

Pressure regulator MS12N-LR

FESTO



Characteristics

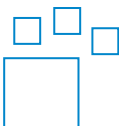
At a glance

Very compact series for use close to the process directly on the machine

- Width dimension: 124 mm
- Good regulation characteristics with minimal pressure hysteresis and primary pressure compensation
- Return flow option for exhausting from output 2 to input 1 already integrated
- High flow rate performance with minimal pressure drop
- Optional pressure sensor

Ordering data - modular system

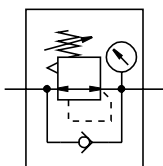
Link [ms12n-lr](#)



Configurable product

This product and all its product options can be ordered online via the configurator.

Function



- For stepless, precise adjustment of the desired operating pressure
- The pressure control valve keeps the outlet pressure p_2 largely constant, independent of pressure fluctuations in the network and air consumption. The outlet pressure p_2 can be adjusted within the pressure regulation range either manually with the rotary knob, pneumatically via a pilot pressure p_{12} from an external pilot controller, or electrically via setpoint signals.

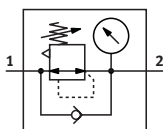
Pneumatic connection

The installation of connection plates makes it easier to replace the module if necessary (e.g., when using piping).

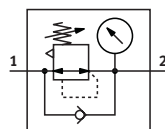
Pressure regulation range

There are different pressure regulation ranges:

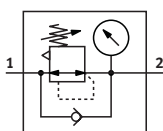
[D6] 0.3 ... 7 bar



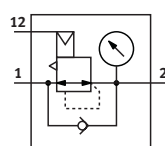
[D7] 0.5 ... 12 bar



[D8] 0.5 ... 16 bar

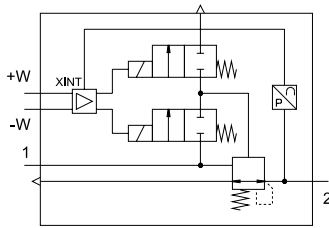


[P0] Max. 16 bar, pneumatically actuated (pressure range determined by pilot regulator)



Characteristics

[PE6] 0.15 ... 6 bar, solenoid actuated (pilot control by proportional pressure control valve)



Pressure gauge alternatives

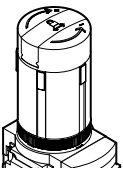
Two pressure gauge connections for variable installation

Alternative pressure gauge scale

The scaling of the built-in pressure gauge can be selected. The unit options available are [MPa], [bar] / [psi].

Rotary knob alternative

[LD] Long rotary knob

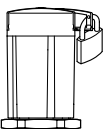


Optionally with longer rotary knob.

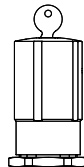
Lockable

Optional possibility to lock the knob to protect the setting values from adjustment.

[AS] Can be locked using accessories



[E11] With integrated lock



Type of mounting

[WP] Mounting bracket standard design



- For connecting the modules for wall mounting
- In conjunction with sub-base MS12-AQ... for mounting an individual device on a wall

Flow direction

Available with opposite flow direction.

Type code

001	Series	
MS	MS series	
002	Size	
12	Width dimension 124 mm	
003	Thread type	
N	NPT thread	
004	Function	
LR	Pressure regulator	
005	Pneumatic connection, inch	
AQT	Sub-base NPT1	
AQU	Sub-base NPT11/4	
AQV	Sub-base NPT11/2	
AQW	Sub-base NPT2	
G	Module without connecting thread, without sub-base	
006	Pressure regulation range	
D6	0.3 ... 7 bar	
D7	0.5 ... 12 bar	
D8	0.5 ... 16 bar	
PE6	0.15 ... 6 bar, solenoid actuated (pilot control by proportional pressure control valve)	
PO	Max. 16 bar, pneumatically actuated (pressure range determined by pilot regulator)	

007	Pressure gauge alternatives	
	Without	
A4	Adapter plate for EN pressure gauge 1/4, without pressure gauge	
VS	Cover plate	
008	Alternative pressure gauge scale	
	MS pressure gauge	
BAR	Bar	
MPA	MPa	
009	Rotary knob alternative	
	Without	
LD	Long rotary knob	
010	Lockable	
	Without	
AS	Can be locked using accessories	
E11	With integrated lock	
011	Type of mounting	
	Without mounting bracket	
WP	Mounting bracket standard design	
012	Flow direction	
	Flow direction from left to right	
Z	Flow direction from right to left	

Datasheet

General technical data

Pressure regulation range	0.15 ... 16 bar
Size	12
Structural design	Pilot-controlled diaphragm regulator
Controller function	Outlet pressure constant, With primary pressure compensation, With secondary exhausting, With return flow function
Type of mounting	Optionally: Line installation With mounting bracket
Mounting position	Any
Actuator lock	Rotary knob with detent, Rotary knob with integrated lock, can be closed with accessories
Pressure gauge	with pressure gauge

Standard nominal flow rate qnN

Normal nominal flow rate (normalized to DIN 1343)	12,000 ... 22,000 l/min
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Operating and environmental conditions

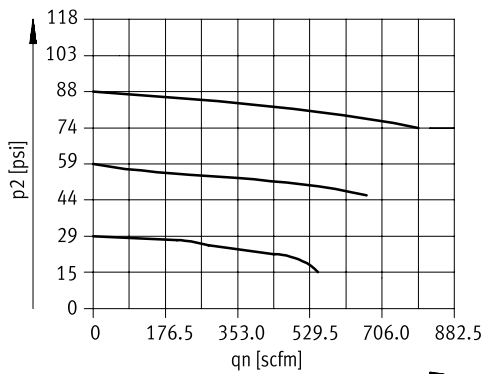
Operating pressure	0.8 ... 21 bar
Operating medium	Compressed air as per ISO 8573-1:2010 [7:4:4], Inert gases
Ambient temperature	-10 ... 60°C
Temperature of medium	-10 ... 60°C
Storage temperature	-10 ... 60°C
Corrosion resistance class (CRC) ¹⁾	2 - Moderate corrosion stress

