

Pressure regulators MS-LR/LRB/LRP/LRPB/LRE, MS series

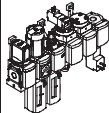
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Product range overview – MS series service units

Type		Size			Pressure regulation range						Grade of filtration			
					[bar]						[µm]			
Code			Pneumatic connection in housing	Connecting plate	0.05	0.05	0.1	0.3	0.1	0.5				
					...	...	...	...	...	...	0.01	1	5	40
				AG...	D2	D4	D5	D6	D7	D8	A	B	C	E
Service units														
MSB-FRC		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	■	■	–	–	–	■	■
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	■	■	–	–	–	■	■
		9	–											
		12	–											
Service unit combinations (further variants can be ordered using the configurator → Internet: msb4, msb6 or msb9)														
MSB		4	G1/4	G1/8, G1/4, G3/8	–	–	–	■	■	–	–	–	■	■
		6	G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	■	■	–	–	–	■	■
		9	–											
		12	–											
Individual devices														
Filter regulators MS-LFR		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	■	■	■	–	–	–	■	■
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	■	■	■	■	–	–	■	■
		9	–											
		12	–	G1, G1¼, G1½, G2	–	–	–	■	■	■	–	–	■	■
Filters MS-LF		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–	–	■	■
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–	–	■	■
		9	–											
		12	–	G1, G1¼, G1½, G2	–	–	–	–	–	–	–	–	■	■
Fine and micro filters MS-LFM		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	■	■	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	■	■	–	–
		9	G¾, G1	G½, G¾, G1, G1¼, G1½	–	–	–	–	–	–	■	■	–	–
		12	–	G1, G1¼, G1½, G2	–	–	–	–	–	–	■	■	–	–
Activated carbon filters MS-LFX		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–	–	–	–
		9	G¾, G1	G½, G¾, G1, G1¼, G1½	–	–	–	–	–	–	–	–	–	–
		12	–	G1, G1¼, G1½, G2	–	–	–	–	–	–	–	–	–	–
Water separators MS-LWS		4	–											
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–	–	–	–
		9	–											
		12	–											

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Product range overview – MS series service units

Type	Size	Bowl guard		Condensate drains				Pressure indicator					Security		Options		→ Page/ Internet
		Plastic bowl with plastic bowl guard	Metal bowl	Manual rotary	Semi-automatic	Fully automatic	External, fully automatic, electrical	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter plate for EN pressure gauge G1/8	Adapter plate for EN pressure gauge G1/4	Pressure sensor	Rotary knob with detent, lockable via accessories	Rotary knob with integrated lock	Silencer	Flow direction from right to left	
Code		R	U	M	H	V	E...	VS	AG	A8	A4	AD...	AS	E11	S	Z	
Service units																	
MSB-FRC	4	■	–	■	–	■	–	–	■	–	–	–	■	–	–	■	msb4
	6	■	■	■	–	■	–	–	■	–	–	–	■	–	–	■	msb6
	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Service unit combinations																	
MSB	4	■	■	■	–	■	–	–	■	–	–	–	■	–	–	■	msb4
	6	■	■	■	–	■	–	–	■	–	–	–	■	–	–	■	msb6
	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Individual devices																	
Filter regulators MS-LFR	4	■	■	■	■	■	–	■	■	■	■	■	■	■	–	■	ms4-lfr
	6	■	■	■	■	■	■	■	■	–	■	■	■	■	–	■	ms6-lfr
	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	■	■	–	■	■	■	■	–	■	–	■	■	–	■	ms12-lfr
Filters MS-LF	4	■	■	■	■	■	–	–	–	–	–	–	–	–	–	■	ms4-lf
	6	■	■	■	■	■	■	–	–	–	–	–	–	–	–	■	ms6-lf
	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	■	■	–	■	■	–	–	–	–	–	–	–	–	■	ms12-lf
Fine and micro filters MS-LFM	4	■	■	■	■	■	–	–	–	–	–	–	–	–	–	■	ms4-lfm
	6	■	■	■	■	■	■	–	–	–	–	–	–	–	–	■	ms6-lfm
	9	–	■	■	–	■	■	–	–	–	–	–	–	–	–	■	ms9-lfm
	12	–	■	■	–	■	■	–	–	–	–	–	–	–	–	■	ms12-lfm
Activated carbon filters MS-LFX	4	■	■	–	–	–	–	–	–	–	–	–	–	–	–	■	ms4-lfx
	6	■	■	–	–	–	–	–	–	–	–	–	–	–	–	■	ms6-lfx
	9	–	■	–	–	–	–	–	–	–	–	–	–	–	–	■	ms9-lfx
	12	–	■	–	–	–	–	–	–	–	–	–	–	–	–	■	ms12-lfx
Water separators MS-LWS	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	6	–	■	–	–	■	■	–	–	–	–	–	–	–	–	■	ms6-lws
	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

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Product range overview – MS series service units

Type	Size	Pneumatic connection in housing	Connecting plate	Pressure regulation range [bar]						Supply voltage				
				0.05 ... 0.7	0.05 ... 2.5	0.1 ... 4	0.3 ... 7	0.1 ... 12	0.5 ... 16	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	
Code			AG...	D2	D4	D5	D6	D7	D8	V24	V24P	V110	V230	
Individual devices														
Pressure regulators MS-LR		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	■	■	■	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	■	■	■	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	■	■	■	–	–	–	–
Pressure regulators MS-LRB		4	G1/4	G1/8, G1/4, G3/8	–	–	■	■	■	–	–	–	–	–
		6	G1/2	G1/4, G3/8, G1/2, G3/4	–	–	■	■	■	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–	–	–	–
		12	–	–	–	–	–	–	–	–	–	–	–	–
Precision pressure regulators MS-LRP		4	–	–	–	–	–	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	■	■	■	–	■	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–	–	–	–
		12	–	–	–	–	–	–	–	–	–	–	–	–
Precision pressure regulators MS-LRPB		4	–	–	–	–	–	–	–	–	–	–	–	–
		6	G1/2	G1/4, G3/8, G1/2, G3/4	■	■	■	–	■	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–	–	–	–
		12	–	–	–	–	–	–	–	–	–	–	–	–
Electrical pressure regulators MS-LRE		4	–	–	–	–	–	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	■	■	■	■	–	–	–	–
		9	–	–	–	–	–	–	–	–	–	–	–	–
		12	–	–	–	–	–	–	–	–	–	–	–	–
Lubricators MS-LOE		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	–	–	–	–	–	–
Electrical on-off valves MS-EM(1)		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	–	–	–	–	–	–
Electrical on-off valves MS-EE		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	■	–	■	■	■
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	■	–	■	■	■
		9	–	–	–	–	–	–	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	–	■	■	■	■	■
Electrical soft-start valves MS-DL		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	–	–	–	–	–	–
Electrical soft-start valves MS-DE		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	■	–	■	■	■
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	■	–	■	■	■
		9	–	–	–	–	–	–	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	–	■	■	■	■	■
Soft start and exhaust valves MS-SV		4	–	–	–	–	–	–	–	–	–	–	–	–
		6	G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	■	–	–	–	–
		9	–	–	–	–	–	–	–	–	–	–	–	–
		12	–	–	–	–	–	–	–	–	–	–	–	–

Pressure regulators MS-LR/LRB/LRP/LRPB/LRE, MS series

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Product range overview – MS series service units

Type	Size	Bowl guard		Pressure indicator					Security		Options		→ Page/ Internet
		Plastic bowl with plastic bowl guard	Metal bowl	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter plate for EN pressure gauge G1/8	Adapter plate for EN pressure gauge G1/4	Pressure sensor	Rotary knob with detent, lockable via accessories	Rotary knob with integrated lock	Silencer	Flow direction from right to left	
Code		R	U	VS	AG	A8	A4	AD...	AS	E11	S	Z	
Individual devices													
Pressure regulators MS-LR	4	–	–	■	■	■	■	■	■	■	–	■	8
	6	–	–	■	■	–	■	■	■	■	–	■	8
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	■	■	–	■	–	■	■	–	■	76
Pressure regulators MS-LRB	4	–	–	■	■	■	■	■	■	■	–	■	22
	6	–	–	■	■	–	■	■	■	■	–	■	22
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–
Precision pressure regulators MS-LRP	4	–	–	–	–	–	–	–	–	–	–	–	–
	6	–	–	■	–	■	■	■	■	■	–	■	36
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–
Precision pressure regulators MS-LRPB	4	–	–	–	–	–	–	–	–	–	–	–	–
	6	–	–	■	–	■	■	■	■	■	–	■	50
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–
Electrical pressure regulators MS-LRE	4	–	–	–	–	–	–	–	–	–	–	–	–
	6	–	–	■	■	–	■	–	–	–	–	■	66
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–
Lubricators MS-LOE	4	■	■	–	–	–	–	–	–	–	–	■	ms4-loe
	6	■	■	–	–	–	–	–	–	–	–	■	ms6-loe
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	■	–	–	–	–	–	–	–	–	■	ms12-loe
Electrical on-off valves MS-EM(1)	4	–	–	■	■	■	■	■	–	–	■	■	ms4-em1
	6	–	–	■	■	–	■	■	–	–	■	■	ms6-em1
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	■	■	–	■	–	–	–	■	■	ms12-em
Electrical on-off valves MS-EE	4	–	–	■	■	■	■	■	–	–	■	■	ms4-ee
	6	–	–	■	■	–	■	■	–	–	■	■	ms6-ee
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	■	■	–	■	–	–	–	■	■	ms12-ee
Electrical soft-start valves MS-DL	4	–	–	■	■	■	■	■	–	–	–	■	ms4-dl
	6	–	–	■	■	–	■	■	–	–	–	■	ms6-dl
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	■	■	–	■	–	–	–	–	■	ms12-dl
Electrical soft-start valves MS-DE	4	–	–	■	■	■	■	■	–	–	–	■	ms4-de
	6	–	–	■	■	–	■	■	–	–	–	■	ms6-de
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	■	■	–	■	–	–	–	–	■	ms12-de
Soft start and exhaust valves MS-SV	4	–	–	–	–	–	–	–	–	–	–	–	–
	6	–	–	■	■	–	■	■	–	–	■	■	ms6-sv
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–

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Product range overview – MS series service units

Type	Size	Pneumatic connection in housing	Connecting plate	Pressure regulation range [bar]				Supply voltage			
				0.1 ... 4	0.3 ... 7	0.1 ... 12	0.5 ... 16	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
Code			AG...	D5	D6	D7	D8	V24	V24P	V110	V230
Individual devices											
Membrane air dryers MS-LDM1		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–
		12	–	–	–	–	–	–	–	–	–
Branching modules MS-FRM		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	–	–	–
Distributor blocks MS-FRM-FRZ		4	G1/4	–	–	–	–	–	–	–	–
		6	G1/2	–	–	–	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–
		12	–	–	–	–	–	–	–	–	–
Flow sensors MS-SFE		4	–	–	–	–	–	–	–	–	–
		6	G1/2	G1/2	–	–	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–
		12	–	–	–	–	–	–	–	–	–
Flow sensors SFAM		4	–	–	–	–	–	–	–	–	–
		6	G1/2	G1/2	–	–	–	–	–	–	–
		9	–	–	–	–	–	–	–	–	–
		12	–	–	–	–	–	–	–	–	–

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Type	Size	Bowl guard		Pressure indicator					Switch output		Options		→ Page/ Internet
		Plastic bowl with plastic bowl guard	Metal bowl	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter plate for EN pressure gauge G1/8	Adapter plate for EN pressure gauge G1/4	Pressure sensor	2x PNP	2x NPN	Silencer	Flow direction from right to left	
Code		R	U	VS	AG	A8	A4	AD...	P2/2S	N2/2S	S	Z/R	
Individual devices													
Membrane air dryers MS-LDM1	4	–	■	–	–	–	–	–	–	–	–	■	ms4-ldm1
	6	–	■	–	–	–	–	–	–	–	–	■	ms6-ldm1
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–
Branching modules MS-FRM	4	–	–	■	■	■	■	■	–	–	–	■	ms4-frm
	6	–	–	■	■	–	■	■	–	–	–	■	ms6-frm
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	■	–	–	–	–	–	–	–	–	ms12-frm
Distributor blocks MS-FRM-FRZ	4	–	–	–	–	–	–	–	–	–	–	■	ms4-frm
	6	–	–	–	–	–	–	–	–	–	–	■	ms6-frm
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–
Flow sensors MS-SFE	4	–	–	–	–	–	–	–	■	■	–	■ ¹⁾	–
	6	–	–	–	–	–	–	–	■	■	–	■ ¹⁾	ms6-sfe
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–
Flow sensors SFAM	4	–	–	–	–	–	–	–	■	■	–	■	–
	6	–	–	–	–	–	–	–	■	■	–	■	sfam
	9	–	–	–	–	–	–	–	–	–	–	–	–
	12	–	–	–	–	–	–	–	–	–	–	–	–

