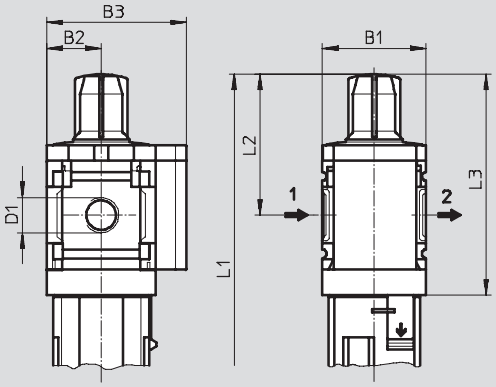
1) Dimensions are in inches, unless otherwise noted.

Fine and Micro Filters MS6N-LFM – Inch Series

Dimensional Drawings

Dimensions[1] – Differential Pressure Indicator

Download CAD Data ➔ **www.festo.com/us/cad**



➔ Flow direction

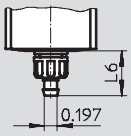
Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3
					Plastic	Metal		
MS6N-LFM-¼-...-DA	2.44	1.22	2.99	¼ NPT	8.58	8.82	2.68	4.45
MS6N-LFM-⅜-...-DA				⅜ NPT				
MS6N-LFM-½-...-DA				½ NPT				

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Bowl Drain

Download CAD Data ➔ **www.festo.com/us/cad**

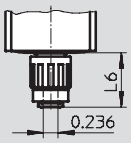
Manual M



Barbed fitting for plastic tubing PCN-4

Type	L6
Plastic bowl guard	
MS6N-LFM-...-M	0.62
Metal bowl	
MS6N-LFM-...-M	0.75

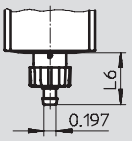
Semiautomatic H



QS fitting for plastic tubing PUN-6/PAN-6

Type	L6
Plastic bowl guard	
MS6N-LFM-...-H	0.80
Metal bowl	
MS6N-LFM-...-H	0.90

Fully automatic V

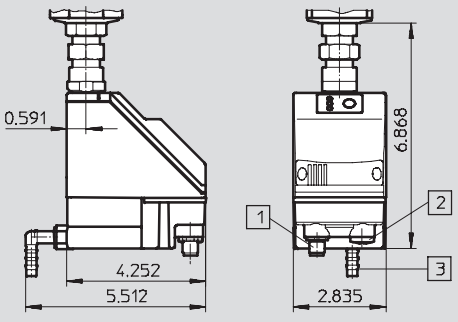


Barbed fitting for plastic tubing PCN-4

Type	L6
Plastic bowl guard	
MS6N-LFM-...-V	0.73
Metal bowl	
MS6N-LFM-...-V	0.87

Fully automatic, electrically actuated E1 ... E4

Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...

2 Variants E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9

3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

1) Dimensions are in inches, unless otherwise noted.

Fine and Micro Filters MS6N-LFM – Inch Series

Ordering Data – Pre-configured Products

FESTO

Ordering Data								
Without differential pressure indicator								
Bowl drain	Connection	Micro filter Filtration grade 0.01 µm				Fine filter Filtration grade 1 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**531860**	**MS6N-LFM-¼-ARM**			**531848**	**MS6N-LFM-¼-BRM**	
	⅜ NPT	**531862**	**MS6N-LFM-⅜-ARM**			**531850**	**MS6N-LFM-⅜-BRM**	
	½ NPT	**531861**	**MS6N-LFM-½-ARM**			**531849**	**MS6N-LFM-½-BRM**	
Fully automatic	¼ NPT	**531866**	**MS6N-LFM-¼-ARV**			**531854**	**MS6N-LFM-¼-BRV**	
	⅜ NPT	**531868**	**MS6N-LFM-⅜-ARV**			**531856**	**MS6N-LFM-⅜-BRV**	
	½ NPT	**531867**	**MS6N-LFM-½-ARV**			**531855**	**MS6N-LFM-½-BRV**	
Metal bowl								
Fully automatic	¼ NPT	**531878**	**MS6N-LFM-¼-AUV**			**531872**	**MS6N-LFM-¼-BUV**	
	⅜ NPT	**531880**	**MS6N-LFM-⅜-AUV**			**531874**	**MS6N-LFM-⅜-BUV**	
	½ NPT	**531879**	**MS6N-LFM-½-AUV**			**531873**	**MS6N-LFM-½-BUV**	

Ordering Data								
With differential pressure indicator								
Bowl drain	Connection	Micro filter Filtration grade 0.01 µm				Fine filter Filtration grade 1 µm		
		Part No.	Type	LT		Part No.	Type	LT
Plastic bowl guard								
Manual	¼ NPT	**536887**	**MS6N-LFM-¼-ARM-DA**	1D		**536851**	**MS6N-LFM-¼-BRM-DA**	1D
	⅜ NPT	**536888**	**MS6N-LFM-⅜-ARM-DA**	1D		**536852**	**MS6N-LFM-⅜-BRM-DA**	1D
	½ NPT	**536889**	**MS6N-LFM-½-ARM-DA**	1D		**536853**	**MS6N-LFM-½-BRM-DA**	1D
Fully automatic	¼ NPT	**536893**	**MS6N-LFM-¼-ARV-DA**	1D		**536857**	**MS6N-LFM-¼-BRV-DA**	1D
	⅜ NPT	**536894**	**MS6N-LFM-⅜-ARV-DA**	1D		**536858**	**MS6N-LFM-⅜-BRV-DA**	1D
	½ NPT	**536895**	**MS6N-LFM-½-ARV-DA**	1D		**536859**	**MS6N-LFM-½-BRV-DA**	1D
Metal bowl								
Fully automatic	¼ NPT	**536899**	**MS6N-LFM-¼-AUV-DA**	Q		**536863**	**MS6N-LFM-¼-BUV-DA**	Q
	⅜ NPT	**536900**	**MS6N-LFM-⅜-AUV-DA**	Q		**536864**	**MS6N-LFM-⅜-BUV-DA**	Q
	½ NPT	**536901**	**MS6N-LFM-½-AUV-DA**	Q		**536865**	**MS6N-LFM-½-BUV-DA**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Fine and Micro Filters MS6N-LFM – Inch Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data** →

Part No.	Series	Size	Thread	Function	Connection size	Filtration grade	Bowl
527671	MS	6	N	LFM	¼, ⅜, ½, AQN, AQP, AQR, AQS	B A	R U
Order example							
527671	**MS**	**6**	**N**	– **LFM**	– **AQN**	– **B**	– **R**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**527671**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Thread	NPT thread		**N**		N
	Function	Fine and micro filter		**-LFM**		-LFM
	Connection size	Body thread ¼ NPT		**-¼**		
		Body thread ⅜ NPT		**-⅜**		
		Body thread ½ NPT		**-½**		
		Port plate ¼ NPT (dimensions → 832)		**-AQN**		
		Port plate ⅜ NPT (dimensions → 832)		**-AQP**		
		Port plate ½ NPT (dimensions → 832)		**-AQR**		
		Port plate ¾ NPT (dimensions → 832)		**-AQS**		
	Filtration grade	1 µm		**-B**		
		0.01 µm		**-A**		
	Bowl	Plastic bowl with plastic bowl guard		**-R**		
↓		Metal bowl		**-U**		

Transfer order code

527671	**MS**	**6**	**N**	– **LFM**	–		–		–	

Fine and Micro Filters MS6N-LFM – Inch Series

Ordering Data – Configurable Products

FESTO

➔ M Mandatory Data			O Options					
	Bowl drain		**Filter change sensor**		**Type of mounting**		**Reverse flow direction**	
	M H V E1 E2 E3 E4		DA		WP WPM WB		Z	
–	**M**	–		–	**WP**	–	**Z**	

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
↓ M	Bowl drain	Manual		**-M**		
		Semiautomatic (P1 max. 176 psi)		**-H**		
		Fully automatic (P1 max. 176 psi)		**-V**		
		External fully automatic bowl drain, electrical, 24 V DC, M12	1	**-E1**		
		External fully automatic bowl drain, electrical, 110 V AC, terminals	1	**-E2**		
		External fully automatic bowl drain, electrical, 230 V AC, terminals	1	**-E3**		
		External fully automatic bowl drain, electrical, 24 V DC, terminals	1	**-E4**		
O	Filter change sensor	Differential pressure indicator, optical		**-DA**		
	Type of mounting	Mounting bracket (dimensions ➔ 833)	2	**-WP**		
		Mounting bracket (dimensions ➔ 833)	2	**-WPM**		
		Mounting bracket (dimensions ➔ 830)		**-WB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

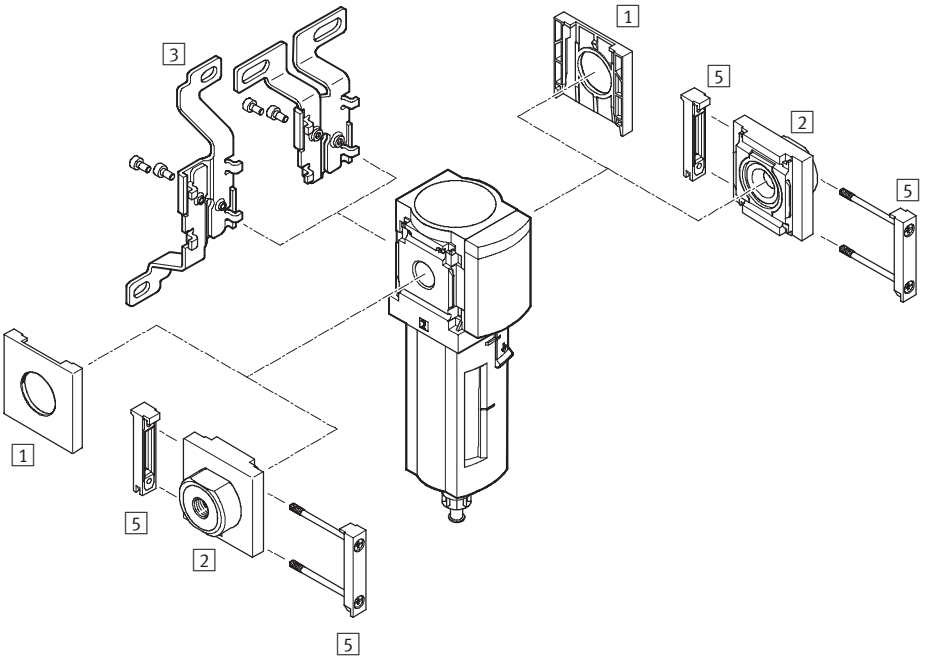
1 **E1, E2, E3, E4** Only with metal bowl U

2 **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

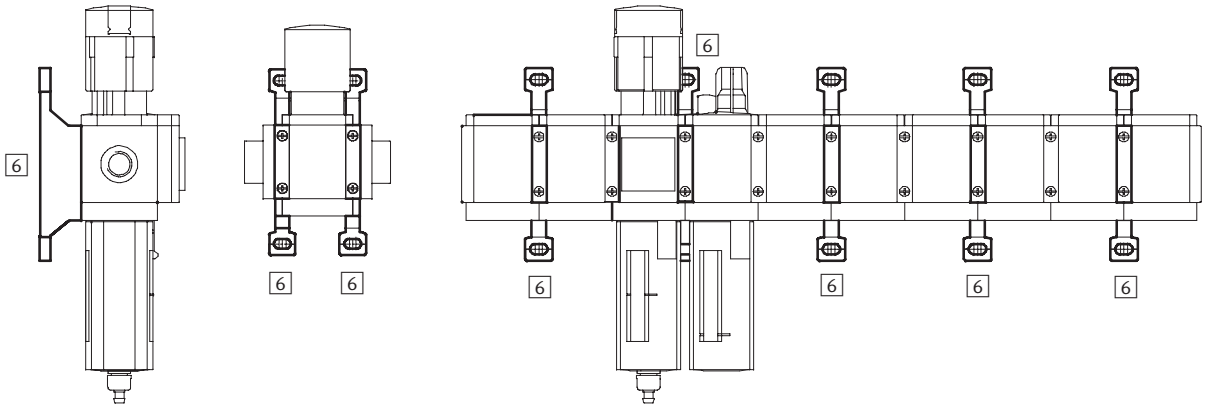
Transfer order code

–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Fine and Micro Filters MS6N-LFM – Inch Series

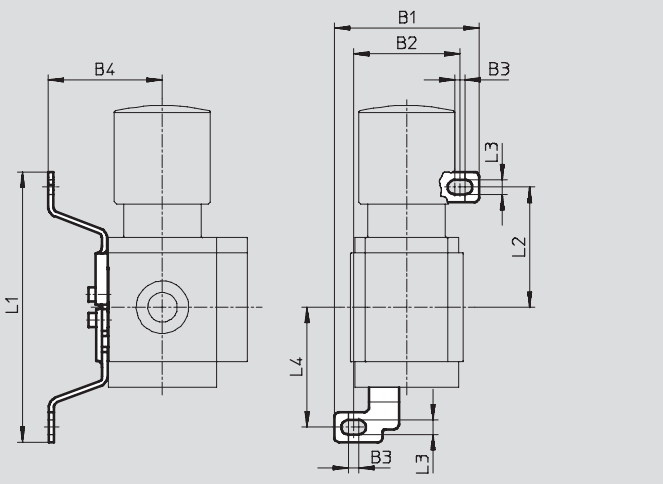
Accessories Overview

Mounting Attachments and Accessories					
	Single unit		Combination unit ➔ 3.1-49		➔ Page
	without port plate	with port plate	without port plate	with port plate	
1 Cover cap MS6-END	■	–	■	–	831
2 Port plate MS6N-AQ...	–	■	–	■	832
3 Mounting bracket MS6-WB	■	■	–	–	830
5 Body connector MS6-MV	–	■	■	■	832
6 Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	833

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

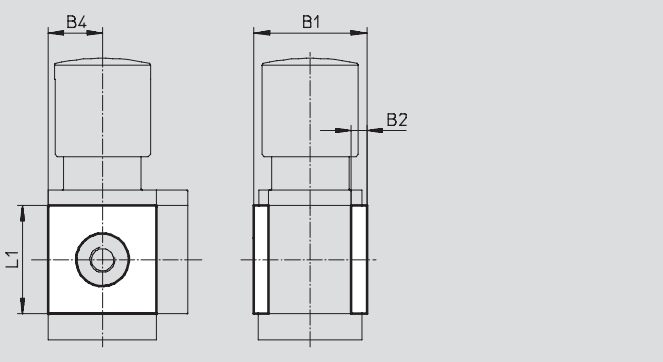
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.13	2.44	0.18	2.17	6.20	2.80	0.26	2.80	0.24	**532196**	**MS6-WB**

1 **Cover cap MS6-END**

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

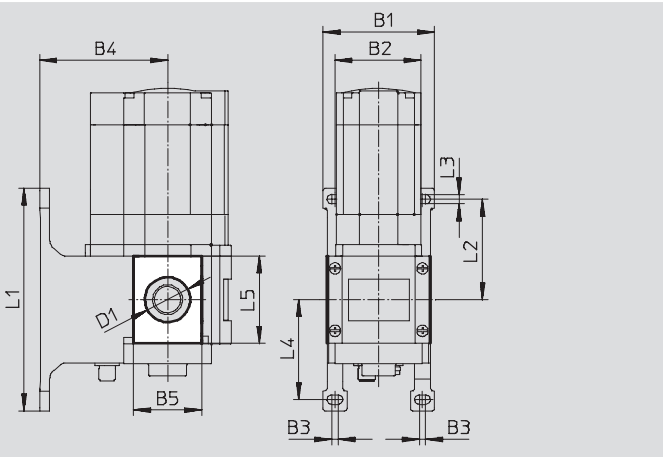
B1	B2	B4	L1	Part No.	Type
2.64	0.31	1.22	2.44	**538780**	**MS6-END**

Mounting plate MS6-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

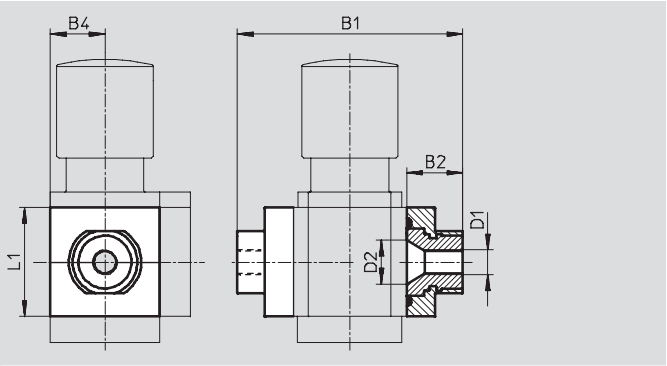
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6N-AQ...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection ¾ NPT

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	¼ NPT	0.94	2.44	0.60	**526076**	**MS6N-AQN**
			⅜ NPT				**526077**	**MS6N-AQP**
			½ NPT				**526078**	**MS6N-AQR**
			¾ NPT				**526079**	**MS6N-AQS**

5 **Body connector MS6-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

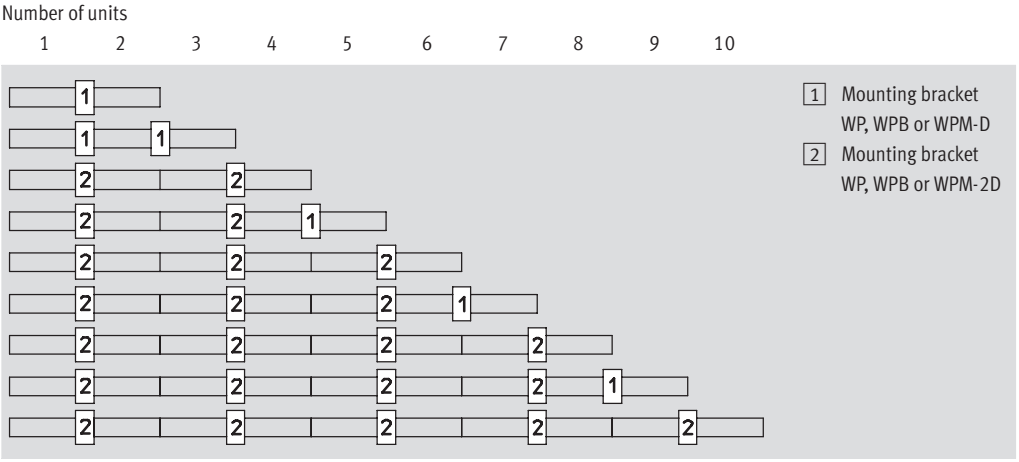
Weight [lb]	Part No.	Type
0.11	**532799**	**MS6-MV**

6 Mounting Bracket MS6-WP...

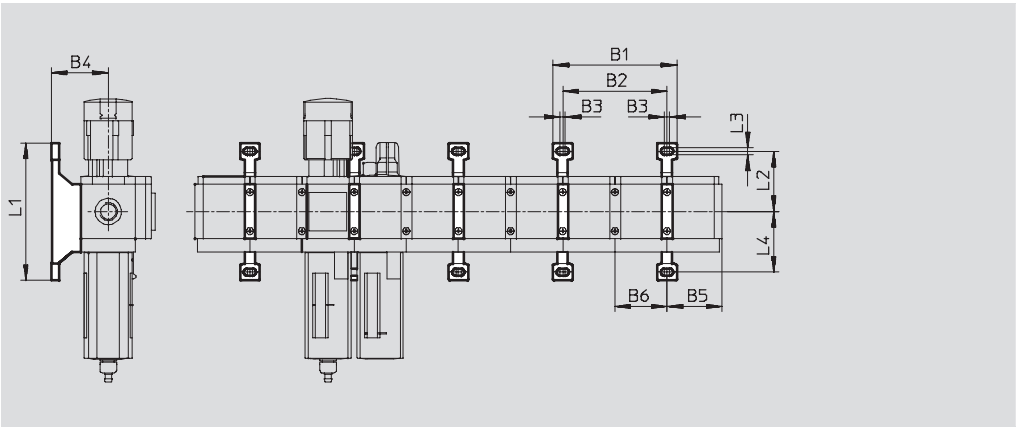
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WP, WPB
2.715 in with WPM-D

2 units: 4.88 in with WP, WPB
5.43 in with WPM-2D



Mounting dimensions



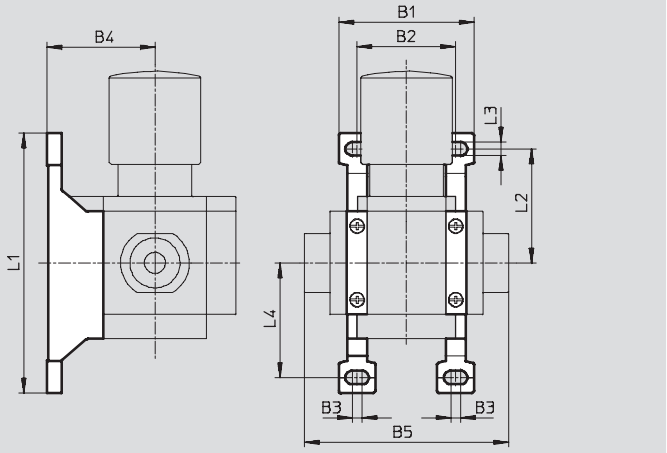
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	5.55	4.88	0.18	2.13	2.54	2.44	6.22	2.80	0.26	2.80
MS6-WPB				3.56						
MS6-WPM-...D	6.61	5.43	0.69	2.13	2.58	2.72	3.88	1.63		1.63

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

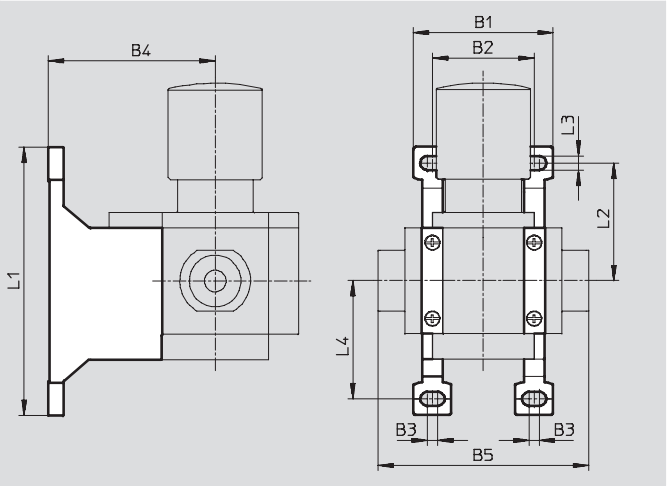
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	2.13	4.53	6.22	2.80	0.26	2.80	0.15	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	**526074**	**MS6-WPB**

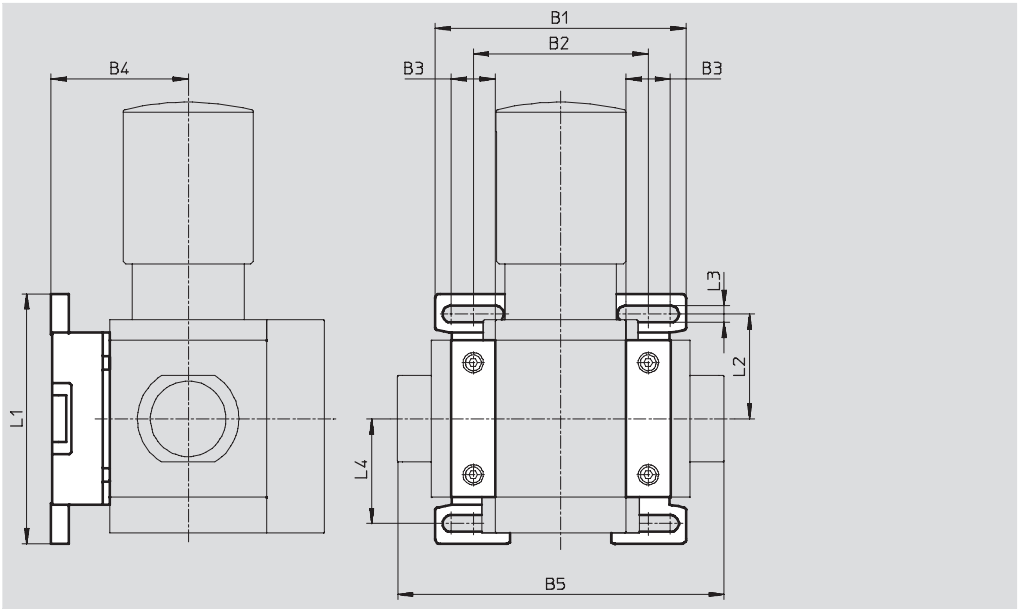
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
3.90	2.72	0.69	2.13	5.08	3.88	1.63	0.26	1.63	2.44	0.29	**526073**	**MS6-WPM-D**
6.61	5.43			7.80					4.88	0.31	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Fine and Micro Filters MS6N-LFM – Inch Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS6	Flat seal, O-rings, screws	**673642**	**MS6-LFM**



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS6	0.01	**532909**	**MS6-LFM-A**
	1	**532910**	**MS6-LFM-B**

- For spare parts go to: www.festo.com/en/spare_parts_service

Active Carbon Filters MS6-LFX – Metric Series



Active carbon filters remove liquid and gaseous oil particles as well as odor and taste from compressed air. Pre-filtration with a grade of 0.01 micron is required.

- Pneumatic connection: G¼, G⅜, G½, G¾
- Supply pressure 0 ... 20 bar
- Flow rate: 700 ... 1,200 l/min

Product Range Overview

Type	Pneumatic connections		Bowl guard		Bowl drain	Reverse flow
	Body thread	Port plate	Plastic bowl guard	Metal bowl	Manual	Flow direction from right to left
MS6		AG...	R	U	M	Z
LFX	G¼, G⅜, G½	G¼, G⅜, G½, G¾	■	■	■	■

Features

- Removal of liquid and gaseous oil particles from compressed air using active carbon
- Eliminates odors and vapors
- Prefiltration with micro filter MS6-LFM-A, filtration grade 0.01 µm, is required.

Contents

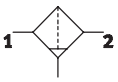
Technical Data → 838
Dimensional Drawings → 840
Ordering Data → 840
Accessories → 842
Replacement Parts → 850

→ www.festo.com/catalog/ms6-lfx

Active Carbon Filters MS6-LFX – Metric Series

Technical Data

ISO Symbol



Manual bowl drain



General Technical Data				
Pneumatic connection 1, 2		G¼	G⅜	G½
Air purity class at the output[1]		1.7.1 to DIN ISO 8573-1		
Supply pressure	[bar]	0 ... 20		

1) It is recommended to replace filter cartridges after 1,000 operating hours.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] and Standard Flow Rate qn [l/min]				
Pneumatic connection 1, 2		G¼	G⅜	G½
qnN 1 ⇢ 2		700	1,000	1,200
qn max		900	900	900

2) Measured at p1 = 6 bar and Δp = 70 mbar

Operating and Environmental Conditions		
Operating medium		Compressed air, filtered, unlubricated, filtration grade 0.01 µm
Bowl guard		Plastic bowl guard
		Metal bowl
Ambient temperature	[°C]	−10 ... +60
Temperature of medium	[°C]	+5 ... +30
Storage temperature	[°C]	−10 ... +60
Assembly position		Vertical ±5°
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With plastic bowl guard	600
With metal bowl	820

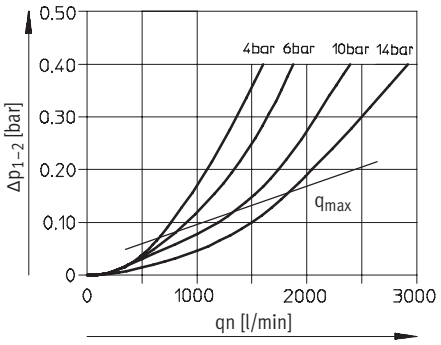
- Filter cartridges ➔ 782
- For spare parts go to: www.festo.com/en/spare_parts_service

Active Carbon Filters MS6-LFX – Metric Series

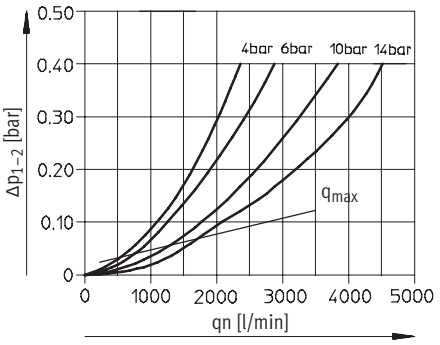
Technical Data

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

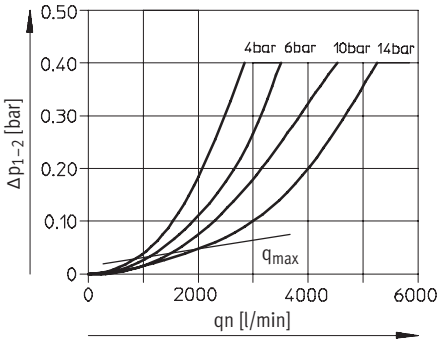
MS6-LFX-¼



MS6-LFX-⅜

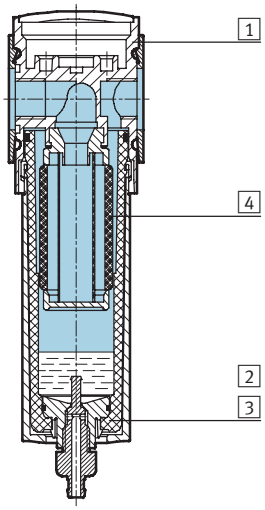


MS6-LFX-½



Materials

Sectional view



Active carbon filter		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filters	Active carbon
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

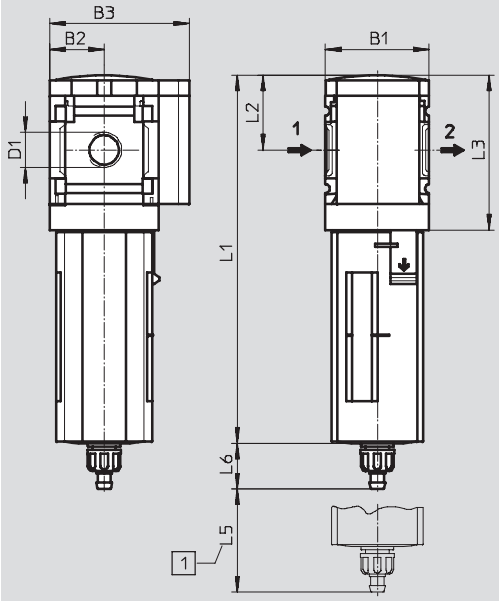
Active Carbon Filters MS6-LFX – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



[1] Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS6-LFX-¼	62	31	76	G¼	192	198	42	87	100	15.8	19
MS6-LFX-⅜				G⅜							
MS6-LFX-½				G½							

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Bowl drain	Connection	Plastic bowl guard				Metal bowl		
		Part No.	Type	LT		Part No.	Type	LT
Manual	G¼	**529683**	**MS6-LFX-¼-R**	1D		**529685**	**MS6-LFX-¼-U**	Q
	G⅜	**529687**	**MS6-LFX-⅜-R**	1D		**529689**	**MS6-LFX-⅜-U**	Q
	G½	**529679**	**MS6-LFX-½-R**	1D		**529681**	**MS6-LFX-½-U**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Active Carbon Filters MS6-LFX – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options	
Part No.	Series	Size	Function	Connection size	Bowl	Type of mounting	Reverse flow direction
527672	MS	6	LFX	¼, ⅜, ½, AGB, AGC, AGD, AGE	R U	WP WPM WB	Z
Order example							
527672	**MS**	**6**	**– LFX**	**– AGB**	**– R**	**– WP**	**– Z**

Ordering Table

	Grid dimension [mm]	62	Conditions	Code	Enter code
M	Part No.	**527672**			
	Series	Standard		**MS**	MS
	Size	6		**6**	6
	Function	Activated carbon filter		**-LFX**	-LFX
	Connection size	Body thread G¼		**-¼**	
		Body thread G⅜		**-⅜**	
		Body thread G½		**-½**	
		Port plate G¼ (dimensions ➔ 846)		**-AGB**	
		Port plate G⅜ (dimensions ➔ 846)		**-AGC**	
		Port plate G½ (dimensions ➔ 846)		**-AGD**	
		Port plate G¾ (dimensions ➔ 846)		**-AGE**	
	Bowl	Plastic bowl with plastic bowl guard		**-R**	
		Metal bowl		**-U**	
O	Type of mounting	Mounting bracket (dimensions ➔ 847)	1	**-WP**	
		Mounting bracket (dimensions ➔ 847)	1	**-WPM**	
		Mounting bracket (dimensions ➔ 844)		**-WB**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

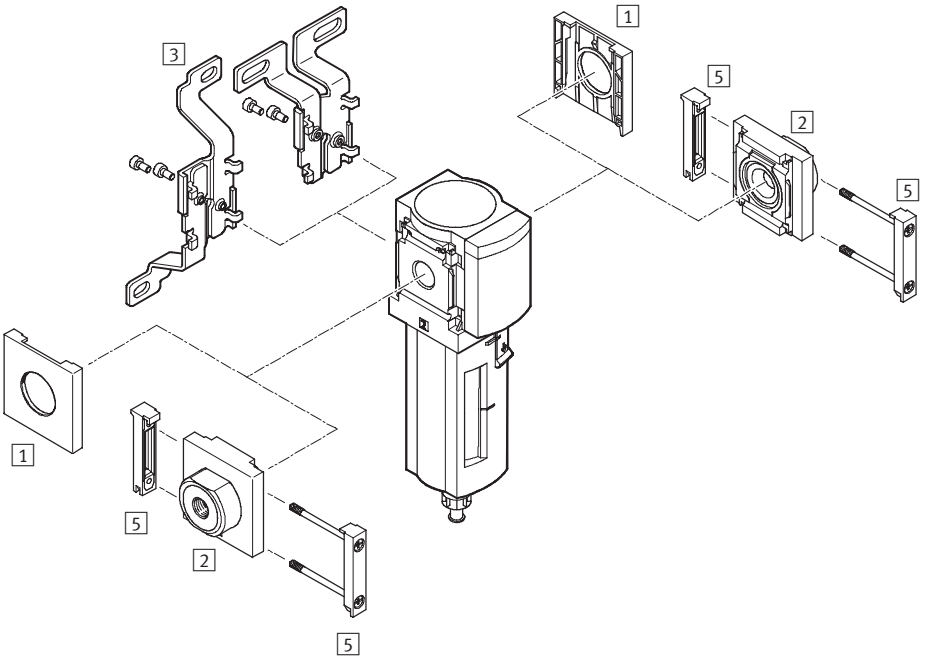
Transfer order code

527672	**MS**	**6**	**–**	**LFX**	**–**		**–**		**–**		**–**	

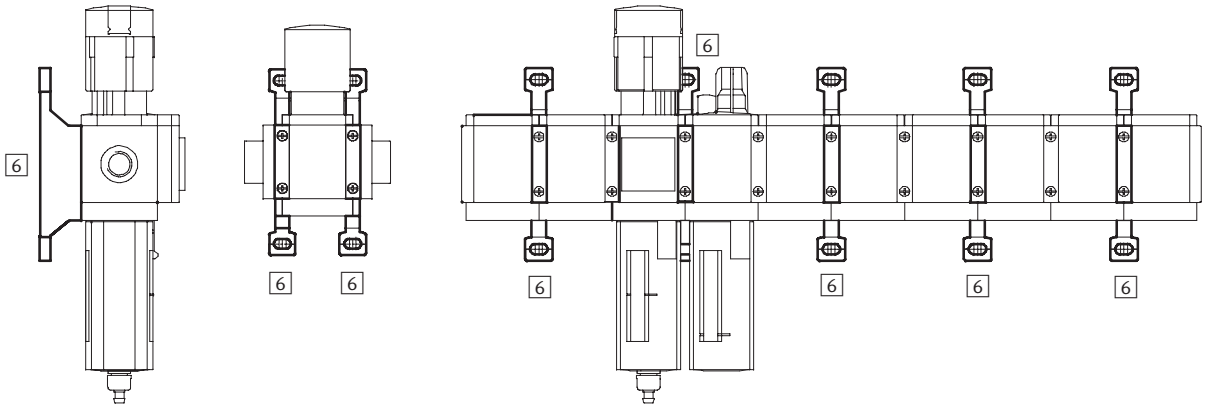
Active Carbon Filters MS6-LFX – Metric Series

Accessories Overview

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Active Carbon Filters MS6-LFX – Metric Series

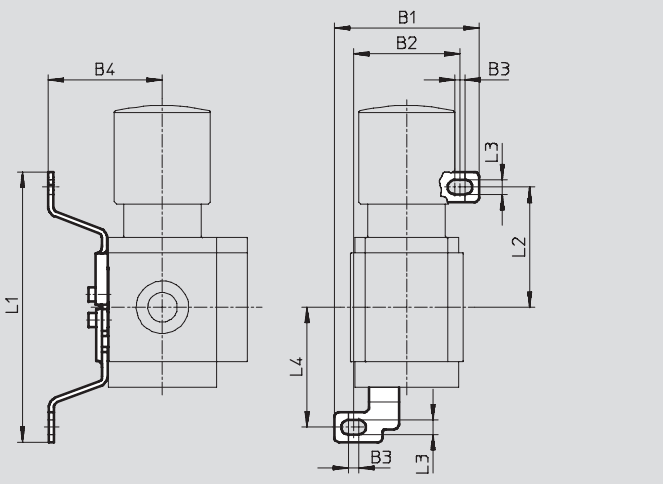
Accessories Overview

Mounting Attachments and Accessories					
	Single unit		Combination unit ➔ 3.1-1		➔ Page
	without port plate	with port plate	without port plate	with port plate	
1 Cover cap MS6-END	■	–	■	–	845
2 Port plate MS6-AG...	–	■	–	■	846
3 Mounting bracket MS6-WB	■	■	–	–	844
5 Body connector MS6-MV	–	■	■	■	846
6 Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	847

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

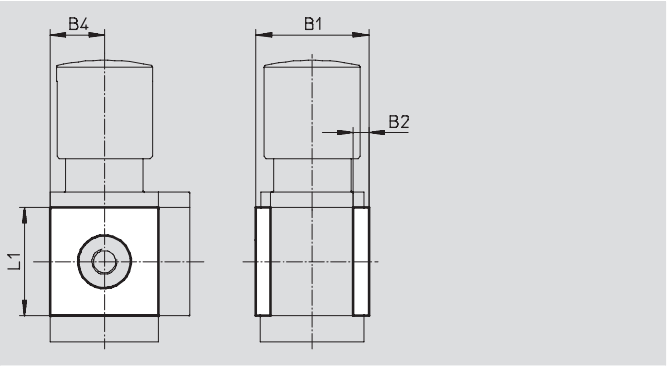
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
79.4	61.9	4.5	55	157.6	71	6.6	71	121	**532196**	**MS6-WB**

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

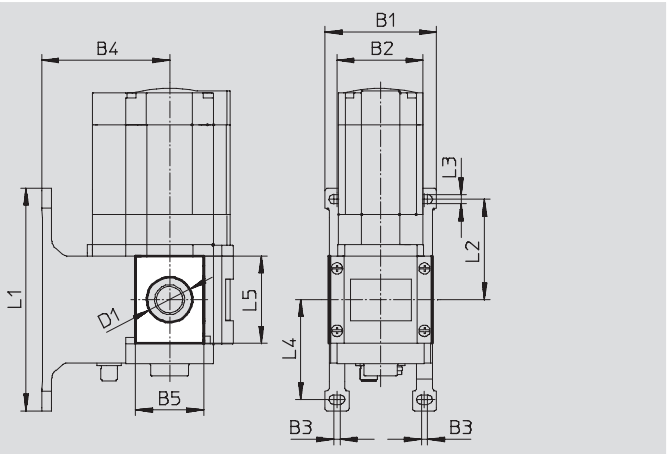
B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

Mounting plate MS6-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535408**	**MS6-AEND**

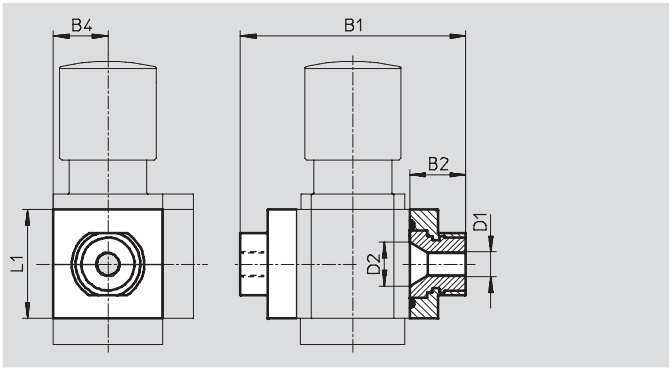
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6-AG...**

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G¾

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

5 **Body connector MS...-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

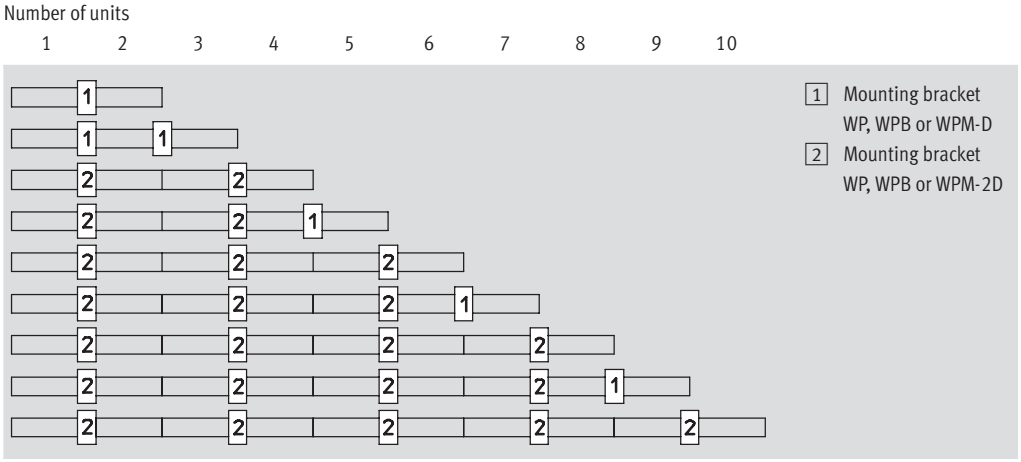
Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

6 Mounting Bracket MS6-WP...

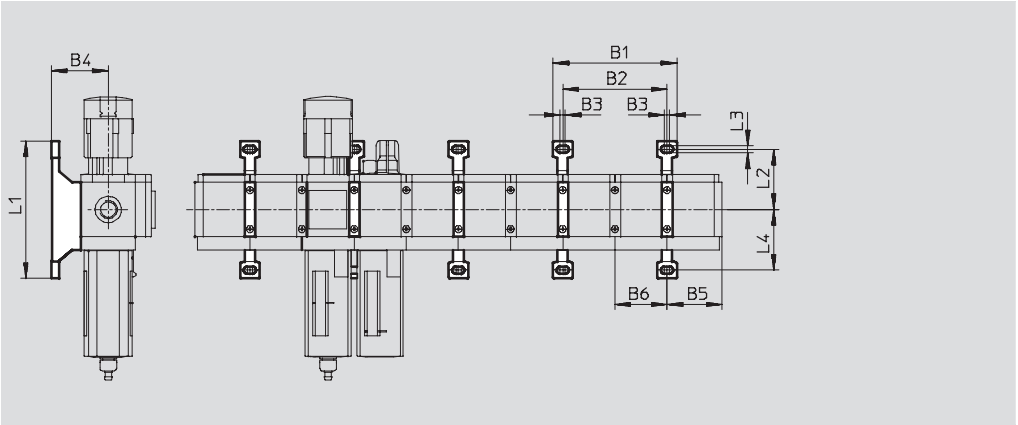
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WP, WPB
69 mm with WPM-D

2 units: 124 mm with WP, WPB
138 mm with WPM-2D



Mounting dimensions



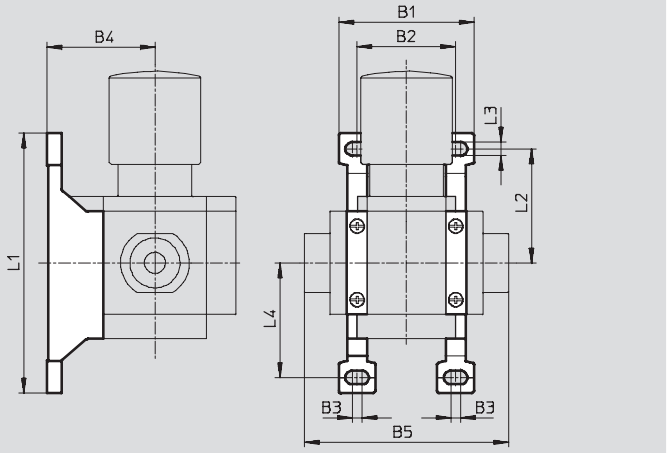
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

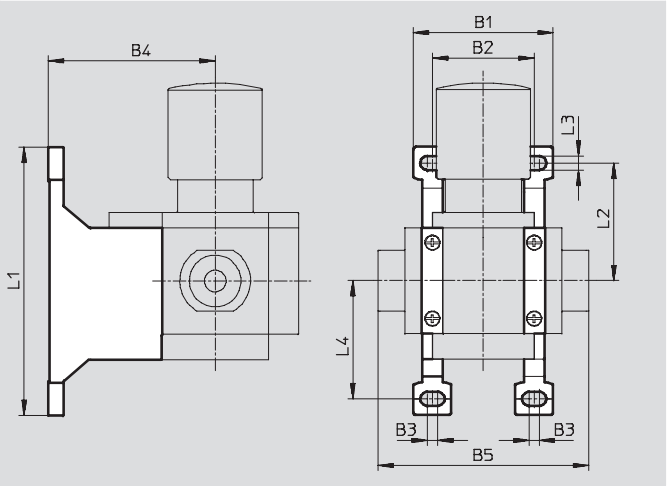
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	54	115	158	71	6.6	71	76	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

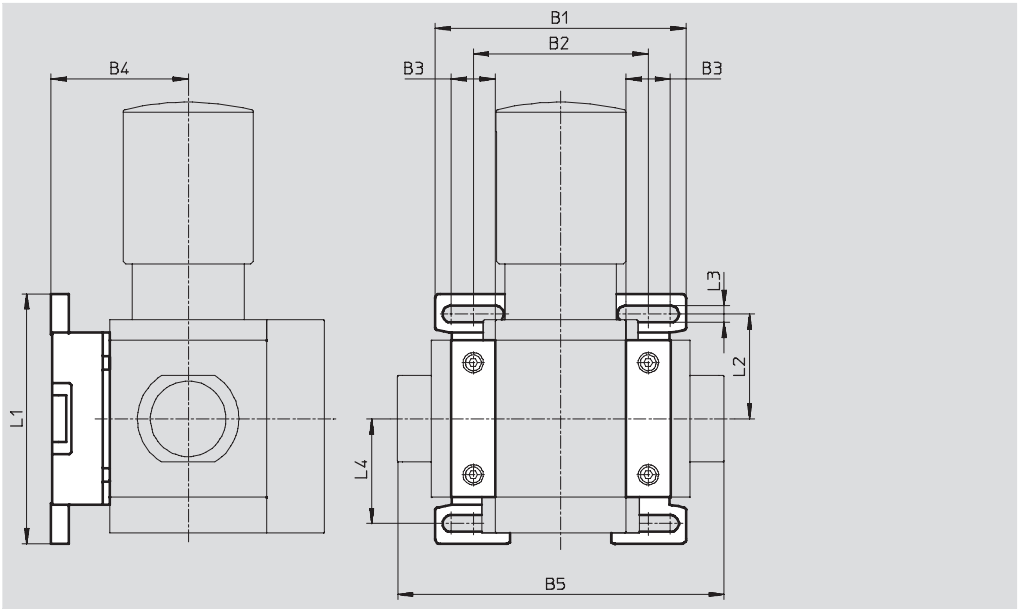
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	**526073**	**MS6-WPM-D**
168	138			198					124	154	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Active Carbon Filters MS6-LFX – Metric Series

Replacement Parts



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS6	Residual oil content ≤ 0.003 mg/m^3	**532911**	**MS6-LFX**

- For spare parts go to: www.festo.com/en/spare_parts_service

Active Carbon Filters MS6N-LFX – Inch Series



Active carbon filters remove liquid and gaseous oil particles as well as odor and taste from compressed air. Pre-filtration with a grade of 0.01 micron is required.

- Pneumatic connection: ¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT
- Supply pressure 0 ... 294 psi
- Flow rate: 24.7 ... 42.4 scfm

Product Range Overview

Type	Pneumatic connections		Bowl guard		Bowl drain	Reverse flow
	Body thread	Port plate	Plastic bowl guard	Metal bowl	Manual	Flow direction from right to left
MS6N		AG...	R	U	M	Z
LFX	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	■	■	■	■

Features

- Removal of liquid and gaseous oil particles from compressed air using active carbon
- Eliminates odors and vapors
- Prefiltration with micro filter MS6-LFM-A, filtration grade 0.01 µm, is required.

Contents

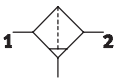
Technical Data → 852
Dimensional Drawings → 854
Ordering Data → 854
Accessories → 856
Replacement Parts → 864

→ www.festo.com/catalog/ms6n-lfx

Active Carbon Filters MS6N-LFX – Inch Series

Technical Data

ISO Symbol



Manual bowl drain



General Technical Data				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Air purity class at the output[1]		1.7.1 to DIN ISO 8573-1		
Supply pressure	[psi]	0 ... 294		

1) It is recommended to replace filter cartridges after 1,000 operating hours.

Standard Nominal Flow Rate qnN[2] and Standard Flow Rate qn [scfm]			
Pneumatic connection 1, 2	¼ NPT	⅜ NPT	½ NPT
qnN 1 ⇢ 2	24.7	35,3	42.4
qn max	31.8	31.8	31.8

2) Measured at p1 = 88 psi and Δp = 1.0 psi

Operating and Environmental Conditions		
Operating medium		Compressed air, filtered, unlubricated, filtration grade 0.01 µm
Bowl guard		Plastic bowl guard
		Metal bowl
Ambient temperature	[°F]	14 ... 140
Temperature of medium	[°F]	41 ... 86
Storage temperature	[°F]	14 ... 140
Assembly position		Vertical ±5°
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	1.20
With metal bowl	1.64

- Filter cartridges ➔ 800
- For spare parts go to: www.festo.com/en/spare_parts_service

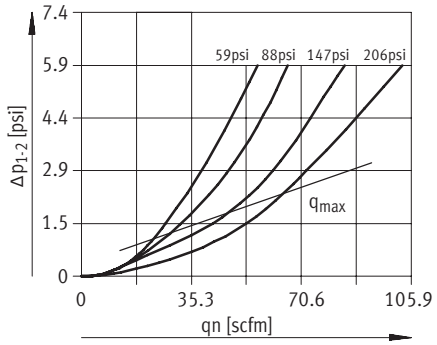
Active Carbon Filters MS6N-LFX – Inch Series

Technical Data

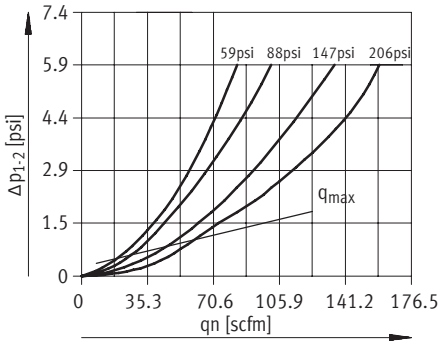
FESTO

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

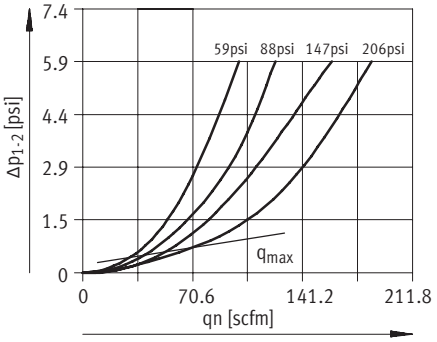
MS6N-LFX-¼



MS6N-LFX-⅜

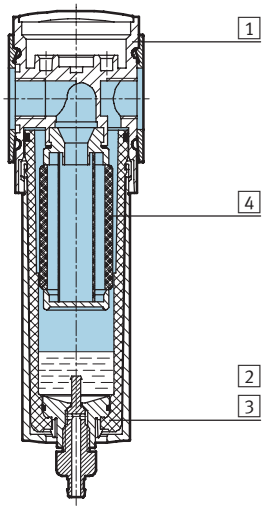


MS6N-LFX-½



Materials

Sectional view



Active carbon filter		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filters	Active carbon
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

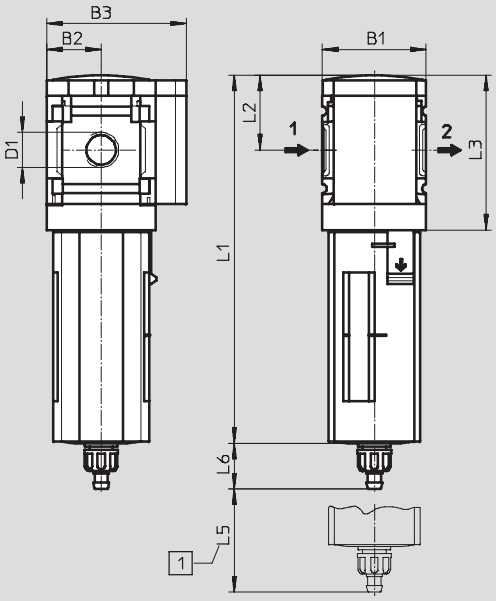
Active Carbon Filters MS6N-LFX – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

Manual bowl drain



[1] Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L5	L6 Bowl guard	
					Plastic	Metal				Plastic	Metal
MS6N-LFX-¼	2.44	1.22	2.99	¼ NPT	7.56	7.80	1.65	3.43	3.94	0.62	0.75
MS6N-LFX-⅜				⅜ NPT							
MS6N-LFX-½				½ NPT							

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Bowl drain	Connection	Plastic bowl guard			Metal bowl		
		Part No.	Type	LT	Part No.	Type	LT
Manual	¼ NPT	**531920**	**MS6N-LFX-¼-R**	1D	**531926**	**MS6N-LFX-¼-U**	Q
	⅜ NPT	**531922**	**MS6N-LFX-⅜-R**	1D	**531928**	**MS6N-LFX-⅜-U**	Q
	½ NPT	**531921**	**MS6N-LFX-½-R**	1D	**531927**	**MS6N-LFX-½-U**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Active Carbon Filters MS6N-LFX – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options	
Part No.	Series	Size	Thread	Function	Connection size	Bowl	Type of mounting	Reverse flow direction
527673	MS	6	N	LFX	¼, ⅜, ½, AQN, AQP, AQR, AQS	R U	WP WPM WB	Z
Order example								
527673	**MS**	**6**	**N** –	**LFX** –	**AQN** –	**R** –	**WP** –	**Z**

Ordering Table

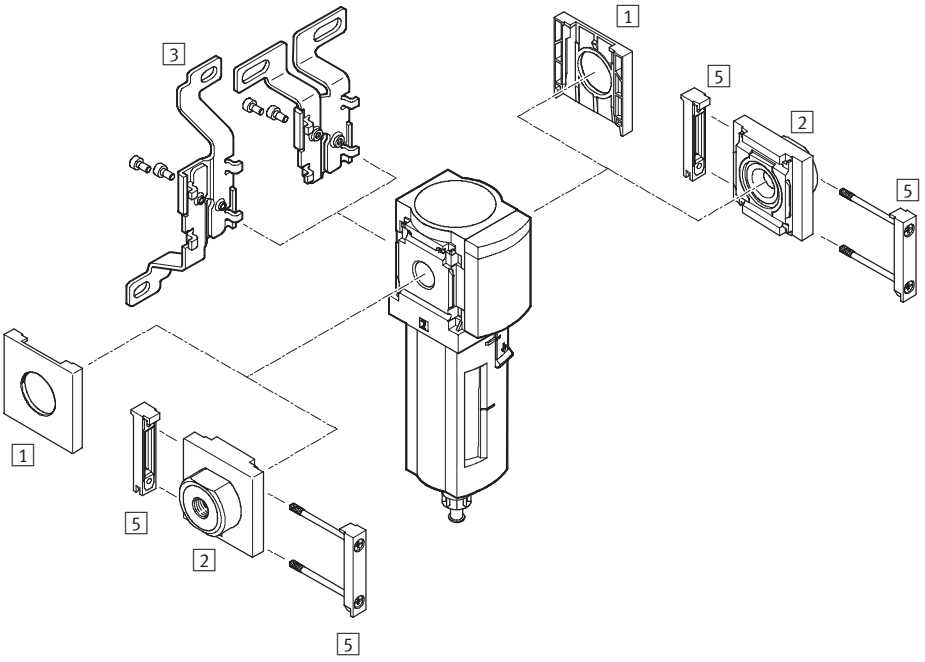
Grid dimension [mm]		62	Conditions	Code	Enter code
M	Part No.	**527673**			
	Series	Standard		**MS**	MS
	Size	6		**6**	6
	Thread	NPT thread		**N**	N
	Function	Activated carbon filter		**-LFX**	-LFX
	Connection size	Body thread ¼ NPT		**-¼**	
		Body thread ⅜ NPT		**-⅜**	
		Body thread ½ NPT		**-½**	
		Port plate ¼ NPT (dimensions → 860)		**-AQN**	
		Port plate ⅜ NPT (dimensions → 860)		**-AQP**	
		Port plate ½ NPT (dimensions → 860)		**-AQR**	
		Port plate ¾ NPT (dimensions → 860)		**-AQS**	
	Bowl	Plastic bowl with plastic bowl guard		**-R**	
		Metal bowl		**-U**	
O	Type of mounting	Mounting bracket (dimensions → 861)	[1]	**-WP**	
		Mounting bracket (dimensions → 861)	[1]	**-WPM**	
		Mounting bracket (dimensions → 858)		**-WB**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

[1] **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

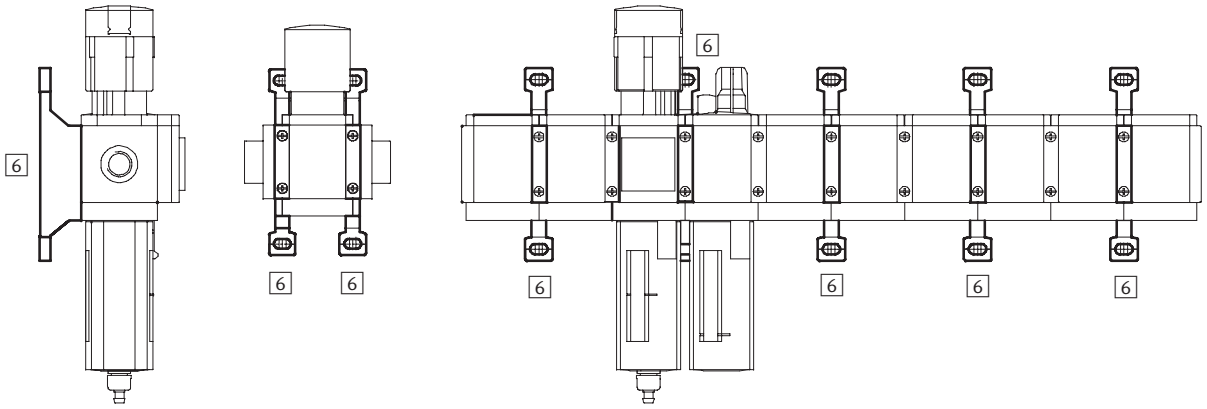
Transfer order code

527673	**MS**	**6**	**N** –	**LFX** –		–		–		–

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Active Carbon Filters MS6N-LFX – Inch Series

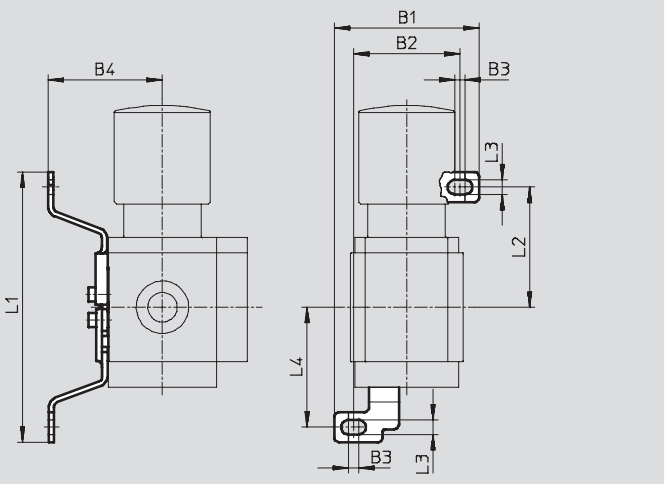
Accessories Overview

Mounting Attachments and Accessories					
	Single unit		Combination unit ➔ 3.1-49		➔ Page
	without port plate	with port plate	without port plate	with port plate	
1 Cover cap MS6-END	■	–	■	–	859
2 Port plate MS6N-AQ...	–	■	–	■	860
3 Mounting bracket MS6-WB	■	■	–	–	858
5 Body connector MS6-MV	–	■	■	■	860
6 Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	861

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

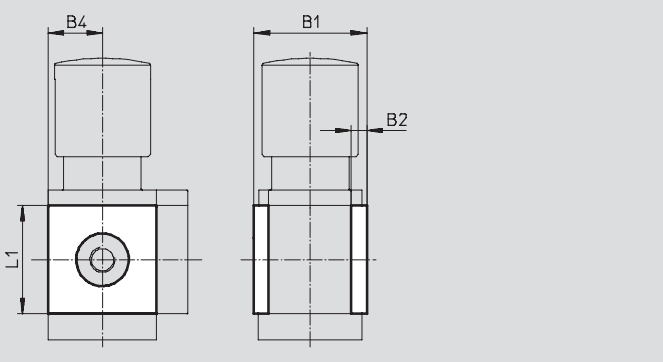
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.13	2.44	0.18	2.17	6.20	2.80	0.26	2.80	0.24	**532196**	**MS6-WB**

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

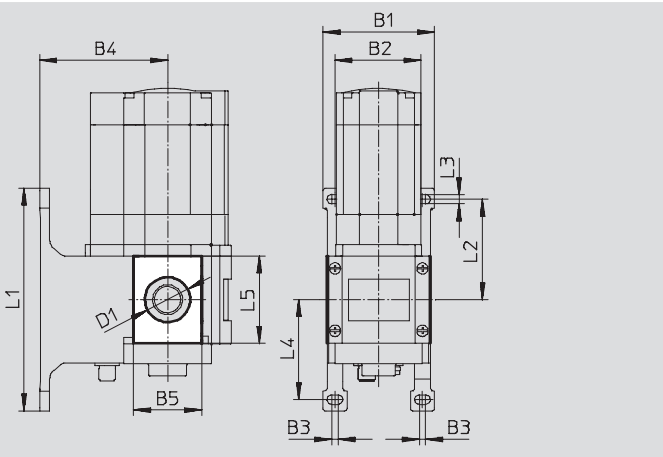
B1	B2	B4	L1	Part No.	Type
2.64	0.31	1.22	2.44	**538780**	**MS6-END**

Mounting plate MS6-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	**535408**	**MS6-AEND**

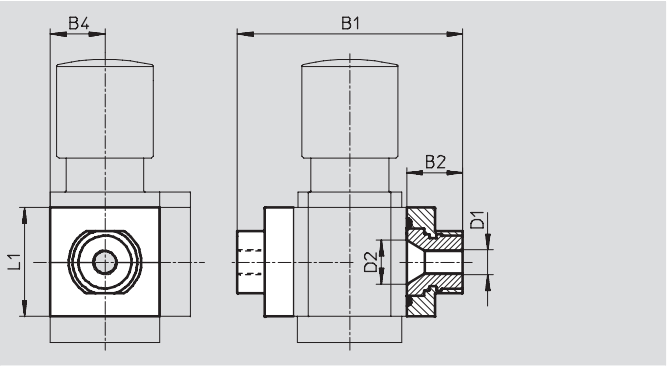
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6N-AQ...**

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection ¾ NPT

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	¼ NPT	0.94	2.44	0.60	**526076**	**MS6N-AQN**
			⅜ NPT				**526077**	**MS6N-AQP**
			½ NPT				**526078**	**MS6N-AQR**
			¾ NPT				**526079**	**MS6N-AQS**

5 **Body connector MS6-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

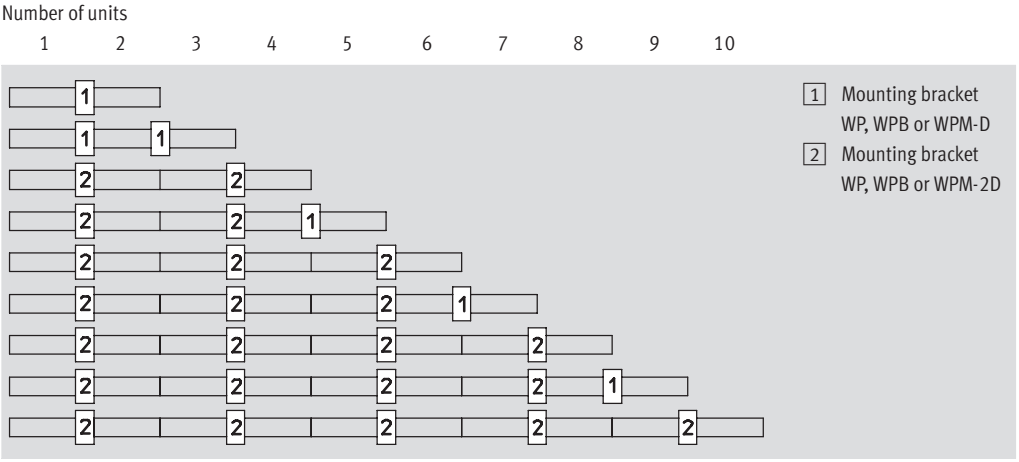
Weight [lb]	Part No.	Type
0.11	**532799**	**MS6-MV**

6 Mounting Bracket MS6-WP...

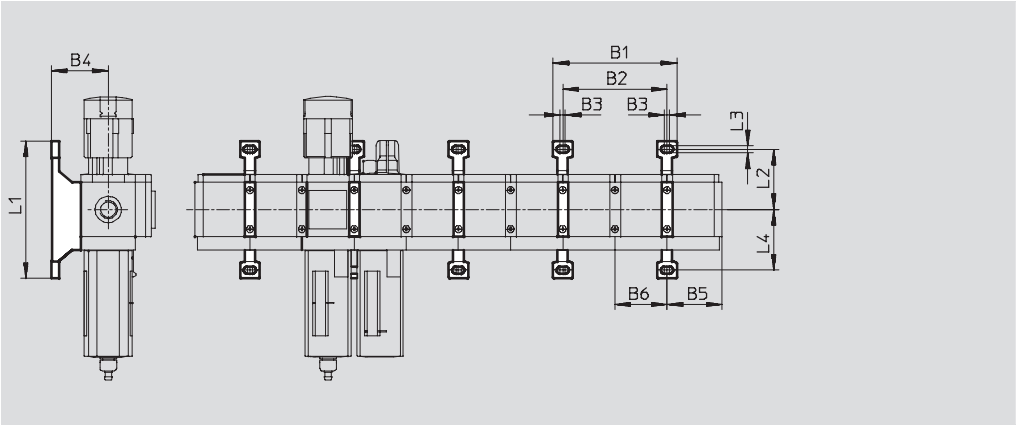
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WP, WPB
2.715 in with WPM-D

2 units: 4.88 in with WP, WPB
5.43 in with WPM-2D



Mounting dimensions



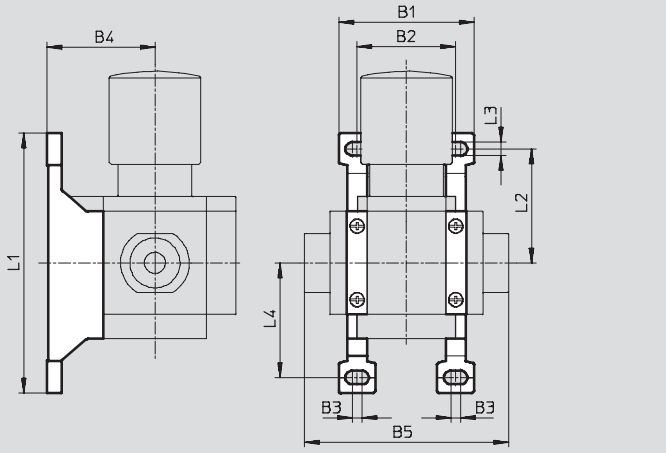
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	5.55	4.88	0.18	2.13	2.54	2.44	6.22	2.80	0.26	2.80
MS6-WPB				3.56						
MS6-WPM-...D	6.61	5.43	0.69	2.13	2.58	2.72	3.88	1.63		1.63

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

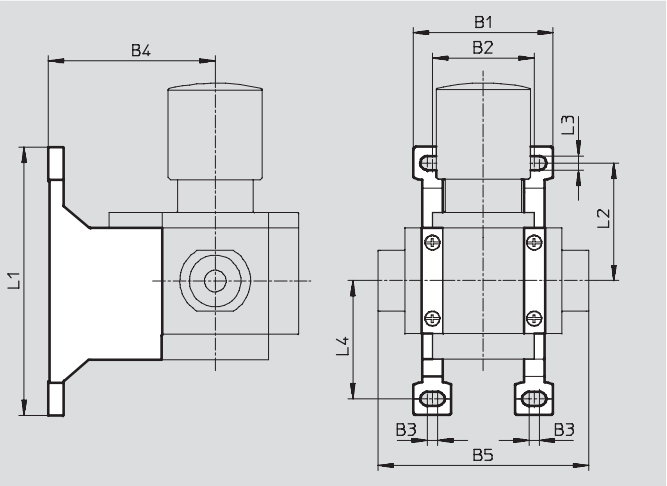
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	2.13	4.53	6.22	2.80	0.26	2.80	0.15	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	**526074**	**MS6-WPB**

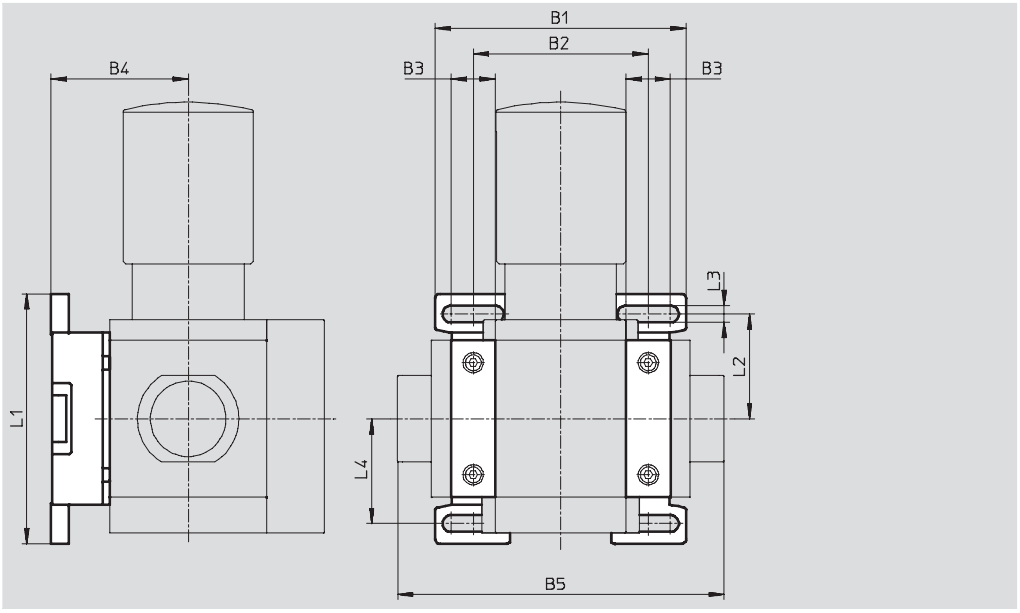
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
3.90	2.72	0.69	2.13	5.08	3.88	1.63	0.26	1.63	2.44	0.29	**526073**	**MS6-WPM-D**
6.61	5.43			7.80					4.88	0.31	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Active Carbon Filters MS6N-LFX – Inch Series

Replacement Parts



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS6	Residual oil content ≤ 0.003 mg/m^3	**532911**	**MS6-LFX**

- For spare parts go to: www.festo.com/en/spare_parts_service

Membrane Air Dryers MS6-LDM1 – Metric Series



Membrane air dryers remove water vapor from the compressed air and lower the dew point preventing moisture from forming downstream. Pre-filtration with a grade of 0.01 micron is required.

- Pneumatic connection: G¼, G⅜, G½, G¾
- Pressure dew point reduction: 20 K
- Supply pressure: 3 ... 12.5 bar
- Flow rate: 200 ... 400 l/min

Product Range Overview

Type	Flow rate [l/min]	Pneumatic connections		Bowl guard		Reverse flow
		Body thread	Port plate	Plastic bowl guard	Metal bowl	Flow direction from right to left
MS6			**AG...**	**R**	**U**	**Z**
LDM1	200 ... 400	G¼, G⅜, G½	G¼, G⅜, G½, G¾	–	■	■

Features

- Optimum final dryer with excellent operational reliability
- Suitable for use as an individual unit or for integration in existing service unit combinations
- Flow rate-dependent dew point reduction
- Wear-free function requiring no external energy
- 15% purge air flow rate
- Optional purge ring for ducting of purging air

Typical areas of application:
- Drying, cleaning of precision parts
- Measuring technology
- Rinsing of precision glass scales
- Painting systems
- Paper and packaging machines

Contents

Technical Data → 866
Dimensional Drawings → 869
Ordering Data → 869
Accessories → 871

→ www.festo.com/catalog/ms6-ldm

Membrane Air Dryers MS6-LDM1 – Metric Series

Technical Data

ISO Symbol



Note
Prefiltration of the compressed air using a micro filter MS-LFM-A, filtration grade 0.01 µm (residual particles < 0.1 µm, residual oil content < 0.1 mg/m^3) is vital for flawless functioning of the unit.



General Technical Data				
Pneumatic connection 1, 2		G¼	G⅜	G½
Pressure dew point reduction	[K]	20		
Supply pressure	[bar]	3 ... 12.5		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Flow Rate qn[1] [l/min]			
	Cartridge P20	Cartridge P30	Cartridge P40
Input $q_{n\ In}$	235	353	471
Output $q_{n\ Out}$	200	300	400
Purge air $q_{n\ Purge}$	35.3	52.9	70.6

1) Measured at p_1 = 6.9 bar, $\vartheta_{pd\ In}$ = 25 °C, $\vartheta_{pd\ Out}$ = 5 °C ± 1.5 °C ($\vartheta_{pA\ Out}$ = −21.5 °C ± 1.2 °C), ϑ_{amb} = 25 °C

Operating and Environmental Conditions		
Operating medium		Compressed air, air quality class 1.7.2 to DIN ISO 8573-1
Ambient temperature	[°C]	+2 ... +50
Temperature of medium	[°C]	+2 ... +50
Storage temperature	[°C]	−20 ... +60
Assembly position		Vertical ±5°
Corrosion resistance class	CRC[2]	2

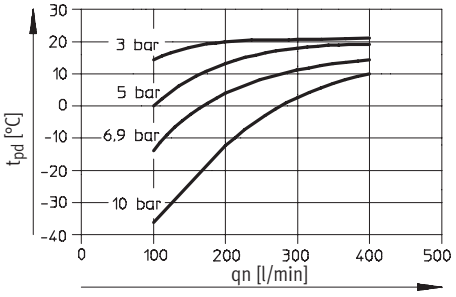
2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]			
	Cartridge P20	Cartridge P30	Cartridge P40
Membrane air dryer	1,050	1,200	1,300

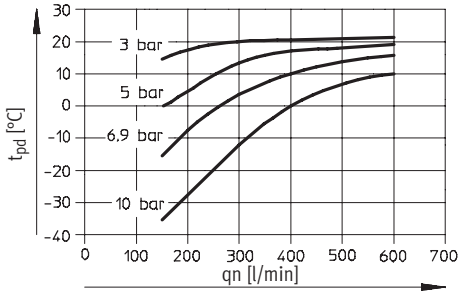
- For spare parts go to: www.festo.com/en/spare_parts_service

Pressure Dew Point t_{pd} (Output) as a Function of the Standard Flow Rate at Output qn

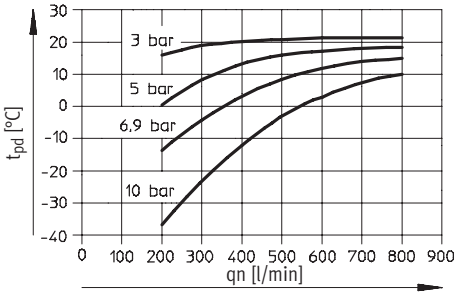
MS6-LDM1-...-P20



MS6-LDM1-...-P30

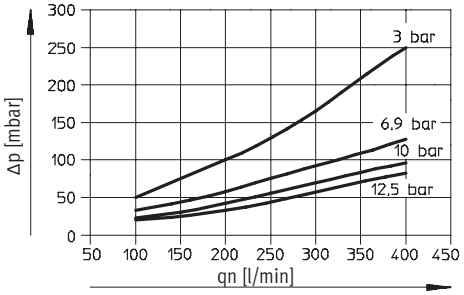


MS6-LDM1-...-P40

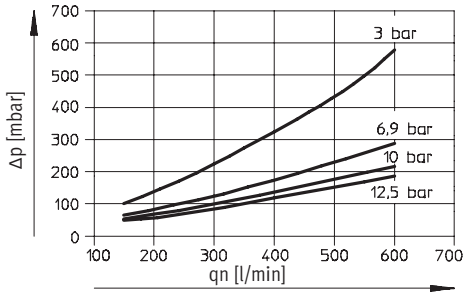


Differential Pressure Δp as a Function of the Standard Flow Rate at Output qn

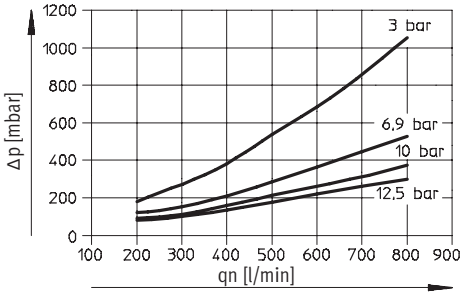
MS6-LDM1-...-P20



MS6-LDM1-...-P30

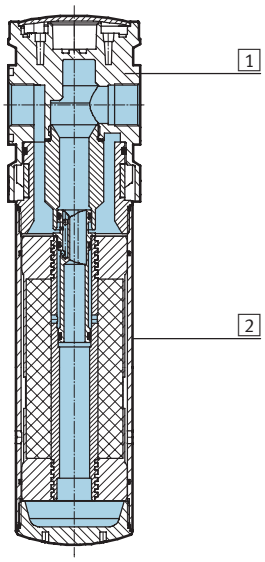


MS6-LDM1-...-P40



Materials

Sectional view

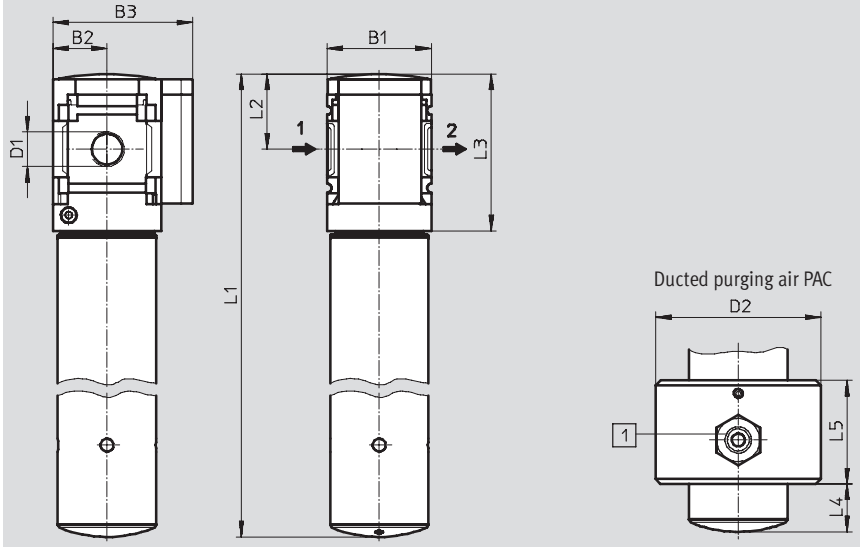


Membrane air dryer		
1	Housing	Die-cast aluminum
2	Bowl	Wrought aluminum alloy
–	Seals	Nitrile rubber

Membrane Air Dryers MS6-LDM1 – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**



[1] Push-in fitting QS-¼-10 (included in scope of delivery), for tubing with outside diameter of 10 mm and min. inside diameter of 7 mm.

➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS6-LDM1-¼-P20	62	31	76	G¼	80	345	42	87	34	40
MS6-LDM1-¼-P30						415				
MS6-LDM1-¼-P40						475				
MS6-LDM1-⅜-P20	62	31	76	G⅜	80	345	42	87	34	40
MS6-LDM1-⅜-P30						415				
MS6-LDM1-⅜-P40						475				
MS6-LDM1-½-P20	62	31	76	G½	80	345	42	87	34	40
MS6-LDM1-½-P30						415				
MS6-LDM1-½-P40						475				

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Flow cartridge	Connection	Part No.	Type	LT
P20	G¼	**543640**	**MS6-LDM1-¼-P20**	Q
	G⅜	**543642**	**MS6-LDM1-⅜-P20**	Q
	G½	**543644**	**MS6-LDM1-½-P20**	Q
P40	G¼	**543646**	**MS6-LDM1-¼-P40**	Q
	G⅜	**543648**	**MS6-LDM1-⅜-P40**	Q
	G½	**543650**	**MS6-LDM1-½-P40**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Membrane Air Dryers MS6-LDM1 – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options		
Part No.	Series	Size	Function	Connection size	Flow cartridge		Purging air	Type of mounting	Reverse flow direction
543638	MS	6	LDM1	¼, ⅜, ½, AGB, AGC, AGD, AGE	P20 P30 P40		PAC	WP WPM WB	Z
Order example									
543638	**MS**	**6**	**– LDM1**	**– AGC**	**– P20**	**–**		**– WP**	**–**

Ordering Table

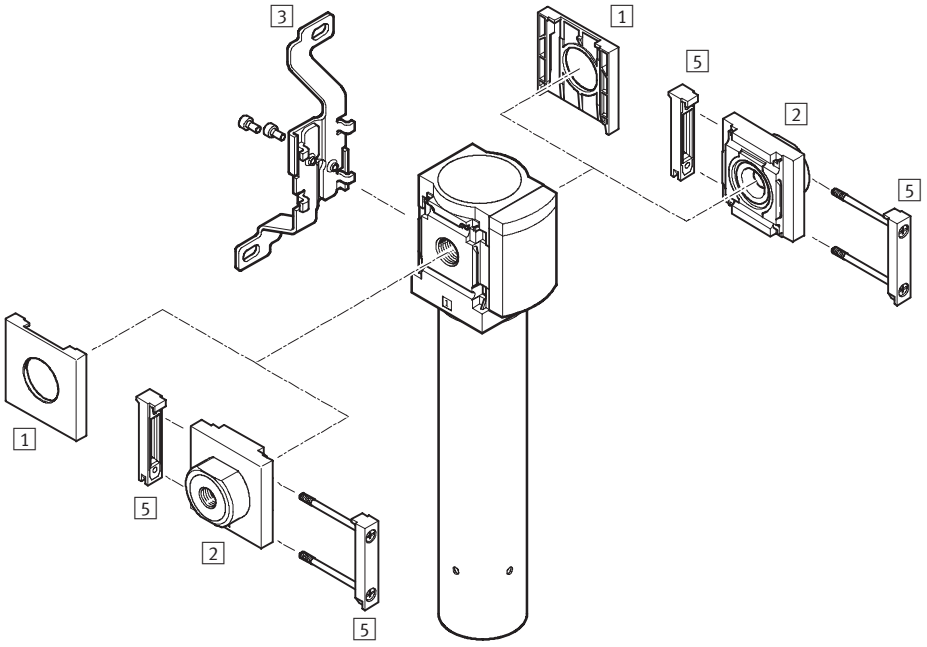
Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**543638**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Function	Membrane dryer		**-LDM1**		-LDM1
	Connection size	Body thread G¼		**-¼**		
		Body thread G⅜		**-⅜**		
		Body thread G½		**-½**		
		Port plate G¼ (dimensions ➔ 875)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 875)		**-AGC**		
		Port plate G½ (dimensions ➔ 875)		**-AGD**		
		Port plate G¾ (dimensions ➔ 875)		**-AGE**		
	Flow cartridge	200 l/min		**-P20**		
		300 l/min		**-P30**		
		400 l/min		**-P40**		
O	Purging air	Ducted purging air		**-PAC**		
	Type of mounting	Mounting bracket (dimensions ➔ 876)	1	**-WP**		
		Mounting bracket (dimensions ➔ 876)	1	**-WPM**		
		Mounting bracket (dimensions ➔ 873)		**-WB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

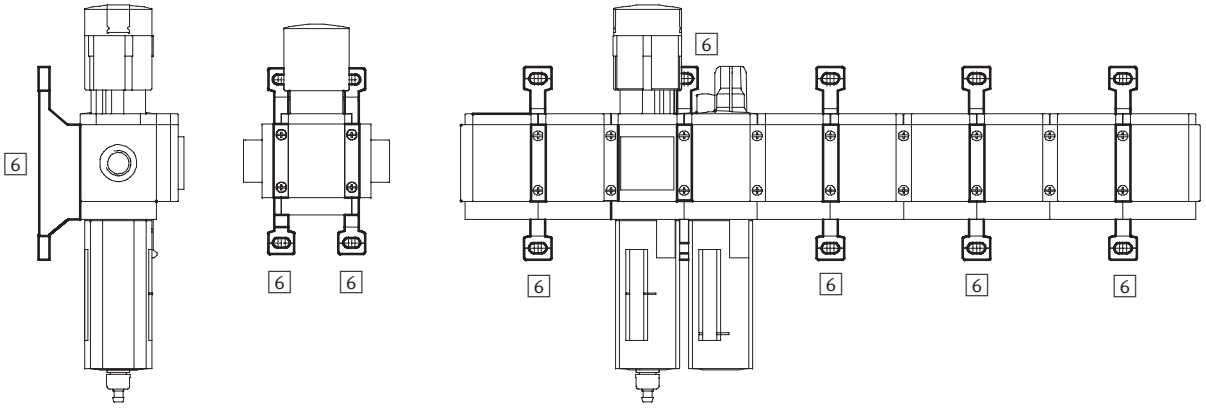
Transfer order code

543638	**MS**	**6**	**–**	**LDM1**	**–**		**–**		**–**		**–**		**–**	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Membrane Air Dryers MS6-LDM1 – Metric Series

Accessories Overview

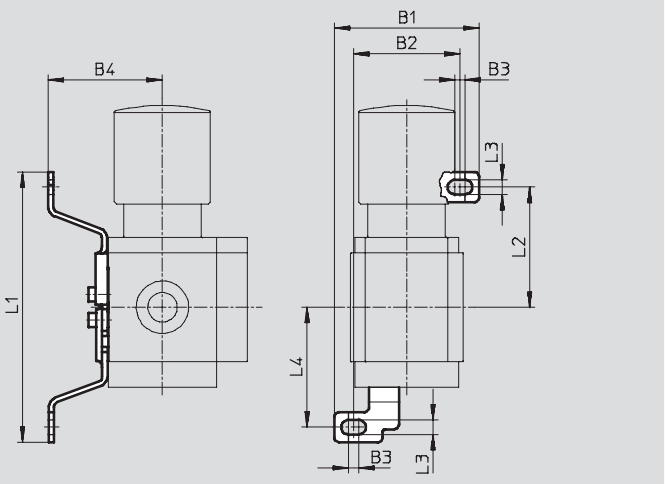
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	874
2	Port plate MS6-AG...	–	■	–	■	875
3	Mounting bracket MS6-WB	■	■	–	–	873
5	Body connector MS6-MV	–	■	■	■	875
6	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	876

3 **Mounting bracket MS6-WB**

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

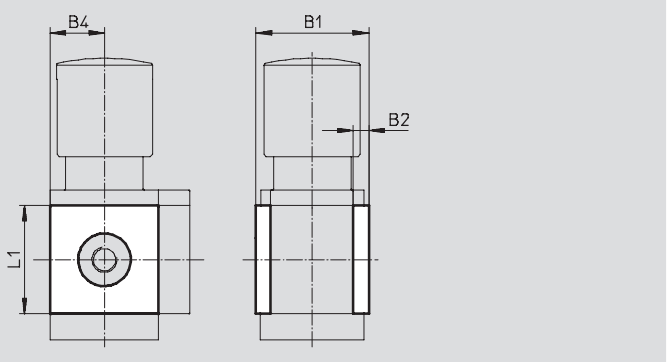
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
79.4	61.9	4.5	55	157.6	71	6.6	71	121	**532196**	**MS6-WB**

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

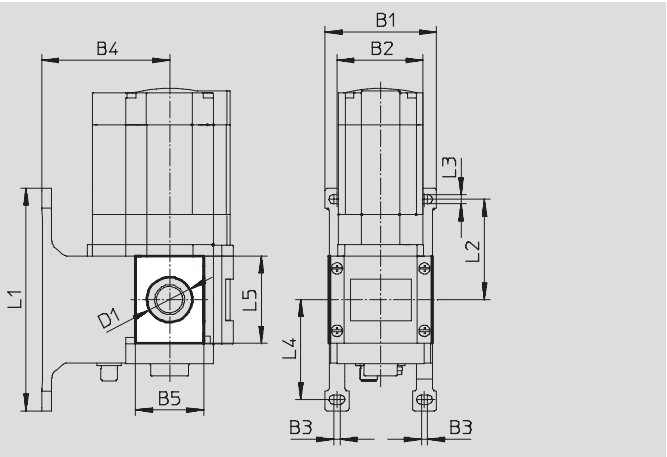
B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535408**	**MS6-AEND**

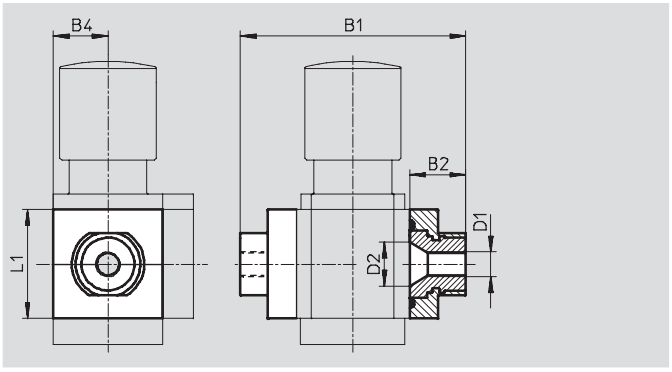
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6-AG...**

- Adapter for pneumatic connection

Material:
Aluminum





Dimensions and Ordering Data								
B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G1¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

5 **Body connector MS...-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



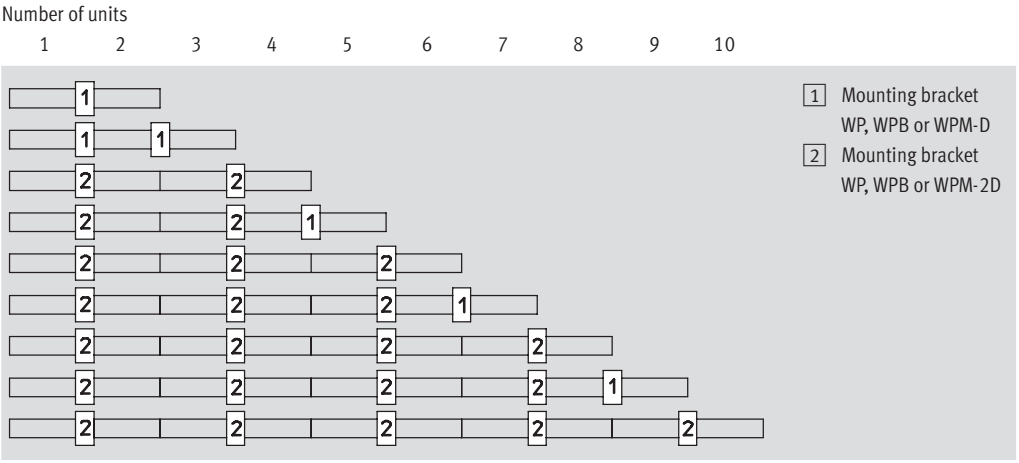
Ordering Data		
Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

6 Mounting Bracket MS6-WP...

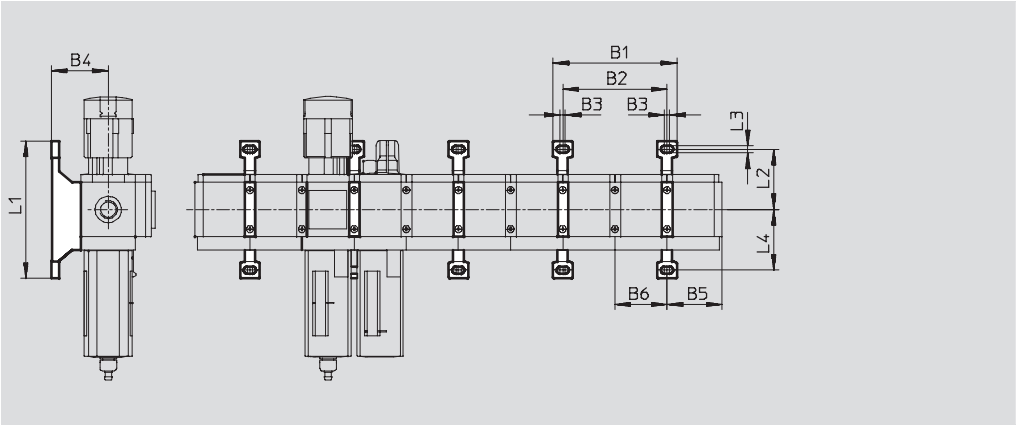
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WP, WPB
69 mm with WPM-D

2 units: 124 mm with WP, WPB
138 mm with WPM-2D



Mounting dimensions



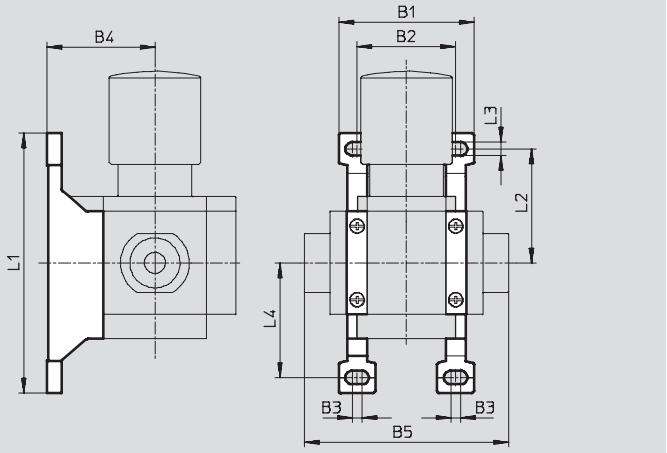
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

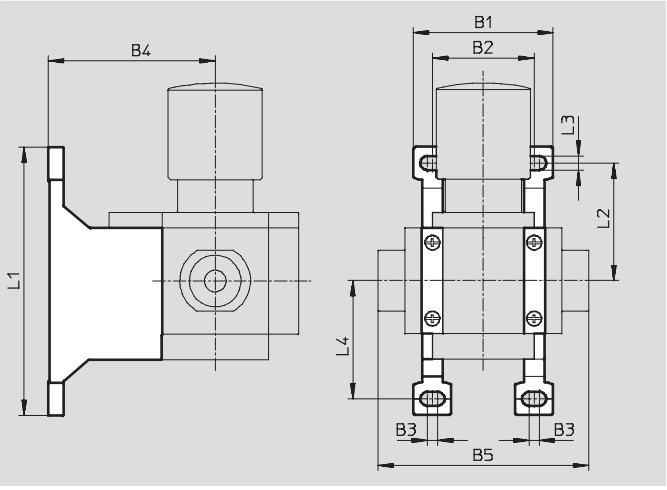
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	54	115	158	71	6.6	71	76	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

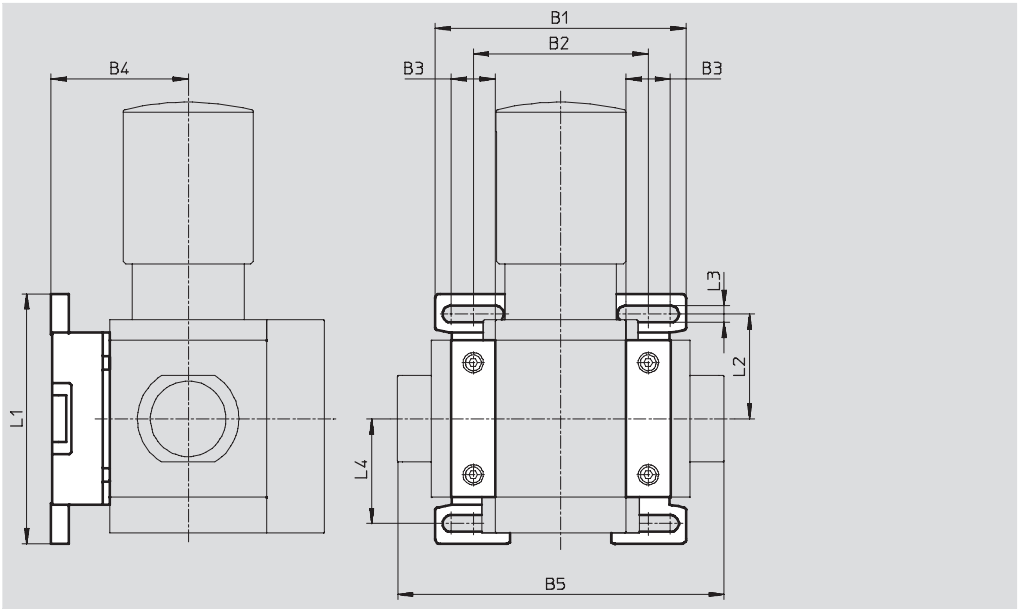
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	**526073**	**MS6-WPM-D**
168	138			198					124	154	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Membrane Air Dryers MS6N-LDM1 – Inch Series



Membrane air dryers remove water vapor from the compressed air and lower the dew point preventing moisture from forming downstream. Pre-filtration with a grade of 0.01 micron is required.