1) Corrosion resistance class CRC 2 to Festo standard FN 940070. Moderate corrosion stress, Indoor application where condensation is allowed to occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Materials

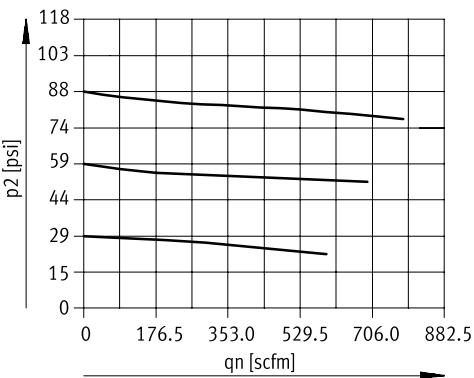
Housing material	Die-cast aluminum
Diaphragm material	NBR
Lower cover material	Wrought aluminum alloy
Material of spring	Spring steel
Seals material	NBR
Valve tappet material	Wrought aluminum alloy NBR High-alloy stainless steel
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B1/B2-L

Normal flow qn as a function of outlet pressure p2 (p1 = 147psi) for 1NPT with AGF connection plate

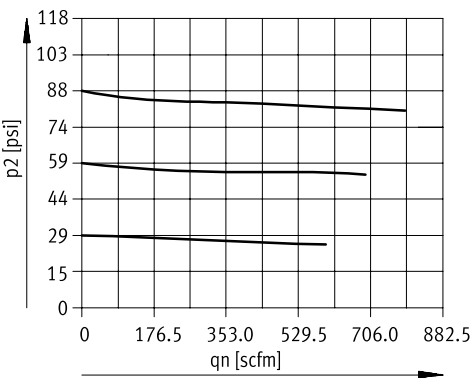


Datasheet

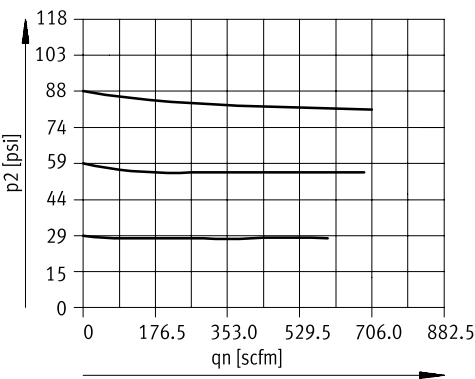
Normal flow qn as a function of outlet pressure p2 (p1 =147psi) for 11/4NPT with connection plate AGG



Normal flow qn as a function of outlet pressure p2 (p1 =147psi) for 11/2NPT with AGH connection plate



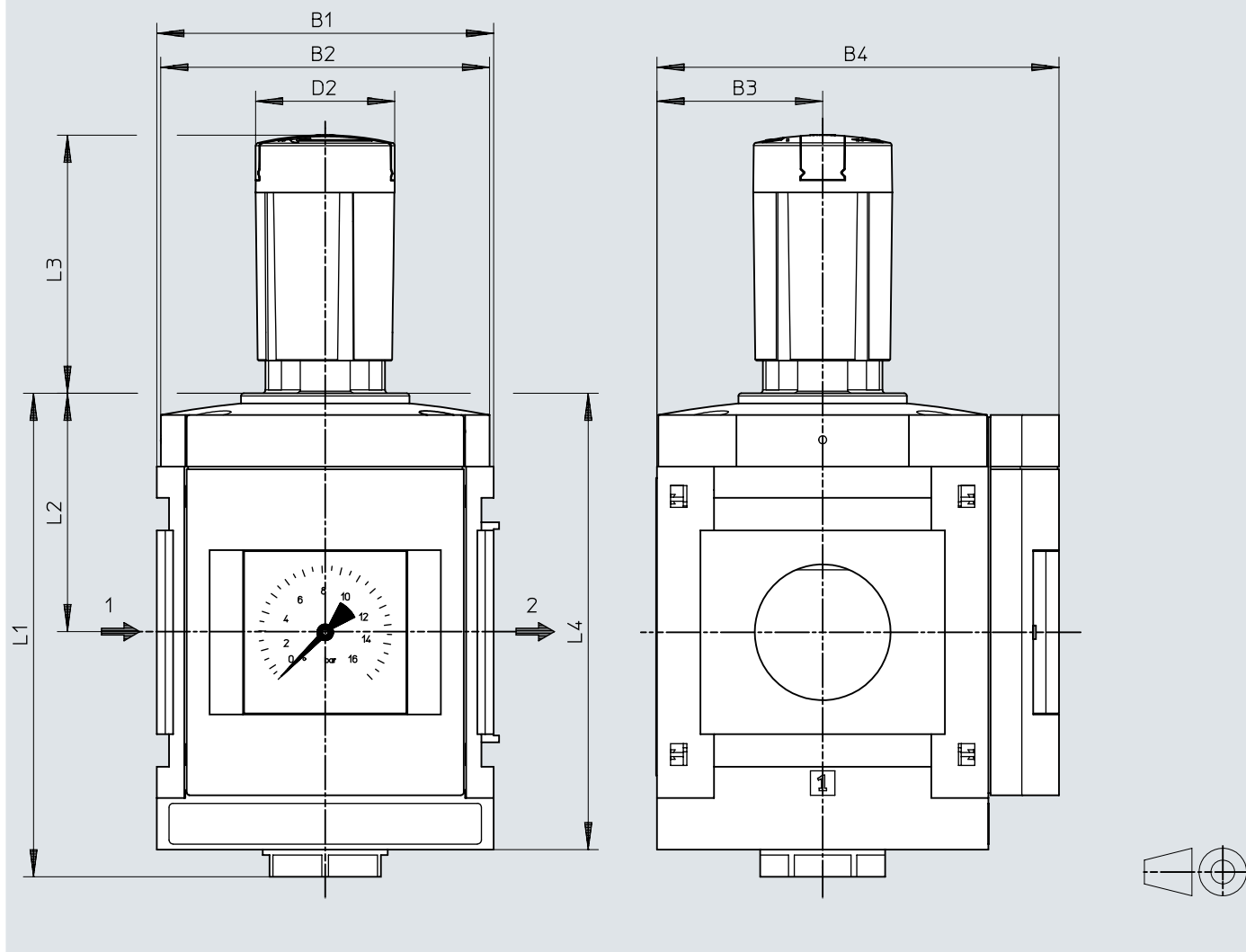
Normal flow qn as a function of outlet pressure p2 (p1 =147psi) for 2NPT with AGI connection plate