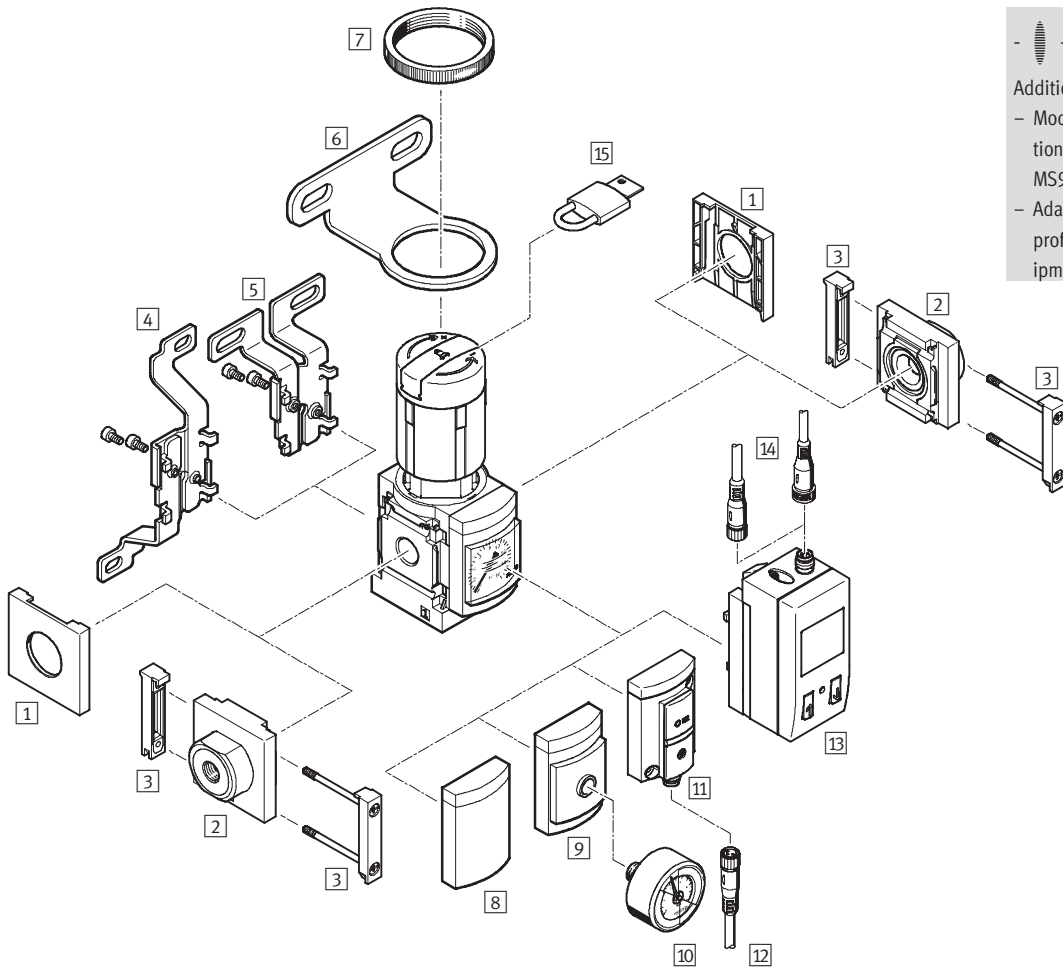
1) Can only be ordered using the configurator → Internet: ms6-sfe

Pressure regulators MS4/MS6-LR, MS series

Peripherals overview

FESTO

Pressure regulator MS4/MS6-LR



Note

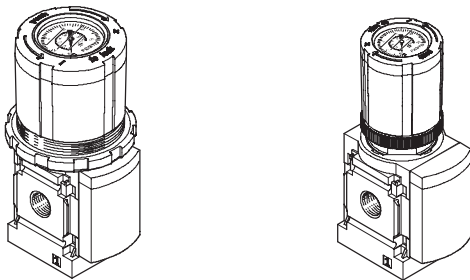
Additional accessories:

- Module connector for combination with size MS4/MS6 or size MS9 → Internet: amv, rmv, armv
- Adapter plate for mounting on profiles → Internet: ipm-80, ipm-40-80, ipm-80-80

Pressure regulator with rotary knob pressure gauge

MS4-LR-...-DM2

MS4-LR-...-DM1/MS6-LR-...-DM2



Pressure regulators MS4/MS6-LR, MS series

Peripherals overview

FESTO

Mounting attachments and accessories						
		Individual device		Combination		➔ Page/Internet
		Without connecting plate	With connecting plate	Without connecting plate	With connecting plate	
1	Cover cap MS4/6-END	■	–	■	–	ms4-end, ms6-end
2	Connecting plate MS4/6-AG...	–	■	–	■	ms4-ag, ms6-ag
3	Module connector MS4/6-MV	–	■	■	■	ms4-mv, ms6-mv
4	Mounting bracket MS4/6-WB	■	■	–	–	ms4-wb, ms6-wb
5	Mounting bracket MS4-WBM	■	■	–	–	ms4-wbm
6	Mounting bracket MS4/6-WR	■	■	–	–	ms4-wr, ms6-wr
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Cover plate VS	■	■	■	■	20
9	Adapter plate for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	20
10	Pressure gauge MA	■	■	■	■	86
11	Pressure sensor without display AD7 ... AD10	■	■	■	■	20
12	Connecting cable NEBU-M8...-LE3	■	■	■	■	86
13	Pressure sensor with display AD1 ... AD4	■	■	■	■	20
14	Connecting cable NEBU-M8...-LE3/NEBU-M12...-LE4	■	■	■	■	86
15	Padlock LRVS-D	■	■	■	■	86
–	Mounting bracket MS4/6-WP/WPB/WPE/WPM	–	■	■	■	ms4-wp, ms6-wp



New

Variant AD7 ... AD10, DM2

Pressure regulators MS4/MS6-LR, MS series

Type codes

FESTO

		MS	6	-	LR	-	1/2	-	D5	-	AS
Series											
MS	Standard service unit										
Size											
4	Grid dimension 40 mm										
6	Grid dimension 62 mm										
Service function											
LR	Pressure regulator										
Connection size											
MS4											
1/8	Thread G1/8										
1/4	Thread G1/4										
MS6											
1/4	Thread G1/4										
3/8	Thread G3/8										
1/2	Thread G1/2										
Pressure regulation range											
D5	0.3 ... 4 bar										
D6	0.3 ... 7 bar										
D7	0.5 ... 12 bar										
Security											
AS	Standard rotary knob with detent, lockable via accessories										

Additional variants can be ordered using the modular system → 20

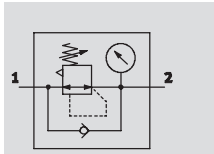
- Connecting plates
- Pressure regulation range
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Secondary venting
- Rotary knob alternative
- Alternative mounting position
- Security
- Type of mounting
- Alternative flow direction

Pressure regulators MS4/MS6-LR, MS series

Technical data

FESTO

With pressure gauge



-  Flow rate
1,000 ... 7,500 l/min
-  Temperature range
-10 ... +60 °C
-  Supply pressure
0.8 ... 20 bar
-  www.festo.com

Wearing parts kits

→ 19



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

- Good regulation characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Available with and without secondary venting
- Regulator lock for protecting the values against adjustment
- Four pressure regulation ranges: 0.3 ... 4 bar, 0.3 ... 7 bar, 0.5 ... 12 bar and 0.5 ... 16 bar
- Two pressure gauge connections for different fitting options
- Return flow option for exhausting from output 2 to output 1 already integrated
- Optional pressure sensor
- Optional rotary knob pressure gauge

General technical data					
Size		MS4		MS6	
Pneumatic connection 1, 2		G1/8	G1/4	G1/4	G3/8 G1/2
Constructional design		Directly-actuated diaphragm regulator			
Regulating function		Output pressure constant, with primary pressure compensation, with return flow action, with/without secondary venting			
Type of mounting		Via accessories			
		In-line installation			
		Front panel mounting			
Mounting position		Any			
Regulator lock		Rotary knob with detent			
		Rotary knob with detent, lockable via accessories			
		Rotary knob with integrated lock			
Pressure regulation range	D5 [bar]	0.3 ... 4			
		0.8 ... 4 with rotary knob pressure gauge variant DM...		–	
	D6 [bar]	0.3 ... 7			
		0.8 ... 7 with rotary knob pressure gauge variant DM...		–	
	D7 [bar]	0.5 ... 12			
		0.8 ... 12 with rotary knob pressure gauge variant DM...		–	
		0.5 ... 10 with pressure sensor variant AD...			
	D8 [bar]	–		0.5 ... 16	
Max. hysteresis	[bar]	0.25			
	[bar]	–		0.4 with rotary knob pressure gauge variant DM2	
Pressure display		Via pressure sensor for displaying output pressure via LCD display and electrical output			
		Via pressure sensor for displaying output pressure via operational status indicator and electrical output			
		Via pressure gauge for displaying output pressure			
		Via pressure gauge in rotary knob for displaying output pressure			

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

New
Variant AD7 ... AD10, DM2

Pressure regulators MS4/MS6-LR, MS series

Technical data

FESTO

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]						
Size		MS4		MS6		
Pneumatic connection		G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Pressure regulation range	D5	1,200 ²⁾	2,100 ²⁾	2,400 ²⁾	5,500 ²⁾	7,500 ²⁾
	D6	1,150	1,800	3,000	5,800	6,500
	D7	1,000	1,700	2,700	4,500	5,500
	D8	–	–	2,200	4,000	4,500

1) Measured at $p_1 = 10$ bar and $p_2 = 6$ bar, $\Delta p = 1$ bar

2) Measured at $p_1 = 10$ bar and $p_2 = 3$ bar, $\Delta p = 1$ bar

Operating and environmental conditions				
Variant	Standard		Pressure sensor AD...	
Size	MS4	MS6	MS4	MS6
Supply pressure [bar]	0.8 ... 14	0.8 ... 20	0.8 ... 14	0.8 ... 20
Operating medium	Compressed air		Filtered compressed air, lubricated or unlubricated, grade of filtration 40 μ m	
Ambient temperature [°C]	–10 ... +60	–10 ... +60	0 ... +50	0 ... +50
Temperature of medium [°C]	–10 ... +60	–10 ... +60	0 ... +50	0 ... +50
Storage temperature [°C]	–10 ... +60	–10 ... +60	–10 ... +60	–10 ... +60
Corrosion resistance class CRC ¹⁾	2			

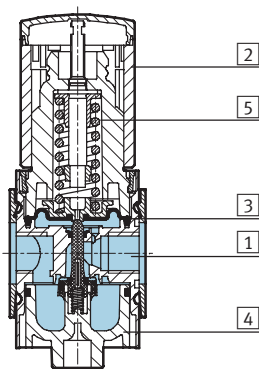
1) Corrosion resistance class 2 as per Festo standard 940 070

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]		
Size	MS4	MS6
Pressure regulator	225	730
Pressure regulator with rotary knob with integrated lock E11	350	1,000

Materials

Sectional view



Pressure regulator		
1	Housing	Die-cast aluminium
2	Rotary knob	Polyamide/polyacetate
	Rotary knob with integrated lock E11	Aluminium
3	Diaphragm	Nitrile rubber
4	Cap, bottom	Polyester, fibreglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Pressure regulators MS4/MS6-LR, MS series

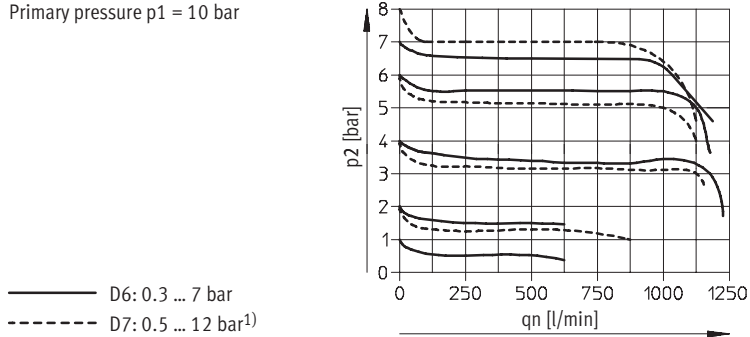
Technical data

FESTO

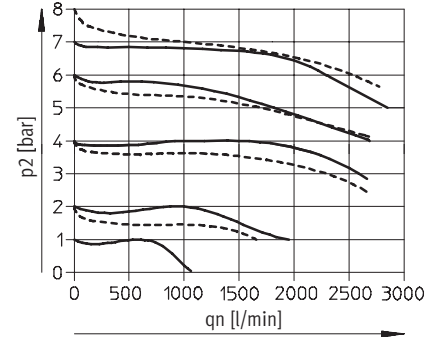
Standard flow rate q_n as a function of output pressure p_2

MS4-LR-1/8

Primary pressure $p_1 = 10$ bar



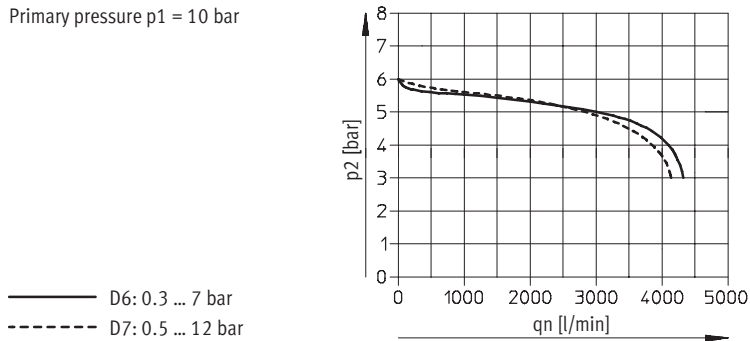
MS4-LR-1/4



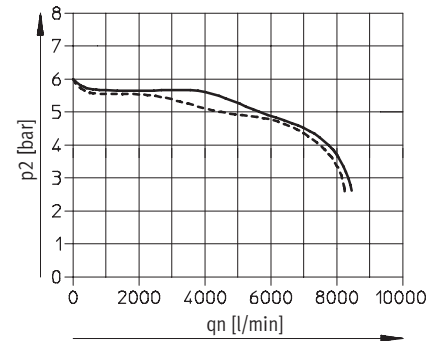
1) There is a higher initial pressure drop for the characteristic curve of the DM1/DM2 variant.