- Pneumatic connection: ¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT
- Pressure dew point reduction: 20 K
- Supply pressure: 44 … 184 psi
- Flow rate: 7.1 … 14.1 scfm

Product Range Overview

Type	Flow rate [scfm]	Pneumatic connections		Bowl guard		Reverse flow
		Body thread	Port plate	Plastic bowl guard	Metal bowl	Flow direction from right to left
MS6N			**AG…**	**R**	**U**	**Z**
LDM1	7.1 … 14.1	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	–	■	■

Features

- Optimum final dryer with excellent operational reliability
- Suitable for use as an individual unit or for integration in existing service unit combinations
- Flow rate-dependent dew point reduction
- Wear-free function requiring no external energy
- 15% purge air flow rate
- Optional purge ring for ducting of purging air

Typical areas of application:
- Drying, cleaning of precision parts
- Measuring technology
- Rinsing of precision glass scales
- Painting systems
- Paper and packaging machines

Contents

Technical Data	→ 880
Dimensional Drawings	→ 883
Ordering Data	→ 883
Accessories	→ 885

→ www.festo.com/catalog/ms6n-ldm

Membrane Air Dryers MS6N-LDM1 – Inch Series

Technical Data

ISO Symbol



Note

Prefiltration of the compressed air using a micro filter MS-LFM-A, filtration grade 0.01 µm (residual particles < 0.1 µm, residual oil content < 0.1 mg/m³) is vital for flawless functioning of the unit.



General Technical Data				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Pressure dew point reduction	[°F]	68		
Supply pressure	[psi]	44 ... 184		

Standard Flow Rate qn[1] [scfm]			
	Cartridge P20	Cartridge P30	Cartridge P40
Input $q_{n\ In}$	8.3	12.5	16.6
Output $q_{n\ Out}$	7.1	10.6	14.1
Purge air $q_{n\ Purge}$	1.2	1.9	2.5

1) Measured at p_1 = 102 psi, $\vartheta_{pd\ In}$ = 77 °F, $\vartheta_{pd\ Out}$ = 41 °F ± 3 °F ($\vartheta_{pA\ Out}$ = −7 °F ± 2 °F), ϑ_{amb} = 77 °F

Operating and Environmental Conditions		
Operating medium		Compressed air, air quality class 1.7.2 to DIN ISO 8573-1
Ambient temperature	[°F]	36 ... 122
Temperature of medium	[°F]	36 ... 122
Storage temperature	[°F]	−4 ... 140
Assembly position		Vertical ±5°
Corrosion resistance class	CRC[2]	2

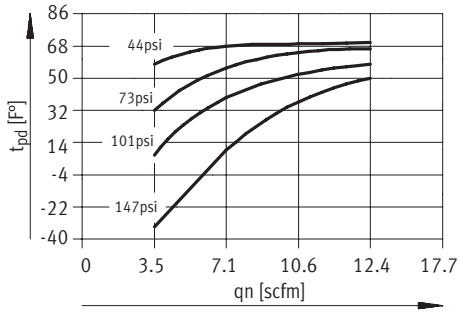
2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]			
	Cartridge P20	Cartridge P30	Cartridge P40
Membrane air dryer	2.10	2.40	2.60

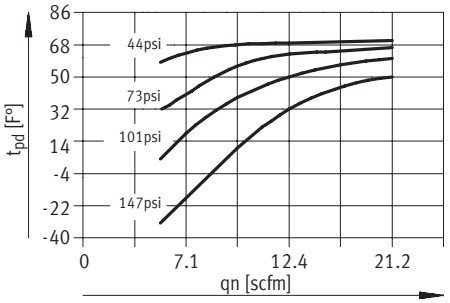
- For spare parts go to: www.festo.com/en/spare_parts_service

Pressure Dew Point t_{pd} (Output) as a Function of the Standard Flow Rate at Output qn

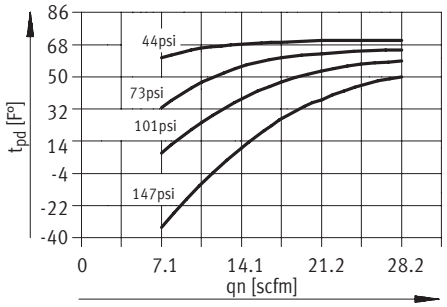
MS6N-LDM1-...-P20



MS6N-LDM1-...-P30

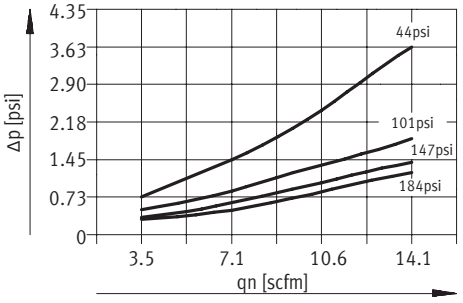


MS6N-LDM1-...-P40

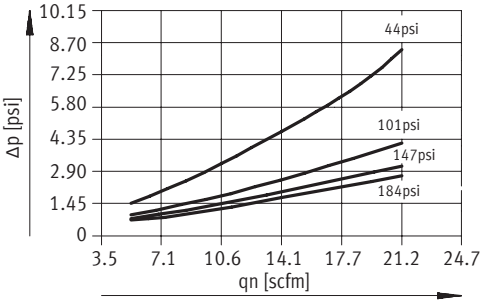


Differential Pressure Δp as a Function of the Standard Flow Rate at Output qn

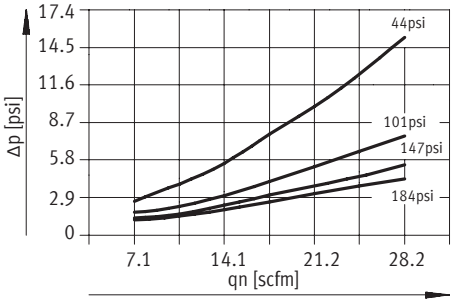
MS6N-LDM1-...-P20



MS6N-LDM1-...-P30



MS6N-LDM1-...-P40



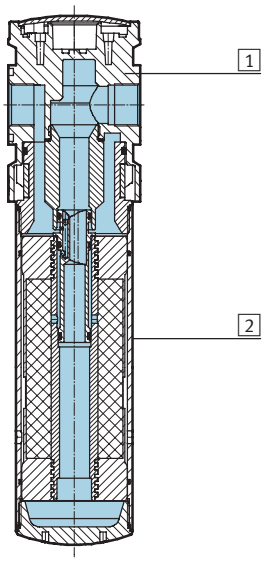
Membrane Air Dryers MS6N-LDM1 – Inch Series

Technical Data

FESTO

Materials

Sectional view

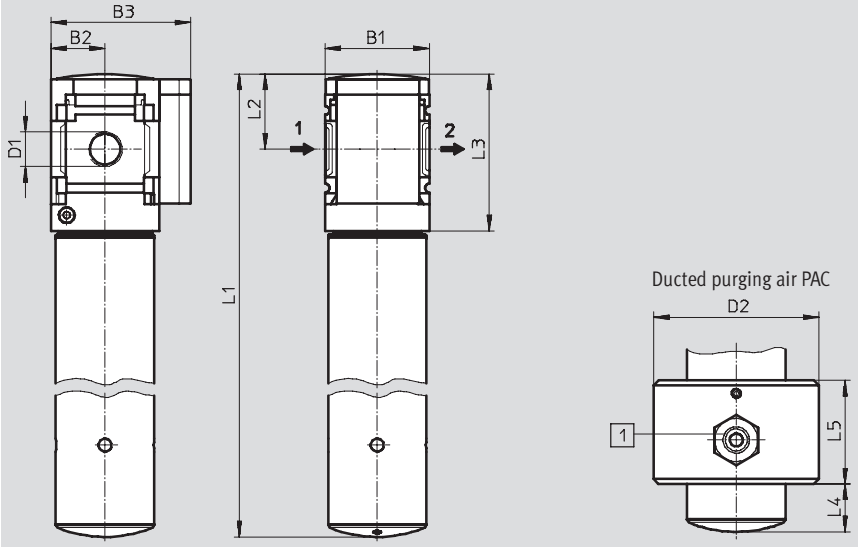


Membrane air dryer		
1	Housing	Die-cast aluminum
2	Bowl	Wrought aluminum alloy
–	Seals	Nitrile rubber

Membrane Air Dryers MS6N-LDM1 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

Dimensions[1)] Download CAD Data ➔ **www.festo.com/us/cad**



1 Push-in fitting QS-¼-10 (included in scope of delivery), for tubing with outside diameter of 0.39 in and min. inside diameter of 0.28 in.

➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS6N-LDM1-¼-P20	2.44	1.22	2.99	¼ NPT	3.15	13.58	1.65	3.43	1.34	1.57
MS6N-LDM1-¼-P30						16.34				
MS6N-LDM1-¼-P40						18.70				
MS6N-LDM1-⅜-P20	2.44	1.22	2.99	⅜ NPT	3.15	13.58	1.65	3.43	1.34	1.57
MS6N-LDM1-⅜-P30						16.34				
MS6N-LDM1-⅜-P40						18.70				
MS6N-LDM1-½-P20	2.44	1.22	2.99	½ NPT	3.15	13.58	1.65	3.43	1.34	1.57
MS6N-LDM1-½-P30						16.34				
MS6N-LDM1-½-P40						18.70				

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Flow cartridge	Connection	Part No.	Type	LT
P20	¼ NPT	**543652**	**MS6N-LDM1-¼-P20**	Q
	⅜ NPT	**543654**	**MS6N-LDM1-⅜-P20**	Q
	½ NPT	**543656**	**MS6N-LDM1-½-P20**	Q
P40	¼ NPT	**543658**	**MS6N-LDM1-¼-P40**	Q
	⅜ NPT	**543660**	**MS6N-LDM1-⅜-P40**	Q
	½ NPT	**543662**	**MS6N-LDM1-½-P40**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Membrane Air Dryers MS6N-LDM1 – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options		
Part No.	Series	Size	Thread	Function	Connection size	Flow cartridge	Purging air	Type of mounting	Reverse flow direction
543639	MS	6	N	LDM1	¼, ⅜, ½, AQN, AQP, AQR, AQS	P20 P30 P40	PAC	WP WPM WB	Z
Order example									
543639	**MS**	**6**	**N**	**LDM1**	**AQP**	**P20**		**WP**	

Ordering Table

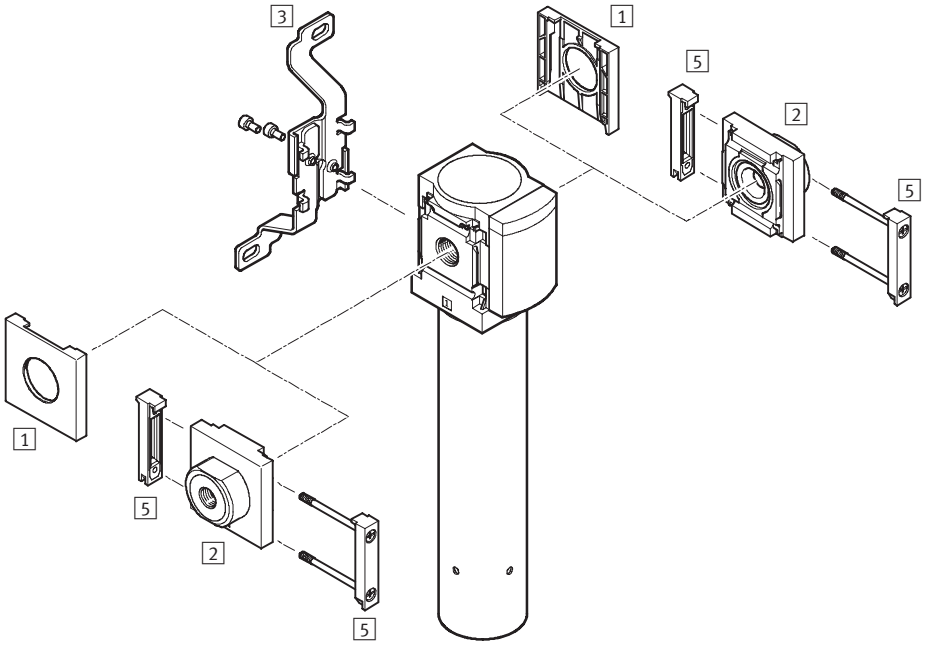
Grid dimension [mm]		62	Conditions	Code	Enter code
M	Part No.	**543639**			
	Series	Standard		**MS**	MS
	Size	6		**6**	6
	Thread	NPT thread		**N**	N
	Function	Membrane dryer		**-LDM1**	-LDM1
	Connection size	Body thread ¼ NPT		**-¼**	
		Body thread ⅜ NPT		**-⅜**	
		Body thread ½ NPT		**-½**	
		Port plate ¼ NPT (dimensions → 889)		**-AQN**	
		Port plate ⅜ NPT (dimensions → 889)		**-AQP**	
		Port plate ½ NPT (dimensions → 889)		**-AQR**	
		Port plate ¾ NPT (dimensions → 889)		**-AQS**	
	Flow cartridge	7.1 scfm		**-P20**	
		10.6 scfm		**-P30**	
		14.1 scfm		**-P40**	
O	Purging air	Ducted purging air		**-PAC**	
	Type of mounting	Mounting bracket (dimensions → 890)	1	**-WP**	
		Mounting bracket (dimensions → 890)	1	**-WPM**	
		Mounting bracket (dimensions → 887)		**-WB**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

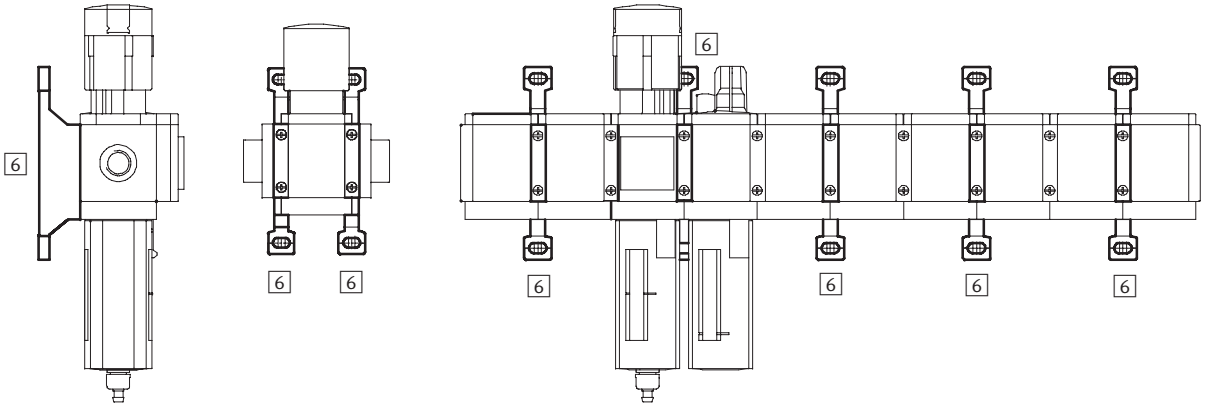
Transfer order code

543639	**MS**	**6**	**N**	–	**LDM1**	–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Membrane Air Dryers MS6N-LDM1 – Inch Series

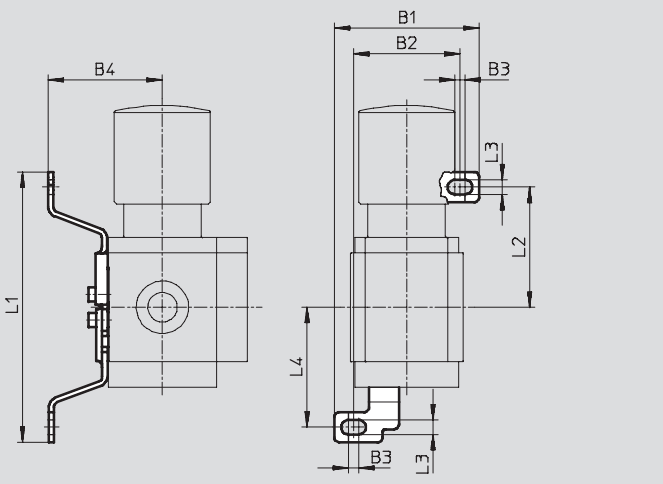
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	888
2	Port plate MS6N-AQ...	–	■	–	■	889
3	Mounting bracket MS6-WB	■	■	–	–	887
5	Body connector MS6-MV	–	■	■	■	889
6	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	890

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

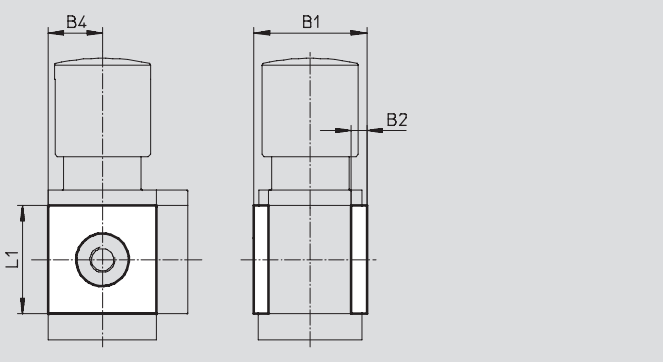
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.13	2.44	0.18	2.17	6.20	2.80	0.26	2.80	0.24	**532196**	**MS6-WB**

1 **Cover cap MS6-END**

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

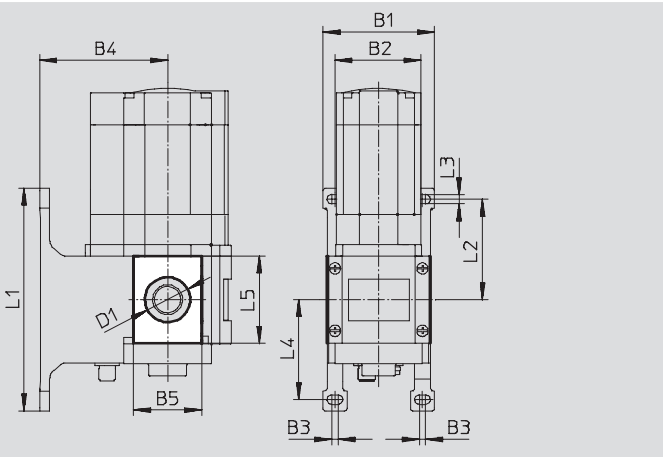
B1	B2	B4	L1	Part No.	Type
2.64	0.31	1.22	2.44	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	**535408**	**MS6-AEND**

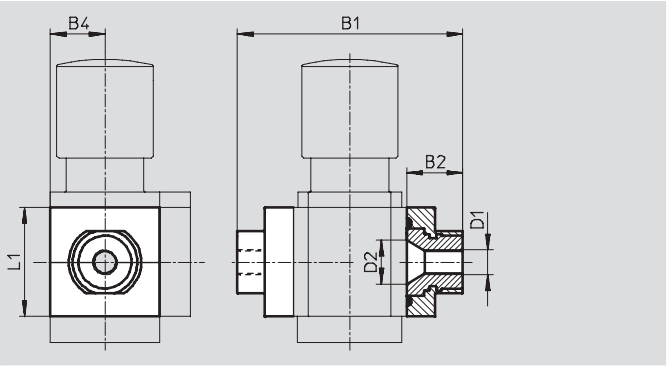
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6N-AQ...**

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection ¾ NPT

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	¼ NPT	0.94	2.44	0.60	**526076**	**MS6N-AQN**
			⅜ NPT				**526077**	**MS6N-AQP**
			½ NPT				**526078**	**MS6N-AQR**
			¾ NPT				**526079**	**MS6N-AQS**

5 **Body connector MS...-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

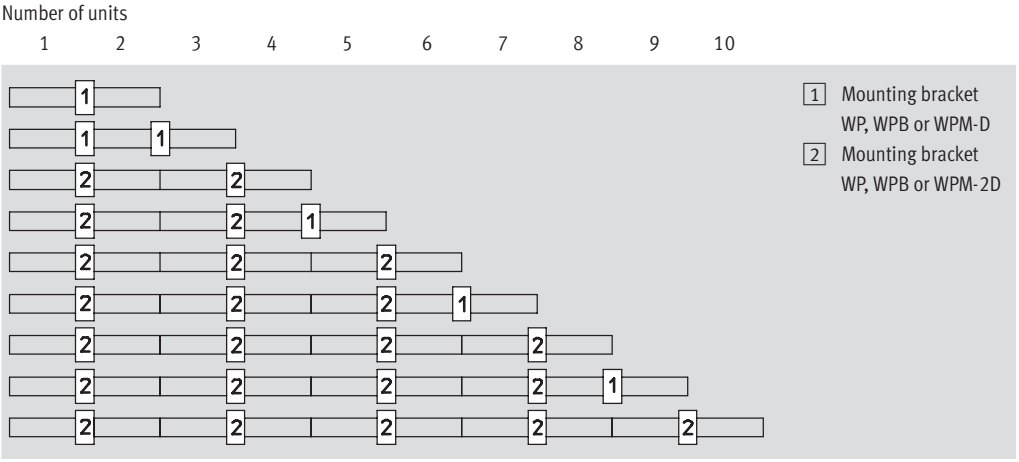
Weight [lb]	Part No.	Type
0.11	**532799**	**MS6-MV**

6 Mounting Bracket MS6-WP...

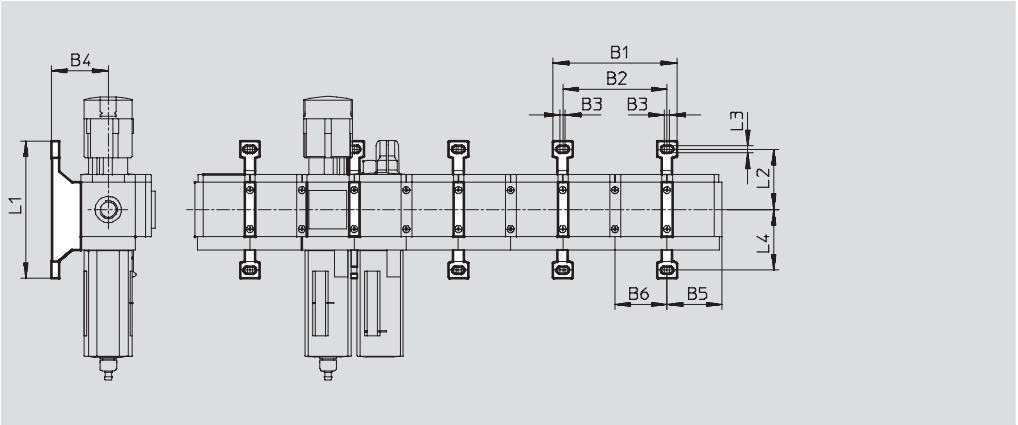
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WP, WPB
2.715 in with WPM-D

2 units: 4.88 in with WP, WPB
5.43 in with WPM-2D



Mounting dimensions



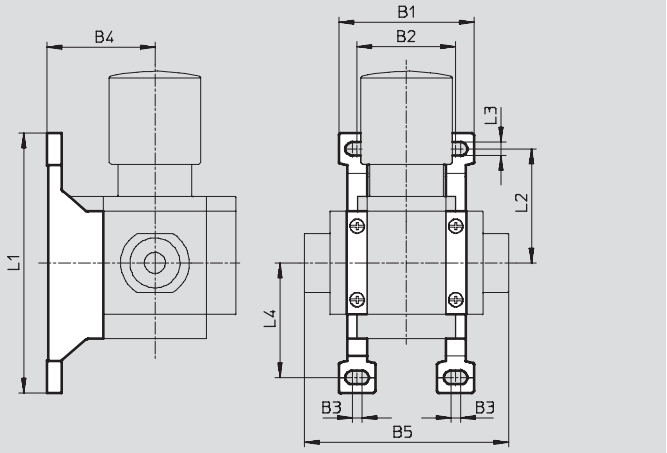
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	5.55	4.88	0.18	2.13	2.54	2.44	6.22	2.80	0.26	2.80
MS6-WPB				3.56						
MS6-WPM-...D	6.61	5.43	0.69	2.13	2.58	2.72	3.88	1.63		1.63

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

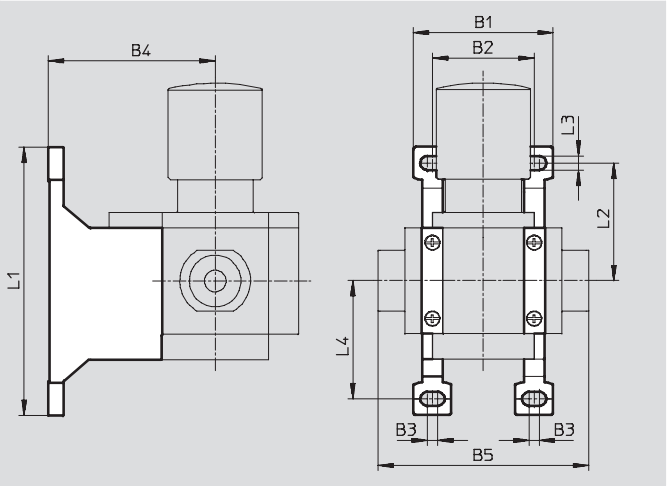
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	2.13	4.53	6.22	2.80	0.26	2.80	0.15	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	**526074**	**MS6-WPB**

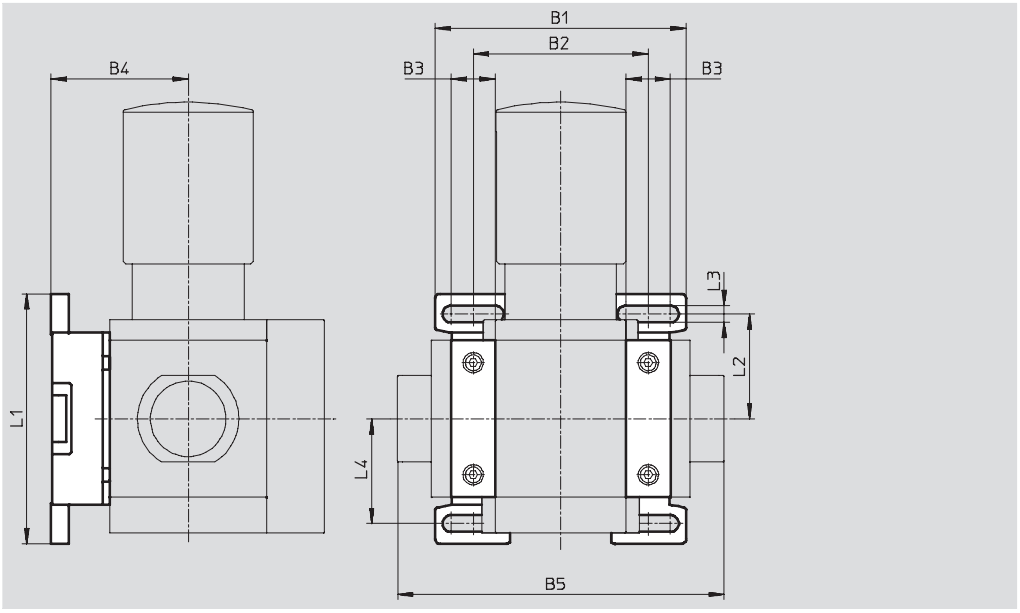
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
3.90	2.72	0.69	2.13	5.08	3.88	1.63	0.24	1.63	2.44	0.29	**526073**	**MS6-WPM-D**
6.61	5.43			7.80					4.88	0.31	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Lubricators MS6-LOE – Metric Series



The proportional lubricator adds a precision adjustable quantity of oil to the compressed air stream. The pressure drop that occurs when air flows through a Venturi nozzle is used to convey oil from the container to the drip cap. From here, the oil drips into the air duct directly behind the proportional valve, where it is atomized. The oil mist component is proportional to the compressed air flow rate.

- Pneumatic connection: G¼, G⅜, G½, G¾
- Supply pressure: 1 ... 16 bar
- Flow rate: 2,500 ... 7,200 l/min

Product Range Overview

Type	Flow rate [l/min]	Pneumatic connections		Bowl guard		Reverse flow
		Body thread	Port plate	Plastic bowl guard	Metal bowl	Flow direction from right to left
MS6			**AG...**	**R**	**U**	**Z**
LOE	2,500 ... 7,200	G¼, G⅜, G½	G¼, G⅜, G½, G¾	■	■	■

Features

- Proportional lubricator with precision oil metering
- Reduces wear on drive units subject to high loading
- High flow rate
- Quick and easy oil top-up even during operation (under pressure)

The following oils are recommended for Festo components:
Viscosity range to ISO 3448, ISO class VG 32
32 mm^2/s (= cSt) at 40°C

- Festo special oil OFSW-32 → 906
- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32

Contents

Technical Data → 894
Dimensional Drawings → 896
Ordering Data → 896
Accessories → 898

→ www.festo.com/catalog/ms6-loe

Lubricators MS6-LOE – Metric Series

Technical Data

ISO Symbol





General Technical Data				
Pneumatic connection 1, 2		G¼	G⅜	G½
Supply pressure	[bar]	1 ... 16		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN [l/min]			
Pneumatic connection 1, 2	G¼	G⅜	G½
In main flow direction 1 → 2	2,500	5,300	7,200

Operating and Environmental Conditions		
Minimum flow for lubricator operation	[l/min]	50
Operating medium		Filtered compressed air, filtration grade 40 µm
Max. oil capacity	[cm^3]	75 (with plastic bowl guard) 80 (with metal bowl)
Bowl guard		Plastic bowl guard
		Metal bowl
Ambient temperature	[°C]	0 ... +60
Temperature of medium	[°C]	0 ... +60
Storage temperature	[°C]	–10 ... +60
Assembly position		Vertical ±5°
Corrosion resistance	CRC[1)]	2

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With plastic bowl guard	600
With metal bowl	810

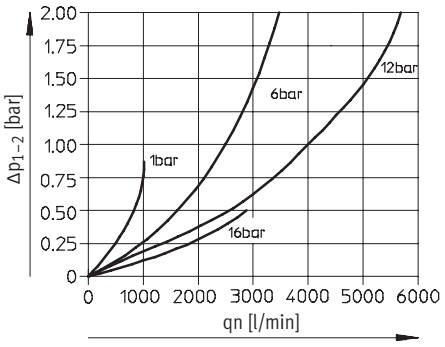
- For spare parts go to: www.festo.com/en/spare_parts_service

Lubricators MS6-LOE – Metric Series

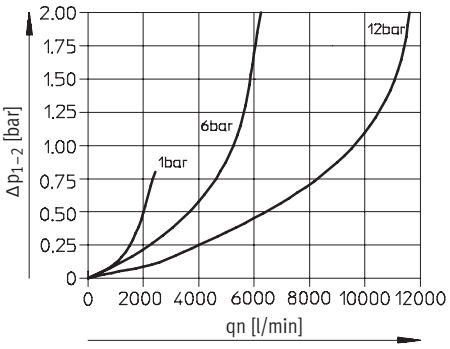
Technical Data

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

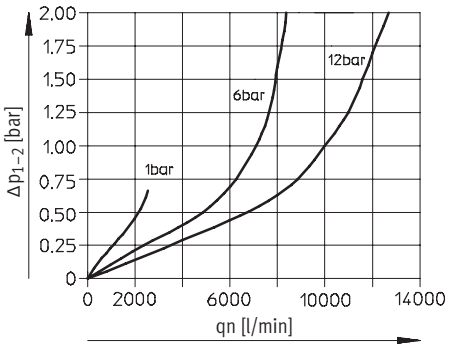
MS6-LOE-¼



MS6-LOE-⅜

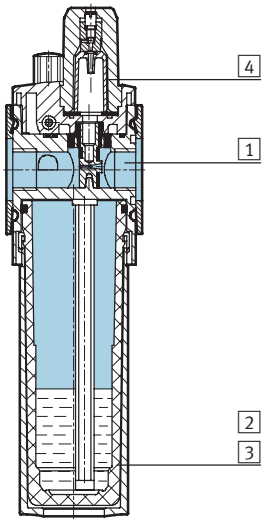


MS6-LOE-½



Materials

Sectional view



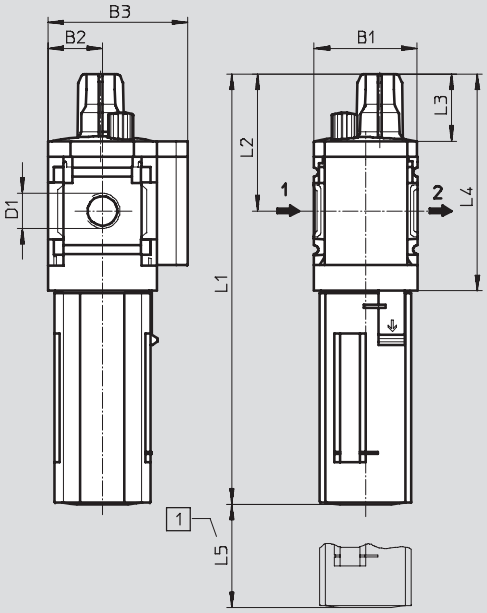
Lubricators		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Lubricator dome	Polycarbonate
–	Seals	Nitrile rubber

Lubricators MS6-LOE – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L4	L5
					Plastic	Metal				
MS6-LOE-¼	62	31	76	G¼	215.7	222	66	27	111	130
MS6-LOE-⅜				G⅜						
MS6-LOE-½				G½						

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Connection	Plastic bowl with plastic bowl guard				Metal bowl		
	Part No.	Type	LT		Part No.	Type	LT
G¼	**529779**	**MS6-LOE-¼-R**	1D		**529781**	**MS6-LOE-¼-U**	Q
G⅜	**529783**	**MS6-LOE-⅜-R**	1D		**529785**	**MS6-LOE-⅜-U**	Q
G½	**529775**	**MS6-LOE-½-R**	1D		**529777**	**MS6-LOE-½-U**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Lubricators MS6-LOE – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options	
Part No.	Series	Size	Function	Connection size	Bowl		Type of mounting	Reverse flow direction
527674	MS	6	LOE	¼, ⅜, ½, AGB, AGC, AGD, AGE	R U		WP WPM WB	Z
Order example								
527674	**MS**	**6**	**–** **LOE**	**–** **AGB**	**–** **R**	**–**	**WP**	**–** **Z**

Ordering Table

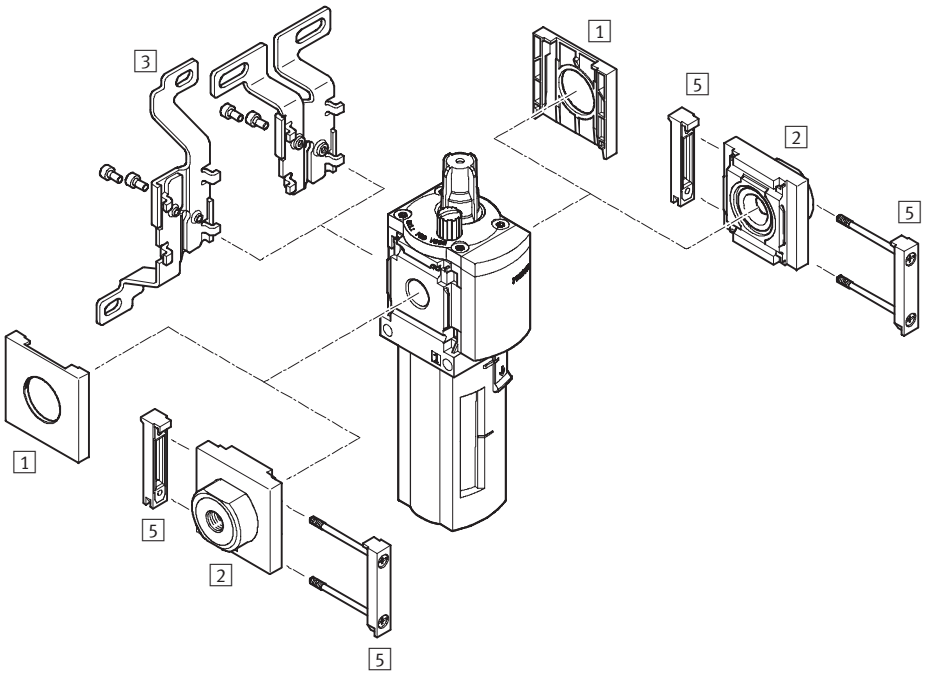
Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**527674**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Function	Lubricators		**-LOE**		-LOE
	Connection size	Body thread G¼		**-¼**		
		Body thread G⅜		**-⅜**		
		Body thread G½		**-½**		
		Port plate G¼ (dimensions ➔ 902)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 902)		**-AGC**		
		Port plate G½ (dimensions ➔ 902)		**-AGD**		
		Port plate G¾ (dimensions ➔ 902)		**-AGE**		
	Bowl	Plastic bowl with plastic bowl guard		**-R**		
		Metal bowl		**-U**		
O	Type of mounting	Mounting bracket (dimensions ➔ 903)	1	**-WP**		
		Mounting bracket (dimensions ➔ 903)	1	**-WPM**		
		Mounting bracket (dimensions ➔ 900)		**-WB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

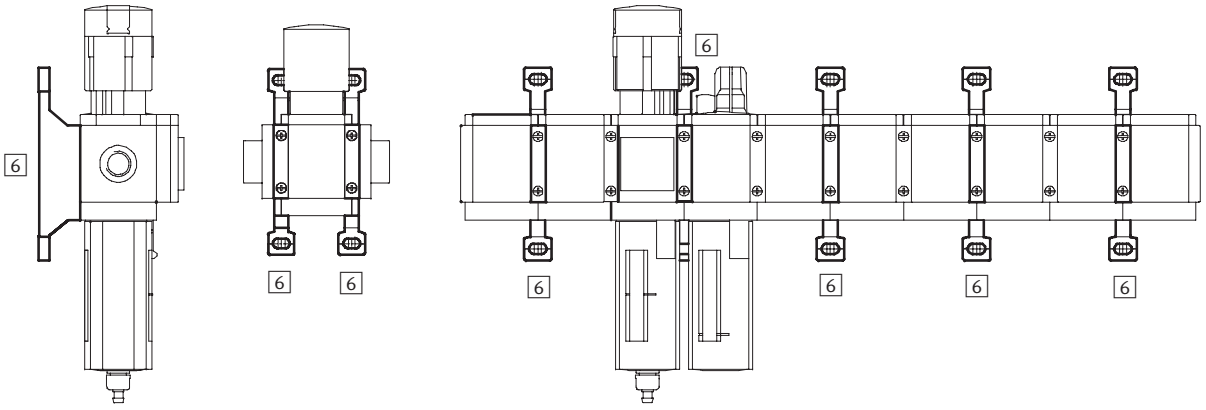
Transfer order code

527674	**MS**	**6**	**–**	**LOE**	**–**		**–**		**–**		**–**	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Lubricators MS6-LOE – Metric Series

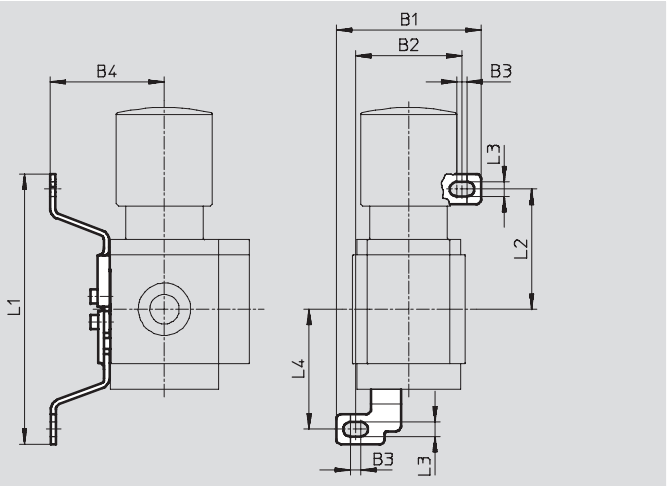
Accessories Overview

Mounting Attachments and Accessories					
	Single unit		Combination unit ➔ 3.1-1		➔ Page
	without port plate	with port plate	without port plate	with port plate	
1 Cover cap MS6-END	■	–	■	–	901
2 Port plate MS6-AG...	–	■	–	■	902
3 Mounting bracket MS6-WB	■	■	–	–	900
5 Body connector MS6-MV	–	■	■	■	902
6 Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	903

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

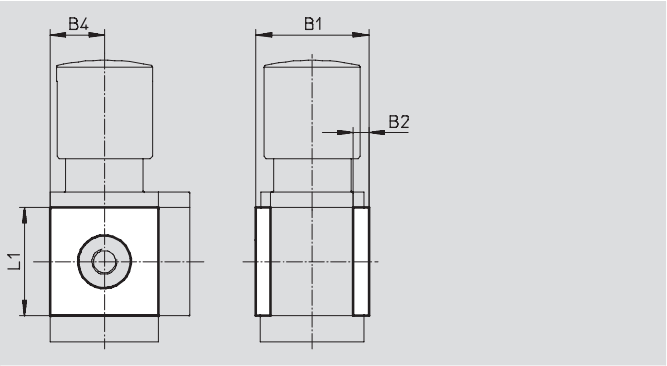
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
79.4	61.9	4.5	55	157.6	71	6.6	71	121	**532196**	**MS6-WB**

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

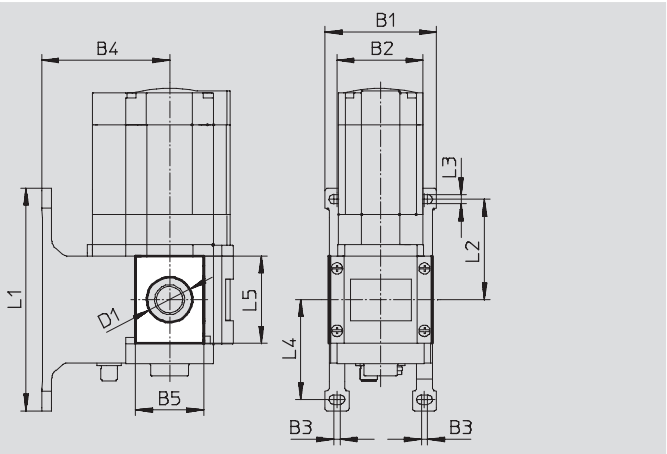
B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

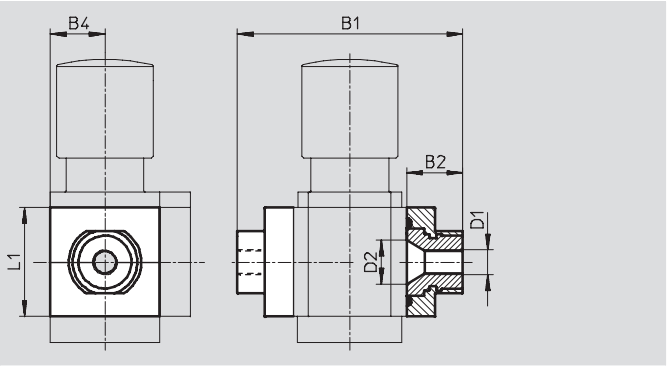
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6-AG...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G¾

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

5 **Body connector MS...-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

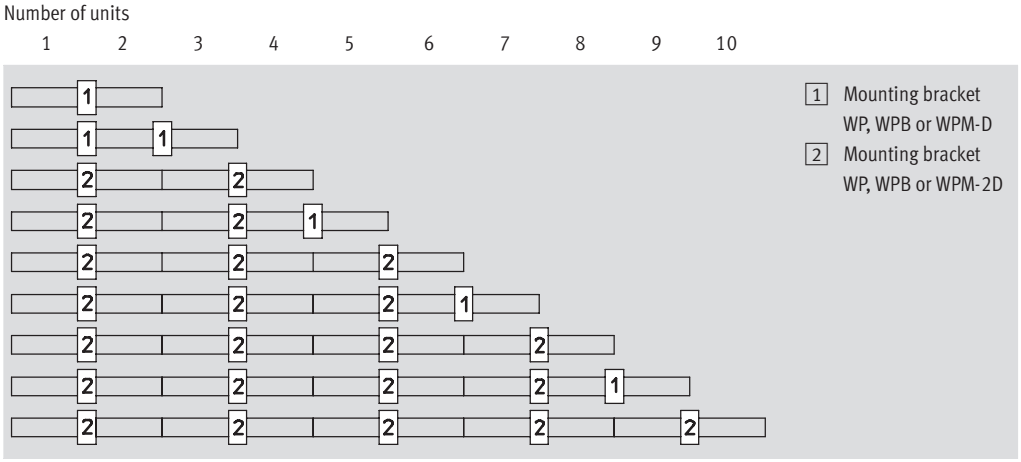
Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

6 Mounting Bracket MS6-WP...

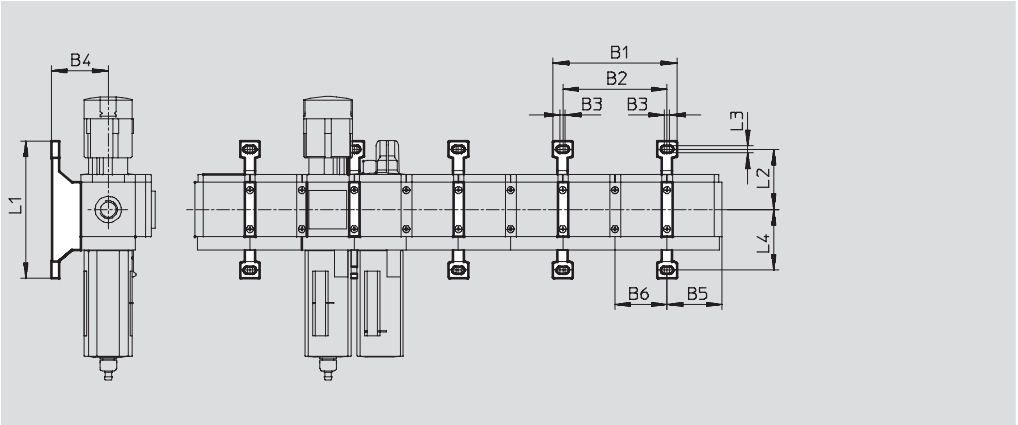
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WP, WPB
69 mm with WPM-D

2 units: 124 mm with WP, WPB
138 mm with WPM-2D



Mounting dimensions



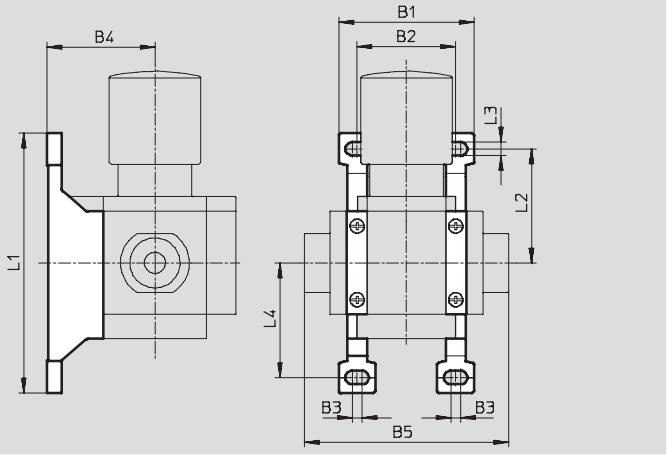
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

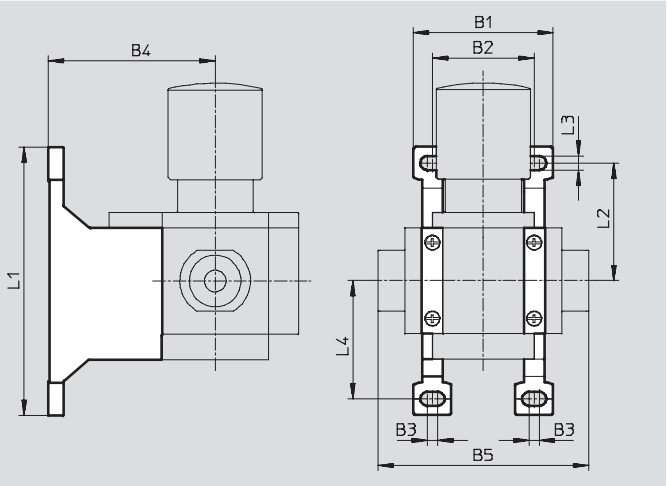
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	54	115	158	71	6.6	71	76	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

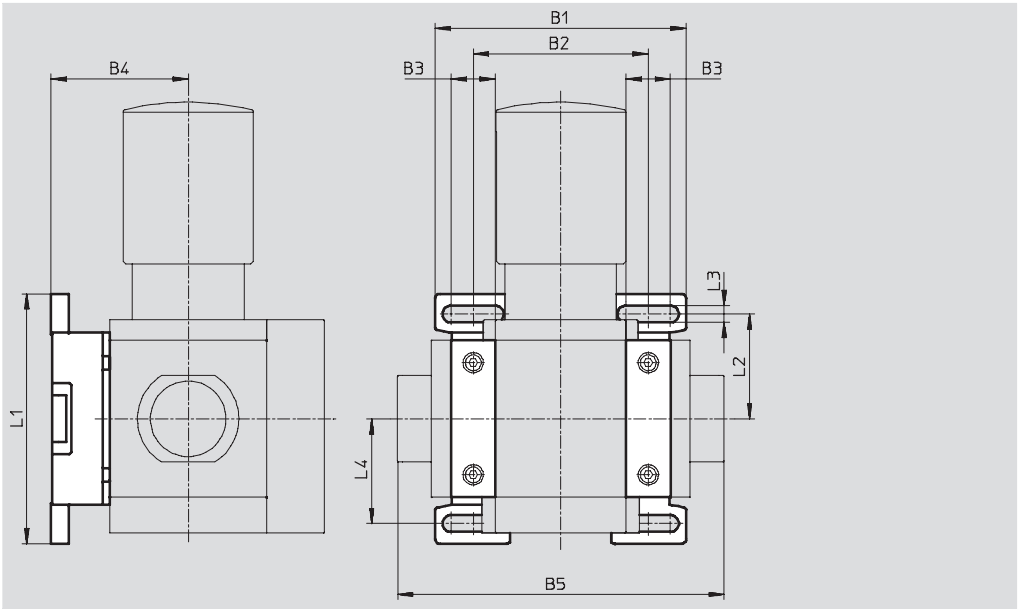
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	**526073**	**MS6-WPM-D**
168	138			198					124	154	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

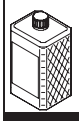
- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Ordering Data – Special Oil OFSW				
	Description	Scope of delivery	Part No.	Type
	for lubricators	1 liter	**152811**	**OFSW-32**

Lubricators MS6N-LOE – Inch Series



The proportional lubricator adds a precision adjustable quantity of oil to the compressed air stream. The pressure drop that occurs when air flows through a Venturi nozzle is used to convey oil from the container to the drip cap. From here, the oil drips into the air duct directly behind the proportional valve, where it is atomized. The oil mist component is proportional to the compressed air flow rate.

- Pneumatic connection: ¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT
- Supply pressure: 15 … 235 psi
- Flow rate: 88.3 … 254.2 scfm

Product Range Overview

Type	Flow rate [scfm]	Pneumatic connections		Bowl guard		Reverse flow
		Body thread	Port plate	Plastic bowl guard	Metal bowl	Flow direction from right to left
MS6N			**AG…**	**R**	**U**	**Z**
LOE	88.3 … 254.2	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	■	■	■

Features

- Proportional lubricator with precision oil metering
- Reduces wear on drive units subject to high loading
- High flow rate
- Quick and easy oil top-up even during operation (under pressure)

The following oils are recommended for Festo components:
Viscosity range to ISO 3448, ISO class VG 32
32 mm^2/s (= cSt) at 40°C

- Festo special oil OFSW-32 → 920
- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32

Contents

Technical Data	→ 908
Dimensional Drawings	→ 910
Ordering Data	→ 910
Accessories	→ 912

→ www.festo.com/catalog/ms6n-loe

Lubricators MS6N-LOE – Inch Series

Technical Data

ISO Symbol





General Technical Data				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Supply pressure	[psi]	15 ... 235		

Standard Nominal Flow Rate qnN [scfm]			
Pneumatic connection 1, 2	¼ NPT	⅜ NPT	½ NPT
In main flow direction 1 → 2	88.3	187.1	254.2

Operating and Environmental Conditions		
Minimum flow for lubricator operation	[scfm]	1.8
Operating medium		Filtered compressed air, filtration grade 40 µm
Max. oil capacity	[in^3]	4.58 (with plastic bowl guard) 4.88 (with metal bowl)
Bowl guard		Plastic bowl guard
		Metal bowl
Ambient temperature	[°F]	32 ... 140
Temperature of medium	[°F]	32 ... 140
Storage temperature	[°F]	14 ... 140
Assembly position		Vertical ±5°
Corrosion resistance	CRC[1)]	2

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With plastic bowl guard	1.20
With metal bowl	1.62

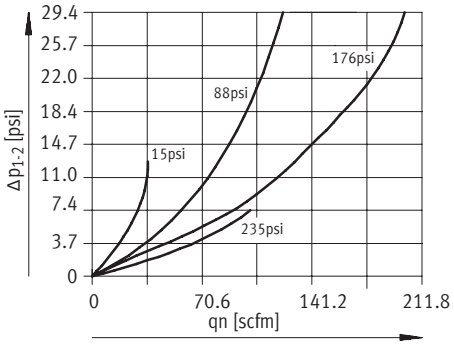
- For spare parts go to: www.festo.com/en/spare_parts_service

Lubricators MS6N-LOE – Inch Series

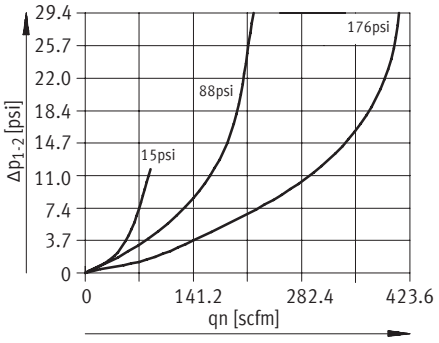
Technical Data

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

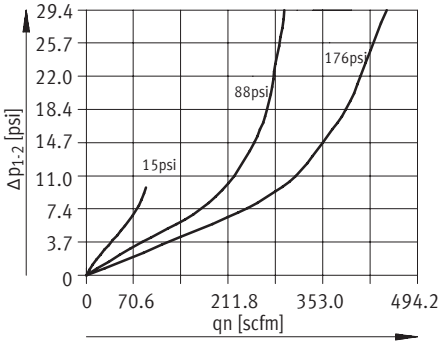
MS6N-LOE-¼



MS6N-LOE-⅜

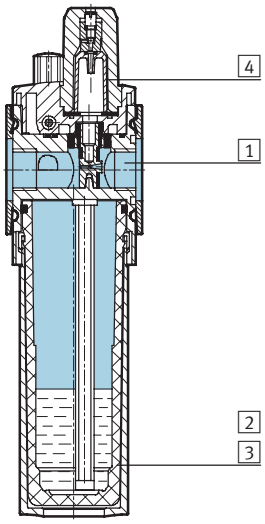


MS6N-LOE-½



Materials

Sectional view



Lubricators		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Lubricator dome	Polycarbonate
–	Seals	Nitrile rubber

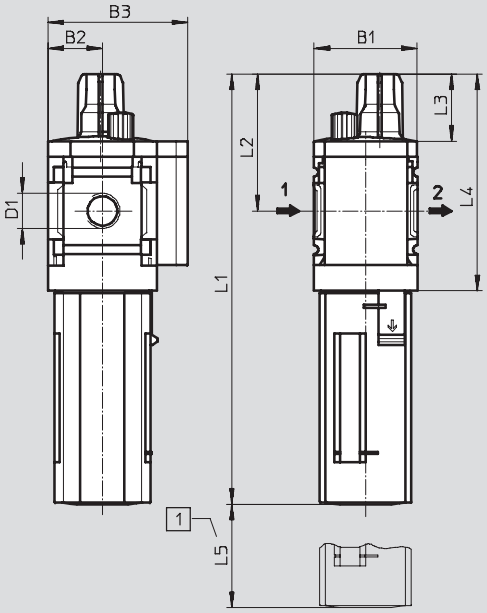
Lubricators MS6N-LOE – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L4	L5
					Plastic	Metal				
MS6N-LOE-¼	2.44	1.22	2.99	¼ NPT	8.49	8.74	2.60	1.06	4.37	5.12
MS6N-LOE-⅜				⅜ NPT						
MS6N-LOE-½				½ NPT						

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Plastic bowl with plastic bowl guard				Metal bowl		
	Part No.	Type	LT		Part No.	Type	LT
¼ NPT	**531710**	**MS6N-LOE-¼-R**	1D		**531716**	**MS6N-LOE-¼-U**	Q
⅜ NPT	**531712**	**MS6N-LOE-⅜-R**	1D		**531718**	**MS6N-LOE-⅜-U**	Q
½ NPT	**531711**	**MS6N-LOE-½-R**	1D		**531717**	**MS6N-LOE-½-U**	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Lubricators MS6N-LOE – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options	
Part No.	Series	Size	Thread	Function	Connection size	Bowl	Type of mounting	Reverse flow direction
527675	MS	6	N	LOE	¼, ⅜, ½, AQN, AQP, AQR, AQS	R U	WP WPM WB	Z
Order example								
527675	**MS**	**6**	**N** –	**LOE** –	**AQN** –	**R** –	**WP** –	**Z**

Ordering Table

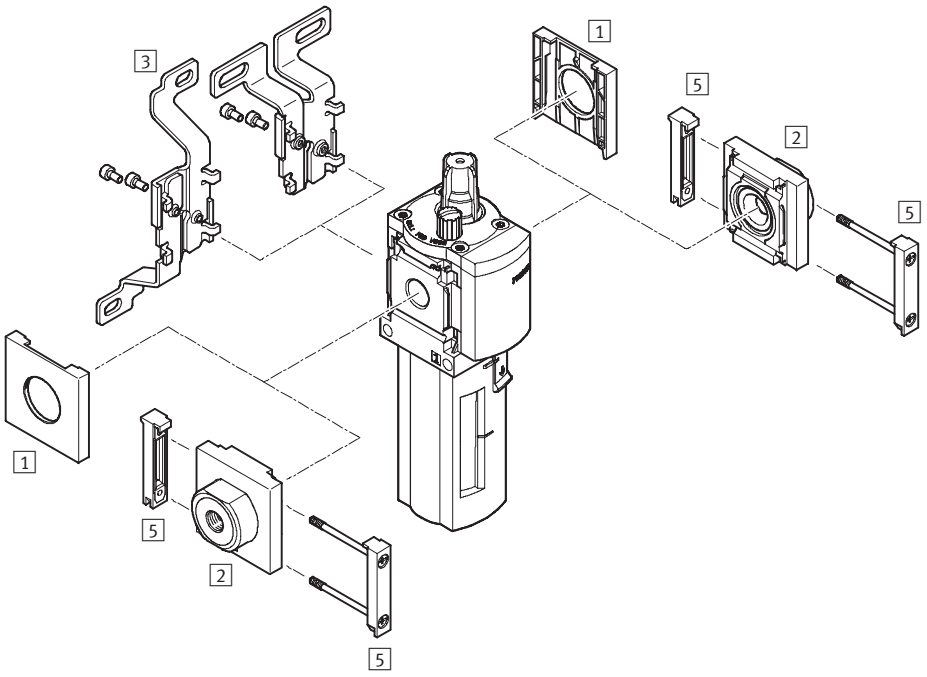
Grid dimension [mm]		62	Conditions	Code	Enter code
M	Part No.	**527675**			
	Series	Standard		**MS**	MS
	Size	6		**6**	6
	Thread	NPT thread		**N**	N
	Function	Lubricators		**-LOE**	-LOE
	Connection size	Body thread ¼ NPT		**-¼**	
		Body thread ⅜ NPT		**-⅜**	
		Body thread ½ NPT		**-½**	
		Port plate ¼ NPT (dimensions ➔ 916)		**-AQN**	
		Port plate ⅜ NPT (dimensions ➔ 916)		**-AQP**	
		Port plate ½ NPT (dimensions ➔ 916)		**-AQR**	
		Port plate ¾ NPT (dimensions ➔ 916)		**-AQS**	
	Bowl	Plastic bowl with plastic bowl guard		**-R**	
		Metal bowl		**-U**	
O	Type of mounting	Mounting bracket (dimensions ➔ 917)	1	**-WP**	
		Mounting bracket (dimensions ➔ 917)	1	**-WPM**	
		Mounting bracket (dimensions ➔ 914)		**-WB**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

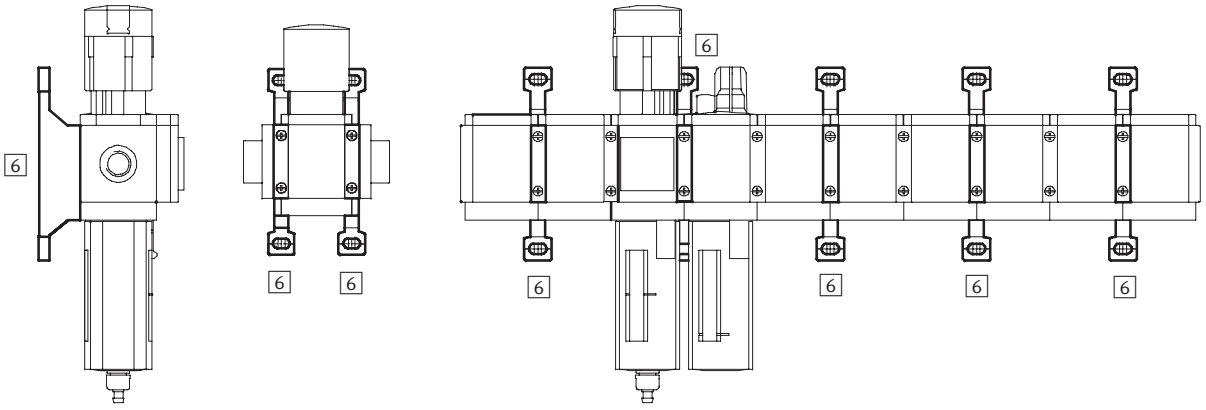
Transfer order code

527675	**MS**	**6**	**N** –	**LOE** –		–		–		–

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Lubricators MS6N-LOE – Inch Series

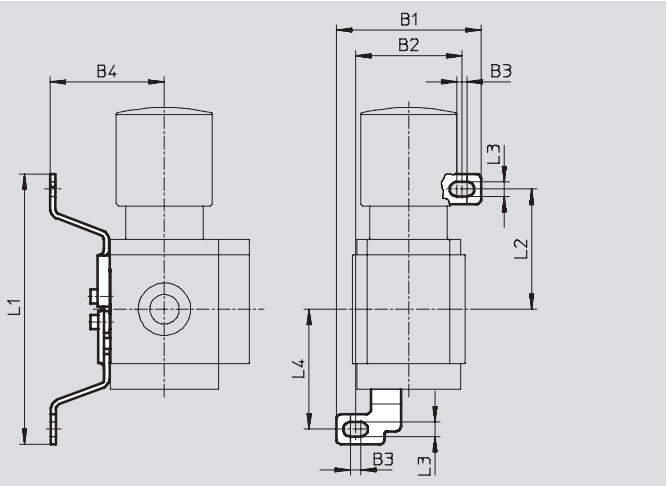
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	915
2	Port plate MS6N-AQ...	–	■	–	■	916
3	Mounting bracket MS6-WB	■	■	–	–	914
5	Body connector MS6-MV	–	■	■	■	916
6	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	917

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

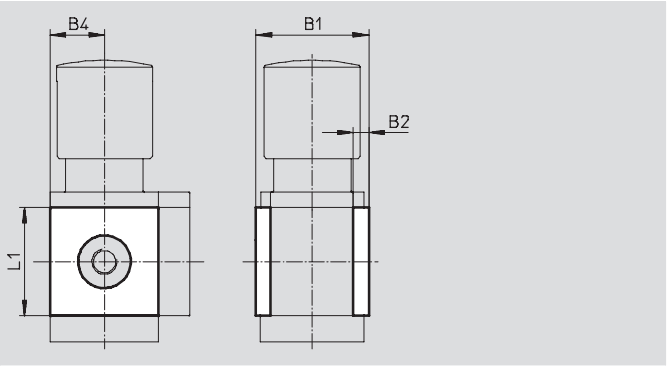
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.13	2.44	0.18	2.17	6.20	2.80	0.26	2.80	0.24	**532196**	**MS6-WB**

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

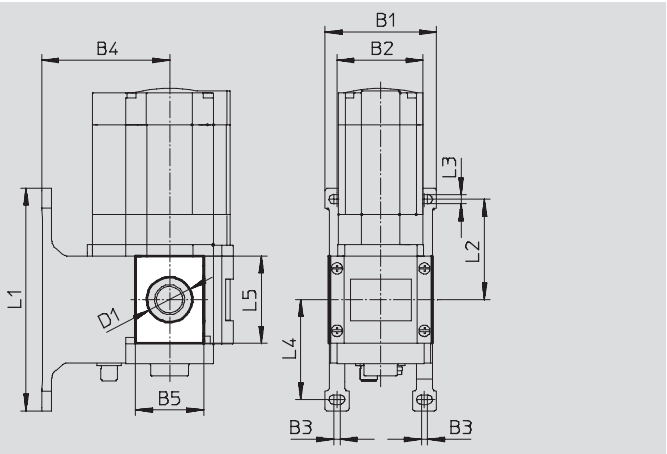
B1	B2	B4	L1	Part No.	Type
2.64	0.31	1.22	2.44	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

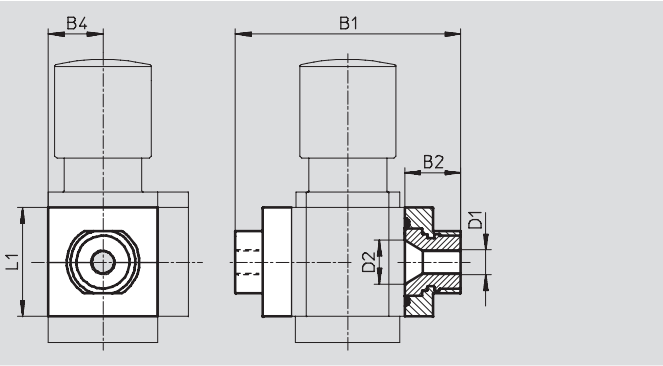
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight [lb]	Part No.	Type
			WP	WPB		∅									
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

3 **Port plate MS6N-AQ...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection ¾ NPT

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	¼ NPT	0.94	2.44	0.60	**526076**	**MS6N-AQN**
			⅜ NPT				**526077**	**MS6N-AQP**
			½ NPT				**526078**	**MS6N-AQR**
			¾ NPT				**526079**	**MS6N-AQS**

5 **Body connector MS...-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

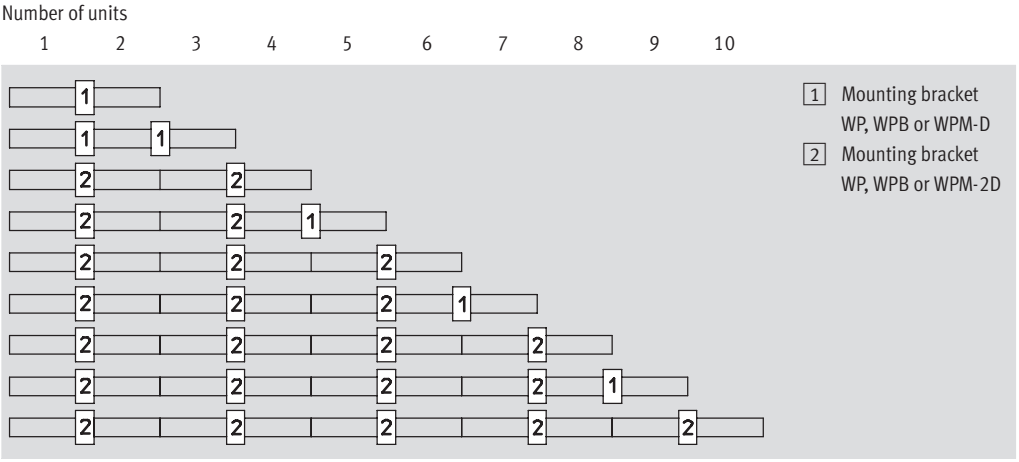
Weight [lb]	Part No.	Type
0.11	**532799**	**MS6-MV**

6 Mounting Bracket MS6-WP...

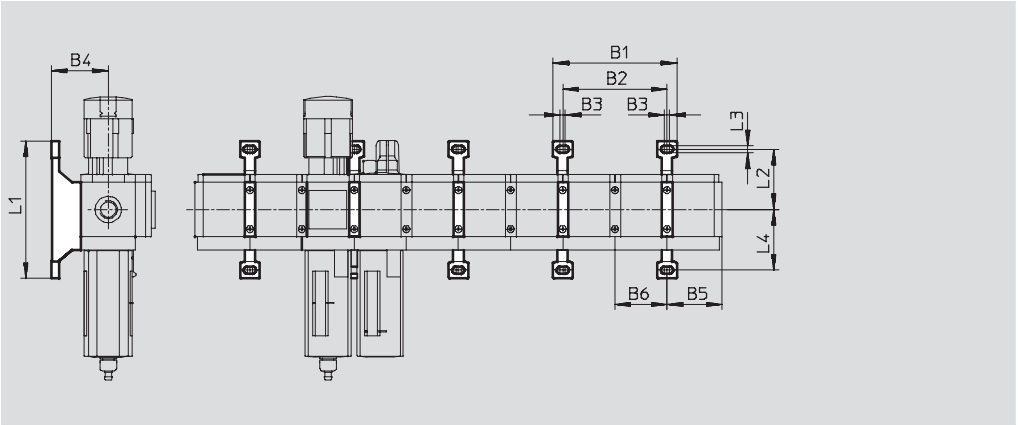
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WP, WPB
2.715 in with WPM-D

2 units: 4.88 in with WP, WPB
5.43 in with WPM-2D



Mounting dimensions



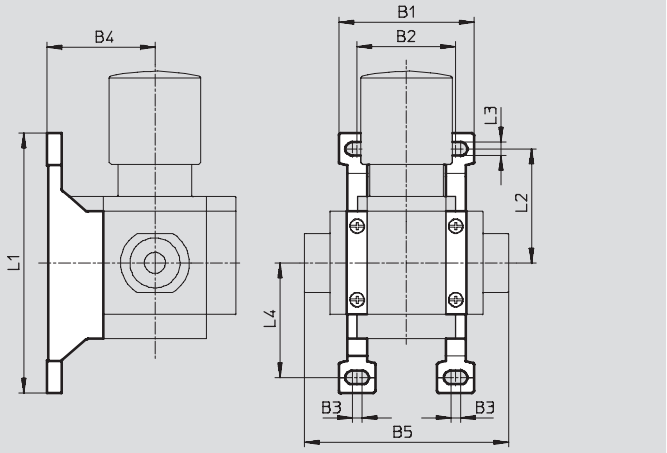
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	5.55	4.88	0.18	2.13	2.54	2.44	6.22	2.80	0.26	2.80
MS6-WPB				3.56						
MS6-WPM-...D	6.61	5.43	0.69	2.13	2.58	2.72	3.88	1.63		1.63

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

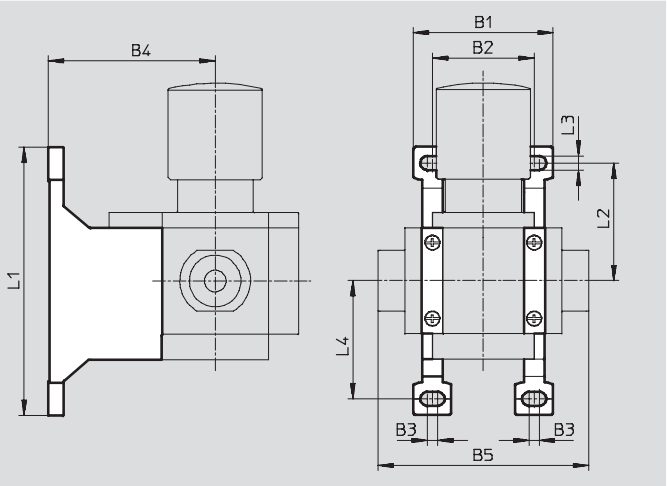
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	2.13	4.53	6.22	2.80	0.26	2.80	0.15	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	**526074**	**MS6-WPB**

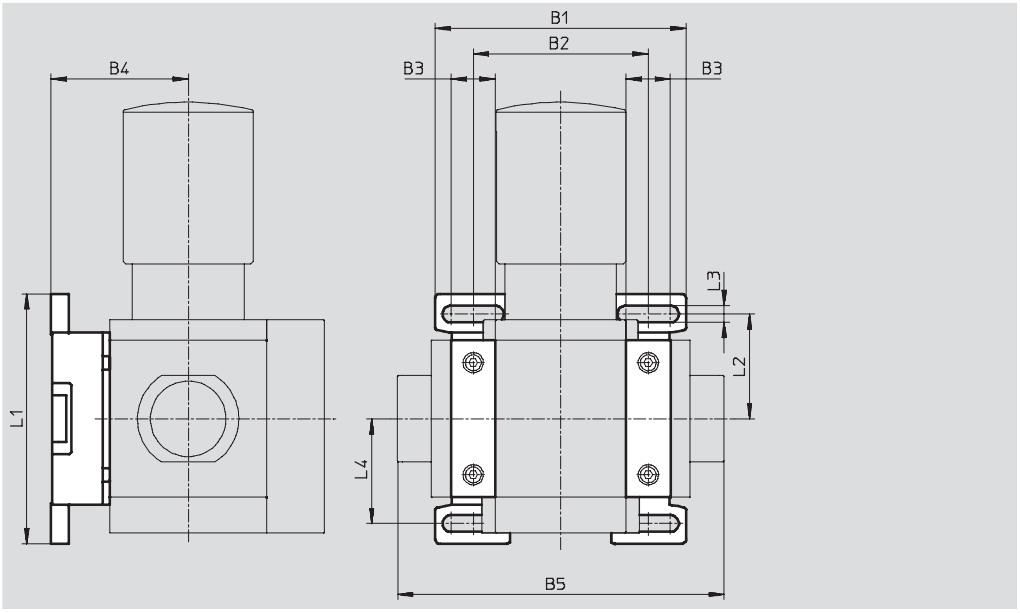
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
3.90	2.72	0.69	2.13	5.08	3.88	1.63	0.26	1.63	2.44	0.29	**526073**	**MS6-WPM-D**
6.61	5.43			7.80					4.88	0.31	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

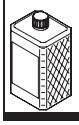
- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

Ordering Data – Special Oil OFSW				
	Description	Scope of delivery	Part No.	Type
	for lubricators	1 liter	**152811**	**OFSW-32**

On-off/Soft-start Valves MS6-EM1/EE/DL/DE – Metric Series

FESTO



Manually operated and solenoid actuated on-off valves for pressurizing and venting pneumatic installations. Pneumatic and solenoid actuated soft-start valves for slowly pressurizing and venting pneumatic installations.

- On-off valves
  – MS6-EM1, manually operated
  – MS6-EE, solenoid actuated
- Soft-start valves
  – MS6-DL, pneumatically actuated
  – MS6-DE, solenoid actuated
- Pneumatic connection: G¼, G⅜, G½, G¾
- Operating pressure
  – EM1: 0 … 18 bar
  – EE, DL and DE: 4 … 18 bar
- Flow rate: 2,600 … 8,700 l/min

Product Range Overview

Type	Flow rate [l/min]	Pneumatic connections		Supply voltage				Pressure indicator					Options	
		Body thread	Port plate	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G⅛	Adapter for pressure gauge G¼	Pressure sensor with display	Silencer	Flow direction from right to left
MS6			AG…	V24	V24P	V110	V230	VS	AG	A8	A4	AD…	S	Z
EM1	3,000 … 8,700	G¼, G⅜, G½	G¼, G⅜, G½, G¾	–	–	–	–	■	■	–	■	■	■	■
EE	2,600 … 7,000	G¼, G⅜, G½	G¼, G⅜, G½, G¾	■	–	■	■	■	■	–	■	■	■	■
DL	2,800 … 6,450	G¼, G⅜, G½	G¼, G⅜, G½, G¾	–	–	–	–	■	■	–	■	■	–	■
DE	2,700 … 6,450	G¼, G⅜, G½	G¼, G⅜, G½, G¾	■	–	■	■	■	■	–	■	■	–	■

Contents

MS6-EM1

Technical Data	→ 922
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→ www.festo.com/catalog/ms6-em1

MS6-EE

Technical Data	→ 927
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→ www.festo.com/catalog/ms6-ee

MS6-DL

Technical Data	→ 934
Dimensional Drawings	→ 936
Ordering Data	→ 937
Accessories	→ 944

→ www.festo.com/catalog/ms6-dl

MS6-DE

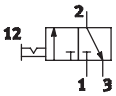
Technical Data	→ 939
Dimensional Drawings	→ 941
Ordering Data	→ 942
Accessories	→ 944

→ www.festo.com/catalog/ms6-de

On-off Valves MS6-EM1 – Metric Series

Technical Data

ISO Symbol



- Manually operated on-off valve for pressurizing and venting pneumatic installations
- The valve is activated by turning the rotary knob
- At connection 3 there is the facility to attach a silencer and/or to duct the exhaust air
- When the valve is closed, the rotary knob can be secured with a padlock
- Optional pressure gauge
- Optional pressure sensor with display



General Technical Data				
Pneumatic connection 1, 2		G¼	G⅜	G½
Pneumatic connection 3		G½		
Operating pressure	[bar]	0 ... 18 /Standard)		
		0 ... 10 (Pressure sensor with display AD...)		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]			
Pneumatic connection	G¼	G⅜	G½
In main flow direction 1 ⇢ 2	3,000	5,500	8,700
In relief direction 2 ⇢ 3	6,800	6,600	6,200

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Exhaust function		No flow control	
Switching position display		Knob actuator direction = flow direction	
Ambient temperature	[°C]	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	0 ... +50
Assembly position		Any	
Corrosion resistance	CRC[2]	2	

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Standard	580
With silencer	655

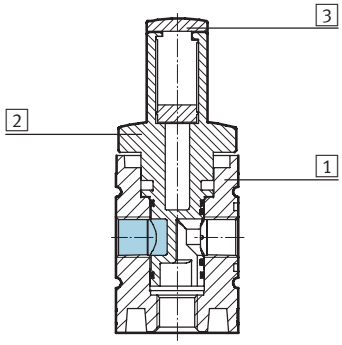
- For spare parts go to: www.festo.com/en/spare_parts_service

On-off Valves MS6-EM1 – Metric Series

Technical Data, Dimensional Drawings

Materials

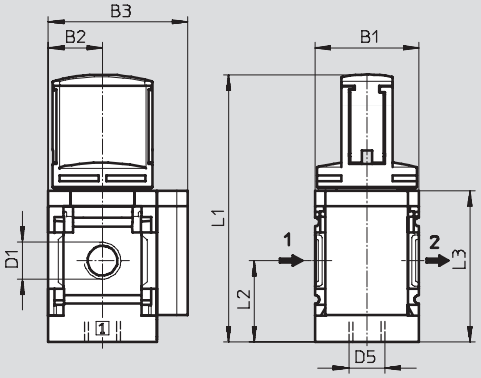
Sectional view

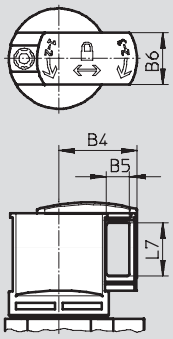


On-off valve		
1	Body	Die-cast aluminum
2	Rotary valve	Reinforced polyamide
3	Lock slide	Reinforced polyamide
–	Seals	Nitrile rubber, polyurethane
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**





➔ Flow direction

Type	B1	B2	B3	B4	B5	B6	D1	D5	L1	L2	L3	L7
MS6-EM1-¼	62	31	76	45	10	24	G¼	G½	150.9	45.5	84.5	28.2
MS6-EM1-⅜							G⅜					
MS6-EM1-½							G½					

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

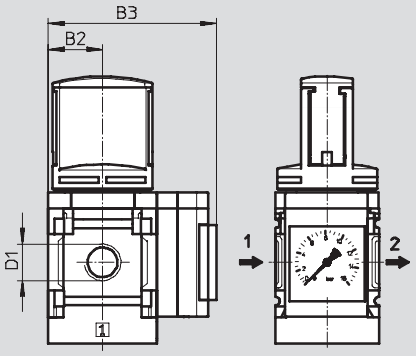
On-off Valves MS6-EM1 – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

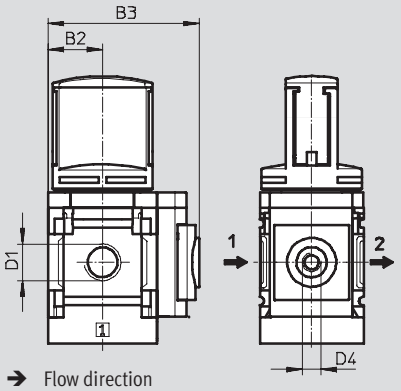
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



➔ Flow direction

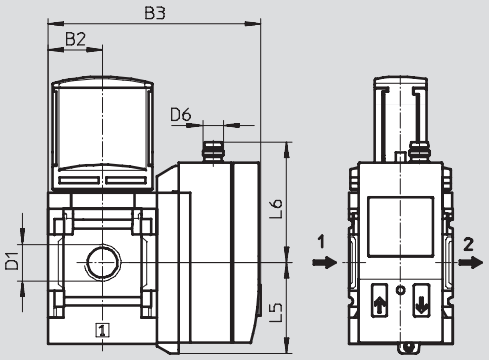
Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

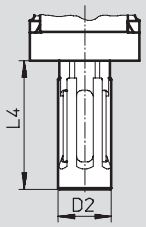
Type	B2	B3	D1	D4	D6	L5	L6
MS6-EM1-¼-...-AG	31	85	G¼	–	–	–	–
MS6-EM1-⅜-...-AG			G⅜				
MS6-EM1-½-...-AG			G½				
MS6-EM1-¼-...-A4	31	78.5	G¼	G¼	–	–	–
MS6-EM1-⅜-...-A4			G⅜				
MS6-EM1-½-...-A4			G½				
MS6-EM1-¼-...-AD1/AD2	31	103	G¼	–	M8x1	35.1	46.7
MS6-EM1-⅜-...-AD1/AD2			G⅜				
MS6-EM1-½-...-AD1/AD2			G½				
MS6-EM1-¼-...-AD3/AD4	31	103	G¼	–	M12x1	35.1	55.8
MS6-EM1-⅜-...-AD3/AD4			G⅜				
MS6-EM1-½-...-AD3/AD4			G½				

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Silencer

Download CAD Data ➔ **www.festo.com/us/cad**



Type	D2	L4
MS6-EM1-...-S	28	106

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Connection	Standard				With silencer		
	Part No.	Type	LT		Part No.	Type	LT
G¼	**541271**	**MS6-EM1-¼**[1]	1D		**541272**	**MS6-EM1-¼-S**[1]	1D
G⅜	**541275**	**MS6-EM1-⅜**[1]	1D		**541276**	**MS6-EM1-⅜-S**[1]	1D
G½	**541267**	**MS6-EM1-½**[1]	1D		**541268**	**MS6-EM1-½-S**[1]	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Free of copper and PTFE

On-off Valves MS6-EM1 – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data					O Options				
Part No.	Series	Size	Function	Connection size	Silencer	Pressure gauge alternatives	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
541279	MS	6	EM1	¼, ⅜, ½, AGB, AGC, AGD, AGE	S	AG, A4, AD1, AD2, AD3, AD4	PSI MPA	WP WPM WB	Z
Order example									
541279	**MS**	**6**	**– EM1**	**– 1/4**	**– S**	**– AG**	**– PSI**	**– WB**	**– Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code	Enter code
M	Part No.	**541279**			
	Series	Standard		**MS**	MS
	Size	6		**6**	6
	Function	On-off valve, manual		**-EM1**	-EM1
	Connection size	Body thread G¼		**-¼**	
		Body thread G⅜		**-⅜**	
		Body thread G½		**-½**	
		Port plate G¼ (dimensions ➔ 950)		**-AGB**	
		Port plate G⅜ (dimensions ➔ 950)		**-AGC**	
		Port plate G½ (dimensions ➔ 950)		**-AGD**	
		Port plate G¾ (dimensions ➔ 950)		**-AGE**	
O	Silencer	Silencer		**-S**	
	Pressure gauge alternatives	MS pressure gauge, bar		**-AG**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	1	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	1	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	1	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	1	**-AD4**	
	Alternative pressure gauge scale	psi	2	**-PSI**	
		MPa	2	**-MPA**	
	Type of mounting	Mounting bracket (dimensions ➔ 951)	3	**-WP**	
		Mounting bracket (dimensions ➔ 951)	3	**-WPM**	
		Mounting bracket (dimensions ➔ 948)		**-WB**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **AD1 ... AD4** Measuring range max. 10 bar

2 **PSI, MPA** Only with pressure gauge AG

3 **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

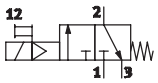
Transfer order code

541279	**MS**	**6**	**–**	**EM1**	**–**		**–**		**–**		**–**		**–**	

On-off Valves MS6-EE – Metric Series

Technical Data

ISO Symbol



- Solenoid actuated on-off valve for pressurizing and venting pneumatic installations
- Ducted exhaust possible via a threaded connection with silencer
- Pushing and detenting manual override (detenting is locked on delivery)
- Solenoid coil without plug socket, three voltage ranges available.
- Solenoid actuator can be repositioned by 180°
- Optional pressure sensor with display



General Technical Data				
Pneumatic connection 1, 2		G¼	G⅜	G½
Pneumatic connection 3		G½		
Operating pressure	[bar]	4 ... 18 (Coil parameter V24, V110, V230)		
		4 ... 10 (Coil parameter 10V24)		
		4 ... 10 (Pressure sensor with display AD...)		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]			
Pneumatic connection	G¼	G⅜	G½
In main flow direction 1 ⇢ 2	2,600	5,500	7,000
In relief direction 2 ⇢ 3	7,000	6,200	5,500

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Operating and Environmental Conditions				
Variant		Coil parameter V24, V110, V230	Coil parameter 10V24	Pressure sensor with display AD...
Operating medium		Compressed air		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Coil characteristics	V24	24 V DC (For valves with max. inlet pressure 14 bar – only available via configurator)		
	10V24	24 V DC (For valves with max. inlet pressure 10 bar)		
	V110	110 V AC		
	V230	230 V AC		
Exhaust function		Without flow control		
Ambient temperature	[°C]	–10 ... +60	–10 ... +50	0 ... +50
Temperature of medium	[°C]	–10 ... +60	–10 ... +50	0 ... +50
Assembly position		Any		
Corrosion resistance	CRC[2]	2		

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Standard	740
With silencer	816

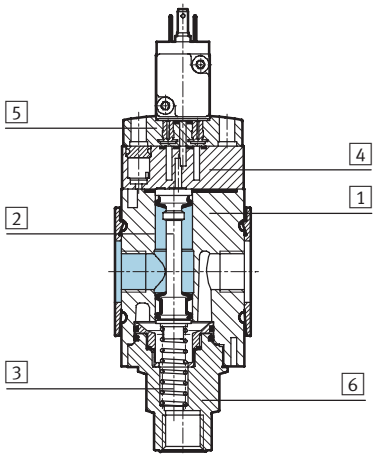
- For spare parts go to: www.festo.com/en/spare_parts_service

On-off Valves MS6-EE – Metric Series

Technical Data

Materials

Sectional view

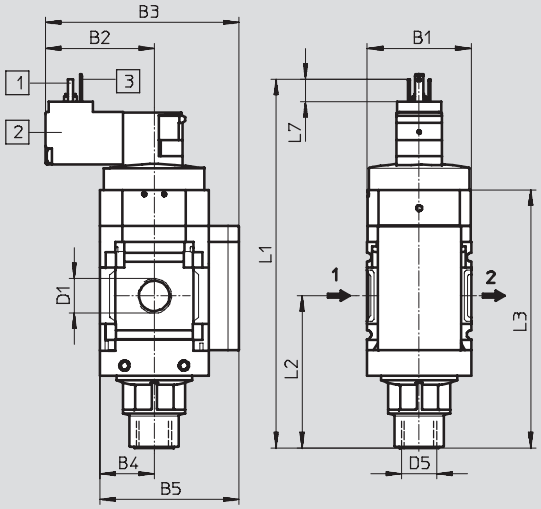


On-off valve		
1	Body	Die-cast aluminum
2	Piston spool	Nitrile rubber/Aluminum
3	Springs	High-alloy stainless steel
4	End cap	Polyamide
5	Top plate	Polyamide
6	Socket end connection	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG, 10V24 or AD...)