Dimensions

Dimensions – Basic type, pressure regulation range, manually operated

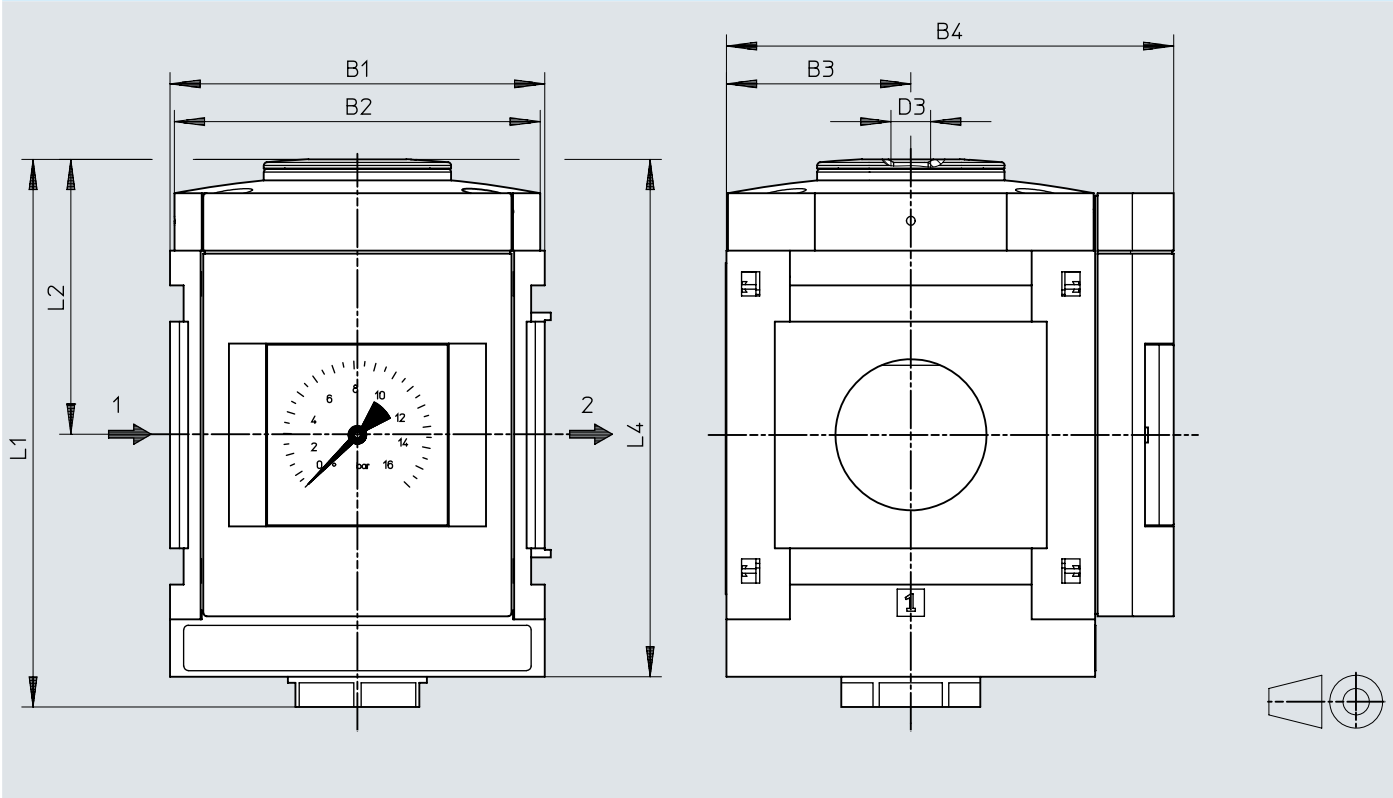
Download CAD data www.festo.com



	B1	B2	B3	B4	D2 Ø	L1	L2	L3	L4
	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]
MS12N-LR-...-D6/D7/D8	4,88	4,80	2,40	5,83	2,02	7,01	3,46	3,74	6,61

Dimensions

Dimensions – Pressure regulation range, pneumatically actuated Download CAD data www.festo.com