MS6-LR-1/4

Primary pressure $p_1 = 10$ bar

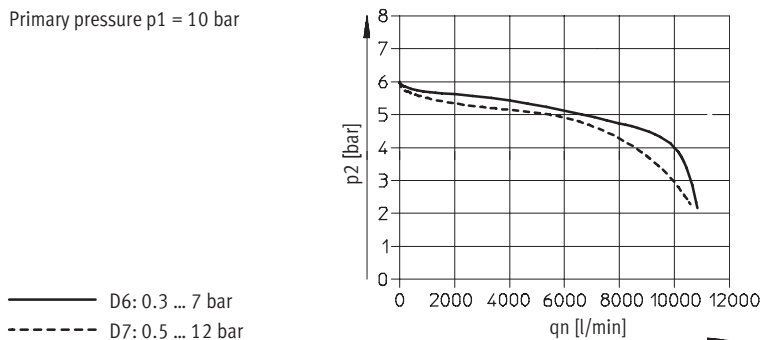


MS6-LR-3/8



MS6-LR-1/2

Primary pressure $p_1 = 10$ bar



New
Variant AD7 ... AD10, DM2

Pressure regulators MS4/MS6-LR, MS series

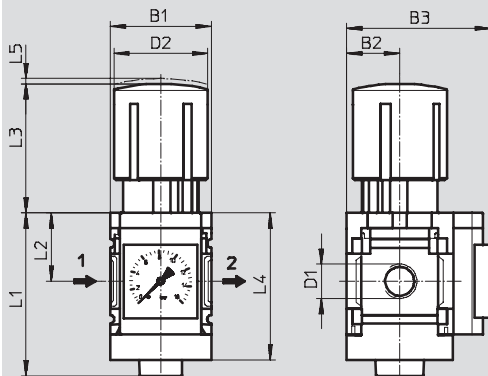
Technical data

FESTO

Dimensions – Standard

Download CAD data → www.festo.com

Integrated pressure gauge, display unit [bar], standard rotary knob with detent



→ Flow direction

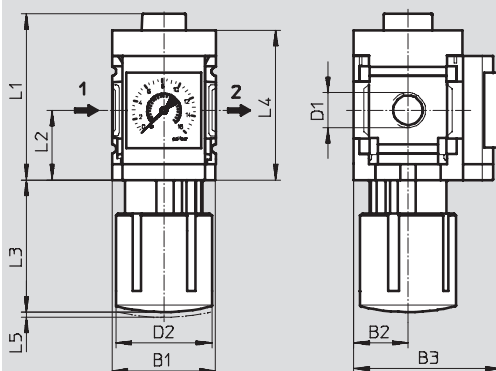
Type	B1	B2	B3		D1	D2	L1	L2	L3	L4	L5
			Stan- dard scale	Red- green scale							
MS4-LR-1/8	40	21	57	58.5	G1/8	37.2	64.4	27	51.1	58	2
MS4-LR-1/4					G1/4						
MS6-LR-1/4	62	31	77	78.5	G1/4	51	93	39	86	84	5
MS6-LR-3/8					G3/8						
MS6-LR-1/2					G1/2						

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

Dimensions – Alternative mounting position

Download CAD data → www.festo.com

Rotary knob underneath KD



→ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4-LR-1/8-...-KD	40	21	57	G1/8	37.2	64.4	27	51.1	58	2
MS4-LR-1/4-...-KD				G1/4						
MS6-LR-1/4-...-KD	62	31	77	G1/4	51	93	39	86	84	5
MS6-LR-3/8-...-KD				G3/8						
MS6-LR-1/2-...-KD				G1/2						

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

Pressure regulators MS4/MS6-LR, MS series

Technical data

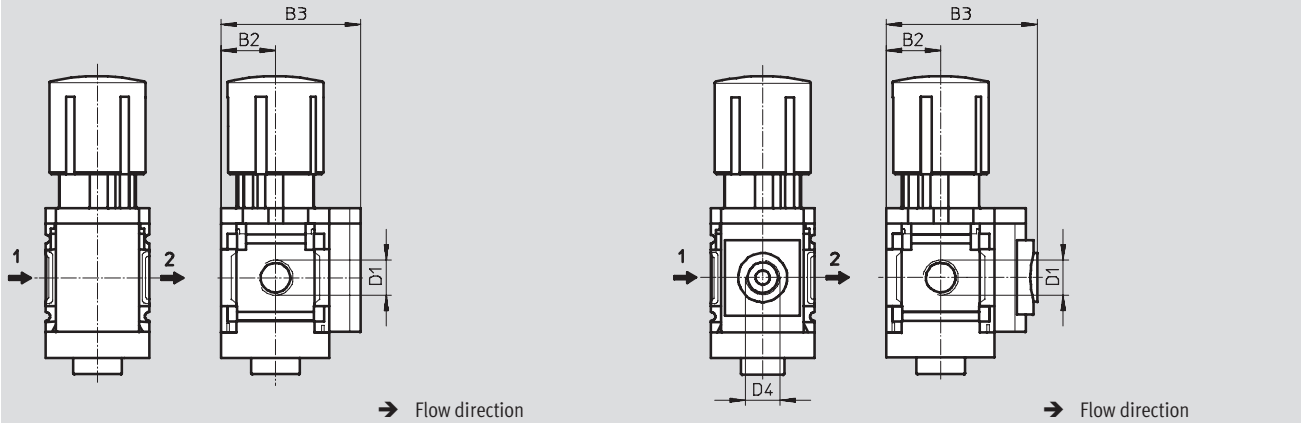
FESTO

Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Cover plate VS

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



Type	B2	B3	D1	D4
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	
MS6-LR-1/4-...-VS	31	76	G1/4	–
MS6-LR-3/8-...-VS			G3/8	
MS6-LR-1/2-...-VS			G1/2	
MS6-LR-1/4-...-A4	31	78.5	G1/4	G1/4
MS6-LR-3/8-...-A4			G3/8	
MS6-LR-1/2-...-A4			G1/2	

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

New
Variant AD7 ... AD10, DM2

Pressure regulators MS4/MS6-LR, MS series

Technical data

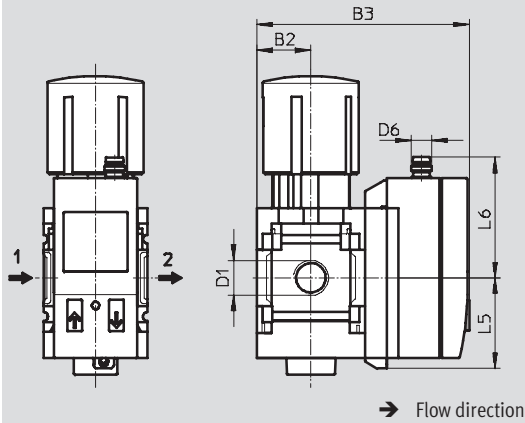
FESTO

Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Pressure sensor with LCD display AD1 ... AD4

Technical data → Internet: [sde1](#)



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

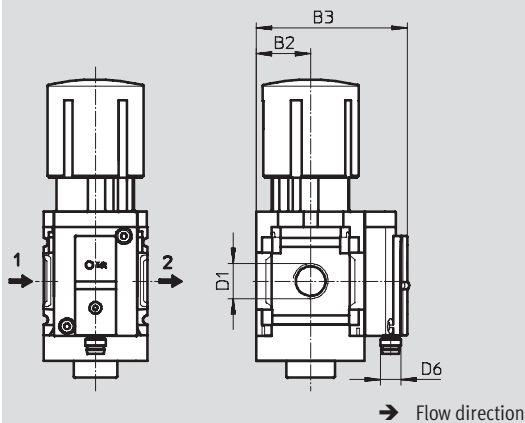
Variant AD2:
SDE1-D10-G2-MS-L-N1-M8 with
3-pin plug M8x1, 1 switching
output NPN

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

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

Pressure sensor without LCD display (operational status indicator only) AD7 ... AD10

Technical data → Internet: [sde5](#)



Variant AD7:
SDE5-D10-O-...-P-M8 with 3-pin
plug M8x1, threshold value
comparator, 1 switching output PNP,
N/O contact

Variant AD8:
SDE5-D10-C-...-P-M8 with 3-pin
plug M8x1, threshold value
comparator, 1 switching output PNP,
N/C contact

Variant AD9:
SDE5-D10-O3-...-P-M8 with 3-pin
plug M8x1, window comparator,
1 switching output PNP, N/O contact

Variant AD10:
SDE5-D10-C3-...-P-M8 with 3-pin
plug M8x1, window comparator,
1 switching output PNP, N/C contact

Type	B2	B3	D1	D6	L5	L6
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			
MS4-LR-1/8-...-AD7/AD8/AD9/AD10	21	59.1	G1/8	M8x1	–	–
MS4-LR-1/4-...-AD7/AD8/AD9/AD10			G1/4			
MS6-LR-1/4-...-AD1/AD2	31	103	G1/4	M8x1	35.1	46.7
MS6-LR-3/8-...-AD1/AD2			G3/8			
MS6-LR-1/2-...-AD1/AD2			G1/2			
MS6-LR-1/4-...-AD3/AD4	31	103	G1/4	M12x1	35.1	55.8
MS6-LR-3/8-...-AD3/AD4			G3/8			
MS6-LR-1/2-...-AD3/AD4			G1/2			
MS6-LR-1/4-...-AD7/AD8/AD9/AD10	31	79	G1/4	M8x1	–	–
MS6-LR-3/8-...-AD7/AD8/AD9/AD10			G3/8			
MS6-LR-1/2-...-AD7/AD8/AD9/AD10			G1/2			

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

Pressure regulators MS4/MS6-LR, MS series

Technical data

FESTO

Dimensions – Rotary knob

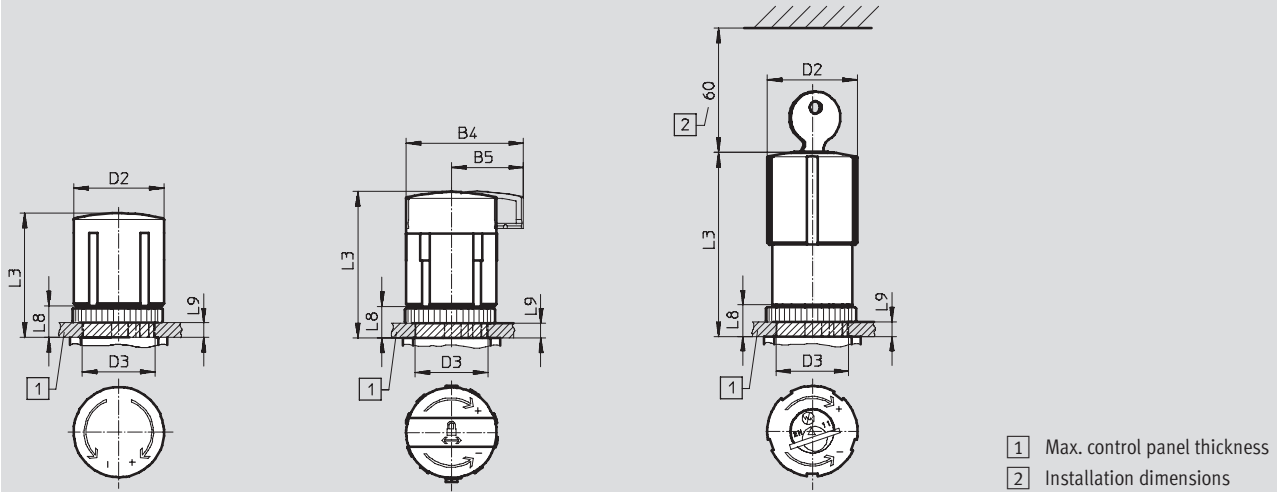
Download CAD data → www.festo.com

For installation into control panel

Standard rotary knob with detent

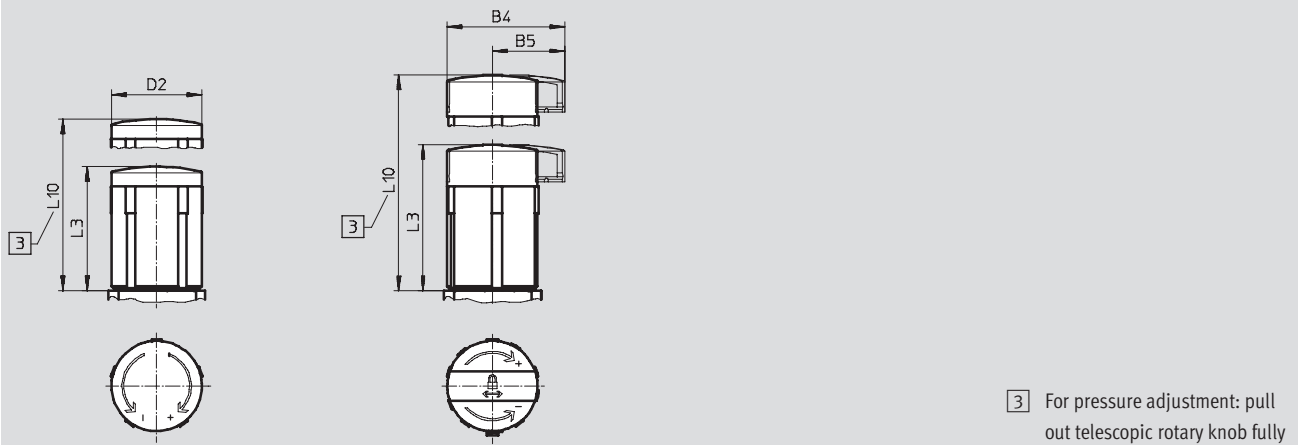
Standard rotary knob with detent,
lockable via accessories AS

Rotary knob with integrated lock
E11



Long rotary knob with detent LD

Long rotary knob with detent,
lockable via accessories LD-AS



Type	B4	B5	D2	D3 +1	L3	L8	L9	L10
MS4-LR-...	–	–	37.2	30	51.1	13	6	–
MS4-LR-...-AS	48.3	29.7			60.2			
MS4-LR-...-E11	–	–			76			
MS4-LR-...-LD	–	–	37.2	–	51.1	–	–	76.8
MS4-LR-...-LD-AS	48.3	29.7			60.2			85.7
MS6-LR-...	–	–	51	44	86	22	14	–
MS6-LR-...-AS	64.4	39			95.5			
MS6-LR-...-E11	–	–			112.1			
MS6-LR-...-LD	–	–	51	–	86	–	–	139
MS6-LR-...-LD-AS	64.4	39			95.5			148.5

New
Variant AD7 ... AD10, DM2

Pressure regulators MS4/MS6-LR, MS series

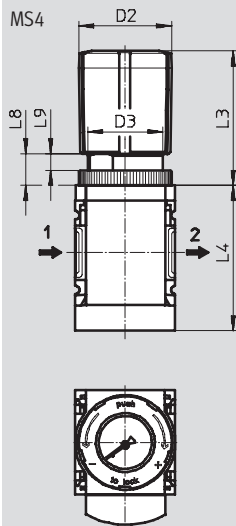
Technical data

FESTO

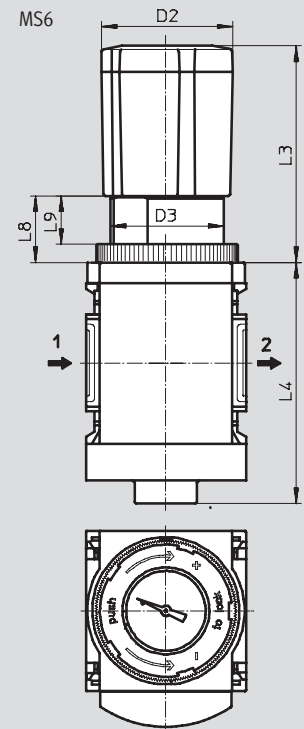
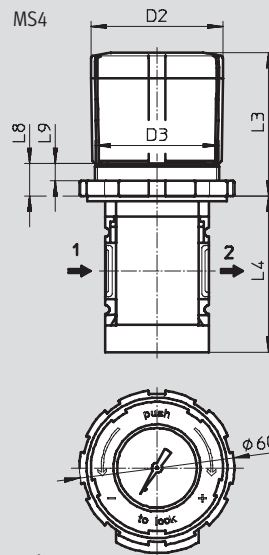
Dimensions – Rotary knob with pressure gauge

Download CAD data → www.festo.com

Small DM1



Large DM2



Note

Due to the protruding rotary knob, only a distributor block MS4-FRM-FRZ or a branching module MS4-FRM can be connected as a directly adjacent service unit component.