On-off Valves MS6-EE – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



1 Plug connection to DIN EN 175 301-803
2 Solenoid actuator can be repositioned by 180°, i.e. solenoid points to the front
3 PIN only with solenoid actuators 110 V and 230 V

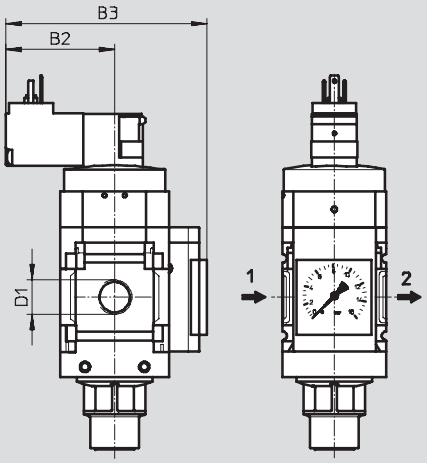
➔ Flow direction

Type	B1	B2	B3	B4	B5	D1	D5	L1	L2	L3	L7
MS6-EE-¼	62	52	97	31	76	G¼	G½	185.6	84	143	8.6
MS6-EE-⅜						G⅜					
MS6-EE-½						G½					

1) Dimensions are in millimeters, unless otherwise noted.

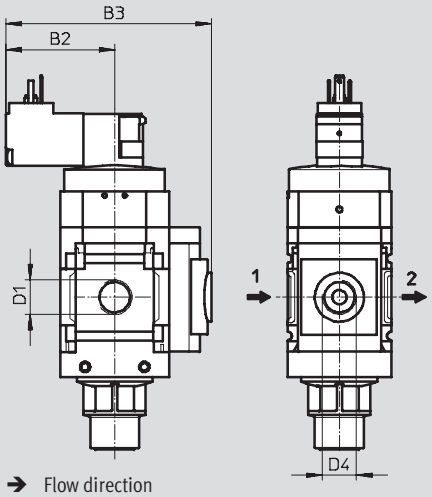
Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



➔ Flow direction

Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS6-EE-¼-...-AG	52	106	G¼	–
MS6-EE-⅜-...-AG			G⅜	
MS6-EE-½-...-AG			G½	
MS6-EE-¼-...-A4	52	99.6	G¼	G¼
MS6-EE-⅜-...-A4			G⅜	
MS6-EE-½-...-A4			G½	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

On-off Valves MS6-EE – Metric Series

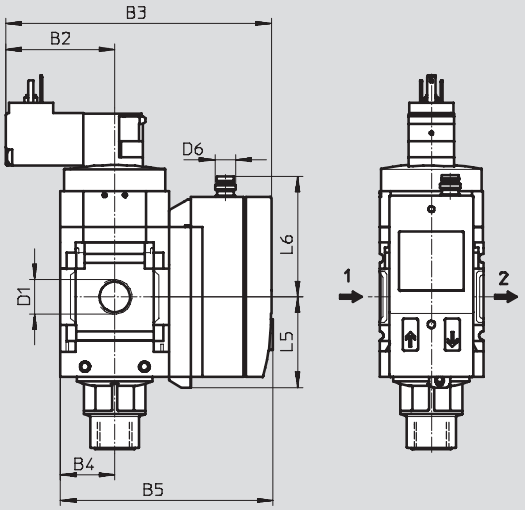
Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

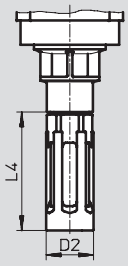
Type	B2	B3	B4	B5	D1	D6	L5	L6
MS6-EE-¼-...-AD1/AD2	52	124	31	103	G¼	M8x1	35.1	46.7
MS6-EE-⅜-...-AD1/AD2					G⅜			
MS6-EE-½-...-AD1/AD2					G½			
MS6-EE-¼-...-AD3/AD4	52	124	31	103	G¼	M12x1	35.1	55.8
MS6-EE-⅜-...-AD3/AD4					G⅜			
MS6-EE-½-...-AD3/AD4					G½			

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Silencer

Download CAD Data ➔ **www.festo.com/us/cad**



Type	D2	L4
MS6-EE-...-S	28	106

1) Dimensions are in millimeters, unless otherwise noted.

On-off Valves MS6-EE – Metric Series

Ordering Data – Pre-configured Products

Ordering Data							
Connection	Without silencer				With silencer		
	Part No.	Type	LT		Part No.	Type	LT
Supply voltage 24 V DC							
G¼	**542584**	**MS6-EE-¼-10V24**	1D		**542604**	**MS6-EE-¼-10V24-S**	Q
G⅜	**542586**	**MS6-EE-⅜-10V24**	1D		**542606**	**MS6-EE-⅜-10V24-S**	Q
G½	**542582**	**MS6-EE-½-10V24**	1D		**542602**	**MS6-EE-½-10V24-S**	Q
Supply voltage 110 V AC							
G¼	**529829**	**MS6-EE-¼-V110**[1)]	1D		**538737**	**MS6-EE-¼-V110-S**[1)]	Q
G⅜	**529835**	**MS6-EE-⅜-V110**[1)]	1D		**538743**	**MS6-EE-⅜-V110-S**[1)]	Q
G½	**529823**	**MS6-EE-½-V110**[1)]	1D		**538731**	**MS6-EE-½-V110-S**[1)]	Q
Supply voltage 230 V AC							
G¼	**529831**	**MS6-EE-¼-V230**[1)]	1D		**538739**	**MS6-EE-¼-V230-S**[1)]	Q
G⅜	**529837**	**MS6-EE-⅜-V230**[1)]	1D		**538745**	**MS6-EE-⅜-V230-S**[1)]	Q
G½	**529825**	**MS6-EE-½-V230**[1)]	1D		**538733**	**MS6-EE-½-V230-S**[1)]	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Free of copper and PTFE

On-off Valves MS6-EE – Metric Series

Ordering Data – Configurable Products

FESTO

[M] **Mandatory Data** →

Part No.	Series	Size		Function		Connection size		Supply voltage
527682	MS	6		EE		¼ ⅜ ½ AGB AGC AGD AGE		V24 10V24 V110 V230
Order example								
527682	**MS**	**6**	–	**EE**	–	**AGB**	–	**V24**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
[M]	Part No.	**527682**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Function	On-off valve, electrical		**-EE**		-EE
	Connection size	Body thread G¼		**-¼**		
		Body thread G⅜		**-⅜**		
		Body thread G½		**-½**		
		Port plate G¼ (dimensions → 950)		**-AGB**		
		Port plate G⅜ (dimensions → 950)		**-AGC**		
		Port plate G½ (dimensions → 950)		**-AGD**		
		Port plate G¾ (dimensions → 950)		**-AGE**		
	Supply voltage	24 V DC (connection pattern to EN 175301), 14 bar		**-V24**		
		24 V DC (connection pattern to EN 175301), 10 bar	[1]	**-10V24**		
		110 V AC (connection pattern to EN 175301), 14 bar		**-V110**		
↓		230 V AC (connection pattern to EN 175301), 14 bar		**-V230**		

[1] **10V24** Max. inlet pressure 10 bar

Transfer order code

527682	**MS**	**6**	–	**EE**	–		–	

➔ [0] **Options**

	Silencer		Pressure gauge alternatives		Alternative pressure gauge scale		Type of mounting		Reverse flow direction
	S		AG A4 AD1 AD2 AD3 AD4		PSI MPA		WP WPM WB		Z
–	**S**	–	**AG**	–	**PSI**	–	**WP**	–	**Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
[0]	Silencer	Silencer		**-S**		
	Pressure gauge alternatives	MS pressure gauge, bar		**-AG**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	[2]	**-AD1**		
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	[2]	**-AD2**		
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	[2]	**-AD3**		
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	[2]	**-AD4**		
	Alternative pressure gauge scale	psi	[3]	**-PSI**		
		MPa	[3]	**-MPA**		
	Type of mounting	Mounting bracket (dimensions ➔ 951)	[4]	**-WP**		
		Mounting bracket (dimensions ➔ 951)	[4]	**-WPM**		
		Mounting bracket (dimensions ➔ 948)		**-WB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

[2] **AD1 ... AD4** Measuring range max. 10 bar

[3] **PSI, MPA** Only with pressure gauge AG

[4] **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

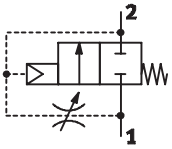
Transfer order code

–		–		–		–		–	

Soft-start Valves MS6-DL – Metric Series

Technical Data

ISO Symbol



- Pneumatically actuated soft-start valve for slowly pressurizing and venting pneumatic installations (for use with on-off valves EM1 and EE)
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. The main seat opens when the switch-through pressure is reached.
- Pressure switching approx. 50% of supply pressure
- When the valve is exhausted, the main seat remains open until the switch-through pressure is reached. The rest of the exhaust procedure is performed using the restrictor.



- The cylinders advance slowly and reliably into the initial position. Sudden and erratic movements are avoided.
- Adjustable switching time delay
- Optional pressure sensor with display

General Technical Data				
Pneumatic connection 1, 2		G¼	G⅜	G½
Operating pressure	[bar]	4 ... 18 (Standard)		
		4 ... 10 (Pressure sensor with display AD...)		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]			
Pneumatic connection 1, 2	G¼	G⅜	G½
In main flow direction 1 → 2	2,800	5,050	6,450
In relief direction 2 → 1	2,800	5,050	6,400

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Exhaust function		Flow control	
Direction of flow		Non-reversible	
Ambient temperature	[°C]	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	0 ... +50
Assembly position		Any	
Corrosion resistance	CRC[2]	2	

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Soft-start valve	650

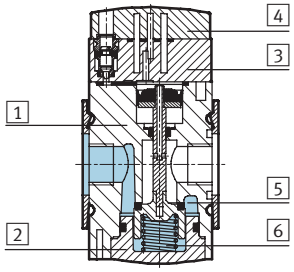
- For spare parts go to: www.festo.com/en/spare_parts_service

Soft-start Valves MS6-DL – Metric Series

Technical Data

Materials

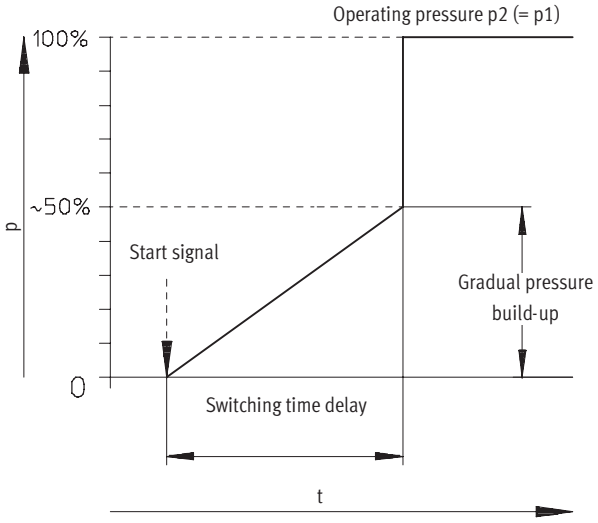
Sectional view



Soft-start valve		
1	Body	Die-cast aluminum
2	Base	Polyester
3	End cap	Polyamide
4	Top plate	Polyamide
5	Seat	Die-cast aluminum
6	Springs	Spring steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Switching Point

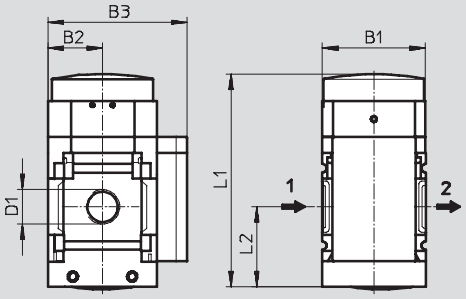
Pressure p as a function of time t



Soft-start Valves MS6-DL – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



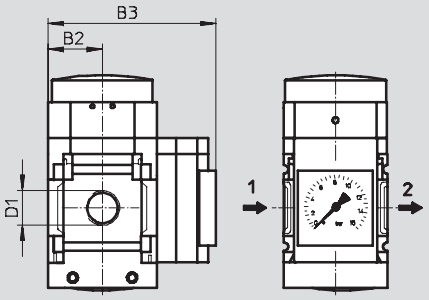
➔ Flow direction

Type	B1	B2	B3	D1	L1	L2
MS6-DL-¼	62	31	76	G¼	116	45
MS6-DL-⅜				G⅜		
MS6-DL-½				G½		

1) Dimensions are in millimeters, unless otherwise noted.

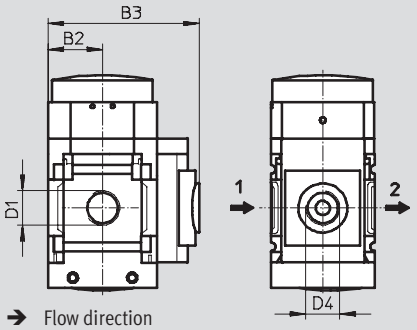
Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



➔ Flow direction

Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS6-DL-¼-...-AG	31	85	G¼	–
MS6-DL-⅜-...-AG			G⅜	
MS6-DL-½-...-AG			G½	
MS6-DL-¼-...-A4	31	78.5	G¼	G¼
MS6-DL-⅜-...-A4			G⅜	
MS6-DL-½-...-A4			G½	

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Soft-start Valves MS6-DL – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

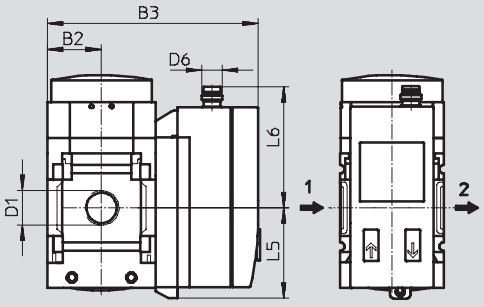
FESTO

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

➔ Flow direction

Type	B2	B3	D1	D6	L5	L6
MS6-DL-¼-...-AD1/AD2	31	103	G¼	M8x1	35.1	46.7
MS6-DL-⅜-...-AD1/AD2			G⅜			
MS6-DL-½-...-AD1/AD2			G½			
MS6-DL-¼-...-AD3/AD4	31	103	G¼	M12x1	35.1	55.8
MS6-DL-⅜-...-AD3/AD4			G⅜			
MS6-DL-½-...-AD3/AD4			G½			

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Connection	Part No.	Type	LT
G¼	**529819**	**MS6-DL-¼**[2]	1D
G⅜	**529821**	**MS6-DL-⅜**[2]	1D
G½	**529817**	**MS6-DL-½**[2]	1D

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

2) Free of copper and PTFE

Soft-start Valves MS6-DL – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data																	
Part No.	Series	Size		Function		Connection size		Pressure gauge alternatives		Alternative pressure gauge scale		Type of mounting		Reverse flow direction
527684	MS	6	–	DL	–	¼, ⅜, ½, AGB, AGC, AGD, AGE	–	AG, A4, AD1, AD2, AD3, AD4	–	PSI MPA	–	WP WPM WB	–	Z
Order example														
527684	**MS**	**6**	–	**DL**	–	**AGB**	–	**AG**	–	**PSI**	–	**WB**	–	**Z**

Ordering Table						
Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**527684**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Function	Soft-start valve, pneumatic		**-DL**		-DL
	Connection size	Body thread G¼		**-¼**		
		Body thread G⅜		**-⅜**		
		Body thread G½		**-½**		
		Port plate G¼ (dimensions ➔ 950)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 950)		**-AGC**		
		Port plate G½ (dimensions ➔ 950)		**-AGD**		
		Port plate G¾ (dimensions ➔ 950)		**-AGE**		
O	Pressure gauge alternatives	MS pressure gauge, bar		**-AG**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	1	**-AD1**		
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	1	**-AD2**		
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	1	**-AD3**		
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	1	**-AD4**		
	Alternative pressure gauge scale	psi	2	**-PSI**		
		MPa	2	**-MPA**		
	Type of mounting	Mounting bracket (dimensions ➔ 951)	3	**-WP**		
		Mounting bracket (dimensions ➔ 951)	3	**-WPM**		
		Mounting bracket (dimensions ➔ 948)		**-WB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **AD1 ... AD4** Measuring range max. 10 bar

2 **PSI, MPA** Only with pressure gauge AG

3 **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

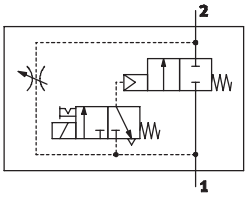
Transfer order code

527684	**MS**	**6**	–	**DL**	–		–		–		–		–	

Soft-start Valves MS6-DE – Metric Series

Technical Data

ISO Symbol



- Solenoid actuated soft-start valve for slowly pressurizing and venting pneumatic installations
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. Only the air flow via the restrictor is available when the solenoid valve is not actuated. The main seat is only opened by energizing the solenoid valve.
- When the solenoid valve is switched off, the main seat is closed and only the air flow via the flow control valve is available.
- The solenoid valve should remain switched on in order to vent a system as this increases the flow rate from 2 and 1 and reduces the exhaust time.



- The cylinders advance slowly and reliably into the initial position. Sudden and erratic movements are avoided.
- Solenoid coil without plug socket, three voltage ranges available.
- Solenoid actuator can be repositioned by 180°
- Switch-through pressure can be precisely controlled using a solenoid valve
- Adjustable switching time delay
- Pushing and detenting manual override (detenting is locked on delivery)
- Optional pressure sensor with display

General Technical Data				
Pneumatic connection 1, 2		G¼	G⅜	G½
Operating pressure	[bar]	4 ... 14 (Coil parameter V24, V110, V230)		
		4 ... 10 (Coil parameter 10V24)		
		4 ... 10 (Pressure sensor with display AD...)		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]			
Pneumatic connection 1, 2	G¼	G⅜	G½
In main flow direction 1 ⇢ 2	2,700	5,050	6,450
In relief direction 2 ⇢ 1[2]	2,600	5,050	6,400

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar
2) For energized solenoid valve.

Soft-start Valves MS6-DE – Metric Series

Technical Data

Operating and Environmental Conditions				
Variant		Coil parameter V24, V110, V230	Coil parameter 10V24	Pressure sensor with display AD...
Operating medium		Compressed air		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Coil characteristics	V24	24 V DC (For valves with max. inlet pressure 14 bar – only available via configurator)		
	10V24	24 V DC (For valves with max. inlet pressure 10 bar)		
	V110	110 V AC		
	V230	230 V AC		
Exhaust function		Flow control		
Direction of flow		Non-reversible		
Ambient temperature	[°C]	–10 ... +60	–10 ... +50	0 ... +50
Temperature of medium	[°C]	–10 ... +60	–10 ... +50	0 ... +50
Assembly position		Any		
Corrosion resistance	CRC[1)]	2		

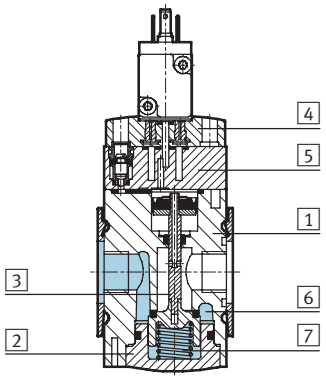
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Soft-start valve	680

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



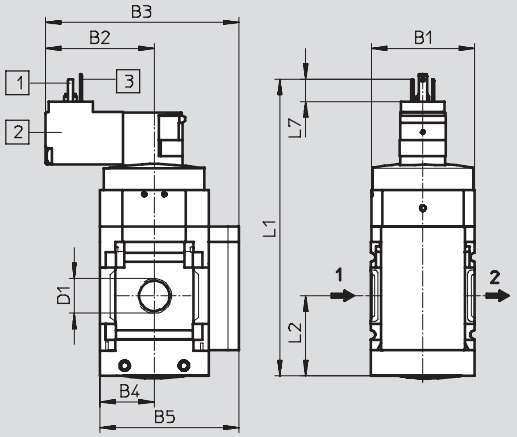
Soft-start valve		
1	Body	Die-cast aluminum
2	Base	Polyamide
3	Valve stem	Steel
4	End cap	Polyamide
5	Top plate	Polyamide
6	Seat	Aluminum/nitrile rubber
7	Springs	Spring steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG, 10V24 or AD...)

Soft-start Valves MS6-DE – Metric Series

Dimensional Drawings

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



1 Plug connection to DIN EN 175 301-803
2 Solenoid actuator can be repositioned by 180°, i.e. solenoid points to the front
3 PIN only with solenoid actuators 110 V and 230 V

➔ Flow direction

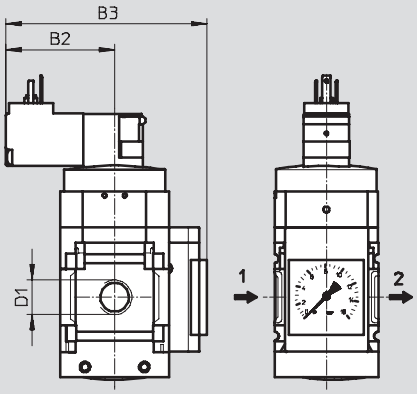
Type	B1	B2	B3	B4	B5	D1	L1	L2	L7
MS6-DE-¼	62	52	97	31	76	G¼	147	45.5	8.6
MS6-DE-⅜						G⅜			
MS6-DE-½						G½			

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Pressure Gauge Alternatives

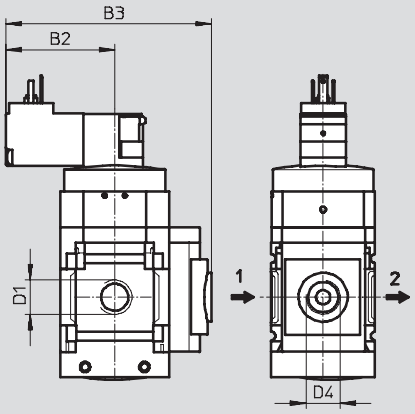
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



➔ Flow direction

Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS6-DE-¼-...-AG	52	106	G¼	–
MS6-DE-⅜-...-AG			G⅜	
MS6-DE-½-...-AG			G½	
MS6-DE-¼-...-A4	52	99.6	G¼	G¼
MS6-DE-⅜-...-A4			G⅜	
MS6-DE-½-...-A4			G½	

1) Dimensions are in millimeters, unless otherwise noted.

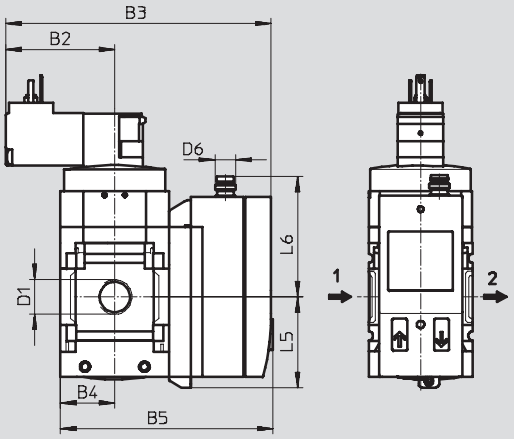
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	B4	B5	D1	D6	L5	L6
MS6-DE-¼-...-AD1/AD2	52	124	31	103	G¼	M8x1	35.1	46.7
MS6-DE-⅜-...-AD1/AD2					G⅜			
MS6-DE-½-...-AD1/AD2					G½			
MS6-DE-¼-...-AD3/AD4	52	124	31	103	G¼	M12x1	35.1	55.8
MS6-DE-⅜-...-AD3/AD4					G⅜			
MS6-DE-½-...-AD3/AD4					G½			

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering Data

Connection	Part No.	Type	LT
Supply voltage 24 V DC			
G¼	**542564**	**MS6-DE-¼-10V24**	1D
G⅜	**542566**	**MS6-DE-⅜-10V24**	1D
G½	**542562**	**MS6-DE-½-10V24**	1D
Supply voltage 110 V AC			
G¼	**529805**	**MS6-DE-¼-V110[1]**	1D
G⅜	**529811**	**MS6-DE-⅜-V110[1]**	1D
G½	**529799**	**MS6-DE-½-V110[1]**	1D
Supply voltage 230 V AC			
G¼	**529807**	**MS6-DE-¼-V230[1]**	1D
G⅜	**529813**	**MS6-DE-⅜-V230[1]**	1D
G½	**529801**	**MS6-DE-½-V230[1]**	1D

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

1) Free of copper and PTFE

Soft-start Valves MS6-DE – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data						O Options			
Part No.	Series	Size	Function	Connection size	Supply voltage	Pressure gauge alternatives	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
527686	MS	6	DE	¼, ⅜, ½, AGB, AGC, AGD, AGE	V24 10V24 V110 V230	AG, A4, AD1, AD2, AD3, AD4	PSI MPA	WP WPM WB	Z
Order example									
527686	MS	6	– DE	– AGB	– V110	– AG	– PSI	– WP	– Z

Ordering Table

Grid dimension [mm]		62	Conditions	Code	Enter code
M	Part No.	**527686**			
	Series	Standard		**MS**	MS
	Size	6		**6**	6
	Function	Soft-start valve, electrical		**-DE**	-DE
	Connection size	Body thread G¼		**-¼**	
		Body thread G⅜		**-⅜**	
		Body thread G½		**-½**	
		Port plate G¼ (dimensions ➔ 950)		**-AGB**	
		Port plate G⅜ (dimensions ➔ 950)		**-AGC**	
		Port plate G½ (dimensions ➔ 950)		**-AGD**	
		Port plate G¾ (dimensions ➔ 950)		**-AGE**	
	Supply voltage	24 V DC (connection pattern to EN 175301), 14 bar		**-V24**	
		24 V DC (connection pattern to EN 175301), 10 bar	1	**-10V24**	
		110 V AC (connection pattern to EN 175301), 14 bar		**-V110**	
		230 V AC (connection pattern to EN 175301), 14 bar		**-V230**	
O	Pressure gauge alternatives	MS pressure gauge, bar		**-AG**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	2	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	2	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	2	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	2	**-AD4**	
	Alternative pressure gauge scale	psi	3	**-PSI**	
		MPa	3	**-MPA**	
	Type of mounting	Mounting bracket (dimensions ➔ 951)	4	**-WP**	
		Mounting bracket (dimensions ➔ 951)	4	**-WPM**	
		Mounting bracket (dimensions ➔ 948)		**-WB**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **10V24** Max. inlet pressunge 10 bar
2 **AD1 ... AD4** Measuring range max. 10 bar
3 **PSI, MPA** Only with pressure gauge AG
4 **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

Transfer order code

527686	MS	6	–	DE	–		–		–		–		–		–		

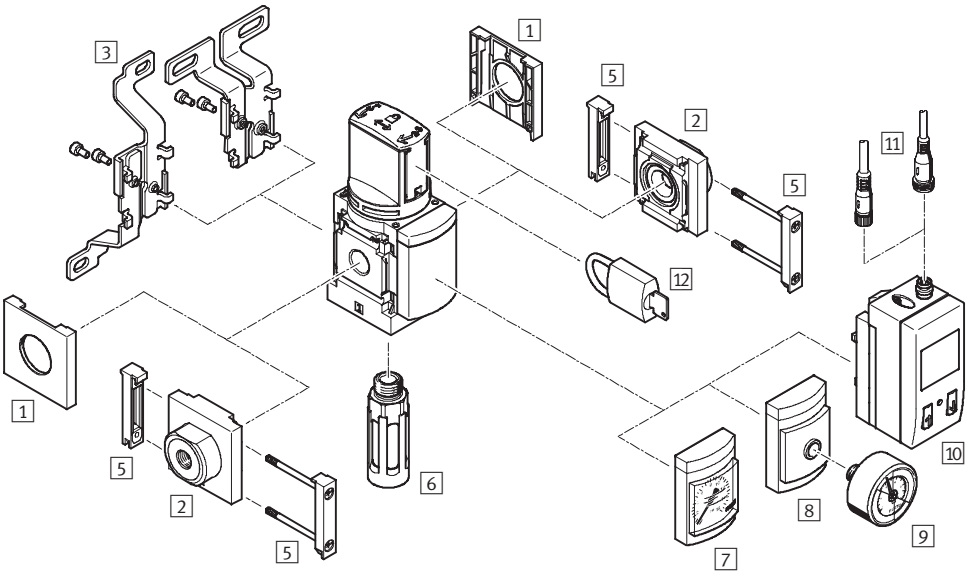
On-off/Soft-start Valves MS6-EM1/DL – Metric Series

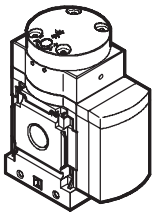
Accessories Overview

Mounting Attachments and Accessories

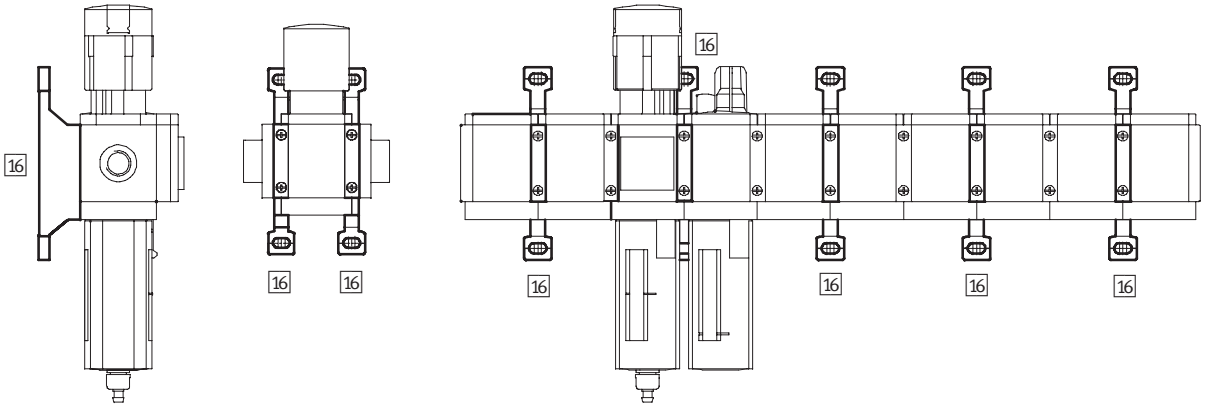
On-off Valve EM1 – manually actuated

Soft-start Valve DL – pneumatically actuated





Single unit and combination unit mounting brackets.



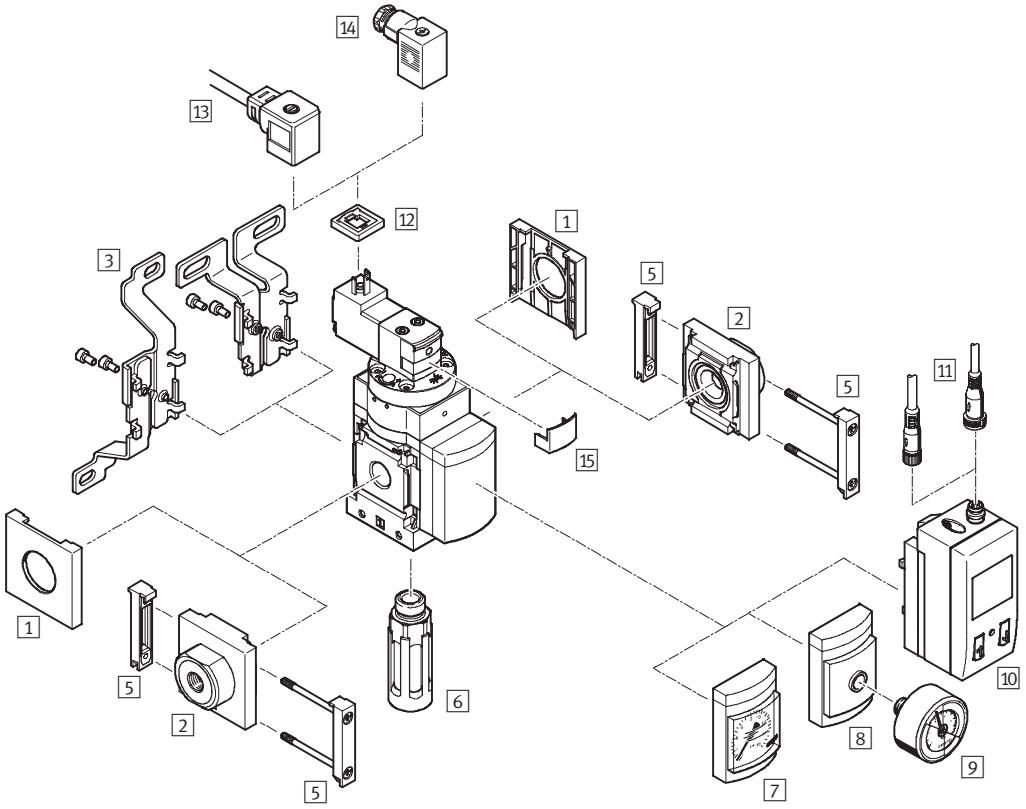
On-off/Soft-start Valves MS6-EM1/DL – Metric Series

Accessories Overview

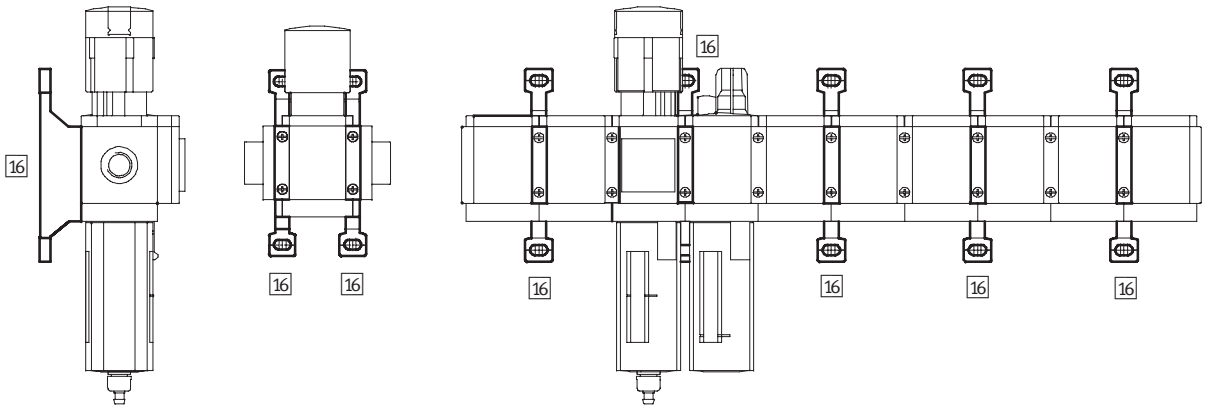
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	949
2	Port plate MS6-AG...	–	■	–	■	950
3	Mounting bracket MS6-WB	■	■	–	–	948
5	Body connector MS6-MV	–	■	■	■	950
6	Silencer U	■ with EM1	■ with EM1	■ with EM1	■ with EM1	955
7	MS pressure gauge AG	■	■	■	■	EM1 926 DL 938
8	Adapter for EN pressure gauge ¼ A4	■	■	■	■	EM1 926 DL 938
9	Pressure gauge MA	■	■	■	■	955
10	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	EM1 926 DL 938
11	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	954
12	Padlock LRVS-D	■	■	■	■	955
16	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	951

Mounting Attachments and Accessories

On-off/Soft-start Valve EE/DE – solenoid actuated



Single unit and combination unit mounting brackets.



On-off/Soft-start Valves MS6-EE/DE – Metric Series

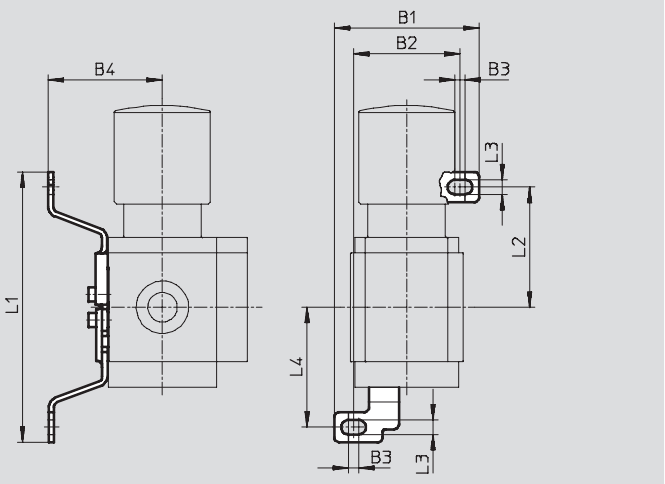
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	949
2	Port plate MS6-AG...	–	■	–	■	950
3	Mounting bracket MS6-WB	■	■	–	–	948
5	Body connector MS6-MV	–	■	■	■	950
6	Silencer U	■ with EE	■ with EE	■ with EE	■ with EE	955
7	Pressure gauge MS AG	■	■	■	■	EE 932 DE 943
8	Adapter for EN pressure gauge ¼ A4	■	■	■	■	EE 932 DE 943
9	Pressure gauge MA	■	■	■	■	955
10	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	EE 932 DE 943
11	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	954
12	Illuminating seal MEB-LD	■	■	■	■	954
13	Plug socket with cable KMEB	■	■	■	■	954
14	Plug socket MSSD-EB	■	■	■	■	954
15	Locking clip CPV18-HV	■	■	■	■	954
16	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	951

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

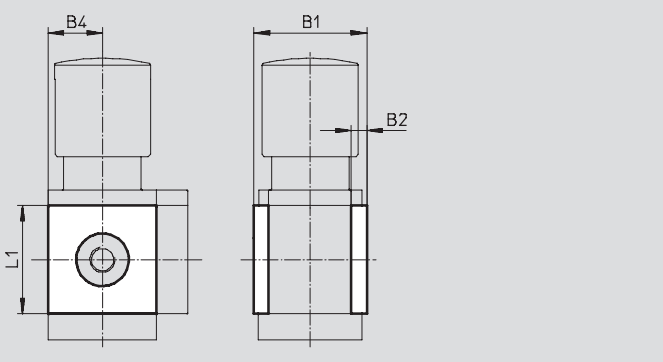
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
79.4	61.9	4.5	55	157.6	71	6.6	71	121	**532196**	**MS6-WB**

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

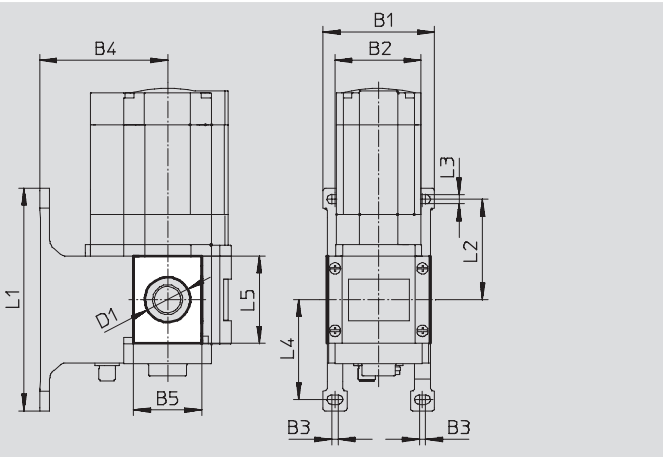
B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

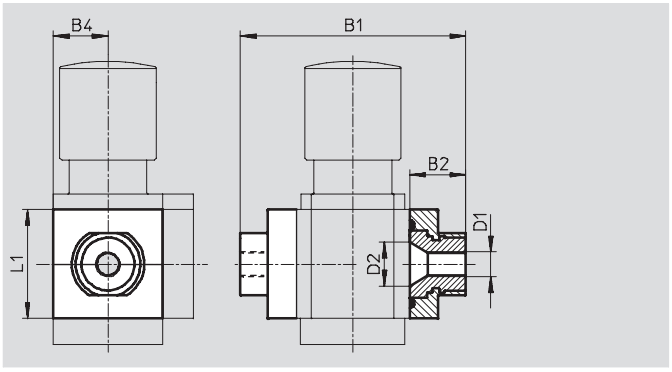
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6-AG...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G¾

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

5 **Body connector MS...-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

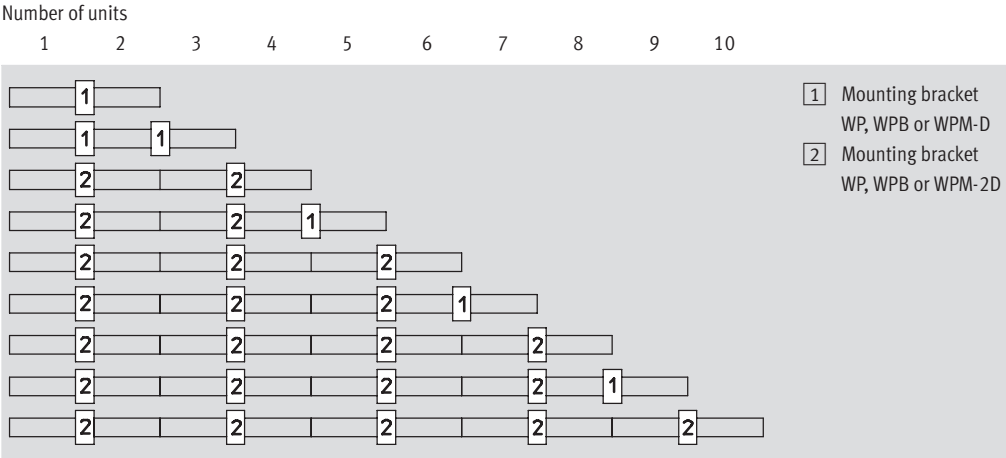
Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

16 Mounting Bracket MS6-WP...

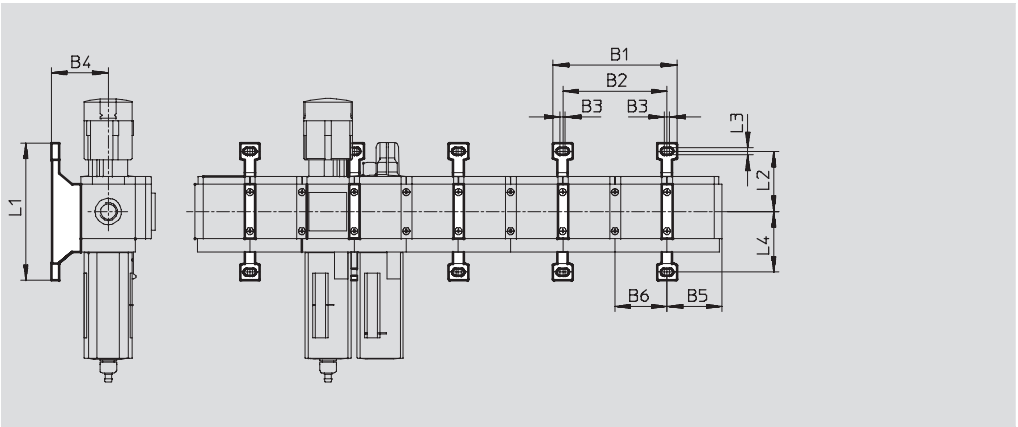
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WP, WPB
69 mm with WPM-D

2 units: 124 mm with WP, WPB
138 mm with WPM-2D



Mounting dimensions



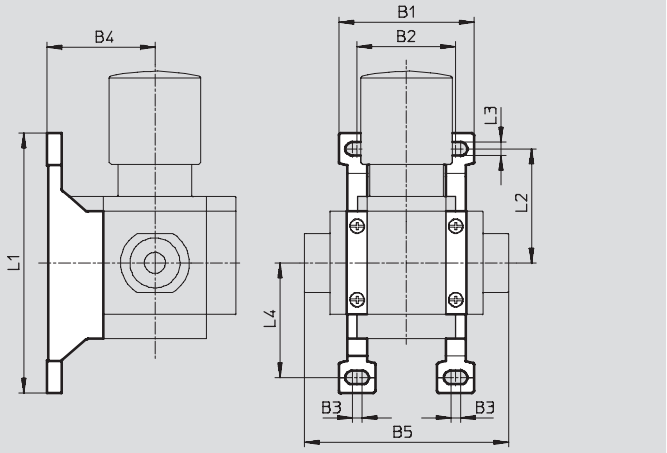
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

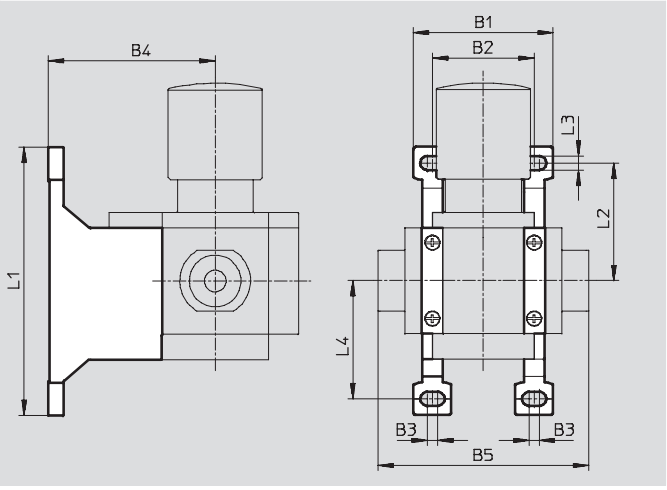
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	54	115	158	71	6.6	71	76	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

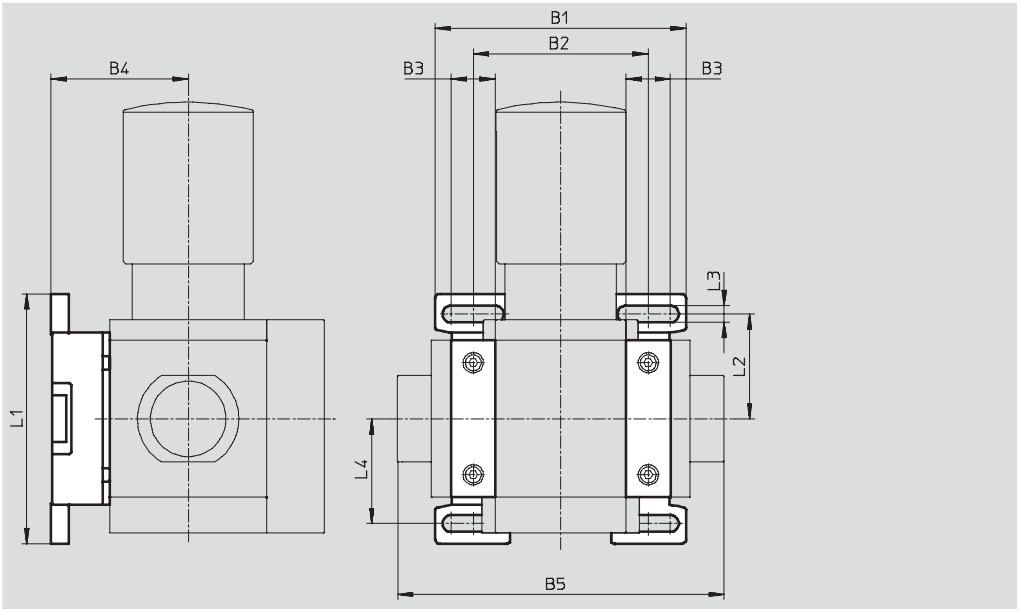
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	**526073**	**MS6-WPM-D**
168	138			198					124	154	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



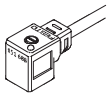
Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

14 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for MS6-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	**151687**	**MSSD-EB**
			4-pin	Insulation displacement technology	**192745**	**MSSD-EB-S-M14**

13 Ordering Data – Plug Socket with Cable KMEB — Technical data ➔ www.festo.com/catalog/kmeb

	Description	Operating voltage range	Switching status display	Cable length [m]	Part No.	Type
	for MS6-EE/DE	24 V DC	LED	2.5	**151688**	**KMEB-1-24-2,5-LED**
		24 V DC	LED	5	**151689**	**KMEB-1-24-5-LED**
		24 V DC	LED	10	**193457**	**KMEB-1-24-10-LED**
		230 V AC	–	2.5	**151690**	**KMEB-1-230AC-2,5**
		230 V AC	–	5	**151691**	**KMEB-1-230AC-5**

12 Ordering Data – Illuminating Seal MEB-LD — Technical data ➔ www.festo.com/catalog/meb-ld

	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	**151717**	**MEB-LD-12-24DC**
		230 V DC/AC ±10%	**151718**	**MEB-LD-230AC**

15 Ordering Data – Locking Clip CPV18-HV — Technical data ➔ www.festo.com/catalog/cpv18-hv

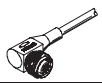
	Description		Part No.	Type	PU[1)]
	for MS6-EE/DE-...-V24	Cover for manual override, the clip prevents actuation	**530056**	**CPV18-HV**	**10**

1) Packaging unit quantity

11 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [m]	Part No.	Type
	M8x1, 3-pin	2.5	**159420**	**SIM-M8-3GD-2,5-PU**
		5	**159421**	**SIM-M8-3GD-5-PU**
		10	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	2.5	**159422**	**SIM-M8-3WD-2,5-PU**
		5	**159423**	**SIM-M8-3WD-5-PU**
		10	**192965**	**SIM-M8-3WD-10-PU**

Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 4-pin	5	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	5	**164258**	**SIM-M12-4WD-5-PU**

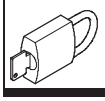
9 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

6 Ordering Data – Silencer U — Technical data ➔ www.festo.com/catalog/u

	Description	Pneumatic connection	Part No.	Type
	for MS6-EM1/EE	G½	**6844**	**U-½-B**

Ordering Data – Padlock LRVS-D

	Description	Weight [g]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	120	**193786**	**LRVS-D**

On-off/Soft-start Valves MS6N-EM1/EE/DL/DE – Inch Series



Manually operated and solenoid actuated on-off valves for pressurizing and venting pneumatic installations. Pneumatic and solenoid actuated soft-start valves for slowly pressurizing and venting pneumatic installations.

- On-off valves
  – MS6N-EM1, manually operated
  – MS6N-EE, solenoid actuated
- Soft-start valves
  – MS6N-DL, pneumatically actuated
  – MS6N-DE, solenoid actuated
- Pneumatic connection: ¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT
- Operating pressure
  – EM1: 0 ... 265 psi
  – EE, DL and DE: 59 ... 265 psi
- Flow rate: 91.8 ... 307.1 scfm

Product Range Overview

Type	Flow rate [scfm]	Pneumatic connections		Supply voltage				Pressure indicator					Options	
		Body thread	Port plate	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge ⅛ NPT	Adapter for pressure gauge ¼ NPT	Pressure sensor with display	Silencer	Flow direction from right to left
MS6N			AG...	V24	V24P	V110	V230	VS	AG	A8	A4	AD...	S	Z
EM1	105.9 ... 307.1	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	–	–	–	–	■	■	–	■	■	■	■
EE	91.8 ... 247.1	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	■	–	■	■	■	■	–	■	■	■	■
DL	98.8... 227.7	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	–	–	–	–	■	■	–	■	■	–	■
DE	95.3 ... 227.7	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	■	–	■	■	■	■	–	■	■	–	■

Contents

MS6N-EM1

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→ www.festo.com/catalog/msn6-em1

MS6N-EE

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→ www.festo.com/catalog/msn6-ee

MS6N-DL

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Dimensional Drawings	→ 972
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Accessories	→ 980

→ www.festo.com/catalog/msn6-dl

MS6N-DE

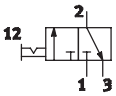
Technical Data	→ 975
Dimensional Drawings	→ 977
Ordering Data	→ 978
Accessories	→ 980

→ www.festo.com/catalog/msn6-de

On-off Valves MS6N-EM1 – Inch Series

Technical Data

ISO Symbol



- Manually operated on-off valve for pressurizing and venting pneumatic installations
- The valve is activated by turning the rotary knob
- At connection 3 there is the facility to attach a silencer and/or to duct the exhaust air
- When the valve is closed, the rotary knob can be secured with a padlock
- Optional pressure gauge
- Optional pressure sensor with display



General Technical Data				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Pneumatic connection 3		½ NPT		
Operating pressure	[psi]	0 ... 265 (Standard)		
		0 ... 147 (Pressure sensor with display AD...)		

Standard Nominal Flow Rate qnN[1] [scfm]			
Pneumatic connection	¼ NPT	⅜ NPT	½ NPT
In main flow direction 1 ⇢ 2	105.9	194.2	307.1
In relief direction 2 ⇢ 3	240.0	233.0	218.9

1) Measured at p1 = 88 psi and p2 = 74 psi, Δp = 15 psi

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Exhaust function		No flow control	
Switching position display		Knob actuator direction = flow direction	
Ambient temperature	[°F]	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	32 ... 122
Assembly position		Any	
Corrosion resistance	CRC[2]	2	

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Standard	1.16
With silencer	1.31

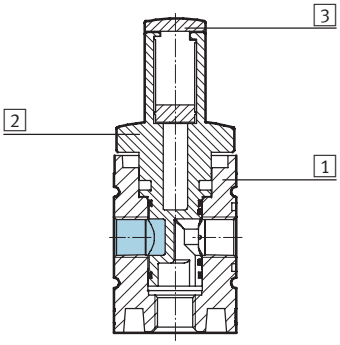
- For spare parts go to: www.festo.com/en/spare_parts_service

On-off Valves MS6N-EM1 – Inch Series

Technical Data, Dimensional Drawings

Materials

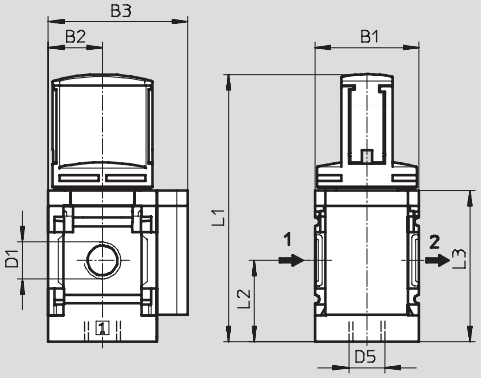
Sectional view

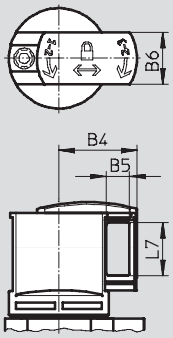


On-off valve		
1	Body	Die-cast aluminum
2	Rotary valve	Reinforced polyamide
3	Lock slide	Reinforced polyamide
–	Seals	Nitrile rubber, polyurethane
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**





➔ Flow direction

Type	B1	B2	B3	B4	B5	B6	D1	D5	L1	L2	L3	L7
MS6N-EM1-¼	2.44	1.22	2.99	1.77	0.39	0.94	¼ NPT	½ NPT	5.94	1.79	3.33	1.11
MS6N-EM1-⅜							⅜ NPT					
MS6N-EM1-½							½ NPT					

1) Dimensions are in inches, unless otherwise noted.

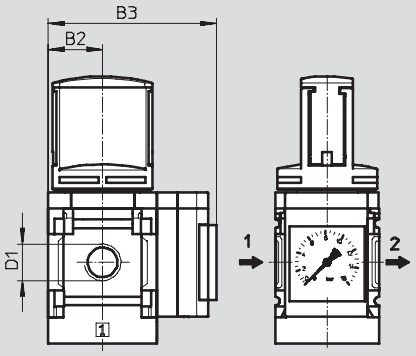
On-off Valves MS6N-EM1 – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

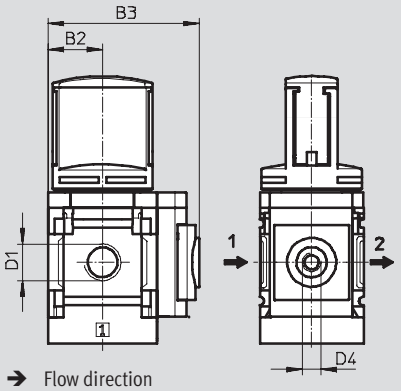
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



➔ Flow direction

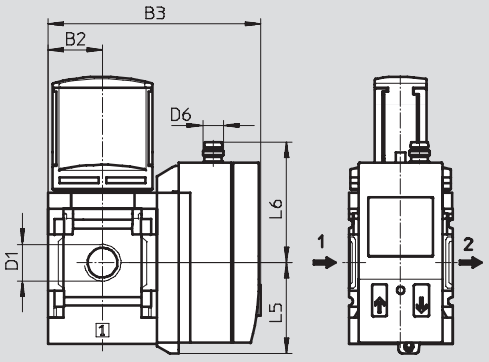
Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

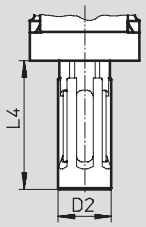
AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS6N-EM1-¼-...-AG	1.22	3.35	¼ NPT	–	–	–	–
MS6N-EM1-⅜-...-AG			⅜ NPT				
MS6N-EM1-½-...-AG			½ NPT				
MS6N-EM1-¼-...-A4	1.22	3.09	¼ NPT	¼ NPT	–	–	–
MS6N-EM1-⅜-...-A4			⅜ NPT				
MS6N-EM1-½-...-A4			½ NPT				
MS6N-EM1-¼-...-AD1/AD2	1.22	4.06	¼ NPT	–	M8x1	1.38	1.84
MS6N-EM1-⅜-...-AD1/AD2			⅜ NPT				
MS6N-EM1-½-...-AD1/AD2			½ NPT				
MS6N-EM1-¼-...-AD3/AD4	1.22	4.06	¼ NPT	–	M12x1	1.38	2.20
MS6N-EM1-⅜-...-AD3/AD4			⅜ NPT				
MS6N-EM1-½-...-AD3/AD4			½ NPT				

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Silencer Download CAD Data ➔ **www.festo.com/us/cad**



Type	D2	L4
MS6N-EM1-...-S	1.10	4.17

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Standard				With silencer		
	Part No.	Type	LT		Part No.	Type	LT
¼ NPT	**541293**	**MS6N-EM1-¼[2]**	1D		**541294**	**MS6N-EM1-¼-S[2]**	1D
⅜ NPT	**541297**	**MS6N-EM1-⅜[2]**	1D		**541298**	**MS6N-EM1-⅜-S[2]**	1D
½ NPT	**541289**	**MS6N-EM1-½[2]**	1D		**541290**	**MS6N-EM1-½-S[2]**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Free of copper and PTFE

On-off Valves MS6N-EM1 – Inch Series

Ordering Data – Configurable Products

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M Mandatory Data						O Options				
Part No.	Series	Size	Thread	Function	Connection size	Silencer	Pressure gauge alternatives	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
541301	MS	6	N	EM1	¼, ⅜, ½, AQN, AQP, AQR, AQS	S	AG, A4, AD1, AD2, AD3, AD4	BAR MPA	WP WPM WB	Z
Order example										
541301	**MS**	**6**	**N**	**EM1**	**1/4**	**S**	**AG**	**BAR**	**WB**	**Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code	Enter code
M	Part No.	**541301**			
	Series	Standard		**MS**	MS
	Size	6		**6**	6
	Thread	NPT thread		**N**	N
	Function	On-off valve, manual		**-EM1**	-EM1
	Connection size	Body thread ¼ NPT		**-¼**	
		Body thread ⅜ NPT		**-⅜**	
		Body thread ½ NPT		**-½**	
		Port plate ¼ NPT (dimensions → 986)		**-AQN**	
		Port plate ⅜ NPT (dimensions → 986)		**-AQP**	
		Port plate ½ NPT (dimensions → 986)		**-AQR**	
		Port plate ¾ NPT (dimensions → 986)		**-AQS**	
O	Silencer	Silencer		**-S**	
	Pressure gauge alternatives	MS pressure gauge, bar		**-AG**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	1	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	1	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	1	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	1	**-AD4**	
	Alternative pressure gauge scale	bar	2	**-BAR**	
		MPa	2	**-MPA**	
	Type of mounting	Mounting bracket (dimensions → 987)	3	**-WP**	
		Mounting bracket (dimensions → 987)	3	**-WPM**	
		Mounting bracket (dimensions → 984)		**-WB**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **AD1 ... AD4** Measuring range max. 147 psi

2 **BAR, MPA** Only with pressure gauge AG

3 **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

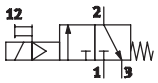
Transfer order code

541301	**MS**	**6**	**N**	–	**EM1**	–		–		–		–		–		–		–	

On-off Valves MS6N-EE – Inch Series

Technical Data

ISO Symbol



- Solenoid actuated on-off valve for pressurizing and venting pneumatic installations
- Ducted exhaust possible via a threaded connection with silencer
- Pushing and detenting manual override (detenting is locked on delivery)
- Solenoid coil without plug socket, three voltage ranges available.
- Solenoid actuator can be repositioned by 180°
- Optional pressure sensor with display



General Technical Data				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Pneumatic connection 3		½ NPT		
Operating pressure	[psi]	59 ... 206 (Coil parameter V24, V110, V230)		
		59 ... 147 (Coil parameter 10V24)		
		59 ... 147 (Pressure sensor with display AD...)		

Standard Nominal Flow Rate qnN[1] [scfm]			
Pneumatic connection	¼ NPT	⅜ NPT	½ NPT
In main flow direction 1 ⇢ 2	91.8	194.2	247.1
In relief direction 2 ⇢ 3	247.1	218.9	194.2

1) Measured at p1 = 88 psi and p2 = 74 psi, Δp = 15 psi

Operating and Environmental Conditions				
Variant		Coil parameter V24, V110, V230	Coil parameter 10V24	Pressure sensor with display AD...
Operating medium		Compressed air		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Coil characteristics	V24	24 V DC (For valves with max. inlet pressure 206 psi – only available via configurator)		
	10V24	24 V DC (For valves with max. inlet pressure 147 psi)		
	V110	110 V AC		
	V230	230 V AC		
Exhaust function		Without flow control		
Ambient temperature	[°F]	14 ... 140	14 ... 122	32 ... 122
Temperature of medium	[°F]	14 ... 140	14 ... 122	32 ... 122
Assembly position		Any		
Corrosion resistance	CRC[2]	2		

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

On-off Valves MS6N-EE – Inch Series

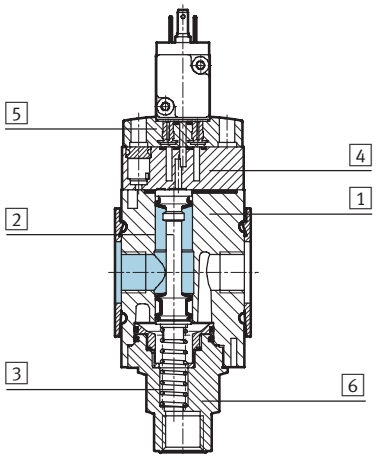
Technical Data

Weights [lb]	
Standard	1.48
With silencer	1.63

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



On-off valve		
1	Body	Die-cast aluminum
2	Piston spool	Nitrile rubber/Aluminum
3	Springs	High-alloy stainless steel
4	End cap	Polyamide
5	Top plate	Polyamide
6	Socket end connection	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG, 10V24 or AD...)

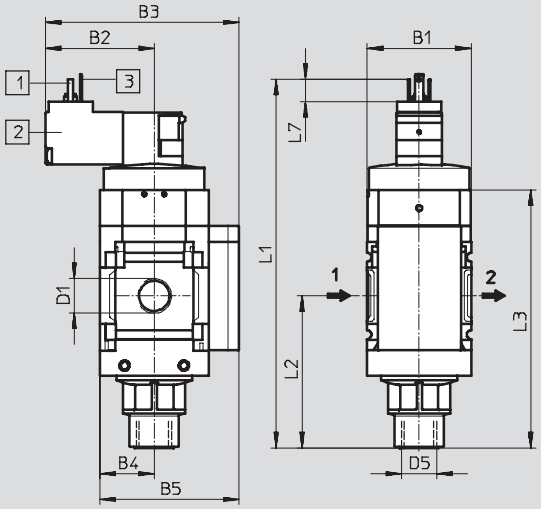
On-off Valves MS6N-EE – Inch Series

Dimensional Drawings

FESTO

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



1 Plug connection to DIN EN 175 301-803
2 Solenoid actuator can be repositioned by 180°, i.e. solenoid points to the front
3 PIN only with solenoid actuators 110 V and 230 V

➔ Flow direction

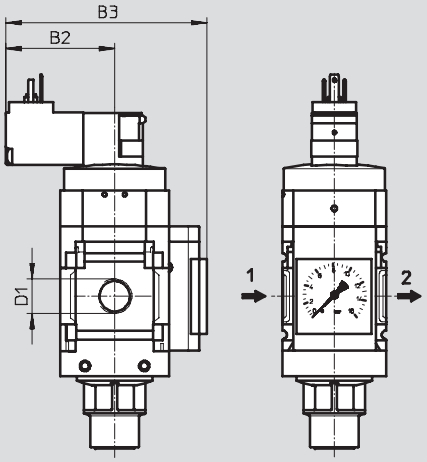
Type	B1	B2	B3	B4	B5	D1	D5	L1	L2	L3	L7
MS6N-EE-¼	2.44	2.05	3.82	1.22	2.99	¼ NPT	½ NPT	7.31	3.31	5.63	0.34
MS6N-EE-⅜						⅜ NPT					
MS6N-EE-½						½ NPT					

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Pressure Gauge Alternatives

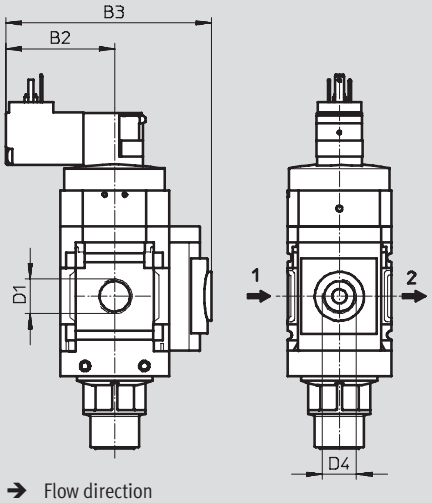
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



➔ Flow direction

Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS6N-EE-¼-...-AG	2.05	4.17	¼ NPT	–
MS6N-EE-⅜-...-AG			⅜ NPT	
MS6N-EE-½-...-AG			½ NPT	
MS6N-EE-¼-...-A4	2.05	3.92	¼ NPT	¼ NPT
MS6N-EE-⅜-...-A4			⅜ NPT	
MS6N-EE-½-...-A4			½ NPT	

On-off Valves MS6N-EE – Inch Series

Dimensional Drawings

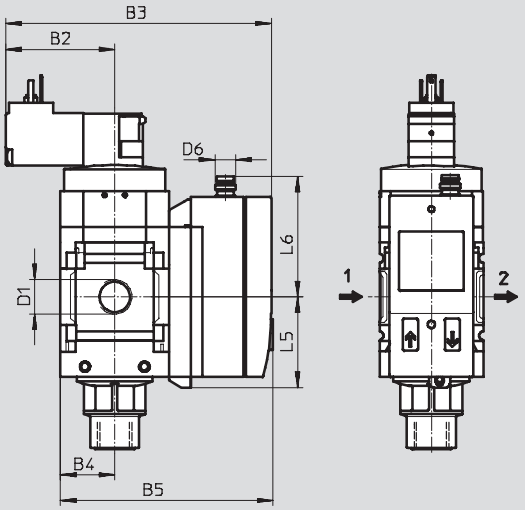
FESTO

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

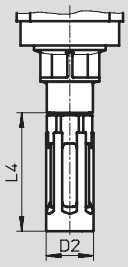
➔ Flow direction

Type	B2	B3	B4	B5	D1	D6	L5	L6
MS6N-EE-¼-...-AD1/AD2	2.05	4.88	1.22	4.06	¼ NPT	M8x1	1.38	1.84
MS6N-EE-⅜-...-AD1/AD2					⅜ NPT			
MS6N-EE-½-...-AD1/AD2					½ NPT			
MS6N-EE-¼-...-AD3/AD4	2.05	4.88	1.22	4.06	¼ NPT	M12x1	1.38	2.20
MS6N-EE-⅜-...-AD3/AD4					⅜ NPT			
MS6N-EE-½-...-AD3/AD4					½ NPT			

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Silencer

Download CAD Data ➔ **www.festo.com/us/cad**



Type	D2	L4
MS6N-EE-...-S	1.10	4.17

1) Dimensions are in inches, unless otherwise noted.

On-off Valves MS6N-EE – Inch Series

Ordering Data – Pre-configured Products

Ordering Data							
Connection	Without silencer				With silencer		
	Part No.	Type	LT		Part No.	Type	LT
Supply voltage 24 V DC							
¼ NPT	**542592**	**MS6N-EE-¼-10V24**	1D		**542614**	**MS6N-EE-¼-10V24-S**	Q
⅜ NPT	**542594**	**MS6N-EE-⅜-10V24**	1D		**542616**	**MS6N-EE-⅜-10V24-S**	Q
½ NPT	**542593**	**MS6N-EE-½-10V24**	1D		**542612**	**MS6N-EE-½-10V24-S**	Q
Supply voltage 110 V AC							
¼ NPT	**532109**	**MS6N-EE-¼-V110**[1)]	1D		**538767**	**MS6N-EE-¼-V110-S**[1)]	Q
⅜ NPT	**532111**	**MS6N-EE-⅜-V110**[1)]	1D		**538773**	**MS6N-EE-⅜-V110-S**[1)]	Q
½ NPT	**532110**	**MS6N-EE-½-V110**[1)]	1D		**538761**	**MS6N-EE-½-V110-S**[1)]	Q
Supply voltage 230 V AC							
¼ NPT	**532115**	**MS6N-EE-¼-V230**[1)]	1D		**538769**	**MS6N-EE-¼-V230-S**[1)]	Q
⅜ NPT	**532117**	**MS6N-EE-⅜-V230**[1)]	1D		**538775**	**MS6N-EE-⅜-V230-S**[1)]	Q
½ NPT	**532116**	**MS6N-EE-½-V230**[1)]	1D		**538763**	**MS6N-EE-½-V230-S**[1)]	Q

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Free of copper and PTFE

On-off Valves MS6N-EE – Inch Series

Ordering Data – Configurable Products

FESTO

M **Mandatory Data** →

Part No.	Series	Size	Thread		Function		Connection size		Supply voltage
527683	MS	6	N		EE		¼ ⅜ ½ AQN AQP AQR AQS		V24 10V24 V110 V230
Order example									
527683	**MS**	**6**	**N**	–	**EE**	–	**AQN**	–	**V24**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**527683**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Thread	NPT thread		**N**		N
	Function	On-off valve, electrical		**-EE**		-EE
	Connection size	Body thread ¼ NPT		**-¼**		
		Body thread ⅜ NPT		**-⅜**		
		Body thread ½ NPT		**-½**		
		Port plate ¼ NPT (dimensions → 986)		**-AQN**		
		Port plate ⅜ NPT (dimensions → 986)		**-AQP**		
		Port plate ½ NPT (dimensions → 986)		**-AQR**		
		Port plate ¾ NPT (dimensions → 986)		**-AQS**		
	Supply voltage	24 V DC (connection pattern to EN 175301), 206 psi		**-V24**		
		24 V DC (connection pattern to EN 175301), 147 psi	1	**-10V24**		
		110 V AC (connection pattern to EN 175301), 206 psi		**-V110**		
↓		230 V AC (connection pattern to EN 175301), 206 psi		**-V230**		

1 **10V24** Max. inlet pressure 147 psi

Transfer order code

527683	**MS**	**6**	**N**	–	**EE**	–		–	

➔ [0] **Options**

	Silencer		Pressure gauge alternatives		Alternative pressure gauge scale		Type of mounting		Reverse flow direction
	S		AG A4 AD1 AD2 AD3 AD4		BAR MPA		WP WPM WB		Z
–	**S**	–	**AG**	–	**BAR**	–	**WP**	–	**Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
[0]	Silencer	Silencer		**-S**		
	Pressure gauge alternatives	MS pressure gauge, psi		**-AG**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	[2]	**-AD1**		
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	[2]	**-AD2**		
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	[2]	**-AD3**		
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	[2]	**-AD4**		
	Alternative pressure gauge scale	bar	[3]	**-BAR**		
		MPa	[3]	**-MPA**		
	Type of mounting	Mounting bracket (dimensions ➔ 987)	[4]	**-WP**		
		Mounting bracket (dimensions ➔ 987)	[4]	**-WPM**		
		Mounting bracket (dimensions ➔ 984)		**-WB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

[2] **AD1 ... AD4** Measuring range max. 147 psi
[3] **BAR, MPA** Only with pressure gauge AG
[4] **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

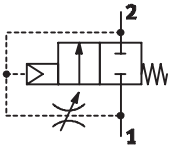
Transfer order code

–		–		–		–		–	

Soft-start Valves MS6N-DL – Inch Series

Technical Data

ISO Symbol



- Pneumatically actuated soft-start valve for slowly pressurizing and venting pneumatic installations (for use with on-off valves EM1 and EE)
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. The main seat opens when the switch-through pressure is reached.
- Pressure switching approx. 50% of supply pressure
- When the valve is exhausted, the main seat remains open until the switch-through pressure is reached. The rest of the exhaust procedure is performed using the restrictor.



- The cylinders advance slowly and reliably into the initial position. Sudden and erratic movements are avoided.
- Adjustable switching time delay
- Optional pressure sensor with display

General Technical Data				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Operating pressure	[psi]	59 ... 265 (Standard)		

Standard Nominal Flow Rate qnN[1] [scfm]			
Pneumatic connection 1, 2	¼ NPT	⅜ NPT	½ NPT
In main flow direction 1 → 2	98.8	178.3	227.7
In relief direction 2 → 1	98.8	178.3	225.9

1) Measured at p1 = 88 psi and p2 = 74 psi, Δp = 15 psi

Operating and Environmental Conditions			
Variant		Standard	Pressure sensor with display AD...
Operating medium		Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Exhaust function		Flow control	
Direction of flow		Non-reversible	
Ambient temperature	[°F]	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	32 ... 122
Assembly position		Any	
Corrosion resistance	CRC[2]	2	

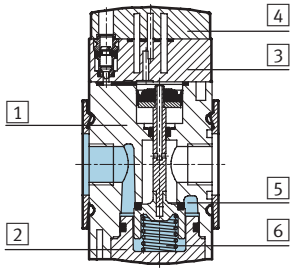
2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Soft-start valve	1.30

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

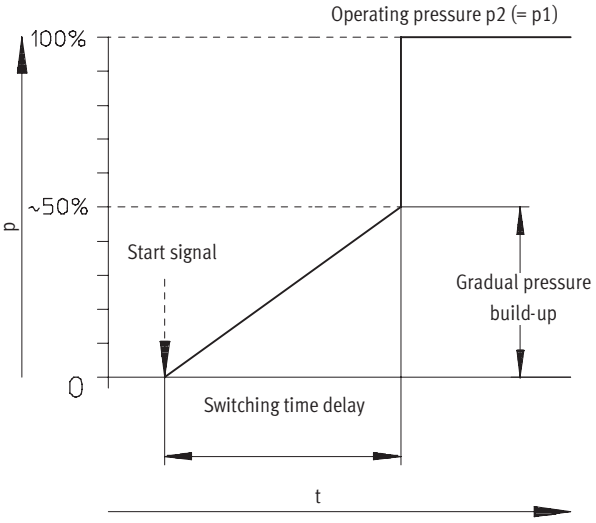
Sectional view



Soft-start valve		
1	Body	Die-cast aluminum
2	Base	Polyester
3	End cap	Polyamide
4	Top plate	Polyamide
5	Seat	Die-cast aluminum
6	Springs	Spring steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Switching Point

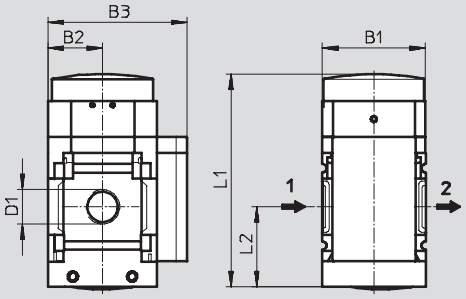
Pressure p as a function of time t



Soft-start Valves MS6N-DL – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



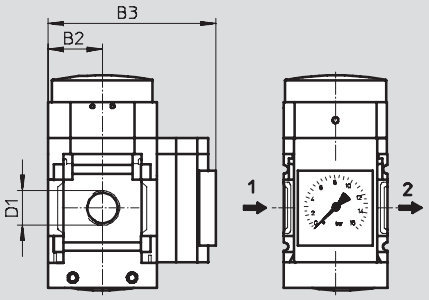
➔ Flow direction

Type	B1	B2	B3	D1	L1	L2
MS6N-DL-¼	2.44	1.22	2.99	¼ NPT	4.57	1.77
MS6N-DL-⅜				⅜ NPT		
MS6N-DL-½				½ NPT		

1) Dimensions are in inches, unless otherwise noted.

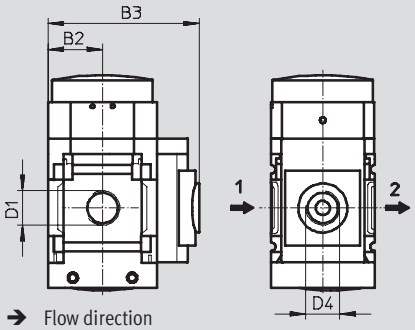
Dimensions[1] – Pressure Gauge Alternatives Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



➔ Flow direction

Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS6N-DL-¼-...-AG	1.22	3.35	¼ NPT	–
MS6N-DL-⅜-...-AG			⅜ NPT	
MS6N-DL-½-...-AG			½ NPT	
MS6N-DL-¼-...-A4	1.22	3.09	¼ NPT	¼ NPT
MS6N-DL-⅜-...-A4			⅜ NPT	
MS6N-DL-½-...-A4			½ NPT	

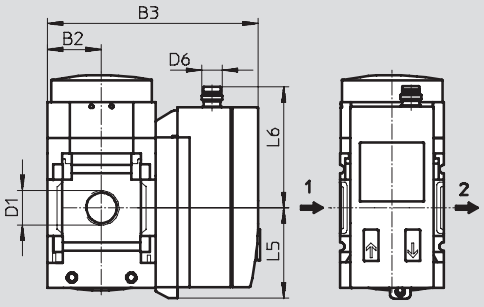
1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D6	L5	L6
MS6N-DL-¼-...-AD1/AD2	1.22	4.06	¼ NPT	M8x1	1.38	1.84
MS6N-DL-⅜-...-AD1/AD2			⅜ NPT			
MS6N-DL-½-...-AD1/AD2			½ NPT			
MS6N-DL-¼-...-AD3/AD4	1.22	4.06	¼ NPT	M12x1	1.38	2.20
MS6N-DL-⅜-...-AD3/AD4			⅜ NPT			
MS6N-DL-½-...-AD3/AD4			½ NPT			

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
¼ NPT	**532023**	**MS6N-DL-¼**[1]	1D
⅜ NPT	**532025**	**MS6N-DL-⅜**[1]	1D
½ NPT	**532024**	**MS6N-DL-½**[1]	1D

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

1) Free of copper and PTFE

Soft-start Valves MS6N-DL – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data						O Options			
Part No.	Series	Size	Thread	Function	Connection size	Pressure gauge alternatives	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
527685	MS	6	N	DL	¼, ⅜, ½, AQN, AQP, AQR, AQS	AG, A4, AD1, AD2, AD3, AD4	BAR MPA	WP WPM WB	Z
Order example									
527685	**MS**	**6**	**N**	**DL**	**AQN**	**AG**	**BAR**	**WB**	**Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code	Enter code
M	Part No.	**527685**			
	Series	Standard		**MS**	MS
	Size	6		**6**	6
	Thread	NPT thread		**N**	N
	Function	Soft-start valve, pneumatic		**-DL**	-DL
	Connection size	Body thread ¼ NPT		**-¼**	
		Body thread ⅜ NPT		**-⅜**	
		Body thread ½ NPT		**-½**	
		Port plate ¼ NPT (dimensions → 986)		**-AQN**	
		Port plate ⅜ NPT (dimensions → 986)		**-AQP**	
		Port plate ½ NPT (dimensions → 986)		**-AQR**	
		Port plate ¾ NPT (dimensions → 986)		**-AQS**	
O	Pressure gauge alternatives	MS pressure gauge, psi		**-AG**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	1	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	1	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	1	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	1	**-AD4**	
	Alternative pressure gauge scale	bar	2	**-BAR**	
		MPa	2	**-MPA**	
	Type of mounting	Mounting bracket (dimensions → 987)	3	**-WP**	
		Mounting bracket (dimensions → 987)	3	**-WPM**	
		Mounting bracket (dimensions → 984)		**-WB**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **AD1 ... AD4** Measuring range max. 147 psi

2 **BAR, MPA** Only with pressure gauge AG

3 **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

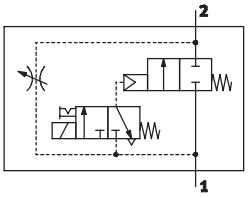
Transfer order code

527685	**MS**	**6**	**N**	–	**DL**	–		–		–		–		–

Soft-start Valves MS6N-DE – Inch Series

Technical Data

ISO Symbol



- Solenoid actuated soft-start valve for slowly pressurizing and venting pneumatic installations
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. Only the air flow via the restrictor is available when the solenoid valve is not actuated. The main seat is only opened by energizing the solenoid valve.
- When the solenoid valve is switched off, the main seat is closed and only the air flow via the flow control valve is available.
- The solenoid valve should remain switched on in order to vent a system as this increases the flow rate from 2 to 1 and reduces the exhaust time.



- The cylinders advance slowly and reliably into the initial position. Sudden and erratic movements are avoided.
- Solenoid coil without plug socket, three voltage ranges available
- Solenoid actuator can be repositioned by 180°
- Switch-through pressure can be precisely controlled using a solenoid valve
- Adjustable switching time delay
- Pushing and detenting manual override (detenting is locked on delivery)
- Optional pressure sensor with display

General Technical Data				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Operating pressure	[psi]	59 ... 206 (Coil parameter V24, V110, V230)		
		59 ... 147 (Coil parameter 10V24)		
		59 ... 147 (Pressure sensor with display AD...)		

Standard Nominal Flow Rate qnN[1] [scfm]			
Pneumatic connection 1, 2	¼ NPT	⅜ NPT	½ NPT
In main flow direction 1 ⇢ 2	95.3	178.3	227.7
In relief direction 2 ⇢ 1[2]	91.8	178.3	225.9

1) Measured at p1 = 88 psi and p2 = 74 psi Δp = 15 psi
2) For energized solenoid valve.

Soft-start Valves MS6N-DE – Inch Series

Technical Data

Operating and Environmental Conditions				
Variant		Coil parameter V24, V110, V230	Coil parameter 10V24	Pressure sensor with display AD...
Operating medium		Compressed air		Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Coil characteristics	V24	24 V DC (For valves with max. inlet pressure 206 psi – only available via configurator)		
	10V24	24 V DC (For valves with max. inlet pressure 147 psi)		
	V110	110 V AC		
	V230	230 V AC		
Exhaust function		Flow control		
Direction of flow		Non-reversible		
Ambient temperature	[°F]	14 ... 140	14 ... 122	32 ... 122
Temperature of medium	[°F]	14 ... 140	14 ... 122	32 ... 122
Assembly position		Any		
Corrosion resistance	CRC[1)]	2		

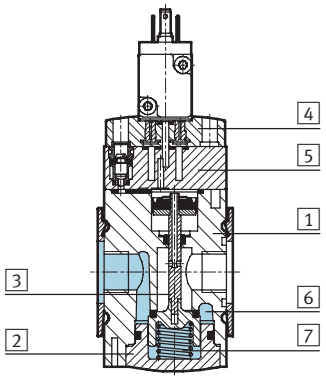
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Soft-start valve	1.36

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



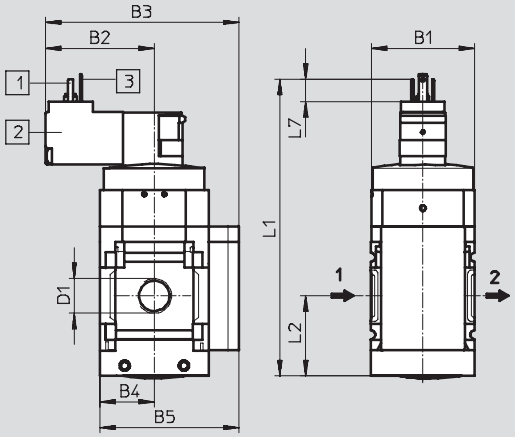
Soft-start valve		
1	Body	Die-cast aluminum
2	Base	Polyamide
3	Valve stem	Steel
4	End cap	Polyamide
5	Top plate	Polyamide
6	Seat	Aluminum/nitrile rubber
7	Springs	Spring steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variants AG, 10V24 or AD...)

Soft-start Valves MS6N-DE – Inch Series

Dimensional Drawings

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



1 Plug connection to DIN EN 175 301-803
2 Solenoid actuator can be repositioned by 180°, i.e. solenoid points to the front
3 PIN only with solenoid actuators 110 V and 230 V

➔ Flow direction

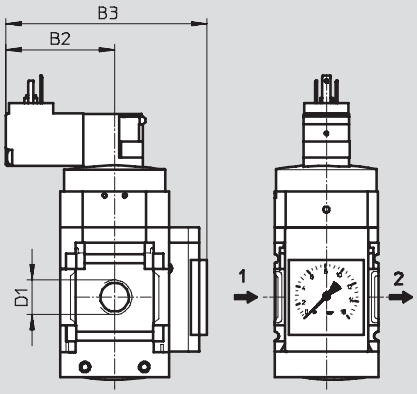
Type	B1	B2	B3	B4	B5	D1	L1	L2	L7
MS6N-DE-¼	2.44	2.05	3.82	1.22	2.99	¼ NPT	5.79	1.79	0.34
MS6N-DE-⅜						⅜ NPT			
MS6N-DE-½						½ NPT			

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Pressure Gauge Alternatives

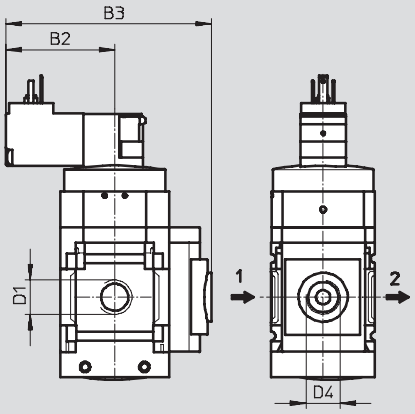
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



➔ Flow direction

Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B2	B3	D1	D4
MS6N-DE-¼-...-AG	2.05	4.17	¼ NPT	–
MS6N-DE-⅜-...-AG			⅜ NPT	
MS6N-DE-½-...-AG			½ NPT	
MS6N-DE-¼-...-A4	2.05	3.92	¼ NPT	¼ NPT
MS6N-DE-⅜-...-A4			⅜ NPT	
MS6N-DE-½-...-A4			½ NPT	

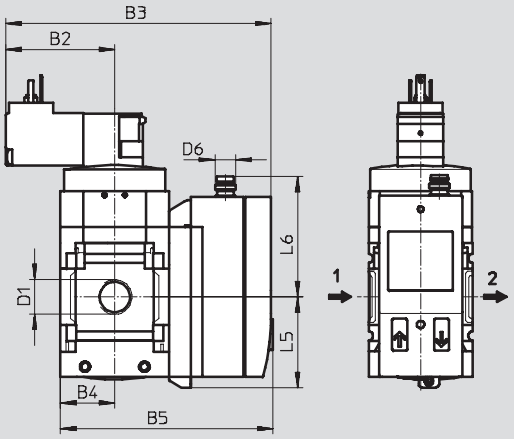
1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

AD1 variants:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

AD2 variants:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

AD3 variants:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analog

AD4 variants:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analog

Type	B2	B3	B4	B5	D1	D6	L5	L6
MS6N-DE-¼-...-AD1/AD2	2.05	4.88	1.22	4.06	¼ NPT	M8x1	1.38	1.84
MS6N-DE-⅜-...-AD1/AD2					⅜ NPT			
MS6N-DE-½-...-AD1/AD2					½ NPT			
MS6N-DE-¼-...-AD3/AD4	2.05	4.88	1.22	4.06	¼ NPT	M12x1	1.38	2.20
MS6N-DE-⅜-...-AD3/AD4					⅜ NPT			
MS6N-DE-½-...-AD3/AD4					½ NPT			

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
Supply voltage 24 V DC			
¼ NPT	**542572**	**MS6N-DE-¼-10V24**	1D
⅜ NPT	**542574**	**MS6N-DE-⅜-10V24**	1D
½ NPT	**542573**	**MS6N-DE-½-10V24**	1D
Supply voltage 110 V AC			
¼ NPT	**532041**	**MS6N-DE-¼-V110**[1]	1D
⅜ NPT	**532043**	**MS6N-DE-⅜-V110**[1]	1D
½ NPT	**532042**	**MS6N-DE-½-V110**[1]	1D
Supply voltage 230 V AC			
¼ NPT	**532047**	**MS6N-DE-¼-V230**[1]	1D
⅜ NPT	**532049**	**MS6N-DE-⅜-V230**[1]	1D
½ NPT	**532048**	**MS6N-DE-½-V230**[1]	1D

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

1) Free of copper and PTFE

Soft-start Valves MS6N-DE – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options			
Part No.	Series	Size	Thread	Function	Connection size	Supply voltage	Pressure gauge alternatives	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
527687	MS	6	N	DE	¼, ⅜, ½, AQN, AQP, AQR, AQS	V24 10V24 V110 V230	AG, A4, AD1, AD2, AD3, AD4	BAR MPA	WP WPM WB	Z
Order example										
527687	MS	6	N	– DE	– AQN	– V110	– AG	– BAR	– WP	– Z

Ordering Table

Grid dimension [mm]		62	Conditions	Code	Enter code
M	Part No.	**527687**			
	Series	Standard		**MS**	MS
	Size	6		**6**	6
	Thread	NPT thread		**N**	N
	Function	Soft-start valve, electrical		**-DE**	-DE
	Connection size	Body thread ¼ NPT		**-¼**	
		Body thread ⅜ NPT		**-⅜**	
		Body thread ½ NPT		**-½**	
		Port plate ¼ NPT (dimensions ➔ 986)		**-AQN**	
		Port plate ⅜ NPT (dimensions ➔ 986)		**-AQP**	
		Port plate ½ NPT (dimensions ➔ 986)		**-AQR**	
		Port plate ¾ NPT (dimensions ➔ 986)		**-AQS**	
	Supply voltage	24 V DC (connection pattern to EN 175301), 206 psi		**-V24**	
		24 V DC (connection pattern to EN 175301), 147 psi	1	**-10V24**	
		110 V AC (connection pattern to EN 175301), 206 psi		**-V110**	
		230 V AC (connection pattern to EN 175301), 206 psi		**-V230**	
O	Pressure gauge alternatives	MS pressure gauge, psi		**-AG**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, M8 plug, 1 switching output PNP, 3-pin	2	**-AD1**	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin	2	**-AD2**	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	2	**-AD3**	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	2	**-AD4**	
	Alternative pressure gauge scale	bar	3	**-BAR**	
		MPa	3	**-MPA**	
	Type of mounting	Mounting bracket (dimensions ➔ 987)	4	**-WP**	
		Mounting bracket (dimensions ➔ 987)	4	**-WPM**	
		Mounting bracket (dimensions ➔ 984)		**-WB**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **10V24** Max. inlet pressunge 147 psi

2 **AD1 ... AD4** Measuring range max. 147 psi

3 **BAR, MPA** Only with pressure gauge AG

4 **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

Transfer order code

527687	MS	6	N	– DE	–	–	–	–	–	–

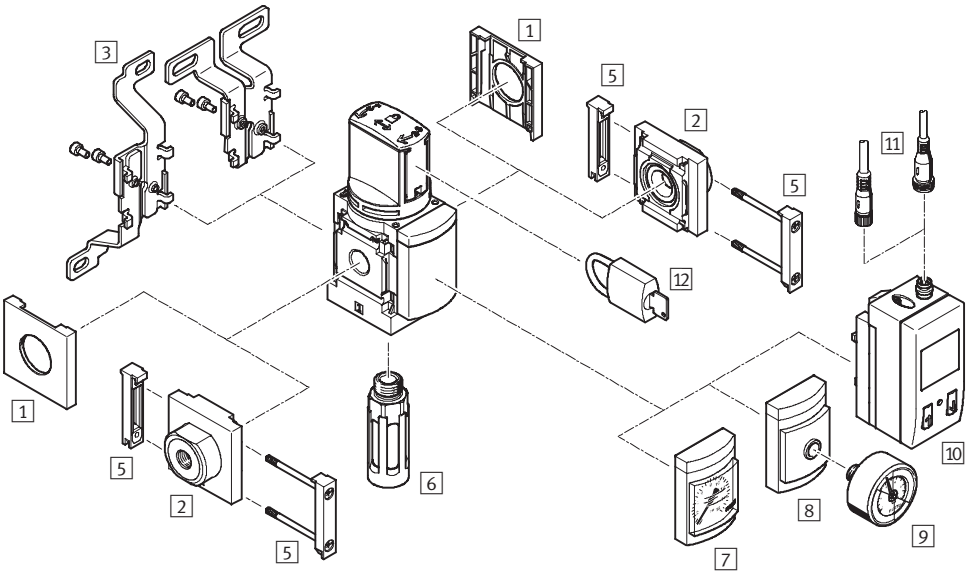
On-off/Soft-start Valves MS6N-EM1/DL – Inch Series

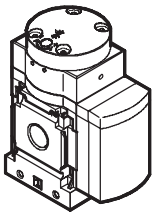
Accessories Overview

Mounting Attachments and Accessories

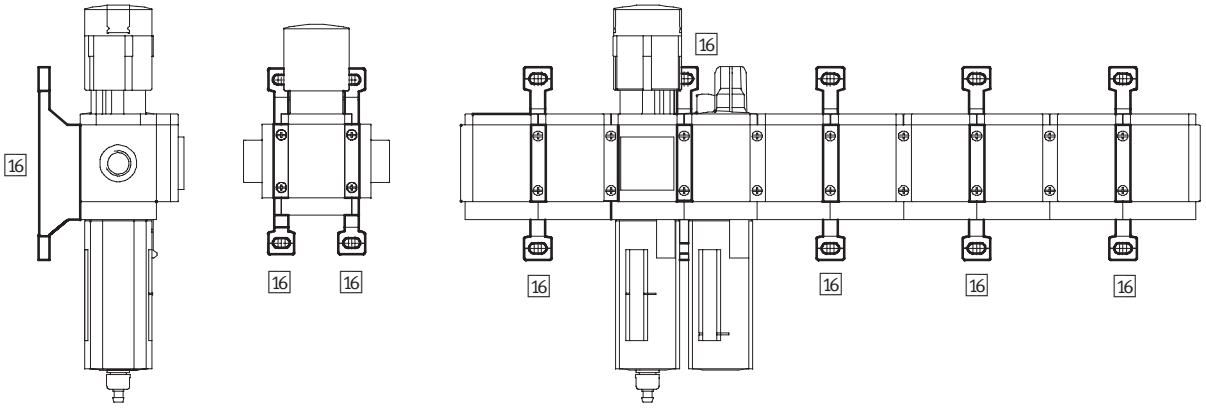
On-off Valve EM1 – manually actuated

Soft-start Valve DL – pneumatically actuated





Single unit and combination unit mounting brackets.