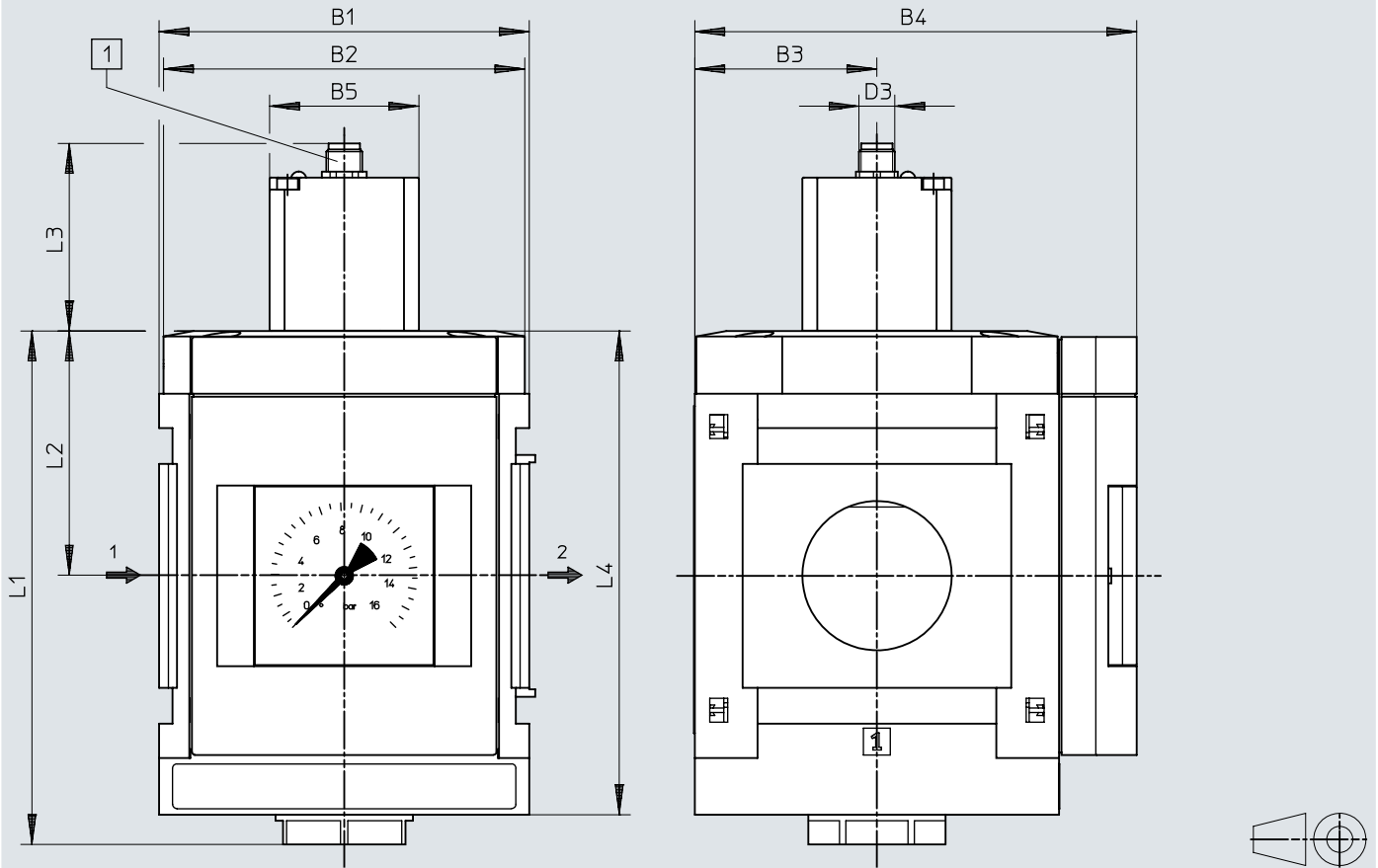


	B1 [inch]	B2 [inch]	B3 [inch]	B4 [inch]	D3	L1 [inch]	L2 [inch]	L4 [inch]
MS12N-LR-...-PO	4,88	4,80	2,40	5,83	1/4 NPT	7,13	3,58	6,73