→ 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
MS6-LR-...-DM2	51	M44x1	84	93	26	19

Pressure regulators MS4/MS6-LR, MS series

Technical data

FESTO

Ordering data							
Integrated pressure gauge, display unit [bar], standard rotary knob with detent, lockable via accessories							
Size	Connection	Pressure regulation range 0.3 ... 4 bar		Pressure regulation range 0.3 ... 7 bar		Pressure regulation range 0.5 ... 12 bar	
		Part No.	Type	Part No.	Type	Part No.	Type
MS4	G1/8	529421	MS4-LR-1/8-D5-AS	529423	MS4-LR-1/8-D6-AS	529425	MS4-LR-1/8-D7-AS
	G1/4	529415	MS4-LR-1/4-D5-AS	529417	MS4-LR-1/4-D6-AS	529419	MS4-LR-1/4-D7-AS
MS6	G1/4	529995	MS6-LR-1/4-D5-AS	529997	MS6-LR-1/4-D6-AS	529999	MS6-LR-1/4-D7-AS
	G3/8	530001	MS6-LR-3/8-D5-AS	530003	MS6-LR-3/8-D6-AS	530005	MS6-LR-3/8-D7-AS
	G1/2	529989	MS6-LR-1/2-D5-AS	529991	MS6-LR-1/2-D6-AS	529993	MS6-LR-1/2-D7-AS

Ordering data – Wearing parts kits		
Size	Part No.	Type
MS4	673649	MS4-LR/LRB
MS6	673650	MS6-LR/LRB

 New
Variant AD7 ... AD10, DM2

Pressure regulators MS4/MS6-LR, MS series

Ordering data – Modular products

FESTO

M Mandatory data						O Options →
Module No.	Series	Size	Function	Connection size	Pressure range/operation	Pressure gauge alternatives
527690 527663	MS	4 6	LR	1/8, 1/4, 3/8, 1/2, AGA, AGB, AGC, AGD, AGE	D5 D6 D7 D8	VS, A8, A4, RG, AD1, AD2, AD3, AD4, AD7, AD8, AD9, AD10
Order example						
527690	MS	4	- LR	- AGB	- D6	AD3

Ordering table						
Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
M Module No.		527690	527663			
Series		Standard			MS	MS
Size		4	6		...	
Function		Pressure regulator			-LR	-LR
Connection size	Thread G1/8	-			-1/8	
	Thread G1/4	Thread G1/4			-1/4	
	-	Thread G3/8			-3/8	
	-	Thread G1/2			-1/2	
	Connecting plate G1/8	-			-AGA	
	Connecting plate G1/4	Connecting plate G1/4			-AGB	
	Connecting plate G3/8	Connecting plate G3/8			-AGC	
	-	Connecting plate G1/2			-AGD	
	-	Connecting plate G3/4			-AGE	
Pressure range/operation	0.3 ... 4 bar, manually operated				-D5	
	0.3 ... 7 bar, manually operated				-D6	
	0.5 ... 12 bar, manually operated				-D7	
	-	0.5 ... 16 bar, manually operated		3	-D8	
O Pressure gauge alternatives	Cover plate				-VS	
	Adapter plate for EN pressure gauge 1/8, without pressure gauge	-			-A8	
	Adapter plate for EN pressure gauge 1/4, without pressure gauge				-A4	
	Integrated pressure gauge, red-green scale			1 2 3	-RG	
	Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin			1 4	-AD1	
	Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin			1 4	-AD2	
	Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analogue output 4 ... 20 mA			1 4	-AD3	
	Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analogue output 4 ... 20 mA			1 4	-AD4	
	Pressure sensor without display, plug M8, threshold value comparator, PNP, N/O contact			1 4	-AD7	
	Pressure sensor without display, plug M8, threshold value comparator, PNP, N/C contact			1 4	-AD8	
	Pressure sensor without display, plug M8, window comparator, PNP, N/O contact			1 4	-AD9	
	Pressure sensor without display, plug M8, window comparator, PNP, N/C contact			1 4	-AD10	

1 RG, AD1 ... AD4, AD7 ... AD10, OS, KD, AS, WR, WB

MS4: Not with rotary knob alternative DM2

2 RG, OS, KD, AS

Not with rotary knob alternative DM1

3 D8, RG, OS, KD, AS

MS6: Not with rotary knob alternative DM2

4 AD1 ... AD4, AD7 ... AD10

Measuring range max. 10 bar

Not with pressure regulation range D8

Transfer order code

	MS		-	LR	-		-		-	
--	----	--	---	----	---	--	---	--	---	--

Pressure regulators MS4/MS6-LR, MS series

Ordering data – Modular products

FESTO

→ 0 Options						
Alternative pressure gauge scale	Secondary venting	Rotary knob alternative	Alternative mounting position	Security	Type of mounting	Alternative flow direction
PSI MPA	OS	LD DM1 DM2	KD	AS E11	WR WP, WPM WB, WBM	Z
- PSI	- OS	- LD	- KD	- AS	- WB	- Z

Ordering table						
Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
0 ↓	Alternative pressure gauge scale	psi		5	-PSI	
		MPa		5 6	-MPA	
	Secondary venting	Without secondary venting		1 2 3	-OS	
	Rotary knob alternative	Long rotary knob		7	-LD	
		Rotary knob pressure gauge, small	-	7 8	-DM1	
		Rotary knob pressure gauge, large		7 8	-DM2	
	Alternative mounting position	Rotary knob underneath		1 2	-KD	
				3 9		
	Security	Lockable via accessories		1 2 3	-AS	
		With integrated lock			-E11	
	Type of mounting	Mounting bracket with knurled nut for regulator head		1 10	-WR	
		Mounting bracket		11	-WP	
		Mounting bracket		11	-WPM	
		Mounting bracket		1	-WB	
		Mounting bracket	-		-WBM	
	Alternative flow direction	Flow direction from right to left			-Z	

1 **RG, AD1 ... AD4, AD7 ... AD10, OS, KD, AS, WR, WB**
MS4: Not with rotary knob alternative DM2

2 **RG, OS, KD, AS**
Not with rotary knob alternative DM1

3 **D8, RG, OS, KD, AS**
MS6: Not with rotary knob alternative DM2

5 **PSI, MPA** Not with pressure gauge alternatives VS, A8, A4, RG
AD1, AD2, AD3, AD4, AD7, AD8, AD9, AD10

6 **MPA** Not with rotary knob alternative DM1, DM2

7 **LD, DM1, DM2**
Not with integrated lock E11

8 **DM1, DM2** Can only be combined with one pressure gauge alternative VS, A8, A4, AD1, AD2, AD3,
AD4, AD7, AD8, AD9, AD10

9 **KD** Not with pressure gauge alternative RG
Not with alternative pressure gauge scale MPA

10 **WR** Not with mounting type WP
Not with long rotary knob LD

11 **WP, WPM** Only with connecting plate AGA, AGB, AGC, AGD, AGE

Transfer order code

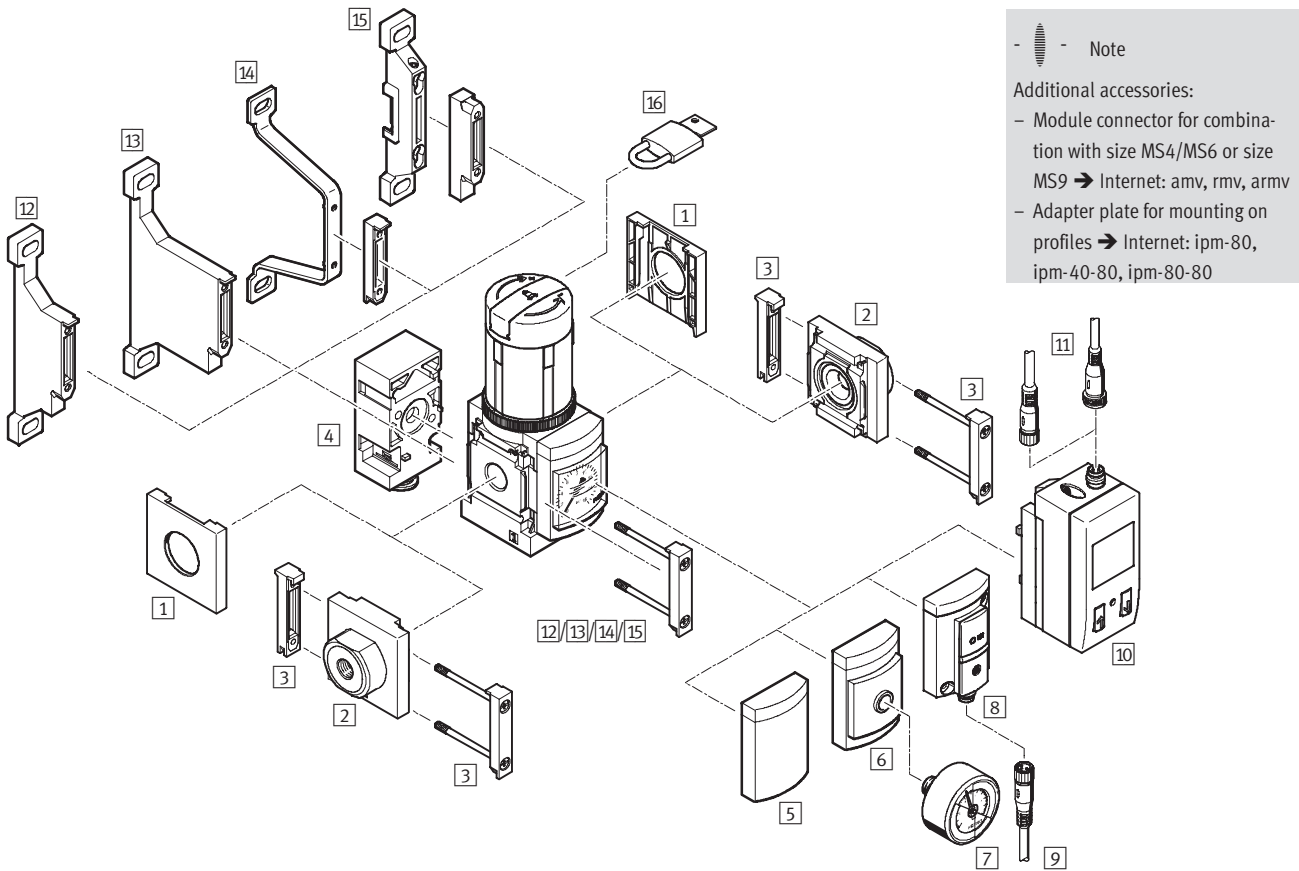
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Pressure regulators MS4/MS6-LRB, MS series

Peripherals overview

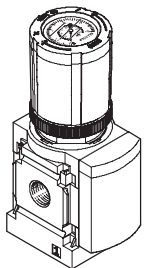
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Pressure regulator MS4/MS6-LRB with pressure output to the rear



Pressure regulator with rotary knob pressure gauge

MS4-LRB-...-DM1/
MS6-LRB-...-DM2



Pressure regulators MS4/MS6-LRB, MS series

Peripherals overview

FESTO

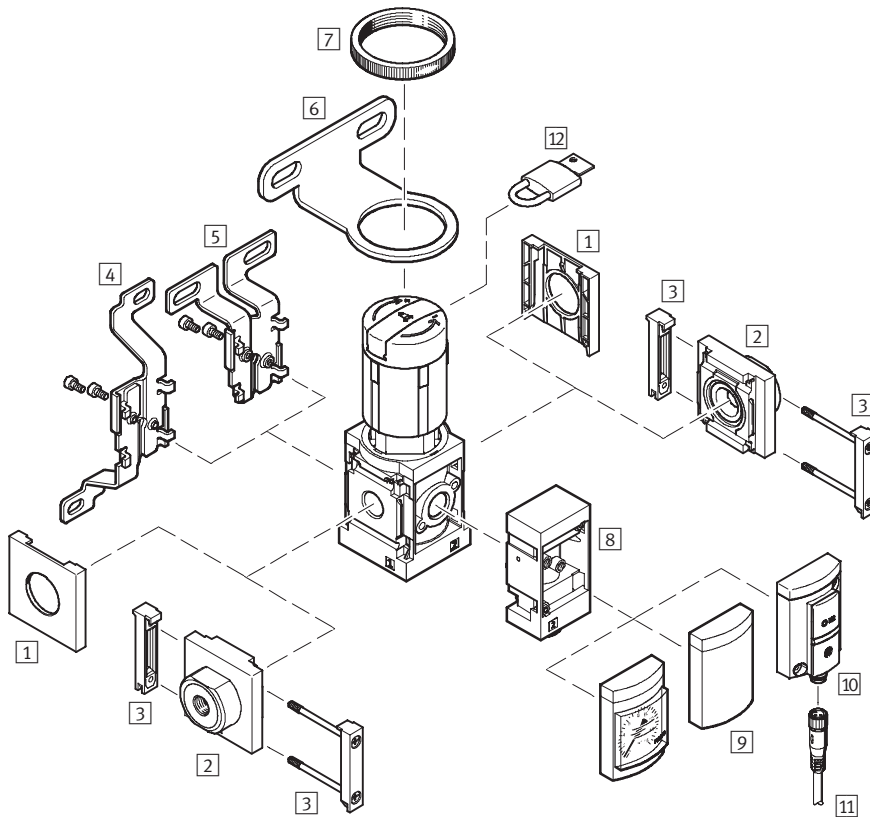
Mounting attachments and accessories						
		Individual device		Combination		➔ Page/Internet
		Without connecting plate	With connecting plate	Without connecting plate	With connecting plate	
1	Cover cap MS4/6-END	■	–	■	–	ms4-end, ms6-end
2	Connecting plate MS4/6-AG...	–	■	–	■	ms4-ag, ms6-ag
3	Module connector MS4/6-MV	–	■	■	■	ms4-mv, ms6-mv
4	Angled outlet block B...	■	■	■	■	34
5	Cover plate VS	■	■	■	■	34
6	Adapter plate for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	34
7	Pressure gauge MA	■	■	■	■	86
8	Pressure sensor without display AD7 ... AD10	■	■	■	■	34
9	Connecting cable NEBU-M8...-LE3	■	■	■	■	86
10	Pressure sensor with display AD1 ... AD4	■	■	■	■	34
11	Connecting cable NEBU-M8...-LE3/NEBU-M12...-LE4	■	■	■	■	86
12	Mounting bracket MS4/6-WP	–	■	■	■	ms4-wp, ms6-wp
13	Mounting bracket MS4/6-WPB	–	■	■	■	ms4-wp, ms6-wp
14	Mounting bracket MS4/6-WPE	–	■	■	■	ms4-wp, ms6-wp
15	Mounting bracket MS4/6-WPM	–	■	■	■	ms4-wp, ms6-wp
16	Padlock LRVS-D	■	■	■	■	86