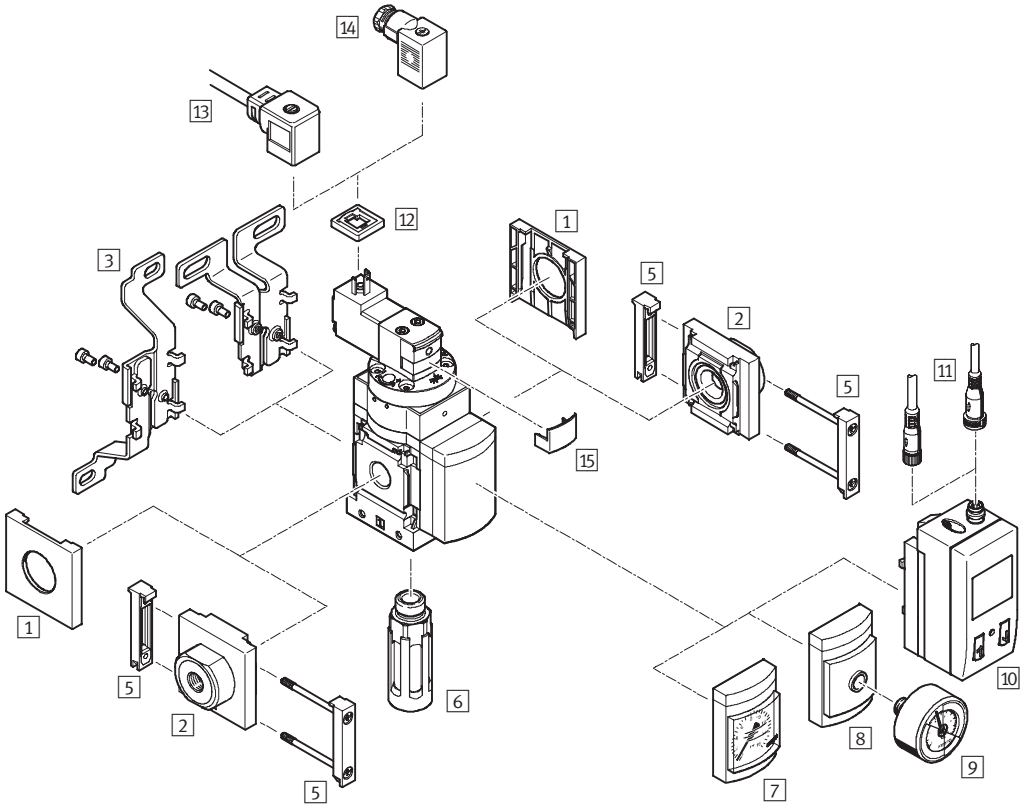
On-off/Soft-start Valves MS6N-EM1/DL – Inch Series

Accessories Overview

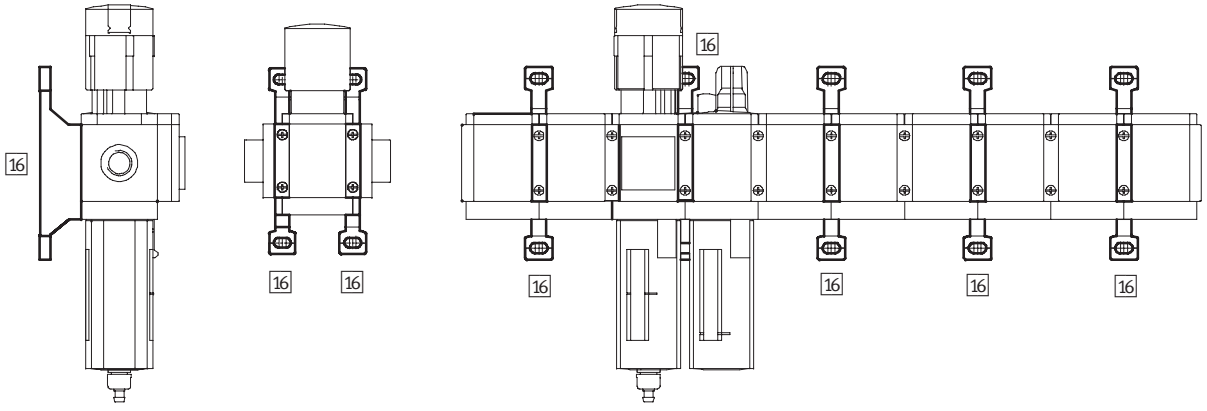
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	985
2	Port plate MS6N-AQ...	–	■	–	■	986
3	Mounting bracket MS6-WB	■	■	–	–	984
5	Body connector MS6-MV	–	■	■	■	986
6	Silencer U	■ with EM1	■ with EM1	■ with EM1	■ with EM1	991
7	MS pressure gauge AG	■	■	■	■	EM1 962 DL 974
8	Adapter for EN pressure gauge ¼ A4	■	■	■	■	EM1 962 DL 974
9	Pressure gauge MA	■	■	■	■	991
10	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	EM1 962 DL 974
11	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	990
12	Padlock LRVS-D	■	■	■	■	991
16	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	987

Mounting Attachments and Accessories

On-off/Soft-start Valve EE/DE – solenoid actuated



Single unit and combination unit mounting brackets.



On-off/Soft-start Valves MS6N-EE/DE – Inch Series

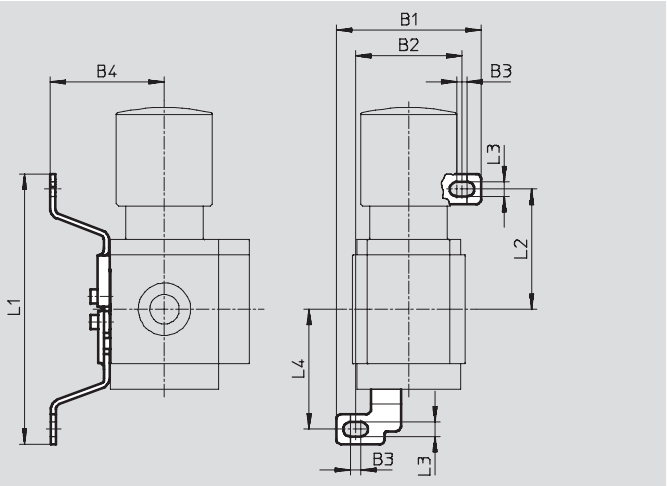
Accessories Overview

Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	985
2	Port plate MS6N-AQ...	–	■	–	■	986
3	Mounting bracket MS6-WB	■	■	–	–	984
5	Body connector MS6-MV	–	■	■	■	986
6	Silencer U	■ with EE	■ with EE	■ with EE	■ with EE	991
7	Pressure gauge MS AG	■	■	■	■	EE 968 DE 979
8	Adapter for EN pressure gauge ¼ A4	■	■	■	■	EE 968 DE 979
9	Pressure gauge MA	■	■	■	■	991
10	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	EE 968 DE 979
11	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	990
12	Illuminating seal MEB-LD	■	■	■	■	990
13	Plug socket with cable KMEB	■	■	■	■	990
14	Plug socket MSSD-EB	■	■	■	■	990
15	Locking clip CPV18-HV	■	■	■	■	990
16	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	987

3 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

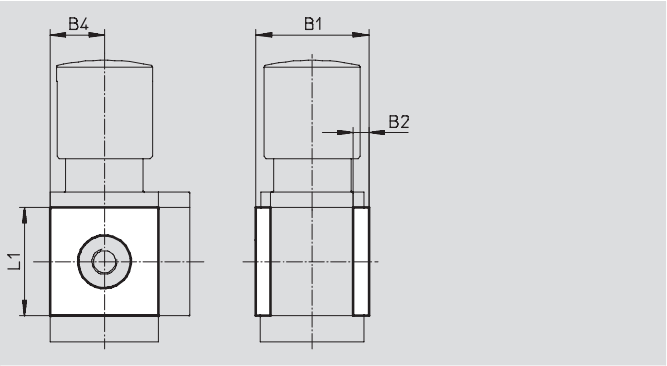
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.13	2.44	0.18	2.17	6.20	2.80	0.26	2.80	0.24	**532196**	**MS6-WB**

1 **Cover cap MS6-END**

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

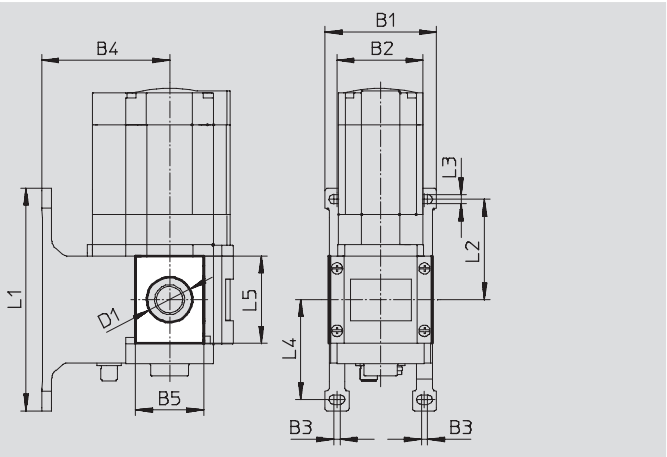
B1	B2	B4	L1	Part No.	Type
2.64	0.31	1.22	2.44	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

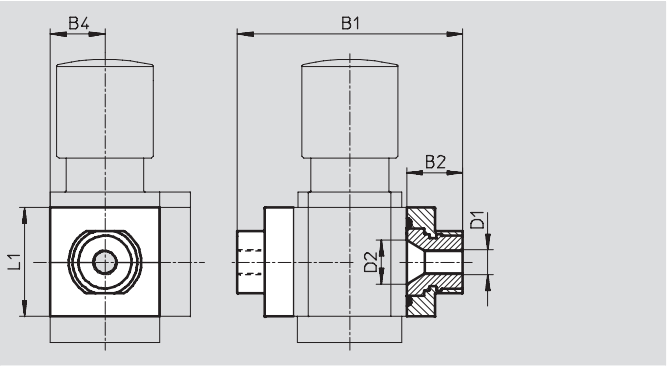
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6N-AQ...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection ¾ NPT

Material:
Aluminum





Dimensions and Ordering Data								
B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	¼ NPT	0.94	2.44	0.60	**526076**	**MS6N-AQN**
			⅜ NPT				**526077**	**MS6N-AQP**
			½ NPT				**526078**	**MS6N-AQR**
			¾ NPT				**526079**	**MS6N-AQS**

5 **Body connector MS...-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



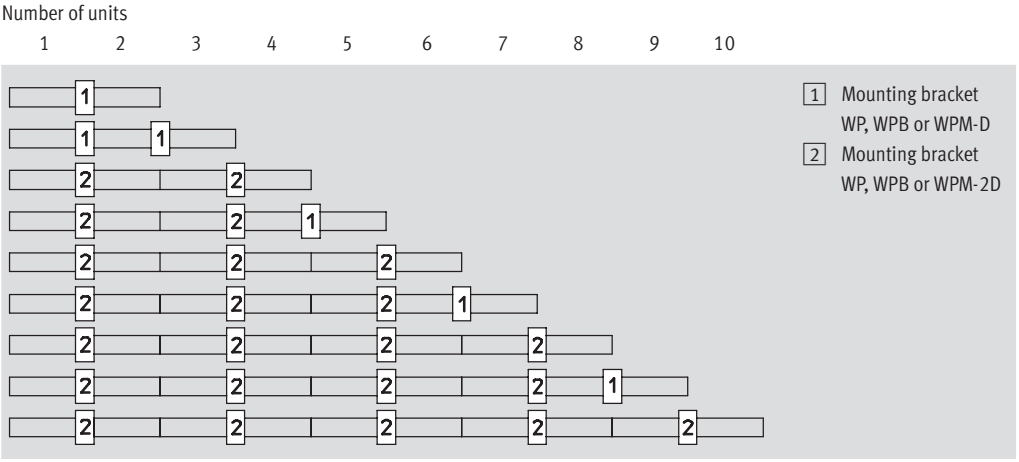
Ordering Data		
Weight [lb]	Part No.	Type
0.11	**532799**	**MS6-MV**

16 Mounting Bracket MS6-WP...

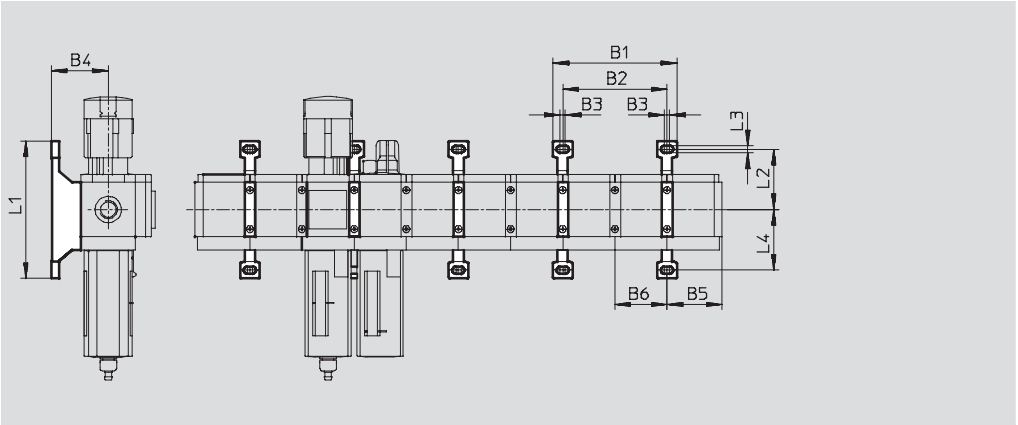
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WP, WPB
2.715 in with WPM-D

2 units: 4.88 in with WP, WPB
5.43 in with WPM-2D



Mounting dimensions



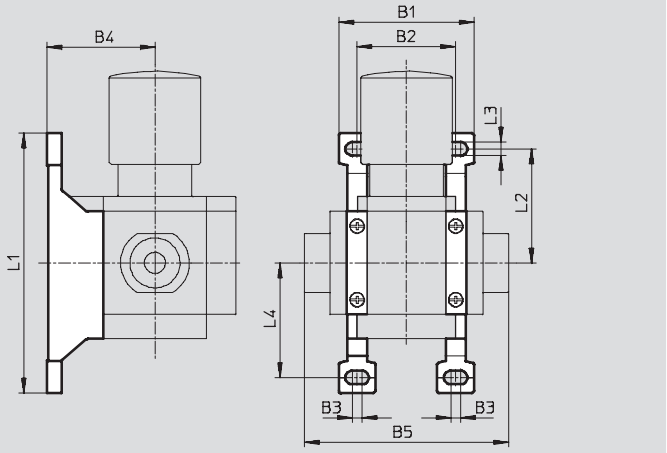
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	5.55	4.88	0.18	2.13	2.54	2.44	6.22	2.80	0.26	2.80
MS6-WPB				3.56						
MS6-WPM-...D	6.61	5.43	0.69	2.13	2.58	2.72	3.88	1.63		1.63

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

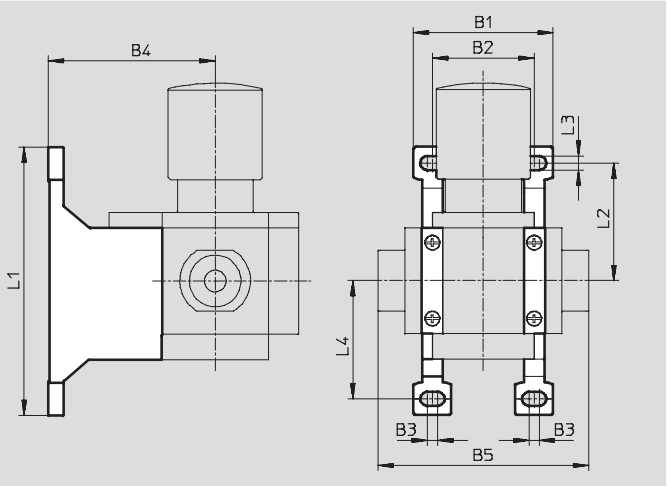
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	2.13	4.53	6.22	2.80	0.26	2.80	0.15	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	**526074**	**MS6-WPB**

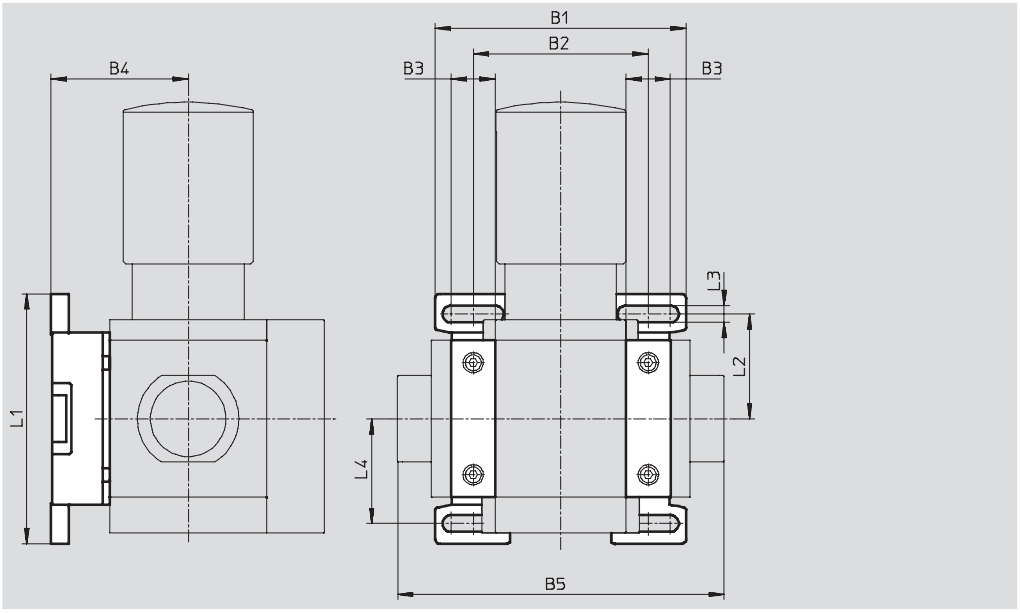
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
3.90	2.72	0.69	2.13	5.08	3.88	1.63	0.26	1.63	2.44	0.29	**526073**	**MS6-WPM-D**
6.61	5.43			7.80					4.88	0.31	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



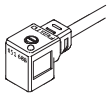
Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

14 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for MS6N-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	**151687**	**MSSD-EB**
			4-pin	Insulation displacement technology	**192745**	**MSSD-EB-S-M14**

13 Ordering Data – Plug Socket with Cable KMEB — Technical data ➔ www.festo.com/catalog/kmeb

	Description	Operating voltage range	Switching status display	Cable length [ft]	Part No.	Type
	for MS6N-EE/DE	24 V DC	LED	8.2	**151688**	**KMEB-1-24-2,5-LED**
		24 V DC	LED	16.4	**151689**	**KMEB-1-24-5-LED**
		24 V DC	LED	32.8	**193457**	**KMEB-1-24-10-LED**
		230 V AC	–	8.2	**151690**	**KMEB-1-230AC-2,5**
		230 V AC	–	16.4	**151691**	**KMEB-1-230AC-5**

12 Ordering Data – Illuminating Seal MEB-LD — Technical data ➔ www.festo.com/catalog/meb-ld

	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	**151717**	**MEB-LD-12-24DC**
		230 V DC/AC ±10%	**151718**	**MEB-LD-230AC**

15 Ordering Data – Locking Clip CPV18-HV — Technical data ➔ www.festo.com/catalog/cpv18-hv

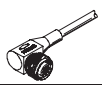
	Description		Part No.	Type	PU[1]
	for MS6N-EE/DE-...-V24	Cover for manual override, the clip prevents actuation	**530056**	**CPV18-HV**	**10**

1) Packaging unit quantity

11 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [ft]	Part No.	Type
	M8x1, 3-pin	8.2	**159420**	**SIM-M8-3GD-2,5-PU**
		16.4	**159421**	**SIM-M8-3GD-5-PU**
		32.8	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	8.2	**159422**	**SIM-M8-3WD-2,5-PU**
		16.4	**159423**	**SIM-M8-3WD-5-PU**
		32.8	**192965**	**SIM-M8-3WD-10-PU**

Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 4-pin	16.4	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	16.4	**164258**	**SIM-M12-4WD-5-PU**

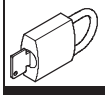
9 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	1.57	¼ NPT	0 ... 16	0 ... 232	**183908**	**MA-40-16-N¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.97	¼ NPT	–	0 ... 232	**530391**	**MA-50-232-N¼-PSI-E-RG**

6 Ordering Data – Silencer U — Technical data ➔ www.festo.com/catalog/u

	Description	Pneumatic connection	Part No.	Type
	for MS6N-EM1/EE	½ NPT	**12741**	**U-½-B-NPT**

Ordering Data – Padlock LRVS-D

	Description	Weight [lb]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	0.24	**193786**	**LRVS-D**

Distribution Blocks MS6-FRM – Metric Series



Distributor blocks provide additional air outlets to create separate pressure or air quality branches, or to attach pressure sensors.

- Pneumatic connection: G¼, G⅜, G½, G¾
- Operating pressure: 0 … 20 bar
- Flow rate: 3,200 … 13,000 l/min

Product Range Overview

Type	Pneumatic connections		Pressure indicator					Reverse flow
	Body thread	Port plate	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G⅛	Adapter for pressure gauge G¼	Pressure sensor with display	Flow direction from right to left
MS6		AG…	VS	AG	A8	A4	AD…	Z
FRM	G¼, G⅜, G½	G¼, G⅜, G½, G¾	■	■	–	■	■	■

Features

- Pneumatic manifold with 4 connections
- Can be used as an intermediate distributor for varying air qualities
- Attachment facility for auxiliary modules
- Outlet top and bottom
- An optional integrated non-return valve prevents the return flow e.g. of lubricated compressed air
- Optional pressure sensor with display

Contents

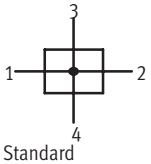
Technical Data	→ 994
Dimensional Drawings	→ 996
Ordering Data	→ 999
Accessories	→ 1002

→ www.festo.com/catalog/ms6-frm

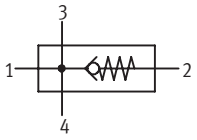
Distribution Blocks MS6-FRM – Metric Series

Technical Data

ISO Symbol



Standard



With integrated non-return function



General Technical Data				
Pneumatic connection 1, 2		G¼	G⅜	G½
Pneumatic connection 3, 4		G½		
Operating pressure	[bar]	0 ... 20 (Standard/With non-return function)		
		0 ... 12 (Pressure switch X/Y/M12)		
		0 ... 10 (Pressure sensor with display AD...)		

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]			
Pneumatic connection	G¼	G⅜	G½
Standard			
In main flow direction 1 → 2	3,300	8,350	13,000
Outlet at top	6,570	7,800	6,700
Outlet at bottom	6,800	8,750	8,000
With non-return function			
In main flow direction 1 → 2	3,200	5,500	6,000
Outlet at top	2,700	2,900	3,100
Outlet at bottom	2,800	3,200	3,300

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Operating and Environmental Conditions				
Variant		Standard/With non-return function	Pressure switch X/Y/M12	Pressure sensor with display AD...
Operating medium		Compressed air	Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°C]	–10 ... +60	–10 ... +60	0 ... +50
Temperature of medium	[°C]	–10 ... +60	–10 ... +60	0 ... +50
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60
Assembly position		Any[2]		
Corrosion resistance class	CRC[3]	2		

2) The Distribution Block must be mounted vertically when combined with a pressure sensor as condensate must not collect in the pressure sensor.

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Distribution Blocks MS6-FRM – Metric Series

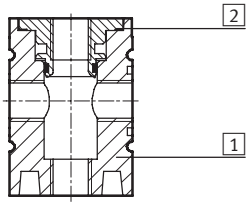
Technical Data

Weight [g]	
Standard	500
With non-return function	400
With pressure switch	778
With pressure sensor	570

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view (Standard)



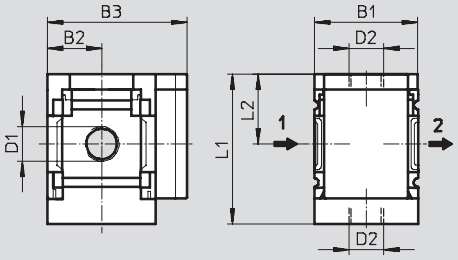
Distribution block		
1	Housing	Die-cast aluminum
2	Threaded insert	Aluminum
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Distribution Blocks MS6-FRM – Metric Series

Dimensional Drawings

Dimensions[1] – Standard/With Non-Return Function

Download CAD Data ➔ **www.festo.com/us/cad**



➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2
MS6-FRM-¼	62	31	76	G¼	G½	84.5	39
MS6-FRM-¼-I						87.2	41.7
MS6-FRM-⅜	62	31	76	G⅜	G½	84.5	39
MS6-FRM-⅜-I						87.2	41.7
MS6-FRM-½	62	31	76	G½	G½	84.5	39
MS6-FRM-½-I						87.2	41.7

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

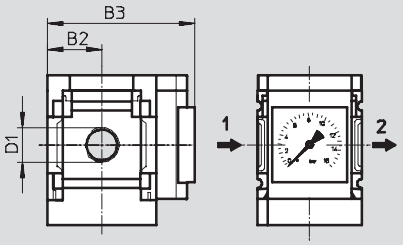
Distribution Blocks MS6-FRM – Metric Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

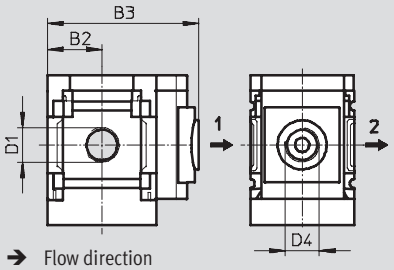
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



➔ Flow direction

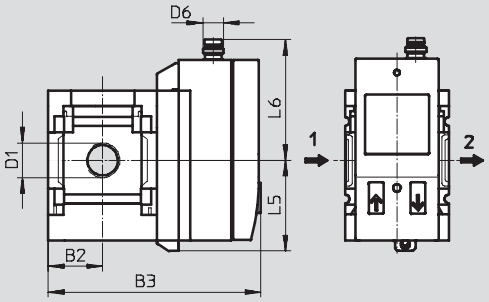
Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

Variant AD1:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switch output PNP

Variant AD2:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switch output NPN

Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switch output PNP and 4 ... 20 mA analog

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switch output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS6-FRM-¼-...-AG	31	77	G¼	–	–	–	–
MS6-FRM-⅜-...-AG			G⅜				
MS6-FRM-½-...-AG			G½				
MS6-FRM-¼-...-A4	31	78.5	G¼	G¼	–	–	–
MS6-FRM-⅜-...-A4			G⅜				
MS6-FRM-½-...-A4			G½				
MS6-FRM-¼-...-AD1/AD2	31	103	G¼	–	M8x1	35.1	46.7
MS6-FRM-⅜-...-AD1/AD2			G⅜				
MS6-FRM-½-...-AD1/AD2			G½				
MS6-FRM-¼-...-AD3/AD4	31	103	G¼	–	M12x1	35.1	55.8
MS6-FRM-⅜-...-AD3/AD4			G⅜				
MS6-FRM-½-...-AD3/AD4			G½				

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Distribution Blocks MS6-FRM – Metric Series

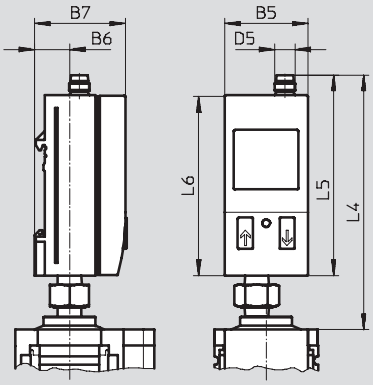
Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD5/AD6

Technical data SDE1 ➔ www.festo.com/catalog/sde1



Variant AD5:
SDE1-D10-G2-H18-C-P1-M8 with 3-pin plug M8x1, 1 switch output PNP

Variant AD6:
SDE1-D10-G2-W18-L-2I-M12 with 5-pin plug M12x1, 2 switch outputs PNP and 4 ... 20 mA analog

Type	B5	B6	B7	D5	L4	L5	L6
MS6-FRM-...-AD5	32.3	13.5	35.2	M8	94	78	70
MS6-FRM-...-AD6				M12	103	87	

1) Dimensions are in millimeters, unless otherwise noted.

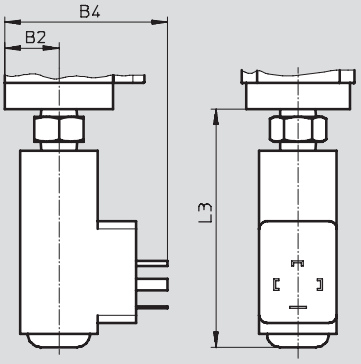
Dimensions[1] – Pressure Switch

Download CAD Data ➔ **www.festo.com/us/cad**

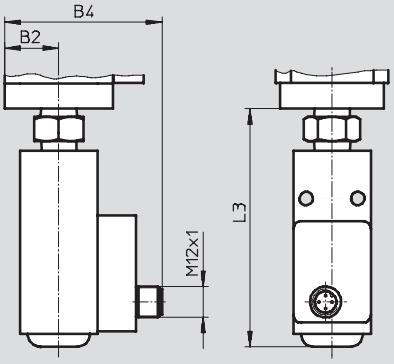
Pressure switch with adjustable pressure switching point X/Y/M12

Technical data PEV ➔ www.festo.com/catalog/pev

Variant X/Y



Variant M12



Variant X:
PEV-¼-SC-0D with display, plug, square design to DIN EN 175 301, type A

Variant Y:
PEV-¼-B-0D, plug, square design to DIN EN 175 301, type A

Variant M12:
PEV-¼-B-M12 with 4-pin plug M12x1

Type	B2	B4	L3
MS6-FRM-...-X/Y	31	73	99.5
MS6-FRM-...-M12	31	71	99.5

1) Dimensions are in millimeters, unless otherwise noted.

Distribution Blocks MS6-FRM – Metric Series

Ordering Data – Pre-configured Products

Ordering Data			
Connection	Part No.	Type	LT
Standard			
G¼	529857	MS6-FRM-¼ 1)	1D
G⅜	529861	MS6-FRM-⅜ 1)	1D
G½	529853	MS6-FRM-½ 1)	1D
With integrated non-return function			
G¼	536967	MS6-FRM-¼-I 1)	Q
G⅜	536968	MS6-FRM-⅜-I 1)	Q
G½	536969	MS6-FRM-½-I 1)	Q
With pressure switch PEV-¼-B-OD (variant Y)			
G¼	529858	MS6-FRM-¼-Y 1)	1D
G⅜	529862	MS6-FRM-⅜-Y 1)	1D
G½	529854	MS6-FRM-½-Y 1)	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Free of copper and PTFE

Distribution Blocks MS6-FRM – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data						
Part No.	**Series**	**Size**		**Function**		**Connection size**
527676	MS	6		FRM		¼ ⅜ ½ AGB AGC AGD AGE
Order example						
527676	**MS**	**6**	–	**FRM**	–	**3/8**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**527676**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Function	Distribution block		**-FRM**		-FRM
	Connection size	Body thread G¼		**-¼**		
		Body thread G⅜		**-⅜**		
		Body thread G½		**-½**		
		Port plate G¼ (dimensions ➔ 1006)		**-AGB**		
		Port plate G⅜ (dimensions ➔ 1006)		**-AGC**		
		Port plate G½ (dimensions ➔ 1006)		**-AGD**		
↓		Port plate G¾ (dimensions ➔ 1006)		**-AGE**		

Transfer order code

527676	**MS**	**6**	–	**FRM**	–	

Distribution Blocks MS6-FRM – Metric Series

Ordering Data – Configurable Products

FESTO

➔ [0] **Options**

	Additional function		Pressure gauge alternatives		Alternative pressure gauge scale		Pressure switch		Type of mounting		Reverse flow direction
	I		AG A4 AD1 AD2 AD3 AD4 AD5 AD6		PSI MPA		X Y M12		WP WPM WB		Z
–		–	**AG**	–	**PSI**	–	**M12**	–	**WB**	–	**Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code		Enter code
[0]	Additional function	With integrated non-return function	[1]	**-I**		
	Pressure gauge alternatives	MS pressure gauge, bar		**-AG**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
		Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	[2]	**-AD1**		
		Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin	[2]	**-AD2**		
		Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	[2]	**-AD3**		
		Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	[2]	**-AD4**		
		Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	[2]	**-AD5**		
		Pressure sensor with display, plug M12, 2 switching outputs PNP, 5-pin, analog output 4 ... 20 mA	[2]	**-AD6**		
	Alternative pressure gauge scale	psi	[3]	**-PSI**		
		MPa	[3]	**-MPA**		
	Pressure switch	Pressure switch PEV with display, socket, EN 175301, type A, cube	[4]	**-X**		
		Pressure switch PEV without display, socket, EN 175301, type A, cube	[4]	**-Y**		
		Pressure switch PEV without display, socket, round, M12, 4-pin	[4]	**-M12**		
	Type of mounting	Mounting bracket (dimensions ➔ 1007)	[5]	**-WP**		
		Mounting bracket (dimensions ➔ 1007)	[5]	**-WPM**		
		Mounting bracket (dimensions ➔ 1004)		**-WB**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

[1] **I** Not with pressure gauge alternatives AD5 or AD6

[2] **AD1 ... AD6** Measuring range max. 10 bar

[3] **PSI, MPA** Only with pressure gauge AG

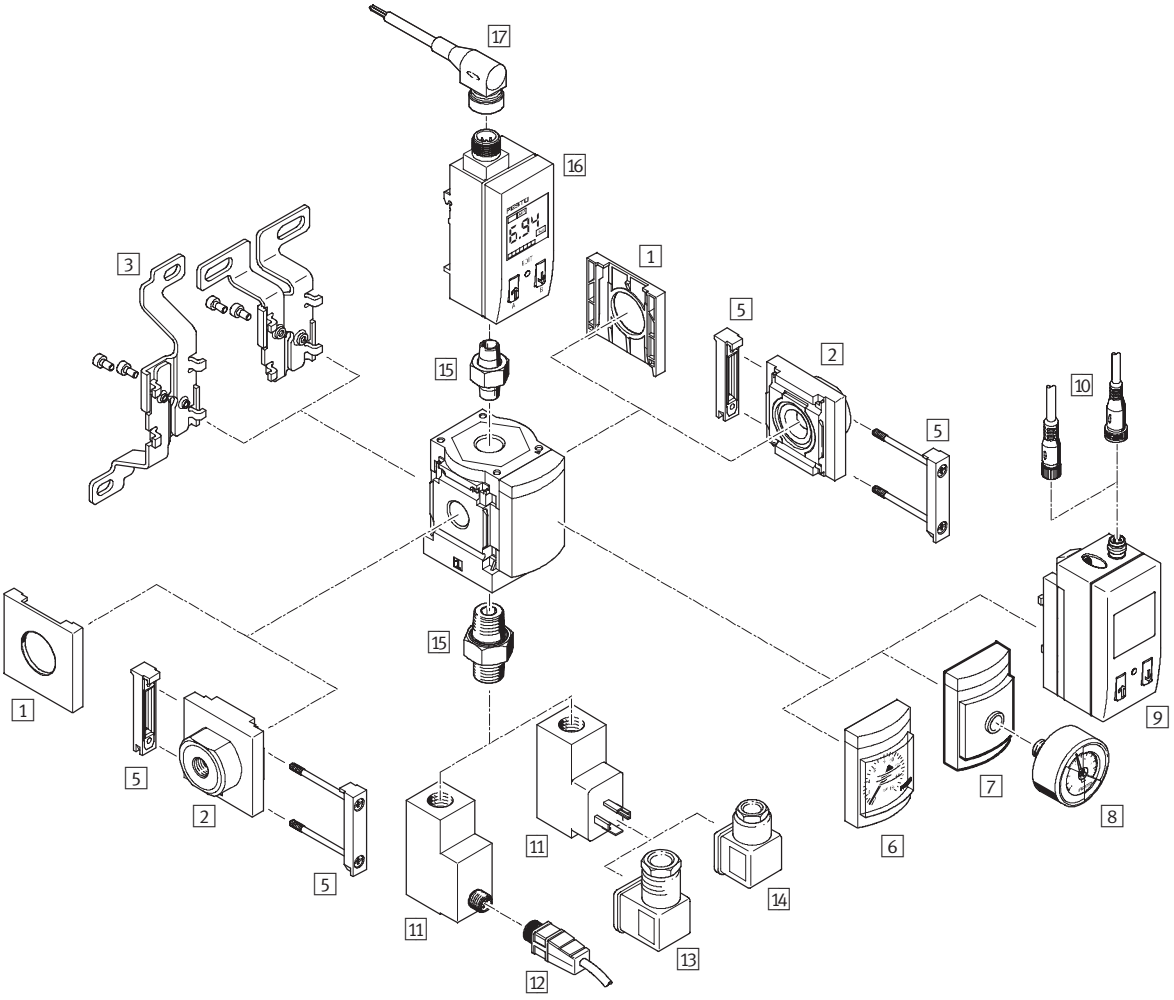
[4] **X, Y, M12** Max. permissible supply pressure P1 = 12 bar. Not with pressure gauge alternatives AD5 or AD6

[5] **WP, WPM** Only with port plate AGB, AGC, AGD or AGE

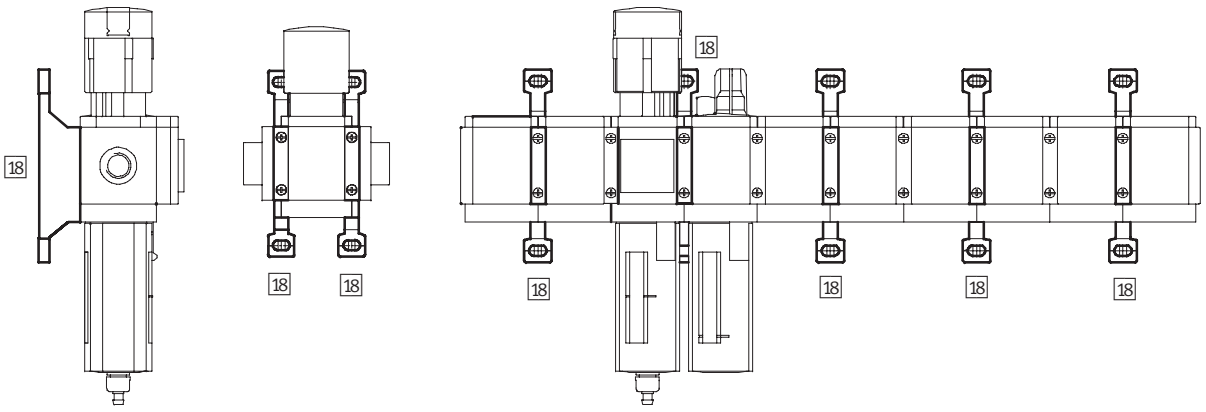
Transfer order code

–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Distribution Blocks MS6-FRM – Metric Series

Accessories Overview

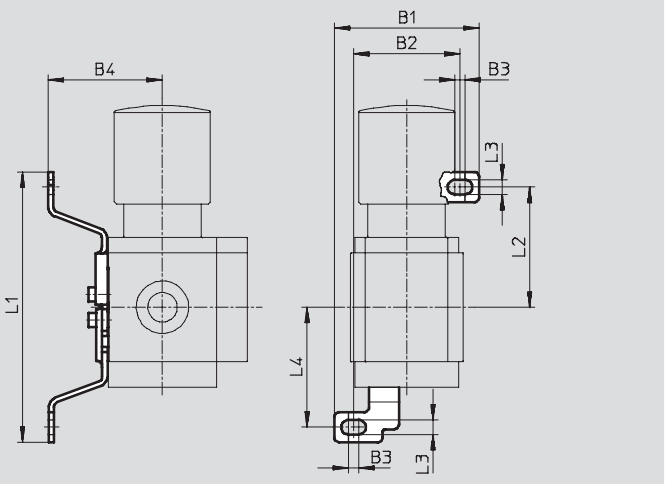
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-1		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	1005
2	Port plate MS6-AG...	–	■	–	■	1006
3	Mounting bracket MS6-WB	■	■	–	–	1004
5	Body connector MS6-MV	–	■	■	■	1006
6	MS pressure gauge AG	■	■	■	■	1000
7	Adapter for EN pressure gauge ¼ A4	■	■	■	■	1000
8	Pressure gauge MA	■	■	■	■	1011
9	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	1000
10	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	1011
11	Pressure switch PEV X/Y/M12	■	■	■	■	1000
12	Plug socket with cable SIM-M12-4...	■	■	■	■	1011
13	Angled socket PEV-¼-WD-LED-...	■	■	■	■	1010
14	Plug socket MSSD-C-4P	■	■	■	■	1010
15	Double nipple ESK	■	■	■	■	1010
16	Pressure sensor SDE1-...-H18/W18 AD5/AD6	■	■	■	■	1000
17	Plug socket with cable SIM-M8-3.../SIM-M12-5...	■	■	■	■	1011
18	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	1007

3 **Mounting bracket MS6-WB**

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

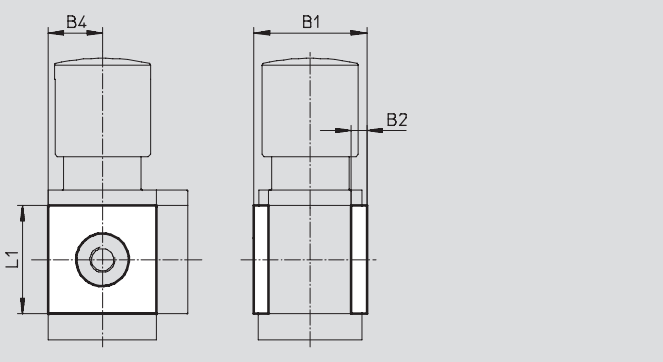
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
79.4	61.9	4.5	55	157.6	71	6.6	71	121	**532196**	**MS6-WB**

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

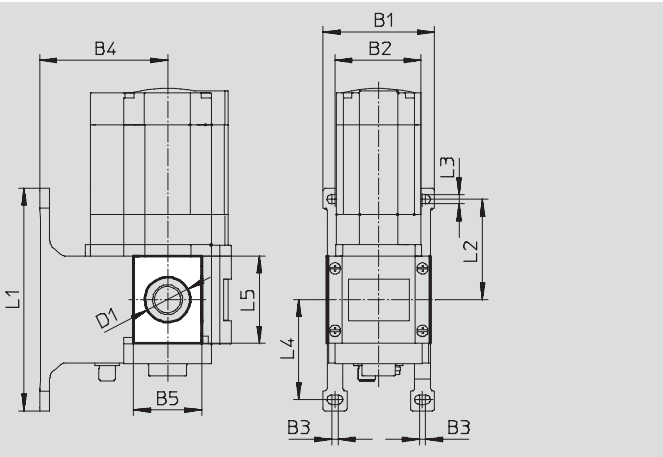
B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535408**	**MS6-AEND**

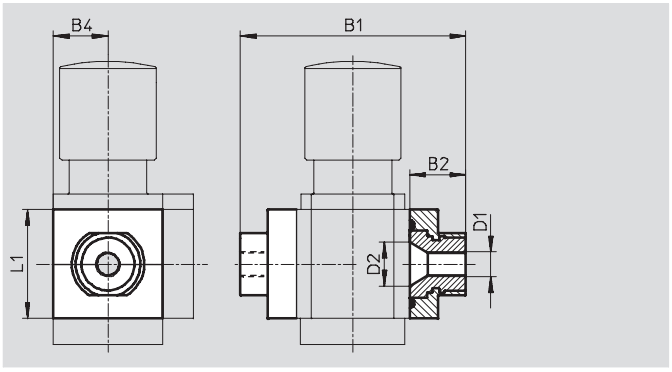
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6-AG...**

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G¾

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

5 **Body connector MS...-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

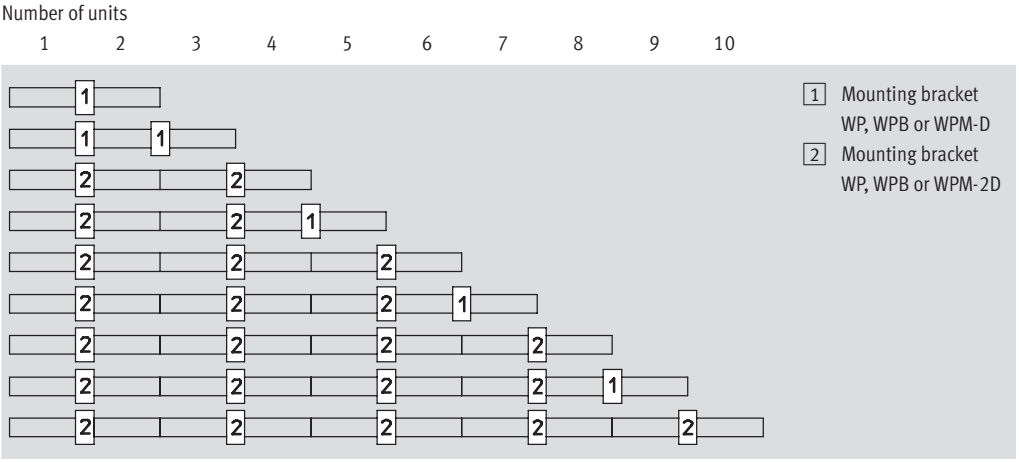
Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

18 Mounting Bracket MS6-WP...

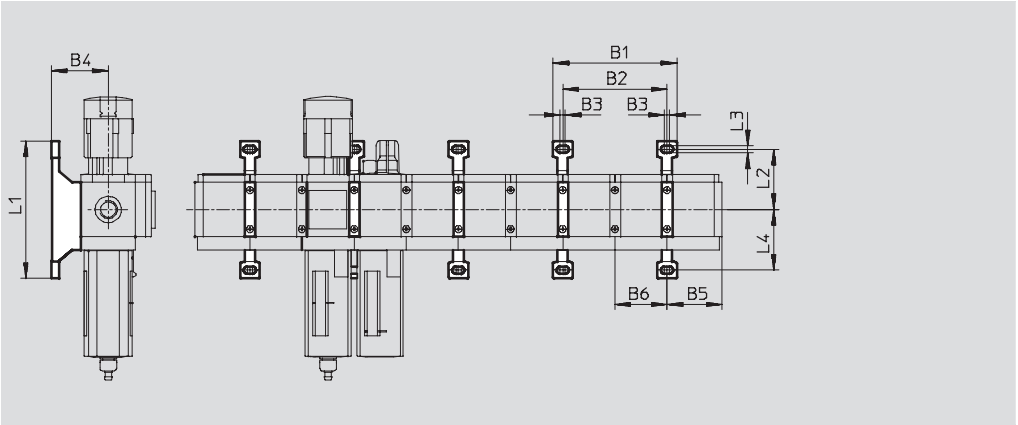
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WP, WPB
69 mm with WPM-D

2 units: 124 mm with WP, WPB
138 mm with WPM-2D



Mounting dimensions



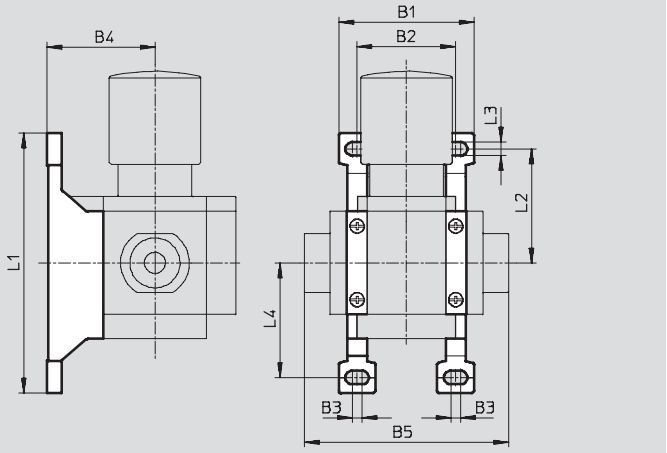
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

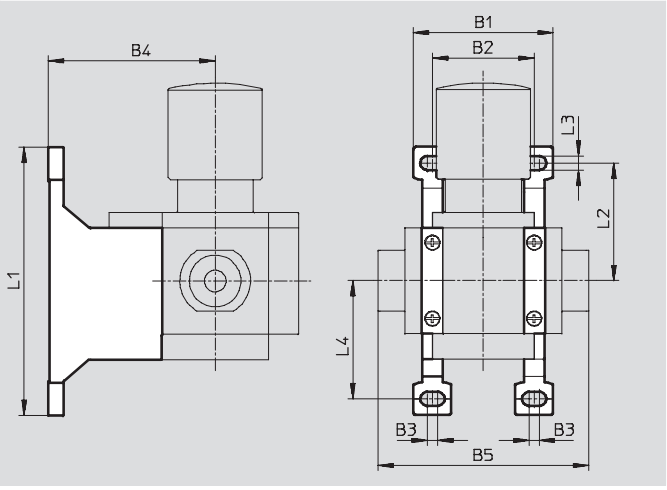
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	54	115	158	71	6.6	71	76	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

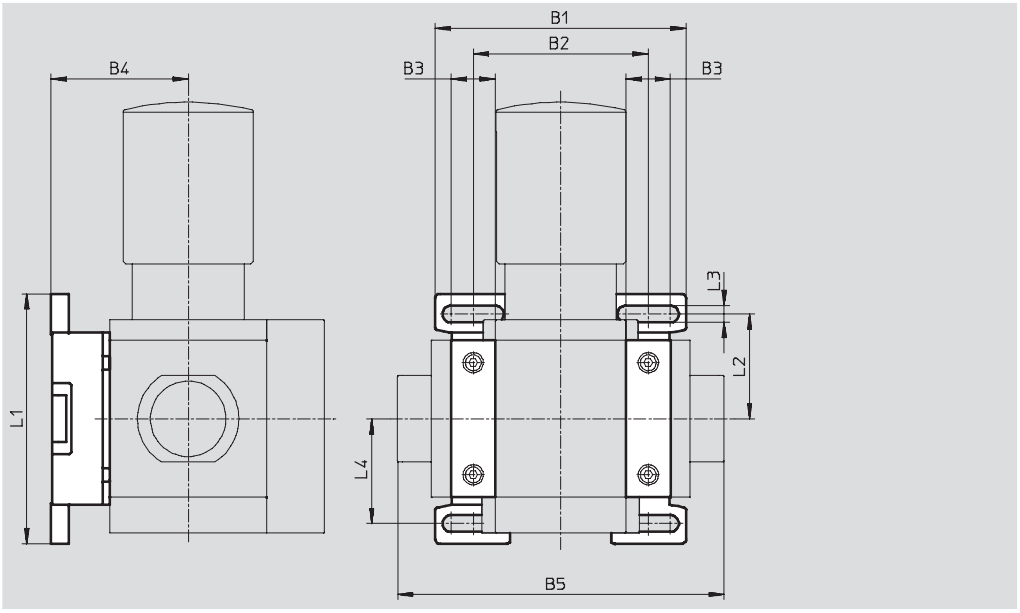
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	**526073**	**MS6-WPM-D**
168	138			198					124	154	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

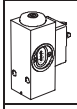
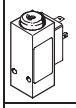
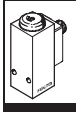
Material:
Die-cast aluminum



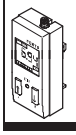
Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

11 Ordering Data – Pressure Switch PEV — Technical data ➔ www.festo.com/catalog/pev

	Pneumatic connection	Pressure switching point	Electrical connection	Order code	Part No.	Type
	G¼	Adjustable with visual scale	Plug, square design to DIN EN 175 301, type A	X	**161760**	**PEV-¼-SC-OD**
	G¼	Adjustable	Plug, square design to DIN EN 175 301, type A	Y	**175250**	**PEV-¼-B-OD**
	G¼	Adjustable	Plug M12x1, 4-pin	M12	**192488**	**PEV-¼-B-M12**

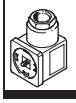
16 Ordering Data – Pressure Sensor SDE1 — Technical data ➔ www.festo.com/catalog/sde1

	Pneumatic connection	Electrical output	Electrical connection	Display	Order code	Part No.	Type
Pressure sensor SDE1 for Distribution Block MS-FRM, pressure measuring range 0 ... 10 bar, relative pressure measurement							
	Female thread G⅛	1 switch output PNP	M8x1, 3-pin	LCD	AD5	**192030**	**SDE1-D10-G2-H18-C-P1-M8**
		2 switch outputs PNP and 4 ... 20 mA analog	M12x1, 5-pin	Illuminated LCD	AD6	**534062**	**SDE1-D10-G2-W18-L-2I-M12**

13 Ordering Data – Angled Socket PEV — Technical data ➔ www.festo.com/catalog/pev

	Description	Operating voltage range	Electrical connection	Switching status display	Part No.	Type
	for PEV-¼-...-OD	15 .... 30 V DC	4-pin	Yellow LED	**164274**	**PEV-¼-WD-LED-24**
		≤ 230 V AC ≤ 180 V DC	4-pin	Yellow LED	**164275**	**PEV-¼-WD-LED-230**

14 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for PEV-¼-...-OD	≤ 250 V AC/DC	3-pin	Clamping screws	**171157**	**MSSD-C-4P**

15 Ordering Data – Double Nipple ESK

	Description	Pneumatic connection		Part No.	Type
	Adjustable for angular compensation • For retro-fitting pressure switch PEV or pressure sensor SDE1 to distribution block MS-FRM	R⅛	R¼	**534151**	**ESK-⅛-¼**
		R¼	R¼	**151521**	**ESK-¼-¼**
			R½	**534153**	**ESK-¼-½**

17 Ordering Data – Plug Socket with Cable SIM-M8

Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [m]	Part No.	Type
	M8x1, 3-pin	2.5	**159420**	**SIM-M8-3GD-2,5-PU**
		5	**159421**	**SIM-M8-3GD-5-PU**
		10	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	2.5	**159422**	**SIM-M8-3WD-2,5-PU**
		5	**159423**	**SIM-M8-3WD-5-PU**
		10	**192965**	**SIM-M8-3WD-10-PU**

Ordering Data – Plug Socket with Cable SIM-M12

Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 4-pin	5	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 5-pin	2.5	**175715**	**SIM-M12-5GD-2,5-PU**
		5	**175716**	**SIM-M12-5GD-5-PU**
	M12x1, 4-pin	5	**164258**	**SIM-M12-4WD-5-PU**

8 Ordering Data – Pressure Gauge MA

Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

Distribution Blocks MS6N-FRM – Inch Series

FESTO



Distributor blocks provide additional air outlets to create separate pressure or air quality branches, or to attach pressure sensors.

- Pneumatic connection: ¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT
- Operating pressure: 0 … 294 psi
- Flow rate: 113,0 … 458,9 scfm

Product Range Overview

Type	Pneumatic connections		Pressure indicator					Reverse flow
	Body thread	Port plate	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge ⅛ NPT	Adapter for pressure gauge ¼ NPT	Pressure sensor with display	Flow direction from right to left
MS6N		AG…	VS	AG	A8	A4	AD…	Z
FRM	¼ NPT, ⅜ NPT, ½ NPT	¼ NPT, ⅜ NPT, ½ NPT, ¾ NPT	■	■	–	■	■	■

Features

- Pneumatic manifold with 4 connections
- Can be used as an intermediate distributor for varying air qualities
- Attachment facility for auxiliary modules
- Outlet top and bottom
- An integrated non-return valve prevents the return flow e.g. of lubricated compressed air
- Optional pressure sensor with display

Contents

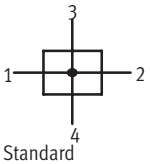
Technical Data → 1014
Dimensional Drawings → 1016
Ordering Data → 1019
Accessories → 1022

→ www.festo.com/catalog/ms6n-frm

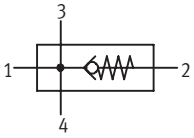
Distribution Blocks MS6N-FRM – Inch Series

Technical Data

ISO Symbol



Standard



With integrated non-return function



General Technical Data				
Pneumatic connection 1, 2		¼ NPT	⅜ NPT	½ NPT
Pneumatic connection 3, 4		½ NPT		
Operating pressure	[psi]	0 ... 294 (Standard/With non-return function)		
		0 ... 176 (Pressure switch X/Y/M12)		
		0 ... 147 (Pressure sensor with display AD...)		

Standard Nominal Flow Rate qnN[1] [scfm]			
Pneumatic connection	¼ NPT	⅜ NPT	½ NPT
Standard			
In main flow direction 1 ⇢ 2	116.5	294.8	458.9
Outlet at top	231.9	275.3	236.5
Outlet at bottom	240.0	308.9	282.4
With non-return function			
In main flow direction 1 ⇢ 2	113.0	194.2	211.8
Outlet at top	95.3	102.4	109.4
Outlet at bottom	98.8	113.0	116.5

1) Measured at p1 = 88 psi and p2 = 74 psi, Δp = 15 psi

Operating and Environmental Conditions				
Variant		Standard/With non-return function	Pressure switch X/Y/M12	Pressure sensor with display AD...
Operating medium		Compressed air	Compressed air	Filtered compressed air, lubricated or unlubricated, filtration grade 40 µm
Ambient temperature	[°F]	14 ... 140	14 ... 140	32 ... 122
Temperature of medium	[°F]	14 ... 140	14 ... 140	32 ... 122
Storage temperature	[°F]	14 ... 140	14 ... 140	14 ... 140
Assembly position		Any[2]		
Corrosion resistance class	CRC[3]	2		

2) The Distribution Block must be mounted vertically when combined with a pressure sensor as condensate must not collect in the pressure sensor.

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Distribution Blocks MS6N-FRM – Inch Series

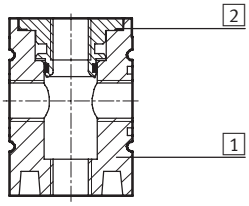
Technical Data

Weight [lb]	
Standard	1.00
With non-return function	0.80
With pressure switch	1.56
With pressure sensor	1.14

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view (Standard)



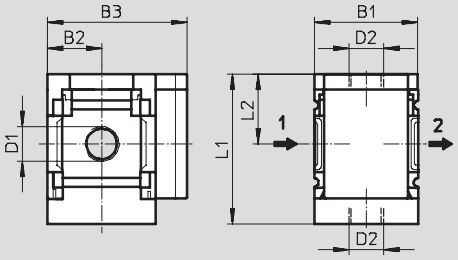
Distribution block		
1	Housing	Die-cast aluminum
2	Threaded insert	Aluminum
	Note on materials	Free of copper and PTFE (not with variants AG or AD...)

Distribution Blocks MS6N-FRM – Inch Series

Dimensional Drawings

Dimensions[1] – Standard/With Non-Return Function

Download CAD Data ➔ **www.festo.com/us/cad**



➔ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2
MS6N-FRM-¼	2.44	1.22	2.99	¼ NPT	½ NPT	3.33	1.54
MS6N-FRM-¼-I						3.43	1.64
MS6N-FRM-⅜	2.44	1.22	2.99	⅜ NPT	½ NPT	3.33	1.54
MS6N-FRM-⅜-I						3.43	1.64
MS6N-FRM-½	2.44	1.22	2.99	½ NPT	½ NPT	3.33	1.54
MS6N-FRM-½-I						3.43	1.64

1) Dimensions are in inches, unless otherwise noted.

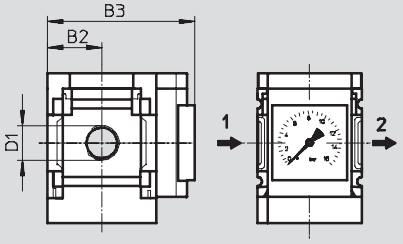
Distribution Blocks MS6N-FRM – Inch Series

Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

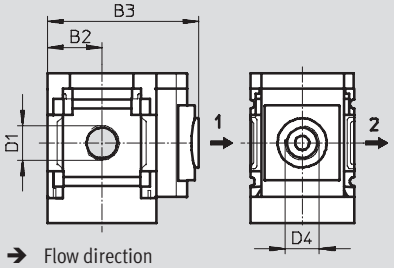
Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



➔ Flow direction

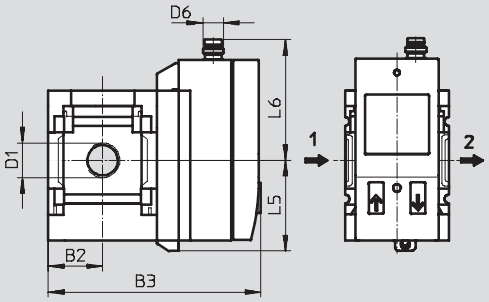
Adapter plate A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Pressure sensor with display AD1 ... AD4

Technical data SDE1 ➔ www.festo.com/catalog/sde1



➔ Flow direction

Variant AD1:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switch output PNP

Variant AD2:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switch output NPN

Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switch output PNP and 4 ... 20 mA analog

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switch output NPN and 4 ... 20 mA analog

Type	B2	B3	D1	D4	D6	L5	L6
MS6N-FRM-¼-...-AG	1.22	3.03	¼ NPT	–	–	–	–
MS6N-FRM-⅜-...-AG			⅜ NPT				
MS6N-FRM-½-...-AG			½ NPT				
MS6N-FRM-¼-...-A4	1.22	3.09	¼ NPT	¼ NPT	–	–	–
MS6N-FRM-⅜-...-A4			⅜ NPT				
MS6N-FRM-½-...-A4			½ NPT				
MS6N-FRM-¼-...-AD1/AD2	1.22	4.06	¼ NPT	–	M8x1	1.38	1.84
MS6N-FRM-⅜-...-AD1/AD2			⅜ NPT				
MS6N-FRM-½-...-AD1/AD2			½ NPT				
MS6N-FRM-¼-...-AD3/AD4	1.22	4.06	¼ NPT	–	M12x1	1.38	2.20
MS6N-FRM-⅜-...-AD3/AD4			⅜ NPT				
MS6N-FRM-½-...-AD3/AD4			½ NPT				

1) Dimensions are in inches, unless otherwise noted.

Distribution Blocks MS6N-FRM – Inch Series

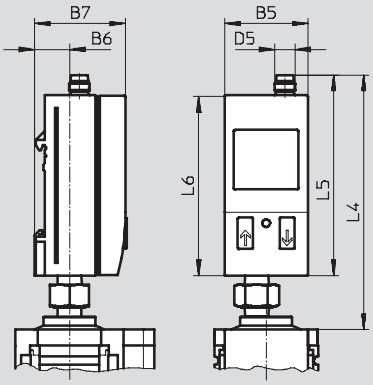
Dimensional Drawings

Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Pressure sensor with display AD5/AD6

Technical data SDE1 ➔ www.festo.com/catalog/sde1



Variant AD5:
SDE1-D10-G2-H18-C-P1-M8 with 3-pin plug M8x1, 1 switch output PNP

Variant AD6:
SDE1-D10-G2-W18-L-2I-M12 with 5-pin plug M12x1, 2 switch outputs PNP and 4 ... 20 mA analog

Type	B5	B6	B7	D5	L4	L5	L6
MS6N-FRM-...-AD5	1.27	0.53	1.39	M8	3.70	3.07	2.76
MS6N-FRM-...-AD6				M12	4.06	3.43	

1) Dimensions are in inches, unless otherwise noted.

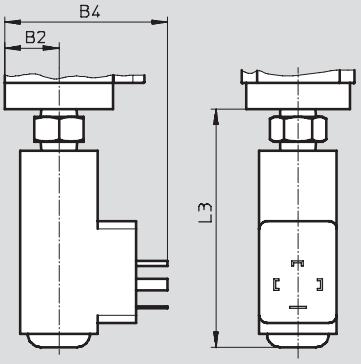
Dimensions[1] – Pressure Switch

Download CAD Data ➔ **www.festo.com/us/cad**

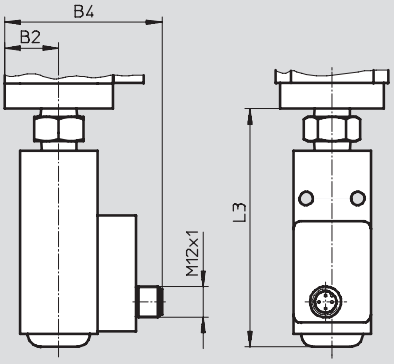
Pressure switch with adjustable pressure switching point X/Y/M12

Technical data PEV ➔ www.festo.com/catalog/pev

Variant X/Y



Variant M12



Variant X:
PEV-¼-SC-0D with display, plug, square design to DIN EN 175 301, type A

Variant Y:
PEV-¼-B-0D, plug, square design to DIN EN 175 301, type A

Variant M12:
PEV-¼-B-M12 with 4-pin plug M12x1

Type	B2	B4	L3
MS6N-FRM-...-X/Y	1.22	2.87	3.92
MS6N-FRM-...-M12	1.22	2.80	3.92

1) Dimensions are in inches, unless otherwise noted.

Distribution Blocks MS6N-FRM – Inch Series

Ordering Data – Pre-configured Products

Ordering Data			
Connection	Part No.	Type	LT
Standard			
¼ NPT	**531965**	**MS6N-FRM-¼** [1]	1D
⅜ NPT	**531967**	**MS6N-FRM-⅜** [1]	1D
½ NPT	**531966**	**MS6N-FRM-½** [1]	1D
With integrated non-return function			
¼ NPT	**536977**	**MS6N-FRM-¼-I** [1]	Q
⅜ NPT	**536978**	**MS6N-FRM-⅜-I** [1]	Q
½ NPT	**536979**	**MS6N-FRM-½-I** [1]	Q
With pressure switch PEV-¼-B-OD (variant Y)			
¼ NPT	**531971**	**MS6N-FRM-¼-Y** [1]	1D
⅜ NPT	**531973**	**MS6N-FRM-⅜-Y** [1]	1D
½ NPT	**531972**	**MS6N-FRM-½-Y** [1]	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Free of copper and PTFE

Distribution Blocks MS6N-FRM – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data									
Part No.	**Series**	**Size**	**Thread**		**Function**		**Connection size**		
527677	MS	6	N		FRM		¼ ⅜ ½ AQN AQP AQR AQS		
Order example									
527677	**MS**	**6**	**N**	**–**	**FRM**	**–**	**3/8**		

Ordering Table						
Grid dimension [mm]		62	Conditions	Code		Enter code
M	Part No.	**527677**				
	Series	Standard		**MS**		MS
	Size	6		**6**		6
	Thread	NPT thread		**N**		N
	Function	Distribution block		**-FRM**		-FRM
	Connection size	Body thread ¼ NPT		**-¼**		
		Body thread ⅜ NPT		**-⅜**		
		Body thread ½ NPT		**-½**		
		Port plate ¼ NPT (dimensions ➔ 1026)		**-AQN**		
		Port plate ⅜ NPT (dimensions ➔ 1026)		**-AQP**		
		Port plate ½ NPT (dimensions ➔ 1026)		**-AQR**		
↓		Port plate ¾ NPT (dimensions ➔ 1026)		**-AQS**		

Transfer order code

527677	**MS**	**6**	**N**	**–**	**FRM**	**–**	

Distribution Blocks MS6N-FRM – Inch Series

Ordering Data – Configurable Products

FESTO

➔ [0] **Options**

	Additional function	Pressure gauge alternatives	Alternative pressure gauge scale	Pressure switch	Type of mounting	Reverse flow direction
	I	AG A4 AD1 AD2 AD3 AD4 AD5 AD6	BAR MPA	X Y M12	WP WPM WB	Z
–		**AG**	**BAR**	**M12**	**WB**	**Z**

Ordering Table

Grid dimension [mm]		62	Conditions	Code	Enter code
[0]	Additional function	With integrated non-return function	[1]	**-I**	
	Pressure gauge alternatives	MS pressure gauge, psi		**-AG**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
		Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	[2]	**-AD1**	
		Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin	[2]	**-AD2**	
		Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analog output 4 ... 20 mA	[2]	**-AD3**	
		Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analog output 4 ... 20 mA	[2]	**-AD4**	
		Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	[2]	**-AD5**	
		Pressure sensor with display, plug M12, 2 switching outputs PNP, 5-pin, analog output 4 ... 20 mA	[2]	**-AD6**	
	Alternative pressure gauge scale	bar	[3]	**-BAR**	
		MPa	[3]	**-MPA**	
	Pressure switch	Pressure switch PEV with display, socket, EN 175301, type A, cube	[4]	**-X**	
		Pressure switch PEV without display, socket, EN 175301, type A, cube	[4]	**-Y**	
		Pressure switch PEV without display, socket, round, M12, 4-pin	[4]	**-M12**	
	Type of mounting	Mounting bracket (dimensions ➔ 1027)	[5]	**-WP**	
		Mounting bracket (dimensions ➔ 1027)	[5]	**-WPM**	
		Mounting bracket (dimensions ➔ 1024)		**-WB**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

[1] **I** Not with pressure gauge alternatives AD5 or AD6

[2] **AD1 ... AD6** Measuring range max. 147 psi

[3] **BAR, MPA** Only with pressure gauge AG

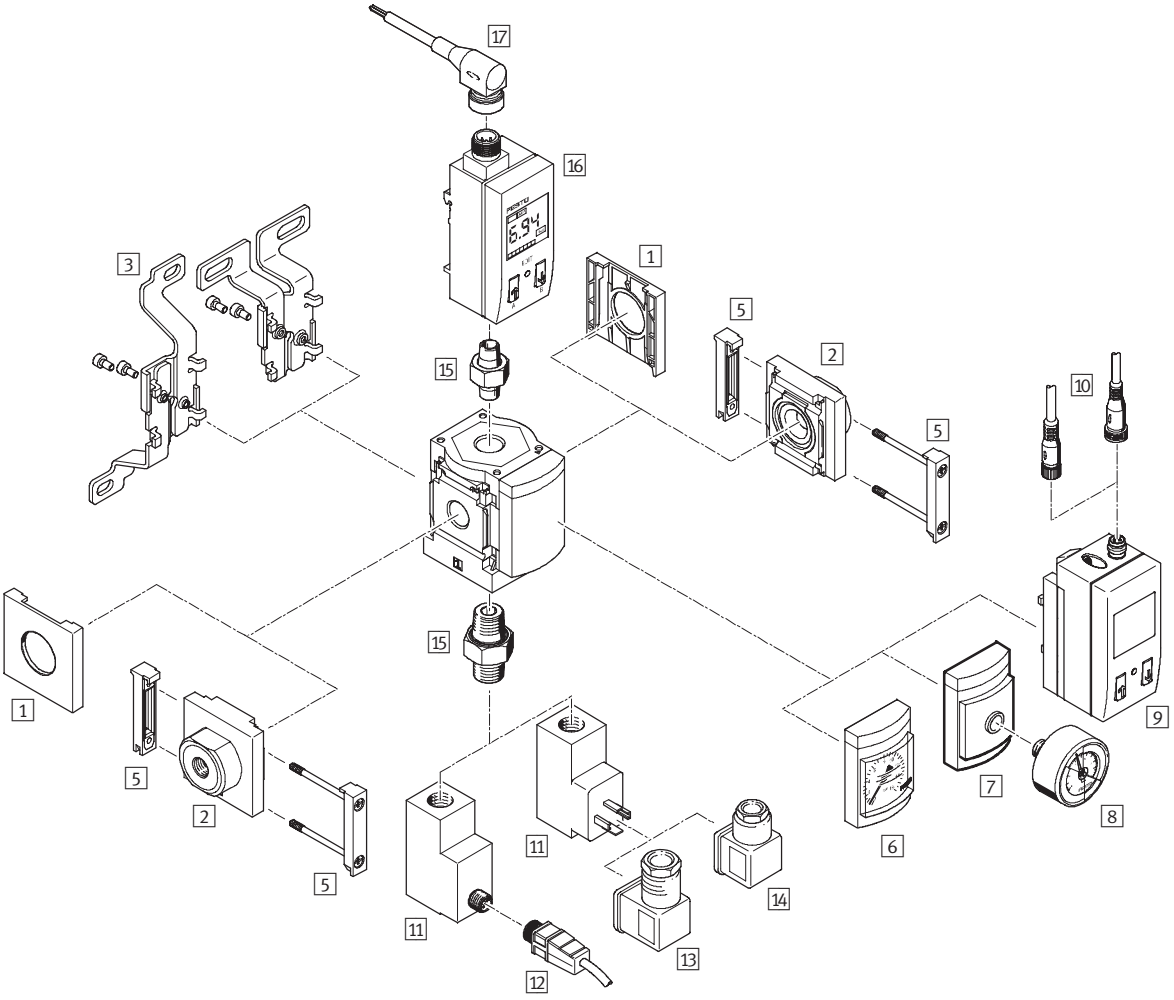
[4] **X, Y, M12** Max. permissible supply pressure P1 = 176 psi. Not with pressure gauge alternatives AD5 or AD6

[5] **WP, WPM** Only with port plate AQN, AQP, AQR or AQS

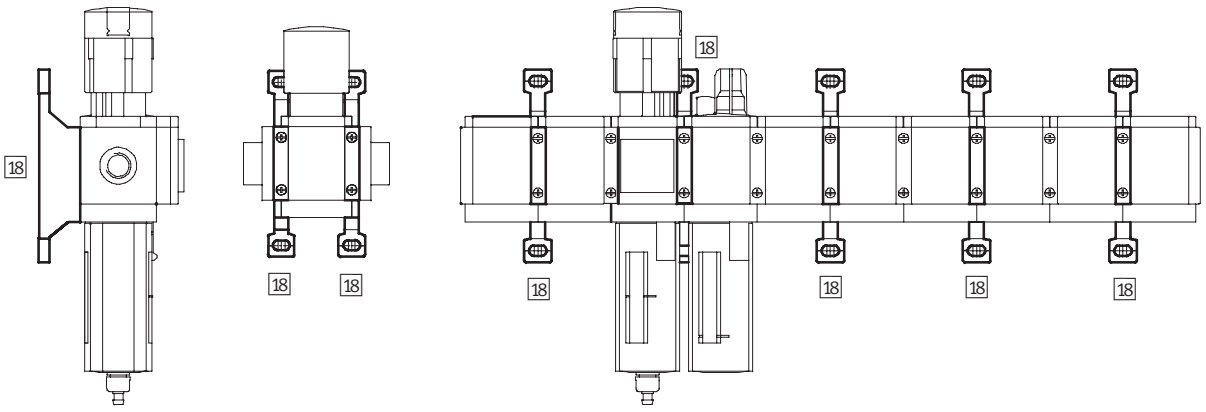
Transfer order code

–		–		–		–		–		–	

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Distribution Blocks MS6N-FRM – Inch Series

Accessories Overview

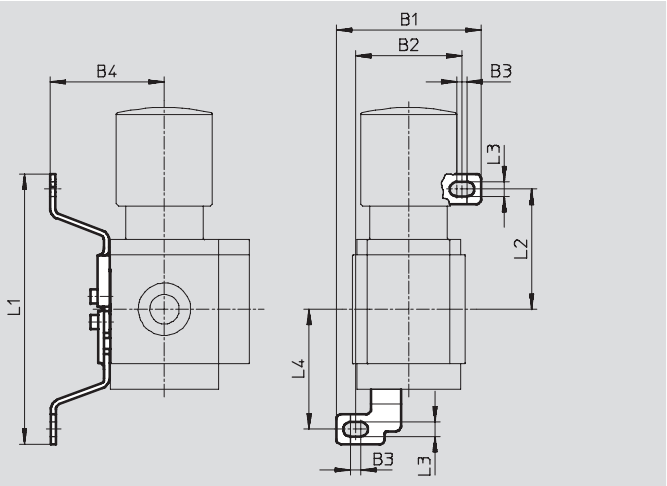
Mounting Attachments and Accessories						
		Single unit		Combination unit ➔ 3.1-49		➔ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	–	■	–	1025
2	Port plate MS6N-AQ...	–	■	–	■	1026
3	Mounting bracket MS6-WB	■	■	–	–	1024
5	Body connector MS6-MV	–	■	■	■	1026
6	MS pressure gauge AG	■	■	■	■	1020
7	Adapter for EN pressure gauge ¼ A4	■	■	■	■	1020
8	Pressure gauge MA	■	■	■	■	1031
9	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	1020
10	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	1031
11	Pressure switch PEV X/Y/M12	■	■	■	■	1020
12	Plug socket with cable SIM-M12-4...	■	■	■	■	1031
13	Angled socket PEV-¼-WD-LED-...	■	■	■	■	1030
14	Plug socket MSSD-C-4P	■	■	■	■	1030
15	Double nipple ESK	■	■	■	■	1030
16	Pressure sensor SDE1-...-H18/W18 AD5/AD6	■	■	■	■	1020
17	Plug socket with cable SIM-M8-3.../SIM-M12-5...	■	■	■	■	1031
18	Mounting bracket MS6-WP/WPB/WPM	–	■	■	■	1027

3 **Mounting bracket MS6-WB**

- For wall mounting

Material:
Steel





Dimensions and Ordering Data

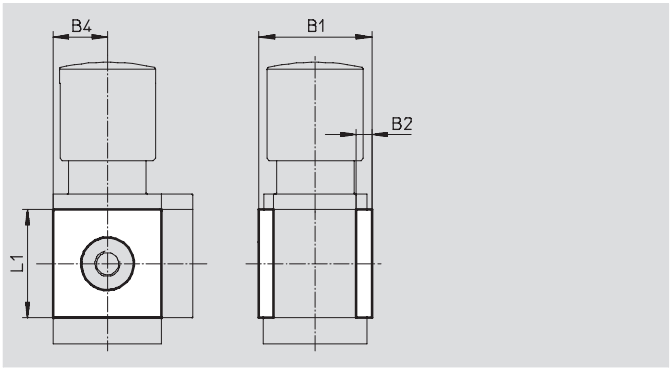
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.13	2.44	0.18	2.17	6.20	2.80	0.26	2.80	0.24	**532196**	**MS6-WB**

1 Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

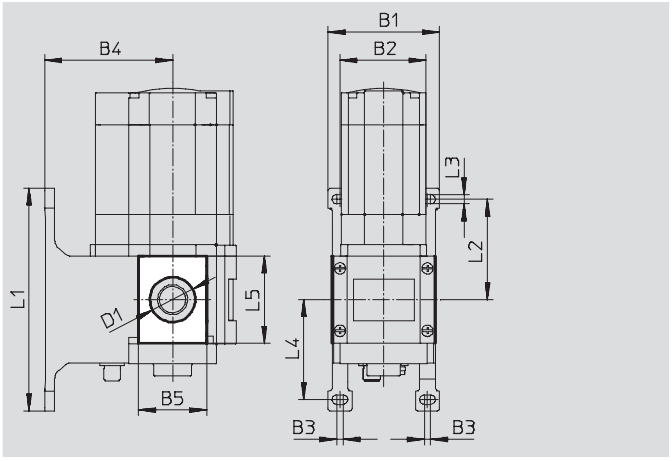
B1	B2	B4	L1	Part No.	Type
2.64	0.31	1.22	2.44	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[lb]		
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	**535408**	**MS6-AEND**

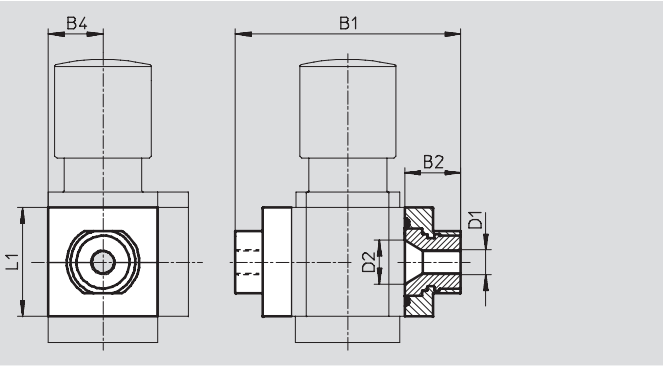
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2 **Port plate MS6N-AQ...**

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection ¾ NPT

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	¼ NPT	0.94	2.44	0.60	**526076**	**MS6N-AQN**
			⅜ NPT				**526077**	**MS6N-AQP**
			½ NPT				**526078**	**MS6N-AQR**
			¾ NPT				**526079**	**MS6N-AQS**

5 **Body connector MS...-MV**

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

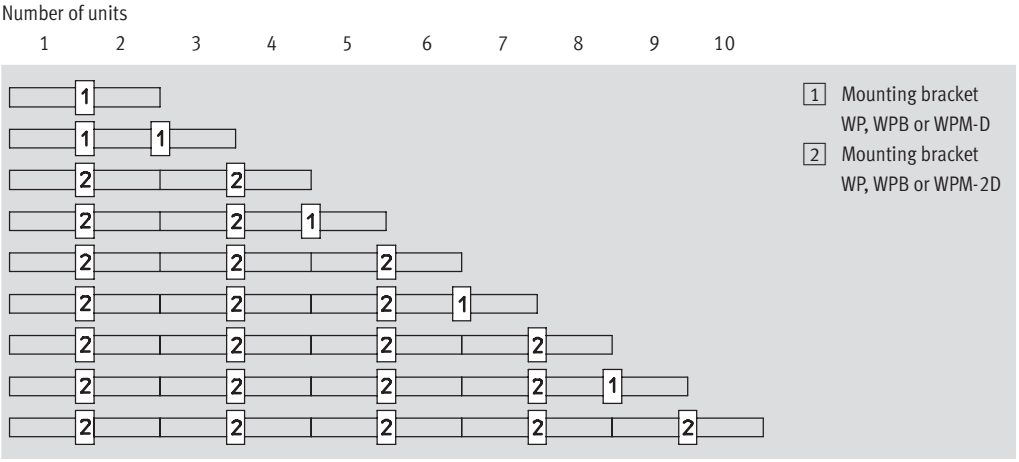
Weight [lb]	Part No.	Type
0.11	**532799**	**MS6-MV**

18 Mounting Bracket MS6-WP...

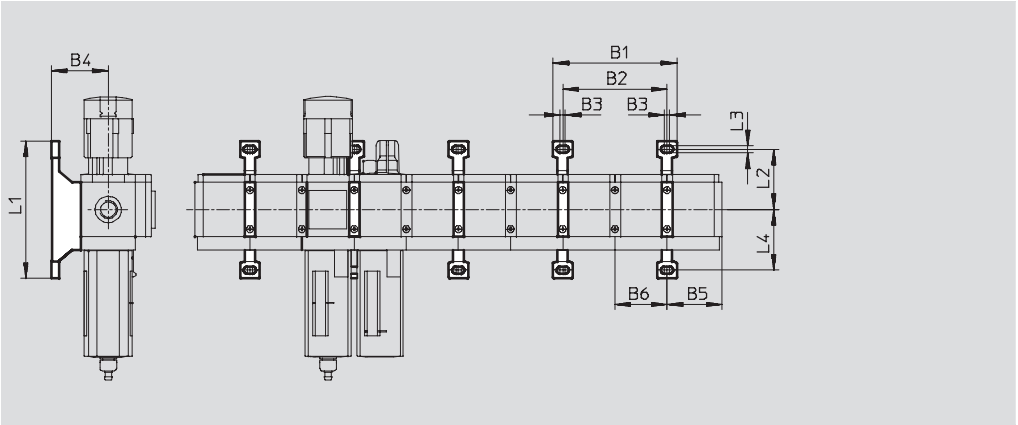
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WP, WPB
2.715 in with WPM-D

2 units: 4.88 in with WP, WPB
5.43 in with WPM-2D



Mounting dimensions



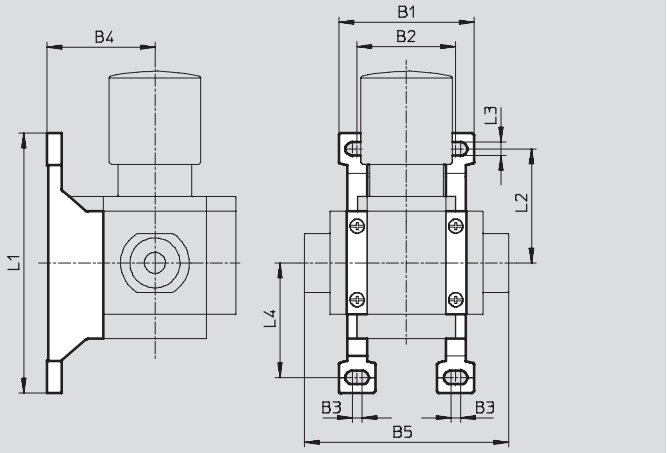
Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	5.55	4.88	0.18	2.13	2.54	2.44	6.22	2.80	0.26	2.80
MS6-WPB				3.56						
MS6-WPM-...D	6.61	5.43	0.69	2.13	2.58	2.72	3.88	1.63		1.63

Mounting bracket MS6-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





Dimensions and Ordering Data

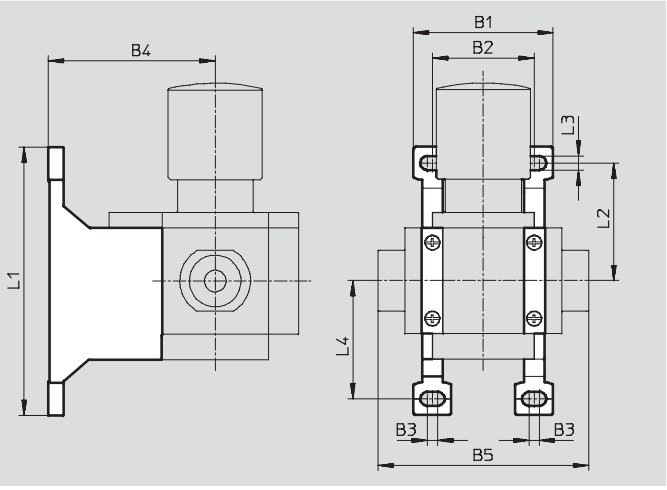
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	2.13	4.53	6.22	2.80	0.26	2.80	0.15	**532195**	**MS6-WP**

Mounting bracket MS6-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	**526074**	**MS6-WPB**

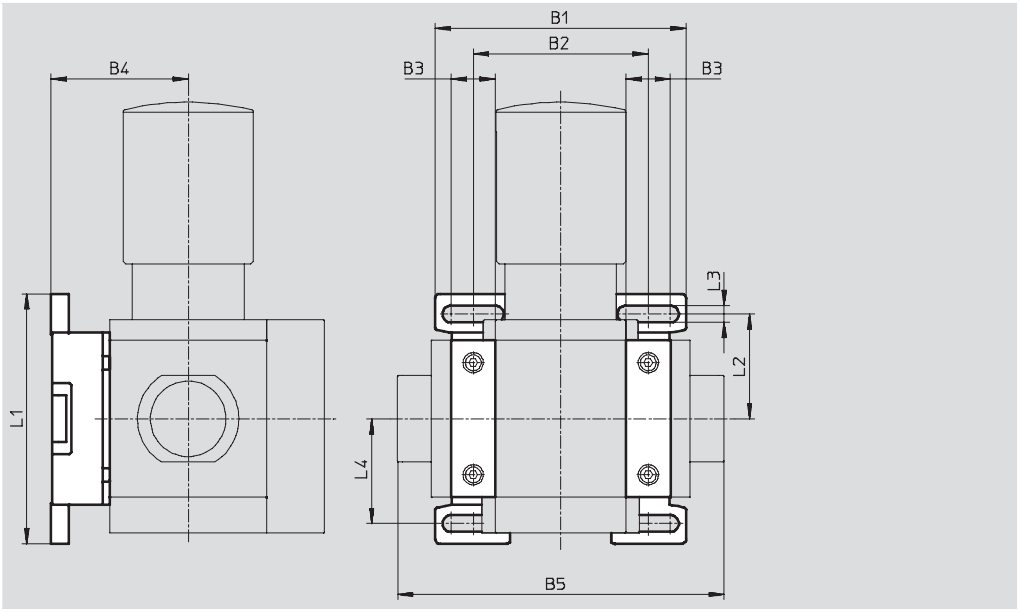
Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
3.90	2.72	0.69	2.13	5.08	3.88	1.63	0.26	1.63	2.44	0.29	**526073**	**MS6-WPM-D**
6.61	5.43			7.80					4.88	0.31	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

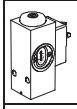
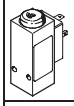
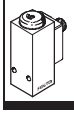
Material:
Die-cast aluminum



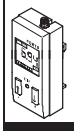
Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

11 Ordering Data – Pressure Switch PEV — Technical data ➔ www.festo.com/catalog/pev

	Pneumatic connection	Pressure switching point	Electrical connection	Order code	Part No.	Type
	¼ NPT	Adjustable with visual scale	Plug, square design to DIN EN 175 301, type A	X	**161760**	**PEV-¼-SC-OD**
	¼ NPT	Adjustable	Plug, square design to DIN EN 175 301, type A	Y	**175250**	**PEV-¼-B-OD**
	¼ NPT	Adjustable	Plug M12x1, 4-pin	M12	**192488**	**PEV-¼-B-M12**

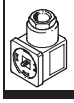
16 Ordering Data – Pressure Sensor SDE1 — Technical data ➔ www.festo.com/catalog/sde1

	Pneumatic connection	Electrical output	Electrical connection	Display	Order code	Part No.	Type
Pressure sensor SDE1 for Distribution Block MS-FRM, pressure measuring range 0 … 147 psi relative pressure measurement							
	Female thread ⅛ NPT	1 switch output PNP	M8x1, 3-pin	LCD	AD5	**192030**	**SDE1-D10-G2-H18-C-P1-M8**
		2 switch outputs PNP and 4 … 20 mA analog	M12x1, 5-pin	Illuminated LCD	AD6	**534062**	**SDE1-D10-G2-W18-L-2I-M12**

13 Ordering Data – Angled Socket PEV — Technical data ➔ www.festo.com/catalog/pev

	Description	Operating voltage range	Electrical connection	Switching status display	Part No.	Type
	for PEV-¼-…-OD	15 …. 30 V DC	4-pin	Yellow LED	**164274**	**PEV-¼-WD-LED-24**
		≤ 230 V AC ≤ 180 V DC	4-pin	Yellow LED	**164275**	**PEV-¼-WD-LED-230**

14 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for PEV-¼-…-OD	≤ 250 V AC/DC	3-pin	Clamping screws	**171157**	**MSSD-C-4P**

15 Ordering Data – Double Nipple ESK

	Description	Pneumatic connection		Part No.	Type
	Adjustable for angular compensation • For retro-fitting pressure switch PEV or pressure sensor SDE1 to distribution block MS-FRM	R⅛	R¼	**534151**	**ESK-⅛-¼**
		R¼	R¼	**151521**	**ESK-¼-¼**
			R½	**534153**	**ESK-¼-½**

17 Ordering Data – Plug Socket with Cable SIM-M8

Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [ft]	Part No.	Type
	M8x1, 3-pin	8.2	**159420**	**SIM-M8-3GD-2,5-PU**
		16.4	**159421**	**SIM-M8-3GD-5-PU**
		32.8	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 3-pin	8.2	**159422**	**SIM-M8-3WD-2,5-PU**
		16.4	**159423**	**SIM-M8-3WD-5-PU**
		32.8	**192965**	**SIM-M8-3WD-10-PU**

Ordering Data – Plug Socket with Cable SIM-M12

Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 4-pin	16.4	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 5-pin	8.2	**175715**	**SIM-M12-5GD-2,5-PU**
		16.4	**175716**	**SIM-M12-5GD-5-PU**
	M12x1, 4-pin	16.4	**164258**	**SIM-M12-4WD-5-PU**

8 Ordering Data – Pressure Gauge MA

Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	1.57	¼ NPT	0 ... 16	0 ... 232	**183908**	**MA-40-16-N¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.97	¼ NPT	–	0 ... 232	**530391**	**MA-50-232-N¼-PSI-E-RG**

Flow Sensors MS6-SFE – Metric Series



MS6-SFE flow sensors provide absolute flow and consumption information, threshold values and convenient adjustment of switching points via a display screen. A stand alone version with wall mount and inlet zone is available.

- Pneumatic connection: G½
- Operating pressure: 0 … 16 bar
- Flow rate: 200 … 5,000 l/min

Product Range Overview

Type	Flow rate [l/min]	Pneumatic connections		Switch output	
		Body thread	Port plate	2x PNP	2x NPN
MS6			**AG…**	**P2**	**N2**
SFE	200 … 5,000	G½	G½	■	■

Features

- Switch output
  2x PNP or 2x NPN
- Analog output
  0 … 10 V or 4 … 20 mA
- Suitable for flow and consumption measurement
- Switching points for measurement are freely programmable
- Freely selectable pulse output for consumption measurement

Contents

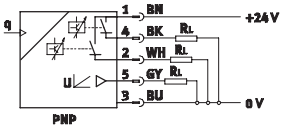
Technical Data ➔ 1034
Dimensional Drawings ➔ 1037
Ordering Data ➔ 1037
Accessories ➔ 1038

➔ www.festo.com/catalog/ms6-sfe

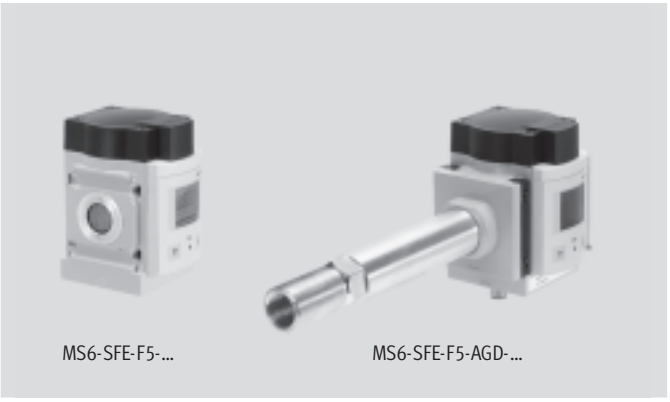
Flow Sensors MS6-SFE – Metric Series

Technical Data

ISO Symbol[1)]



1) For example with 2 switch outputs PNP and 0 ... 10 V analog



MS6-SFE-F5-... MS6-SFE-F5-AGD-...