Dimensions

Dimensions – Pressure regulation range, electrically actuated

Download CAD data www.festo.com

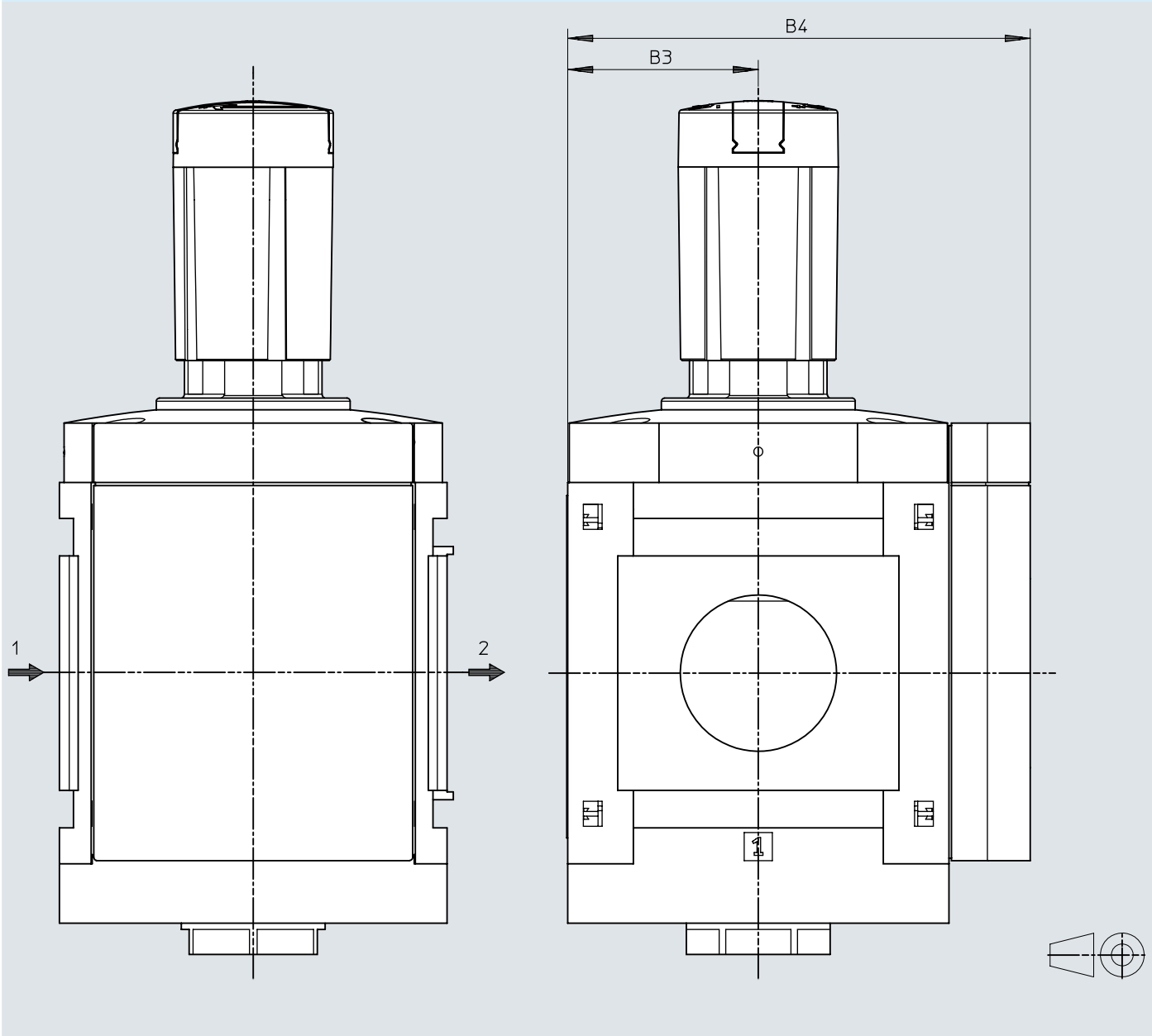


[1] Suitable for connecting cable NEBU-M12G...-LE4/NEBU-M12W...-LE4 -sensor socket SIE-GD -angled plug socket SIE-WD-TR

	B1 [inch]	B2 [inch]	B3 [inch]	B4 [inch]	B5 [inch]	D3	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]
MS12N-LR-...-PE6	4,88	4,80	2,40	5,83	1,97	M12	6,77	3,23	2,47	6,38