Pressure regulators MS4/MS6-LRB, MS series

Peripherals overview

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Pressure regulator MS4/MS6-LRB with pressure output to the front



Note

Additional accessories:

- Module connector for combination with size MS4/MS6 or size MS9 → Internet: amv, rmv, armv
- Adapter plate for mounting on profiles → Internet: ipm-80, ipm-40-80, ipm-80-80

Mounting attachments and accessories						
		Individual device		Combination		➔ Page/Internet
		Without connecting plate	With connecting plate	Without connecting plate	With connecting plate	
1	Cover cap MS4/6-END	■	–	■	–	ms4-end, ms6-end
2	Connecting plate MS4/6-AG...	–	■	–	■	ms4-ag, ms6-ag
3	Module connector MS4/6-MV	–	■	■	■	ms4-mv, ms6-mv
4	Mounting bracket MS4/6-WB	■	■	–	–	ms4-wb, ms6-wb
5	Mounting bracket MS4-WBM	■	■	–	–	ms4-wbm
6	Mounting bracket MS4/6-WR	■	■	–	–	ms4-wr, ms6-wr
7	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
8	Angled outlet block B...	■	■	■	■	34
9	Cover plate VS	■	■	■	■	34
10	Pressure sensor without display AD7 ... AD10	■	■	■	■	34
11	Connecting cable NEBU-M8....LE3	■	■	■	■	86
12	Padlock LRVS-D	■	■	■	■	86

Pressure regulators MS4/MS6-LRB, MS series

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Type codes

		MS	6	-	LRB	-	1/2	-	D7	-		-	AS	-	BD
Series															
MS	Standard service unit														
Size															
4	Grid dimension 40 mm														
6	Grid dimension 62 mm														
Service function															
LRB	Pressure regulator for manifold assembly														
Connection size															
MS4															
1/4	Thread G1/4														
MS6															
1/2	Thread G1/2														
Pressure regulation range															
D5	0.3 ... 4 bar														
D6	0.3 ... 7 bar														
D7	0.5 ... 12 bar														
Pressure gauge alternatives															
	Integrated pressure gauge														
A8	Adapter plate for EN pressure gauge 1/8, without pressure gauge														
A4	Adapter plate for EN pressure gauge 1/4, without pressure gauge														
Security															
AS	Standard rotary knob with detent, lockable via accessories														
Pressure output															
	Without angled outlet block														
BD	Angled outlet block QS-8														

Additional variants can be ordered using the modular system → 34

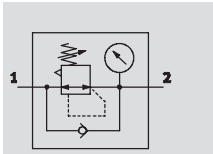
- Connecting plates
- Pressure regulation range
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Secondary venting
- Rotary knob alternative
- Alternative mounting position
- Security
- Pressure output
- Type of mounting
- Alternative flow direction

Pressure regulators MS4/MS6-LRB, MS series

Technical data

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With pressure gauge

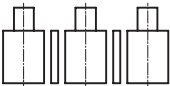


-  Flow rate
300 ... 7,300 l/min
-  Temperature range
-10 ... +60 °C
-  Supply pressure
0.8 ... 20 bar
-  www.festo.com

Wearing parts kits
→ 33



Pressure regulator for manifold assembly:



The pressure regulator is suitable for manifold assemblies with through air supply, for configuring a regulator manifold with separate, independent pressure regulation ranges. Pressure output is to the front or rear.

- Good regulation characteristics with low hysteresis and primary pressure compensation
- Manifold assembly with through air supply
- For configuring a regulator manifold with independent pressure regulation ranges
- Regulator lock for protecting the values against adjustment
- Available with and without secondary venting
- Four pressure regulation ranges: 0.3 ... 4 bar, 0.3 ... 7 bar, 0.5 ... 12 bar and 0.5 ... 16 bar
- Return flow option for exhausting from output 2 to output 1 already integrated
- Optional pressure sensor
- Optional rotary knob pressure gauge

General technical data			
Size		MS4	MS6
Pneumatic connection 1		G $\frac{1}{4}$	G $\frac{1}{2}$
Pneumatic connection 2		G $\frac{1}{4}$	G $\frac{1}{2}$
		QS-6	QS-8
		QS-8	QS-10
Constructional design		Directly-actuated diaphragm regulator with through compressed air supply	
Regulating function		Output pressure constant, with primary pressure compensation, with return flow action, with/without secondary venting	
Type of mounting		Via accessories	
		In-line installation	
		Front panel mounting	
Mounting position		Any	
Regulator lock		Rotary knob with detent	
		Rotary knob with detent, lockable via accessories	
		Rotary knob with integrated lock	
Pressure regulation range	D5 [bar]	0.3 ... 4	
	D6 [bar]	0.3 ... 7	
	D7 [bar]	0.5 ... 12 (0.5 ... 10 with pressure sensor variant AD...)	
	D8 [bar]	–	
Max. hysteresis	[bar]	0.25	
	[bar]	–	
		0.4 with rotary knob pressure gauge variant DM2	
Pressure display		Via pressure sensor for displaying output pressure via LCD display and electrical output	
		Via pressure sensor for displaying output pressure via operational status indicator and electrical output	
		Via pressure gauge for displaying output pressure	
		Via pressure gauge in rotary knob for displaying output pressure	

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

Pressure regulators MS4/MS6-LRB, MS series

Technical data

FESTO

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]							
Size		MS4			MS6		
		Standard	Angled outlet block		Standard	Angled outlet block	
			QS-6	QS-8		QS-8	QS-10
Pressure regulation range	D5	1,900 ²⁾	300 ²⁾	650 ²⁾	7,300 ²⁾	600 ²⁾	750 ²⁾
	D6	1,700	350	840	6,300	880	1,000
	D7	1,500	350	640	5,500	800	950
	D8	–	–	–	4,500	750	850

1) Measured at $p_1 = 10$ bar and $p_2 = 6$ bar, $\Delta p = 1$ bar

2) Measured at $p_1 = 10$ bar and $p_2 = 3$ bar, $\Delta p = 1$ bar

Operating and environmental conditions					
Variant		Standard		Pressure sensor AD...	
Size		MS4	MS6	MS4	MS6
Supply pressure	[bar]	0.8 ... 14	0.8 ... 20	0.8 ... 14	0.8 ... 20
Operating medium		Compressed air		Filtered compressed air, lubricated or unlubricated, grade of filtration 40 μ m	
Ambient temperature	[°C]	–10 ... +60	–10 ... +60	0 ... +50	0 ... +50
Temperature of medium	[°C]	–10 ... +60	–10 ... +60	0 ... +50	0 ... +50
Storage temperature	[°C]	–10 ... +60	–10 ... +60	–10 ... +60	–10 ... +60
Corrosion resistance class	CRC ¹⁾	2			

1) Corrosion resistance class 2 as per 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]		
Size		MS6
Pressure regulator		747
Pressure regulator with rotary knob with integrated lock E11		1,017

New
Variant AD7 ... AD10, DM...

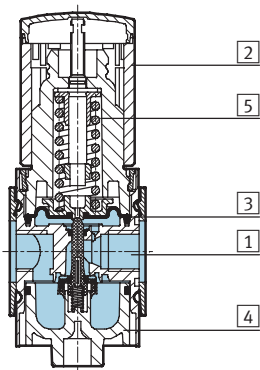
Pressure regulators MS4/MS6-LRB, MS series

Technical data

FESTO

Materials

Sectional view



Pressure regulator (manifold assembly)

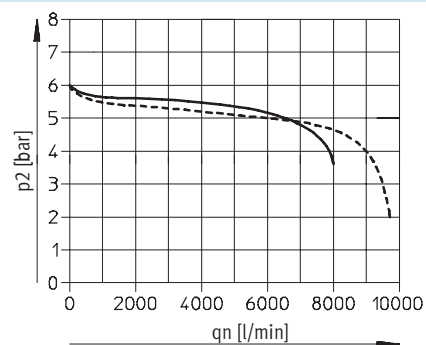
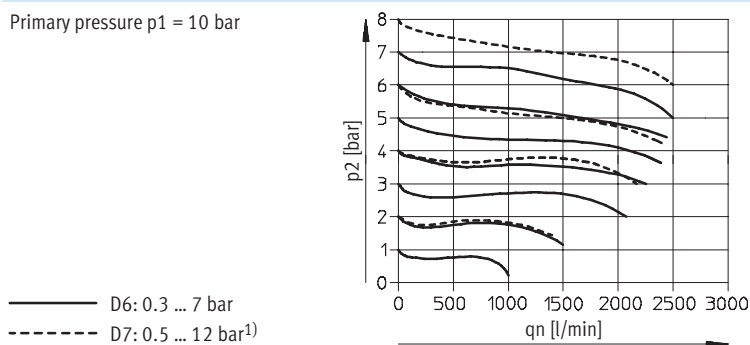
1	Housing	Die-cast aluminium
2	Rotary knob	Polyamide/polyacetate
	Rotary knob with integrated lock E11	Aluminium
3	Diaphragm	Nitrile rubber
4	Cap, bottom	Polyester, fibreglass reinforced
5	Springs	Steel
-	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

Standard flow rate q_n as a function of output pressure p_2

MS4-LRB-1/4

MS6-LRB-1/2

Primary pressure $p_1 = 10$ bar



1) There is a higher initial pressure drop for the characteristic curve of the DM1/DM2 variant.

Pressure regulators MS4/MS6-LRB, MS series

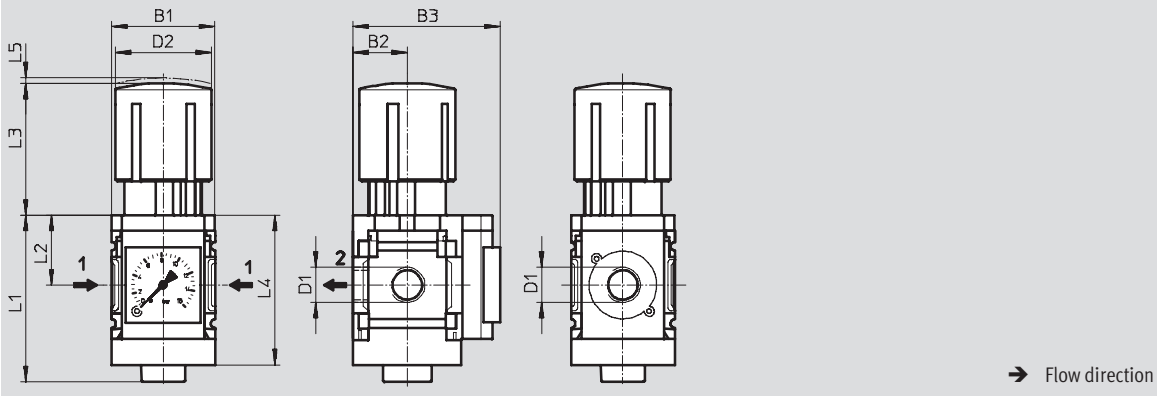
Technical data

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Dimensions – Standard

Download CAD data → www.festo.com

Integrated pressure gauge, display unit [bar], standard rotary knob with detent



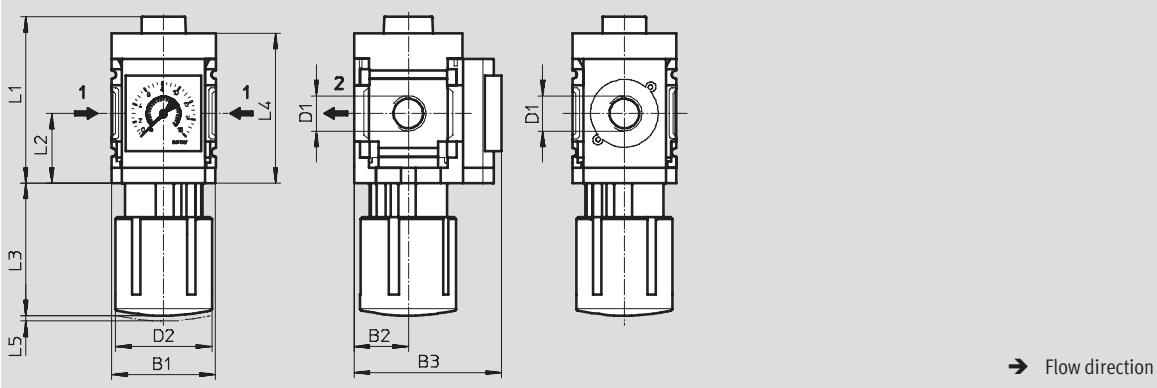
Type	B1	B2	B3		D1	D2	L1	L2	L3	L4	L5
			Standard scale	Red-green scale							
MS4-LRB-1/4	40	21	57	58.5	G1/4	37.2	64.4	27	51.1	58	2
MS6-LRB-1/2	62	31	77	78.5	G1/2	51	93	39	86	84	5

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

Dimensions – Alternative mounting position

Download CAD data → www.festo.com

Rotary knob underneath KD



Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4-LRB-1/4-...-KD	40	21	57	G1/4	37.2	64.4	27	51.1	58	2
MS6-LRB-1/2-...-KD	62	31	77	G1/2	51	93	39	86	84	5

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

Pressure regulators MS4/MS6-LRB, MS series

Technical data

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Dimensions – Angled outlet block BC/BD/BE