Note

After a filter regulator MS6-LFR or pressure regulator MS6-LR, a distribution block MS6-FRM must be fitted in front of a flow sensor MS6-SFE-F5-... in order that the specified accuracies can be maintained.

The MS6-SFE-F5-... must be supplied via a pneumatic connection of at least G½.
The MS6-SFE-F5-AGD-... must be supplied via a connection inside diameter of at least 10 mm.

General Technical Data				
		In service unit combinations, MS series		Single mounting
Flow measuring range	[l/min]	200 ... 5,000[1)]		
Pneumatic connection 1		min. G½		Female thread G½
				Male thread G¾
Pneumatic connection 2		G½[2)]	G¾[2)]	Female thread G½
Measuring principle		Thermal		
Method of measurement		Heat Loss		
Measured variable		Flow rate		
		Consumption		
Direction of flow		Unidirectional P1 ⟶ P2		
Type of display		Illuminated LCD (optimized display)		
Displayable unit(s)		l, m^3, l/min		
Reproducibility of switching point		±(0.8% o.m.v. + 0.2% FS)[3)]		
Reproducibility of analog value		±(0.8% o.m.v. + 0.2% FS)[3)]		
Accuracy under rated conditions (6 bar, 23 °C, horizontal mounting position)		±(3% o.m.v. +0.3% FS)[3)4)]		
Type of mounting		Inline installation		With accessories
Assembly position		Horizontal ±5°		
Product weight	[g]	600		1,100

1) Restricted at operating pressure < 5 bar, diagram ➔ 1035
2) Depends on port plate selected, must be ordered separately as accessory ➔ 1042
3) % o.m.v. = % of measured value
% FS = % of measuring range's final value (full scale)
4) Reduced accuracy with variant Z: ±(5% o.m.v. + 0,3% FS). Variant Z (flow direction from right to left), to be ordered via configurator software ➔ www.festo.com/us/engineering

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Flow Sensors MS6-SFE – Metric Series

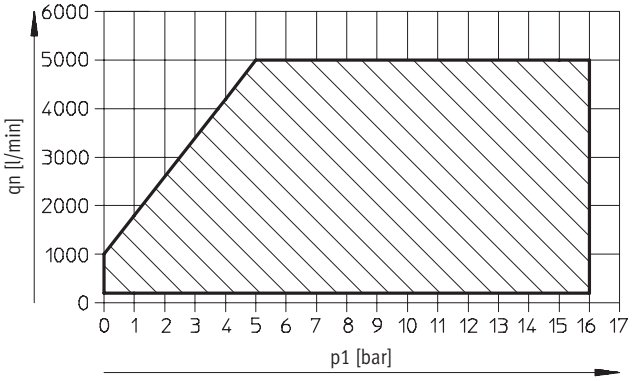
Technical Data

Electrical Data					
Type		MS6-SFE-...-P2U	MS6-SFE-...-P2I	MS6-SFE-...-N2U	MS6-SFE-...-N2I
Switch output		2x PNP	2x PNP	2x NPN	2x NPN
Analog output	[V]	0 ... 10	–	0 ... 10	–
	[mA]	–	4 ... 20	–	4 ... 20
Switching element function		NC contact			
		NO contact			
Switching function		Window comparator			
		Threshold value with variable hysteresis			
Operating voltage	[V DC]	15 ... 30			
Load resistance	[Ω]	≥ 10,000	≤ 500	≥ 10,000	≤ 500
Max. output current	[mA]	≤100			
Residual current	[mA]	≤ 0.05			
Electrical connection		Straight plug, M12x1, 5-pin			
Pin allocation in accordance with standards		EN 60947-5-2			
Protection against short circuit		Yes			
Protection class to EN 60 529		IP65			
CE symbol		89/336/EEC (EMC)			

Operating and Environmental Conditions		
Operating pressure	[bar]	0 ... 16 (overload at 20 bar, briefly)
Operating medium		Compressed air, air quality class 5.4.3 to DIN ISO 8573-1
		Nitrogen
Ambient temperature	[°C]	0 ... 50
Temperature of medium	[°C]	0 ... 50
Nominal temperature	[°C]	23
Corrosion resistance class CRC[1)]		2

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

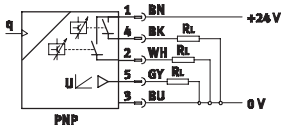
Flow Measuring Range qn as a Function of Operating Pressure p1



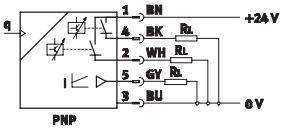
Electrical Outputs[1)]

2 switch outputs PNP

0 ... 10 V analog

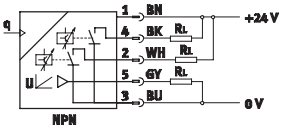


4 ... 20 mA analog

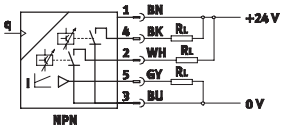


2 switch outputs NPN

0 ... 10 V analog

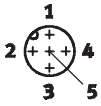


4 ... 20 mA analog



Terminal allocation

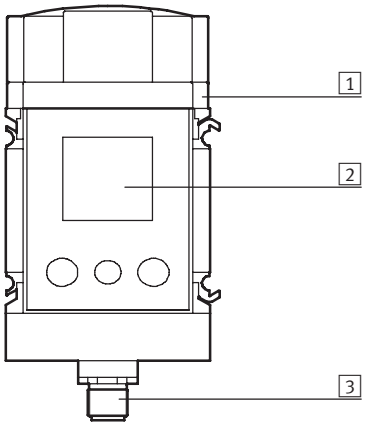
1 = +24 V
2 = Switch output B
3 = 0 V
4 = Switch output A
5 = Analog output C



1) Core colours indicated apply when using plug sockets with cable SIM-M12-5GD ➔ 1046

Materials

Sectional view

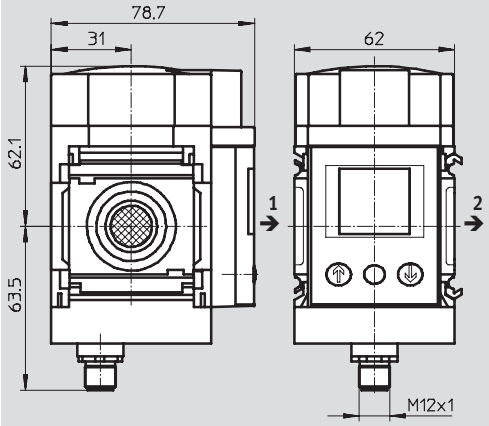


Flow sensor		
1 2	Body	Die-cast aluminum, polyamide, reinforced
3	Plug contacts	Gold-plated brass
–	Inspection glass	Polycarbonate

Dimensions[1)]

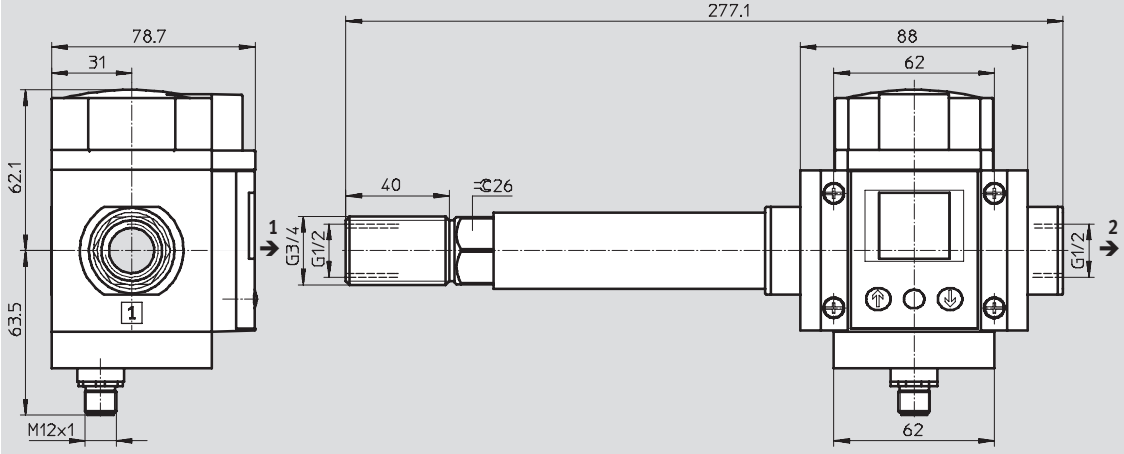
Download CAD Data ➔ **www.festo.com/us/cad**

In service unit combinations, MS series



➔ Flow direction

Individual mounting



➔ Flow direction

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

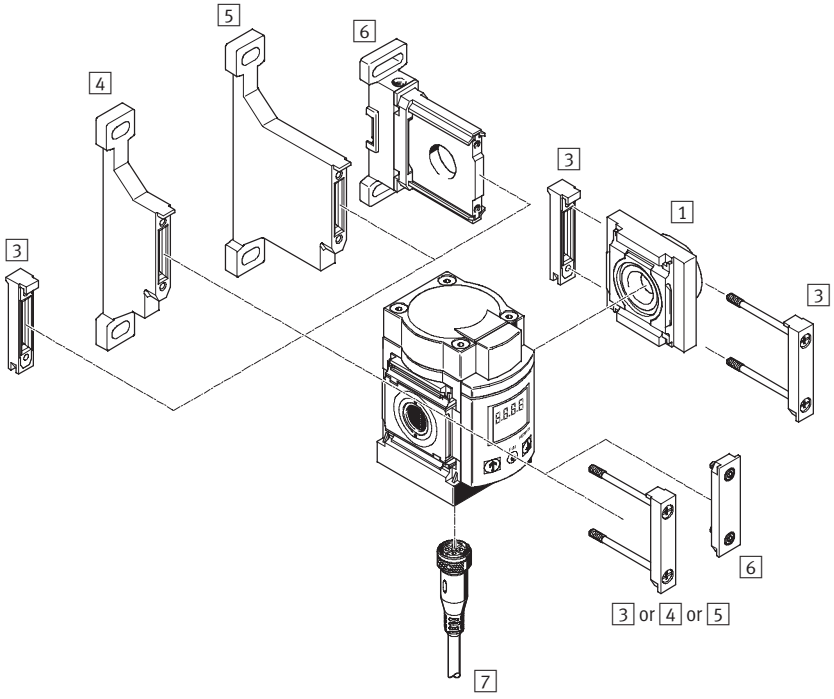
Ordering Data

Switch output		Analog output		In service unit combinations, MS series				Single mounting		
2x PNP	2x NPN	4 ... 20 mA	0 ... 10 V	Part No.	Type	LT		Part No.	Type	LT
■	–	■	–	**538421**	**MS6-SFE-F5-P2I-M12**	**Q**		**538417**	**MS6-SFE-F5-AGD-P2I-M12**	**Q**
■	–	–	■	**538422**	**MS6-SFE-F5-P2U-M12**	**Q**		**538418**	**MS6-SFE-F5-AGD-P2U-M12**	**Q**
–	■	■	–	**538423**	**MS6-SFE-F5-N2I-M12**	**Q**		**538419**	**MS6-SFE-F5-AGD-N2I-M12**	**Q**
–	■	–	■	**538424**	**MS6-SFE-F5-N2U-M12**	**Q**		**538420**	**MS6-SFE-F5-AGD-N2U-M12**	**Q**

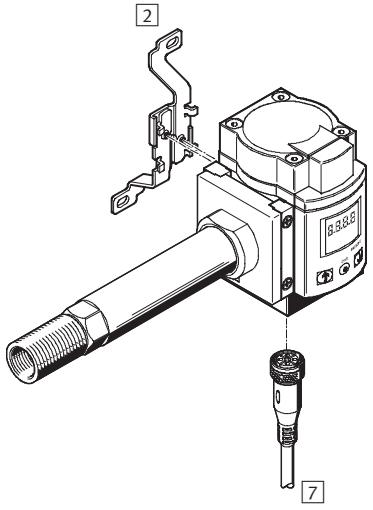
LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

Mounting Attachments and Accessories

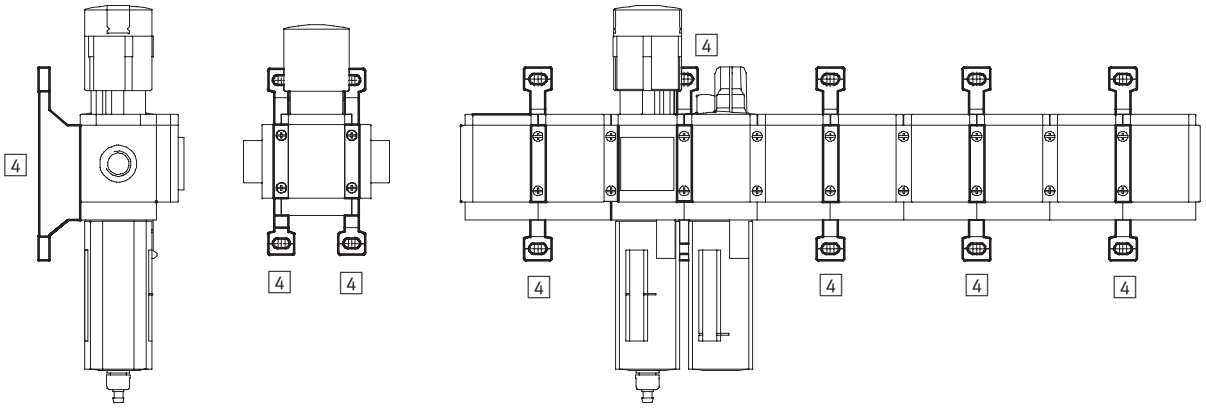
For service unit combinations with filter cartridge



For individual mounting with port plates and inlet section



Single unit and combination unit mounting brackets.



Flow Sensors MS6-SFE – Metric Series

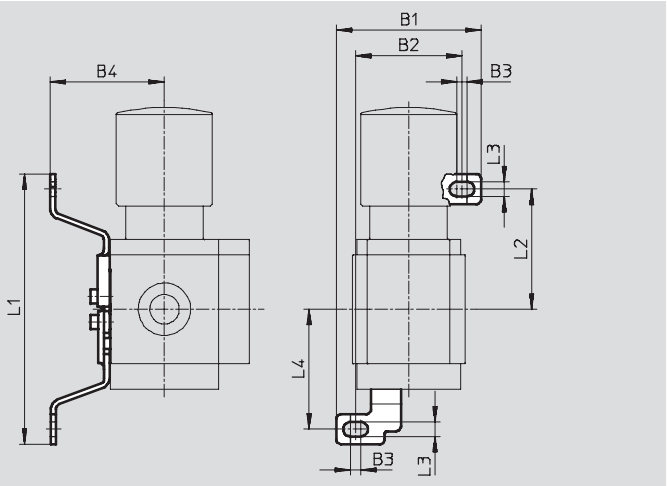
Accessories Overview

Mounting Attachments and Accessories				
		In service unit combinations, MS series	Single mounting	➔ Page
1	Port plate MS6-AG...	■	■ included in scope of delivery	1042
2	Mounting bracket MS6-WB	–	■ included in scope of delivery	1040
3	Body connector MS6-MV	■	–	1042
4	Mounting bracket MS6-WP	■	–	1043
5	Mounting bracket MS6-WPB	■	–	1043
6	Mounting bracket MS6-WPM	■	–	1043
7	Plug socket with cable SIM-M12-5GD...	■	■	1046

2 **Mounting bracket MS6-WB**
- For wall mounting

Material:
Steel





Dimensions and Ordering Data

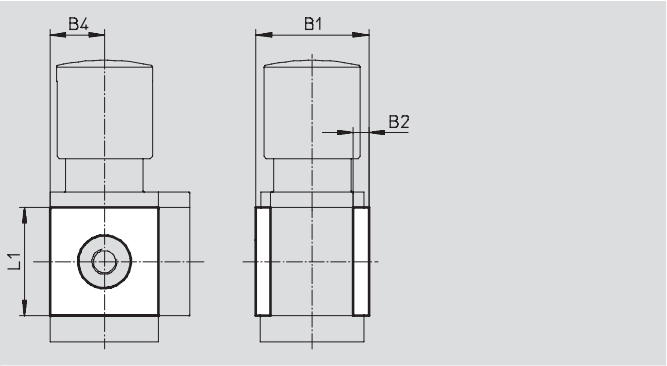
B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
79.4	61.9	4.5	55	157.6	71	6.6	71	121	**532196**	**MS6-WB**

Cover cap MS6-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE





Dimensions and Ordering Data

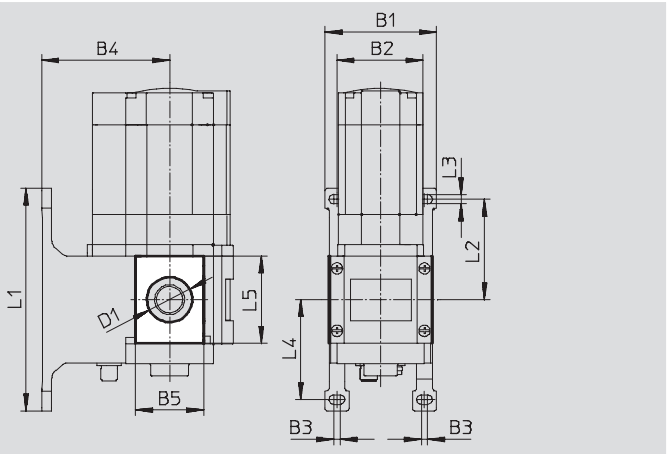
B1	B2	B4	L1	Part No.	Type
67	8	31	62	**538780**	**MS6-END**

Mounting plate MS6-AEND
(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit on a wall with body thread

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE





Dimensions and Ordering Data

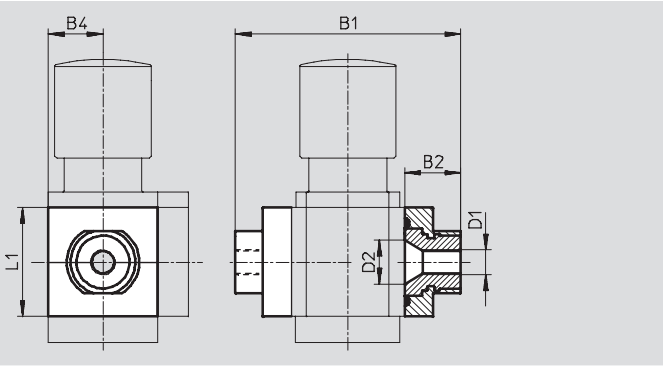
B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC[1)]	Weight	Part No.	Type
			WP	WPB		∅							[g]		
79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	**535408**	**MS6-AEND**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

1 **Port plate MS6-AG...**
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G¾

Material:
Aluminum





Dimensions and Ordering Data

B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
115	26.5	31	G¼	24	62	300	**526080**	**MS6-AGB**
			G⅜				**526081**	**MS6-AGC**
			G½				**526082**	**MS6-AGD**
			G¾				**526083**	**MS6-AGE**

3 **Body connector MS...-MV**
- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data

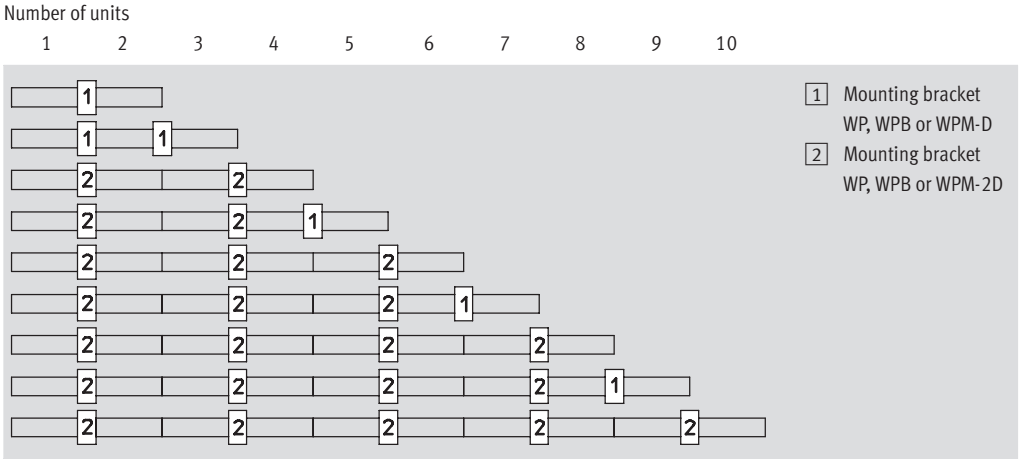
Weight [g]	Part No.	Type
54	**532799**	**MS6-MV**

4 Mounting Bracket MS6-WP...

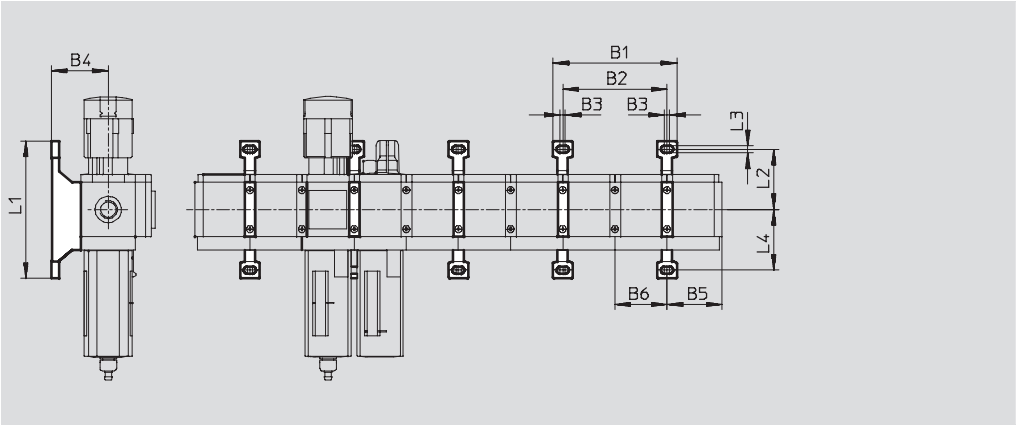
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 62 mm with WP, WPB
69 mm with WPM-D

2 units: 124 mm with WP, WPB
138 mm with WPM-2D



Mounting dimensions

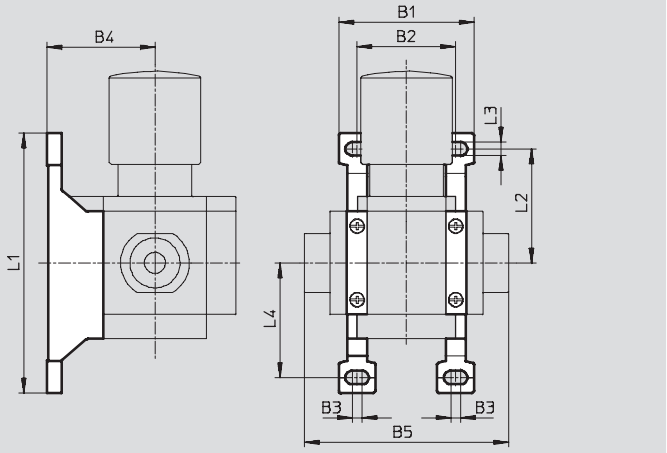


Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3

Mounting bracket MS6-WP
- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum





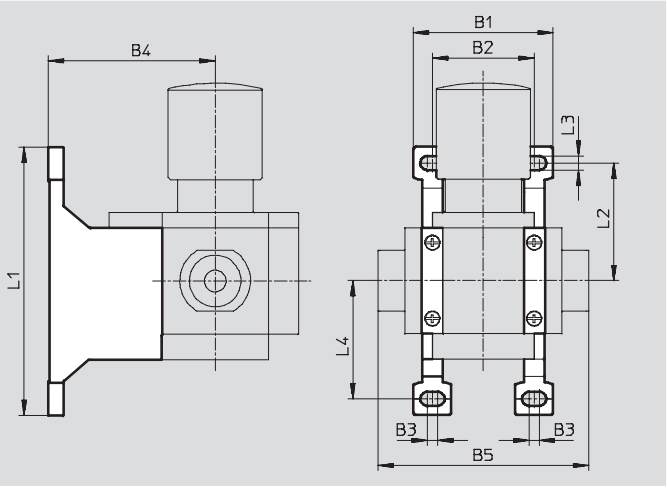
Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	54	115	158	71	6.6	71	76	**532195**	**MS6-WP**

5 **Mounting bracket MS6-WPB**
- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
79	62	4.5	90.5	115	158	71	6.6	71	115	**526074**	**MS6-WPB**

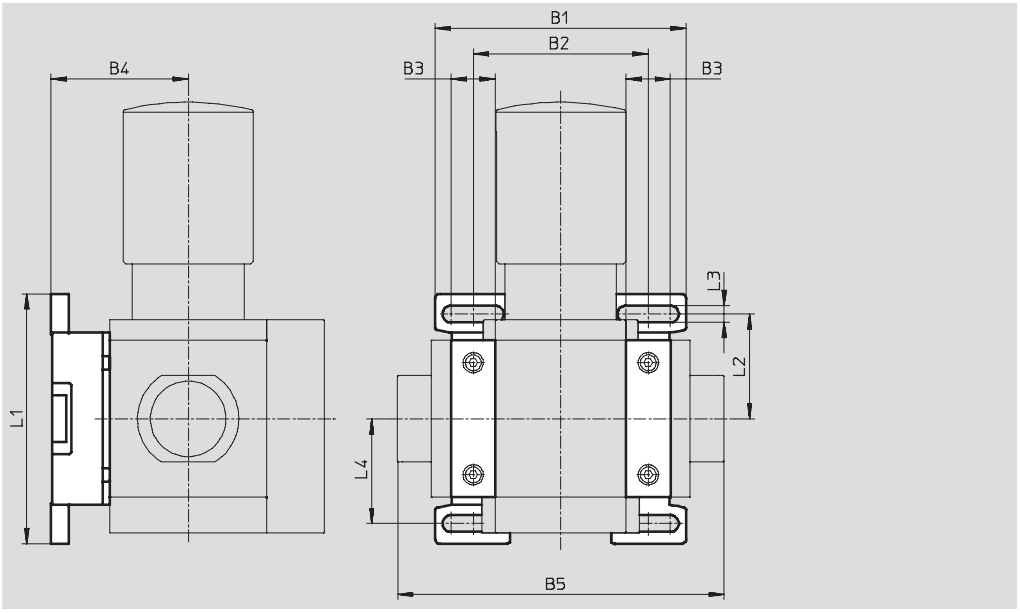
6 Mounting bracket MS6-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum





Dimensions and Ordering Data

B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	**526073**	**MS6-WPM-D**
168	138			198					124	154	**532186**	**MS6-WPM-2D**

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

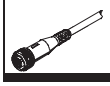
Material:
Die-cast aluminum



Ordering Data

Size	Part No.	Type
MS6	**532801**	**MS6-MVM**

7 **Ordering Data – Plug Socket with Cable SIM-M12** — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 5-pin	2.5	**175715**	**SIM-M12-5GD-2,5-PU**
		5	**175716**	**SIM-M12-5GD-5-PU**

Filter Regulators MS12-LFR – Metric Series

FESTO



A filter regulator combines a filter and a pressure regulator into a single unit. The sintered filter with water separator removes contamination, pipe sinter, rust and condensate from the compressed air. The pressure setting can be adjusted with the regulator.

- Pneumatic connection: G1, G1¼, G1½, G2
- Filtration grade: 5 µm, 40 µm
- Supply pressure
  – for manual drain: 0.8 ... 20 bar
  – for fully automatic drain: 2 ... 12 bar
  – for fully automatic drain, electrically actuated: 0.8 ... 16 bar
- Controlled pressure range: 0.3 ... 16 bar
- Flow rate: 11,000 ... 17,000 l/min

Product Range Overview

Type	Pneumatic connections		Pressure regulation range [bar]			Filtration grade [µm]		Bowl guard	Bowl drain						Pressure indicator		Pressure adjustment		Reverse flow
	Body thread	Port plate	0.3 ... 7	0.5 ... 12	0.5... 16	5	40	Metal bowl	Manual	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals	Cover plate (without pressure gauge)	Adapter for pressure gauge G¼	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS12		AG...	D6	D7	D8	C	E	U	M	V	E1	E2	E3	E4	VS	A4	AS	LD	Z
LFR	–	G1, G1¼, G1½, G2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Features

- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rates
- Pilot actuated diaphragm regulator without intrinsic air consumption
- Three pressure regulation ranges
- Pressure gauge connection for different fitting options
- Setting values are secured by locking the rotary knob
- Rotary knob can be locked using accessories

Contents

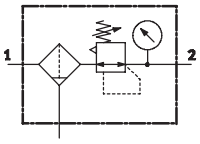
Technical Data	→ 1048
Dimensional Drawings	→ 1051
Ordering Data	→ 1053
Accessories	→ 1056
Replacement Parts	→ 1059

→ www.festo.com/catalog/ms12-lfr

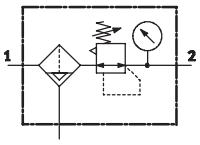
Filter Regulators MS12-LFR – Metric Series

Technical Data

ISO Symbol



Manual bowl drain



Fully automatic bowl drain



General Technical Data						
Pneumatic connection 1, 2[1]			G1	G1¼	G1½	G2
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)			
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)			
Supply pressure	M	[bar]	0.8 ... 20 (manual drain)			
	V	[bar]	2 ... 12 (fully automatic drain)			
	E...	[bar]	0.8 ... 16 (fully automatic drain, electrically actuated)			
Pressure regulation range	D6	[bar]	0.3 ... 7			
	D7	[bar]	0.5 ... 12			
	D8	[bar]	0.5 ... 16			
Max. hysteresis		[bar]	0.4			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1057

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[1] [l/min]					
Pneumatic connection 1, 2		G1	G1¼	G1½	G2
Filtration grade	5 µm	11,000	11,500	12,000	14,000
	40 µm	12,000	12,500	13,000	17,000

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1057
measured at p1 = 10 bar and p2 = 6 bar, Δp = 0.5 bar

Filter Regulators MS12-LFR – Metric Series

Technical Data

Operating and Environmental Conditions				
Bowl drain		Manual M	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium		Compressed air, air quality class 5.7.– to DIN ISO 8573-1		
Max. condensate volume	[cm^3]	400		
Bowl guard		Metal bowl		
Ambient temperature	[°C]	–10 ... +60	+5 ... +60	+1 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60	+1 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	+1 ... +60
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

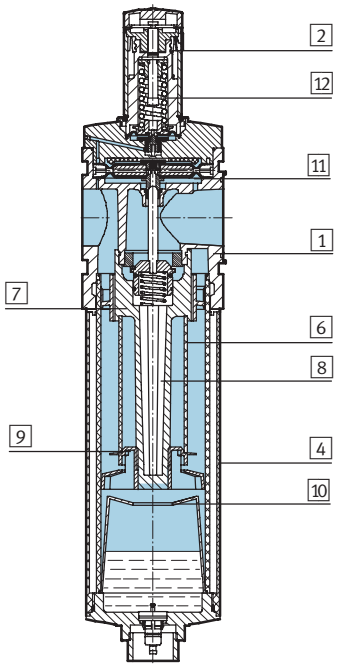
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With metal bowl	7,000
With metal bowl and fully automatic, electrically actuated bowl drain	7,700

- Wearing parts kits ➔ 1059
- Filter cartridges ➔ 1059
- For spare parts go to: www.festo.com/en/spare_parts_service

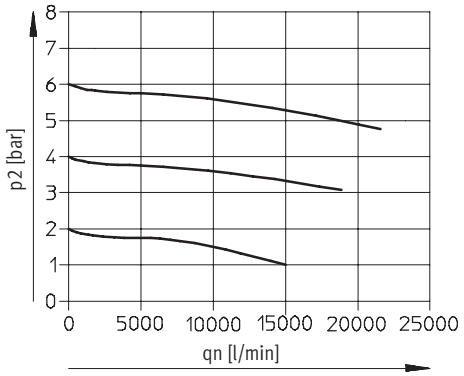
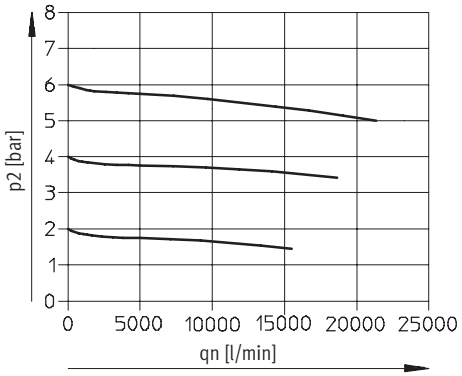
Materials

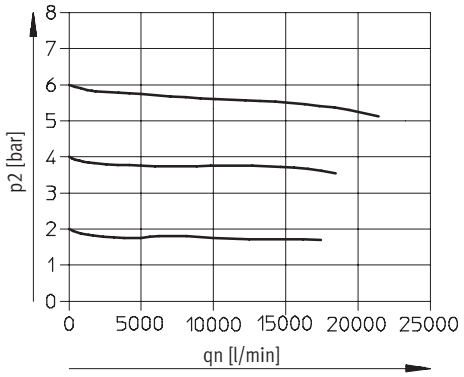
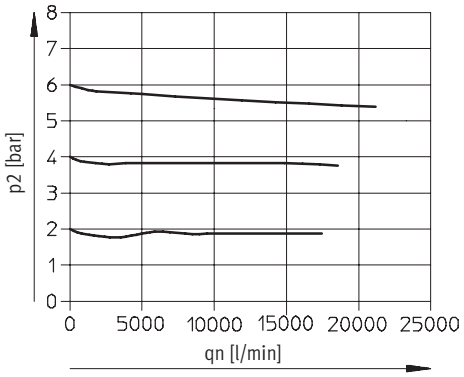
Sectional view



Filter regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide
4	Metal bowl	Wrought aluminum alloy
6	Filter element	Sintered bronze
7	Spin disk	Polyacetate
8	Filter holder	Polyacetate
9	Separating plate	Polyacetate
10	Stabilizing disk	Polyacetate
11	Diaphragm	Nitrile rubber
12	Spring	Steel
–	Seals	Nitrile rubber

Standard Flow Rate qn as a Function of Output Pressure p2

Filtration grade 40 µm	With port plate MS12-AGF Pneumatic connection G1	With port plate MS12-AGG Pneumatic connection G1¼
Primary pressure p1 = 10 bar		

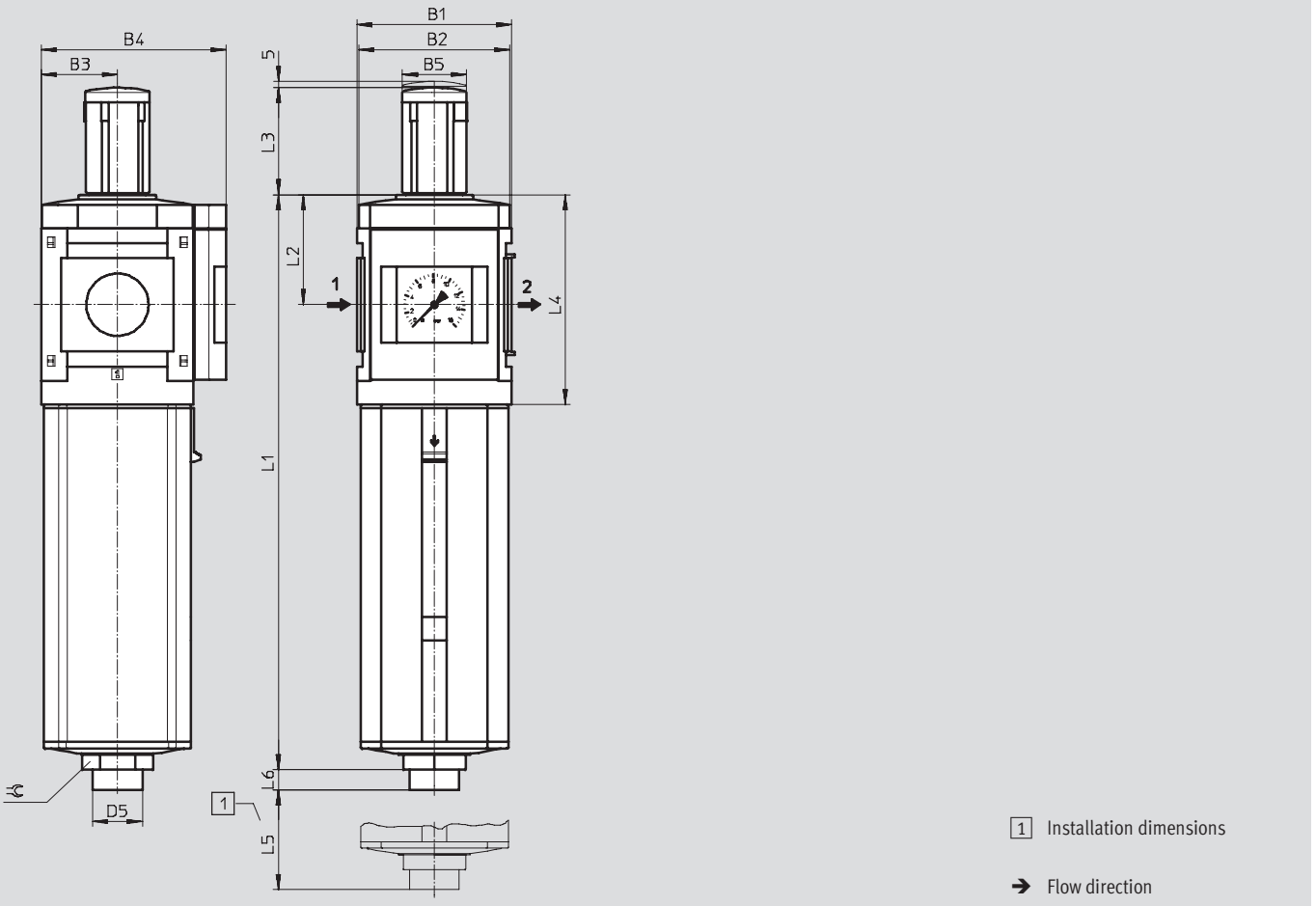
	With port plate MS12-AGH Pneumatic connection G1½	With port plate MS12-AGI Pneumatic connection G2
Primary pressure p1 = 10 bar		

Filter Regulators MS12-LFR – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar], long rotary knob



B1	B2	B3	B4	B5	D5 ∅	L1	L2	L3	L4	L5	L6	⌀
124	122	61	148	51	40	460	88	86	168	250	16	50

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Filter Regulators MS12-LFR – Metric Series

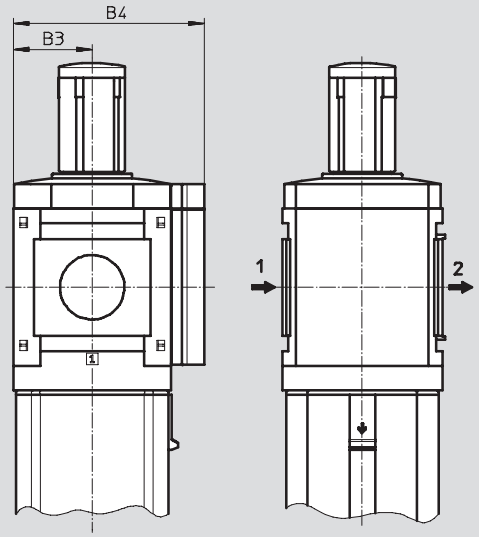
Dimensional Drawings

FESTO

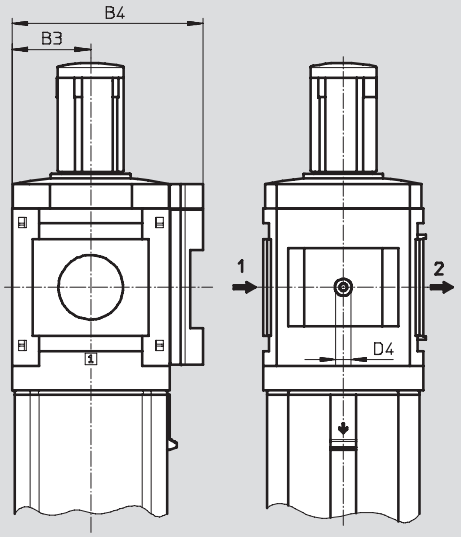
Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



Adapter A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

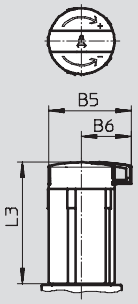
Type	B3	B4	D4
MS12-LFR-...-VS	61	148	–
MS12-LFR-...-A4	61	148	G¼

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Rotary Knob

Long, lockable LD-AS

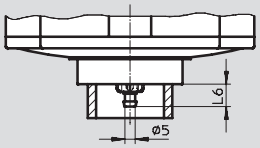


Type	B5	B6	L3
MS12-LFR-...-LD-AS	64.4	39	95.5

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

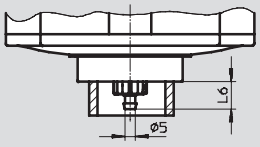
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
MS12-LFR-...-M	11

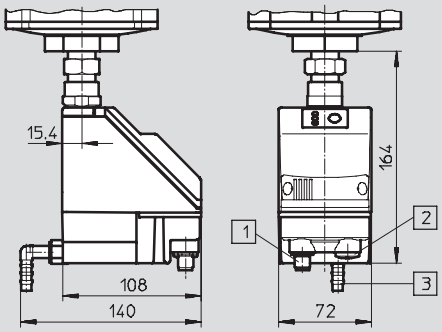
Fully automatic V



Barbed fitting for plastic tubing
PCN-4

Type	L6
MS12-LFR-...-V	13

Fully automatic, electrically actuated E1 ... E4 Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...
2 Variant E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9
3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Pressure regulation range 0.5 ... 12 bar, metal bowl, long rotary knob, can be locked using accessories

Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Fully automatic	G1 ... G2[2]	**537150**	**MS12-LFR-G-D7-CUV-LD-AS**	1D		**537149**	**MS12-LFR-G-D7-EUV-LD-AS**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1057

Filter Regulators MS12-LFR – Metric Series

Ordering Data – Configurable Products

FESTO

[M] **Mandatory Data** ➔

Part No.	Series	Size		Function		Connection size		Pressure regulation range		Filtration grade		Bowl
535022	MS	12		LFR		AGF AGG AGH AGI G		D6 D7 D8		E C		U
Order example												
535022	**MS**	**12**	–	**LFR**	–	**AGF**	–	**D6**	–	**C**	–	**U**

Ordering Table

	Grid dimension [mm]	124	Conditions	Code		Enter code
[M]	Part No.	**535022**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Function	Filter regulator		**-LFR**		-LFR
	Connection size	Port plate G1 (dimensions ➔ 1057)		**-AGF**		
		Port plate G1¼ (dimensions ➔ 1057)		**-AGG**		
		Port plate G1½ (dimensions ➔ 1057)		**-AGH**		
		Port plate G2 (dimensions ➔ 1057)		**-AGI**		
		Module without connecting thread, without port plate		**-G**		
	Pressure regulation range	0.3 ... 7 bar		**-D6**		
		0.5 ... 12 bar		**-D7**		
		0.5 ... 16 bar		**-D8**		
	Filtration grade	40 µm		**-E**		
		5 µm		**-C**		
↓	Bowl	Metal bowl		**-U**		-U

Transfer order code

535022	**MS**	**12**	–	**LFR**	–		–		–		–	**U**

Filter Regulators MS12-LFR – Metric Series

Ordering Data – Configurable Products

FESTO

→ M	O Options						
Bowl drain	**Pressure gauge alternatives**	**Alternative pressure gauge scale**	**Rotary knob**	**Security**	**Type of mounting**	**Reverse flow direction**
M V E1 E2 E3 E4	VS A4	PSI MPA	LD	AS	WP	Z
– **E1**	–	–	– **LD**	– **AS**	– **WP**	– **Z**

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
↓ M	Bowl drain	Manual		**-M**		
		Fully automatic (P1 max. 12 bar)	1	**-V**		
		External fully automatic bowl drain, electrical, 24 V DC, M12		**-E1**		
		External fully automatic bowl drain, electrical, 110 V AC, terminals		**-E2**		
		External fully automatic bowl drain, electrical, 230 V AC, terminals		**-E3**		
		External fully automatic bowl drain, electrical, 24 V DC, terminals		**-E4**		
O	Pressure gauge alternatives	Cover plate		**-VS**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
	Alternative pressure gauge scale	psi	2	**-PSI**		
		MPa	2	**-MPA**		
	Rotary knob	Long rotary knob		**-LD**		-LD
	Security	Lockable rotary knob		**-AS**		
	Type of mounting	Mounting bracket (dimensions → 1058)	3	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **V** Not with pressure regulation range D8

2 **PSI, MPA** Not with pressure gauge alternatives VS, A4

3 **WP** Only with port plate AGF, AGG, AGH or AGI

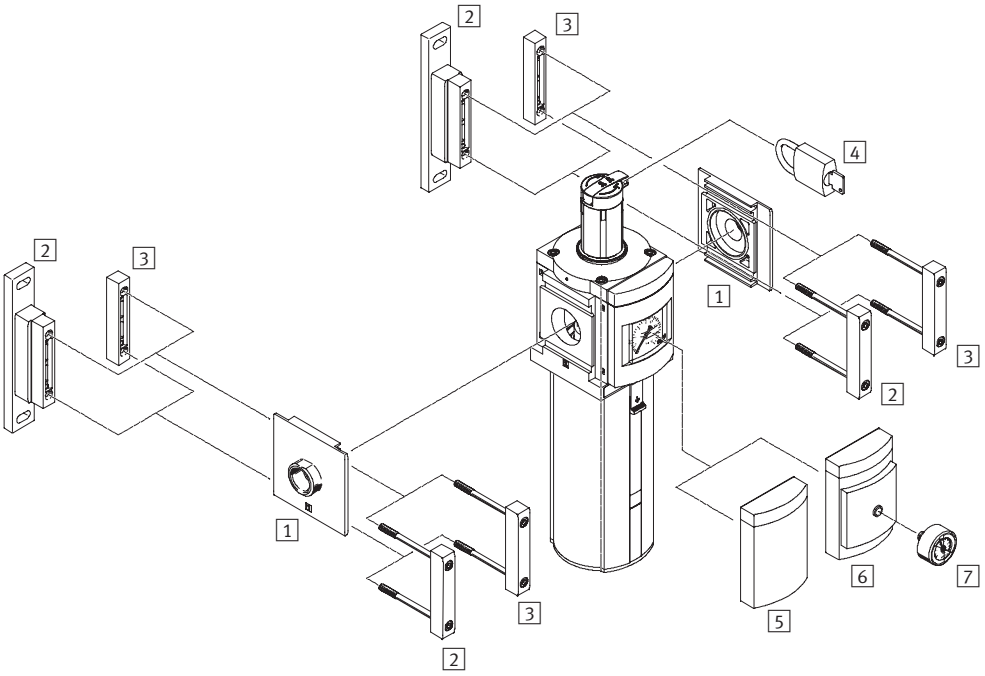
Transfer order code

–		–		–		–	**LD**	–		–		–	

Filter Regulators MS12-LFR – Metric Series

Accessories Overview

Mounting Attachments and Accessories

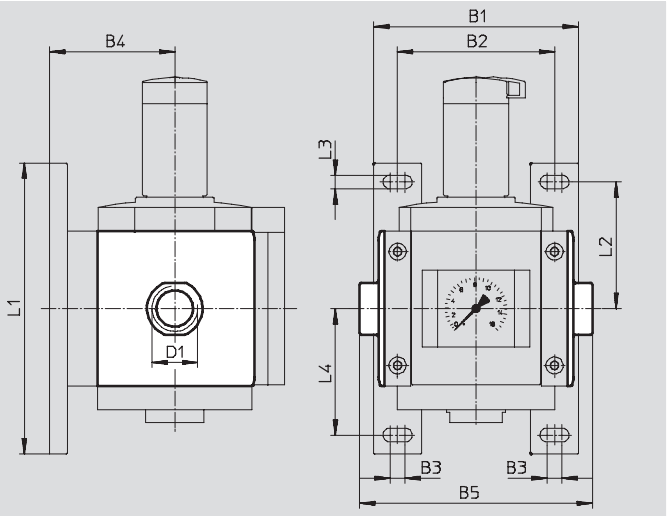


Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AG...	1057
2	Mounting bracket MS12-WP	1058
3	Body connector MS12-MV	1057
4	Padlock LRVS-D	1058
5	Cover plate VS	1054
6	Adapter for EN pressure gauge ¼ A4	1054
7	Pressure gauge MA	1058

1 **Port plate MS12-AG...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [g]	Part No.	Type
162	124	12	99	184	G1	230	100	11	100	1,300	**537135**	**MS12-AGF**
				184	G1¼						**537136**	**MS12-AGG**
				184	G1½						**537137**	**MS12-AGH**
				196	G2						**537138**	**MS12-AGI**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

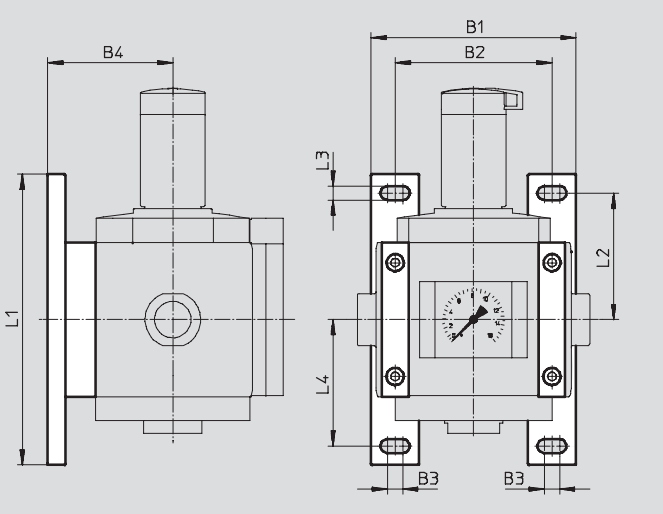
Size	Weight [g]	Part No.	Type
MS12	500	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

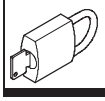
Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS12	162	124	12	99	230	100	11	100	700	**537133**	**MS12-WP**

7 **Ordering Data – Pressure Gauge MA**

Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

4 **Ordering Data – Padlock LRVS-D**

	Description	Weight [g]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	120	**193786**	**LRVS-D**

Filter Regulators MS12-LFR – Metric Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS12	Snap-ring, membrane, bellows, O-rings, screws, stem	**673586**	**MS12-LR/LFR**

Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS12	5	**537143**	**MS12-LFP-C**
	40	**537144**	**MS12-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Filter Regulators MS12N-LFR – Inch Series



A filter regulator combines a filter and a pressure regulator into a single unit. The sintered filter with water separator removes contamination, pipe sinter, rust and condensate from the compressed air. The pressure setting can be adjusted with the regulator.

- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Filtration grade: 5 µm, 40 µm
- Supply pressure
  – for manual drain: 12 … 294 psi
  – for fully automatic drain: 29 … 176 psi
  – for fully automatic drain, electrically actuated: 12 … 235 psi
- Controlled pressure range: 4.4 … 235 psi
- Flow rate: 388.3 … 600.1 scfm

Product Range Overview

Type	Pneumatic connections		Pressure regulation range [psi]			Filtration grade [µm]		Bowl guard	Bowl drain						Pressure indicator		Pressure adjustment		Reverse flow
	Body thread	Port plate	4.4 … 59	7.4 … 103	7.4 … 235	5	40	Metal bowl	Manual	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals	Cover plate (without pressure gauge)	Adapter for pressure gauge ¼ NPT	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS12N		AG…	D6	D7	D8	C	E	U	M	V	E1	E2	E3	E4	VS	A4	AS	LD	Z
LFR	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Features

- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rates
- Pilot actuated diaphragm regulator without intrinsic air consumption
- Three pressure regulation ranges
- Pressure gauge connection for different fitting options
- Setting values are secured by locking the rotary knob
- Rotary knob can be locked using accessories

Contents

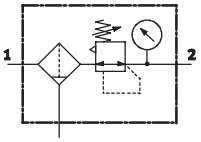
Technical Data	→ 1062
Dimensional Drawings	→ 1065
Ordering Data	→ 1067
Accessories	→ 1070
Replacement Parts	→ 1073

→ www.festo.com/catalog/ms12n-lfr

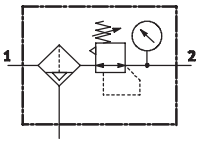
Filter Regulators MS12N-LFR – Inch Series

Technical Data

ISO Symbol



Manual bowl drain



Fully automatic bowl drain



General Technical Data						
Pneumatic connection 1, 2[1]			1 NPT	1¼ NPT	1½ NPT	2 NPT
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)			
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)			
Supply pressure	M	[psi]	12 ... 294 (manual drain)			
	V	[psi]	29 ... 176 (fully automatic drain)			
	E...	[psi]	12 ... 235 (fully automatic drain, electrically actuated)			
Pressure regulation range	D6	[psi]	4.4 ... 103			
	D7	[psi]	7.4 ... 176			
	D8	[psi]	7.4 ... 235			
Max. hysteresis		[psi]	5.9			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1071

Standard Nominal Flow Rate qnN[1] [scfm]					
Pneumatic connection 1, 2		1 NPT	1¼ NPT	1½ NPT	2 NPT
Filtration grade	5 µm	388.3	406.0	423.6	494.2
	40 µm	423.6	441.3	458.9	600.1

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1071
measured at p1 = 147 psi and p2 = 88 psi, Δp = 7.4 psi

Filter Regulators MS12N-LFR – Inch Series

Technical Data

Operating and Environmental Conditions				
Bowl drain		Manual M	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium		Compressed air, air quality class 5.7.– to DIN ISO 8573-1		
Max. condensate volume	[in^3]	24.40		
Bowl guard		Metal bowl		
Ambient temperature	[°F]	14 ... 140	41 ... 140	34 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140	34 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	34 ... 140
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

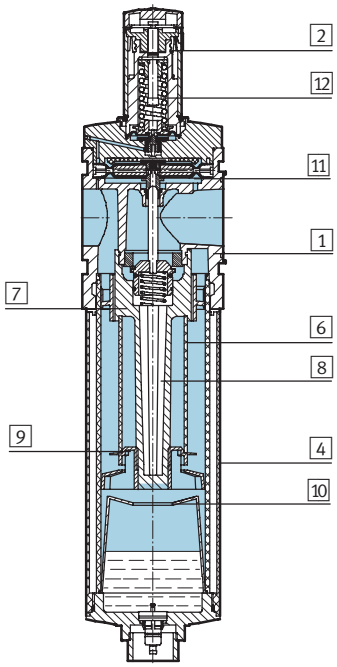
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With metal bowl	14.00
With metal bowl and fully automatic, electrically actuated bowl drain	15.40

- Wearing parts kits ➔ 1073
- Filter cartridges ➔ 1073
- For spare parts go to: www.festo.com/en/spare_parts_service

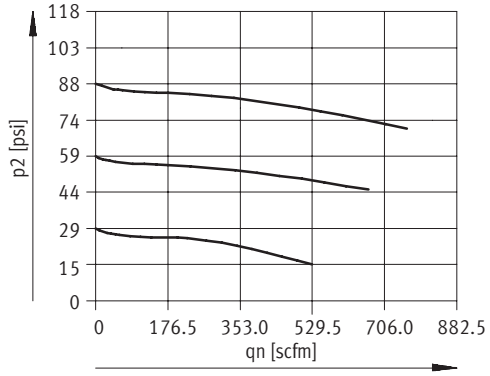
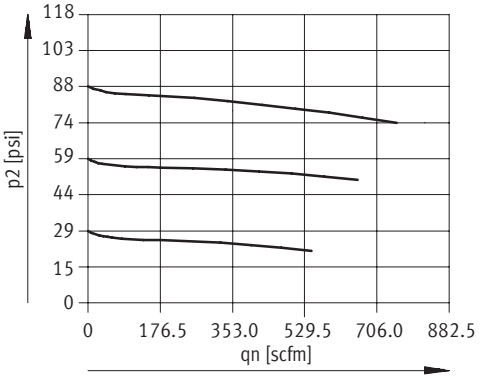
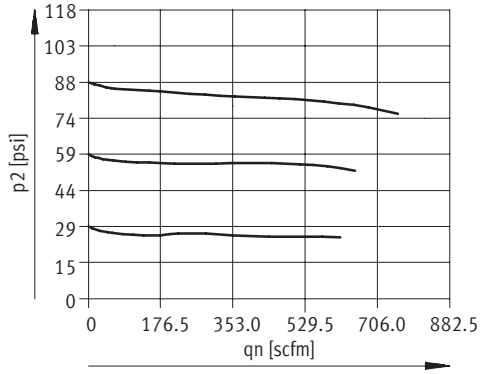
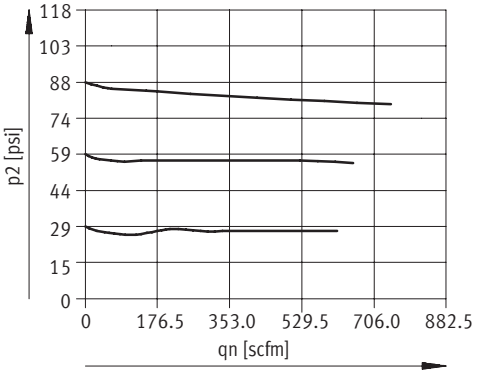
Materials

Sectional view



Filter regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide
4	Metal bowl	Wrought aluminum alloy
6	Filter element	Sintered bronze
7	Spin disk	Polyacetate
8	Filter holder	Polyacetate
9	Separating plate	Polyacetate
10	Stabilizing disk	Polyacetate
11	Diaphragm	Nitrile rubber
12	Spring	Steel
–	Seals	Nitrile rubber

Standard Flow Rate qn as a Function of Output Pressure p2

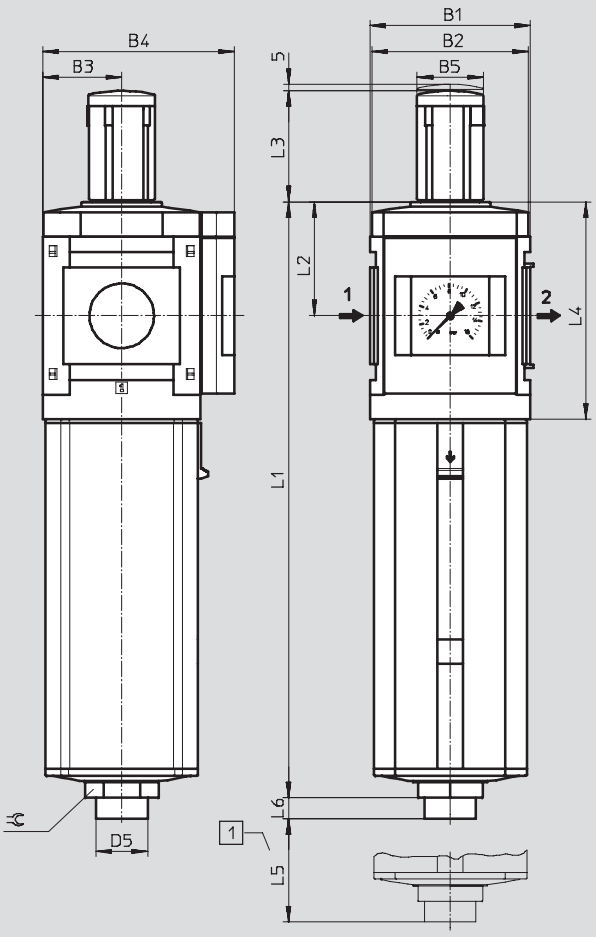
Filtration grade 40 µm	With port plate MS12-AGF Pneumatic connection 1 NPT	With port plate MS12-AGG Pneumatic connection 1¼ NPT
Primary pressure p1 = 147 psi		
	With port plate MS12-AGH Pneumatic connection 1½ NPT	With port plate MS12-AGI Pneumatic connection 2 NPT
Primary pressure p1 = 147 psi		

Filter Regulators MS12N-LFR – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi], long rotary knob



B1	B2	B3	B4	B5	D5 ∅	L1	L2	L3	L4	L5	L6	⌀
4.88	4.80	2.40	5.83	2.01	1.57	18.11	3.46	3.39	6.61	9.84	0.63	1.97

1) Dimensions are in inches, unless otherwise noted.

Filter Regulators MS12N-LFR – Inch Series

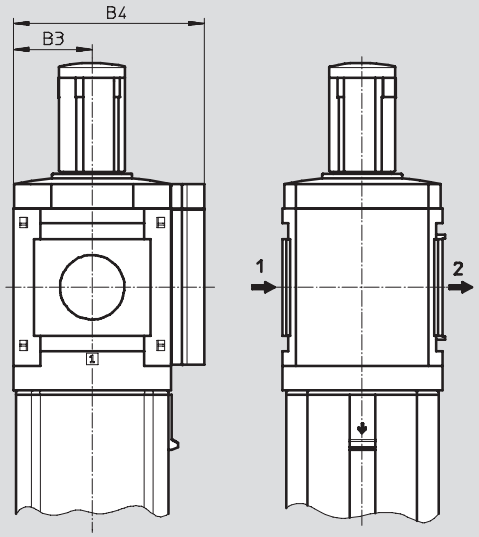
Dimensional Drawings

FESTO

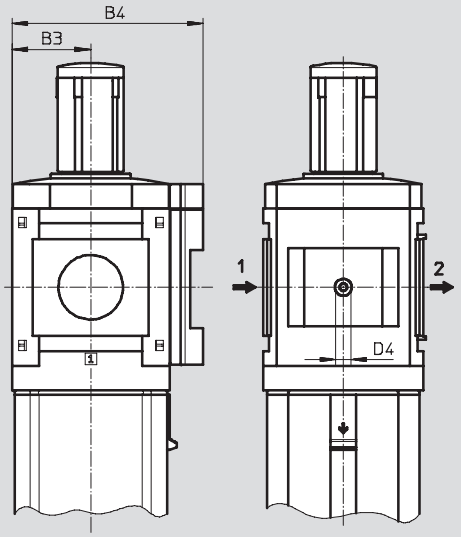
Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



Adapter A4 for EN pressure gauge ¼, without pressure gauge



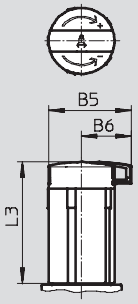
➔ Flow direction

Type	B3	B4	D4
MS12-LFR-...-VS	2.40	5.83	–
MS12-LFR-...-A4	2.40	5.83	G¼

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Rotary Knob

Long, lockable LD-AS



Type	B5	B6	L3
MS12-LFR-...-LD-AS	2.54	1.54	3.76

1) Dimensions are in inches, unless otherwise noted.

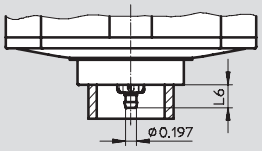
Filter Regulators MS12N-LFR – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

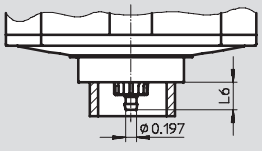
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
MS12-LFR-...-M	0.43

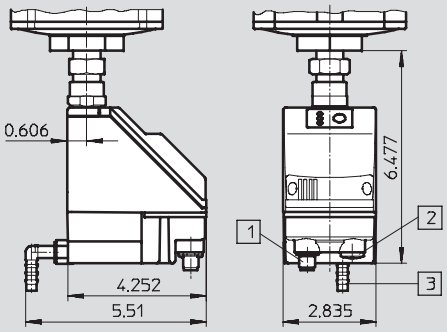
Fully automatic V



Barbed fitting for plastic tubing
PCN-4

Type	L6
MS12-LFR-...-V	0.51

Fully automatic, electrically actuated E1 ... E4 Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...
2 Variant E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9
3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Pressure regulation range 7.4 ... 176 psi, metal bowl, long rotary knob, can be locked using accessories

Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Fully automatic	1 NPT ... 2 NPT[2]	**537150**	**MS12-LFR-G-D7-CUV-LD-AS**	1D		**537149**	**MS12-LFR-G-D7-EUV-LD-AS**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1071

Filter Regulators MS12N-LFR – Inch Series

Ordering Data – Configurable Products

FESTO

[M] **Mandatory Data** →

Part No.	Series	Size	Thread		Function		Connection size		Pressure regulation range		Filtration grade		Bowl
535025	MS	12	N		LFR		AQT AQU AQV AQW G		D6 D7 D8		E C		U
Order example													
535025	**MS**	**12**	**N**	–	**LFR**	–	**AQT**	–	**D6**	–	**C**	–	**U**

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
[M]	Part No.	**535025**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Thread	NPT thread		**N**		N
	Function	Filter regulator		**-LFR**		-LFR
	Connection size	Port plate 1 NPT (dimensions → 1071)		**-AQT**		
		Port plate 1¼ NPT (dimensions → 1071)		**-AQU**		
		Port plate 1½ NPT (dimensions → 1071)		**-AQV**		
		Port plate 2 NPT (dimensions → 1071)		**-AQW**		
		Module without connecting thread, without port plate		**-G**		
	Pressure regulation range	4.4 ... 103 psi		**-D6**		
		7.4 ... 176 psi		**-D7**		
		7.4 ... 235 psi		**-D8**		
	Filtration grade	40 µm		**-E**		
		5 µm		**-C**		
↓	Bowl	Metal bowl		**-U**		-U

Transfer order code

535025	**MS**	**12**	**N**	–	**LFR**	–		–		–		– **U**

Filter Regulators MS12N-LFR – Inch Series

Ordering Data – Configurable Products

FESTO

→ M	O Options						
Bowl drain	**Pressure gauge alternatives**	**Alternative pressure gauge scale**	**Rotary knob**	**Security**	**Type of mounting**	**Reverse flow direction**
M V E1 E2 E3 E4	VS A4	BAR MPA	LD	AS	WP	Z
– **E1**	–	–	– **LD**	– **AS**	– **WP**	– **Z**

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
↓ M	Bowl drain	Manual		**-M**		
		Fully automatic (P1 max. 176 psi)	1	**-V**		
		External fully automatic bowl drain, electrical, 24 V DC, M12		**-E1**		
		External fully automatic bowl drain, electrical, 110 V AC, terminals		**-E2**		
		External fully automatic bowl drain, electrical, 230 V AC, terminals		**-E3**		
		External fully automatic bowl drain, electrical, 24 V DC, terminals		**-E4**		
O	Pressure gauge alternatives	Cover plate		**-VS**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
	Alternative pressure gauge scale	bar	2	**-BAR**		
		MPa	2	**-MPA**		
	Rotary knob	Long rotary knob		**-LD**		-LD
	Security	Lockable rotary knob		**-AS**		
	Type of mounting	Mounting bracket (dimensions → 1072)	3	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **V** Not with pressure regulation range D8

2 **BAR, MPA** Not with pressure gauge alternatives VS, A4

3 **WP** Only with port plate AQT, AQU, AQV or AQW

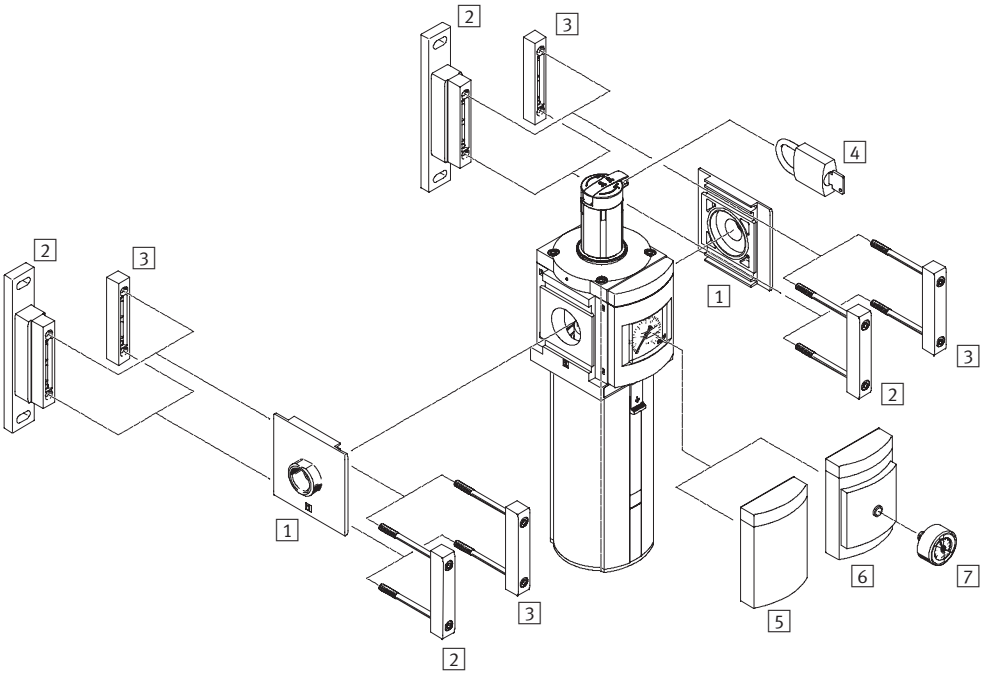
Transfer order code

–		–		–		–	LD	–		–		–	

Filter Regulators MS12N-LFR – Inch Series

Accessories Overview

Mounting Attachments and Accessories

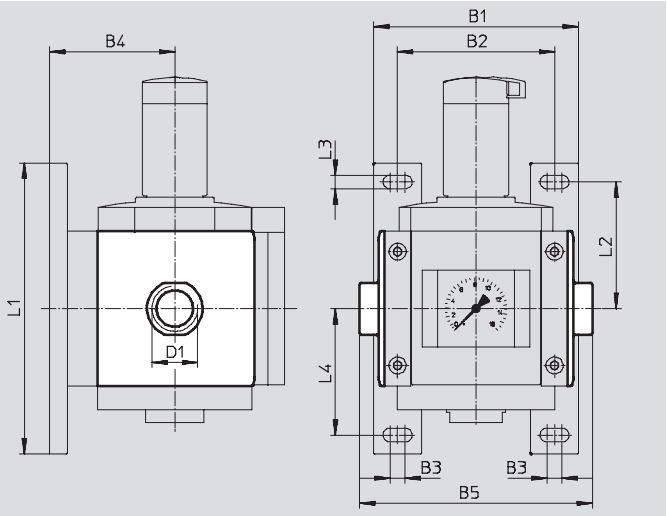


Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AQ...	1071
2	Mounting bracket MS12-WP	1072
3	Body connector MS12-MV	1071
4	Padlock LRVS-D	1072
5	Cover plate VS	1068
6	Adapter for EN pressure gauge ¼ A4	1068
7	Pressure gauge MA	1072

1 **Port plate MS12-AQ...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [lb]	Part No.	Type
6.38	4.88	0.47	3.90	7.24	1 NPT	9.06	3.94	0.43	3.94	2.60	**537139**	**MS12-AQT**
				7.24	1¼ NPT						**537140**	**MS12-AQU**
				7.24	1½ NPT						**537141**	**MS12-AQV**
				7.72	2 NPT						**537142**	**MS12-AQW**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

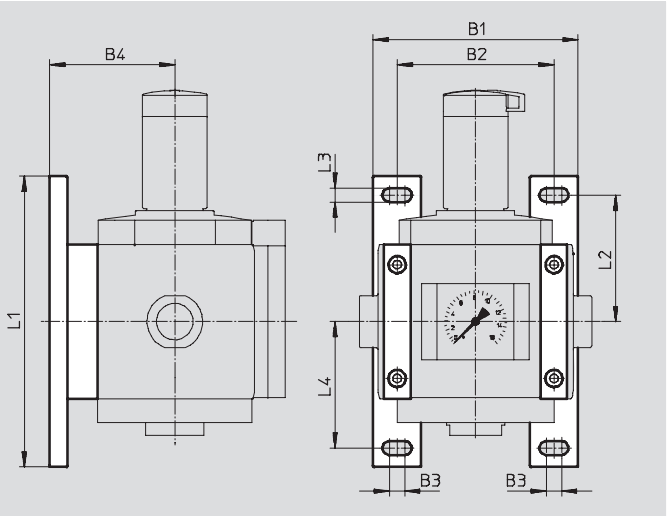
Size	Weight [lb]	Part No.	Type
MS12	1.00	**537134**	**MS12-MV**

2 Mounting bracket MS12-WP

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

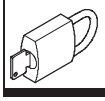
Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
MS12	6.38	4.88	0.47	3.90	9.06	3.94	0.43	3.94	1.40	**537133**	**MS12-WP**

7 Ordering Data – Pressure Gauge MA

Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	1.57	R¼	0 ... 16	0 ... 232	**187080**	**MA-40-16-R¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.97	R¼	–	0 ... 232	**526790**	**MA-50-232-R¼-PSI-E-RG**

4 Ordering Data – Padlock LRVS-D

	Description	Weight [lb]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	0.24	**193786**	**LRVS-D**

Filter Regulators MS12N-LFR – Inch Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS12	Snap-ring, membrane, bellows, O-rings, screws, stem	**673586**	**MS12-LR/LFR**

Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS12	5	**537143**	**MS12-LFP-C**
	40	**537144**	**MS12-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Pressure Regulators MS12-LR – Metric Series



The pressure regulator maintains a constant working pressure (secondary side), regardless of the pressure variations in the system (primary side) and the air consumption.

- Pneumatic connection: G1, G1¼, G1½, G2
- Supply pressure: 0.8 ... 21 bar
- Flow rate: 13,000 ... 22,000 l/min

Product Range Overview

Type	Pneumatic connections		Pressure regulation range [bar]				Pressure indicator					Pressure adjustment		Reverse flow
	Body thread	Port plate	0.3 ... 4	0.3 ... 7	0.5 ... 12	0.5 ... 16	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G1/8	Adapter for pressure gauge G1/4	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS12		**AG...**	**D5**	**D6**	**D7**	**D8**	**VS**	**AG**	**A8**	**A4**	**AD...**	**AS**	**LD**	**Z**
LR	–	G1, G1¼, G1½, G2	–	■	■	■	■	–	–	■	–	■	■	■

Features

- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Three pressure regulation ranges
- Pressure gauge connection for different fitting options
- Setting values are secured by locking the rotary knob
- With secondary venting
- Rotary knob can be locked using accessories

Contents

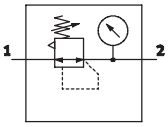
Technical Data	➔ 1076
Dimensional Drawings	➔ 1078
Ordering Data	➔ 1079
Accessories	➔ 1082
Replacement Parts	➔ 1086

➔ www.festo.com/catalog/ms12-lr

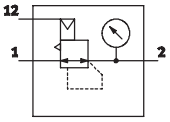
Pressure Regulators MS12-LR – Metric Series

Technical Data

ISO Symbol



With pressure gauge



With pressure gauge and air pilot control (variant PO)



General Technical Data						
Pneumatic connection 1, 2[1]			G1	G1¼	G1½	G2
Pilot air connection 12 for variant PO			G¼			
Supply pressure		[bar]	0.8 ... 21			
Pressure regulation range	D6	[bar]	0.3 ... 7			
	D7	[bar]	0.5 ... 12			
	D8	[bar]	0.5 ... 16			
Max. hysteresis		[bar]	0.4			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1083

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] [l/min]				
Pneumatic connection 1, 2	G1	G1¼	G1½	G2
In main flow direction 1 ⇢ 2	13,000	13,500	16,000	22,000

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1083
Measured at p1 = 10 bar and p2 = 6 bar, Δp = 0.5 bar

Operating and Environmental Conditions		
Operating medium		Compressed air, air quality class 5.7.– to DIN ISO 8573-1
Ambient temperature	[°C]	–10 ... +60
Temperature of medium	[°C]	–10 ... +60
Storage temperature	[°C]	–10 ... +60
Assembly position		Any
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Product weight	4,000

- Wearing parts kits ➔ 1086
- For spare parts go to: www.festo.com/en/spare_parts_service

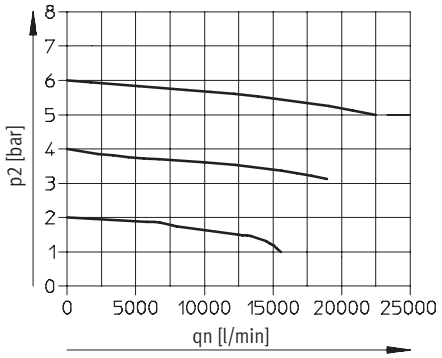
Pressure Regulators MS12-LR – Metric Series

Technical Data

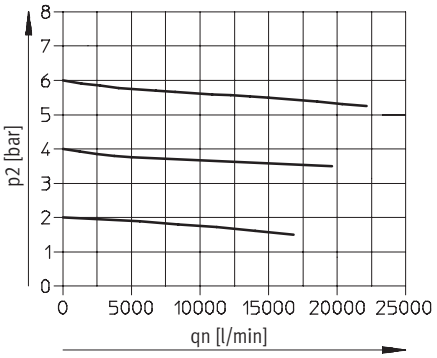
Standard Flow Rate qn as a Function of Output Pressure p2

With port plate MS12-AGF
Pneumatic connection G1

Primary pressure p1 = 10 bar

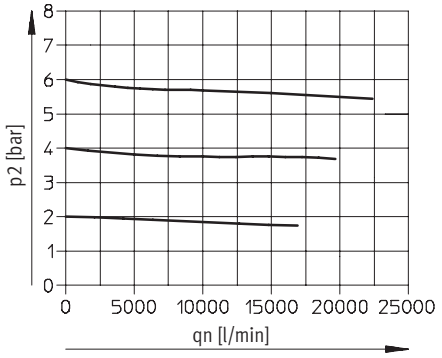


With port plate MS12-AGG
Pneumatic connection G1¼

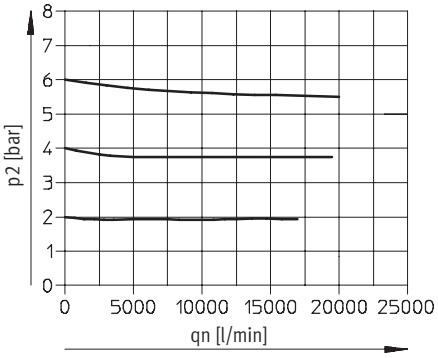


With port plate MS12-AGH
Pneumatic connection G1½

Primary pressure p1 = 10 bar

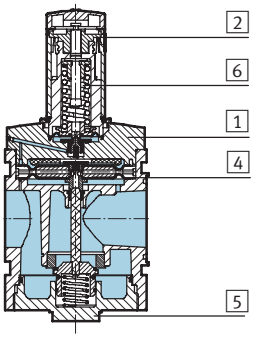


With port plate MS12-AGI
Pneumatic connection G2



Materials

Sectional view



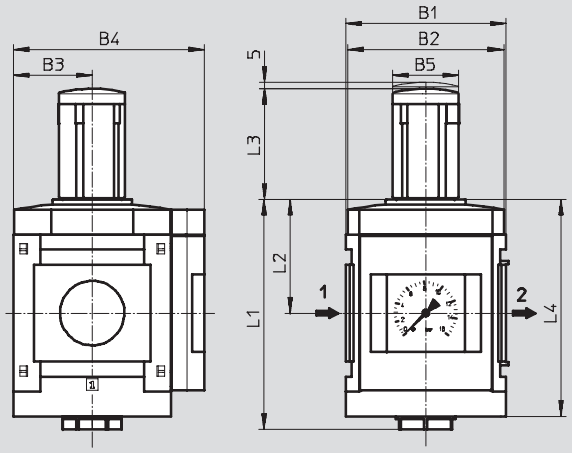
Pressure regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
4	Diaphragm	Nitrile rubber
5	Bottom cap	Wrought aluminum alloy
6	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Pressure Regulators MS12-LR – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [bar], long rotary knob



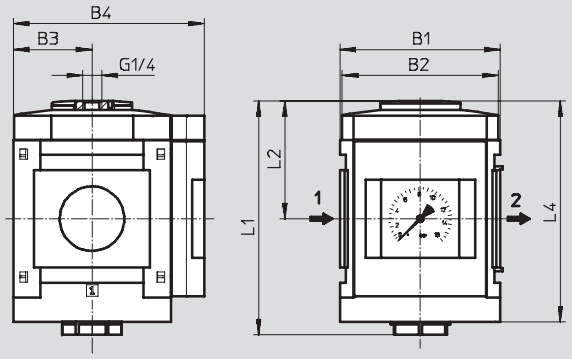
➔ Flow direction

B1	B2	B3	B4	B5	L1	L2	L3	L4
124	122	61	148	51	178	88	86	168

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Alternative Operating Principle Download CAD Data ➔ **www.festo.com/us/cad**

Pneumatically actuated PO, with pressure gauge, display unit [bar]



➔ Flow direction

Type	B1	B2	B3	B4	L1	L2	L4
MS12-LR-...-PO	124	122	61	148	181	91	171

1) Dimensions are in millimeters, unless otherwise noted.

Pressure Regulators MS12-LR – Metric Series

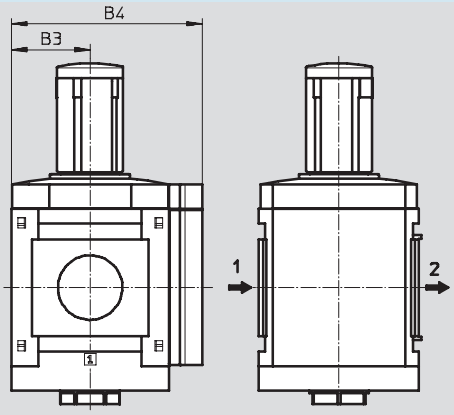
Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

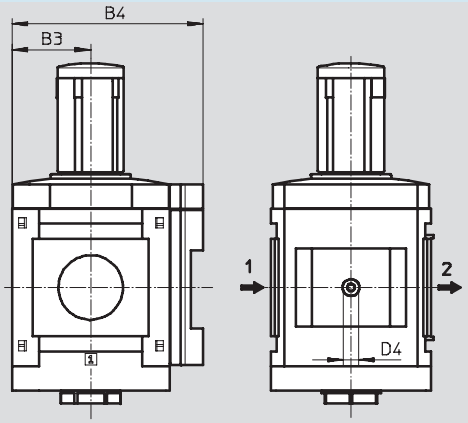
Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



Adapter A4 for EN pressure gauge ¼, without pressure gauge



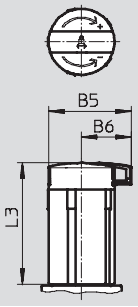
➔ Flow direction

Type	B3	B4	D4
MS12-LR-...-VS	61	148	–
MS12-LR-...-A4	61	148	G¼

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Rotary Knob

Long, lockable LD-AS



Type	B5	B6	L3
MS12-LR-...-LD-AS	64.4	39	95.5

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Pressure gauge

Connection	Long rotary knob, can be locked using accessories, pressure regulation range 0.5... 12 bar				Alternative operating principle, pressure regulation range 0.5... 16 bar		
	Part No.	Type	LT		Part No.	Type	LT
G1 ... G2[2]	**537148**	**MS12-LR-G-D7-LD-AS**	**1D**		**541680**	**MS12-LR-G-D8-PO**	**Q**

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1083

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Pressure Regulators MS12-LR – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data →

Part No.	Series	Size		Function		Connection size		Pressure regulation range
535021	MS	12		LR		AGF AGG AGH AGI G		D6 D7 D8
Order example								
535021	**MS**	**12**	–	**LR**	–	**G**	–	**D8**

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
M	Part No.	**535021**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Function	Pressure regulator		**-LR**		-LR
	Connection size	Port plate G1 (dimensions → 1083)		**-AGF**		
		Port plate G1¼ (dimensions → 1083)		**-AGG**		
		Port plate G1½ (dimensions → 1083)		**-AGH**		
		Port plate G2 (dimensions → 1083)		**-AGI**		
		Module without connecting thread, without port plate		**-G**		
	Pressure regulation range	0.3 ... 7 bar		**-D6**		
		0.5 ... 12 bar		**-D7**		
↓		0.5 ... 16 bar		**-D8**		

Transfer order code

535021	**MS**	**12**	–	**LR**	–		–	

Pressure Regulators MS12-LR – Metric Series

Ordering Data – Configurable Products

FESTO

0 Options

Pressure gauge alternatives	Alternative pressure gauge scale	Rotary knob	Security	Alternative operating principle	Type of mounting	Reverse flow direction
VS A4	PSI MPA	LD	AS	PO	WP	Z
– **VS**	–	– **LD**	– **AS**	–	–	– **Z**

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
0	Pressure gauge alternatives	Cover plate		**-VS**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
	Alternative pressure gauge scale	psi	1	**-PSI**		
		MPa	1	**-MPA**		
	Rotary knob	Long rotary knob	2	**-LD**		
	Security	Lockable rotary knob		**-AS**		
	Alternative operating principle	Pneumatically actuated	3	**-PO**		
	Type of mounting	Mounting bracket (dimensions ➔ 1084)	4	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **PSI, MPA** Not with pressure gauge alternatives VS, A4

2 **LD** Must be selected if alternative operating principle PO has not been selected

3 **PO** Not with rotary knob LD.
Not with security AS

4 **WP** Only with port plate AGF, AGG, AGH or AGI

Transfer order code

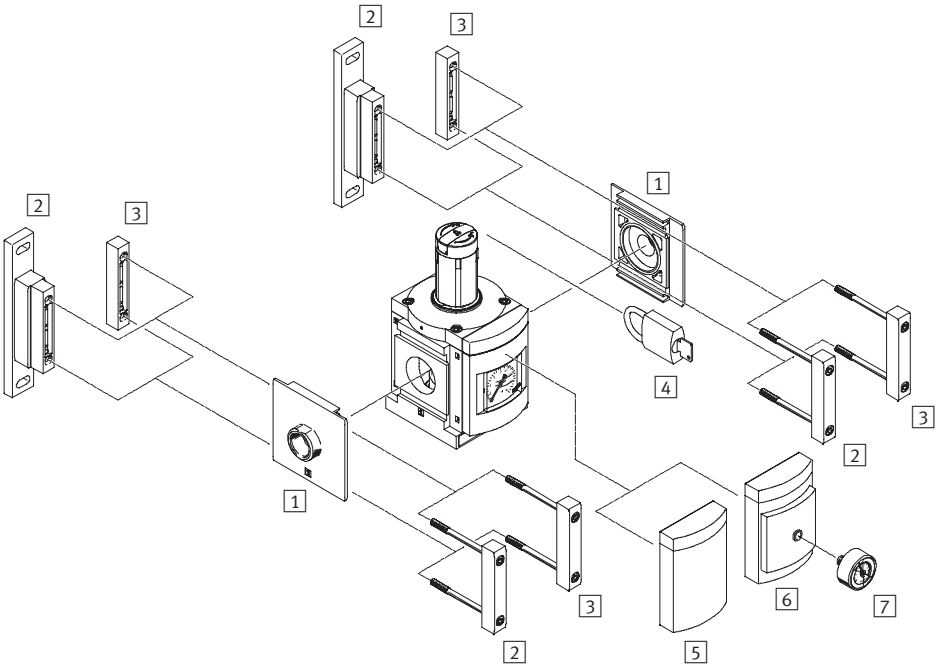
–		–		–		–		–		–		–	

Pressure Regulators MS12-LR – Metric Series

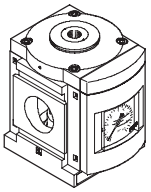
Accessories Overview

Mounting Attachments and Accessories

Standard



Variant PO
pneumatically actuated

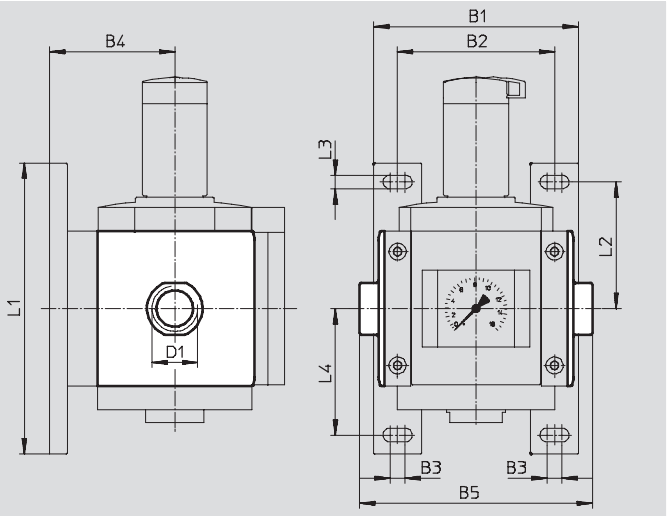


Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AG...	1083
2	Mounting bracket MS12-WP	1084
3	Body connector MS12-MV	1083
4	Padlock (except variant PO) LRVS-D	1085
5	Cover plate VS	1081
6	Adapter for EN pressure gauge ¼ A4	1081
7	Pressure gauge MA	1085

1 **Port plate MS12-AG...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [g]	Part No.	Type
162	124	12	99	184	G1	230	100	11	100	1,300	**537135**	**MS12-AGF**
				184	G1¼						**537136**	**MS12-AGG**
				184	G1½						**537137**	**MS12-AGH**
				196	G2						**537138**	**MS12-AGI**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

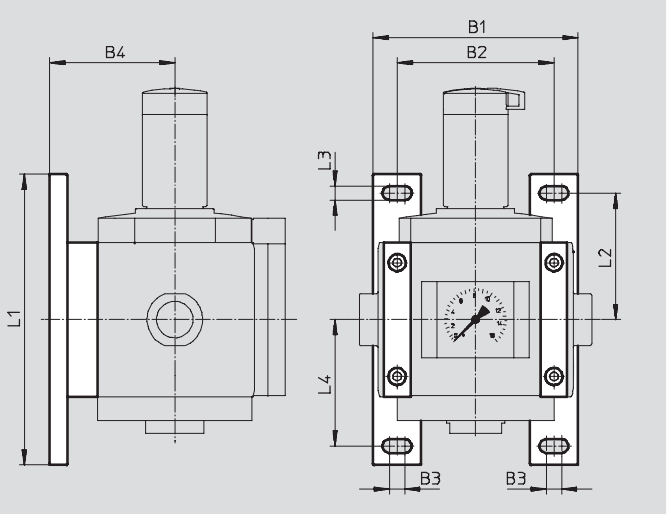
Size	Weight [g]	Part No.	Type
MS12	500	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





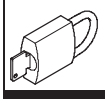
Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS12	162	124	12	99	230	100	11	100	700	**537133**	**MS12-WP**

7 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

4 Ordering Data – Padlock LRVS-D

	Description	Weight [g]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	120	**193786**	**LRVS-D**

Pressure Regulators MS12-LR – Metric Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS12	Snap-ring, membrane, bellows, O-rings, screws, stem	**673586**	**MS12-LR/LFR**

- For spare parts go to: www.festo.com/en/spare_parts_service

Pressure Regulators MS12N-LR – Inch Series



The pressure regulator maintains a constant working pressure (secondary side), regardless of the pressure variations in the system (primary side) and the air consumption.

- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Supply pressure: 12 … 309 psi
- Flow rate: 458.9 … 776.6 scfm

Product Range Overview

Type	Pneumatic connections		Pressure regulation range [psi]				Pressure indicator					Pressure adjustment		Reverse flow
	Body thread	Port plate	4.4 … 59	4.4 … 103	7.4 … 176	7.4 … 235	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge 1/8 NPT	Adapter for pressure gauge 1/4 NPT	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Flow direction from right to left
MS12N		**AG…**	**D5**	**D6**	**D7**	**D8**	**VS**	**AG**	**A8**	**A4**	**AD…**	**AS**	**LD**	**Z**
LR	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	–	■	■	■	■	–	–	■	–	■	■	■

Features

- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Three pressure regulation ranges
- Pressure gauge connection for different fitting options
- Setting values are secured by locking the rotary knob
- With secondary venting
- Rotary knob can be locked using accessories

Contents

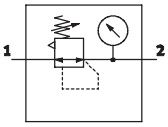
Technical Data	➔ 1088
Dimensional Drawings	➔ 1090
Ordering Data	➔ 1091
Accessories	➔ 1094
Replacement Parts	➔ 1098

➔ www.festo.com/catalog/ms12n-lr

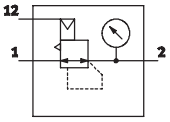
Pressure Regulators MS12N-LR – Inch Series

Technical Data

ISO Symbol



With pressure gauge



With pressure gauge and air pilot control (variant PO)



General Technical Data						
Pneumatic connection 1, 2[1]			1 NPT	1¼ NPT	1½ NPT	2 NPT
Pilot air connection 12 for variant PO			¼ NPT			
Supply pressure		[psi]	12 ... 309			
Pressure regulation range	D6	[psi]	4.4 ... 103			
	D7	[psi]	7.4 ... 176			
	D8	[psi]	7.4 ... 235			
Max. hysteresis		[psi]	5.9			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1095

Standard Nominal Flow Rate qnN[2] [scfm]				
Pneumatic connection 1, 2	1 NPT	1¼ NPT	1½ NPT	2 NPT
In main flow direction 1 ⇢ 2	458.9	476.6	564.8	776.6

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1095
Measured at p1 = 147 psi and p2 = 88 psi, Δp = 7.4 psi

Operating and Environmental Conditions		
Operating medium		Compressed air, air quality class 5.7.– to DIN ISO 8573-1
Ambient temperature	[°F]	14 ... 140
Temperature of medium	[°F]	14 ... 140
Storage temperature	[°F]	14 ... 140
Assembly position		Any
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Product weight	8.00

- Wearing parts kits ➔ 1098
- For spare parts go to: www.festo.com/en/spare_parts_service

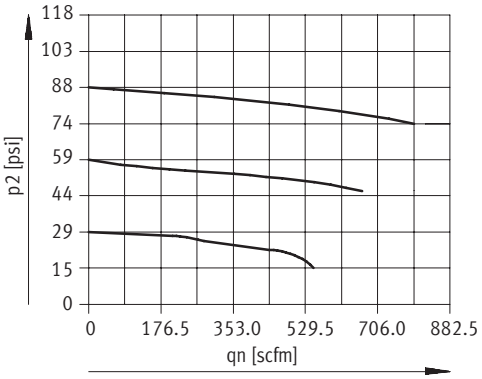
Pressure Regulators MS12N-LR – Inch Series

Technical Data

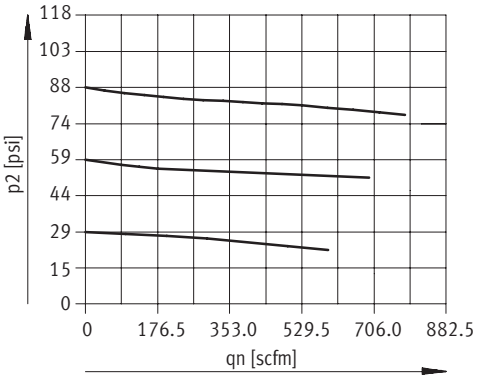
Standard Flow Rate qn as a Function of Output Pressure p2

With port plate MS12-AGF
Pneumatic connection 1NPT

Primary pressure p1 = 147 psi

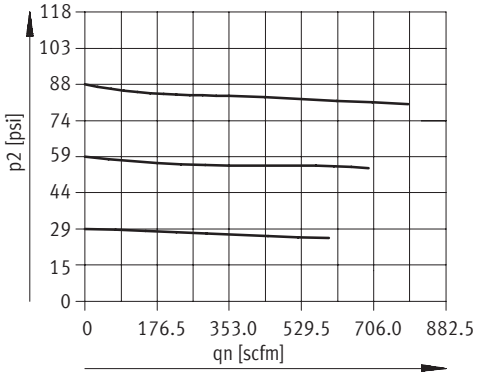


With port plate MS12-AGG
Pneumatic connection 1¼NPT

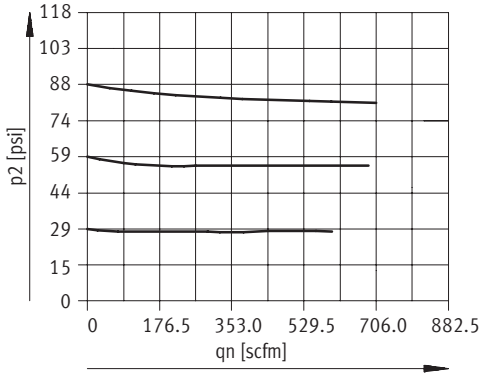


With port plate MS12-AGH
Pneumatic connection 1½NPT

Primary pressure p1 = 147 psi

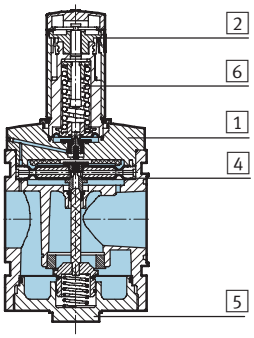


With port plate MS12-AGI
Pneumatic connection 2NPT



Materials

Sectional view



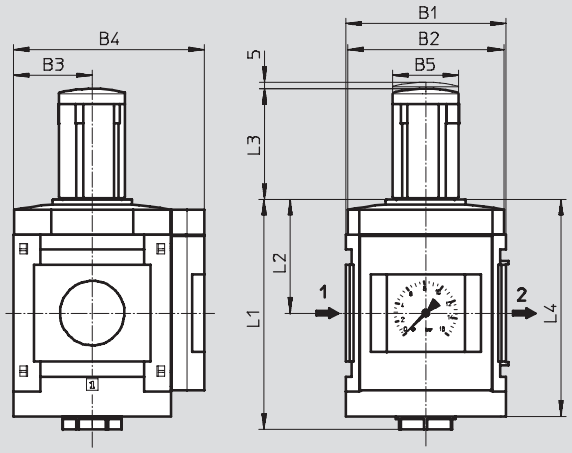
Pressure regulator		
1	Body	Die-cast aluminum
2	Regulating knob	Polyamide/polyacetate
4	Diaphragm	Nitrile rubber
5	Bottom cap	Wrought aluminum alloy
6	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Pressure Regulators MS12N-LR – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**

With pressure gauge, display unit [psi], long rotary knob



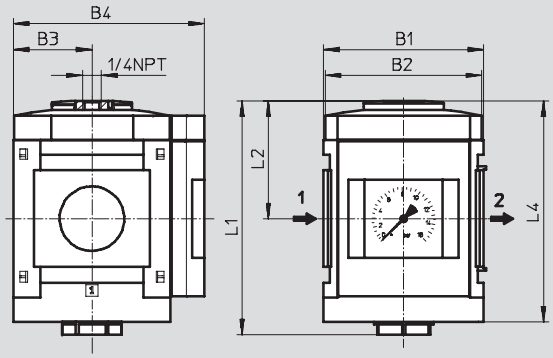
➔ Flow direction

B1	B2	B3	B4	B5	L1	L2	L3	L4
4.88	4.80	2.40	5.83	2.01	7.01	3.46	3.39	6.61

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Alternative Operating Principle Download CAD Data ➔ **www.festo.com/us/cad**

Pneumatically actuated PO, with pressure gauge, display unit [psi]



➔ Flow direction

Type	B1	B2	B3	B4	L1	L2	L4
MS12-LR-...-PO	4.88	4.80	2.40	5.83	7.13	3.58	6.73

1) Dimensions are in inches, unless otherwise noted.

Pressure Regulators MS12N-LR – Inch Series

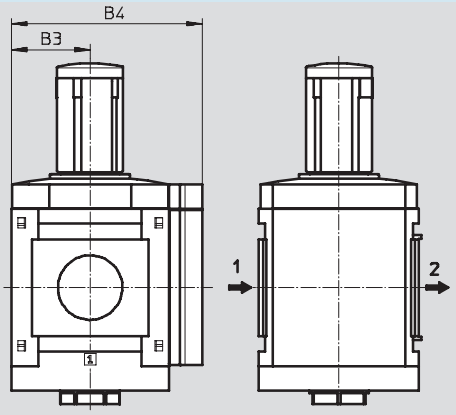
Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

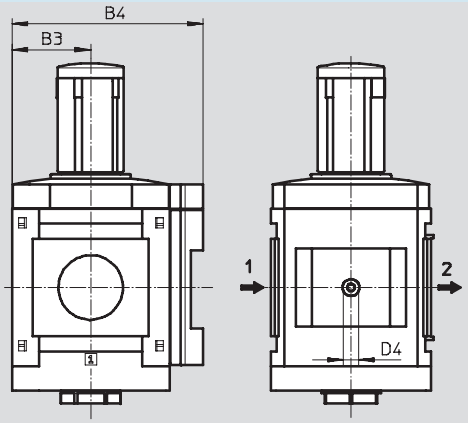
Dimensions[1] – Pressure Gauge Alternatives

Download CAD Data ➔ **www.festo.com/us/cad**

Cover plate VS



Adapter A4 for EN pressure gauge ¼, without pressure gauge



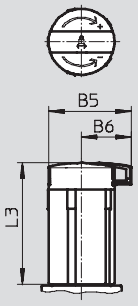
➔ Flow direction

Type	B3	B4	D4
MS12-LR-...-VS	2.40	5.83	–
MS12-LR-...-A4	2.40	5.83	G¼

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Rotary Knob

Long, lockable LD-AS



Type	B5	B6	L3
MS12-LR-...-LD-AS	2.54	1.54	3.76

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Pressure gauge

Connection	Long rotary knob, can be locked using accessories, pressure regulation range 7.4 ... 176 psi			Alternative operating principle, pressure regulation range 7.4 ... 235 psi		
	Part No.	Type	LT	Part No.	Type	LT
1NPT ... 2NPT[2]	**537148**	**MS12-LR-G-D7-LD-AS**	**1D**	**541680**	**MS12-LR-G-D8-PO**	**Q**

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1095

Pressure Regulators MS12N-LR – Inch Series

Ordering Data – Configurable Products

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M Mandatory Data →

Part No.	Series	Size	Thread		Function		Connection size		Pressure regulation range
535024	MS	12	N		LR		AQT AQU AQV AQW G		D6 D7 D8
Order example									
535024	**MS**	**12**	**N**	–	**LR**	–	**G**	–	**D8**

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
M	Part No.	**535024**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Thread	NPT thread		**N**		N
	Function	Pressure regulator		**-LR**		-LR
	Connection size	Port plate 1 NPT (dimensions → 1095)		**-AQT**		
		Port plate 1¼ NPT (dimensions → 1095)		**-AQU**		
		Port plate 1½ NPT (dimensions → 1095)		**-AQV**		
		Port plate 2 NPT (dimensions → 1095)		**-AQW**		
		Module without connecting thread, without port plate		**-G**		
	Pressure regulation range	4.4 ... 103 psi		**-D6**		
		7.4 ... 176 psi		**-D7**		
↓		7.4 ... 235 psi		**-D8**		

Transfer order code

535024	**MS**	**12**	**N**	–	**LR**	–		–	

Pressure Regulators MS12N-LR – Inch Series

Ordering Data – Configurable Products

FESTO

[0] Options

Pressure gauge alternatives	Alternative pressure gauge scale	Rotary knob	Security	Alternative operating principle	Type of mounting	Reverse flow direction
VS A4	BAR MPA	LD	AS	PO	WP	Z
– **VS**	–	– **LD**	– **AS**	–	–	– **Z**

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
[0]	Pressure gauge alternatives	Cover plate		**-VS**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
	Alternative pressure gauge scale	bar	[1]	**-BAR**		
		MPa	[1]	**-MPA**		
	Rotary knob	Long rotary knob	[2]	**-LD**		
	Security	Lockable rotary knob		**-AS**		
	Alternative operating principle	Pneumatically actuated	[3]	**-PO**		
	Type of mounting	Mounting bracket (dimensions ➔ 1096)	[4]	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

[1] **BAR, MPA** Not with pressure gauge alternatives VS, A4

[2] **LD** Must be selected if alternative operating principle PO has not been selected

[3] **PO** Not with rotary knob LD.
Not with security AS

[4] **WP** Only with port plate AQT, AQU, AQV or AQW

Transfer order code

– | | – | | – | | – | | – | | – | | – | |

Pressure Regulators MS12N-LR – Inch Series

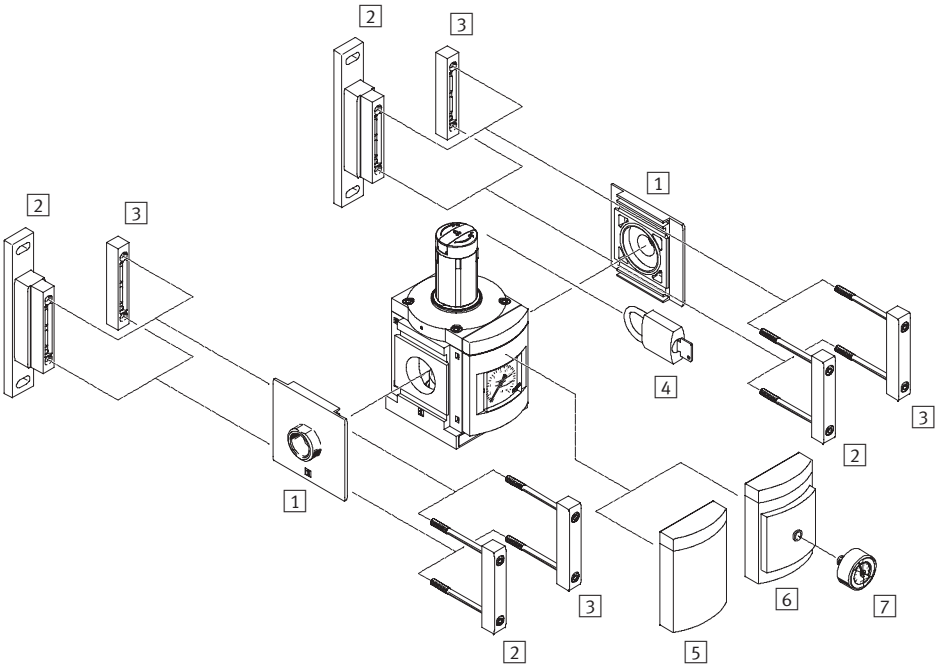
Accessories Overview

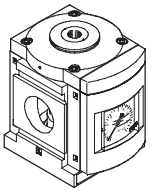
FESTO

Mounting Attachments and Accessories

Standard

Variant PO
pneumatically actuated





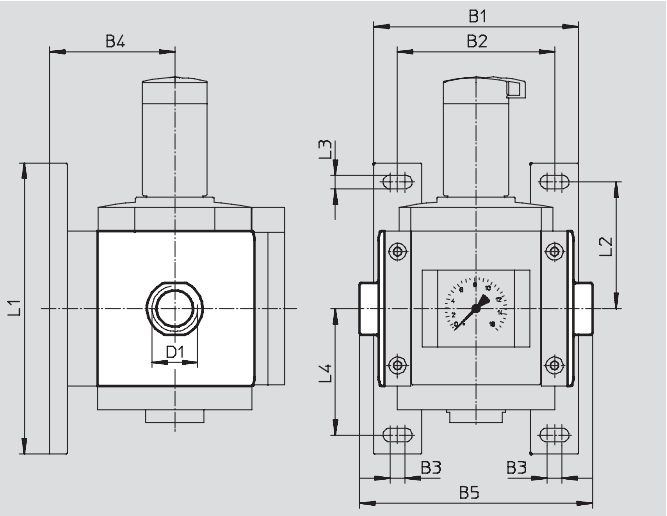
Mounting Attachments and Accessories

		➔ Page
1	Port plate MS12-AQ...	1095
2	Mounting bracket MS12-WP	1096
3	Body connector MS12-MV	1095
4	Padlock (except variant PO) LRVS-D	1097
5	Cover plate VS	1093
6	Adapter for EN pressure gauge ¼ A4	1093
7	Pressure gauge MA	1097

1 **Port plate MS12-AQ...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [lb]	Part No.	Type
6.38	4.88	0.47	3.90	7.24	1 NPT	9.06	3.94	0.43	3.94	2.60	**537139**	**MS12-AQT**
				7.24	1¼ NPT						**537140**	**MS12-AQU**
				7.24	1½ NPT						**537141**	**MS12-AQV**
				7.72	2 NPT						**537142**	**MS12-AQW**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

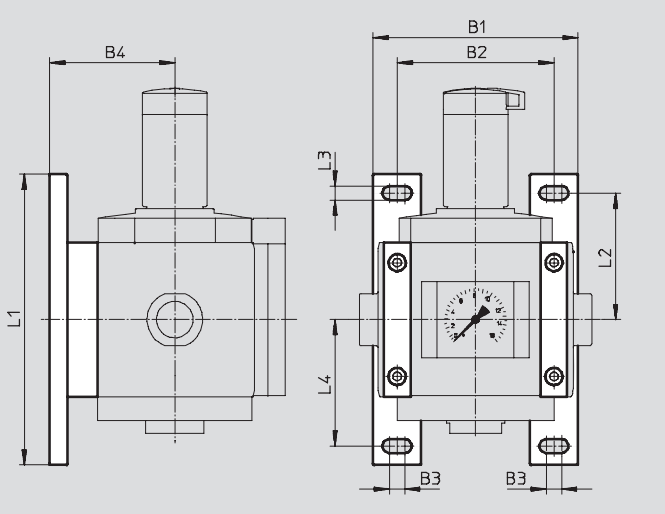
Size	Weight [lb]	Part No.	Type
MS12	1.00	**537134**	**MS12-MV**

3 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
MS12	6.38	4.88	0.47	3.90	9.06	3.94	0.43	3.94	1.40	**537133**	**MS12-WP**

Pressure Regulators MS12N-LR – Inch Series

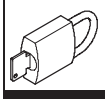
Accessories

FESTO

7 Ordering Data – Pressure Gauge MA Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range		Part No.	Type
			[bar]	[psi]		
	Pressure gauge MA, DIN EN 837-1					
	1.57	R¼	0 ... 16	0 ... 232	**187080**	**MA-40-16-R¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.97	R¼	–	0 ... 232	**526790**	**MA-50-232-R¼-PSI-E-RG**

4 Ordering Data – Padlock LRVS-D

	Description	Weight [lb]	Part No.	Type
	for regulators, filter/regulators and manual on-off valves	0.24	**193786**	**LRVS-D**

Pressure Regulators MS12N-LR – Inch Series

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS12	Snap-ring, membrane, bellows, O-rings, screws, stem	**673586**	**MS12-LR/LFR**

- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Filters MS12-LF – Metric Series



Standard filters, with filtration grades of 5 microns or 40 microns, are equipped with a water separator that cleans the compressed air of impurities, rust, and condensate. For pre-filtering in pneumatic systems or for special applications.

- Pneumatic connection: G1, G1¼, G1½, G2
- Supply pressure
  – For manual drain: 0.8 … 20 bar
  – For fully automatic drain: 2 … 12 bar
  – For fully automatic drain, electrically actuated: 0.8 … 16 bar
- Flow rate: 11,500 … 16,000 l/min

Product Range Overview

Type	Pneumatic connections	Filtration grade [µm]				Bowl guard	Bowl drain						Contamination control	Reverse flow
	Port plate	0.01	1	5	40	Metal bowl	Manual	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals	Differential pressure indicator	Flow direction from right to left
MS12	AG…	A	B	C	E	U	M	V	E1	E2	E3	E4	DA	Z
LF	G1, G1¼, G1½, G2	–	–	■	■	■	■	■	■	■	■	■	–	■

Features

- Sintered filter with centrifugal separation removes contamination, rust and condensate from the compressed air.
- High flow rate with minimal pressure drop
- Replaceable filter cartridges

Contents

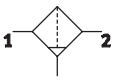
Technical Data → 1100
Dimensional Drawings → 1103
Ordering Data → 1104
Accessories → 1106

→ www.festo.com/catalog/ms12-lf

Standard Filters MS12-LF – Metric Series

Technical Data

ISO Symbol



Manual bowl drain



Fully automatic bowl drain



General Technical Data						
Pneumatic connection 1, 2[1]			G1	G1¼	G1½	G2
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)			
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)			
Supply pressure	M	[bar]	0.8 ... 20 (manual drain)			
	V	[bar]	2 ... 12 (fully automatic drain)			
	E...	[bar]	0.8 ... 16 (fully automatic drain, electrically actuated)			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1107

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] [l/min]					
Pneumatic connection 1, 2		G1	G1¼	G1½	G2
Filtration grade	5 µm	11,500	12,500	13,500	14,000
	40 µm	12,500	13,000	14,000	16,000

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1107
Measured at p1 = 6 bar and Δp = 0.5 bar

Standard Filters MS12-LF – Metric Series

Technical Data

Operating and Environmental Conditions				
Bowl drain		Manual M	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium		Compressed air, air quality class 5.7.– to DIN ISO 8573-1		
Max. condensate volume	[cm^3]	400		
Bowl guard		Metal bowl		
Ambient temperature	[°C]	–10 ... +60	+5 ... +60	+1 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60	+1 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	+1 ... +60
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

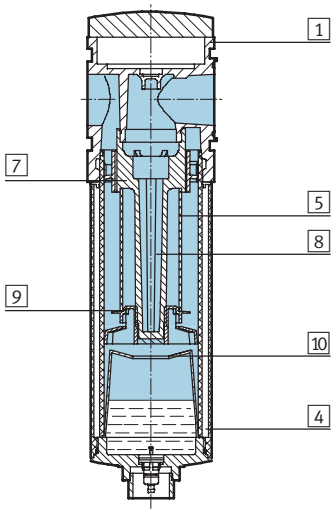
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With metal bowl	6,500
With metal bowl and fully automatic, electrically actuated bowl drain	7,200

- Filter cartridges ➔ 1109
- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

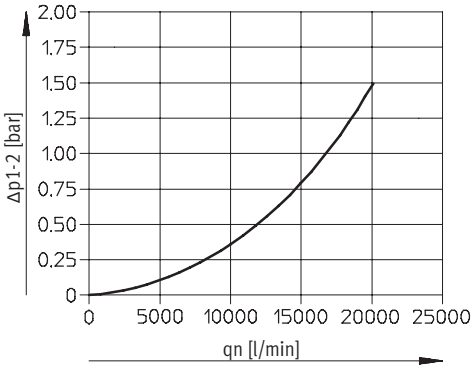
Sectional view

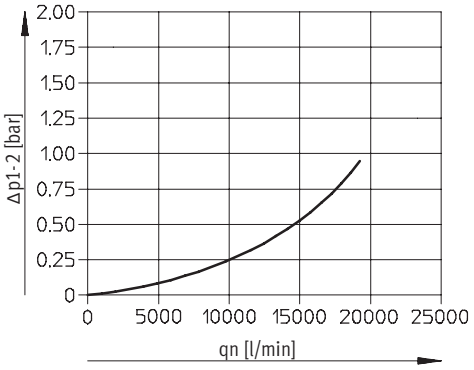


Filter		
1	Body	Die-cast aluminum
4	Metal bowl	Wrought aluminum alloy
5	Filter element	Sintered bronze
7	Spin disk	Polyacetate
8	Filter holder	Polyacetate
9	Separating plate	Polyacetate
10	Stabilizing disk	Polyacetate
–	Seals	Nitrile rubber

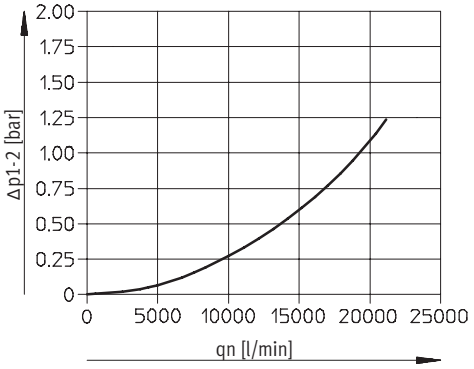
Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

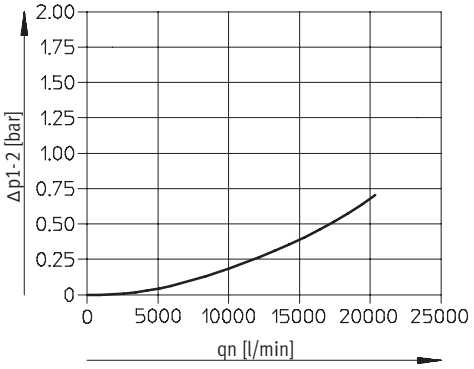
Filtration grade 5 µm	With port plate MS12-AGF Pneumatic connection G1	With port plate MS12-AGI Pneumatic connection G2





Filtration grade 40 µm	With port plate MS12-AGF Pneumatic connection G1	With port plate MS12-AGI Pneumatic connection G2

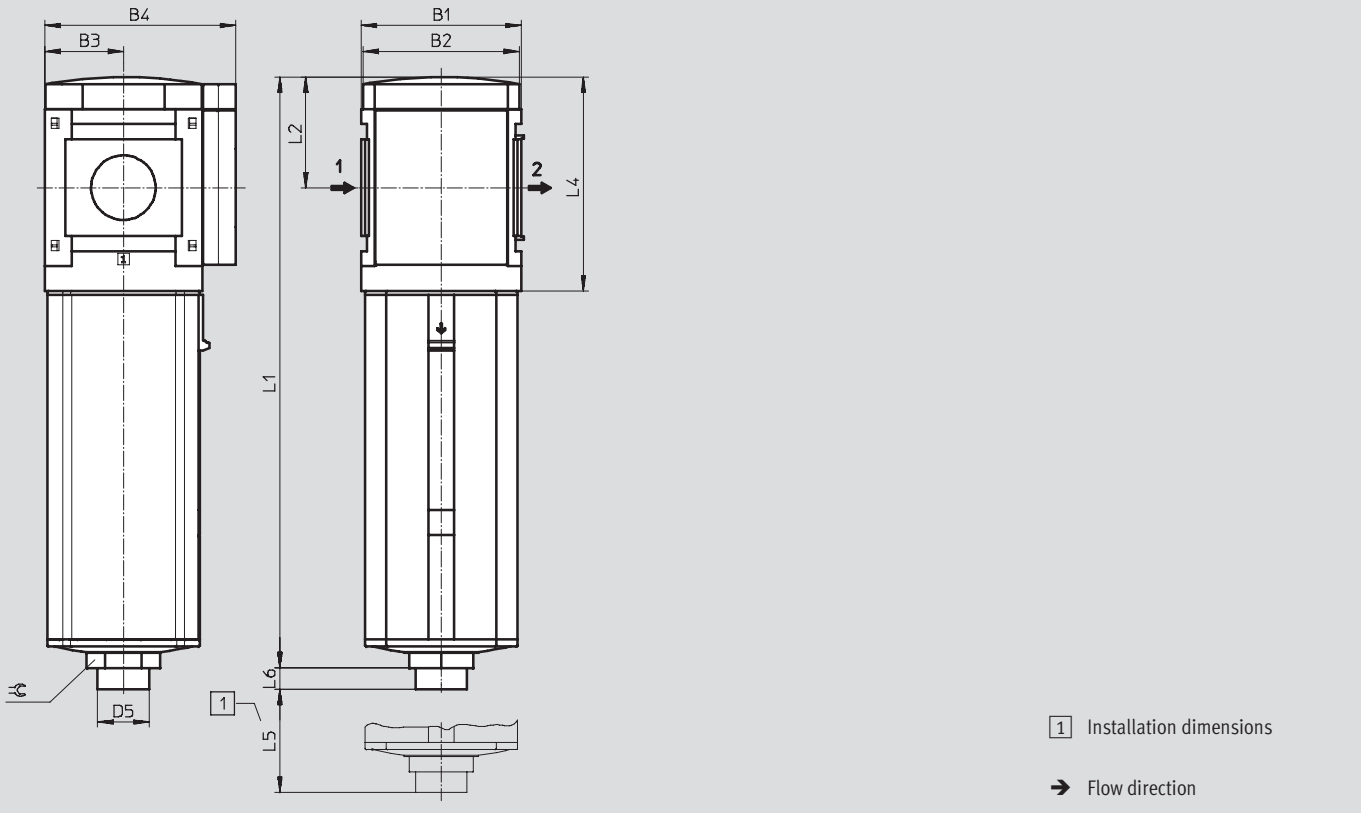




Standard Filters MS12-LF – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



B1	B2	B3	B4	D5 ∅	L1	L2	L4	L5	L6	⌀
124	122	61	148	40	458	86	166	250	16	50

1) Dimensions are in millimeters, unless otherwise noted.

Standard Filters MS12-LF – Metric Series

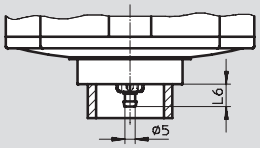
Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Bowl Drain

Download CAD Data ➔ **www.festo.com/us/cad**

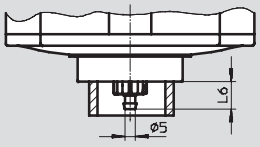
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
MS12-LF-...-M	11

Fully automatic V

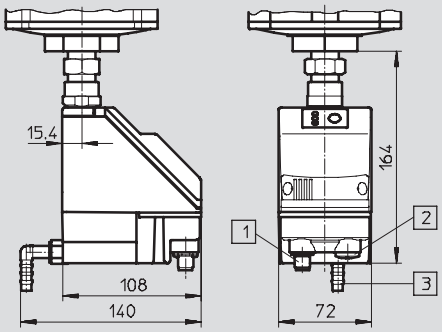


Barbed fitting for plastic tubing
PCN-4

Type	L6
MS12-LF-...-V	13

Fully automatic, electrically actuated E1 ... E4

Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...

2 Variant E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9

3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Metal bowl

Bowl drain	Connection	Filtration grade 5 µm			Filtration grade 40 µm		
		Part No.	Type	LT	Part No.	Type	LT
Fully automatic	G1 ... G2[2]	**537152**	**MS12-LF-G-CUV**	1D	**537151**	**MS12-LF-G-EUV**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1107

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Filters MS12-LF – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data								O Options	
Part No.	Series	Size	Function	Connection size	Filtration grade	Bowl	Bowl drain	Type of mounting	Reverse flow direction
535023	MS	12	LF	AGF AGG AGH AGI G	E C	U	M V E1 E2 E3 E4	WP	Z
Order example									
535023	**MS**	**12**	**LF**	**G**	**E**	**U**	**V**		

Ordering Table

Grid dimension [mm]		124	Conditions	Code	Enter code
M	Part No.	**535023**			
	Series	Standard		**MS**	MS
	Size	12		**12**	12
	Function	Filter		**-LF**	-LF
	Connection size	Port plate G1 (dimensions ➔ 1107)		**-AGF**	
		Port plate G1¼ (dimensions ➔ 1107)		**-AGG**	
		Port plate G1½ (dimensions ➔ 1107)		**-AGH**	
		Port plate G2 (dimensions ➔ 1107)		**-AGI**	
		Module without connecting thread, without port plate		**-G**	
	Filtration grade	40 µm		**-E**	
		5 µm		**-C**	
	Bowl	Metal bowl		**-U**	-U
	Bowl drain	Manual		**-M**	
		Fully automatic (P1 max. 12 bar)		**-V**	
		External fully automatic bowl drain, electrical, 24 V DC, M12		**-E1**	
		External fully automatic bowl drain, electrical, 110 V AC, terminals		**-E2**	
		External fully automatic bowl drain, electrical, 230 V AC, terminals		**-E3**	
		External fully automatic bowl drain, electrical, 24 V DC, terminals		**-E4**	
O	Type of mounting	Mounting bracket (dimensions ➔ 1108)	1	**-WP**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **WP** Only with port plate AGF, AGG, AGH or AGI

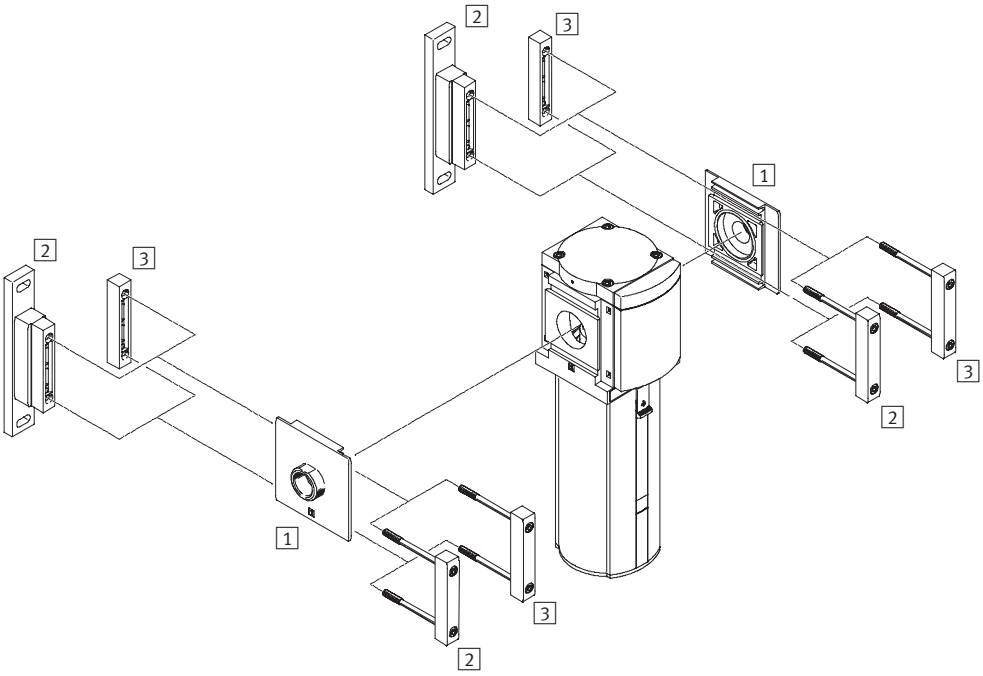
Transfer order code

535023	**MS**	**12**	–	**LF**	–		–		–	**U**	–		–		–	

Standard Filters MS12-LF – Metric Series

Accessories Overview

Mounting Attachments and Accessories



Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AG...	1107
2	Mounting bracket MS12-WP	1108
3	Body connector MS12-MV	1107

Standard Filters MS12-LF – Metric Series

Accessories

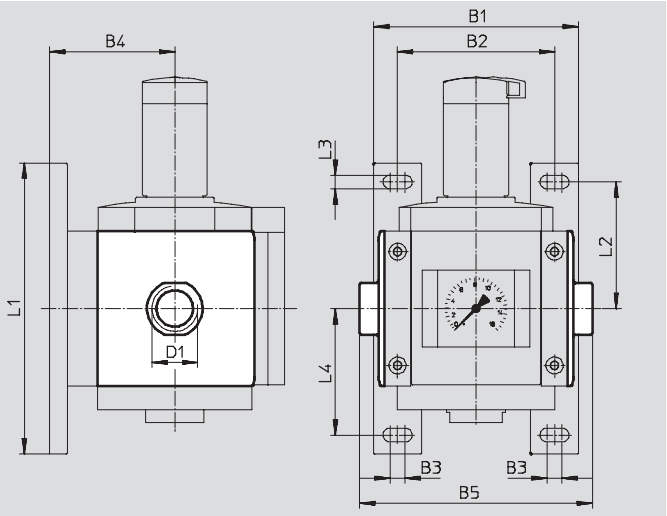
FESTO

[1] **Port plate MS12-AG...**

- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [g]	Part No.	Type
162	124	12	99	184	G1	230	100	11	100	1,300	**537135**	**MS12-AGF**
				184	G1¼						**537136**	**MS12-AGG**
				184	G1½						**537137**	**MS12-AGH**
				196	G2						**537138**	**MS12-AGI**

[3] **Body connector MS12-MV**

- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

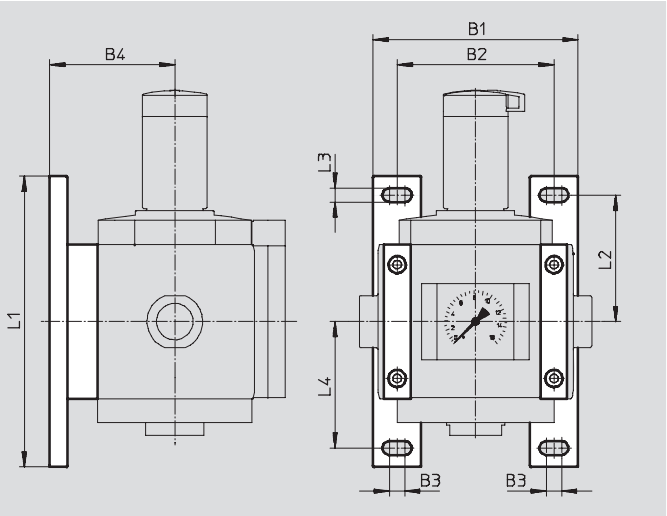
Size	Weight [g]	Part No.	Type
MS12	500	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS12	162	124	12	99	230	100	11	100	700	**537133**	**MS12-WP**

Standard Filters MS12-LF – Metric Series

Replacement Parts



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS12	5	**537143**	**MS12-LFP-C**
	40	**537144**	**MS12-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Filters MS12N-LF – Inch Series



Standard filters, with filtration grades of 5 microns or 40 microns, are equipped with a water separator that cleans the compressed air of impurities, rust, and condensate. For pre-filtering in pneumatic systems or for special applications.

- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Supply pressure
  – For manual drain: 12 … 294 psi
  – For fully automatic drain: 29 … 176 psi
  – For fully automatic drain, electrically actuated: 12 … 235 psi
- Flow rate: 406.0 … 564.8 scfm

Product Range Overview

Type	Pneumatic connections	Filtration grade [µm]				Bowl guard	Bowl drain						Contamination control	Reverse flow
	Port plate	0.01	1	5	40	Metal bowl	Manual	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals	Differential pressure indicator	Flow direction from right to left
MS12N	AG…	A	B	C	E	U	M	V	E1	E2	E3	E4	DA	Z
LF	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	–	–	■	■	■	■	■	■	■	■	■	–	■

Features

- Sintered filter with centrifugal separation removes contamination, rust and condensate from the compressed air.
- High flow rate with minimal pressure drop
- Replaceable filter cartridges

Contents

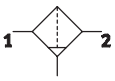
Technical Data → 1112
Dimensional Drawings → 1115
Ordering Data → 1116
Accessories → 1118

→ www.festo.com/catalog/ms12n-lf

Standard Filters MS12N-LF – Inch Series

Technical Data

ISO Symbol



Manual bowl drain



Fully automatic bowl drain



General Technical Data						
Pneumatic connection 1, 2[1]			1 NPT	1¼ NPT	1½ NPT	2 NPT
Filtration grade		[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)			
			40 (air purity class at the output 5.7.– to DIN ISO 8573-1)			
Supply pressure	M	[psi]	12 ... 294 (manual drain)			
	V	[psi]	29 ... 176 (fully automatic drain)			
	E...	[psi]	12 ... 235 (fully automatic drain, electrically actuated)			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1119

Standard Nominal Flow Rate qnN[2] [scfm]					
Pneumatic connection 1, 2		1 NPT	1¼ NPT	1½ NPT	2 NPT
Filtration grade	5 µm	406.0	441.3	476.6	494.2
	40 µm	441.3	458.9	494.2	564.8

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1119
Measured at p1 = 88 psi and Δp = 7.4 psi

Standard Filters MS12N-LF – Inch Series

Technical Data

Operating and Environmental Conditions				
Bowl drain		Manual M	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium		Compressed air, air quality class 5.7.– to DIN ISO 8573-1		
Max. condensate volume	[in^3]	24.40		
Bowl guard		Metal bowl		
Ambient temperature	[°F]	14 ... 140	41 ... 140	34 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140	34 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	34 ... 140
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

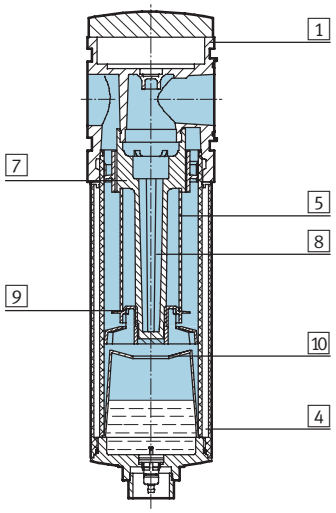
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With metal bowl	13.00
With metal bowl and fully automatic, electrically actuated bowl drain	14.40

- Filter cartridges ➔ 1121
- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



Filter		
1	Body	Die-cast aluminum
4	Metal bowl	Wrought aluminum alloy
5	Filter element	Sintered bronze
7	Spin disk	Polyacetate
8	Filter holder	Polyacetate
9	Separating plate	Polyacetate
10	Stabilizing disk	Polyacetate
–	Seals	Nitrile rubber

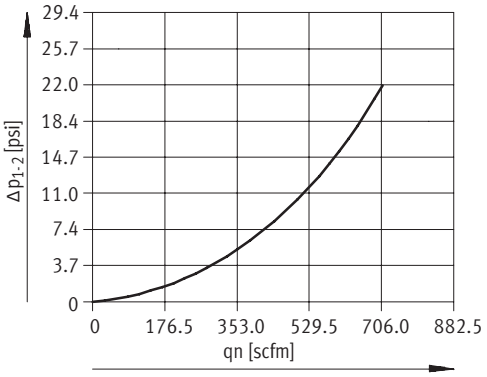
Standard Filters MS12N-LF – Inch Series

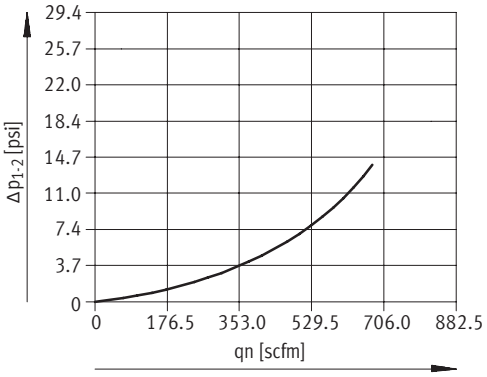
Technical Data

FESTO

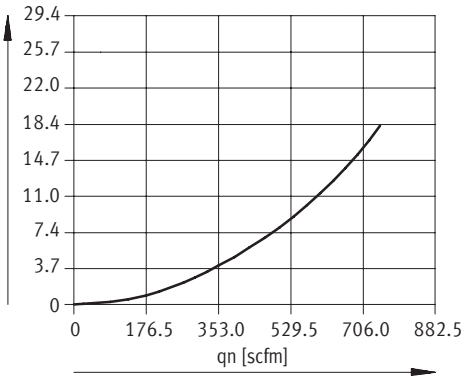
Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

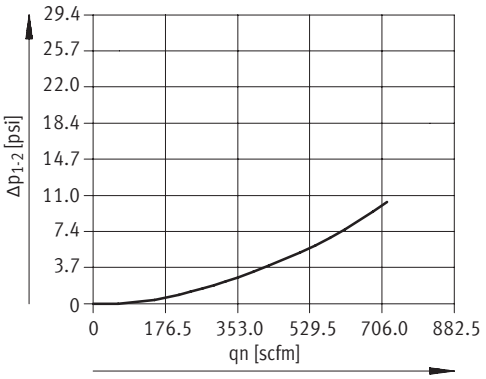
Filtration grade 5 µm	With port plate MS12-AGF Pneumatic connection 1 NPT	With port plate MS12-AGI Pneumatic connection 2 NPT





Filtration grade 40 µm	With port plate MS12-AGF Pneumatic connection 1 NPT	With port plate MS12-AGI Pneumatic connection 2 NPT

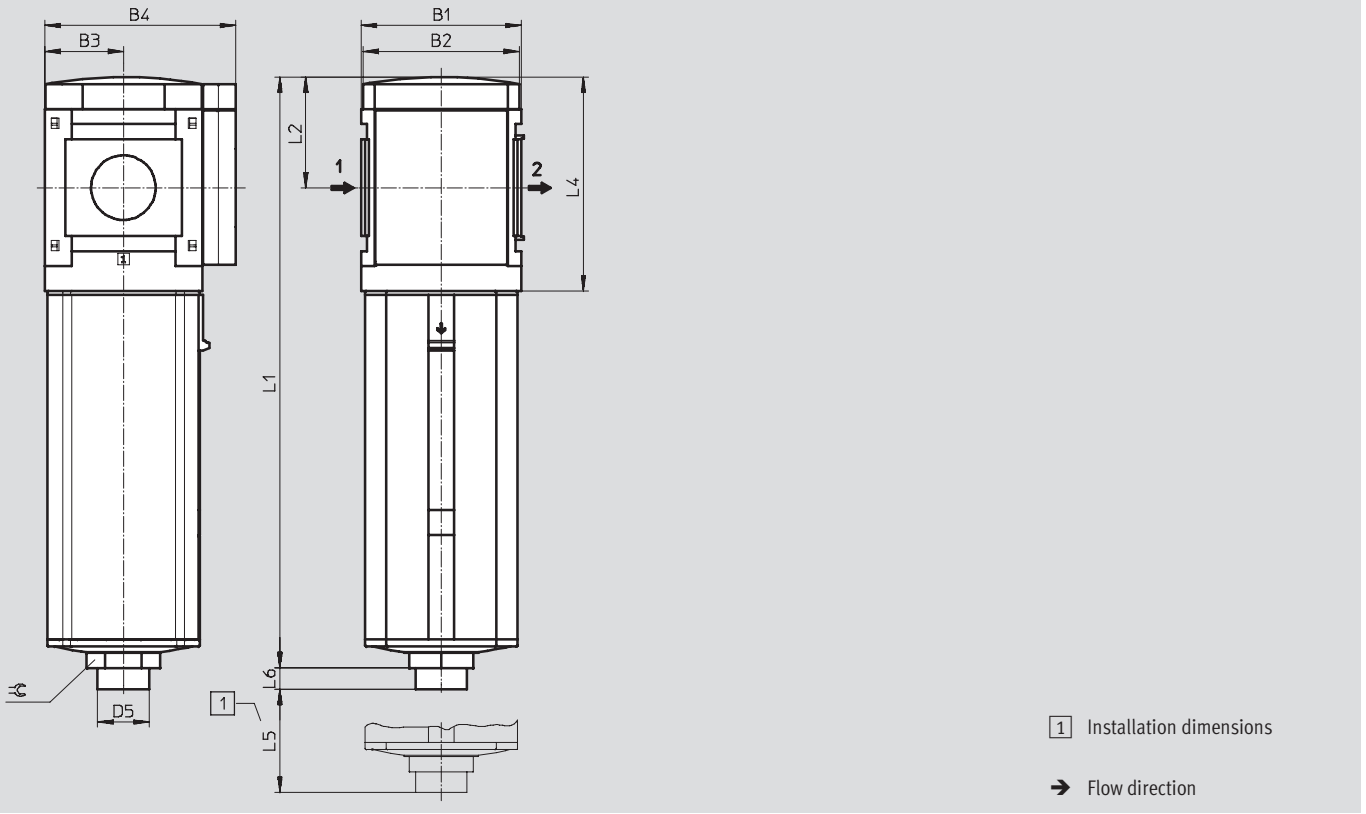




Standard Filters MS12N-LF – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



B1	B2	B3	B4	D5 ∅	L1	L2	L4	L5	L6	⌀
4.88	4.80	2.40	5.83	1.57	18.03	3.39	6.54	9.84	0.63	1.97

1) Dimensions are in inches, unless otherwise noted.

Standard Filters MS12N-LF – Inch Series

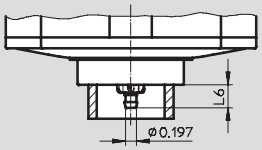
Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Bowl Drain

Download CAD Data ➔ **www.festo.com/us/cad**

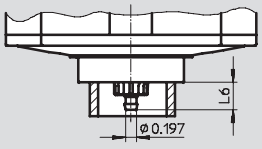
Manual M



Barbed fitting for plastic tubing
PCN-4

Type	L6
MS12-LF-...-M	0.43

Fully automatic V

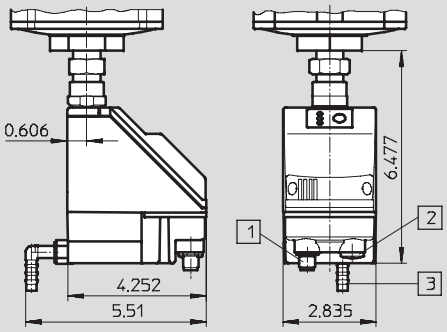


Barbed fitting for plastic tubing
PCN-4

Type	L6
MS12-LF-...-V	0.51

Fully automatic, electrically actuated E1 ... E4

Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...
2 Variant E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9
3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Metal bowl

Bowl drain	Connection	Filtration grade 5 µm				Filtration grade 40 µm		
		Part No.	Type	LT		Part No.	Type	LT
Fully automatic	1 NPT ... 2 NPT[2]	**537152**	**MS12-LF-G-CUV**	1D		**537151**	**MS12-LF-G-EUV**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1119

Standard Filters MS12N-LF – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data									O Options	
Part No.	Series	Size	Thread	Function	Connection size	Filtration grade	Bowl	Bowl drain	Type of mounting	Reverse flow direction
535026	MS	12	N	LF	AQT AQU AQV AQW G	E C	U	M V E1 E2 E3 E4	WP	Z
Order example										
535026	MS	12	N	LF	G	E	U	V		

Ordering Table

Grid dimension [mm]		124	Conditions	Code	Enter code
M	Part No.	**535026**			
	Series	Standard		**MS**	MS
	Size	12		**12**	12
	Thread	NPT thread		**N**	N
	Function	Filter		**-LF**	-LF
	Connection size	Port plate 1 NPT (dimensions ➔ 1119)		**-AQT**	
		Port plate 1¼ NPT (dimensions ➔ 1119)		**-AQU**	
		Port plate 1½ NPT (dimensions ➔ 1119)		**-AQV**	
		Port plate 2 NPT (dimensions ➔ 1119)		**-AQW**	
		Module without connecting thread, without port plate		**-G**	
	Filtration grade	40 µm		**-E**	
		5 µm		**-C**	
	Bowl	Metal bowl		**-U**	-U
	Bowl drain	Manual		**-M**	
		Fully automatic (P1 max. 176 psi)		**-V**	
		External fully automatic bowl drain, electrical, 24 V DC, M12		**-E1**	
		External fully automatic bowl drain, electrical, 110 V AC, terminals		**-E2**	
		External fully automatic bowl drain, electrical, 230 V AC, terminals		**-E3**	
		External fully automatic bowl drain, electrical, 24 V DC, terminals		**-E4**	
O	Type of mounting	Mounting bracket (dimensions ➔ 1120)	1	**-WP**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **WP** Only with port plate AQT, AQU, AQV or AQW

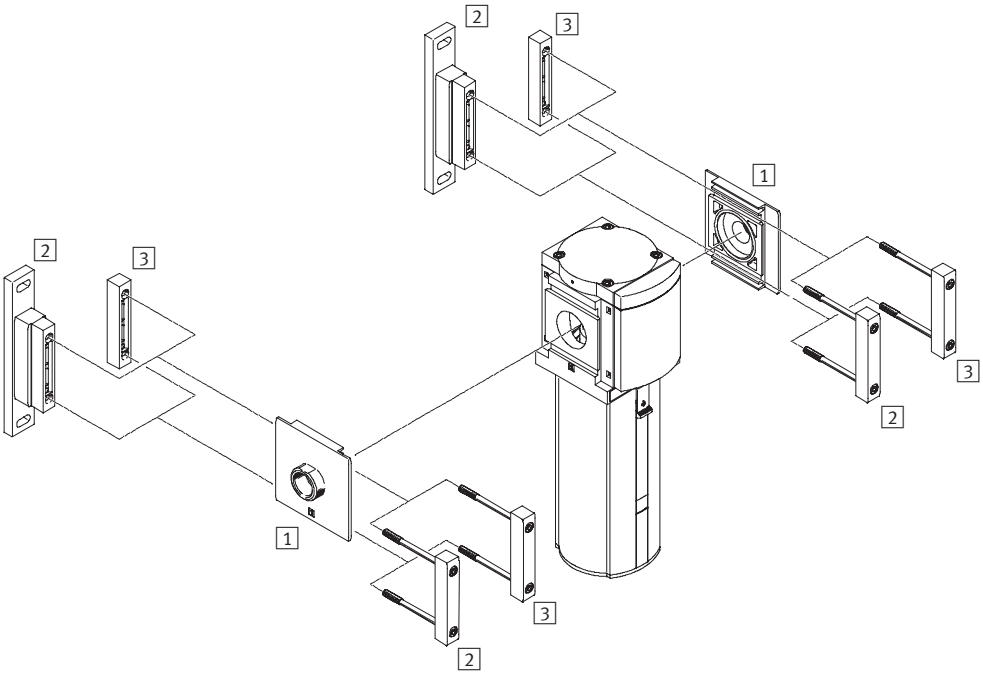
Transfer order code

535026	MS	12	N	– LF	–	–	– U	–	–	–		

Standard Filters MS12N-LF – Inch Series

Accessories Overview

Mounting Attachments and Accessories

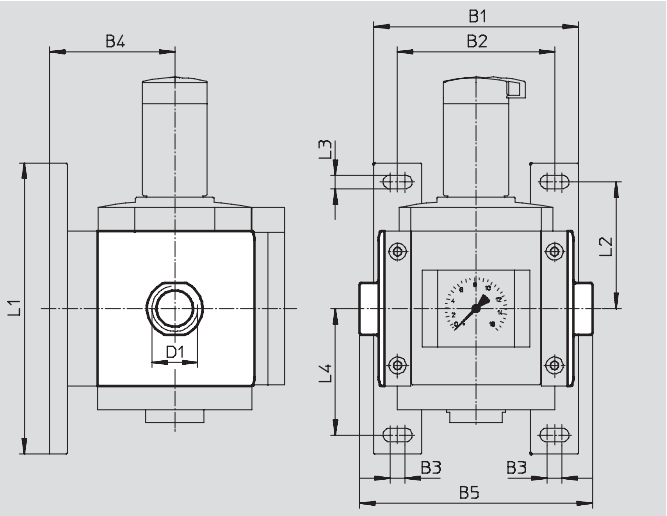


Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AQ...	1119
2	Mounting bracket MS12-WP	1120
3	Body connector MS12-MV	1119

1 **Port plate MS12-AQ...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [lb]	Part No.	Type
6.38	4.88	0.47	3.90	7.24	1 NPT	9.06	3.94	0.43	3.94	2.60	**537139**	**MS12-AQT**
				7.24	1¼ NPT						**537140**	**MS12-AQU**
				7.24	1½ NPT						**537141**	**MS12-AQV**
				7.72	2 NPT						**537142**	**MS12-AQW**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

Size	Weight [lb]	Part No.	Type
MS12	1.00	**537134**	**MS12-MV**

Standard Filters MS12N-LF – Inch Series

Accessories

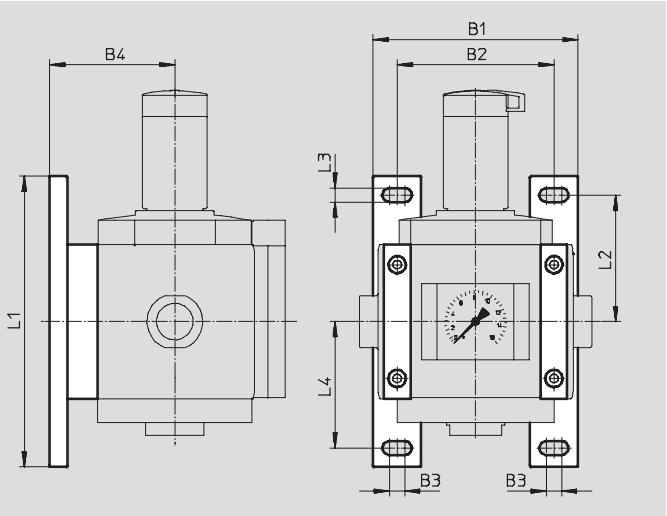
FESTO

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
MS12	6.38	4.88	0.47	3.90	9.06	3.94	0.43	3.94	1.40	**537133**	**MS12-WP**

Standard Filters MS12N-LF – Inch Series

Replacement Parts



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS12	5	**537143**	**MS12-LFP-C**
	40	**537144**	**MS12-LFP-E**

- For spare parts go to: www.festo.com/en/spare_parts_service

Fine and Micro Filters MS12-LFM – Metric Series



Fine and micro filters, with 1 micron or 0.01 micron filtration grades, remove submicronic water or oil droplets and dirt particles for exceptionally clean compressed air.

- Pneumatic connection: G1, G1¼, G1½, G2
- Supply pressure
  – For manual drain: 0.8 … 20 bar
  – For fully automatic drain: 2 … 12 bar
  – For fully automatic drain, electrically actuated: 0.8 … 16 bar
- Flow rate: 5,000 … 7,600 l/min

Product Range Overview

Type	Pneumatic connections	Filtration grade [µm]				Bowl guard	Bowl drain							Contamination control	Reverse flow
	Port plate	0.01	1	5	40	Metal bowl	Manual	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals		Differential pressure indicator	Flow direction from right to left
MS12	AG...	A	B	C	E	U	M	V	E1	E2	E3	E4		DA	Z
LFM	G1, G1¼, G1½, G2	■	■	–	–	■	■	■	■	■	■	■		■	■

Features

- High-performance filter for exceptionally clean compressed air
- Air quality to DIN ISO 8573-1
- Available with differential pressure indicator for optical indication of filter contamination
- LFM-A:
  ISO class 1 for particles:
  max. particle density 0.1 mg/m³
  ISO class 2 for oil aerosols:
  max. oil concentration 0.1 mg/m³
  Filter efficiency 99.9999%
- LFM-B:
  ISO class 2 for particles:
  max. particle density 1 mg/m³
  ISO class 3 for oil aerosols:
  max. oil concentration 1 mg/m³
  Filter efficiency 99.99%

Contents

Technical Data → 1124
Dimensional Drawings → 1128
Ordering Data → 1130
Accessories → 1132

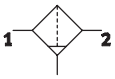
→ www.festo.com/catalog/ms12-lfm

Fine and Micro Filters MS12-LFM – Metric Series

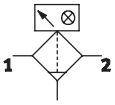
Technical Data

FESTO

ISO Symbol



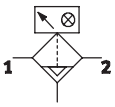
Manual bowl drain
without differential pressure indicator



With differential pressure indicator



Fully automatic bowl drain
without differential pressure indicator



With differential pressure indicator



General Technical Data						
Pneumatic connection 1, 2[1]			G1	G1¼	G1½	G2
Filtration grade		[µm]	0.01 (micro filter LFM-A, air purity class at the output 1.7.2 to DIN ISO 8573-1)			
			1 (fine filter LFM-B, air purity class at the output 2.7.3 to DIN ISO 8573-1)			
Supply pressure	M	[bar]	0.8 ... 20 (manual drain)			
	V	[bar]	2 ... 12 (fully automatic drain)			
	E...	[bar]	0.8 ... 16 (fully automatic drain, electrically actuated)			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1133

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] and Standard Flow Rate qn[2] [l/min]				
Pneumatic connection 1, 2	G1	G1¼	G1½	G2
Micro filter LFM-A				
qnN 1 ⇢ 2	5,000	6,000	6,500	7,000
qn min	700	700	700	700
qn max	23,000	23,000	23,000	23,000
Fine filter LFM-B				
qnN 1 ⇢ 2	5,200	6,200	7,500	7,600
qn min	950	950	950	950
qn max	23,000	23,000	23,000	23,000

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1133
Measured at p1 = 6 bar and Δp = 70 mbar.

Fine and Micro Filters MS12-LFM – Metric Series

Technical Data

Operating and Environmental Conditions				
Bowl drain		Manual M	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium micro filter LFM-A		Compressed air, filtered, unlubricated, filtration grade 1 µm		
Operating medium fine filter LFM-B		Compressed air, filtered, unlubricated, filtration grade 5 µm		
Max. condensate volume	[cm^3]	400		
Bowl guard		Metal bowl		
Ambient temperature	[°C]	–10 ... +60	+5 ... +60	+1 ... +60
Temperature of medium	[°C]	–10 ... +60	+5 ... +60	+1 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60	+1 ... +60
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

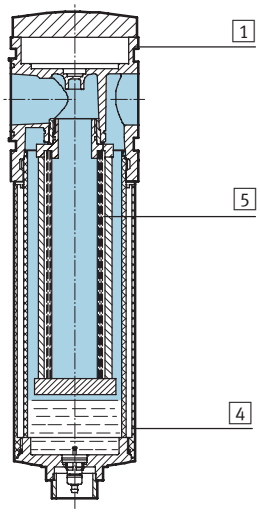
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With metal bowl	7,000
With metal bowl and fully automatic, electrically actuated bowl drain	7,700

- Filter cartridges ➔ 1135
- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

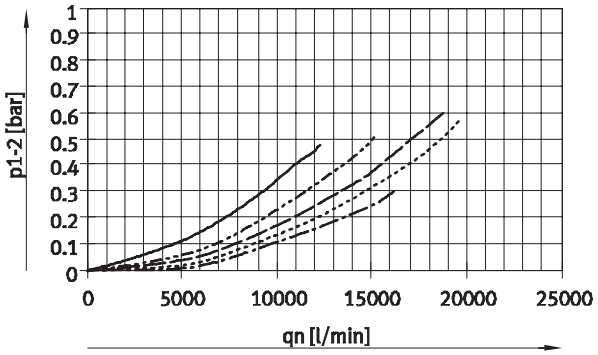
Sectional view



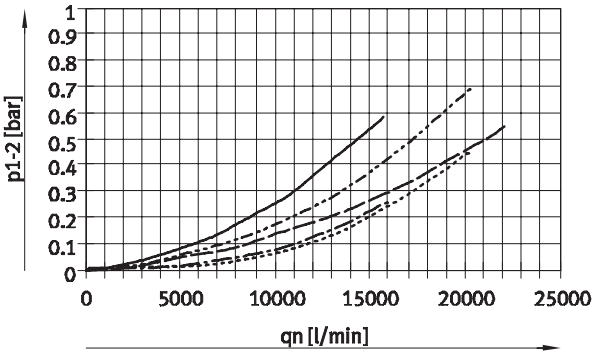
Fine and micro filter		
1	Body	Die-cast aluminum
4	Metal bowl	Wrought aluminum alloy
5	Filter element	Borosilicate mesh
–	Seals	Nitrile rubber

Standard Flow Rate qn as a Function of the Differential Pressure p1-2

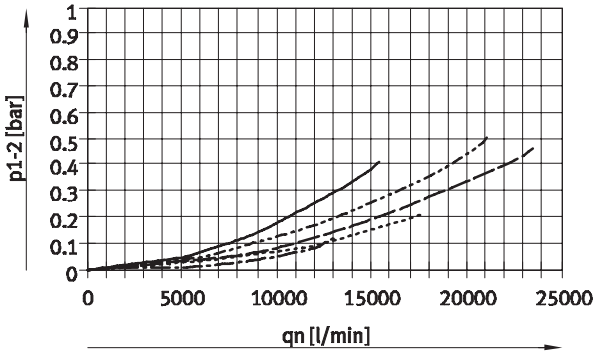
Filtration grade 0.01 µm
With port plate MS12-AGF, Pneumatic connection G1



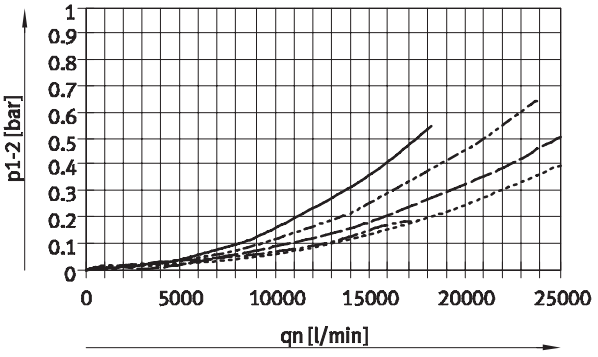
Filtration grade 0.01 µm
With port plate MS12-AGG, Pneumatic connection G1¼



Filtration grade 0.01 µm
With port plate MS12-AGH, Pneumatic connection G1½



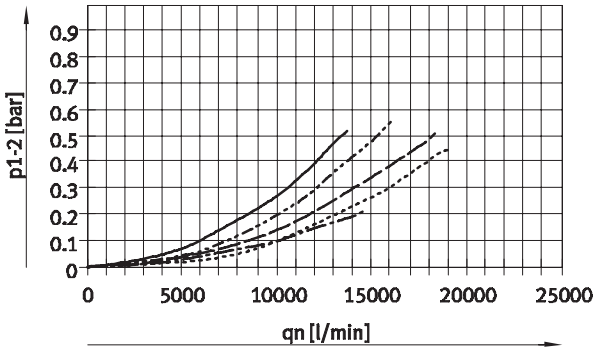
Filtration grade 0.01 µm
With port plate MS12-AGI, Pneumatic connection G2



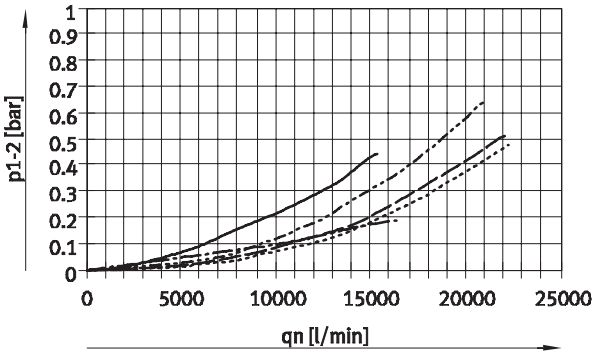
p1: 4 bar
p1: 6 bar
p1: 8 bar
p1: 10 bar
p1: 12 bar

Standard Flow Rate qn as a Function of the Differential Pressure p1-2

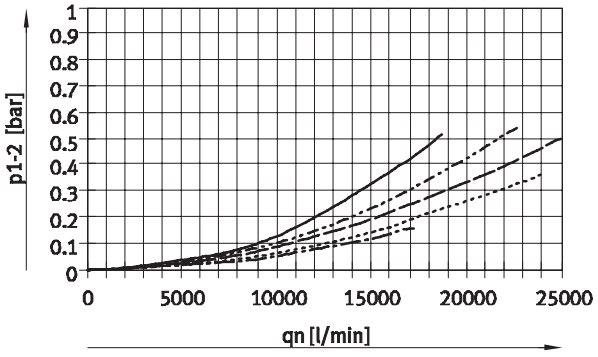
Filtration grade 1 µm
With port plate MS12-AGF, Pneumatic connection G1



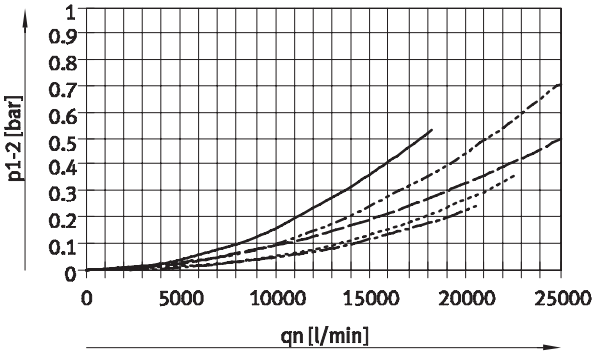
Filtration grade 1 µm
With port plate MS12-AGG, Pneumatic connection G1¼



Filtration grade 1 µm
With port plate MS12-AGH, Pneumatic connection G1½



Filtration grade 1 µm
With port plate MS12-AGI, Pneumatic connection G2

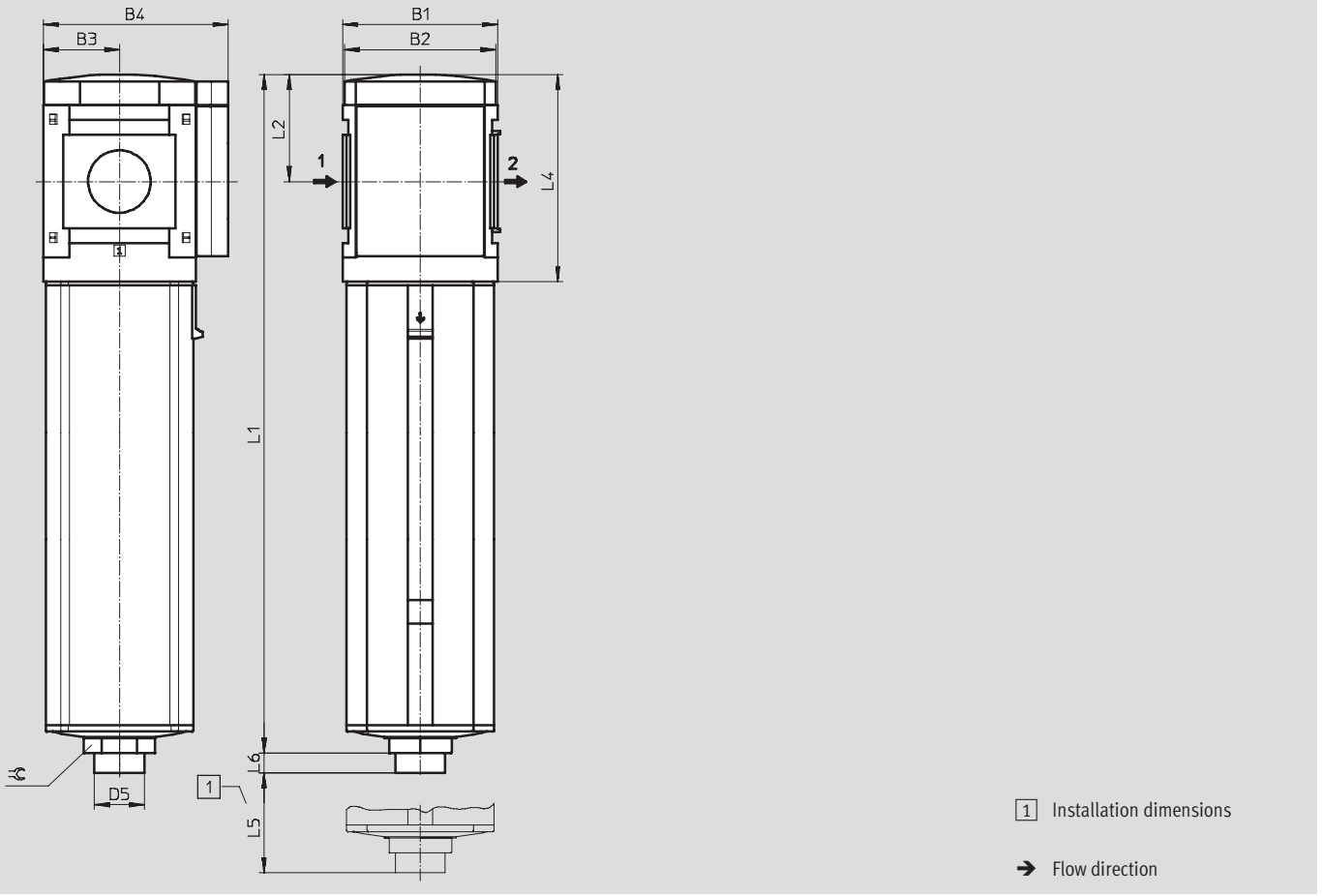


p1: 4 bar
p1: 6 bar
p1: 8 bar
p1: 10 bar
p1: 12 bar

Fine and Micro Filters MS12-LFM – Metric Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



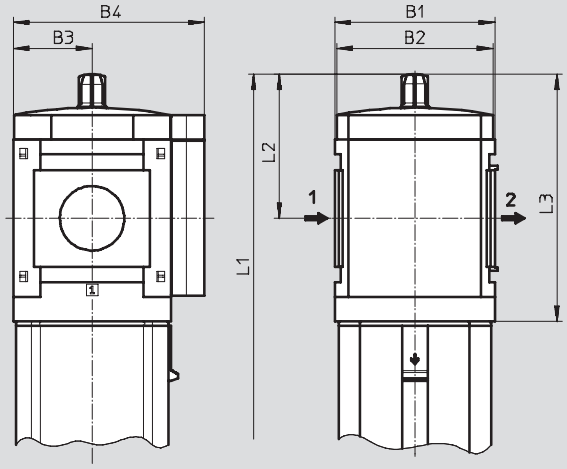
B1	B2	B3	B4	D5 ∅	L1	L2	L4	L5	L6	⫧
124	122	61	148	40	543	86	166	350	16	50

1) Dimensions are in millimeters, unless otherwise noted.

Fine and Micro Filters MS12-LFM – Metric Series

Dimensional Drawings

Dimensions[1] – Differential Pressure Indicator Download CAD Data ➔ **www.festo.com/us/cad**



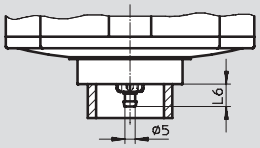
➔ Flow direction

Type	B1	B2	B3	B4	L1	L2	L3
MS12-LFM-...-DA	124	122	61	148	569	112	192

1) Dimensions are in millimeters, unless otherwise noted.

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

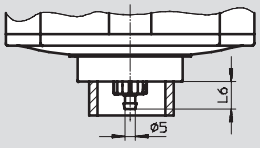
Manual M



Barbed fitting for plastic tubing PCN-4

Type	L6
MS12-LFM-...-M	11

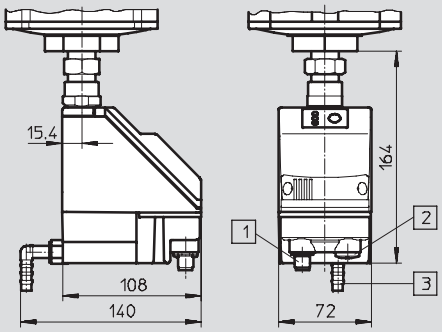
Fully automatic V



Barbed fitting for plastic tubing PCN-4

Type	L6
MS12-LFM-...-V	13

Fully automatic, electrically actuated E1 ... E4 Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...

2 Variant E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9

3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

1) Dimensions are in millimeters, unless otherwise noted.

Fine and Micro Filters MS12-LFM – Metric Series

Ordering Data – Pre-configured Products

Ordering Data								
Metal bowl								
Bowl drain	Connection	Micro filter Filtration grade 0.01 µm				Fine filter Filtration grade 1 µm		
		Part No.	Type	LT		Part No.	Type	LT
Fully automatic	G1 ... G2[1)]	**537154**	**MS12-LFM-G-AUV**	1D		**537153**	**MS12-LFM-G-BUV**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Port plate must be ordered separately as an accessory ➔ 1133

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Fine and Micro Filters MS12-LFM – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory data								O Options		
Part No.	Series	Size	Function	Connection size	Filtration grade	Bowl	Bowl drain	Filter change sensor	Type of mounting	Reverse flow direction
535042	MS	12	LFM	AGF AGG AGH AGI G	B A	U	M V E1 E2 E3 E4	DA	WP	Z
Order example										
535042	MS	12	– LFM	– AGI	– A	– U	– M	–	–	–

Ordering Table

	Grid dimension [mm]	124	Conditions	Code		Enter code
M	Part No.	**535042**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Function	Fine and micro filter		**-LFM**		-LFM
	Connection size	Port plate G1 (dimensions ➔ 1133)		**-AGF**		
		Port plate G1¼ (dimensions ➔ 1133)		**-AGG**		
		Port plate G1½ (dimensions ➔ 1133)		**-AGH**		
		Port plate G2 (dimensions ➔ 1133)		**-AGI**		
		Module without connecting thread, without port plate		**-G**		
	Filtration grade	1 µm		**-B**		
		0.01 µm		**-A**		
	Bowl	Metal bowl		**-U**		-U
	Bowl drain	Manual		**-M**		
		Fully automatic (P1 max. 12 bar)		**-V**		
		External fully automatic bowl drain, electrical, 24 V DC, M12		**-E1**		
		External fully automatic bowl drain, electrical, 110 V AC, terminals		**-E2**		
		External fully automatic bowl drain, electrical, 230 V AC, terminals		**-E3**		
		External fully automatic bowl drain, electrical, 24 V DC, terminals		**-E4**		
O	Filter change sensor	Differential pressure indicator, optical		**-DA**		
	Type of mounting	Mounting bracket (dimensions ➔ 1134)	1	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP** Only with port plate AGF, AGG, AGH or AGI

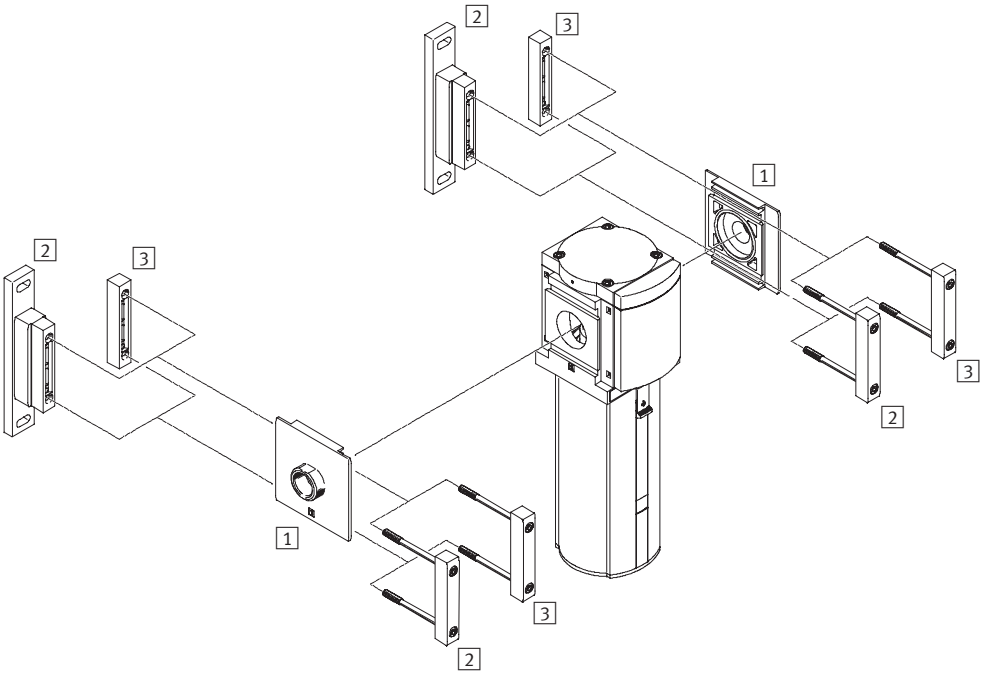
Transfer order code

535042	MS	12	– LFM	–	–	– U	–	–	–	–	–	

Fine and Micro Filters MS12-LFM – Metric Series

Accessories Overview

Mounting Attachments and Accessories

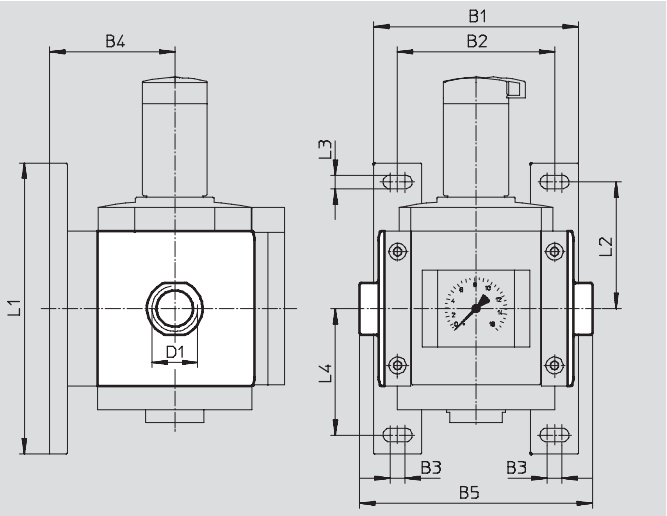


Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AG...	1133
2	Mounting bracket MS12-WP	1134
3	Body connector MS12-MV	1133

1 **Port plate MS12-AG...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [g]	Part No.	Type
162	124	12	99	184	G1	230	100	11	100	1,300	**537135**	**MS12-AGF**
				184	G1¼						**537136**	**MS12-AGG**
				184	G1½						**537137**	**MS12-AGH**
				196	G2						**537138**	**MS12-AGI**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

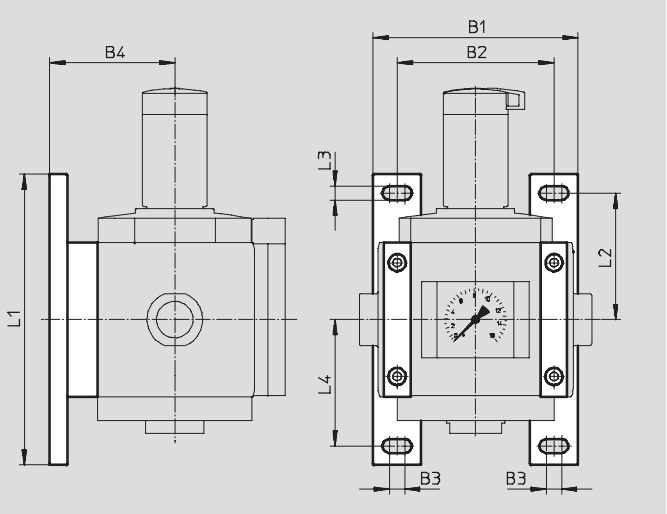
Size	Weight [g]	Part No.	Type
MS12	500	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS12	162	124	12	99	230	100	11	100	700	**537133**	**MS12-WP**

Fine and Micro Filters MS12-LFM – Metric Series

Replacement Parts



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS12	0.01	**537146**	**MS12-LFM-A**
	1	**537145**	**MS12-LFM-B**

- For spare parts go to: www.festo.com/en/spare_parts_service

Fine and Micro Filters MS12N-LFM – Inch Series



Fine and micro filters, with 1 micron or 0.01 micron filtration grades, remove submicronic water or oil droplets and dirt particles for exceptionally clean compressed air.

- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Supply pressure
  – For manual drain: 12 … 294 psi
  – For fully automatic drain: 29 … 176 psi
  – For fully automatic drain, electrically actuated: 12 … 235 psi
- Flow rate: 176.5 … 268.3 scfm

Product Range Overview

Type	Pneumatic connections	Filtration grade [µm]				Bowl guard	Bowl drain							Contamination control	Reverse flow
	Port plate	0.01	1	5	40	Metal bowl	Manual	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals		Differential pressure indicator	Flow direction from right to left
MS12N	AG...	A	B	C	E	U	M	V	E1	E2	E3	E4		DA	Z
LFM	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	■	■	–	–	■	■	■	■	■	■	■		■	■

Features

- High-performance filter for exceptionally clean compressed air
- Air quality to DIN ISO 8573-1
- Available with differential pressure indicator for optical indication of filter contamination
- LFM-A:
  ISO class 1 for particles:
  max. particle density 0.1 mg/m³
  ISO class 2 for oil aerosols:
  max. oil concentration 0.1 mg/m³
  Filter efficiency 99.9999%
- LFM-B:
  ISO class 2 for particles:
  max. particle density 1 mg/m³
  ISO class 3 for oil aerosols:
  max. oil concentration 1 mg/m³
  Filter efficiency 99.99%

Contents

Technical Data → 1138
Dimensional Drawings → 1142
Ordering Data → 1144
Accessories → 1146

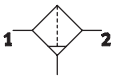
→ www.festo.com/catalog/ms12n-lfm

Fine and Micro Filters MS12N-LFM – Inch Series

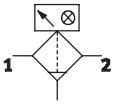
Technical Data

FESTO

ISO Symbol



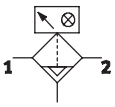
Manual bowl drain
without differential pressure indicator



With differential pressure indicator



Fully automatic bowl drain
without differential pressure indicator



With differential pressure indicator



General Technical Data						
Pneumatic connection 1, 2[1]			1 NPT	1¼ NPT	1½ NPT	2 NPT
Filtration grade		[µm]	0.01 (micro filter LFM-A, air purity class at the output 1.7.2 to DIN ISO 8573-1)			
			1 (fine filter LFM-B, air purity class at the output 2.7.3 to DIN ISO 8573-1)			
Supply pressure	M	[psi]	12 ... 294 (manual drain)			
	V	[psi]	29 ... 176 (fully automatic drain)			
	E...	[psi]	12 ... 235 (fully automatic drain, electrically actuated)			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1147

Standard Nominal Flow Rate qnN[2] and Standard Flow Rate qn[2] [scfm]				
Pneumatic connection 1, 2	1 NPT	1¼ NPT	1½ NPT	2 NPT
Micro filter LFM-A				
qnN 1 ⇢ 2	176.5	211.8	229.5	247.1
qn min	24.7	24.7	24.7	24.7
qn max	811.9	811.9	811.9	811.9
Fine filter LFM-B				
qnN 1 ⇢ 2	183.6	218.9	264.8	268.3
qn min	33.5	33.5	33.5	33.5
qn max	811.9	811.9	811.9	811.9

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1147
Measured at p1 = 88 psi and Δp = 1.0 psi

Fine and Micro Filters MS12N-LFM – Inch Series

Technical Data

Operating and Environmental Conditions				
Bowl drain		Manual M	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium micro filter LFM-A		Compressed air, filtered, unlubricated, filtration grade 1 µm		
Operating medium fine filter LFM-B		Compressed air, filtered, unlubricated, filtration grade 5 µm		
Max. condensate volume	[in^3]	24.40		
Bowl guard		Metal bowl		
Ambient temperature	[°F]	14 ... 140	41 ... 140	34 ... 140
Temperature of medium	[°F]	14 ... 140	41 ... 140	34 ... 140
Storage temperature	[°F]	14 ... 140	14 ... 140	34 ... 140
Assembly position		Vertical ±5°		
Corrosion resistance	CRC[1)]	2		

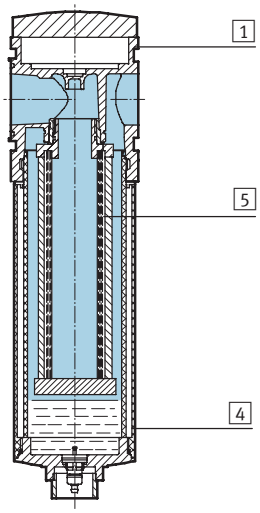
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With metal bowl	14.00
With metal bowl and fully automatic, electrically actuated bowl drain	15.40

- Filter cartridges ➔ 1149
- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

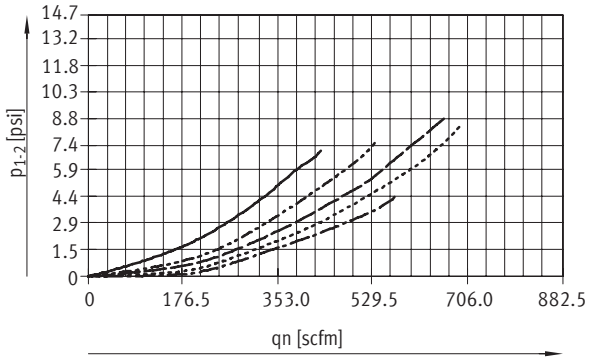
Sectional view



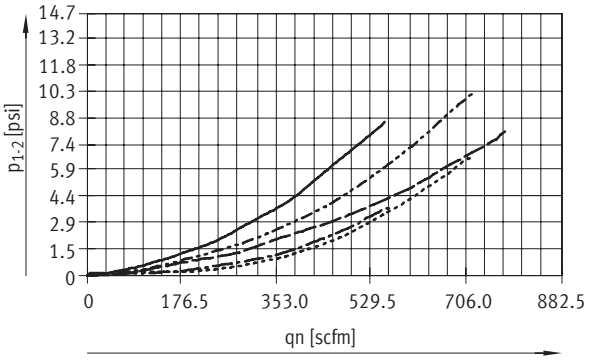
Fine and micro filter		
1	Body	Die-cast aluminum
4	Metal bowl	Wrought aluminum alloy
5	Filter element	Borosilicate mesh
–	Seals	Nitrile rubber

Standard Flow Rate qn as a Function of the Differential Pressure p1-2

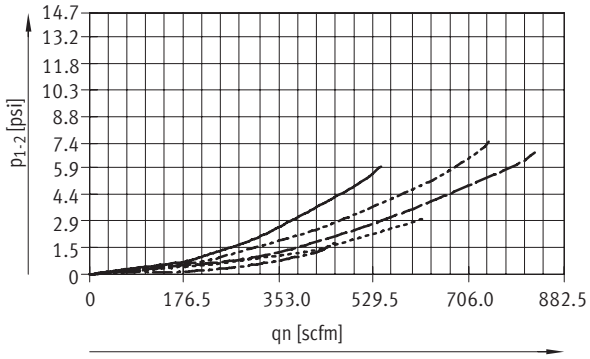
Filtration grade 0.01 µm
With port plate MS12-AGF, Pneumatic connection 1 NPT



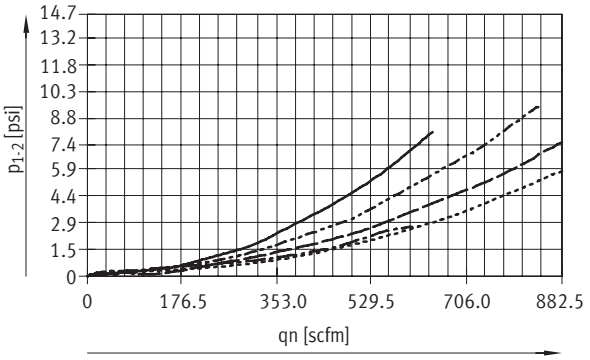
Filtration grade 0.01 µm
With port plate MS12-AGG, Pneumatic connection 1¼ NPT



Filtration grade 0.01 µm
With port plate MS12-AGH, Pneumatic connection 1½ NPT



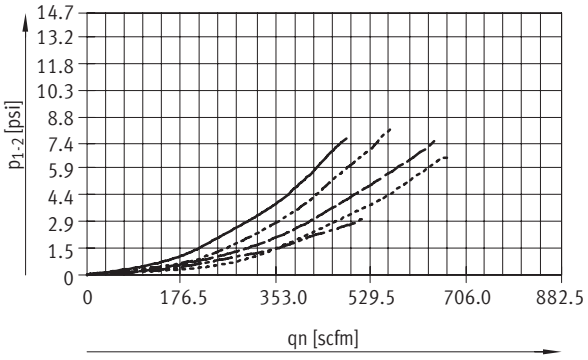
Filtration grade 0.01 µm
With port plate MS12-AGI, Pneumatic connection 2 NPT



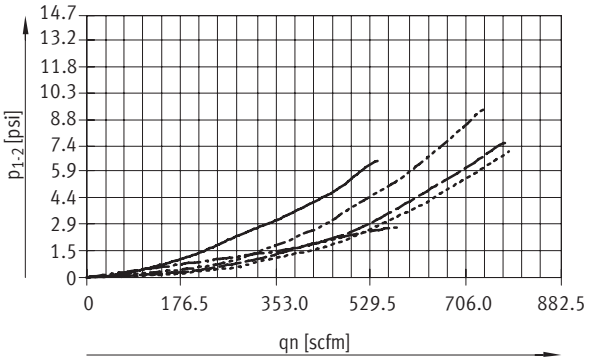
p1: 59 psi
p1: 88 psi
p1: 118 psi
p1: 147 psi
p1: 176 psi

Standard Flow Rate qn as a Function of the Differential Pressure p1-2

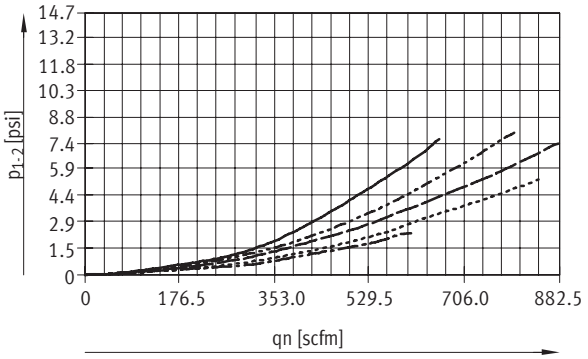
Filtration grade 1 µm
With port plate MS12-AGF, Pneumatic connection 1 NPT



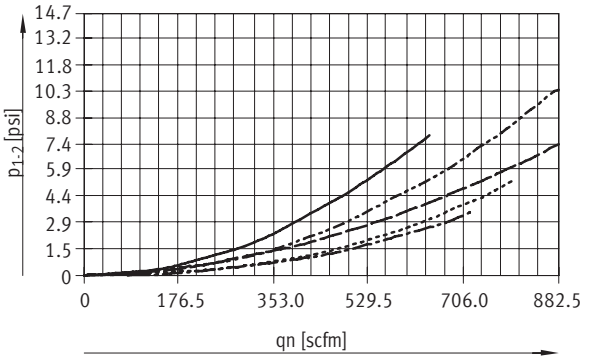
Filtration grade 1 µm
With port plate MS12-AGG, Pneumatic connection 1¼ NPT



Filtration grade 1 µm
With port plate MS12-AGH, Pneumatic connection 1½ NPT



Filtration grade 1 µm
With port plate MS12-AGI, Pneumatic connection 2 NPT

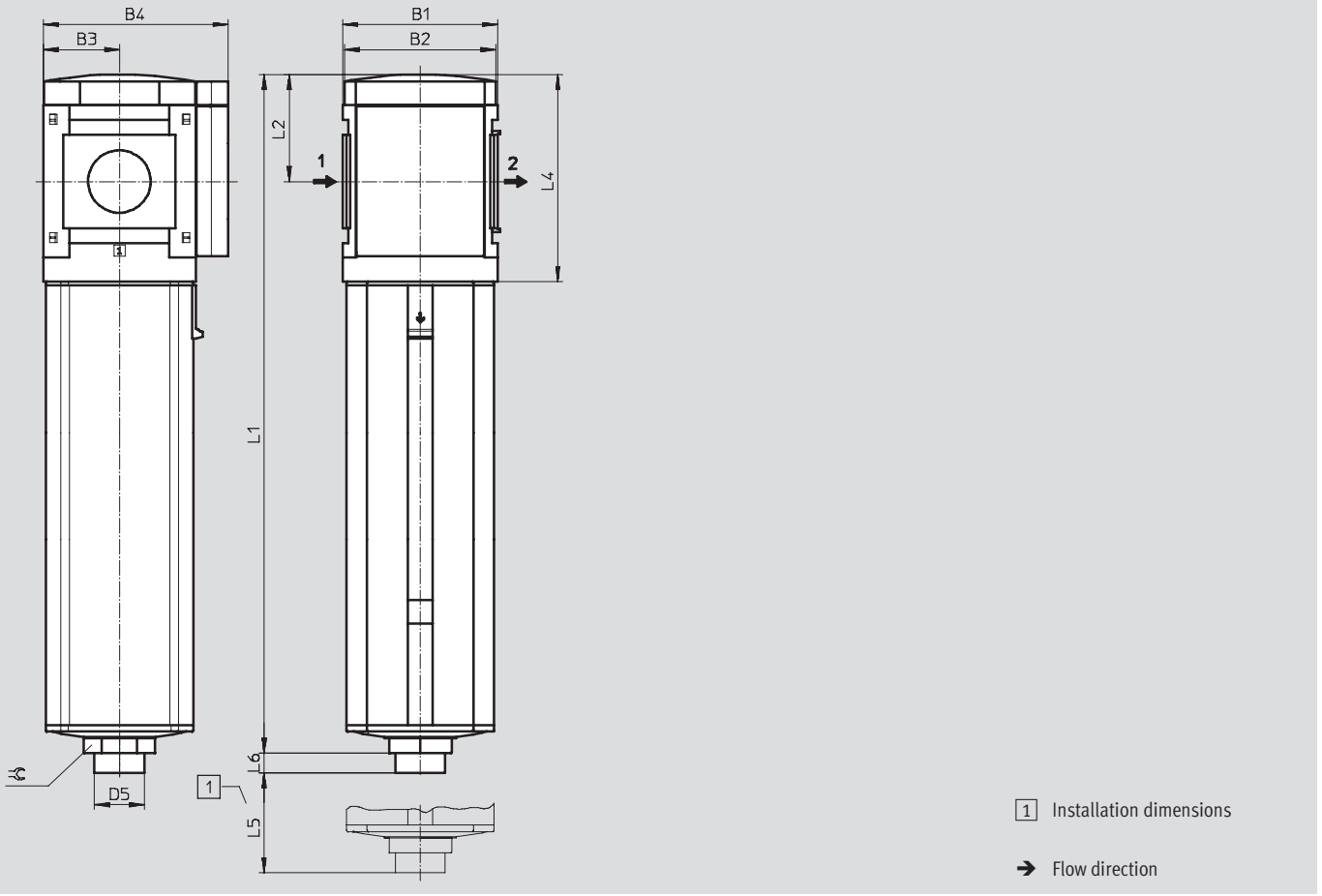


- p1: 59 psi
- p1: 88 psi
- p1: 118 psi
- p1: 147 psi
- p1: 176 psi

Fine and Micro Filters MS12N-LFM – Inch Series

Dimensional Drawings

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



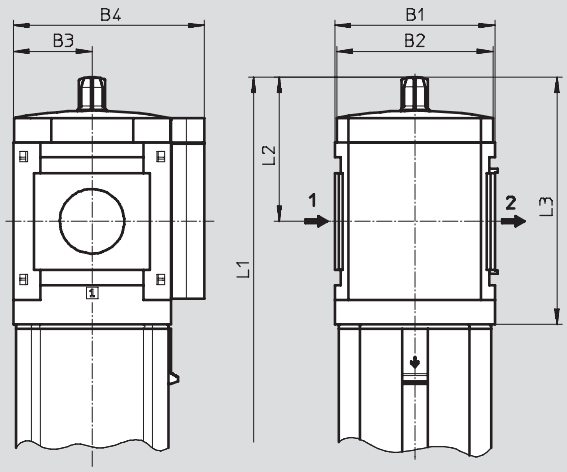
B1	B2	B3	B4	D5 ∅	L1	L2	L4	L5	L6	⌀
4.88	4.80	2.40	5.83	1.57	21.38	3.39	6.54	13.78	0.63	1.97

1) Dimensions are in inches, unless otherwise noted.