Dimensions

Dimensions – Cover plate Download CAD data www.festo.com

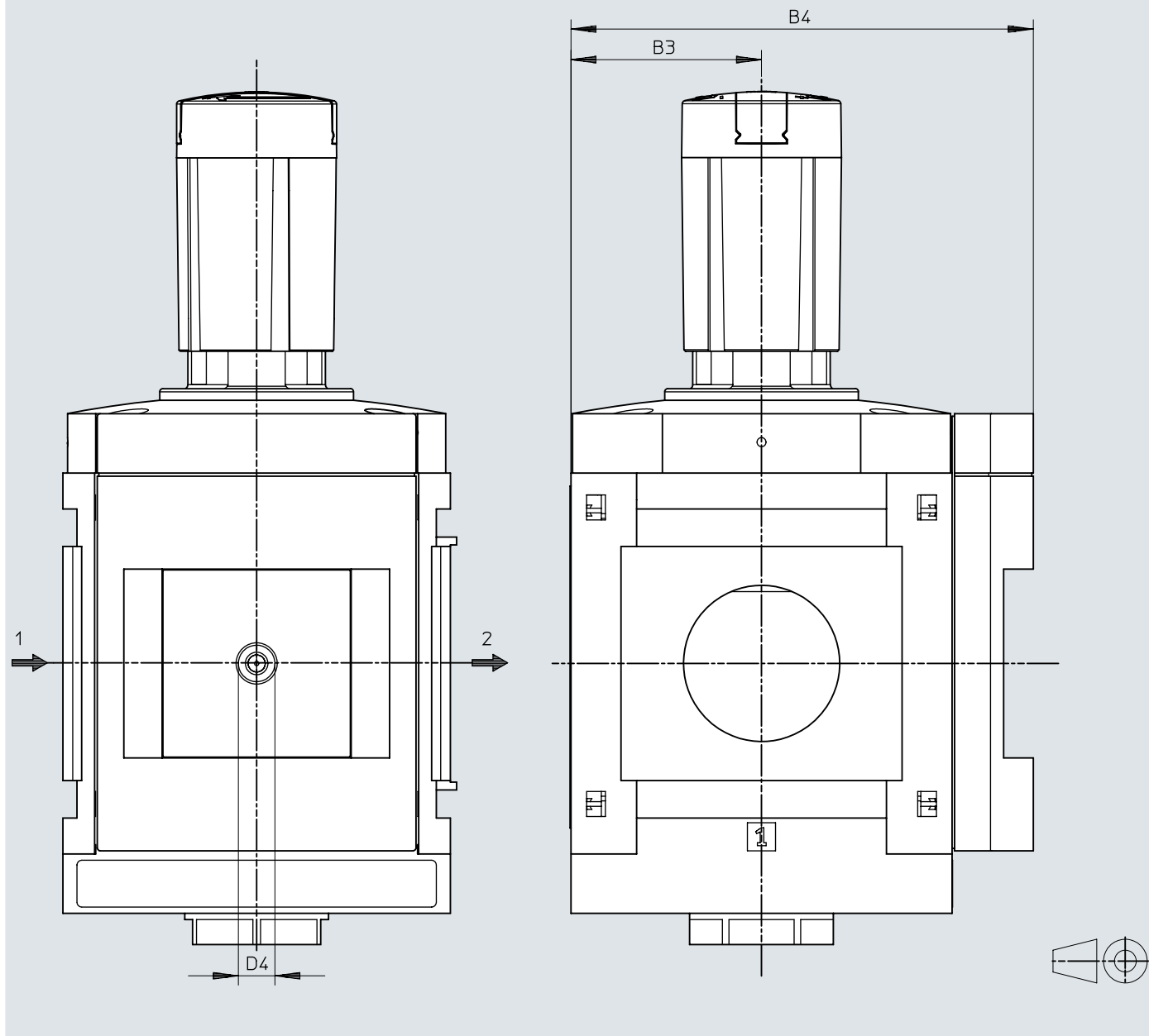


	B3 [inch]	B4 [inch]
MS12N-LR-...-VS	2,40	5,83

Dimensions

Dimensions – Adapter for EN pressure gauge 1/4, without pressure gauge

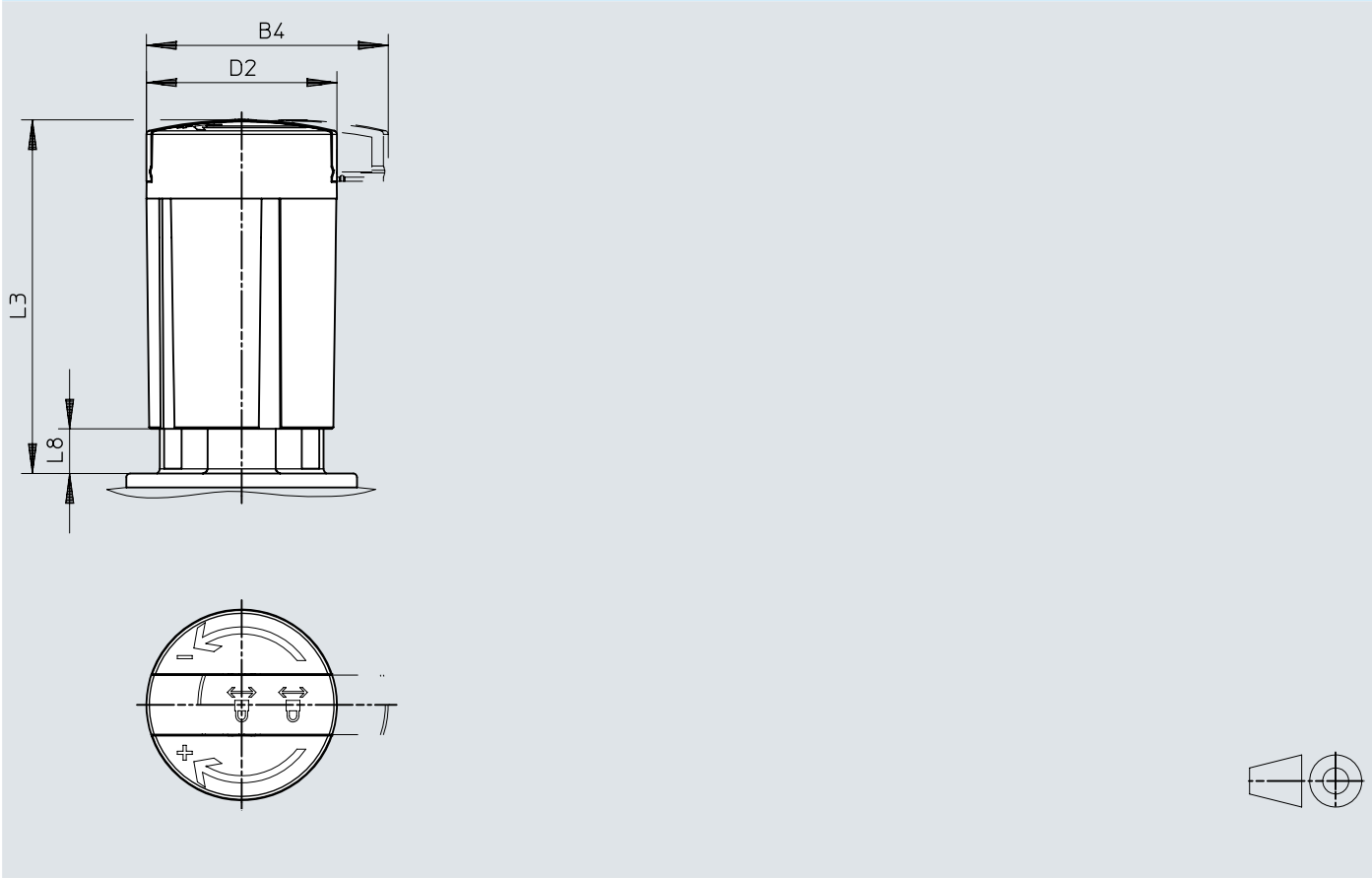
Download CAD data www.festo.com



	B3 [inch]	B4 [inch]	D4
MS12N-LR-...-A4	2,40	5,83	1/4 NPT

Dimensions

Dimensions – Rotary knob long with latch, closable with accessories [Download CAD data](#) www.festo.com