Download CAD data → www.festo.com

Pressure output to rear

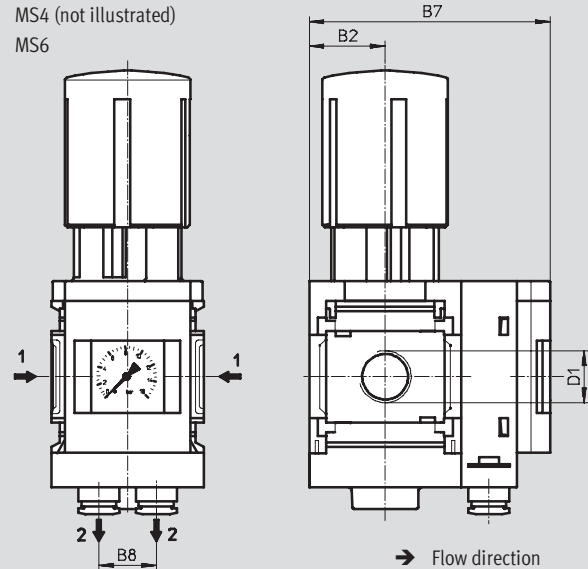
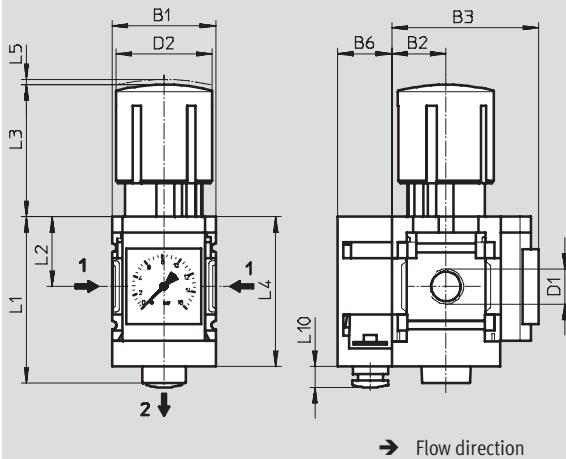
Pressure output to front Z

MS4

MS6 (not illustrated)

MS4 (not illustrated)

MS6



Type	B1	B2	B3	B6	B7	B8	D1	D2	L1	L2	L3	L4	L5	L10
MS4-LRB-1/4-...-B...	40	21	57	21	78	–	G $\frac{1}{4}$	37.2	64.4	27	51.1	58	2	8
MS6-LRB-1/2-...-B...	62	31	77	22.6	99.6	23.4	G $\frac{1}{2}$	51	93	39	86	84	5	11

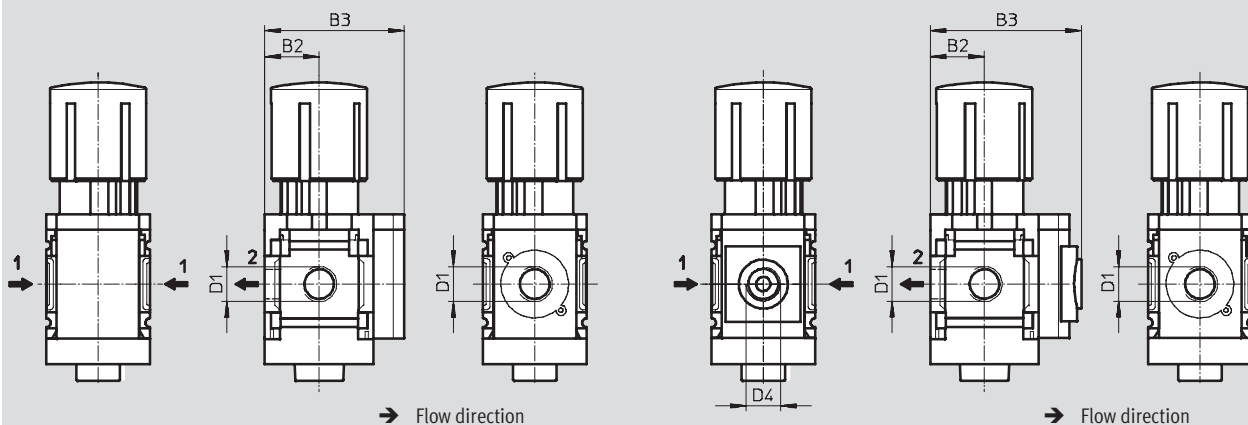
– † – Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Cover plate VS

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



Type	B2	B3	D1	D4
MS4-LRB-1/4-...-VS	21	54	G $\frac{1}{4}$	–
MS4-LRB-1/4-...-A8	21	58.5	G $\frac{1}{4}$	G $\frac{1}{8}$
MS4-LRB-1/4-...-A4	21	58.5	G $\frac{1}{4}$	G $\frac{1}{4}$
MS6-LRB-1/2-...-VS	31	76	G $\frac{1}{2}$	–
MS6-LRB-1/2-...-A4	31	78.5	G $\frac{1}{2}$	G $\frac{1}{4}$

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

Pressure regulators MS4/MS6-LRB, MS series

Technical data

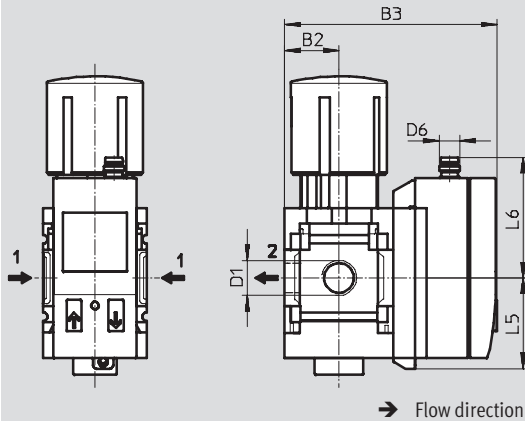
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Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Pressure sensor with LCD display AD1 ... AD4

Technical data → Internet: [sde1](#)



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

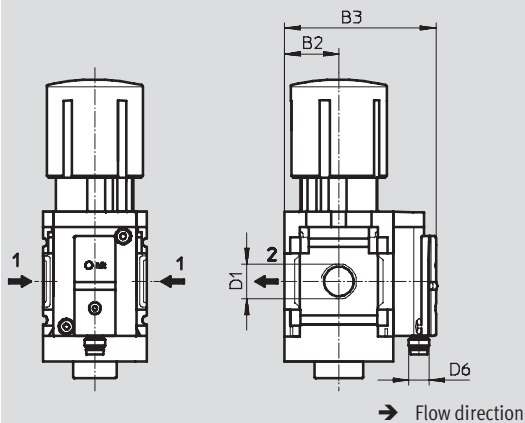
Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with
4-pin plug M12x1, 1 switching
output PNP and 4 ... 20 mA
analogue

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

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

Pressure sensor without LCD display (operational status indicator only) AD7 ... AD10

Technical data → Internet: [sde5](#)



Variant AD7:
SDE5-D10-O-...-P-M8 with 3-pin
plug M8x1, threshold value
comparator, 1 switching output PNP,
N/O contact

Variant AD9:
SDE5-D10-O3-...-P-M8 with 3-pin
plug M8x1, window comparator,
1 switching output PNP, N/O contact

Variant AD8:
SDE5-D10-C-...-P-M8 with 3-pin
plug M8x1, threshold value
comparator, 1 switching output PNP,
N/C contact

Variant AD10:
SDE5-D10-C3-...-P-M8 with 3-pin
plug M8x1, window comparator,
1 switching output PNP, N/C contact

Type	B2	B3	D1	D6	L5	L6
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
MS4-LRB-1/4-...-AD7/AD8/AD9/AD10	21	59.1	G1/4	M8x1	–	–
MS6-LRB-1/2-...-AD1/AD2	31	103	G1/2	M8x1	35.1	46.7
MS6-LRB-1/2-...-AD3/AD4	31	103	G1/2	M12x1	35.1	55.8
MS6-LRB-1/2-...-AD7/AD8/AD9/AD10	31	79	G1/2	M8x1	–	–

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

Pressure regulators MS4/MS6-LRB, MS series

Technical data

FESTO

Dimensions – Rotary knob

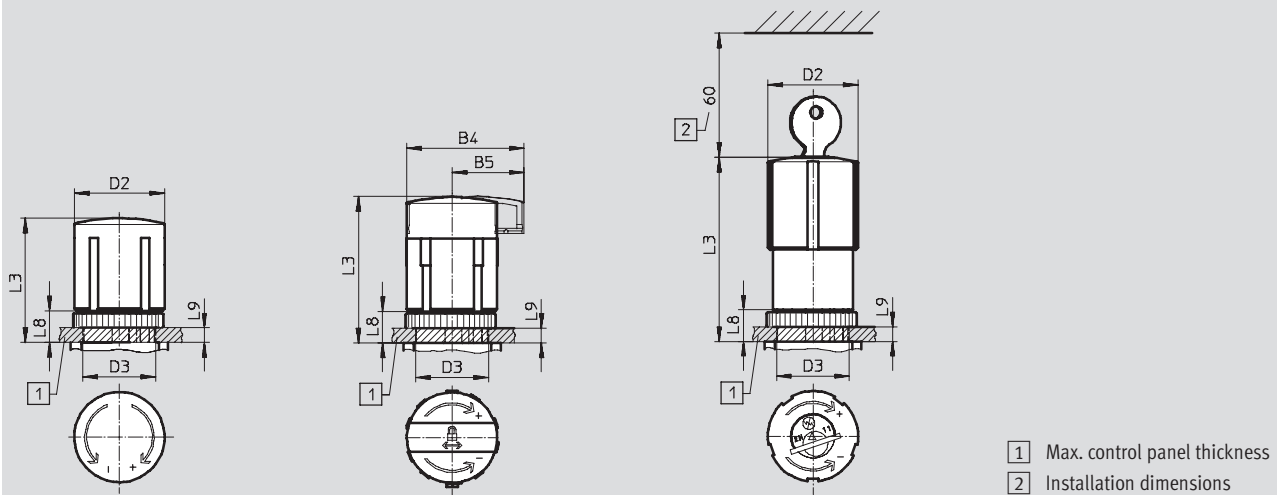
Download CAD data → www.festo.com

For installation into control panel

Standard rotary knob with detent

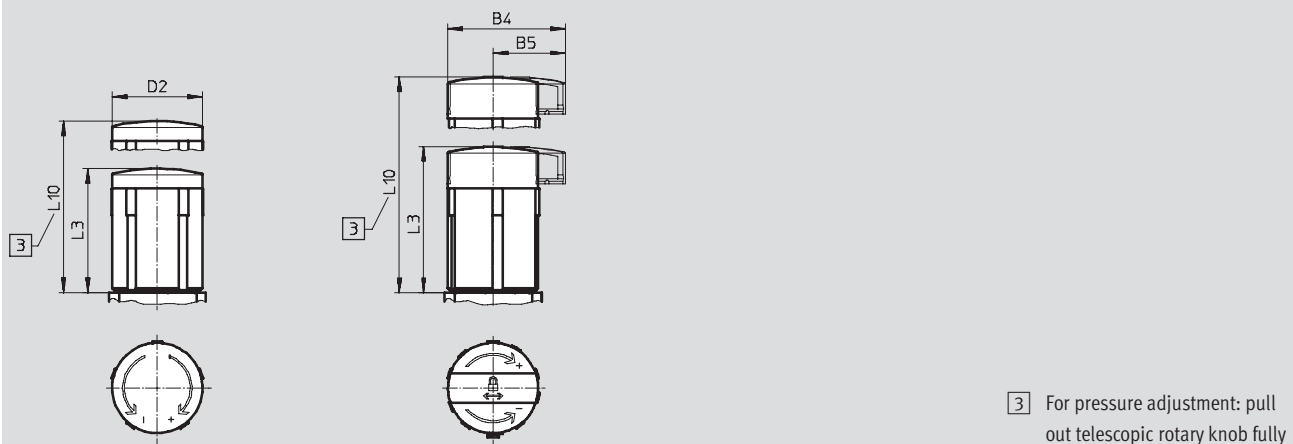
Standard rotary knob with detent,
lockable via accessories AS

Rotary knob with integrated lock
E11



Long rotary knob with detent LD

Long rotary knob with detent,
lockable via accessories LD-AS



Type	B4	B5	D2	D3 +1	L3	L8	L9	L10
MS4-LRB-...	–	–	37.2	30	51.1	13	6	–
MS4-LRB-...-AS	48.3	29.7			60.2			
MS4-LRB-...-E11	–	–			76			
MS4-LRB-...-LD	–	–	37.2	–	51.1	–	–	76.8
MS4-LRB-...-LD-AS	48.3	29.7			60.2			85.7
MS6-LRB-...	–	–	51	44	86	22	14	–
MS6-LRB-...-AS	64.4	39			95.5			
MS6-LRB-...-E11	–	–			112.1			
MS6-LRB-...-LD	–	–	51	–	86	–	–	139
MS6-LRB-...-LD-AS	64.4	39			95.5			148.5

Pressure regulators MS4/MS6-LRB, MS series

Technical data

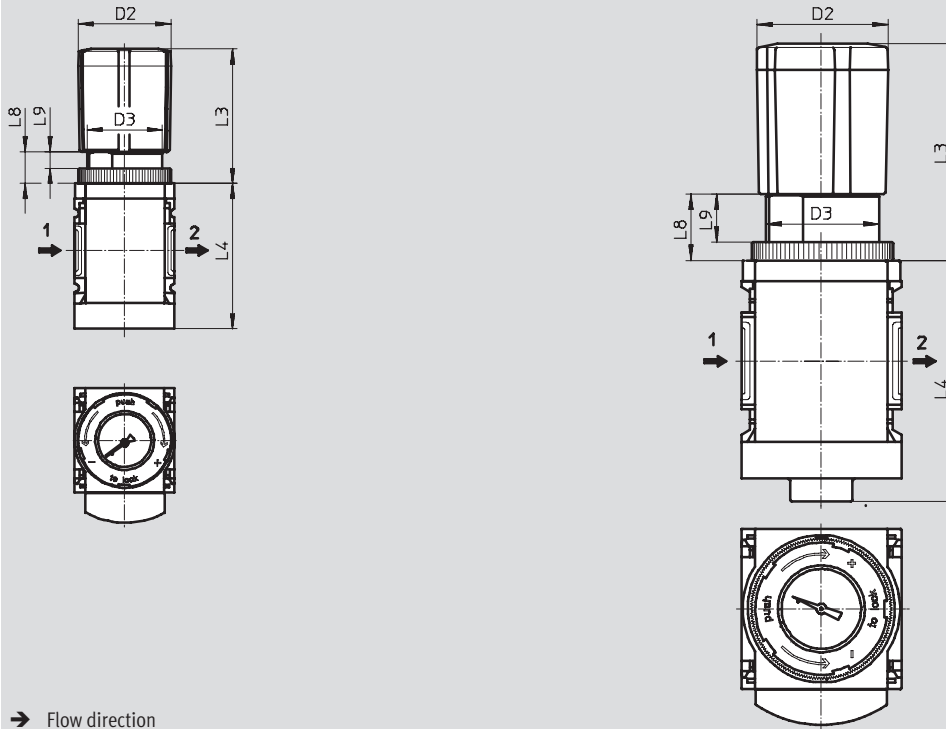
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Dimensions – Rotary knob pressure gauge