Fine and Micro Filters MS12N-LFM – Inch Series

Dimensional Drawings

Dimensions[1] – Differential Pressure Indicator Download CAD Data ➔ **www.festo.com/us/cad**



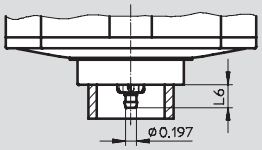
➔ Flow direction

Type	B1	B2	B3	B4	L1	L2	L3
MS12-LFM-...-DA	4.88	4.80	2.40	5.83	22.40	4.41	7.56

1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Bowl Drain Download CAD Data ➔ **www.festo.com/us/cad**

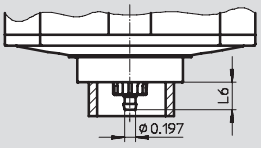
Manual M



Barbed fitting for plastic tubing PCN-4

Type	L6
MS12-LFM-...-M	0.43

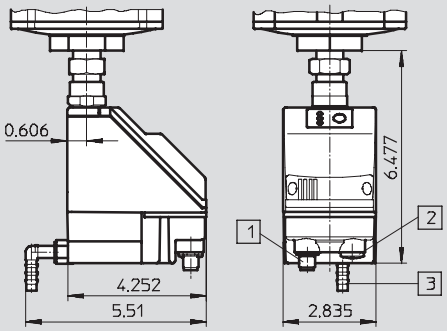
Fully automatic V



Barbed fitting for plastic tubing PCN-4

Type	L6
MS12-LFM-...-V	0.51

Fully automatic, electrically actuated E1 ... E4 Technical data PWEA ➔ www.festo.com/catalog/pwea



1 Variant E1
PWEA-AP-... with M12x1 plug, 5-pin for SIM-M12-5GD-...

2 Variant E2/E3/E4
PWEA-AC-... with cable conduit fitting Pg9

3 Connection 360° rotatable for plastic tubing PUN-H-12x2-...

1) Dimensions are in inches, unless otherwise noted.

Fine and Micro Filters MS12N-LFM – Inch Series

Ordering Data – Pre-configured Products

Ordering Data								
Metal bowl								
Bowl drain	Connection	Micro filter Filtration grade 0.01 µm				Fine filter Filtration grade 1 µm		
		Part No.	Type	LT		Part No.	Type	LT
Fully automatic	1 NPT ... 2 NPT[1]	**537154**	**MS12-LFM-G-AUV**	1D		**537153**	**MS12-LFM-G-BUV**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Port plate must be ordered separately as an accessory ➔ 1147

Fine and Micro Filters MS12N-LFM – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory data									O Options		
Part No.	Series	Size	Thread	Function	Connection size	Filtration grade	Bowl	Bowl drain	Filter change sensor	Type of mounting	Reverse flow direction
535045	MS	12	N	LFM	AQT AQU AQV AQW G	B A	U	M V E1 E2 E3 E4	DA	WP	Z
Order example											
535045	**MS**	**12**	**N**	**LFM**	**AQW**	**A**	**U**	**M**			

Ordering Table

Grid dimension [mm]		124	Conditions	Code	Enter code
M	Part No.	**535045**			
	Series	Standard		**MS**	MS
	Size	12		**12**	12
	Thread	NPT thread		**N**	N
	Function	Fine and micro filter		**-LFM**	-LFM
	Connection size	Port plate 1 NPT (dimensions → 1147)		**-AQT**	
		Port plate 1¼ NPT (dimensions → 1147)		**-AQU**	
		Port plate 1½ NPT (dimensions → 1147)		**-AQV**	
		Port plate 2 NPT (dimensions → 1147)		**-AQW**	
		Module without connecting thread, without port plate		**-G**	
	Filtration grade	1 µm		**-B**	
		0.01 µm		**-A**	
	Bowl	Metal bowl		**-U**	-U
	Bowl drain	Manual		**-M**	
		Fully automatic (P1 max. 176 psi)		**-V**	
		External fully automatic bowl drain, electrical, 24 V DC, M12		**-E1**	
		External fully automatic bowl drain, electrical, 110 V AC, terminals		**-E2**	
		External fully automatic bowl drain, electrical, 230 V AC, terminals		**-E3**	
		External fully automatic bowl drain, electrical, 24 V DC, terminals		**-E4**	
O	Filter change sensor	Differential pressure indicator, optical		**-DA**	
	Type of mounting	Mounting bracket (dimensions → 1148)	1	**-WP**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **WP** Only with port plate AQT, AQU, AQV or AQW

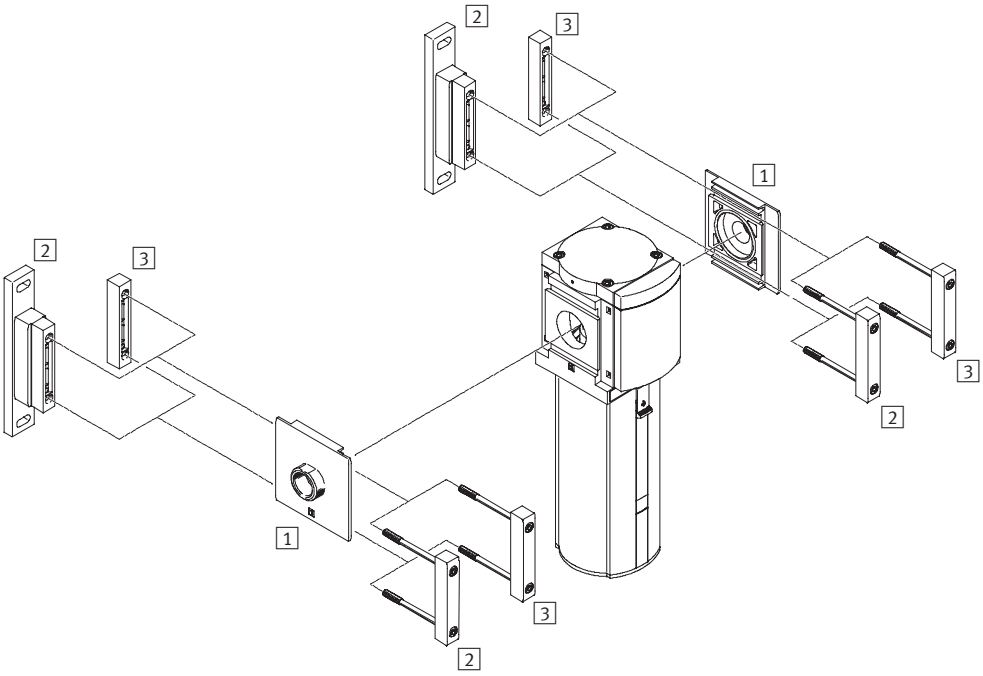
Transfer order code

535045	**MS**	**12**	**N**	–	**LFM**	–		–		–	**U**	–		–		–

Fine and Micro Filters MS12N-LFM – Inch Series

Accessories Overview

Mounting Attachments and Accessories

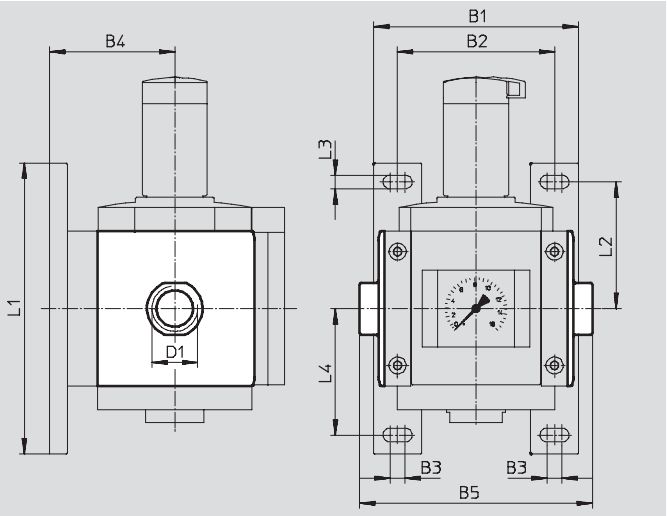


Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AQ...	1147
2	Mounting bracket MS12-WP	1148
3	Body connector MS12-MV	1147

1 **Port plate MS12-AQ...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [lb]	Part No.	Type
6.38	4.88	0.47	3.90	7.24	1 NPT	9.06	3.94	0.43	3.94	2.60	**537139**	**MS12-AQT**
				7.24	1¼ NPT						**537140**	**MS12-AQU**
				7.24	1½ NPT						**537141**	**MS12-AQV**
				7.72	2 NPT						**537142**	**MS12-AQW**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

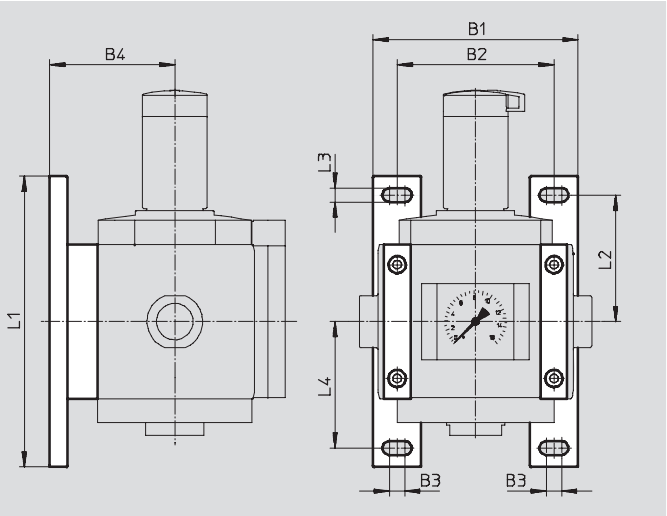
Size	Weight [lb]	Part No.	Type
MS12	1.00	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
MS12	6.38	4.88	0.47	3.90	9.06	3.94	0.43	3.94	1.40	**537133**	**MS12-WP**

Fine and Micro Filters MS12N-LFM – Inch Series

Replacement Parts



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS12	0.01	**537146**	**MS12-LFM-A**
	1	**537145**	**MS12-LFM-B**

- For spare parts go to: www.festo.com/en/spare_parts_service

Active Carbon Filters MS12-LFX – Metric Series



Active carbon filters remove liquid and gaseous oil particles as well as odor and taste from compressed air. Pre-filtration with a grade of 0.01 micron is required.

- Pneumatic connection: G1, G1¼, G1½, G2
- Supply pressure 0 ... 20 bar
- Flow rate: 4,800 ... 6,000 l/min

Product Range Overview

Type	Pneumatic connections	Bowl guard	Reverse flow
	Port plate	Metal bowl	Flow direction from right to left
MS12	**AG...**	**U**	**Z**
LFX	G1, G1¼, G1½, G2	■	■

Features

- Removal of liquid and gaseous oil particles from compressed air using active carbon
- Eliminates odors and vapors
- Prefiltration with micro filter MS-LFM-A, filtration grade 0.01 µm, is required.

Contents

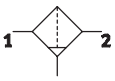
Technical Data → 1152
Dimensional Drawings → 1154
Ordering Data → 1154
Accessories → 1156

→ www.festo.com/catalog/ms12-lfx

Active Carbon Filters MS12-LFX – Metric Series

Technical Data

ISO Symbol





General Technical Data					
Pneumatic connection 1, 2[1]		G1	G1¼	G1½	G2
Air purity class at the output		1.7.1 to DIN ISO 8573-1			
Supply pressure	[bar]	0 ... 20			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1157

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] [l/min]				
Pneumatic connection 1, 2	G1	G1¼	G1½	G2
In main flow direction 1 ⇢ 2	4,800	5,000	5,500	6,000

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1157
Measured at p1 = 6 bar and Δp = 70 mbar

Operating and Environmental Conditions		
Operating medium		Compressed air, filtered, unlubricated, filtration grade 0.01 µm
Bowl guard		Metal bowl
Ambient temperature	[°C]	−10 ... +60
Temperature of medium	[°C]	+5 ... +30
Storage temperature	[°C]	−10 ... +60
Assembly position		Vertical ±5°
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With metal bowl	7,000

- Filter cartridges ➔ 1159
- For spare parts go to: www.festo.com/en/spare_parts_service

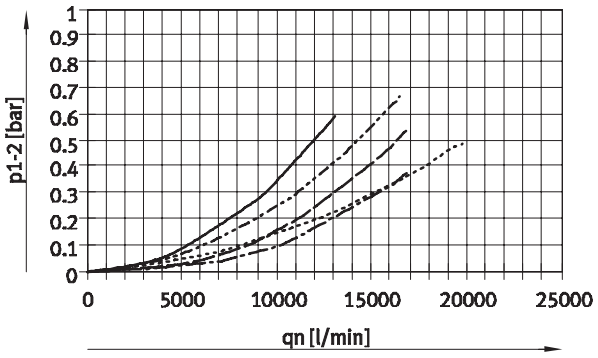
Active Carbon Filters MS12-LFX – Metric Series

Technical Data

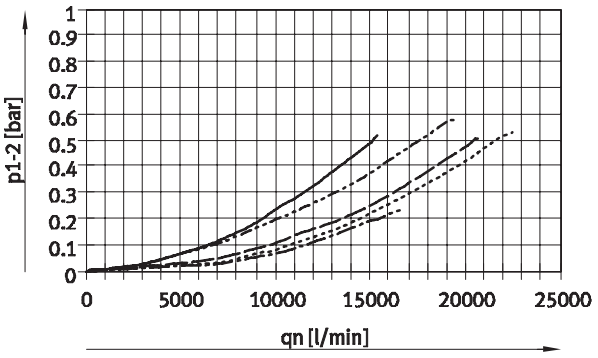
FESTO

Standard Flow Rate qn as a Function of the Differential Pressure p1-2

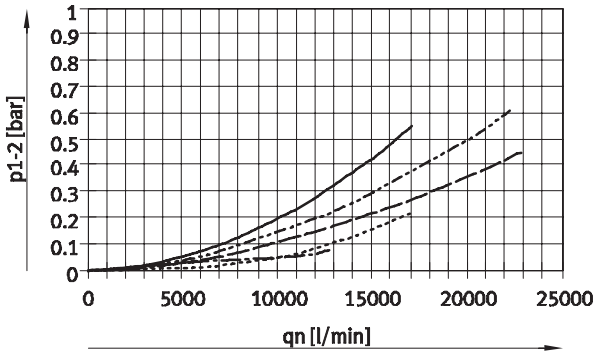
With port plate MS12-AGF, Pneumatic connection G1



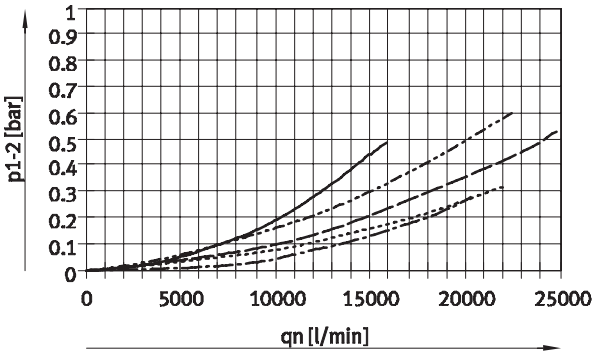
With port plate MS12-AGG, Pneumatic connection G1¼



With port plate MS12-AGH, Pneumatic connection G1½



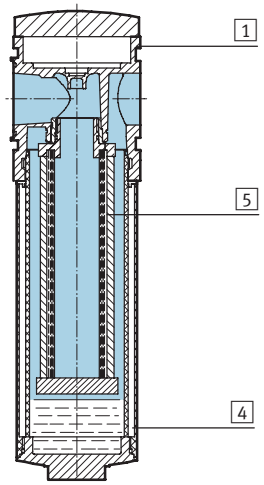
With port plate MS12-AGI, Pneumatic connection G2



p1: 4 bar
p1: 6 bar
p1: 8 bar
p1: 10 bar
p1: 12 bar

Materials

Sectional view



Active carbon filter		
1	Body	Die-cast aluminum
4	Metal bowl	Wrought aluminum alloy
5	Filter	Active carbon
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

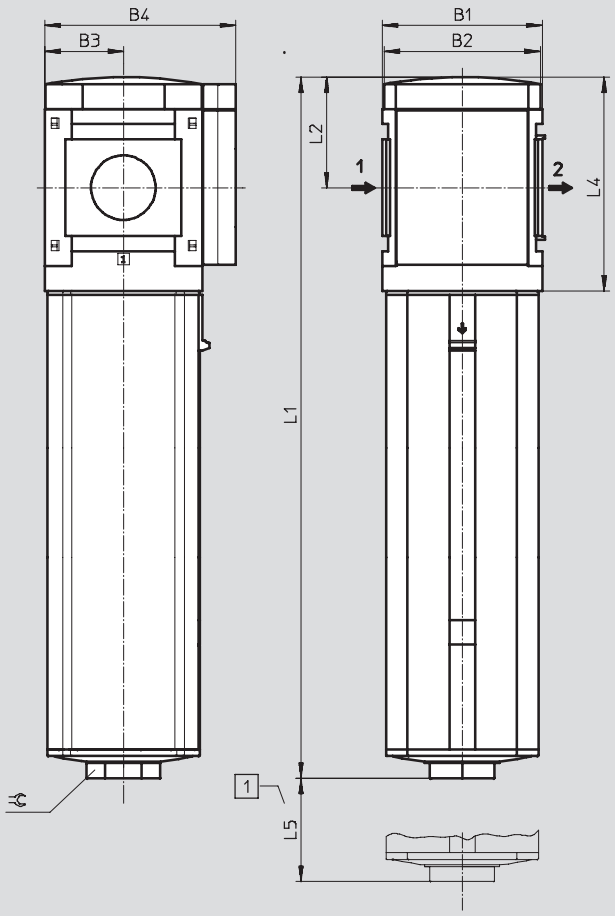
Active Carbon Filters MS12-LFX – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



1 Installation dimensions

➔ Flow direction

B1	B2	B3	B4	L1	L2	L4	L5	⌀
124	122	61	148	543	86	166	350	50

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Metal bowl

Connection	Part No.	Type	LT
G1 ... G2[1]	**537155**	**MS12-LFX-G-U**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Port plate must be ordered separately as an accessory ➔ 1157

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Active Carbon Filters MS12-LFX – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data														O Options			
Part No.		**Series**	**Size**		**Function**		**Connection size**		**Bowl**			**Type of mounting**		**Reverse flow direction**			
535043		MS	12		LFX		AGF AGG AGH AGI G		U			WP		Z			
Order example																	
535043		**MS**	**12**	–	**LFX**	–	**AGF**	–	**U**	–		**WP**	–	**Z**			

Ordering Table							
Grid dimension [mm]		124	Conditions	Code		Enter code	
M	Part No.	**535043**					
	Series	Standard		**MS**		MS	
	Size	12		**12**		12	
	Function	Active carbon filter		**-LFX**		-LFX	
	Connection size	Port plate G1 (dimensions ➔ 1157)		**-AGF**			
		Port plate G1¼ (dimensions ➔ 1157)		**-AGG**			
		Port plate G1½ (dimensions ➔ 1157)		**-AGH**			
		Port plate G2 (dimensions ➔ 1157)		**-AGI**			
		Module without connecting thread, without port plate		**-G**			
	Bowl	Metal bowl		**-U**		-U	
O	Type of mounting	Mounting bracket (dimensions ➔ 1158)	1	**-WP**			
	Reverse flow direction	Flow direction from right to left		**-Z**			

1 **WP** Only with port plate AGF, AGG, AGH or AGI

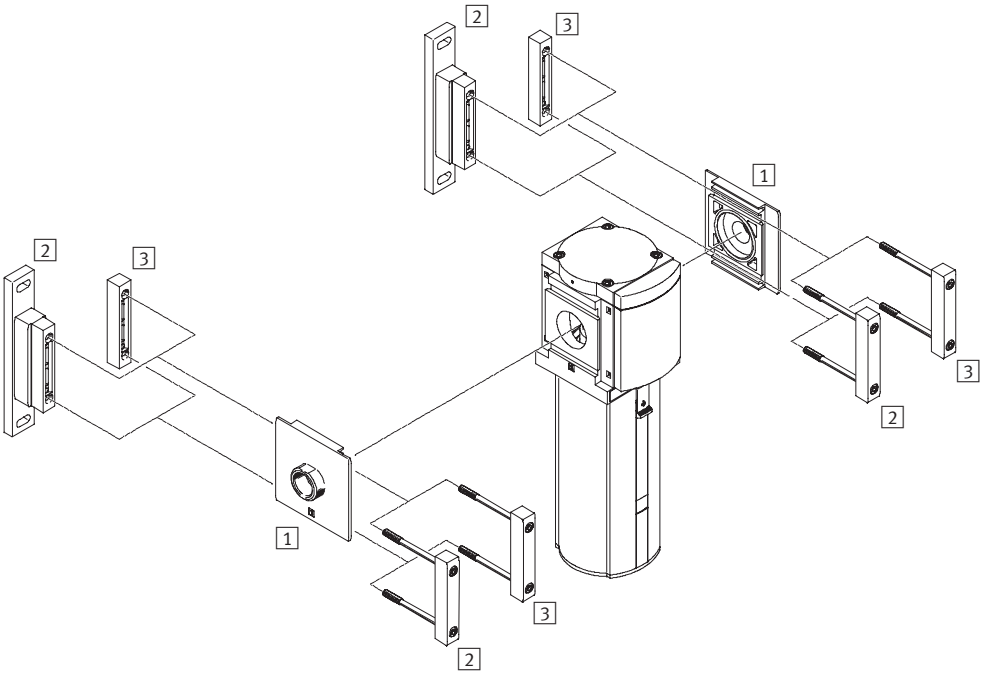
Transfer order code

535043	**MS**	**12**	–	**LFX**	–		–	**U**	–		–			

Active Carbon Filters MS12-LFX – Metric Series

Accessories Overview

Mounting Attachments and Accessories



Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AG...	1157
2	Mounting bracket MS12-WP	1158
3	Body connector MS12-MV	1157

Active Carbon Filters MS12-LFX – Metric Series

Accessories

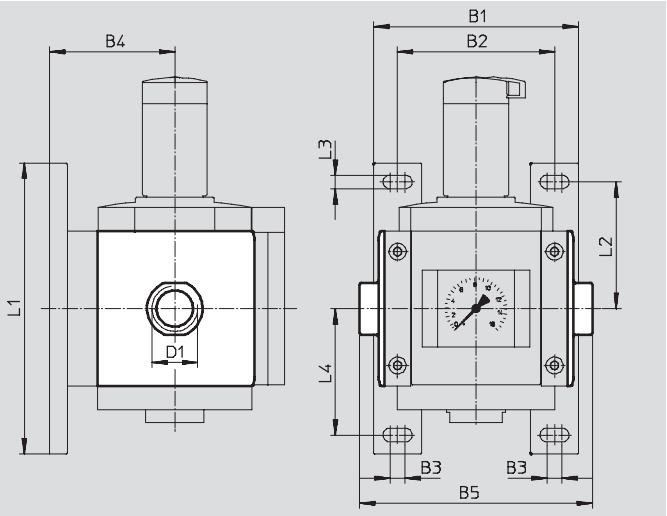
FESTO

[1] **Port plate MS12-AG...**

- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [g]	Part No.	Type
162	124	12	99	184	G1	230	100	11	100	1,300	**537135**	**MS12-AGF**
				184	G1¼						**537136**	**MS12-AGG**
				184	G1½						**537137**	**MS12-AGH**
				196	G2						**537138**	**MS12-AGI**

[3] **Body connector MS12-MV**

- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

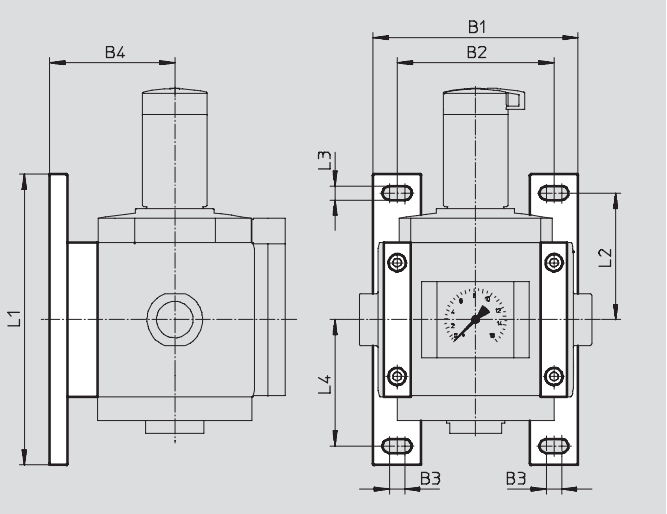
Size	Weight [g]	Part No.	Type
MS12	500	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS12	162	124	12	99	230	100	11	100	700	**537133**	**MS12-WP**

Active Carbon Filters MS12-LFX – Metric Series

Replacement Parts



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS12	Residual oil content ≤ 0.003 mg/m^3	**537147**	**MS12-LFX**

- For spare parts go to: www.festo.com/en/spare_parts_service

Active Carbon Filters MS12N-LFX – Inch Series



Active carbon filters remove liquid and gaseous oil particles as well as odor and taste from compressed air. Pre-filtration with a grade of 0.01 micron is required.

- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Supply pressure 0 ... 294 psi
- Flow rate: 169.4 ... 211.8 scfm

Product Range Overview

Type	Pneumatic connections	Bowl guard	Reverse flow
	Port plate	Metal bowl	Flow direction from right to left
MS12N	**AG...**	**U**	**Z**
LFX	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	■	■

Features

- Removal of liquid and gaseous oil particles from compressed air using active carbon
- Eliminates odors and vapors
- Prefiltration with micro filter MS-LFM-A, filtration grade 0.01 µm, is required.

Contents

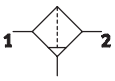
Technical Data	➔ 1162
Dimensional Drawings	➔ 1164
Ordering Data	➔ 1164
Accessories	➔ 1166

➔ www.festo.com/catalog/ms12n-lfx

Active Carbon Filters MS12N-LFX – Inch Series

Technical Data

ISO Symbol





General Technical Data					
Pneumatic connection 1, 2[1)]		1 NPT	1¼ NPT	1½ NPT	2 NPT
Air purity class at the output		1.7.1 to DIN ISO 8573-1			
Supply pressure	[psi]	0 ... 294			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1167

Standard Nominal Flow Rate qnN[2)] [scfm]				
Pneumatic connection 1, 2	1 NPT	1¼ NPT	1½ NPT	2 NPT
In main flow direction 1 ⇢ 2	169.4	176.5	194.2	211.8

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1167
Measured at p1 = 88 psi and Δp = 1.0 psi

Operating and Environmental Conditions		
Operating medium		Compressed air, filtered, unlubricated, filtration grade 0.01 µm
Bowl guard		Metal bowl
Ambient temperature	[°F]	14 ... 140
Temperature of medium	[°F]	41 ... 86
Storage temperature	[°F]	14 ... 140
Assembly position		Vertical ±5°
Corrosion resistance	CRC[13)]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With metal bowl	14.00

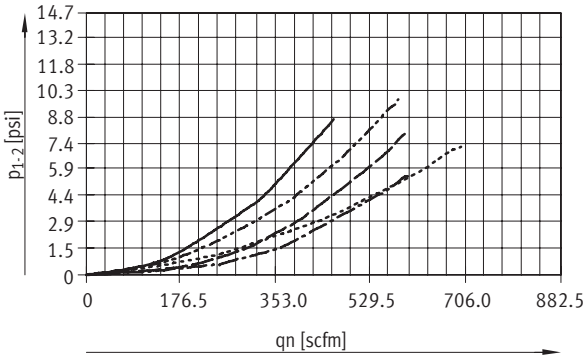
- Filter cartridges ➔ 1169
- For spare parts go to: www.festo.com/en/spare_parts_service

Active Carbon Filters MS12N-LFX – Inch Series

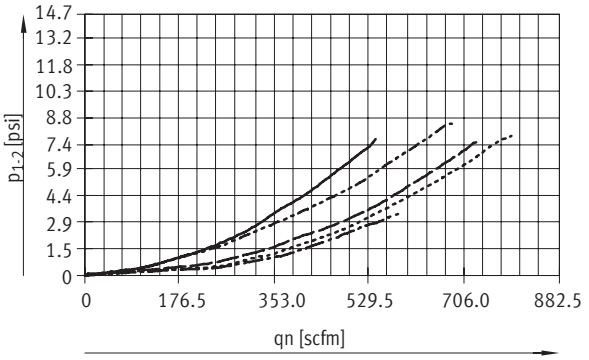
Technical Data

Standard Flow Rate qn as a Function of the Differential Pressure p1-2

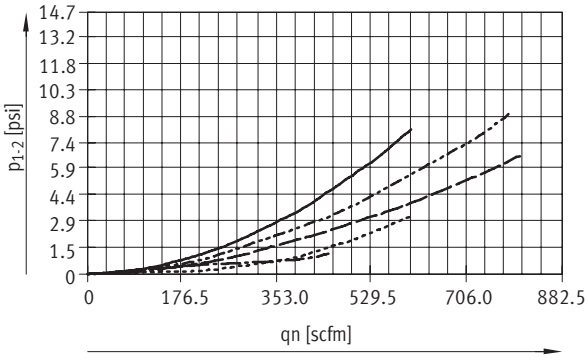
With port plate MS12-AGF, Pneumatic connection 1 NPT



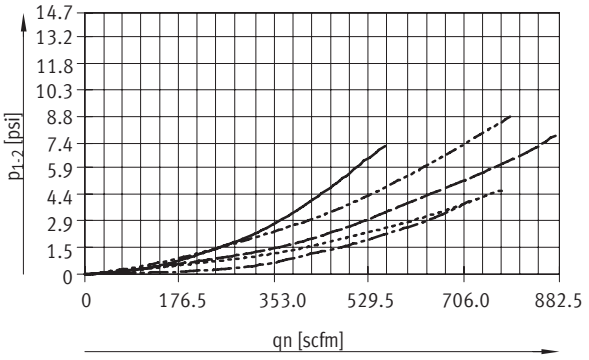
With port plate MS12-AGG, Pneumatic connection 1¼ NPT



With port plate MS12-AGH, Pneumatic connection 1½ NPT



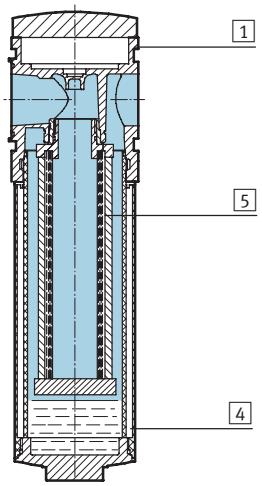
With port plate MS12-AGI, Pneumatic connection 2 NPT



p1: 59 psi
p1: 88 psi
p1: 118 psi
p1: 147 psi
p1: 176 psi

Materials

Sectional view



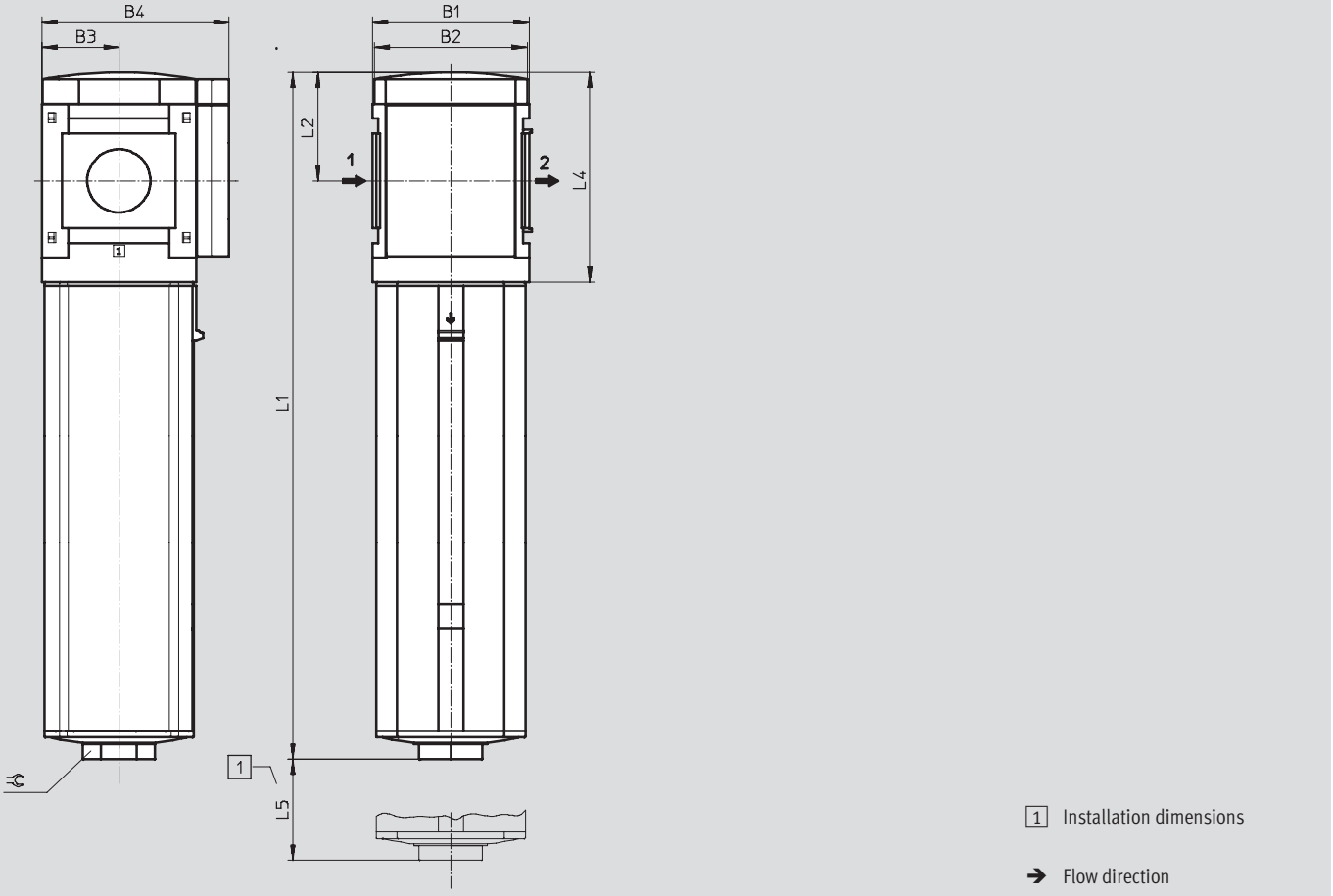
Active carbon filter		
1	Body	Die-cast aluminum
4	Metal bowl	Wrought aluminum alloy
5	Filter	Active carbon
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Active Carbon Filters MS12N-LFX – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



B1	B2	B3	B4	L1	L2	L4	L5	⌀
4.88	4.80	2.40	5.83	21.38	3.39	6.54	13.78	1.97

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Metal bowl

Connection	Part No.	Type	LT
1 NPT ... 2 NPT[1]	**537155**	**MS12-LFX-G-U**	1D

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

1) Port plate must be ordered separately as an accessory ➔ 1167

Active Carbon Filters MS12N-LFX – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options	
Part No.	Series	Size	Thread	Function	Connection size	Bowl	Type of mounting	Reverse flow direction
535046	MS	12	N	LFX	AQT AQU AQV AQW G	U	WP	Z
Order example								
535046	**MS**	**12**	**N**	**LFX**	**AQT**	**U**	**WP**	**Z**

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
M	Part No.	**535046**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Thread	NPT thread		**N**		N
	Function	Active carbon filter		**-LFX**		-LFX
	Connection size	Port plate 1 NPT (dimensions ➔ 1167)		**-AQT**		
		Port plate 1¼ NPT (dimensions ➔ 1167)		**-AQU**		
		Port plate 1½ NPT (dimensions ➔ 1167)		**-AQV**		
		Port plate 2 NPT (dimensions ➔ 1167)		**-AQW**		
		Module without connecting thread, without port plate		**-G**		
	Bowl	Metal bowl		**-U**		-U
O	Type of mounting	Mounting bracket (dimensions ➔ 1168)	1	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP** Only with port plate AQT, AQU, AQV or AQW

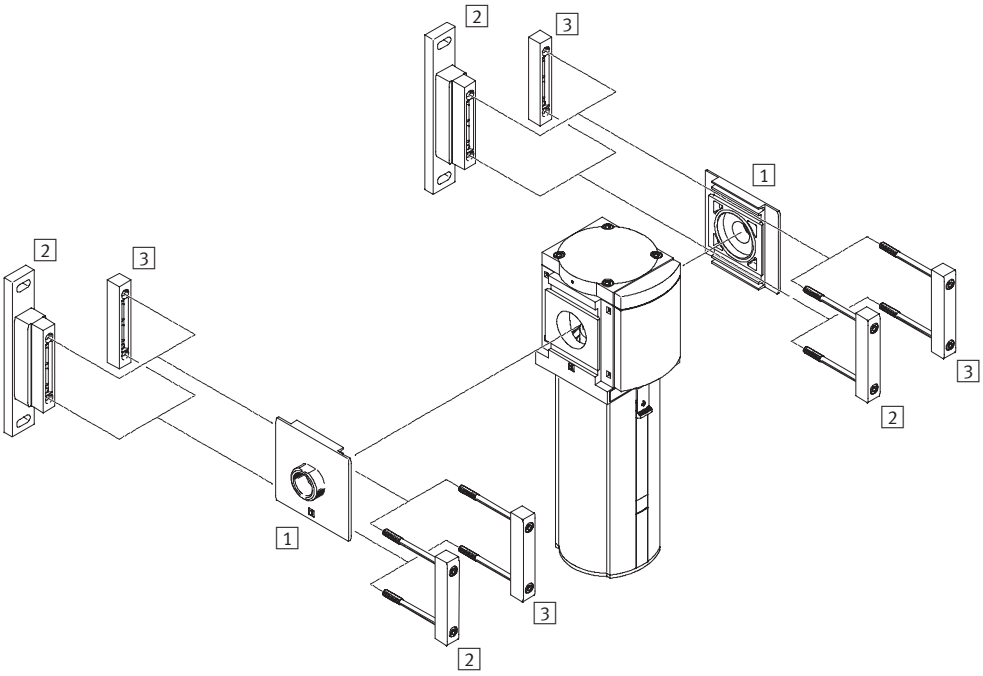
Transfer order code

535046	**MS**	**12**	**N**	– **LFX**	–		– **U**	–		–

Active Carbon Filters MS12N-LFX – Inch Series

Accessories Overview

Mounting Attachments and Accessories



Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AQ...	1167
2	Mounting bracket MS12-WP	1168
3	Body connector MS12-MV	1167

Active Carbon Filters MS12N-LFX – Inch Series

Accessories

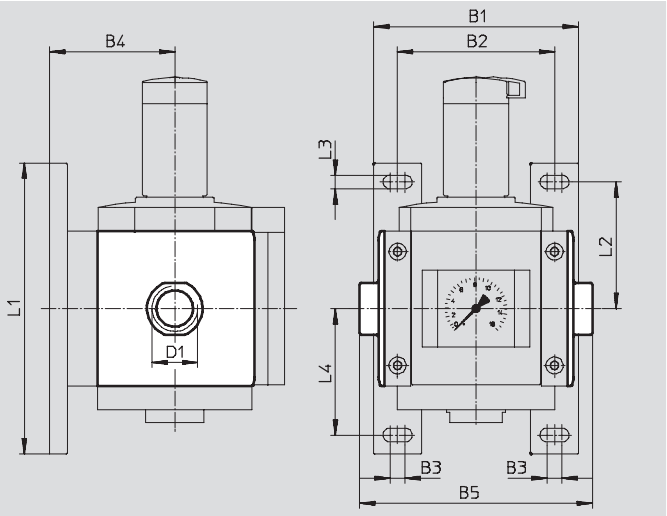
FESTO

1 Port plate MS12-AQ...

- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [lb]	Part No.	Type
6.38	4.88	0.47	3.90	7.24	1 NPT	9.06	3.94	0.43	3.94	2.60	**537139**	**MS12-AQT**
				7.24	1¼ NPT						**537140**	**MS12-AQU**
				7.24	1½ NPT						**537141**	**MS12-AQV**
				7.72	2 NPT						**537142**	**MS12-AQW**

3 Body connector MS12-MV

- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



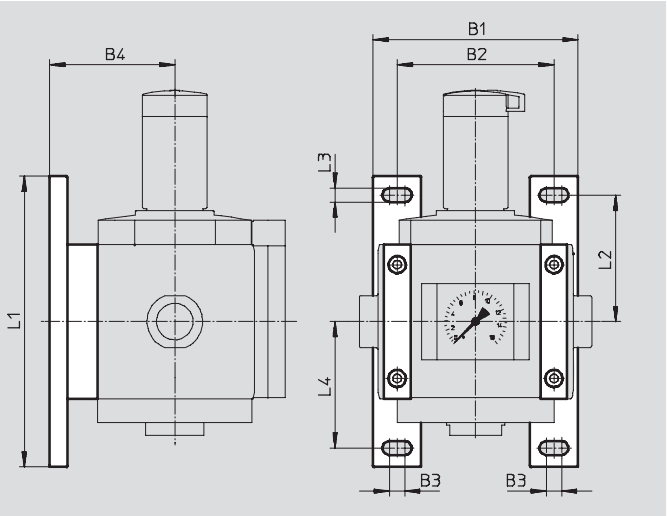
Ordering Data

Size	Weight [lb]	Part No.	Type
MS12	1.00	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**
- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
MS12	6.38	4.88	0.47	3.90	9.06	3.94	0.43	3.94	1.40	**537133**	**MS12-WP**

Active Carbon Filters MS12N-LFX – Inch Series

Replacement Parts



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS12	Residual oil content ≤ 0.003 mg/m^3	**537147**	**MS12-LFX**

- For spare parts go to: www.festo.com/en/spare_parts_service

Lubricators MS12-LOE – Metric Series



The proportional lubricator adds a precision adjustable quantity of oil to the compressed air stream. The pressure drop that occurs when air flows through a Venturi nozzle is used to convey oil from the container to the drip cap. From here, the oil drips into the air duct directly behind the proportional valve, where it is atomized. The oil mist component is proportional to the compressed air flow rate.

- Pneumatic connection: G1, G1¼, G1½, G2
- Supply pressure: 1 ... 16 bar
- Flow rate: 20,000 ... 22,000 l/min

Product Range Overview

Type	Flow rate [l/min]	Pneumatic connections		Bowl guard		Reverse flow
		Body thread	Port plate	Plastic bowl guard	Metal bowl	Flow direction from right to left
MS12			**AG...**	**R**	**U**	**Z**
LOE	20,000 ... 22,000	–	G1, G1¼, G1½, G2	–	■	■

Features

- Proportional lubricator with precision oil metering
- Reduces wear on drive units subject to high loading
- High flow rate
- Quick and easy oil top-up even during operation (under pressure)

The following oils are recommended for Festo components:
Viscosity range to ISO 3448, ISO class VG 32
32 mm^2/s (= cSt) at 40°C

- Festo special oil OFSW-32 → 1180
- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32

Contents

Technical Data → 1172
Dimensional Drawings → 1175
Ordering Data → 1175
Accessories → 1177

→ www.festo.com/catalog/ms12-loe

Lubricators MS12-LOE – Metric Series

Technical Data

ISO Symbol





General Technical Data					
Pneumatic connection 1, 2[1]		G1	G1¼	G1½	G2
Supply pressure	[bar]	1 ... 16			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1178

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] [l/min]				
Pneumatic connection 1, 2	G1	G1¼	G1½	G2
In main flow direction 1 ⇢ 2	20,000	20,500	21,000	22,000

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1178
Measured at p1 = 6 bar and Δp = 0.5 bar

Operating and Environmental Conditions		
Minimum flow for lubricator operation	[l/min]	≤400
Operating medium		Compressed air, air quality class 5.7.– to DIN ISO 8573-1
Max. oil capacity	[cm³]	1,500
Bowl guard		Metal bowl
Ambient temperature	[°C]	0 ... +60
Temperature of medium	[°C]	0 ... +60
Storage temperature	[°C]	–10 ... +60
Assembly position		Vertical ±5°
Corrosion resistance	CRC[3]	2

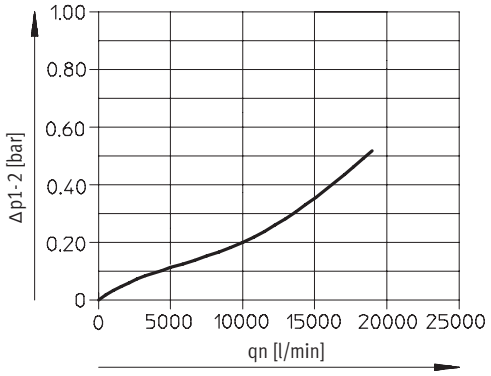
3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
With metal bowl	6,500

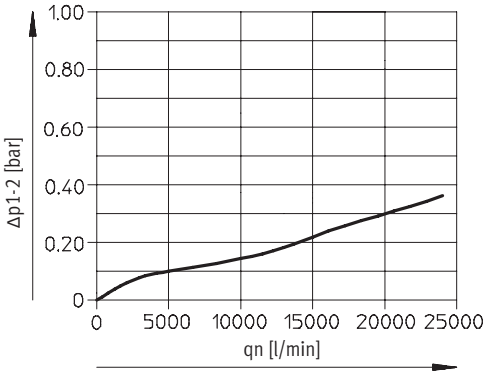
- Wearing parts kits ➔ 1180
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

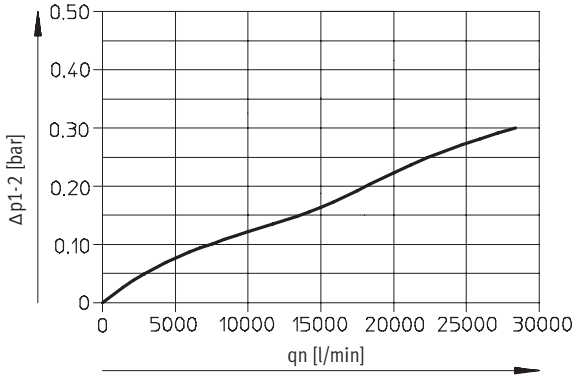
With port plate MS12-AGF
Pneumatic connection G1



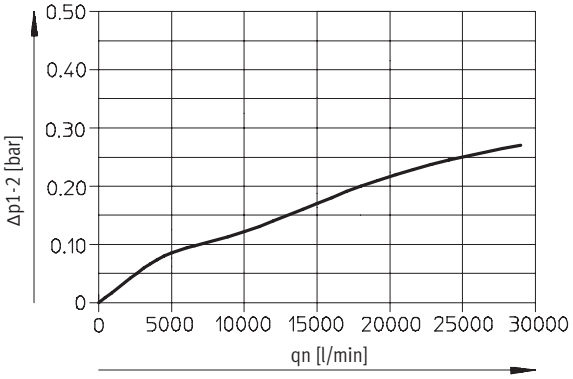
With port plate MS12-AGG
Pneumatic connection G1¼



With port plate MS12-AGH
Pneumatic connection G1½

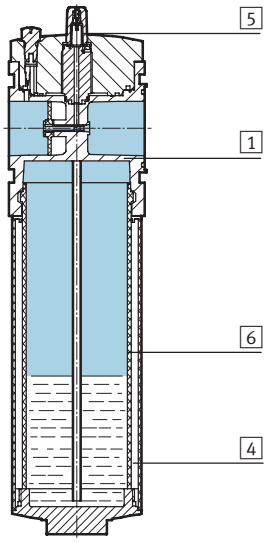


With port plate MS12-AGI
Pneumatic connection G2



Materials

Sectional view



Lubricator		
1	Body	Die-cast aluminum
4	Metal bowl	Aluminum/polyamide
5	Lubricator dome	Polycarbonate
6	Metal bowl sight glass	Polyamide
–	Seals	Nitrile rubber

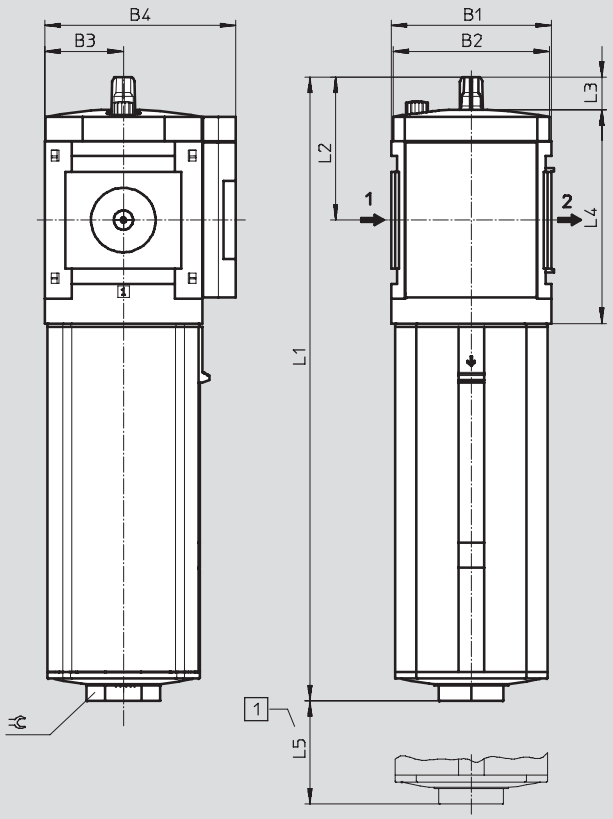
Lubricators MS12-LOE – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



1 Installation dimensions

➔ Flow direction

B1	B2	B3	B4	L1	L2	L3	L4	L5	⌀
124	122	61	148	483	111	25	166	300	50

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data			
Metal bowl			
Connection	Part No.	Type	LT
G1 ... G2[2]	**537156**	**MS12-LOE-G-U**	**1D**

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1178

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Lubricators MS12-LOE – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data												O Options			
Part No.		Series	Size		Function		Connection size		Bowl			Type of mounting		Reverse flow direction	
535041		MS	12		LOE		AGF AGG AGH AGI G		U			WP		Z	
Order example															
535041		MS	12	–	LOE	–	AGI	–	U	–		WP	–	Z	

Ordering Table

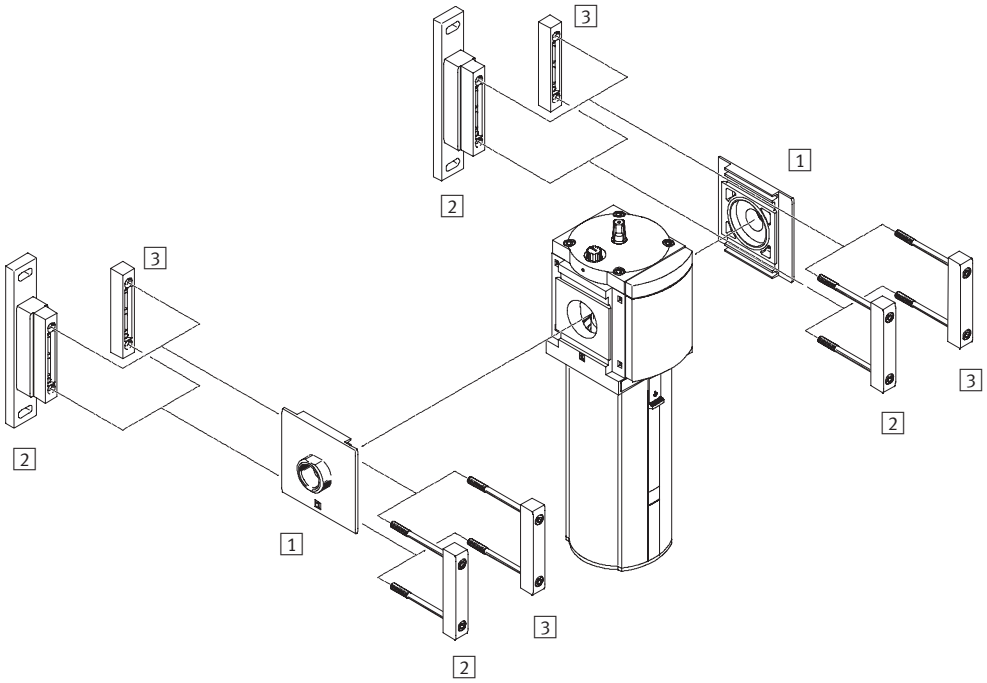
Grid dimension [mm]		124	Conditions	Code		Enter code
M	Part No.	**535041**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Function	Lubricator		**-LOE**		-LOE
	Connection size	Port plate G1 (dimensions ➔ 1178)		**-AGF**		
		Port plate G1¼ (dimensions ➔ 1178)		**-AGG**		
		Port plate G1½ (dimensions ➔ 1178)		**-AGH**		
		Port plate G2 (dimensions ➔ 1178)		**-AGI**		
		Module without connecting thread, without port plate		**-G**		
	Bowl	Metal bowl		**-U**		-U
O	Type of mounting	Mounting bracket (dimensions ➔ 1179)	1	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP** Only with port plate AGF, AGG, AGH or AGI

Transfer order code

535041	MS	12	–	LOE	–		–	U	–		–	

Mounting Attachments and Accessories

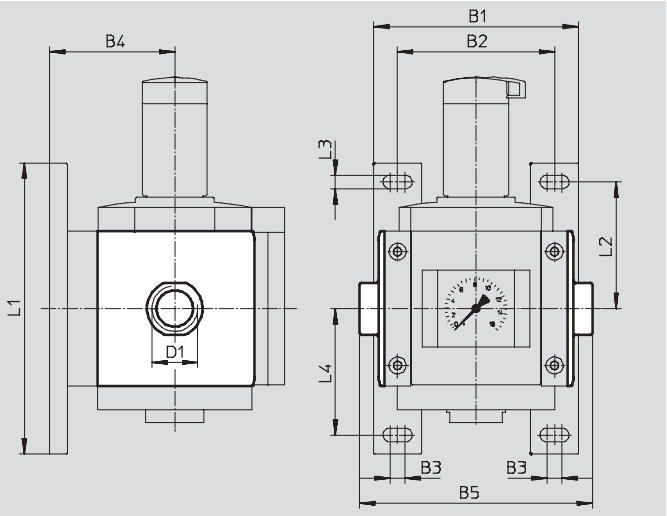


Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AG...	1178
2	Mounting bracket MS12-WP	1179
3	Body connector MS12-MV	1178

1 **Port plate MS12-AG...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [g]	Part No.	Type
162	124	12	99	184	G1	230	100	11	100	1,300	**537135**	**MS12-AGF**
				184	G1¼						**537136**	**MS12-AGG**
				184	G1½						**537137**	**MS12-AGH**
				196	G2						**537138**	**MS12-AGI**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

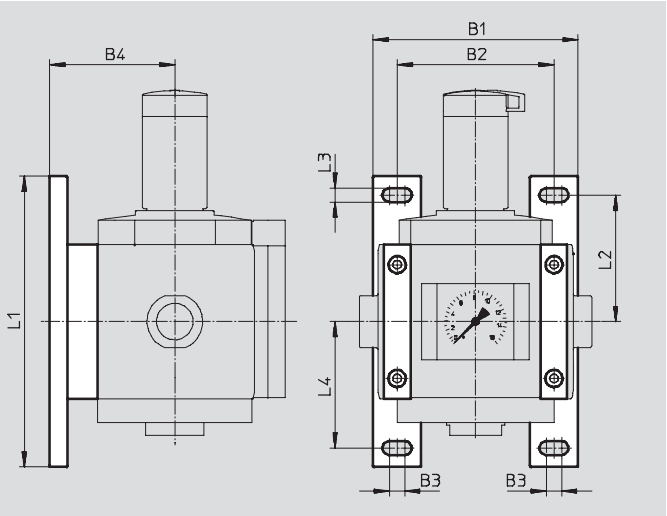
Size	Weight [g]	Part No.	Type
MS12	500	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE



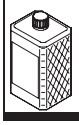


Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS12	162	124	12	99	230	100	11	100	700	**537133**	**MS12-WP**

Lubricators MS12-LOE – Metric Series

Accessories

Ordering Data – Special Oil OFSW				
	Description	Scope of delivery	Part No.	Type
	for lubricators	1 liter	**152811**	**OFSW-32**

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS12	O-rings, seal	**673746**	**MS12-LOE**

- For spare parts go to: www.festo.com/en/spare_parts_service

Lubricators MS12N-LOE – Metric Series



The proportional lubricator adds a precision adjustable quantity of oil to the compressed air stream. The pressure drop that occurs when air flows through a Venturi nozzle is used to convey oil from the container to the drip cap. From here, the oil drips into the air duct directly behind the proportional valve, where it is atomized. The oil mist component is proportional to the compressed air flow rate.

- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Supply pressure: 15 … 235 psi
- Flow rate: 706.0 … 776.6 scfm

Product Range Overview

Type	Flow rate [scfm]	Pneumatic connections		Bowl guard		Reverse flow
		Body thread	Port plate	Plastic bowl guard	Metal bowl	Flow direction from right to left
MS12N			**AG…**	**R**	**U**	**Z**
LOE	706.0 … 776.6	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	–	■	■

Features

- Proportional lubricator with precision oil metering
- Reduces wear on drive units subject to high loading
- High flow rate
- Quick and easy oil top-up even during operation (under pressure)

The following oils are recommended for Festo components:
Viscosity range to ISO 3448, ISO class VG 32
32 mm^2/s (= cSt) at 40°C

- Festo special oil OFSW-32 ➔ 1190
- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32

Contents

Technical Data ➔ 1182
Dimensional Drawings ➔ 1185
Ordering Data ➔ 1185
Accessories ➔ 1187

➔ www.festo.com/catalog/ms12n-loe

Lubricators MS12N-LOE – Inch Series

Technical Data

ISO Symbol





General Technical Data					
Pneumatic connection 1, 2[1]		1 NPT	1¼ NPT	1½ NPT	2 NPT
Supply pressure	[psi]	15 ... 235			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1188

Standard Nominal Flow Rate qnN[2] [scfm]				
Pneumatic connection 1, 2	1 NPT	1¼ NPT	1½ NPT	2 NPT
In main flow direction 1 ⇢ 2	706.0	723.7	741.3	776.6

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1188
Measured at p1 = 88 psi and Δp = 7.4 psi

Operating and Environmental Conditions		
Minimum flow for lubricator operation	[scfm]	≤14.1
Operating medium		Compressed air, air quality class 5.7.– to DIN ISO 8573-1
Max. oil capacity	[in³]	91.50
Bowl guard		Metal bowl
Ambient temperature	[°F]	32 ... 140
Temperature of medium	[°F]	32 ... 140
Storage temperature	[°F]	14 ... 140
Assembly position		Vertical ±5°
Corrosion resistance	CRC[3]	2

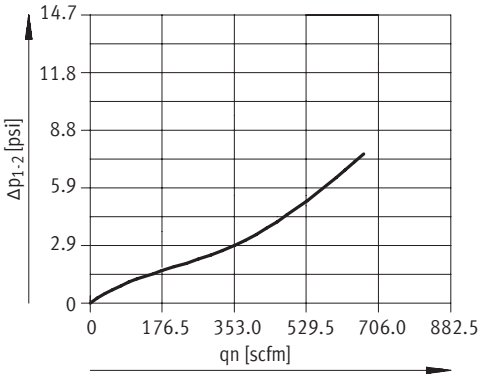
3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With metal bowl	13.00

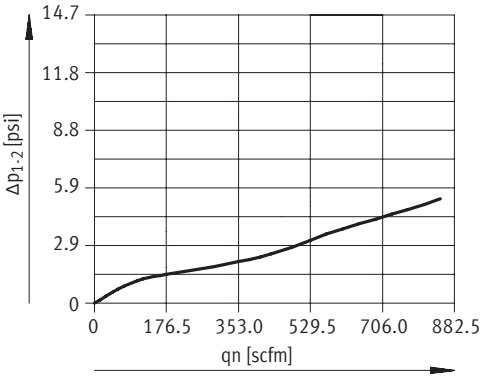
- Wearing parts kits ➔ 1190
- For spare parts go to: www.festo.com/en/spare_parts_service

Standard Flow Rate qn as a Function of the Differential Pressure Δp1-2

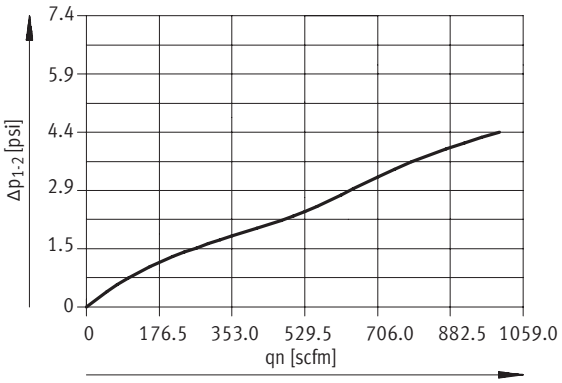
With port plate MS12-AGF
Pneumatic connection 1NPT



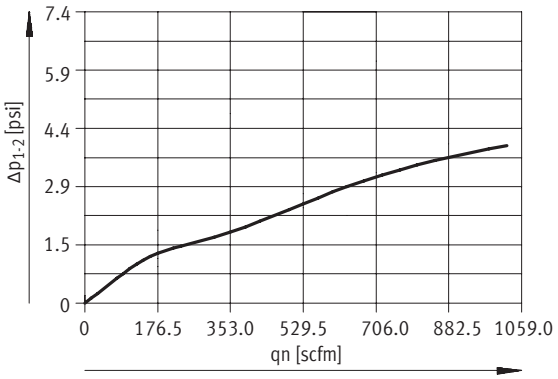
With port plate MS12-AGG
Pneumatic connection 1¼NPT



With port plate MS12-AGH
Pneumatic connection 1½NPT



With port plate MS12-AGI
Pneumatic connection 2NPT



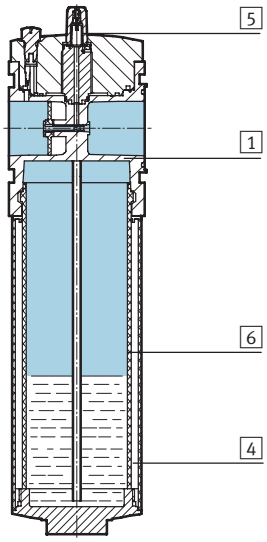
Lubricators MS12N-LOE – Inch Series

Technical Data

FESTO

Materials

Sectional view



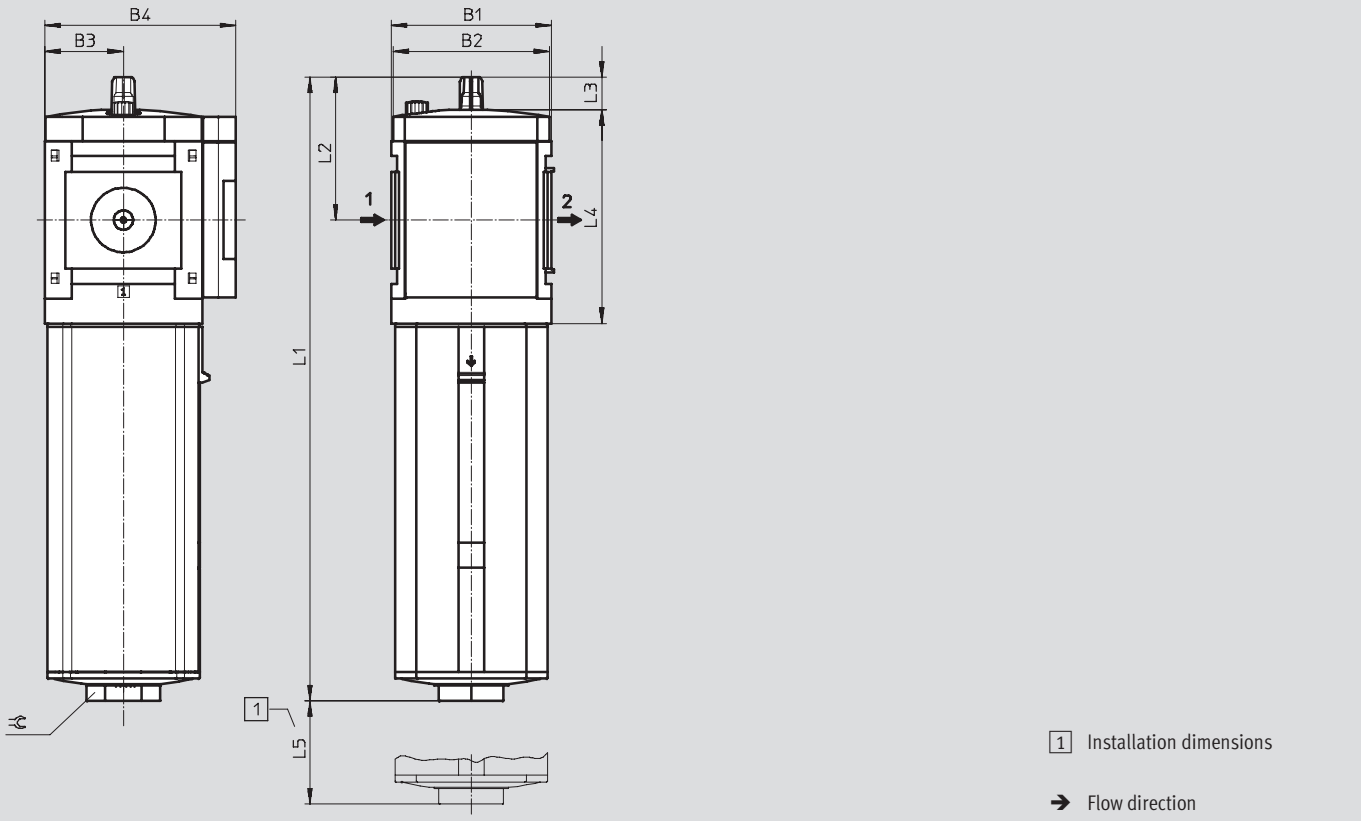
Lubricator		
1	Body	Die-cast aluminum
4	Metal bowl	Aluminum/polyamide
5	Lubricator dome	Polycarbonate
6	Metal bowl sight glass	Polyamide
–	Seals	Nitrile rubber

Lubricators MS12N-LOE – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard Download CAD Data ➔ **www.festo.com/us/cad**



B1	B2	B3	B4	L1	L2	L3	L4	L5	⌀
4.88	4.80	2.40	5.83	19.02	4.37	0.98	6.54	11.81	1.97

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Metal bowl

Connection	Part No.	Type	LT
1NPT ... 2NPT[2]	**537156**	**MS12-LOE-G-U**	**1D**

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1188

Lubricators MS12N-LOE – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options	
Part No.	Series	Size	Thread	Function	Connection size	Bowl	Type of mounting	Reverse flow direction
535044	MS	12	N	LOE	AQT AQU AQV AQW G	U	WP	Z
Order example								
535044	**MS**	**12**	**N**	**LOE**	**AQW**	**U**	**WP**	**Z**

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
M	Part No.	**535044**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Thread	NPT thread		**N**		N
	Function	Lubricator		**-LOE**		-LOE
	Connection size	Port plate 1 NPT (dimensions ➔ 1188)		**-AQT**		
		Port plate 1¼ NPT (dimensions ➔ 1188)		**-AQU**		
		Port plate 1½ NPT (dimensions ➔ 1188)		**-AQV**		
		Port plate 2 NPT (dimensions ➔ 1188)		**-AQW**		
		Module without connecting thread, without port plate		**-G**		
	Bowl	Metal bowl		**-U**		-U
O	Type of mounting	Mounting bracket (dimensions ➔ 1189)	1	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **WP** Only with port plate AQT, AQU, AQV or AQW

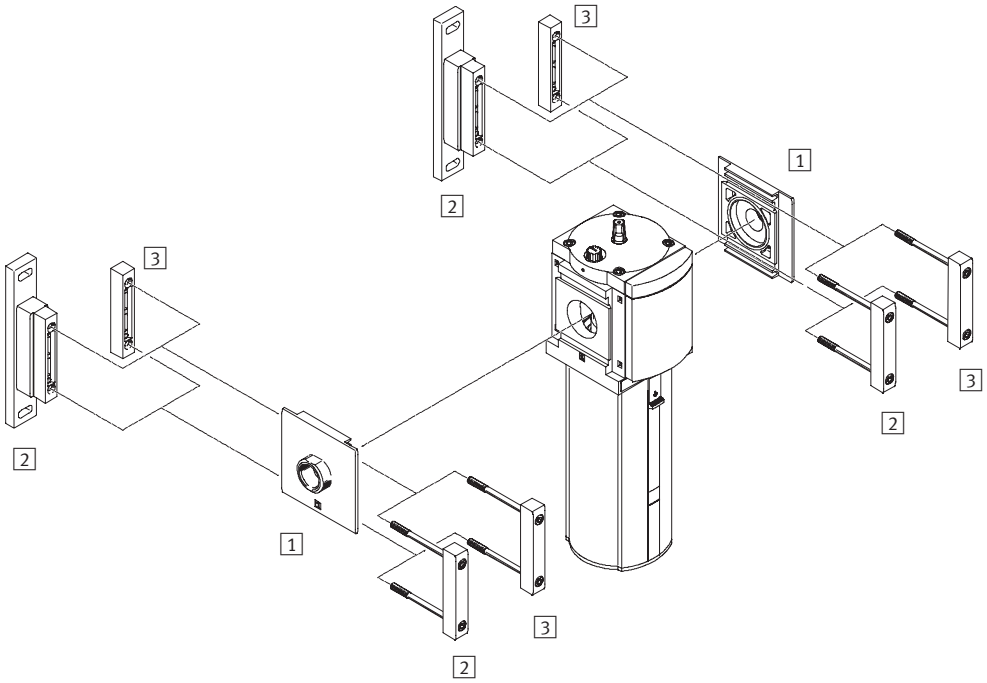
Transfer order code

535044	**MS**	**12**	**N**	– **LOE**	–		– **U**	–		–

Lubricators MS12N-LOE – Inch Series

Accessories Overview

Mounting Attachments and Accessories

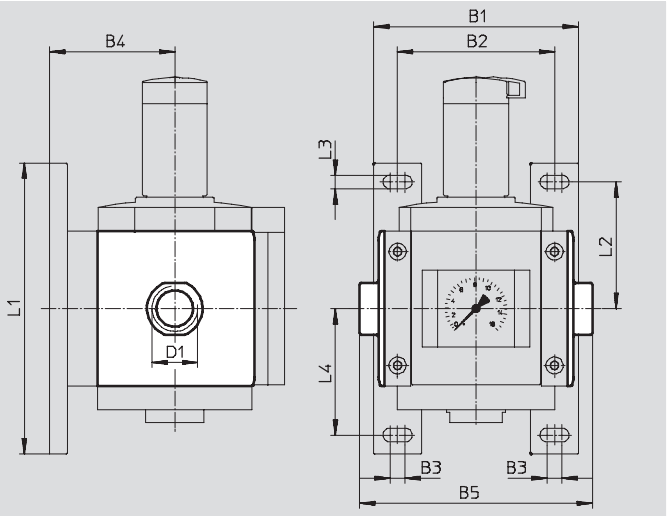


Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AQ...	1188
2	Mounting bracket MS12-WP	1189
3	Body connector MS12-MV	1188

1 **Port plate MS12-AQ...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [lb]	Part No.	Type
6.38	4.88	0.47	3.90	7.24	1 NPT	9.06	3.94	0.43	3.94	2.60	**537139**	**MS12-AQT**
				7.24	1¼ NPT						**537140**	**MS12-AQU**
				7.24	1½ NPT						**537141**	**MS12-AQV**
				7.72	2 NPT						**537142**	**MS12-AQW**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

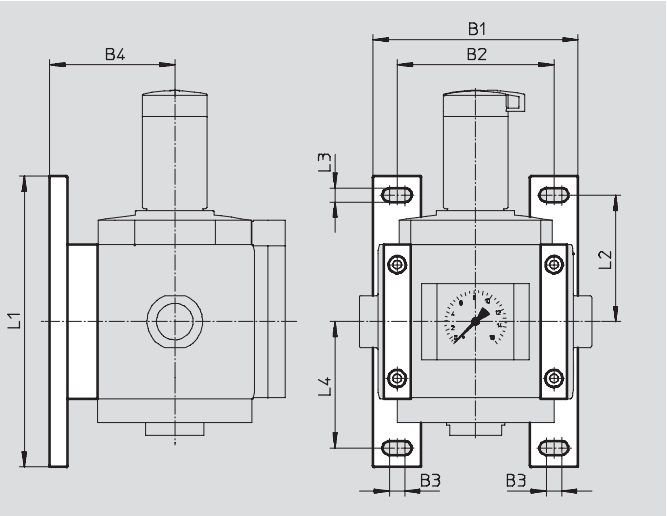
Size	Weight [lb]	Part No.	Type
MS12	1.00	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE



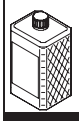


Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
MS12	6.38	4.88	0.47	3.90	9.06	3.94	0.43	3.94	1.40	**537133**	**MS12-WP**

Lubricators MS12N-LOE – Inch Series

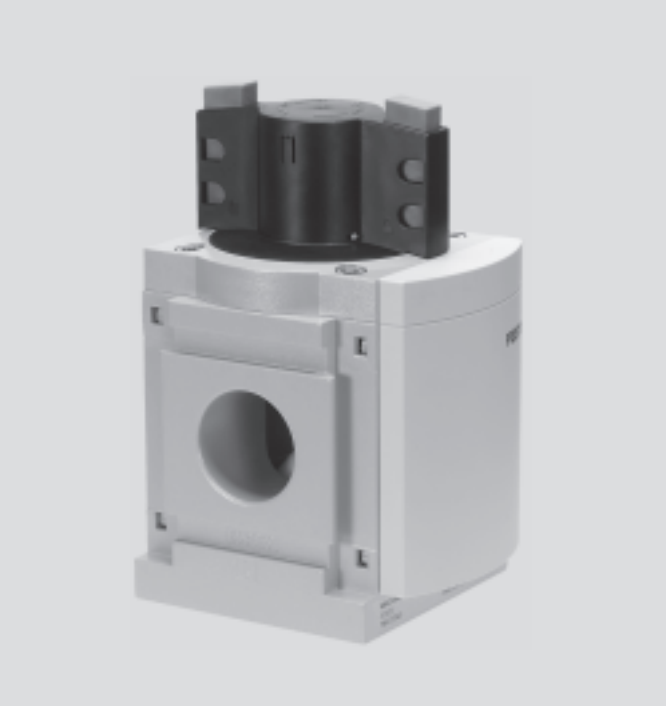
Accessories

Ordering Data – Special Oil OFSW				
	Description	Scope of delivery	Part No.	Type
	for lubricators	1 liter	**152811**	**OFSW-32**

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS12	O-rings, seal	**673746**	**MS12-LOE**

- For spare parts go to: www.festo.com/en/spare_parts_service

On-off/Soft-start Valves MS12-EM/EE/DL/DE – Metric Series



Manually operated and solenoid actuated on-off valves for pressurizing and venting pneumatic installations. Pneumatic and solenoid actuated soft-start valves for slowly pressurizing and venting pneumatic installations.

- On-off valves
  – MS12-EM, manually operated
  – MS12-EE, solenoid actuated
- Soft-start valves
  – MS12-DL, pneumatically actuated
  – MS12-DE, solenoid actuated
- Pneumatic connection: G1, G1¼, G1½, G2
- Operating pressure
  – EM: 0 … 21 bar
  – EE and DE: 3 … 16 bar
  – DL: 2 … 21 bar
- Flow rate: 25,000 … 42,000 l/min

Product Range Overview

Type	Flow rate [l/min]	Pneumatic connections		Supply voltage				Pressure indicator					Options	
		Body thread	Port plate	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G1⁄8	Adapter for pressure gauge G1⁄4	Pressure sensor with display	Silencer	Flow direction from right to left
MS12			AG…	V24	V24P	V110	V230	VS	AG	A8	A4	AD…	S	Z
EM	25,000 … 32,000	–	G1, G1¼, G1½, G2	–	–	–	–	■	■	–	■	–	■	■
EE	25,000 … 32,000	–	G1, G1¼, G1½, G2	■	■	■	■	■	■	–	■	–	■	■
DL	25,000 … 42,000	–	G1, G1¼, G1½, G2	–	–	–	–	■	■	–	■	–	–	■
DE	25,000 … 42,000	–	G1, G1¼, G1½, G2	■	■	■	■	■	■	–	■	–	–	■

Contents

MS12-EM

Technical Data	→ 1192
Dimensional Drawings	→ 1193
Ordering Data	→ 1194
Accessories	→ 1208

→ www.festo.com/catalog/ms12-em

MS12-EE

Technical Data	→ 1196
Dimensional Drawings	→ 1197
Ordering Data	→ 1198
Accessories	→ 1208

→ www.festo.com/catalog/ms12-ee

MS12-DL

Technical Data	→ 1200
Dimensional Drawings	→ 1202
Ordering Data	→ 1202
Accessories	→ 1208

→ www.festo.com/catalog/ms12-dl

MS12-DE

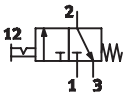
Technical Data	→ 1204
Dimensional Drawings	→ 1206
Ordering Data	→ 1206
Accessories	→ 1208

→ www.festo.com/catalog/ms12-de

On-off Valves MS12-EM – Metric Series

Technical Data

ISO Symbol



- Manually operated on-off valve for pressurizing and venting pneumatic installations
- Ducted exhaust possible via a threaded connection with silencer
- The switching position is immediately recognizable
- Actuator secured by locking the rotary knob
- Commercially available padlock can be used for security



General Technical Data					
Pneumatic connection 1, 2[1]		G1	G1¼	G1½	G2
Pneumatic connection 3		G1			
Operating pressure	[bar]	0 ... 21			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1210

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] [l/min]	
In main flow direction 1 ⇢ 2	25,000 ... 32,000
In relief direction 2 ⇢ 3	13,000

2) Measured at p1 = 6 bar and Δp = 1 bar

Operating and Environmental Conditions		
Operating medium		Compressed air
Exhaust function		Without flow control
Switching position display		Knob actuator direction = flow direction
Ambient temperature	[°C]	–10 ... +60
Temperature of medium	[°C]	–10 ... +60
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Standard	3,900
With silencer	4,000

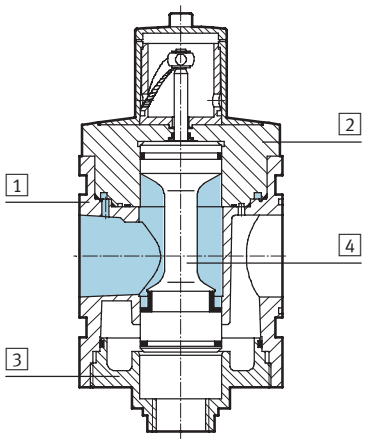
- For spare parts go to: www.festo.com/en/spare_parts_service

On-off Valves MS12-EM – Metric Series

Technical Data, Dimensional Drawings

Materials

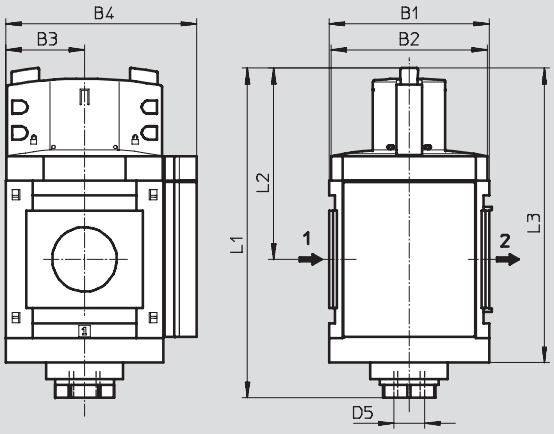
Sectional view



On-off valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve spool	Stainless steel, polyacetate, nitrile rubber
–	Springs	Steel
–	Covers/cover plates	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variant AG)

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



➔ Flow direction

B1	B2	B3	B4	L1	L2	L3	D5
124	122	61	148	255	148	228	G1

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

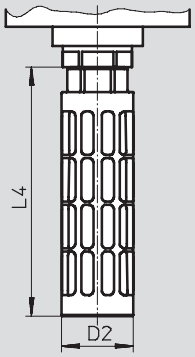
On-off Valves MS12-EM – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Silencer

Download CAD Data ➔ **www.festo.com/us/cad**



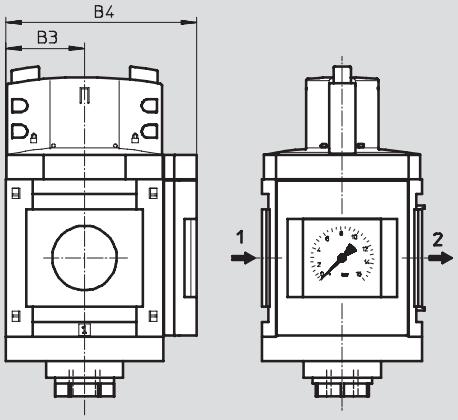
Type	D2 ∅	L4
MS12-EM-...-S	47.8	165.5

1) Dimensions are in millimeters, unless otherwise noted.

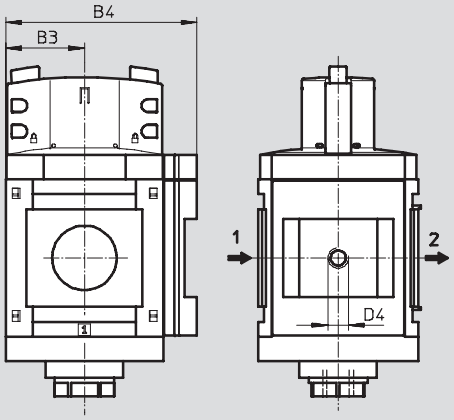
Dimensions[1] – Pressure Gauges/Adapters

Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



Adapter A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B3	B4	D4
MS12-EM-...-AG	61	148	–
MS12-EM-...-A4	61	148	G¼

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
G1 ... G2[2]	**541495**	**MS12-EM-G**[3]	**Q**

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1210
3) Free of copper and PTFE

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

On-off Valves MS12-EM – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data					O Options				
Part No.	Series	Size	Function	Connection size	Silencer	Pressure gauge/adapter	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
535031	MS	12	EM	AGF AGG AGH AGI G	S	AG A4	PSI MPA	WP	Z
Order example									
535031	MS	12	EM	G	S	AG	PSI		Z

Ordering Table						
Grid dimension [mm]		124	Conditions	Code		Enter code
M	Part No.	535031				
	Series	Standard		MS		MS
	Size	12		12		12
	Function	On-off valve, manual		-EM		-EM
	Connection size	Port plate G1 (dimensions ➔ 1210)		-AGF		
		Port plate G1¼ (dimensions ➔ 1210)		-AGG		
		Port plate G1½ (dimensions ➔ 1210)		-AGH		
		Port plate G2 (dimensions ➔ 1210)		-AGI		
		Module without connecting thread, without connecting plate		-G		
O	Silencer	Silencer		-S		
	Pressure gauge/adapter	MS pressure gauge, bar		-AG		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		-A4		
	Alternative pressure gauge scale	psi	1	-PSI		
		MPa	1	-MPA		
	Type of mounting	Mounting bracket (dimensions ➔ 1211)	2	-WP		
	Reverse flow direction	Flow direction from right to left		-Z		

1 **PSI, MPA** Only with pressure gauge AG

2 **WP** Only with port plate AGF, AGG, AGH or AGI

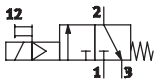
Transfer order code

535031	MS	12	–	EM	–		–		–		–		–		–	

On-off Valves MS12-EE – Metric Series

Technical Data

ISO Symbol



- Solenoid actuated on-off valve for pressurizing and venting pneumatic installations
- Solenoid coil without plug socket, three voltage ranges available.
- Ducted exhaust possible via a threaded connection with silencer
- Non-detenting manual override (except variant V24P)



General Technical Data					
Pneumatic connection 1, 2[1]		G1	G1¼	G1½	G2
Pneumatic connection 3		G1			
Operating pressure	[bar]	3 ... 16			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1210

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] [l/min]	
In main flow direction 1 ⇢ 2	25,000 ... 32,000
In exhaust direction 2 ⇢ 3	8,900

2) Measured at p1 = 6 bar and Δp = 1 bar

Operating and Environmental Conditions		
Operating medium		Compressed air
Coil characteristics	V24	24 V DC
	V110	110 V AC
	V230	230 V AC
Ambient temperature	[°C]	−10 ... +50
Temperature of medium	[°C]	−10 ... +50
Assembly position		Any
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Standard	3,800
With silencer	3,900

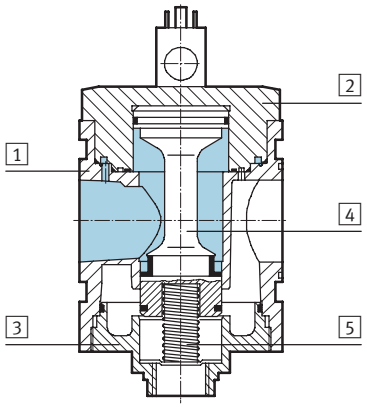
- For spare parts go to: www.festo.com/en/spare_parts_service

On-off Valves MS12-EE – Metric Series

Technical Data, Dimensional Drawings

Materials

Sectional view

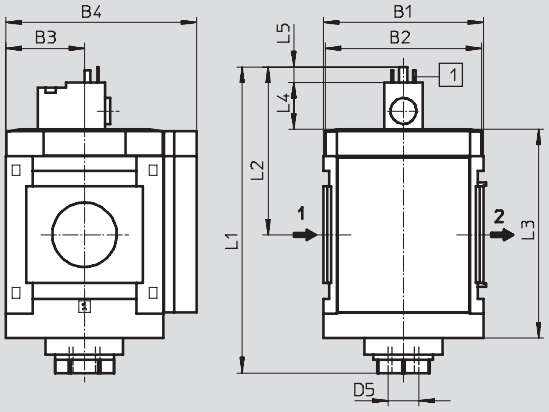


On-off valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve spool	Stainless steel, polyacetate, nitrile rubber
5	Springs	Steel
–	Covers/cover plates	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variant AG)

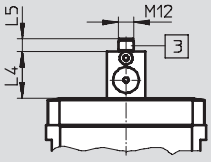
Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**

MS12-EE-...-V24/V110/V230



MS12-EE-...-V24P



1 Plug connection to DIN EN 175 301-803

3 Plug connection M12, 4-pin to DESINA

➔ Flow direction

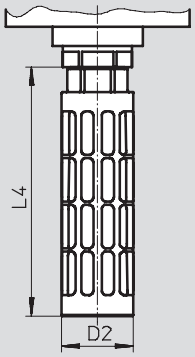
Type	B1	B2	B3	B4	L1	L2	L3	L4	L5	D5
MS12-EE-...-V24/V110/V230	124	122	61	148	237	130	162	35.7	12.3	G1
MS12-EE-...-V24P								36	10	

1) Dimensions are in millimeters, unless otherwise noted.

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions[1] – Silencer

Download CAD Data ➔ **www.festo.com/us/cad**



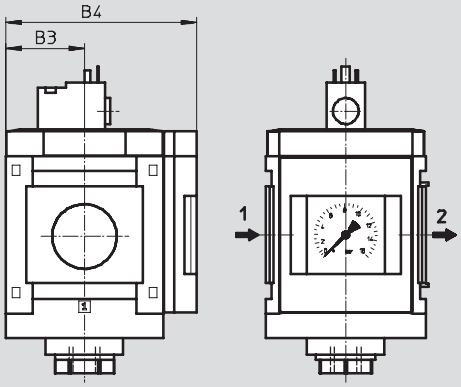
Type	D2 ∅	L4
MS12-EE-...-S	47.8	165.5

1) Dimensions are in millimeters, unless otherwise noted.