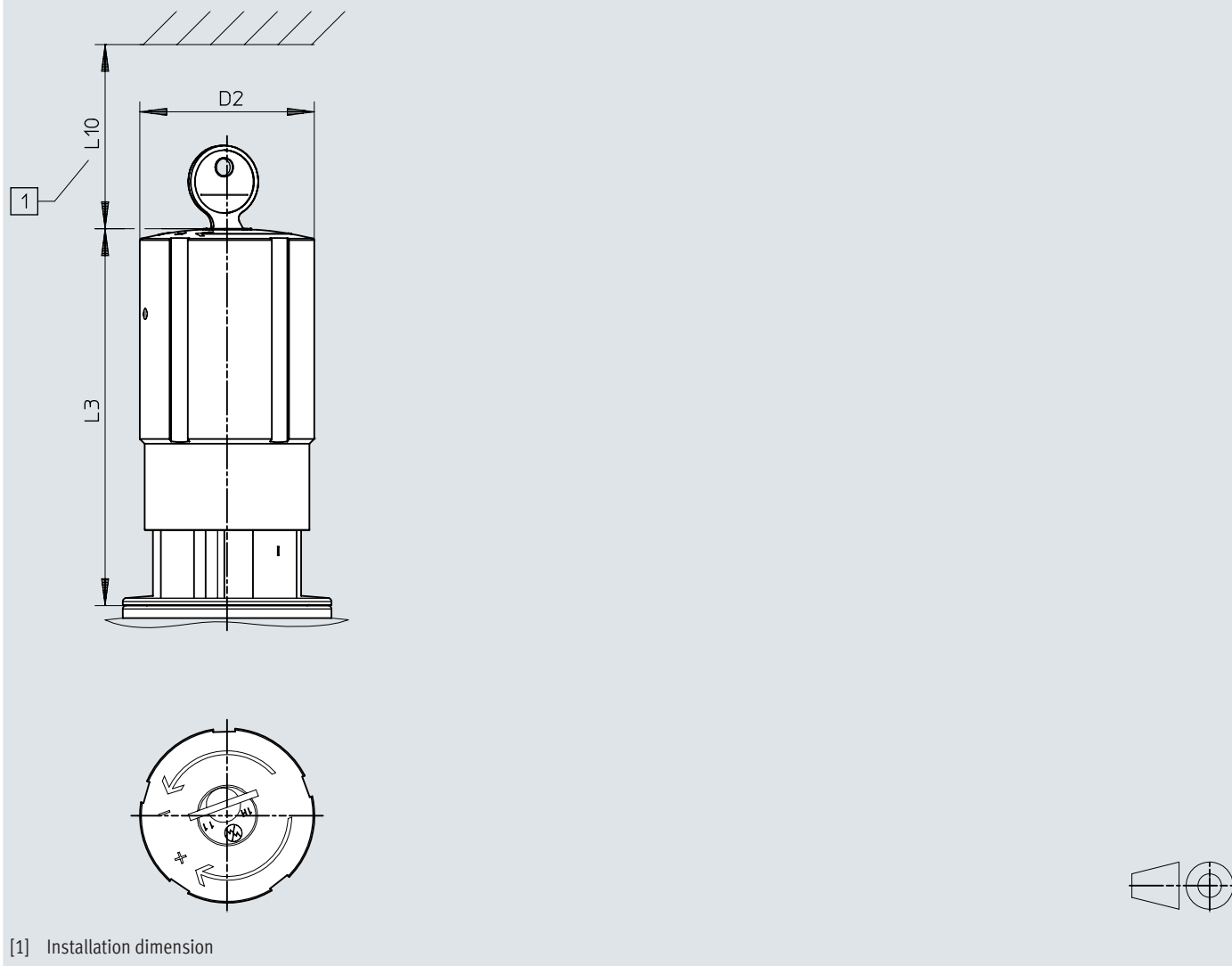


	B4	D2	L3	L8
	[inch]	∅ [inch]	[inch]	[inch]
MS12N-LR-...-LD-AS	2,54	2,02	3,74	0,47

Dimensions

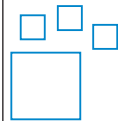
Dimensions – Rotary knob with integrated lock

Download CAD data www.festo.com



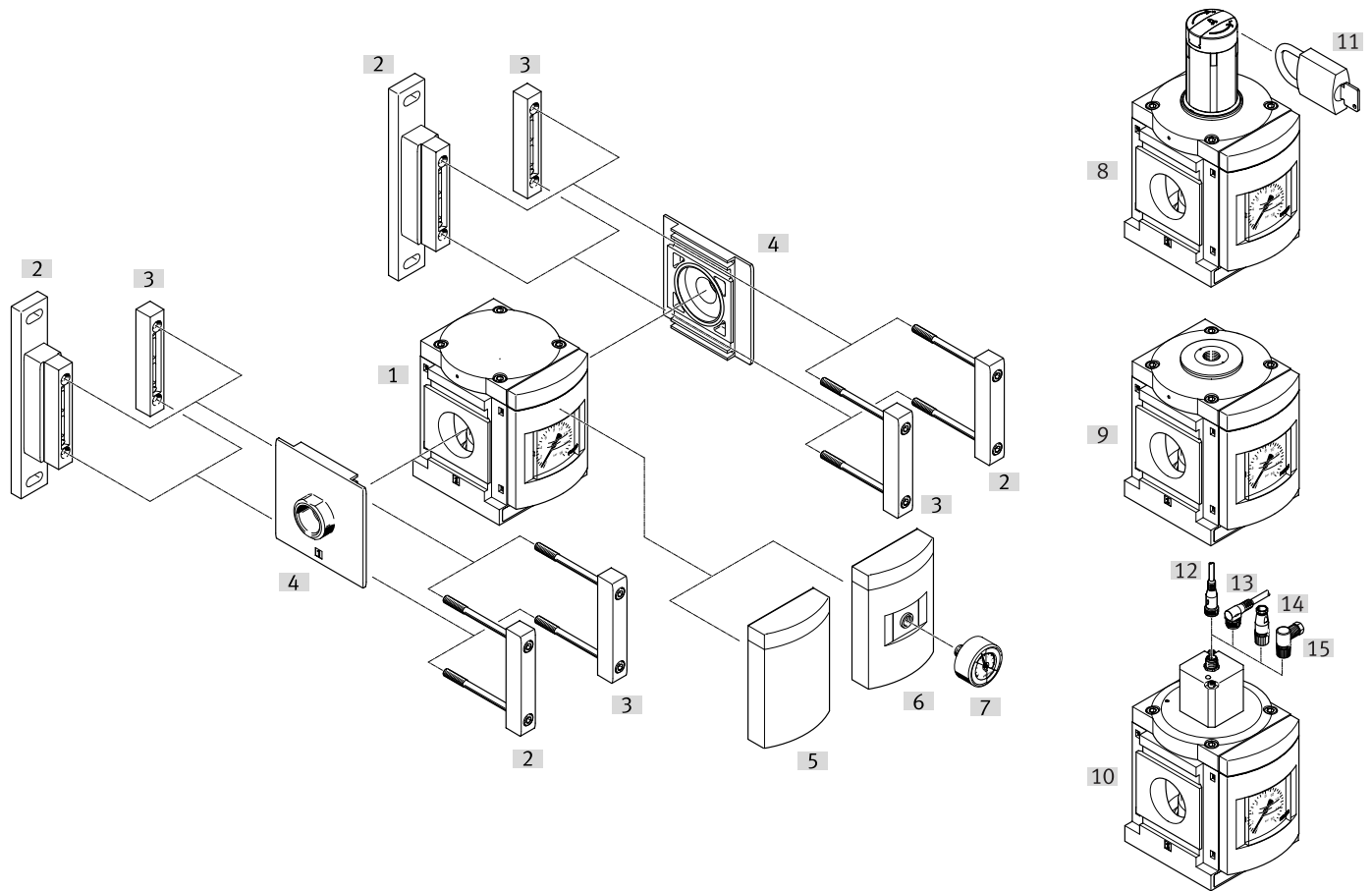
	D2 Ø [inch]	L3 [inch]	L10 [inch]
MS12N-LR-...-E11	2,04	4,41	2,36