Download CAD data → www.festo.com

Small DM1

Large DM2



Type	D2	D3	L3	L4	L8	L9
MS4-LRB-...-DM1	37	M30x1	56	58,5	15	8,7
MS6-LRB-...-DM2	51	M44x1	84	93	26	19

Ordering data

Standard rotary knob with detent, lockable via accessories

Size	Connection	Pressure regulation range 0.3 ... 4 bar		Pressure regulation range 0.3 ... 7 bar		Pressure regulation range 0.5 ... 12 bar	
		Part No.	Type	Part No.	Type	Part No.	Type
Integrated pressure gauge, display unit [bar], pressure output to rear without angled outlet block							
MS4	G1/4	529473	MS4-LRB-1/4-D5-AS	529479	MS4-LRB-1/4-D6-AS	529485	MS4-LRB-1/4-D7-AS
MS6	G1/2	530322	MS6-LRB-1/2-D5-AS	530328	MS6-LRB-1/2-D6-AS	530334	MS6-LRB-1/2-D7-AS
Integrated pressure gauge, display unit [bar], pressure output to rear with angled outlet block QS-8							
MS4	G1/4	529474	MS4-LRB-1/4-D5-AS-BD	529480	MS4-LRB-1/4-D6-AS-BD	529486	MS4-LRB-1/4-D7-AS-BD
MS6	G1/2	530323	MS6-LRB-1/2-D5-AS-BD	530329	MS6-LRB-1/2-D6-AS-BD	530335	MS6-LRB-1/2-D7-AS-BD
Adapter plate A8 for EN pressure gauge 1/8, pressure output to rear without angled outlet block							
MS4	G1/4	529471	MS4-LRB-1/4-D5-A8-AS	529477	MS4-LRB-1/4-D6-A8-AS	529483	MS4-LRB-1/4-D7-A8-AS
Adapter plate A4 for EN pressure gauge 1/4, pressure output to rear without angled outlet block							
MS6	G1/2	530320	MS6-LRB-1/2-D5-A4-AS	530326	MS6-LRB-1/2-D6-A4-AS	530332	MS6-LRB-1/2-D7-A4-AS

Ordering data – Wearing parts kits

Size	Part No.	Type
MS4	673649	MS4-LR/LRB
MS6	673650	MS6-LR/LRB

Pressure regulators MS4/MS6-LRB, MS series

Ordering data – Modular products

FESTO

M Mandatory data						O Options 
Module No.	Series	Size	Function	Connection size	Pressure regulation range	Pressure gauge alternatives
527692 527665	MS	4 6	LRB	1/4 1/2 AGA, AGB, AGC, AGD, AGE	D5 D6 D7 D8	VS, A8, A4, RG, AD1 ... AD4 AD7 ... AD10
Order example						
527692	MS	4	- LRB	- AGC	- D5	- A4

Ordering table						
Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
M Module No.	527692		527665			
Series	Standard				MS	MS
Size	4		6		...	
Function	Pressure regulator for manifold assembly				-LRB	-LRB
Connection size	Thread G1/4		-		-1/4	
	-		Thread G1/2		-1/2	
	Connecting plate G1/8		-		-AGA	
	Connecting plate G1/4		Connecting plate G1/4		-AGB	
	Connecting plate G3/8		Connecting plate G3/8		-AGC	
	-		Connecting plate G1/2		-AGD	
	-		Connecting plate G3/4		-AGE	
Pressure regulation range	0.3 ... 4 bar				-D5	
	0.3 ... 7 bar				-D6	
	0.5 ... 12 bar				-D7	
	-		0.5 ... 16 bar	1	-D8	
O Pressure gauge alternatives	Cover plate			2	-VS	
	Adapter plate for EN pressure gauge 1/8, without pressure gauge		-	3	-A8	
	Adapter plate for EN pressure gauge 1/4, without pressure gauge			3	-A4	
	Integrated pressure gauge, red-green scale			1	-RG	
	Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin			3 4	-AD1	
	Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin			3 4	-AD2	
	Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analogue output 4 ... 20 mA			3 4	-AD3	
	Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analogue output 4 ... 20 mA			3 4	-AD4	
	Pressure sensor without display, plug M8, threshold value comparator, PNP, N/O contact			4 5	-AD7	
	Pressure sensor without display, plug M8, threshold value comparator, PNP, N/C contact			4 5	-AD8	
	Pressure sensor without display, plug M8, window comparator, PNP, N/O contact			4 5	-AD9	
	Pressure sensor without display, plug M8, window comparator, PNP, N/C contact			4 5	-AD10	

1 D8, RG, OS, KD, AS

Not with rotary knob pressure gauge DM1, DM2

2 VS

Must be selected if alternative flow direction Z is selected without alternative mounting position KD and without pressure output BC, BD, BE.

Must be selected if alternative mounting position KD is selected without alternative flow direction Z and without pressure output BC, BD, BE

3 A8, A4, AD1 ... AD4

Not with alternative flow direction Z.

In combination with alternative flow direction Z only with alternative mounting position KD

4 AD1 ... AD4, AD7 ... AD10

Measuring range max. 10 bar

Not with pressure regulation range D8

5 AD7 ... AD10 In combination with alternative flow direction Z only with pressure output BC, BD, BE or

In combination with alternative flow direction Z only with alternative mounting position KD

Transfer order code

	MS		-	LRB	-		-		-	
--	----	--	---	-----	---	--	---	--	---	--

Pressure regulators MS4/MS6-LRB, MS series

Ordering data – Modular products

FESTO

→ 0 Options							
Alternative pressure gauge scale	Secondary venting	Rotary knob alternative	Alternative mounting position	Security	Pressure output	Type of mounting	Alternative flow direction
PSI MPA	OS	LD DM1 DM2	KD	AS E11	BC BD BE	WR WP, WPM WPB WB, WBM	Z
-	- OS	- LD	-	- AS	- BC	- WP	-

Ordering table							
Grid dimension	[mm]	40	62	Condi- tions	Code		Enter code
↓ 0	Alternative pressure gauge scale	psi		6	-PSI		
		MPa		6 7	-MPA		
	Secondary venting	Without secondary venting		1	-OS		
	Rotary knob alternative	Long rotary knob		8	-LD		
		Rotary knob pressure gauge, small	-	8 9	-DM1		
		-	Rotary knob pressure gauge, large	8 9	-DM2		
	Alternative mounting position	Rotary knob underneath		1 10	-KD		
	Security	Lockable via accessories		1	-AS		
		With integrated lock			-E11		
	Pressure output (p _{max} = 10 bar)	Angled outlet block QS-6	-		-BC		
		Angled outlet block QS-8	Angled outlet block QS-8		-BD		
		-	Angled outlet block QS-10		-BE		
	Type of mounting	Mounting bracket with knurled nut for regulator head		11 12	-WR		
		Mounting bracket		13 14	-WP		
		Mounting bracket		11 13	-WPM		
		Mounting bracket for large wall gap		13 15	-WPB		
		Mounting bracket		11	-WB		
		Mounting bracket	-	11	-WBM		
	Alternative flow direction	Pressure output to front (without pressure output, no pressure gauge)			-Z		

1 D8, RG, OS, KD, AS

- Not with rotary knob pressure gauge DM1, DM2
- 6 PSI, MPA** Not with pressure gauge alternatives VS, A8, A4, AD1 ... AD4, AD7 ... AD10
In combination with alternative flow direction Z only with pressure output BC, BD, BE
- 7 MPA** Not with alternative mounting position KD.
Not with rotary knob alternative DM1, DM2
- 8 LD, DM1, DM2** Not with integrated lock E11
Can only be selected in combination with pressure gauge alternative VS, A4, AD1 ... AD4, AD7 ... AD10
- 9 DM1, DM2** Not with alternative pressure gauge scale MPA.
In combination with alternative pressure gauge scale PSI only with alternative flow direction Z and/or only with pressure output BC, BD, BE
Not with mounting type WP, WPB.
In combination with mounting type WR, WPM, WB, WBM not with alternative flow direction Z.
Not with pressure gauge alternative RG.
In combination with pressure gauge alternatives A8, A4, AD1, AD2, AD3, AD4 only with alternative flow direction Z.
- 10 KD** Not with alternative pressure gauge scale MPA.
In combination with alternative pressure gauge scale PSI only with alternative flow direction Z and/or only with pressure output BC, BD, BE
Not with mounting type WP, WPB.
In combination with mounting type WR, WPM, WB, WBM not with alternative flow direction Z.
Not with pressure gauge alternative RG.
In combination with pressure gauge alternatives A8, A4, AD1, AD2, AD3, AD4 only with alternative flow direction Z.

11 WR, WPM, WB, WBM

- In combination with alternative flow direction Z not with alternative mounting position KD
- 12 WR** Only with alternative flow direction Z.
Not with rotary knob alternative LD
- 13 WP, WPM, WPB** Only with connecting plate AGA, AGB, AGC, AGD, AGE
- 14 WP** Only with alternative flow direction Z and/or only with pressure output BC, BD, BE
- 15 WPB** Not with alternative flow direction Z.
Not with pressure output BC, BD, BE

Transfer order code

- - - - - - - -

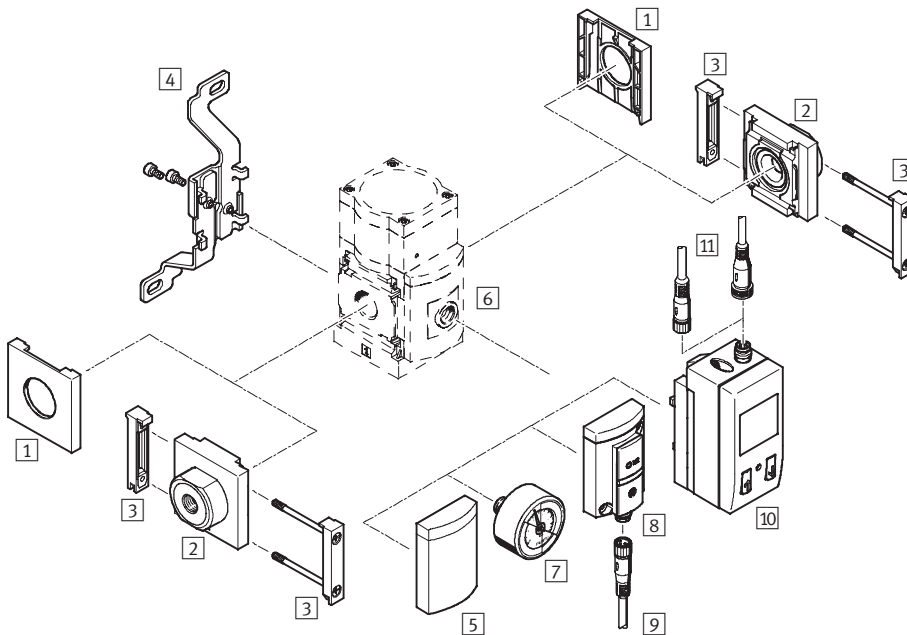
New
Variant AD7 ... AD10, PO

Precision pressure regulators MS6-LRP, MS series

Peripherals overview

FESTO

Precision pressure regulator MS6-LRP



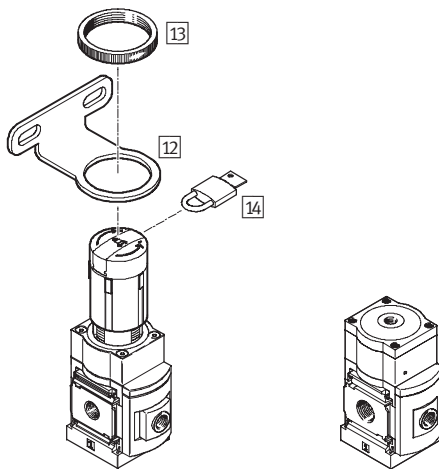
Note

Additional accessories:

- Module connector for combination with size MS4/MS6 or size MS9 → Internet: amv, rmv, armv
- Adapter plate for mounting on profiles → Internet: ipm-80, ipm-40-80, ipm-80-80

Manually operated

Pneumatically actuated



Precision pressure regulators MS6-LRP, MS series

Peripherals overview

FESTO

Mounting attachments and accessories						
		Individual device		Combination		➔ Page/Internet
		Without connecting plate	With connecting plate	Without connecting plate	With connecting plate	
1	Cover cap MS6-END	■	–	■	–	ms6-end
2	Connecting plate MS6-AG...	–	■	–	■	ms6-ag
3	Module connector MS6-MV	–	■	■	■	ms6-mv
4	Mounting bracket MS6-WB	■	■	–	–	ms6-wb
5	Cover plate VS	■	■	■	■	48
6	Adapter plate for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	48
7	Precision pressure gauge A8M/MAP	■	■	■	■	48, 86
8	Pressure sensor without display AD7 ... AD10	■	■	■	■	48
9	Connecting cable NEBU-M8...-LE3	■	■	■	■	86
10	Pressure sensor with display AD1 ... AD4	■	■	■	■	48
11	Connecting cable NEBU-M8...-LE3/NEBU-M12...-LE4	■	■	■	■	86
12	Mounting bracket MS6-WR	■	■	–	–	ms6-wr
13	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
14	Padlock LRVS-D	■	■	■	■	86
–	Mounting bracket MS6-WP/WPB/WPE/WPM	–	■	■	■	ms6-wp



New

Variant AD7 ... AD10, PO

Precision pressure regulators MS6-LRP, MS series

Type codes

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		MS	6	-	LRP	-	1/2	-	D7	-	A8
Series											
MS	Standard service unit										
Size											
6	Grid dimension 62 mm										
Service function											
LRP	Precision pressure regulator										
Connection size											
1/4	G1/4 thread										
3/8	G3/8 thread										
1/2	G1/2 thread										
Pressure regulation range/operation											
D2	0.05 ... 0.7 bar, manually operated										
D4	0.05 ... 2.5 bar, manually operated										
D5	0.1 ... 4 bar, manually operated										
D7	0.1 ... 12 bar, manually operated										
Pressure gauge alternatives											
A8	Adapter plate for EN pressure gauge 1/8, without pressure gauge										

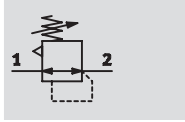
Further variants can be ordered using the modular system → 48

- Connecting plates
- Pressure regulation range/operation
- Pressure gauge alternatives
- Rotary knob alternatives
- Alternative mounting position
- Security
- Type of mounting
- Alternative flow direction

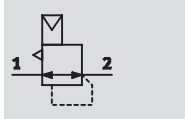
Precision pressure regulators MS6-LRP, MS series

Technical data

Pressure regulation range/operation
manually operated D2/D4/D5/D7



pneumatically actuated PO



-  - Flow rate
800 ... 5,000 l/min
-  - Temperature range
-10 ... +60 °C
-  - Supply pressure
1 ... 14 bar
-  - www.festo.com



The precision pressure regulator is suitable for sensitive applications with a required hysteresis of 0.02 bar. The output pressure p2 can be set within the pressure regulation range either manually using the rotary knob or pneumatically via a pilot pressure p12

by an external pilot regulator (if possible using a precision pressure regulator). When switching off the supply pressure p1, the output pressure p2 is vented via the connection 3 (secondary venting).