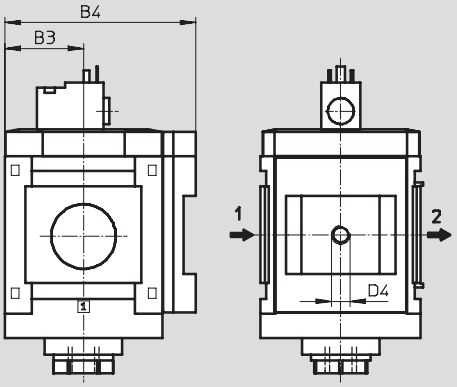
Dimensions[1] – Pressure Gauges/Adapters

Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



Adapter A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B3	B4	D4
MS12-EE-...-AG	61	148	–
MS12-EE-...-A4	61	148	G¼

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Connection	Supply voltage 24 V DC		
	Part No.	Type	LT
G1 ... G2[2]	**541496**	**MS12-EE-G-V24**[3]	**Q**

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1210
3) Free of copper and PTFE

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

On-off Valves MS12-EE – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data																					
Part No.	**Series**	**Size**		**Function**		**Connection size**		**Supply voltage**		**Silencer**		**Pressure gauge/adapter**		**Alternative pressure gauge scale**		**Type of mounting**		**Reverse flow direction**
535032	MS	12		EE		AGF AGG AGH AGI G		V24 V24P V110 V230		S		AG A4		PSI MPA		WP		Z
Order example																					
535032	**MS**	**12**	–	**EE**	–	**AGI**	–	**V110**	–	**S**	–	**AG**	–	**MPA**	–	**WP**	–	

Ordering Table						
Grid dimension [mm]		124	Conditions	Code		Enter code
M	Part No.	**535032**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Function	On-off valve, electrical		**-EE**		-EE
	Connection size	Port plate G1 (dimensions ➔ 1210)		**-AGF**		
		Port plate G1¼ (dimensions ➔ 1210)		**-AGG**		
		Port plate G1½ (dimensions ➔ 1210)		**-AGH**		
		Port plate G2 (dimensions ➔ 1210)		**-AGI**		
		Module without connecting thread, without port plate		**G**		
	Supply voltage	24 V DC (connection pattern to EN 175301), 18 bar		**-V24**		
		24 V DC plug (connection pattern M12 to DESINA), 18 bar		**-V24P**		
		110 V AC (connection pattern to EN 175301), 18 bar		**-V110**		
		230 V AC (connection pattern to EN 175301), 18 bar		**-V230**		
O	Silencer	Silencer		**-S**		
	Pressure gauge/adapter	MS pressure gauge, bar		**-AG**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
	Alternative pressure gauge scale	psi	1	**-PSI**		
		MPa	1	**-MPA**		
	Type of mounting	Mounting bracket (dimensions ➔ 1211)	2	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **PSI, MPA** Only with pressure gauge AG

2 **WP** Only with port plate AGF, AGG, AGH or AGI

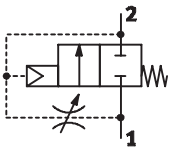
Transfer order code

535032	**MS**	**12**	–	**EE**	–		–		–		–		–		–		–				

Soft-start Valves MS12-DL – Metric Series

Technical Data

ISO Symbol



- Pneumatically actuated soft-start valve for slowly pressurizing and venting pneumatic installations (for use with on-off valves EM and EE)
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. The main seat opens when the switch-through pressure is reached.
- When the valve is exhausted, the main seat remains open until the switch-through pressure is reached. The rest of the exhaust procedure is performed using the restrictor.
- Pressure switching approx. 50% of supply pressure



- The cylinders advance slowly and reliably into the initial position, sudden and erratic movements are avoided.
- Adjustable switching time delay

General Technical Data					
Pneumatic connection 1, 2[1]		G1	G1¼	G1½	G2
Operating pressure	[bar]	2 ... 21			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1210

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] [l/min]	
In main flow direction 1 ⇢ 2	25,000 ... 42,000
In exhaust direction 2 ⇢ 1	25,000 ... 42,000

2) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Operating and Environmental Conditions		
Operating medium		Compressed air
Exhaust function		Flow control
Direction of flow		Non-reversible
Ambient temperature	[°C]	–10 ... +60
Temperature of medium	[°C]	–10 ... +60
Assembly position		Any
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Soft-start valve	3,600

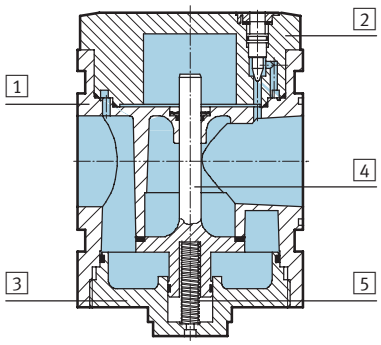
- For spare parts go to: www.festo.com/en/spare_parts_service

Soft-start Valves MS12-DL – Metric Series

Technical Data

Materials

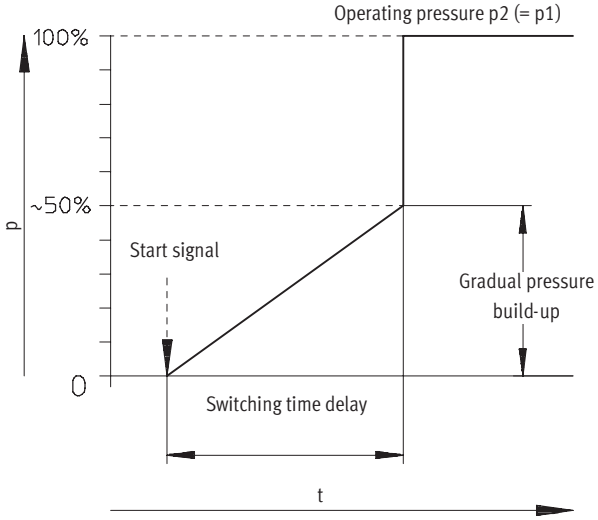
Sectional view



Soft-start valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve stem	Aluminum, nitrile rubber
5	Springs	Steel
–	Covers/cover plates	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variant AG)

Switching Point

Pressure p as a function of time t



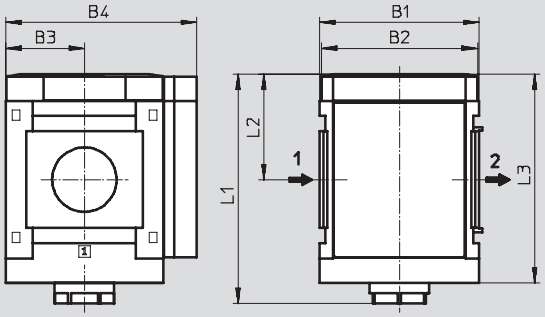
Soft-start Valves MS12-DL – Metric Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



➔ Flow direction

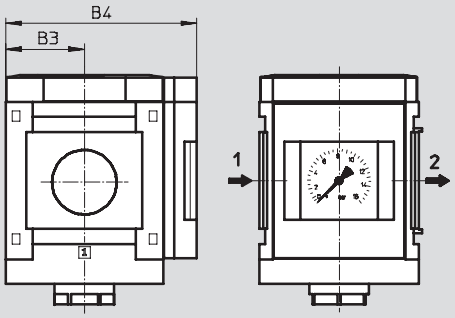
B1	B2	B3	B4	L1	L2	L3
124	122	61	148	178	82	162

1) Dimensions are in millimeters, unless otherwise noted.

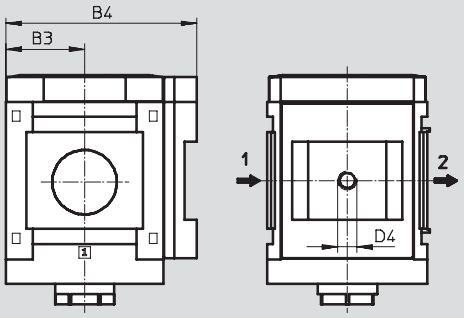
Dimensions[1] – Pressure Gauges/Adapters

Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



Adapter A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B3	B4	D4
MS12-DL-...-AG	61	148	–
MS12-DL-...-A4	61	148	G¼

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
G1 ... G2[2]	**541497**	**MS12-DL-G[3]**	**Q**

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1210
3) Free of copper and PTFE

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Soft-start Valves MS12-DL – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data					O Options			
Part No.	Series	Size	Function	Connection size	Pressure gauge/adapter	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
535033	MS	12	DL	AGF AGG AGH AGI G	AG A4	PSI MPA	WP	Z
Order example								
535033	MS	12	DL	AGI	AG	MPA	WP	Z

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
M	Part No.	**535033**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Function	Soft-start valve, pneumatic		**-DL**		-DL
	Connection size	Port plate G1 (dimensions ➔ 1210)		**-AGF**		
		Port plate G1¼ (dimensions ➔ 1210)		**-AGG**		
		Port plate G1½ (dimensions ➔ 1210)		**-AGH**		
		Port plate G2 (dimensions ➔ 1210)		**-AGI**		
		Module without connecting thread, without port plate		**-G**		
O	Pressure gauge/adapter	MS pressure gauge, bar		**-AG**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
	Alternative pressure gauge scale	psi	1	**-PSI**		
		MPa	1	**-MPA**		
	Type of mounting	Mounting bracket (dimensions ➔ 1211)	2	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **PSI, MPA** Only with pressure gauge AG

2 **WP** Only with port plate AGF, AGG, AGH or AGI

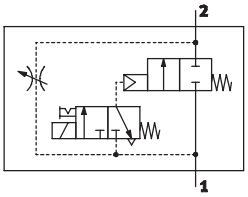
Transfer order code

535033	MS	12	–	DL	–		–		–		–		–	

Soft-start Valves MS12-DE – Metric Series

Technical Data

ISO Symbol



- Solenoid actuated soft-start valve for slowly pressurizing and venting pneumatic installations
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. Only the air flow from the restrictor is available when the solenoid valve is not actuated. The main seat is only opened by energizing the solenoid valve.
- When the solenoid valve is switched off, the main seat is closed and only the air flow from the flow control valve is available.
- The solenoid valve should remain switched on in order to vent a system as this increases the flow rate from 2 and 1 and reduces the exhaust time.



- The cylinders advance slowly and reliably into the initial position, sudden and erratic movements are avoided.
- Switch-through pressure can be exactly controlled using a solenoid valve
- Adjustable switching time delay
- Non-detenting manual override (except variant V24P)
- Solenoid coil without plug socket, three voltage ranges available

General Technical Data					
Pneumatic connection 1, 2[1]		G1	G1¼	G1½	G2
Operating pressure	[bar]	3 ... 16			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1210

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] [l/min]	
In main flow direction 1 ⇢ 2	25,000 ... 42,000
In relief direction 2 ⇢ 1[3]	25,000 ... 42,000

2) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar
3) For energised solenoid valve

Operating and Environmental Conditions		
Operating medium		Compressed air
Coil characteristics	V24	24 V DC
	V110	110 V AC
	V230	230 V AC
Exhaust function		Flow control
Direction of flow		Non-reversible
Ambient temperature	[°C]	–10 ... +50
Temperature of medium	[°C]	–10 ... +50
Assembly position		Any
Corrosion resistance	CRC[4]	2

4) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Soft-start Valves MS12-DE – Metric Series

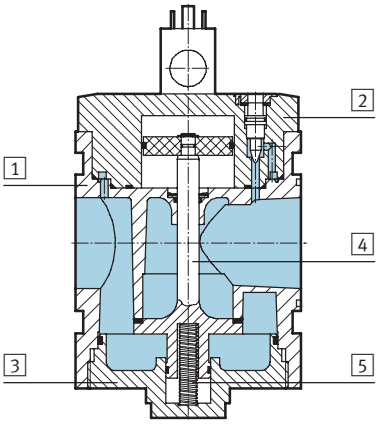
Technical Data

Weights [g]	
Soft-start valve	3,800

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



Soft-start valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve stem	Aluminum, nitrile rubber
5	Springs	Steel
–	Covers/cover plates	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variant AG)

Soft-start Valves MS12-DE – Metric Series

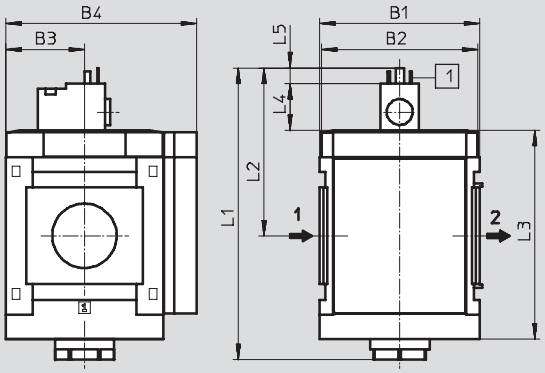
Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

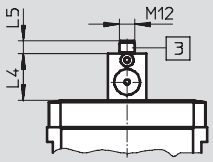
Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**

MS12-DE-...-V24/V110/V230



MS12-DE-...-V24P



1 Plug connection to DIN EN 175 301-803

3 Plug connection M12, 4-pin to Desina

➔ Flow direction

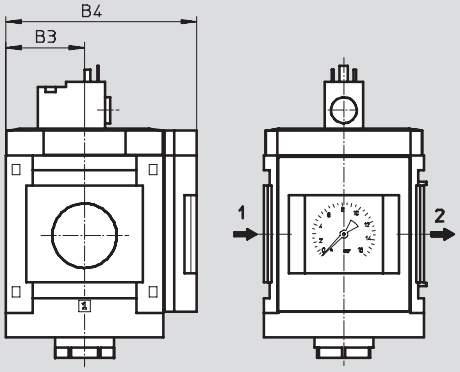
Type	B1	B2	B3	B4	L1	L2	L3	L4	L5
MS12-DE-...-V24/V110/V230	124	122	61	148	226	130	162	35.7	12.3
MS12-DE-...-V24P								36	10

1) Dimensions are in millimeters, unless otherwise noted.

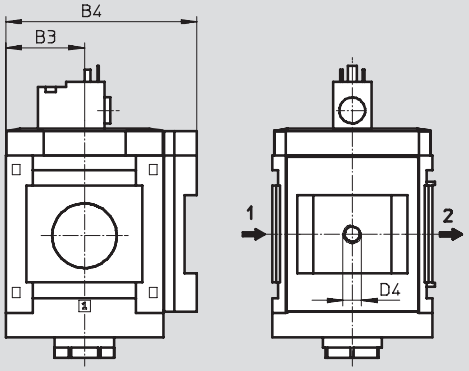
Dimensions[1] – Pressure Gauges/Adapters

Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [bar]



Adapter A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B3	B4	D4
MS12-DE-...-AG	61	148	–
MS12-DE-...-A4	61	148	G¼

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Connection	Supply voltage 24 V DC		
	Part No.	Type	LT
G1 ... G2[2]	**541498**	**MS12-DE-G-V24**[3]	**Q**

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1210

3) Free of copper and PTFE

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Soft-start Valves MS12-DE – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options			
Part No.	Series	Size	Function	Connection size	Supply voltage		Pressure gauge/adapter	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
535034	MS	12	DE	AGF AGG AGH AGI G	V24 V24P V110 V230		AG A4	PSI MPA	WP	Z
Order example										
535034	**MS**	**12**	**DE**	**AGH**	**V230**		**A4**		**WP**	**Z**

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
M	Part No.	**535034**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Function	Soft-start valve, electrical		**-DE**		-DE
	Connection size	Port plate G1 (dimensions ➔ 1210)		**-AGF**		
		Port plate G1¼ (dimensions ➔ 1210)		**-AGG**		
		Port plate G1½ (dimensions ➔ 1210)		**-AGH**		
		Port plate G2 (dimensions ➔ 1210)		**-AGI**		
		Module without connecting thread, without port plate		**-G**		
	Supply voltage	24 V DC (connection pattern to EN 175301), 18 bar		**-V24**		
		24 V DC plug (connection pattern M12 to DESINA), 16 bar		**-V24P**		
		110 V AC (connection pattern to EN 175301), 18 bar		**-V110**		
		230 V AC (connection pattern to EN 175301), 18 bar		**-V230**		
O	Pressure gauge/adapter	MS pressure gauge, bar		**-AG**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
	Alternative pressure gauge scale	psi	1	**-PSI**		
		MPa	1	**-MPA**		
	Type of mounting	Mounting bracket (dimensions ➔ 1211)	2	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **PSI, MPA** Only with pressure gauge AG

2 **WP** Only with port plate AGF, AGG, AGH or AGI

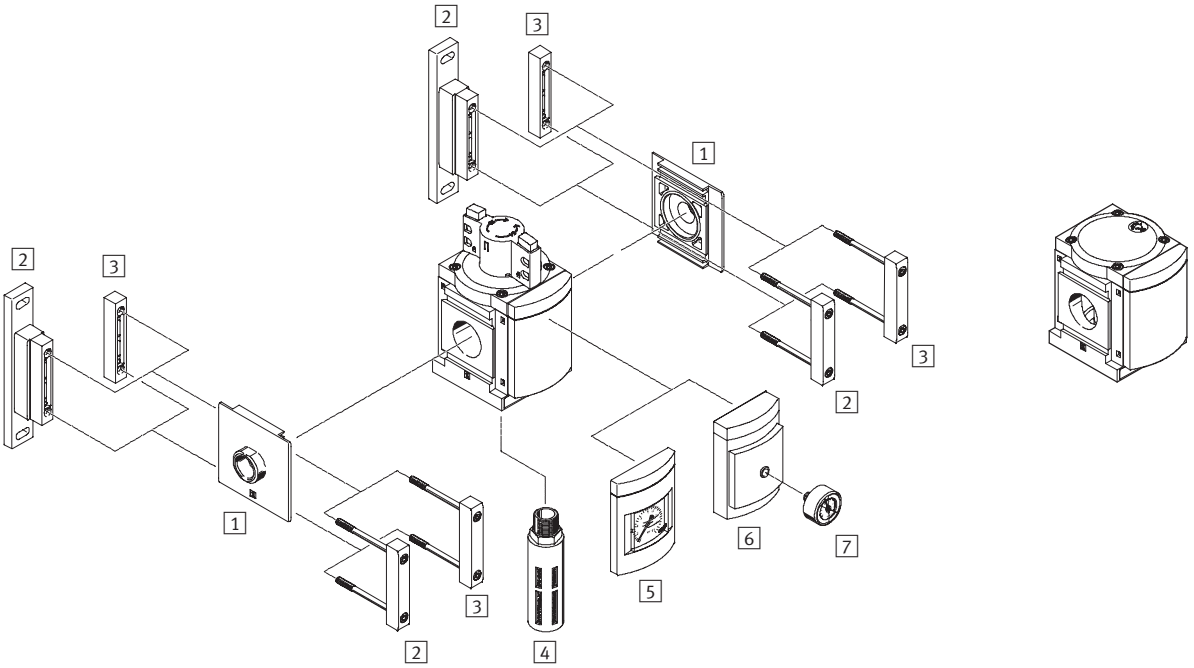
Transfer order code

535034	**MS**	**12**	–	**DE**	–		–		–		–		–		–	

On-off/Soft-start Valves MS12-EM/DL – Metric Series

Accessories Overview

Mounting Attachments and Accessories	
On-off Valve EM – manually actuated	Soft-start Valve DL – pneumatically actuated



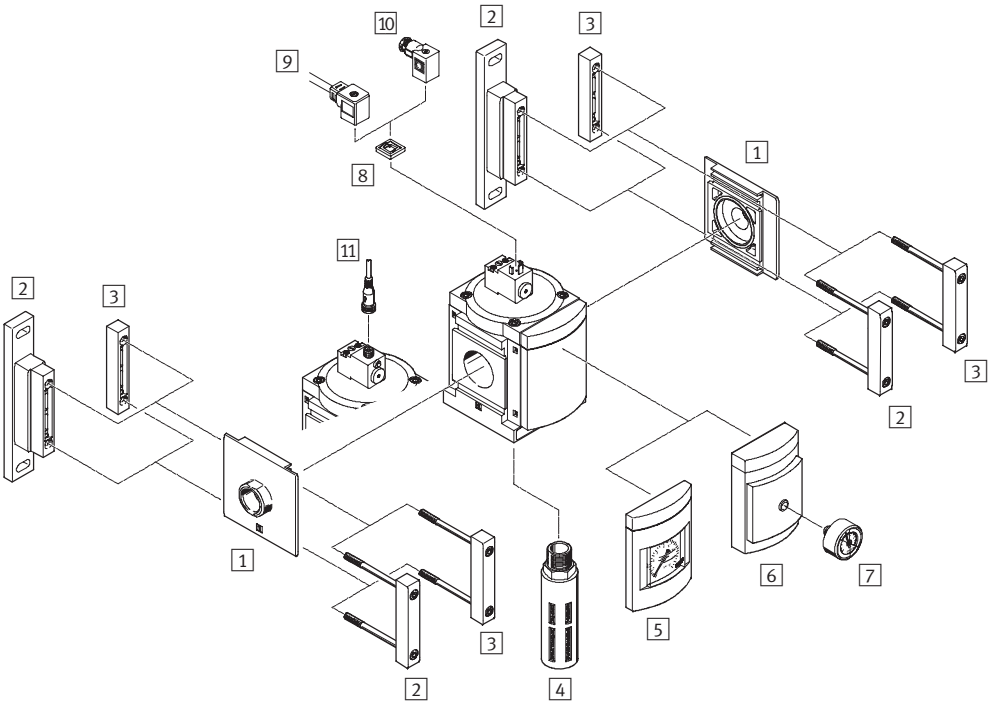
Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AG...	1210
2	Mounting bracket MS12-WP	1211
3	Body connector MS12-MV	1210
4	Silencer (with EM) U	1212
5	MS pressure gauge AG	EM 1195 DL 1203
6	Adapter for EN pressure gauge ¼ A4	EM 1195 DL 1203
7	Pressure gauge MA	1212

On-off/Soft-start Valves MS12-EE/DE – Metric Series

Accessories Overview

Mounting Attachments and Accessories

On-off/Soft-start Valve EE/DE – solenoid actuated

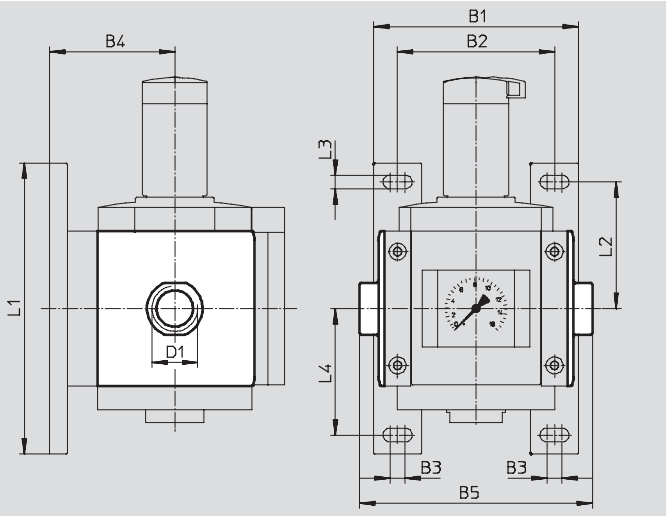


Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AG...	1210
2	Mounting bracket MS12-WP	1211
3	Body connector MS12-MV	1210
4	Silencer (with EE) U	1212
5	MS pressure gauge AG	EE 1199 DE 1207
6	Adapter for EN pressure gauge ¼ A4	EE 1199 DE 1207
7	Pressure gauge MA	1212
8	Illuminating seal MC-LD	1212
9	Plug socket with cable KMC	1212
10	Plug socket MSSD-C	1212
11	Plug socket with cable SIM-M12-4...	1212

1 **Port plate MS12-AG...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [g]	Part No.	Type
162	124	12	99	184	G1	230	100	11	100	1,300	**537135**	**MS12-AGF**
				184	G1¼						**537136**	**MS12-AGG**
				184	G1½						**537137**	**MS12-AGH**
				196	G2						**537138**	**MS12-AGI**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

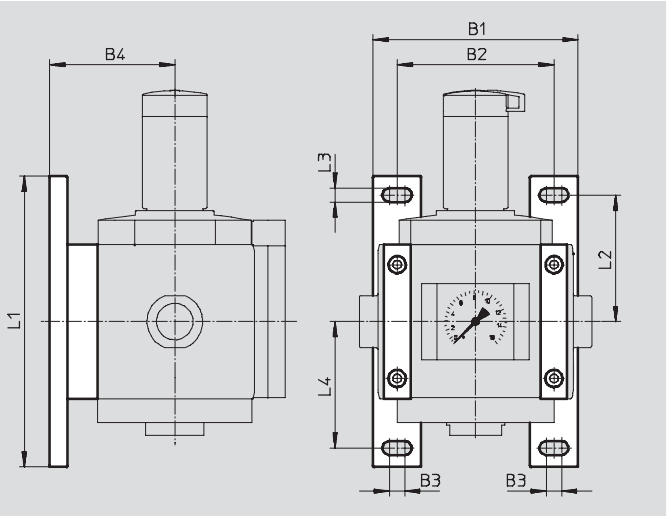
Size	Weight [g]	Part No.	Type
MS12	500	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





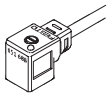
Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS12	162	124	12	99	230	100	11	100	700	**537133**	**MS12-WP**

10 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for MS12-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	**34583**	**MSSD-C**
			4-pin	Insulation displacement technology	**192748**	**MSSD-C-S-M16**

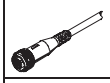
9 Ordering Data – Plug Socket with Cable KMC — Technical data ➔ www.festo.com/catalog/kmc

	Description	Operating voltage range	Switching status display	Cable length [m]	Part No.	Type
	for MS12-EE/DE	24 V DC	LED	2.5	**30931**	**KMC-1-24DC-2,5-LED**
		24 V DC	LED	5	**30933**	**KMC-1-24DC-5-LED**
		24 V DC	LED	10	**193459**	**KMC-1-24-10-LED**
		230 V AC	–	2.5	**30932**	**KMC-1-230AC-2,5**
		230 V AC	–	5	**30934**	**KMC-1-230AC-5**

8 Ordering Data – Illuminating Seal MC-LD — Technical data ➔ www.festo.com/catalog/mc-ld

	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMC and plug socket MSSD-C	12 ... 24 V DC	**19145**	**MC-LD-12-24DC**
		230 V DC/AC ±10%	**19146**	**MC-LD-230AC**

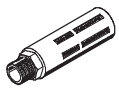
11 Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 4-pin	5	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	5	**164258**	**SIM-M12-4WD-5-PU**

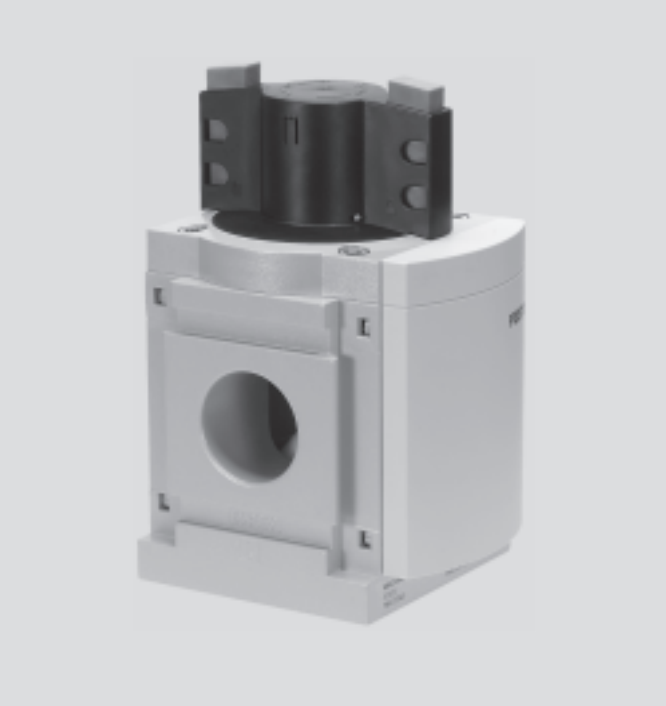
7 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

4 Ordering Data – Silencer U — Technical data ➔ www.festo.com/catalog/u

	Description	Pneumatic connection	Part No.	Type
	for MS12-EM/EE	G1	**151990**	**U-1-B**

On-off/Soft-start Valves MS12N-EM/EE/DL/DE – Inch Series



Manually operated and solenoid actuated on-off valves for pressurizing and venting pneumatic installations. Pneumatic and solenoid actuated soft-start valves for slowly pressurizing and venting pneumatic installations.

- On-off valves
  – MS12N-EM, manually operated
  – MS12N-EE, solenoid actuated
- Soft-start valves
  – MS12N-DL, pneumatically actuated
  – MS12N-DE, solenoid actuated
- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Operating pressure
  – EM: 0 … 309 psi
  – EE and DE: 44 … 235 psi
  – DL: 29 … 309 psi
- Flow rate: 882.5 … 1,482.6 scfm

Product Range Overview

Type	Flow rate [scfm]	Pneumatic connections		Supply voltage				Pressure indicator					Options	
		Body thread	Port plate	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge ⅛ NPT	Adapter for pressure gauge ¼ NPT	Pressure sensor with display	Silencer	Flow direction from right to left
MS12N			AG...	V24	V24P	V110	V230	VS	AG	A8	A4	AD...	S	Z
EM	882.5 … 1,129.6	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	–	–	–	–	■	■	–	■	–	■	■
EE	882.5 … 1,129.6	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	■	■	■	■	■	■	–	■	–	■	■
DL	882.5 … 1,482.6	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	–	–	–	–	■	■	–	■	–	–	■
DE	882.5 … 1,482.6	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	■	■	■	■	■	■	–	■	–	–	■

Contents

MS12N-EM

Technical Data	→ 1214
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Ordering Data	→ 1216
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→ www.festo.com/catalog/ms12n-em

MS12N-EE

Technical Data	→ 1218
Dimensional Drawings	→ 1219
Ordering Data	→ 1220
Accessories	→ 1230

→ www.festo.com/catalog/ms12n-ee

MS12N-DL

Technical Data	→ 1222
Dimensional Drawings	→ 1224
Ordering Data	→ 1224
Accessories	→ 1230

→ www.festo.com/catalog/ms12n-dl

MS12N-DE

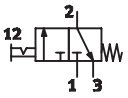
Technical Data	→ 1226
Dimensional Drawings	→ 1228
Ordering Data	→ 1228
Accessories	→ 1230

→ www.festo.com/catalog/ms12n-de

On-off Valves MS12N-EM – Inch Series

Technical Data

ISO Symbol



- Manually operated on-off valve for pressurizing and venting pneumatic installations
- Ducted exhaust possible via a threaded connection with silencer
- The switching position is immediately recognizable
- Actuator secured by locking the rotary knob
- Commercially available padlock can be used for security



General Technical Data					
Pneumatic connection 1, 2[1]		1 NPT	1¼ NPT	1½ NPT	2 NPT
Pneumatic connection 3		1 NPT			
Operating pressure	[psi]	0 ... 309			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1232

Standard Nominal Flow Rate qnN[2] [scfm]	
In main flow direction 1 ⇢ 2	882.5 ... 1,129.6
In relief direction 2 ⇢ 3	458.9

2) Measured at p1 = 88 psi and Δp = 15 psi

Operating and Environmental Conditions		
Operating medium		Compressed air
Exhaust function		Without flow control
Switching position display		Knob actuator direction = flow direction
Ambient temperature	[°F]	14 ... 140
Temperature of medium	[°F]	14 ... 140
Assembly position		Any
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Standard	7.80
With silencer	8.00

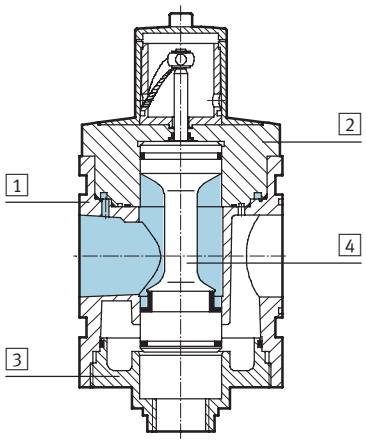
- For spare parts go to: www.festo.com/en/spare_parts_service

On-off Valves MS12N-EM – Inch Series

Technical Data, Dimensional Drawings

Materials

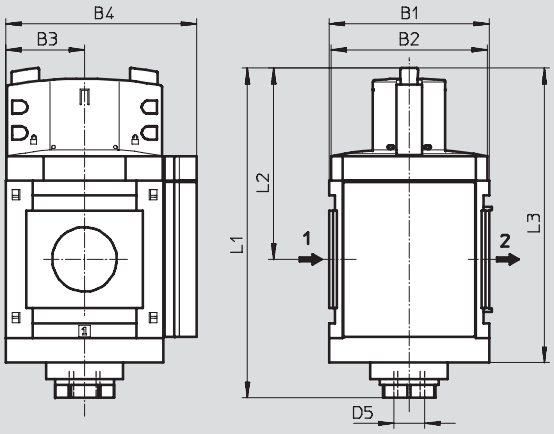
Sectional view



On-off valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve spool	Stainless steel, polyacetate, nitrile rubber
–	Springs	Steel
–	Covers/cover plates	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variant AG)

Dimensions – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



➔ Flow direction

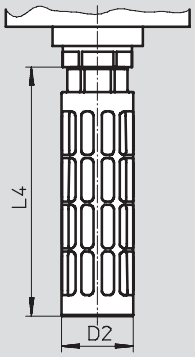
B1	B2	B3	B4	L1	L2	L3	D5
4.88	4.80	2.40	5.83	10.04	5.83	8.98	G1

On-off Valves MS12-EM – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Silencer Download CAD Data ➔ **www.festo.com/us/cad**

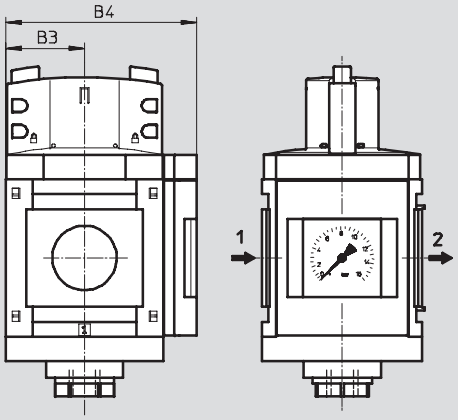


Type	D2 ∅	L4
MS12-EM-...-S	1.88	6.52

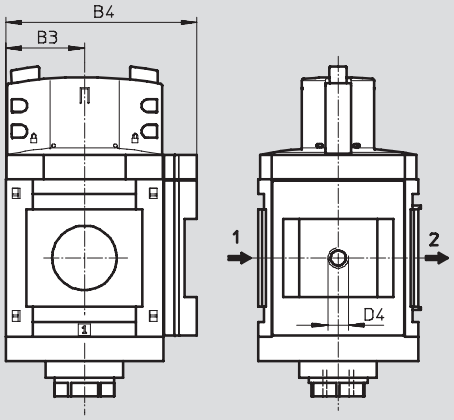
1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Pressure Gauges/Adapters Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



Adapter A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B3	B4	D4
MS12-EM-...-AG	2.40	5.83	–
MS12-EM-...-A4	2.40	5.83	G¼

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
1 NPT ... 2 NPT[2]	**541495**	**MS12-EM-G[3]**	**Q**

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1232
3) Free of copper and PTFE

On-off Valves MS12N-EM – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data						O Options				
Part No.	Series	Size	Thread	Function	Connection size	Silencer	Pressure gauge/adapter	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
535036	MS	12	N	EM	AQT AQU AQV AQW G	S	AG A4	BAR MPA	WP	Z
Order example										
535036	MS	12	N	EM	G	S	AG	BAR		Z

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
M	Part No.	**535036**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Thread	NPT thread		**N**		N
	Function	On-off valve, manual		**-EM**		-EM
	Connection size	Port plate 1 NPT (dimensions ➔ 1232)		**-AQT**		
		Port plate 1¼ NPT (dimensions ➔ 1232)		**-AQU**		
		Port plate 1½ NPT (dimensions ➔ 1232)		**-AQV**		
		Port plate 2 NPT (dimensions ➔ 1232)		**-AQW**		
		Module without connecting thread, without connecting plate		**-G**		
O	Silencer	Silencer		**-S**		
	Pressure gauge/adapter	MS pressure gauge, psi		**-AG**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
	Alternative pressure gauge scale	bar	1	**-BAR**		
		MPa	1	**-MPA**		
	Type of mounting	Mounting bracket (dimensions ➔ 1233)	2	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

1 **BAR, MPA** Only with pressure gauge AG

2 **WP** Only with port plate AQT, AQU, AQV or AQW

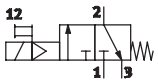
Transfer order code

535036	MS	12	N	–	EM	–		–		–		–		–		–	

On-off Valves MS12N-EE – Inch Series

Technical Data

ISO Symbol



- Solenoid actuated on-off valve for pressurizing and venting pneumatic installations
- Solenoid coil without plug socket, three voltage ranges available.
- Ducted exhaust possible via a threaded connection with silencer
- Non-detenting manual override (except variant V24P)



General Technical Data					
Pneumatic connection 1, 2[1]		1 NPT	1¼ NPT	1½ NPT	2 NPT
Pneumatic connection 3		1 NPT			
Operating pressure	[psi]	44 ... 235			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1232

Standard Nominal Flow Rate qnN[2] [scfm]	
In main flow direction 1 ⇢ 2	882.5 ... 1,129.6
In relief direction 2 ⇢ 3	314.2

2) Measured at p1 = 88 psi and Δp = 15 psi

Operating and Environmental Conditions		
Operating medium		Compressed air
Coil characteristics	V24	24 V DC
	V110	110 V AC
	V230	230 V AC
Ambient temperature	[°F]	14 ... 122
Temperature of medium	[°F]	14 ... 122
Assembly position		Any
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Standard	7.60
With silencer	7.80

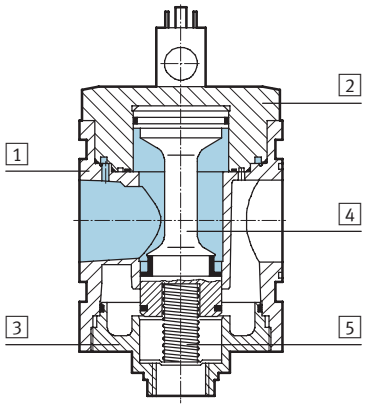
- For spare parts go to: www.festo.com/en/spare_parts_service

On-off Valves MS12N-EE – Inch Series

Technical Data, Dimensional Drawings

Materials

Sectional view

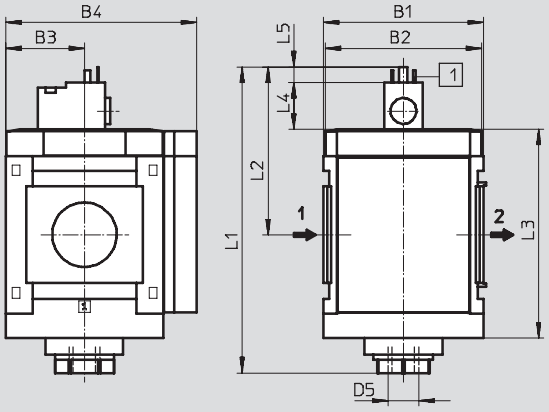


On-off valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve spool	Stainless steel, polyacetate, nitrile rubber
5	Springs	Steel
–	Covers/cover plates	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variant AG)

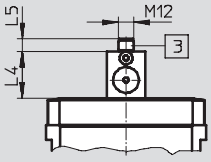
Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**

MS12-EE-...-V24/V110/V230



MS12-EE-...-V24P



1 Plug connection to DIN EN 175 301-803

3 Plug connection M12, 4-pin to DESINA

➔ Flow direction

Type	B1	B2	B3	B4	L1	L2	L3	L4	L5	D5
MS12-EE-...-V24/V110/V230	4.88	4.80	2.40	5.83	9.33	5.12	6.38	1.41	0.48	G1
MS12-EE-...-V24P								1.42	0.39	

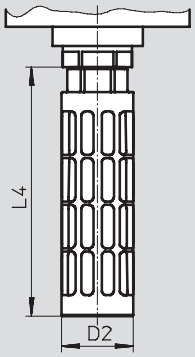
1) Dimensions are in inches, unless otherwise noted.

On-off Valves MS12N-EE – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Silencer Download CAD Data ➔ **www.festo.com/us/cad**

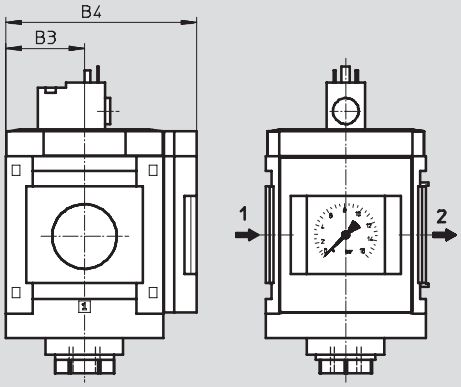


Type	D2 ∅	L4
MS12-EE-...-S	1.88	6.52

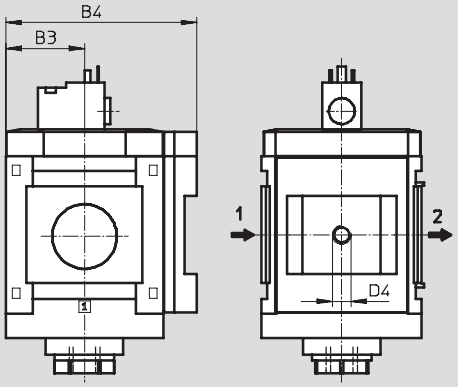
1) Dimensions are in inches, unless otherwise noted.

Dimensions[1] – Pressure Gauges/Adapters Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



Adapter A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B3	B4	D4
MS12-EE-...-AG	2.40	5.83	–
MS12-EE-...-A4	2.40	5.83	G¼

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Supply voltage 24 V DC		
	Part No.	Type	LT
1 NPT ... 2 NPT[2]	**541496**	**MS12-EE-G-V24[3]**	**Q**

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1232
3) Free of copper and PTFE

On-off Valves MS12N-EE – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options				
Part No.	Series	Size	Thread	Function	Connection size	Supply voltage	Silencer	Pressure gauge/adapter	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
535037	MS	12	N	EE	AQT AQU AQV AQW G	V24 V24P V110 V230	S	AG A4	BAR MPA	WP	Z
Order example											
535037	**MS**	**12**	**N**	**EE**	**AQW**	**V110**	**S**	**AG**	**MPA**	**WP**	

Ordering Table

Grid dimension [mm]		124	Conditions	Code	Enter code
M	Part No.	**535037**			
	Series	Standard		**MS**	MS
	Size	12		**12**	12
	Function	On-off valve, electrical		**-EE**	-EE
	Thread	NPT thread		**N**	N
	Connection size	Port plate 1 NPT (dimensions ➔ 1232)		**-AQT**	
		Port plate 1¼ NPT (dimensions ➔ 1232)		**-AQU**	
		Port plate 1½ NPT (dimensions ➔ 1232)		**-AQV**	
		Port plate 2 NPT (dimensions ➔ 1232)		**-AQW**	
		Module without connecting thread, without port plate		**G**	
	Supply voltage	24 V DC (connection pattern to EN 175301), 265 psi		**-V24**	
		24 V DC plug (connection pattern M12 to DESINA), 235 psi		**-V24P**	
		110 V AC (connection pattern to EN 175301), 265 psi		**-V110**	
		230 V AC (connection pattern to EN 175301), 265 psi		**-V230**	
O	Silencer	Silencer		**-S**	
	Pressure gauge/adapter	MS pressure gauge, bar		**-AG**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
	Alternative pressure gauge scale	bar	1	**-BAR**	
		MPa	1	**-MPA**	
	Type of mounting	Mounting bracket (dimensions ➔ 1233)	2	**-WP**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **BAR, MPA** Only with pressure gauge AG

2 **WP** Only with port plate AQT, AQU, AQV or AQW

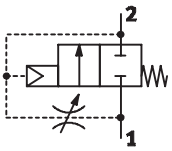
Transfer order code

535037	**MS**	**12**	**N**	–	**EE**	–		–		–		–		–		–		–	

Soft-start Valves MS12N-DL – Inch Series

Technical Data

ISO Symbol



- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. The main seat opens when the switch-through pressure is reached.
- When the valve is exhausted, the main seat remains open until the switch-through pressure is reached. The rest of the exhaust procedure is performed using the restrictor.
- Pneumatically actuated soft-start valve for slowly pressurizing and venting pneumatic installations (for use with on-off valves EM and EE)
- Adjustable switching time delay



- The cylinders advance slowly and reliably into the initial position, sudden and erratic movements are avoided.
- Pressure switching approx. 50% of supply pressure

General Technical Data					
Pneumatic connection 1, 2[1]		1 NPT	1¼ NPT	1½ NPT	2 NPT
Operating pressure	[psi]	29 ... 309			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1232

Standard Nominal Flow Rate qnN[2] [scfm]	
In main flow direction 1 ⇢ 2	882.5 ... 1,482.6
In relief direction 2 ⇢ 1	882.5 ... 1,482.6

2) Measured at p1 = 88 psi and p2 = 74 psi, Δp = 15 psi

Operating and Environmental Conditions		
Operating medium		Compressed air
Exhaust function		Flow control
Direction of flow		Non-reversible
Ambient temperature	[°F]	14 ... 140
Temperature of medium	[°F]	14 ... 140
Assembly position		Any
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Soft-start valve	7.20

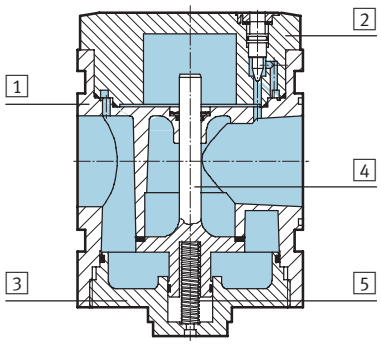
- For spare parts go to: www.festo.com/en/spare_parts_service

Soft-start Valves MS12N-DL – Inch Series

Technical Data

Materials

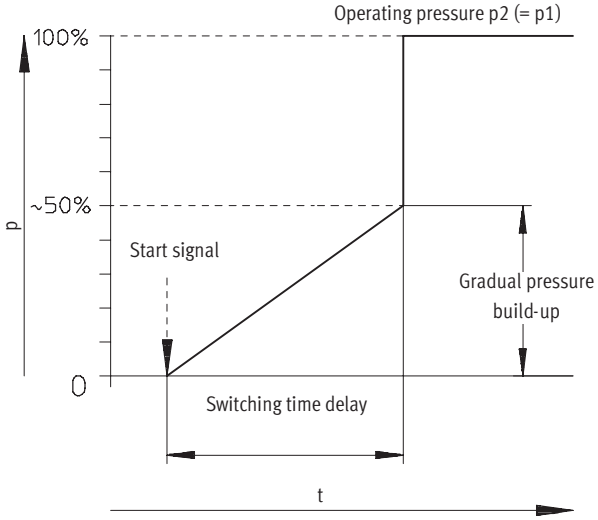
Sectional view



Soft-start valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve stem	Aluminum, nitrile rubber
5	Springs	Steel
–	Covers/cover plates	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variant AG)

Switching Point

Pressure p as a function of time t



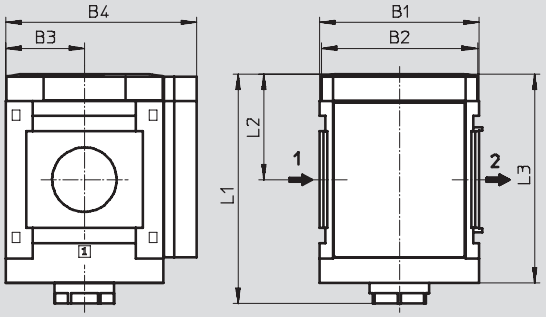
Soft-start Valves MS12N-DL – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



➔ Flow direction

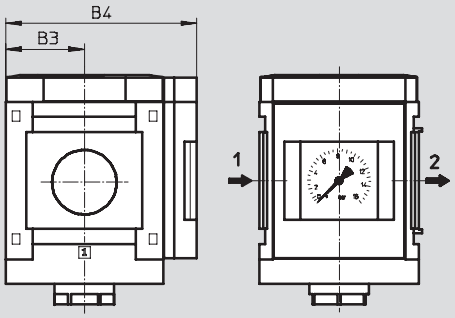
B1	B2	B3	B4	L1	L2	L3
4.88	4.80	2.40	5.83	7.01	3.23	6.38

1) Dimensions are in inches, unless otherwise noted.

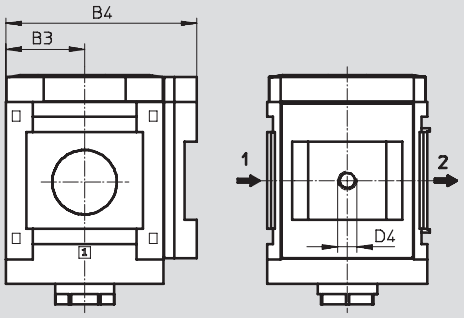
Dimensions[1] – Pressure Gauges/Adapters

Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



Adapter A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B3	B4	D4
MS12-DL-...-AG	2.40	5.83	–
MS12-DL-...-A4	2.40	5.83	G¼

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
1 NPT ... 2 NPT[2]	**541497**	**MS12-DL-G[3]**	**Q**

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1232
3) Free of copper and PTFE

Soft-start Valves MS12N-DL – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data						O Options			
Part No.	Series	Size	Thread	Function	Connection size	Pressure gauge/adapter	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
535038	MS	12	N	DL	AQT AQU AQV AQW G	AG A4	BAR MPA	WP	Z
Order example									
535038	**MS**	**12**	**N**	**DL**	**AQW**	**AG**	**MPA**	**WP**	**Z**

Ordering Table

Grid dimension [mm]		124	Conditions	Code	Enter code
M	Part No.	**535038**			
	Series	Standard		**MS**	MS
	Size	12		**12**	12
	Thread	NPT thread		**N**	N
	Function	Soft-start valve, pneumatic		**-DL**	-DL
	Connection size	Port plate 1 NPT (dimensions ➔ 1232)		**-AQT**	
		Port plate 1¼ NPT (dimensions ➔ 1232)		**-AQU**	
		Port plate 1½ NPT (dimensions ➔ 1232)		**-AQV**	
		Port plate 2 NPT (dimensions ➔ 1232)		**-AQW**	
		Module without connecting thread, without port plate		**-G**	
O	Pressure gauge/adapter	MS pressure gauge, psi		**-AG**	
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**	
	Alternative pressure gauge scale	bar	1	**-BAR**	
		MPa	1	**-MPA**	
	Type of mounting	Mounting bracket (dimensions ➔ 1233)	2	**-WP**	
	Reverse flow direction	Flow direction from right to left		**-Z**	

1 **BAR, MPA** Only with pressure gauge AG

2 **WP** Only with port plate AQT, AQU, AQV or AQW

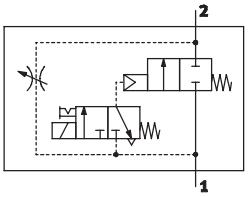
Transfer order code

535038	**MS**	**12**	**N**	–	**DL**	–		–		–		–		–

Soft-start Valves MS12N-DE – Inch Series

Technical Data

ISO Symbol



- Solenoid actuated soft-start valve for slowly pressurizing and venting pneumatic installations
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. Only the air flow via the restrictor is available when the solenoid valve is not actuated. The main seat is only opened by energizing the solenoid valve.
- When the solenoid valve is switched off, the main seat is closed and only the air flow via the flow control valve is available.
- The solenoid valve should remain switched on in order to vent a system as this increases the flow rate from 2 to 1 and reduces the exhaust time.



- The cylinders advance slowly and reliably into the initial position, sudden and erratic movements are avoided.
- Switch-through pressure can be exactly controlled using a solenoid valve
- Adjustable switching time delay
- Non-detenting manual override (except variant V24P)
- Solenoid coil without plug socket, three voltage ranges available.

General Technical Data					
Pneumatic connection 1, 2[1]		1 NPT	1¼ NPT	1½ NPT	2 NPT
Operating pressure	[psi]	44 ... 235			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1232

Standard Nominal Flow Rate qnN[2] [scfm]	
In main flow direction 1 ⇢ 2	882.5 ... 1,482.6
In relief direction 2 ⇢ 1[3]	882.5 ... 1,482.6

2) Measured at p1 = 88 psi and p2 = 74 psi Δp = 15 psi
3) For energized solenoid valve

Operating and Environmental Conditions		
Operating medium		Compressed air
Coil characteristics	V24	24 V DC
	V110	110 V AC
	V230	230 V AC
Exhaust function		Flow control
Direction of flow		Non-reversible
Ambient temperature	[°F]	14 ... 122
Temperature of medium	[°F]	14 ... 122
Assembly position		Any
Corrosion resistance	CRC[4]	2

4) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Soft-start Valves MS12N-DE – Inch Series

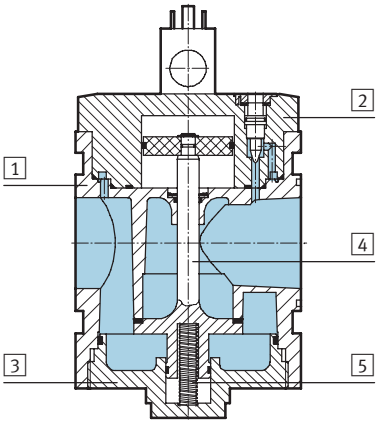
Technical Data

Weights [lb]	
Soft-start valve	7.60

- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



Soft-start valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve stem	Aluminum, nitrile rubber
5	Springs	Steel
–	Covers/cover plates	Polyamide
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variant AG)

Soft-start Valves MS12N-DE – Inch Series

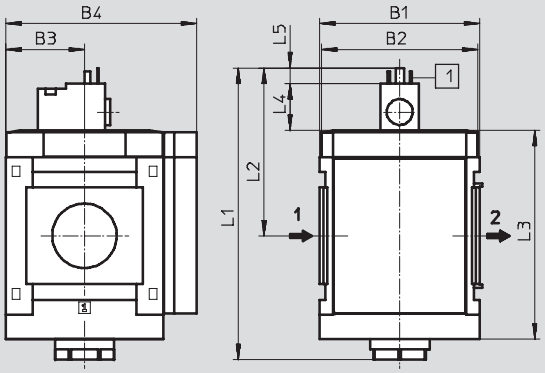
Dimensional Drawings, Ordering Data – Pre-configured Products

FESTO

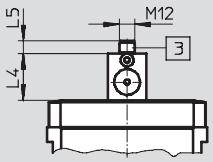
Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**

MS12-DE-...-V24/V110/V230



MS12-DE-...-V24P



1 Plug connection to DIN EN 175 301-803

3 Plug connection M12, 4-pin to DESINA

➔ Flow direction

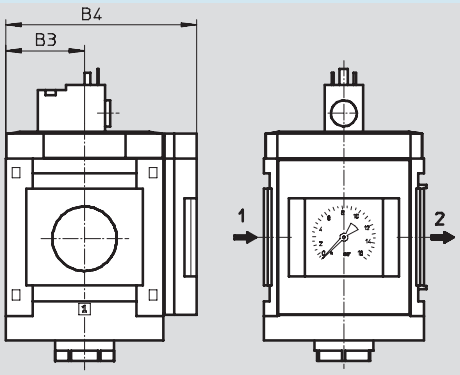
Type	B1	B2	B3	B4	L1	L2	L3	L4	L5
MS12-DE-...-V24/V110/V230	4.88	4.80	2.40	5.83	8.90	5.12	6.38	1.41	0.48
MS12-DE-...-V24P								1.42	0.39

1) Dimensions are in inches, unless otherwise noted.

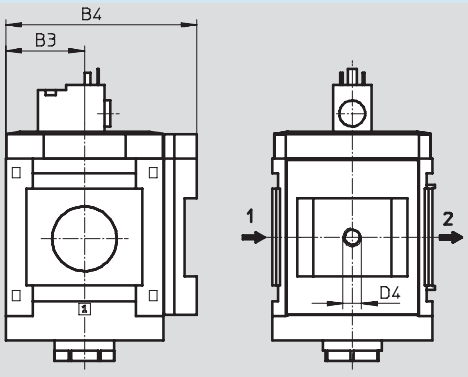
Dimensions[1] – Pressure Gauges/Adapters

Download CAD Data ➔ **www.festo.com/us/cad**

Integrated MS pressure gauge AG, display unit [psi]



Adapter A4 for EN pressure gauge ¼, without pressure gauge



➔ Flow direction

Type	B3	B4	D4
MS12-DE-...-AG	2.40	5.83	–
MS12-DE-...-A4	2.40	5.83	G¼

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Supply voltage 24 V DC		
	Part No.	Type	LT
1 NPT ... 2 NPT[2]	**541498**	**MS12-DE-G-V24[3]**	**Q**

LT = Lead time **1D** typically ships same day/next day **1W** typically ships within 1 week **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1232

3) Free of copper and PTFE

Soft-start Valves MS12N-DE – Inch Series

Ordering Data – Configurable Products

FESTO

[M] Mandatory Data								[O] Options			
Part No.	Series	Size	Thread	Function	Connection size	Supply voltage		Pressure gauge/adapter	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
535039	MS	12	N	DE	AQT AQU AQV AQW G	V24 V24P V110 V230		AG A4	BAR MPA	WP	Z
Order example											
535039	MS	12	N	– DE	– AQV	– V230	–	A4	–	– WP	– Z

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
[M]	Part No.	**535039**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Thread	NPT thread		**N**		N
	Function	Soft-start valve, electrical		**-DE**		-DE
	Connection size	Port plate 1 NPT (dimensions ➔ 1232)		**-AQT**		
		Port plate 1¼ NPT (dimensions ➔ 1232)		**-AQU**		
		Port plate 1½ NPT (dimensions ➔ 1232)		**-AQV**		
		Port plate 2 NPT (dimensions ➔ 1232)		**-AQW**		
		Module without connecting thread, without port plate		**-G**		
	Supply voltage	24 V DC (connection pattern to EN 175301), 265 psi		**-V24**		
		24 V DC plug (connection pattern M12 to DESINA), 235 psi		**-V24P**		
		110 V AC (connection pattern to EN 175301), 265 psi		**-V110**		
		230 V AC (connection pattern to EN 175301), 265 psi		**-V230**		
[O]	Pressure gauge/adapter	MS pressure gauge, psi		**-AG**		
		Adapter plate for EN pressure gauge ¼, without pressure gauge		**-A4**		
	Alternative pressure gauge scale	bar	[1]	**-BAR**		
		MPa	[1]	**-MPA**		
	Type of mounting	Mounting bracket (dimensions ➔ 1233)	[2]	**-WP**		
	Reverse flow direction	Flow direction from right to left		**-Z**		

[1] **BAR, MPA** Only with pressure gauge AG

[2] **WP** Only with port plate AQT, AQU, AQV or AQW

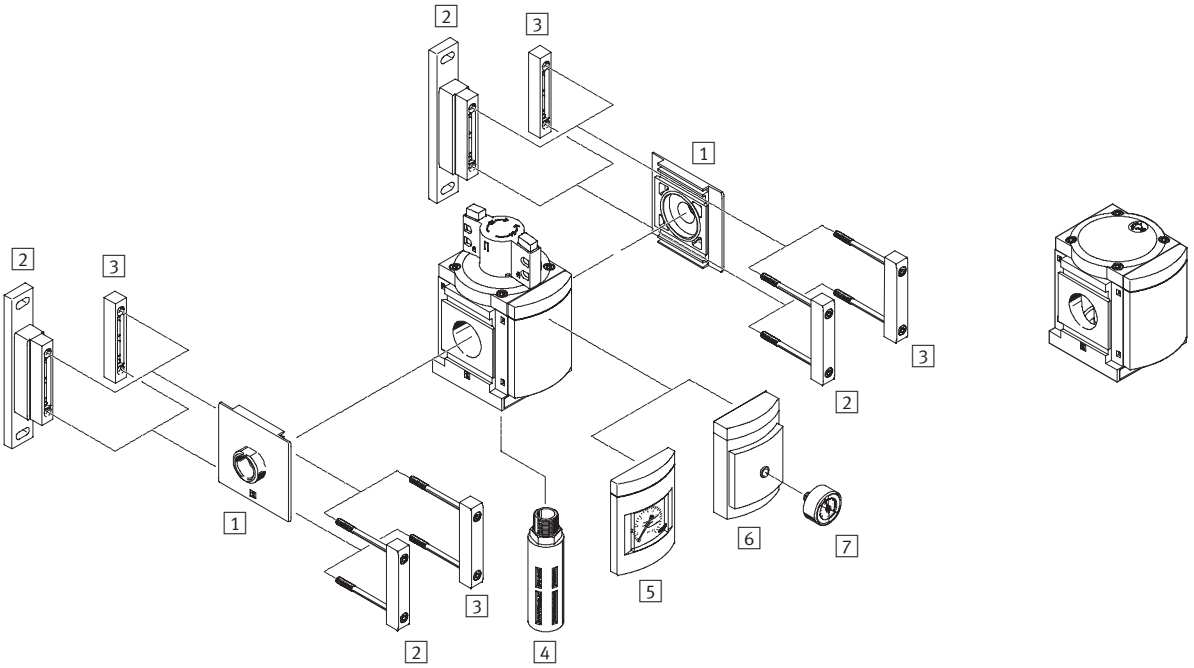
Transfer order code

535039	MS	12	N	– DE	–	–	–	–	–	–	–

On-off/Soft-start Valves MS12N-EM/DL – Inch Series

Accessories Overview

Mounting Attachments and Accessories	
On-off Valve EM – manually actuated	Soft-start Valve DL – pneumatically actuated



Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AQ...	1232
2	Mounting bracket MS12-WP	1233
3	Body connector MS12-MV	1232
4	Silencer (with EM) U	1234
5	MS pressure gauge AG	EM 1217 DL 1225
6	Adapter for EN pressure gauge ¼ A4	EM 1217 DL 1225
7	Pressure gauge MA	1234

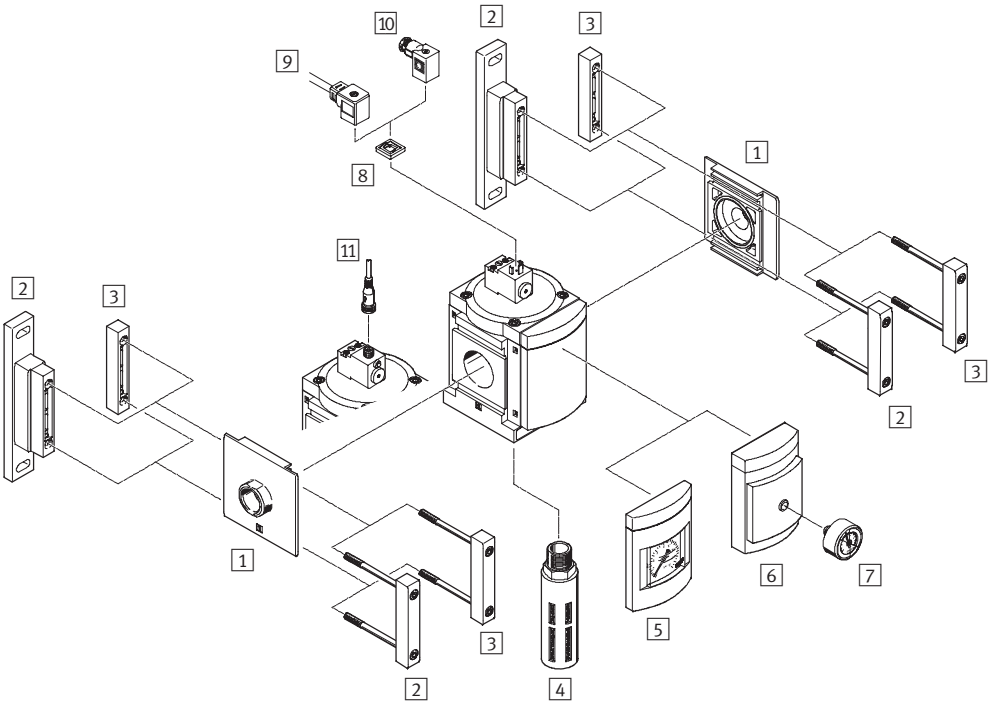
On-off/Soft-start Valves MS12N-EE/DE – Inch Series

Accessories Overview

FESTO

Mounting Attachments and Accessories

On-off/Soft-start Valve EE/DE – solenoid actuated

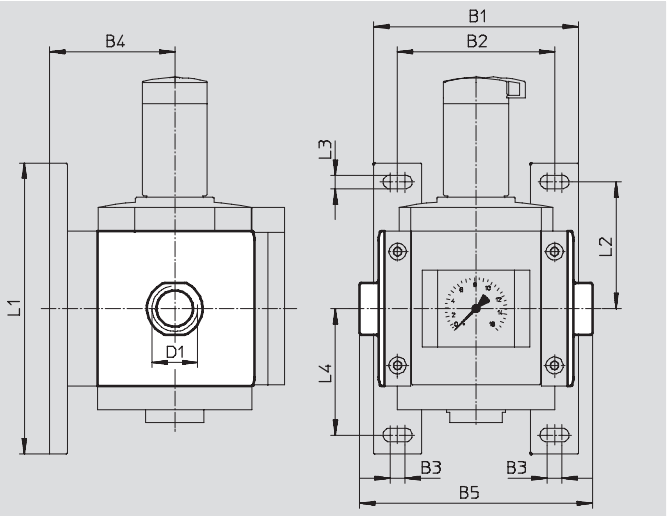


Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AQ...	1232
2	Mounting bracket MS12-WP	1233
3	Body connector MS12-MV	1232
4	Silencer (with EE) U	1234
5	MS pressure gauge AG	EE 1221 DE 1229
6	Adapter for EN pressure gauge ¼ A4	EE 1221 DE 1229
7	Pressure gauge MA	1234
8	Illuminating seal MC-LD	1234
9	Plug socket with cable KMC	1234
10	Plug socket MSSD-C	1234
11	Plug socket with cable SIM-M12-4...	1234

1 **Port plate MS12-AQ...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [lb]	Part No.	Type
6.38	4.88	0.47	3.90	7.24	1 NPT	9.06	3.94	0.43	3.94	2.60	**537139**	**MS12-AQT**
				7.24	1¼ NPT						**537140**	**MS12-AQU**
				7.24	1½ NPT						**537141**	**MS12-AQV**
				7.72	2 NPT						**537142**	**MS12-AQW**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

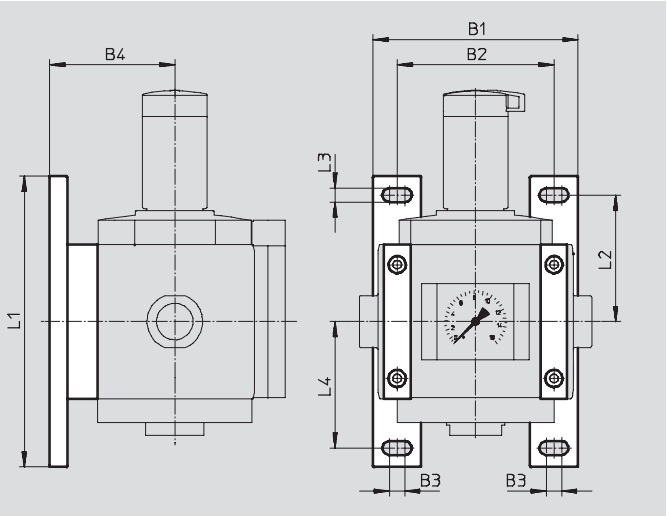
Size	Weight [lb]	Part No.	Type
MS12	1.00	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE





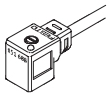
Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
MS12	6.38	4.88	0.47	3.90	9.06	3.94	0.43	3.94	1.40	**537133**	**MS12-WP**

10 Ordering Data – Plug Socket MSSD — Technical data ➔ www.festo.com/catalog/mssd

	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for MS12-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	**34583**	**MSSD-C**
			4-pin	Insulation displacement technology	**192748**	**MSSD-C-S-M16**

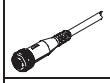
9 Ordering Data – Plug Socket with Cable KMC — Technical data ➔ www.festo.com/catalog/kmc

	Description	Operating voltage range	Switching status display	Cable length [ft]	Part No.	Type
	for MS12-EE/DE	24 V DC	LED	8.2	**30931**	**KMC-1-24DC-2,5-LED**
		24 V DC	LED	16.4	**30933**	**KMC-1-24DC-5-LED**
		24 V DC	LED	32.8	**193459**	**KMC-1-24-10-LED**
		230 V AC	–	8.2	**30932**	**KMC-1-230AC-2,5**
		230 V AC	–	16.4	**30934**	**KMC-1-230AC-5**

8 Ordering Data – Illuminating Seal MC-LD — Technical data ➔ www.festo.com/catalog/mc-ld

	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMC and plug socket MSSD-C	12 … 24 V DC	**19145**	**MC-LD-12-24DC**
		230 V DC/AC ±10%	**19146**	**MC-LD-230AC**

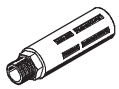
1 Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 4-pin	16.4	**164259**	**SIM-M12-4GD-5-PU**
	M12x1, 4-pin	16.4	**164258**	**SIM-M12-4WD-5-PU**

7 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	1.57	R¼	0 … 16	0 … 232	**187080**	**MA-40-16-R¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.97	R¼	–	0 … 232	**526790**	**MA-50-232-R¼-PSI-E-RG**

4 Ordering Data – Silencer U — Technical data ➔ www.festo.com/catalog/u

	Description	Pneumatic connection	Part No.	Type
	for MS12-EM/EE	G1	**151990**	**U-1-B**

Distribution Blocks MS12-FRM – Metric Series



Distributor blocks provide additional air outlets to create separate pressure or air quality branches, or to attach pressure sensors.

- Pneumatic connection: G1, G1¼, G1½, G2
- Operating pressure: 0 … 21 bar
- Flow rate: 25,000 … 42,000 l/min

Product Range Overview

Type	Pneumatic connections		Pressure indicator					Reverse flow
	Body thread	Port plate	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge G⅛	Adapter for pressure gauge G¼	Pressure sensor with display	Flow direction from right to left
MS12		**AG...**	**VS**	**AG**	**A8**	**A4**	**AD...**	**Z**
FRM	–	G1, G1¼, G1½, G2	■	–	–	–	–	■

Features

- Pneumatic manifold with 4 connections
- Attachment facility for auxiliary modules
- Outlet top and bottom
- Can be used as an intermediate distributor for varying air qualities

Contents

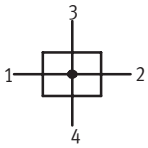
Technical Data → 1236
Dimensional Drawings → 1237
Ordering Data → 1237
Accessories → 1239

→ www.festo.com/catalog/ms12-frm

Distribution Blocks MS12-FRM – Metric Series

Technical Data

ISO Symbol





General Technical Data					
Pneumatic connection 1, 2[1]		G1	G1¼	G1½	G2
Pneumatic connection 3		G2			
Pneumatic connection 4		G1			
Operating pressure	[bar]	0 ... 21			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1240

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard Nominal Flow Rate qnN[2] [l/min]	
In main flow direction 1 ⇢ 2	25,000 ... 42,000

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1240
Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Operating and Environmental Conditions		
Operating medium		Compressed air
Ambient temperature	[°C]	–10 ... +60
Temperature of medium	[°C]	–10 ... +60
Storage temperature	[°C]	–10 ... +60
Assembly position		Any
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]	
Distribution block	3,000

- For spare parts go to: www.festo.com/en/spare_parts_service

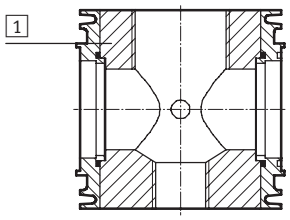
Distribution Blocks MS12-FRM – Metric Series

Technical Data, Ordering Data – Pre-configured Products

FESTO

Materials

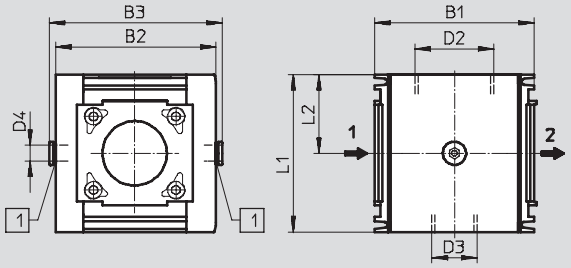
Sectional view



Distribution block		
1	Body	Die-cast aluminum
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



1 G¼ Female thread in body, sealed with cover plate by default

➔ Flow direction

B1	B2	B3	D2	D3	D4	L1	L2
124	124	134	G2	G1	G¼	122	61

1) Dimensions are in millimeters, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
G1 ... G2[2]	**541681**	**MS12-FRM-G[3]**	**Q**

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1240
3) Free of copper and PTFE

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Distribution Blocks MS12-FRM – Metric Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data										O Options
Part No.		**Series**	**Size**		**Function**		**Connection size**			**Type of mounting**
535035		MS	12		FRM		AGF AGG AGH AGI G			WP
Order example										
535035		**MS**	**12**	–	**FRM**	–	**AGF**	–		**WP**

Ordering Table

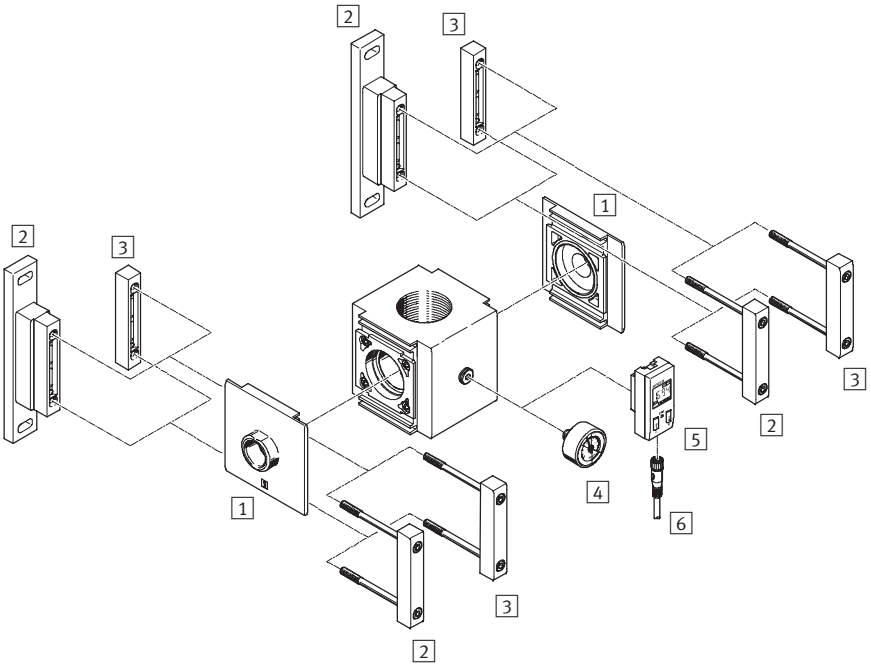
	Grid dimension [mm]	124	Conditions	Code		Enter code
M	Part No.	**535035**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Function	Distribution block		**-FRM**		-FRM
	Connection size	Port plate G1 (dimensions ➔ 1240)		**-AGF**		
		Port plate G1¼ (dimensions ➔ 1240)		**-AGG**		
		Port plate G1½ (dimensions ➔ 1240)		**-AGH**		
		Port plate G2 (dimensions ➔ 1240)		**-AGI**		
		Module without connecting thread, without port plate		**-G**		
O	Type of mounting	Mounting bracket (dimensions ➔ 1241)	1	**-WP**		

1 **WP** Only with port plate AGF, AGG, AGH or AGI

Transfer order code

535035	**MS**	**12**	–	**FRM**	–		–		

Mounting Attachments and Accessories



Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AG...	1240
2	Mounting bracket MS12-WP	1241
3	Body connector MS12-MV	1240
4	Pressure gauge MA	1243
5	Pressure sensor SDE1-...-R14/R18	1242
6	Plug socket with cable SIM-M8-3.../SIM-M8-4.../SIM-M12-3...	1243

Distribution Blocks MS12-FRM – Metric Series

Accessories

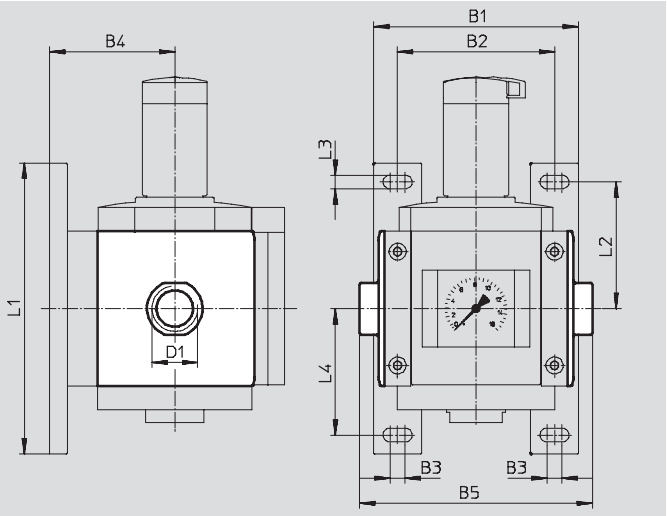
FESTO

1 Port plate MS12-AG...

- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [g]	Part No.	Type
162	124	12	99	184	G1	230	100	11	100	1,300	**537135**	**MS12-AGF**
				184	G1¼						**537136**	**MS12-AGG**
				184	G1½						**537137**	**MS12-AGH**
				196	G2						**537138**	**MS12-AGI**

3 Body connector MS12-MV

- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

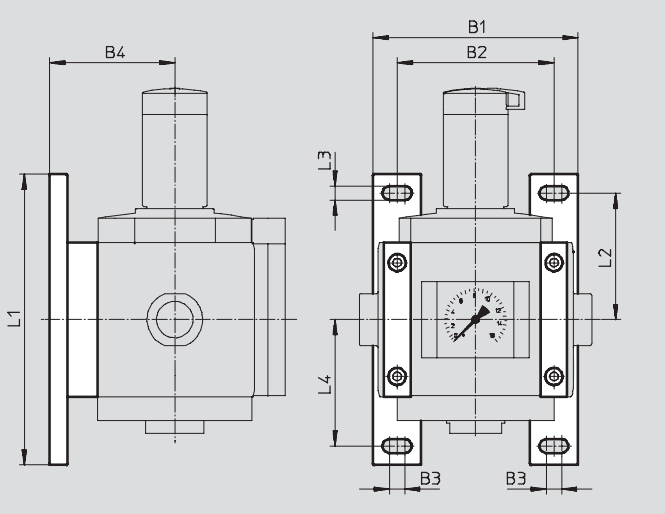
Size	Weight [g]	Part No.	Type
MS12	500	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE

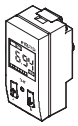




Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS12	162	124	12	99	230	100	11	100	700	**537133**	**MS12-WP**

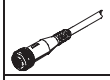
5 **Ordering Data – Pressure Sensor SDE1** — Technical data ➔ www.festo.com/catalog/sde1

	Pneumatic connection	Electrical output	Electrical connection	Display	Order code	Part No.	Type
Pressure sensor SDE1 for direct mounting on the service unit with pressure gauge connection (adapter for pneumatic connection included in scope of delivery), pressure measuring range 0 ... 10 bar, relative pressure measurement							
	Male thread R1/8	1 switch output PNP	M8x1, 3-pin	LCD	–	**192026**	**SDE1-D10-G2-R18-C-P1-M8**
			M8x1, 3-pin	Illuminated LCD	–	**529970**	**SDE1-D10-G2-R18-L-P1-M8**
			M12x1, 3-pin	Illuminated LCD	–	**534064**	**SDE1-D10-G2-R18-L-P1-M12**
		2 switch outputs PNP	M8x1, 4-pin	LCD	–	**192027**	**SDE1-D10-G2-R18-C-P2-M8**
			M8x1, 4-pin	Illuminated LCD	–	**529971**	**SDE1-D10-G2-R18-L-P2-M8**
		1 switch output PNP and 0 ... 10 V analog	M8x1, 4-pin	LCD	–	**529958**	**SDE1-D10-G2-R18-C-PU-M8**
			M8x1, 4-pin	Illuminated LCD	–	**529972**	**SDE1-D10-G2-R18-L-PU-M8**
	Male thread R1/4	1 switch output PNP	M8x1, 3-pin	LCD	–	**192028**	**SDE1-D10-G2-R14-C-P1-M8**
			M8x1, 3-pin	Illuminated LCD	–	**529967**	**SDE1-D10-G2-R14-L-P1-M8**
			M12x1, 3-pin	Illuminated LCD	–	**534157**	**SDE1-D10-G2-R14-L-P1-M12**
		2 switch outputs PNP	M8x1, 4-pin	LCD	–	**192029**	**SDE1-D10-G2-R14-C-P2-M8**
			M8x1, 4-pin	Illuminated LCD	–	**529968**	**SDE1-D10-G2-R14-L-P2-M8**
		1 switch output PNP and 0 ... 10 V analog	M8x1, 4-pin	LCD	–	**529957**	**SDE1-D10-G2-R14-C-PU-M8**
			M8x1, 4-pin	Illuminated LCD	–	**529969**	**SDE1-D10-G2-R14-L-PU-M8**

6 Ordering Data – Plug Socket with Cable SIM-M8 — Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [m]	Part No.	Type
	M8x1, 3-pin	2.5	**159420**	**SIM-M8-3GD-2,5-PU**
		5	**159421**	**SIM-M8-3GD-5-PU**
		10	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 4-pin	2.5	**158960**	**SIM-M8-4GD-2,5-PU**
		5	**158961**	**SIM-M8-4GD-5-PU**
	M8x1, 3-pin	2.5	**159422**	**SIM-M8-3WD-2,5-PU**
		5	**159423**	**SIM-M8-3WD-5-PU**
		10	**192965**	**SIM-M8-3WD-10-PU**
	M8x1, 4-pin	2.5	**158962**	**SIM-M8-4WD-2,5-PU**
		5	**158963**	**SIM-M8-4WD-5-PU**

Ordering Data – Plug Socket with Cable SIM-M12 — Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 3-pin	2.5	**159428**	**SIM-M12-3GD-2,5-PU**
		5	**159429**	**SIM-M12-3GD-5-PU**
	M12x1, 3-pin	2.5	**159430**	**SIM-M12-3WD-2,5-PU**
		5	**159431**	**SIM-M12-3WD-5-PU**

4 Ordering Data – Pressure Gauge MA — Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	40	G¼	0 ... 16	0 ... 232	**183901**	**MA-40-16-G¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	50	R¼	0 ... 16	–	**525729**	**MA-50-16-R¼-E-RG**

Distribution Blocks MS12N-FRM – Inch Series



Distributor blocks provide additional air outlets to create separate pressure or air quality branches, or to attach pressure sensors.

- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Operating pressure: 0 … 309 psi
- Flow rate: 882.5 … 1,482.6 scfm

Product Range Overview

Type	Pneumatic connections		Pressure indicator					Reverse flow
	Body thread	Port plate	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge 1/8 NPT	Adapter for pressure gauge 1/4 NPT	Pressure sensor with display	Flow direction from right to left
MS12N		**AG...**	**VS**	**AG**	**A8**	**A4**	**AD...**	**Z**
FRM	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	■	–	–	–	–	■

Features

- Pneumatic manifold with 4 connections
- Attachment facility for auxiliary modules
- Outlet top and bottom
- Can be used as an intermediate distributor for varying air qualities

Contents

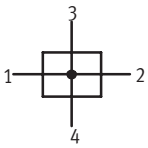
Technical Data → 1246
Dimensional Drawings → 1247
Ordering Data → 1247
Accessories → 1249

→ www.festo.com/catalog/ms12n-frm

Distribution Blocks MS12N-FRM – Inch Series

Technical Data

ISO Symbol





General Technical Data					
Pneumatic connection 1, 2[1]		1 NPT	1¼ NPT	1½ NPT	2 NPT
Pneumatic connection 3		2 NPT			
Pneumatic connection 4		1 NPT			
Operating pressure	[psi]	0 ... 309			

1) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1250

Standard Nominal Flow Rate qnN[2] [scfm]	
In main flow direction 1 ⇢ 2	882.5 ... 1,482.6

2) Dependent on port plate selected, must be ordered separately as an accessory ➔ 1250
Measured at p1 = 88 psi and p2 = 74 psi, Δp = 15 psi

Operating and Environmental Conditions		
Operating medium		Compressed air
Ambient temperature	[°F]	14 ... 140
Temperature of medium	[°F]	14 ... 140
Storage temperature	[°F]	14 ... 140
Assembly position		Any
Corrosion resistance	CRC[3]	2

3) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
Distribution block	6.00

- For spare parts go to: www.festo.com/en/spare_parts_service

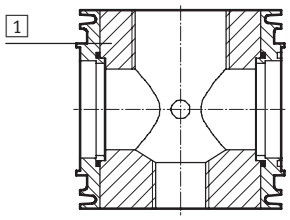
Distribution Blocks MS12N-FRM – Inch Series

Technical Data, Ordering Data – Pre-configured Products

FESTO

Materials

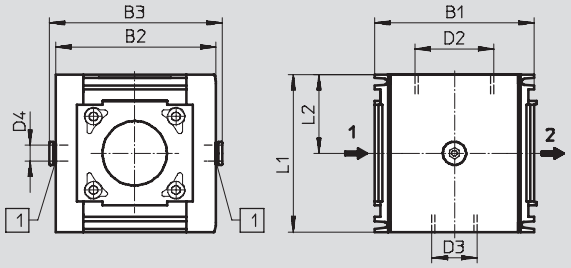
Sectional view



Distribution block		
1	Body	Die-cast aluminum
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Dimensions[1] – Standard

Download CAD Data ➔ **www.festo.com/us/cad**



1 ¼ NPT Female thread in body, sealed with cover plate by default

➔ Flow direction

B1	B2	B3	D2	D3	D4	L1	L2
4.88	4.88	5.28	2NPT	1NPT	¼NPT	4.80	2.40

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
1 NPT ... 2 NPT[2]	**541682**	**MS12N-FRM-G[3]**	**Q**

LT = Lead time | **1D** typically ships same day/next day | **1W** typically ships within 1 week | **Q** request a quote for lead time

2) Port plate must be ordered separately as an accessory ➔ 1250
3) Free of copper and PTFE

Distribution Blocks MS12N-FRM – Inch Series

Ordering Data – Configurable Products

FESTO

M Mandatory Data							O Options
Part No.	**Series**	**Size**	**Thread**	**Function**	**Connection size**		**Type of mounting**
535040	MS	12	N	FRM	AQT AQU AQV AQW G		WP
Order example							
535040	**MS**	**12**	**N**	**– FRM**	**– AQT**	**–**	**WP**

Ordering Table

Grid dimension [mm]		124	Conditions	Code		Enter code
M	Part No.	**535040**				
	Series	Standard		**MS**		MS
	Size	12		**12**		12
	Thread	NPT thread		**N**		N
	Function	Distribution block		**-FRM**		-FRM
	Connection size	Port plate 1 NPT (dimensions ➔ 1250)		**-AQT**		
		Port plate 1¼ NPT (dimensions ➔ 1250)		**-AQU**		
		Port plate 1½ NPT (dimensions ➔ 1250)		**-AQV**		
		Port plate 2 NPT (dimensions ➔ 1250)		**-AQW**		
		Module without connecting thread, without port plate		**-G**		
O	Type of mounting	Mounting bracket (dimensions ➔ 1251)	1	**-WP**		

1 **WP** Only with port plate AQT, AQU, AQV or AQW

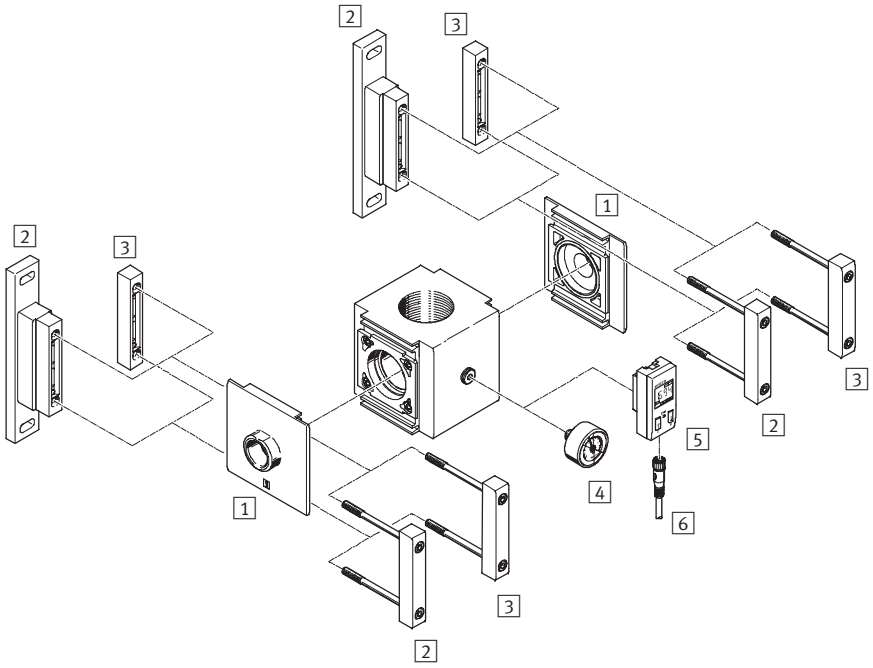
Transfer order code

535040	**MS**	**12**	**N**	**– FRM**	**–**		**–**	

Distribution Blocks MS12N-FRM – Inch Series

Accessories Overview

Mounting Attachments and Accessories

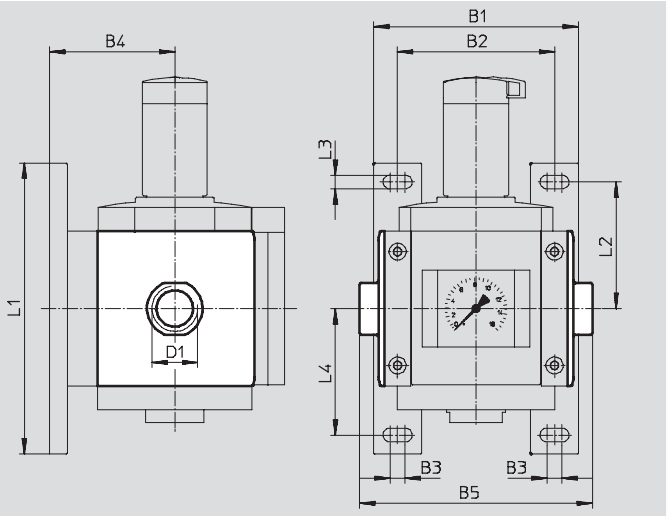


Mounting Attachments and Accessories		
		➔ Page
1	Port plate MS12-AQ...	1250
2	Mounting bracket MS12-WP	1251
3	Body connector MS12-MV	1250
4	Pressure gauge MA	1253
5	Pressure sensor SDE1-...-R14/R18	1252
6	Plug socket with cable SIM-M8-3.../SIM-M8-4.../SIM-M12-3...	1253

1 **Port plate MS12-AQ...**
- Adapter for pneumatic connection

Material:
Die-cast aluminum
Free of copper and PTFE





Dimensions and Ordering Data

B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [lb]	Part No.	Type
6.38	4.88	0.47	3.90	7.24	1 NPT	9.06	3.94	0.43	3.94	2.60	**537139**	**MS12-AQT**
				7.24	1¼ NPT						**537140**	**MS12-AQU**
				7.24	1½ NPT						**537141**	**MS12-AQV**
				7.72	2 NPT						**537142**	**MS12-AQW**

3 **Body connector MS12-MV**
- For connecting modules

Material:
Die-cast aluminum,
Free of copper and PTFE



Ordering Data

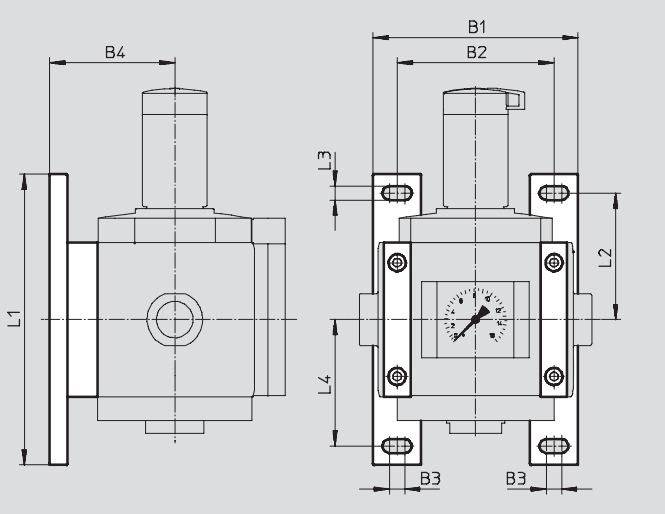
Size	Weight [lb]	Part No.	Type
MS12	1.00	**537134**	**MS12-MV**

2 **Mounting bracket MS12-WP**

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE

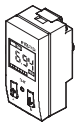




Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
MS12	6.38	4.88	0.47	3.90	9.06	3.94	0.43	3.94	1.40	**537133**	**MS12-WP**

5 **Ordering Data – Pressure Sensor SDE1** — Technical data ➔ www.festo.com/catalog/sde1

	Pneumatic connection	Electrical output	Electrical connection	Display	Order code	Part No.	Type
Pressure sensor SDE1 for direct mounting on the service unit with pressure gauge connection (adapter for pneumatic connection included in scope of delivery), pressure measuring range 0 ... 147 psi, relative pressure measurement							
	Male thread R1/8	1 switch output PNP	M8x1, 3-pin	LCD	–	**192026**	**SDE1-D10-G2-R18-C-P1-M8**
			M8x1, 3-pin	Illuminated LCD	–	**529970**	**SDE1-D10-G2-R18-L-P1-M8**
			M12x1, 3-pin	Illuminated LCD	–	**534064**	**SDE1-D10-G2-R18-L-P1-M12**
		2 switch outputs PNP	M8x1, 4-pin	LCD	–	**192027**	**SDE1-D10-G2-R18-C-P2-M8**
			M8x1, 4-pin	Illuminated LCD	–	**529971**	**SDE1-D10-G2-R18-L-P2-M8**
		1 switch output PNP and 0 ... 10 V analog	M8x1, 4-pin	LCD	–	**529958**	**SDE1-D10-G2-R18-C-PU-M8**
			M8x1, 4-pin	Illuminated LCD	–	**529972**	**SDE1-D10-G2-R18-L-PU-M8**
	Male thread R1/4	1 switch output PNP	M8x1, 3-pin	LCD	–	**192028**	**SDE1-D10-G2-R14-C-P1-M8**
			M8x1, 3-pin	Illuminated LCD	–	**529967**	**SDE1-D10-G2-R14-L-P1-M8**
			M12x1, 3-pin	Illuminated LCD	–	**534157**	**SDE1-D10-G2-R14-L-P1-M12**
		2 switch outputs PNP	M8x1, 4-pin	LCD	–	**192029**	**SDE1-D10-G2-R14-C-P2-M8**
			M8x1, 4-pin	Illuminated LCD	–	**529968**	**SDE1-D10-G2-R14-L-P2-M8**
		1 switch output PNP and 0 ... 10 V analog	M8x1, 4-pin	LCD	–	**529957**	**SDE1-D10-G2-R14-C-PU-M8**
			M8x1, 4-pin	Illuminated LCD	–	**529969**	**SDE1-D10-G2-R14-L-PU-M8**

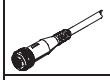
6 Ordering Data – Plug Socket with Cable SIM-M8

Technical data ➔ www.festo.com/catalog/sim-m8

	Electrical connection	Cable length [ft]	Part No.	Type
	M8x1, 3-pin	8.2	**159420**	**SIM-M8-3GD-2,5-PU**
		16.4	**159421**	**SIM-M8-3GD-5-PU**
		32.8	**192964**	**SIM-M8-3GD-10-PU**
	M8x1, 4-pin	8.2	**158960**	**SIM-M8-4GD-2,5-PU**
		16.4	**158961**	**SIM-M8-4GD-5-PU**
	M8x1, 3-pin	8.2	**159422**	**SIM-M8-3WD-2,5-PU**
		16.4	**159423**	**SIM-M8-3WD-5-PU**
		32.8	**192965**	**SIM-M8-3WD-10-PU**
	M8x1, 4-pin	8.2	**158962**	**SIM-M8-4WD-2,5-PU**
		16.4	**158963**	**SIM-M8-4WD-5-PU**

Ordering Data – Plug Socket with Cable SIM-M12

Technical data ➔ www.festo.com/catalog/sim-m12

	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 3-pin	8.2	**159428**	**SIM-M12-3GD-2,5-PU**
		16.4	**159429**	**SIM-M12-3GD-5-PU**
	M12x1, 3-pin	8.2	**159430**	**SIM-M12-3WD-2,5-PU**
		16.4	**159431**	**SIM-M12-3WD-5-PU**

4 Ordering Data – Pressure Gauge MA

Technical data ➔ www.festo.com/catalog/ma

	Nominal size	Pneumatic connection	Indicating range [bar]	Indicating range [psi]	Part No.	Type
	Pressure gauge MA, DIN EN 837-1					
	1.57	R¼	0 … 16	0 … 232	**187080**	**MA-40-16-R¼-EN**
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.97	R¼	–	0 … 232	**526790**	**MA-50-232-R¼-PSI-E-RG**

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