Ordering data

Ordering information – Modular product system			
	Type code	Part no.	Type
	MS12	535024	MS12N-LR

Peripherals overview

Peripherals overview



Accessories			→ Page/Internet
Type/order code	Description		
[1] MSN-LR filter12 regulator			ms12n-lfr
[2] Mounting bracket MS12-WP	Order code [WP]; for single device		16
[3] Module connector MS12-MV	For device combinations and individual devices with sub-base		16
[4] Sub-base SET MS12-AG...	Order code [AG...]; for device combinations		17
[5] Cover plate VS			ms12n-lr
[6] Adapter for EN pressure gauge 1/4 A4			ms12n-lr
[7] Pressure gauge MA			17
[8] MSN-LR filter12 regulator	manually actuated		ms12n-lfr
[9] MSN-LR filter12 regulator	Pneumatically actuated		ms12n-lfr
[10] MSN-LR filter12 regulator	Electrically actuated		ms12n-lfr
[11] Padlock LRVS-D			17
[12] Connecting cables NEBA, straight			16
[13] Connecting cables NEBA, angled			16
[14] Sensor socket NECB			17
[15] Angled plug socket NECB			17

Accessories

Module connector MS6-MV1

	Size	Plate material	LABS (PWIS) conformity	Product weight	Part no.	Type
	12	Die-cast aluminum	VDMA24364-B1/B2-L	500 g	537134	MS12-MV

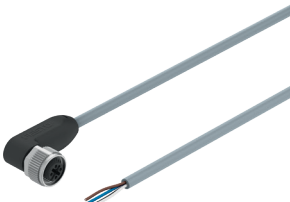
Mounting bracket MS6-WP...

	Size	Bracket material	LABS (PWIS) conformity	Product weight	Part no.	Type
	12	Die-cast aluminum	VDMA24364-B1/B2-L	700 g	537133	MS12-WP

Connecting cables NEBA, straight

	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/wires	Cable length	Part no.	Type
	M12x1 A-coded as per EN 61076-2-101	Open end	4	2.5 m	8078239	NEBA-M12G5-U-2.5-N-LE4
				5 m	8078240	NEBA-M12G5-U-5-N-LE4

Connecting cables NEBA, angled

	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/wires	Cable length	Part no.	Type
	M12x1 A-coded as per EN 61076-2-101	Open end	4	2.5 m	8078248	NEBA-M12W5-U-2.5-N-LE4
				5 m	8078249	NEBA-M12W5-U-5-N-LE4

Accessories

Pressure gauge MA						
	Conforms to standard	Pneumatic connection	LABS (PWIS) conformity	Product weight	Part no.	Type
	EN 837-1	G1/4	VDMA24364-B1/B2-L	70 g	183901	MA-40-16-G1/4-EN
		R1/8		60 g	525726	MA-40-16-R1/8-E-RG
		R1/4		70 g	187080	MA-40-16-R1/4-EN
				75 g	525729	MA-50-16-R1/4-E-RG

Sub-base SET MS12-AG...						
	Size	Pneumatic connection 1	Material of sub-base	Product weight	Part no.	Type
	12	1 NPT	Die-cast aluminum	1,300 g	537139	MS12-AQT
		1 1/4 NPT			537140	MS12-AQU
		1 1/2 NPT			537141	MS12-AQV
		2 NPT			537142	MS12-AQW

Sensor socket NECB						
	Electrical connection 1, connection technology	Conforms to standard	Cable outlet	Product weight	Part no.	Type
	M12x1 A-coded as per EN 61076-2-101	EN 61076-2-101	Straight	24 g	8162290	NECB-M12G4-C2

Angled plug socket NECB						
	Electrical connection 1, connection technology	Conforms to standard	Cable outlet	Product weight	Part no.	Type
	M12x1 A-coded as per EN 61076-2-101	EN 61076-2-101	Angled	25 g	8162292	NECB-M12W4-C2

Padlock LRV5-D					
	LABS (PWIS) conformity		Product weight	Part no.	Type
	VDMA24364-B1/B2-L		120 g	193786	LRVS-D