- Good regulation characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- High secondary venting for fast response times
- Regulator lock for protecting the values against adjustment
- Four pressure regulation ranges: 0.05 ... 0.7 bar, 0.05 ... 2.5 bar, 0.1 ... 4 bar and 0.1 ... 12 bar
- Optional pressure sensor

General technical data			
Size		MS6	
Pneumatic connection 1, 2		G $\frac{1}{4}$	G $\frac{3}{8}$ G $\frac{1}{2}$
Pneumatic connection 3 (secondary venting)		G $\frac{1}{4}$	
Pilot air connection 12 with variant PO		G $\frac{1}{8}$	
Constructional design		Piloted precision diaphragm regulator	
Regulating function		Output pressure constant, via secondary venting	
Type of mounting		Via accessories	
		In-line installation	
		Front panel mounting	
Mounting position		Any	
Regulator lock		Rotary knob with detent	
		Rotary knob with detent, lockable via accessories	
		Rotary knob with integrated lock	
Pressure regulation range/operation ¹⁾	D2 [bar]	0.05 ... 0.7, manually operated	
	D4 [bar]	0.05 ... 2.5, manually operated	
	D5 [bar]	0.1 ... 4, manually operated	
	D7 [bar]	0.1 ... 12, manually operated (0.1 ... 10 with pressure sensor variant AD...)	
	PO [bar]	0.1 ... 12, pneumatically actuated (0.1 ... 10 with pressure sensor variant AD...)	
Max. hysteresis [bar]		0.02	
Pressure indication		Via pressure sensor for displaying output pressure via LCD display and electrical output	
		Via pressure sensor for displaying output pressure via operational status indicator and electrical output	
		Via precision pressure gauge for displaying output pressure	
		G $\frac{1}{8}$ prepared	
		G $\frac{1}{4}$ prepared	

1) Variant D2/D4/D5/D7: Supply pressure p1 ≥ output pressure p2 + 1 bar. Variant PO: Output pressure p2 = pilot pressure p12 + max. 0.5 bar.

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

New
Variant AD7 ... AD10, PO

Precision pressure regulators MS6-LRP, MS series

Technical data

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Flow rates					
Pressure regulation range		D2 (0.05 ... 0.7 bar)	D4 (0.05 ... 2.5 bar)	D5 (0.1 ... 4 bar)	D7/PO (0.1 ... 12 bar)
Standard nominal flow rate q _N [l/min]					
q _N 1 → 2	G ¹ / ₄	800 ¹⁾	1,100 ²⁾	1,400 ³⁾	3,000 ⁴⁾
	G ³ / ₈	1,100 ¹⁾	1,400 ²⁾	1,700 ³⁾	3,300 ⁴⁾
	G ¹ / ₂	1,600 ¹⁾	2,300 ²⁾	3,000 ³⁾	5,000 ⁴⁾
Secondary venting flow rate [l/min]					
q _N 2 → 3		≥ 220 ⁵⁾	≥ 450 ⁶⁾	≥ 650 ⁷⁾	≥ 900 ⁸⁾

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

5) Measured at p₁ = 10 bar and p₂ = 0.7 bar, Δp₂ = 0.1 bar

6) Measured at p₁ = 10 bar and p₂ = 2.5 bar, Δp₂ = 0.1 bar

7) Measured at p₁ = 10 bar and p₂ = 4.0 bar, Δp₂ = 0.1 bar

8) Measured at p₁ = 10 bar and p₂ = 6.0 bar, Δp₂ = 0.1 bar

Operating and environmental conditions		
Variant	Standard	Pressure sensor AD...
Supply pressure [bar]	1 ... 14	1 ... 14
Operating medium	Filtered compressed air, unlubricated, grade of filtration 40 μm	
Ambient temperature [°C]	-10 ... +60	0 ... +50
Temperature of medium [°C]	-10 ... +60	0 ... +50
Storage temperature [°C]	-10 ... +60	-10 ... +60
Corrosion resistance class CRC ¹⁾	2	

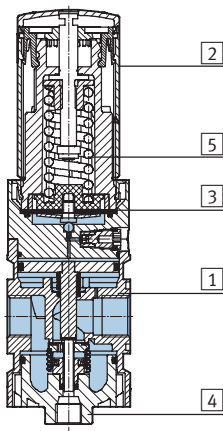
1) Corrosion resistance class 2 as per Festo standard 940 070

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
Precision pressure regulator with rotary knob with integrated lock E11	1,120

Materials

Sectional view



Precision pressure regulator		
1	Housing	Die-cast aluminium
2	Rotary knob	Polyamide/polyacetate
	Rotary knob with integrated lock E11	Aluminium
3	Diaphragm	Nitrile rubber
4	Cap, bottom	Polycarbonate
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variant A8M or AD...)

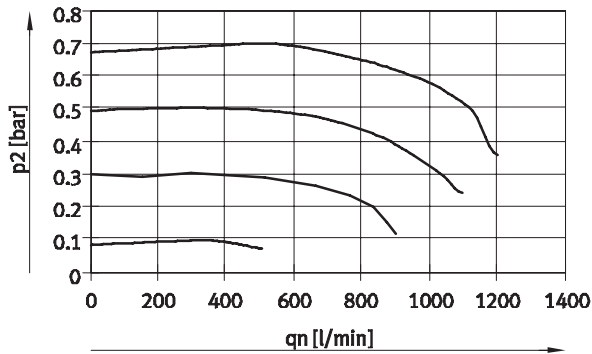
Precision pressure regulators MS6-LRP, MS series

FESTO

Technical data

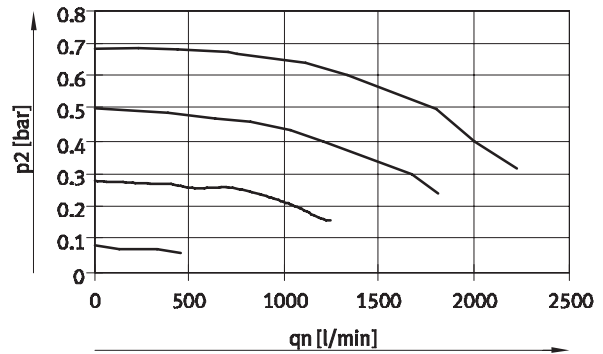
Standard flow rate q_n as a function of output pressure p_2 ($p_1 = 10$ bar)

MS6-LRP-1/4-D2



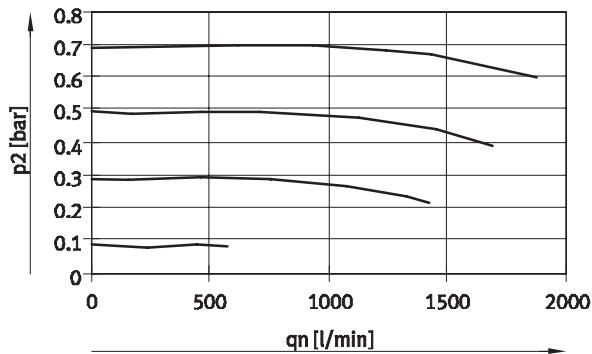
D2: 0.05...0.7 bar

MS6-LRP-3/8-D2



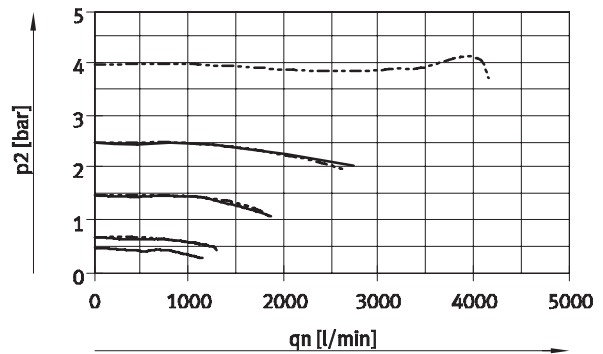
D2: 0.05...0.7 bar

MS6-LRP-1/2-D2



D2: 0.05...0.7 bar

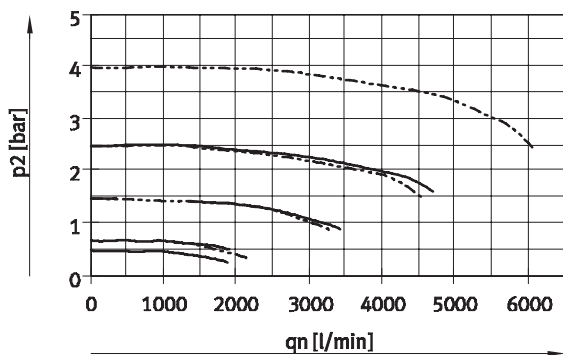
MS6-LRP-1/4-D4/D5



D4: 0.05...2.5 bar

D5: 0.1...4 bar

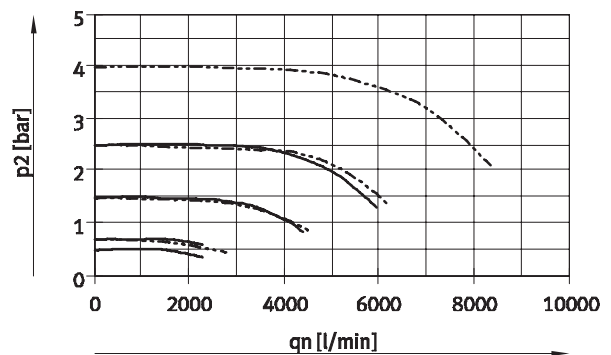
MS6-LRP-3/8-D4/D5



D4: 0.05...2.5 bar

D5: 0.1...4 bar

MS6-LRP-1/2-D4/D5



D4: 0.05...2.5 bar

D5: 0.1...4 bar

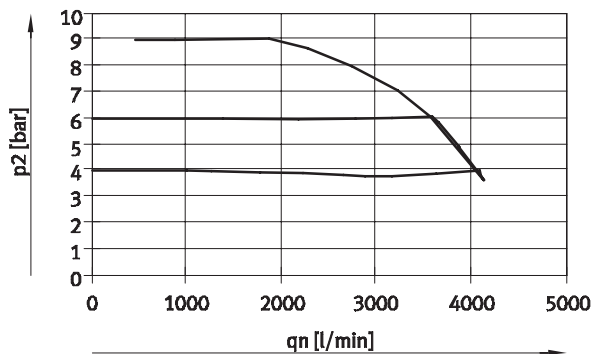
Precision pressure regulators MS6-LRP, MS series

Technical data

FESTO

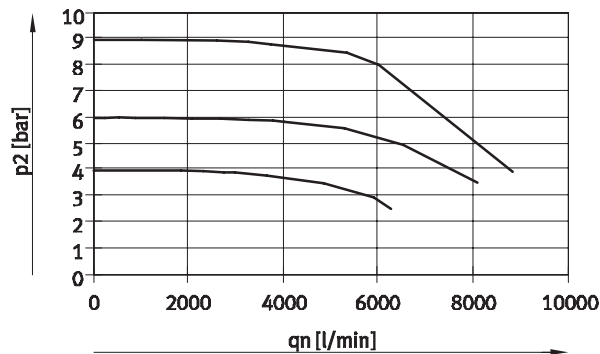
Standard flow rate q_n as a function of output pressure p_2 ($p_1 = 10$ bar)

MS6-LRP-1/4-D7/PO



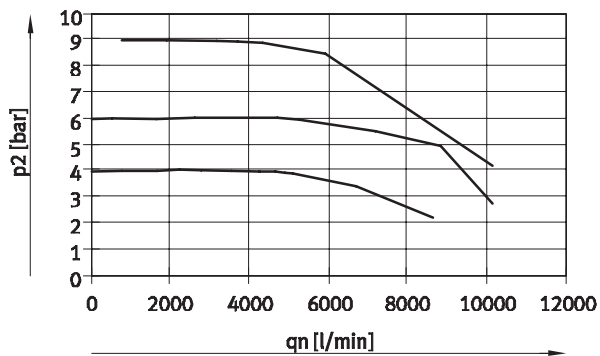
— D7/PO: 0.1...12 bar

MS6-LRP-3/8-D7/PO



— D7/PO: 0.1...12 bar

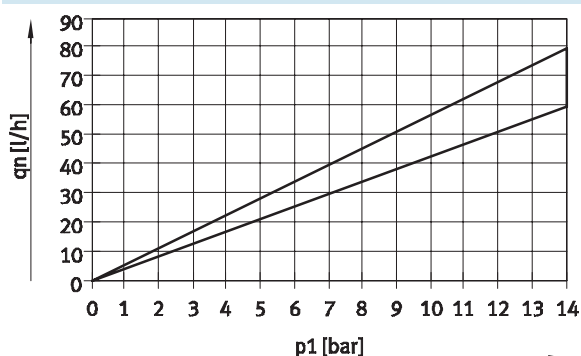
MS6-LRP-1/2-D7/PO



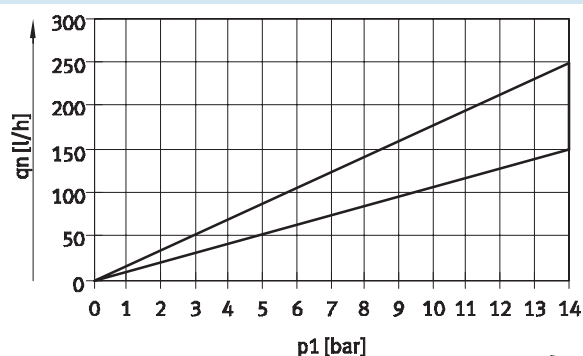
— D7/PO: 0.1...12 bar

Internal air consumption q_n as a function of supply pressure p_1

MS6-LRP-...-D2/D4



MS6-LRP-...-D5/D7/PO



Precision pressure regulators MS6-LRP, MS series

Technical data

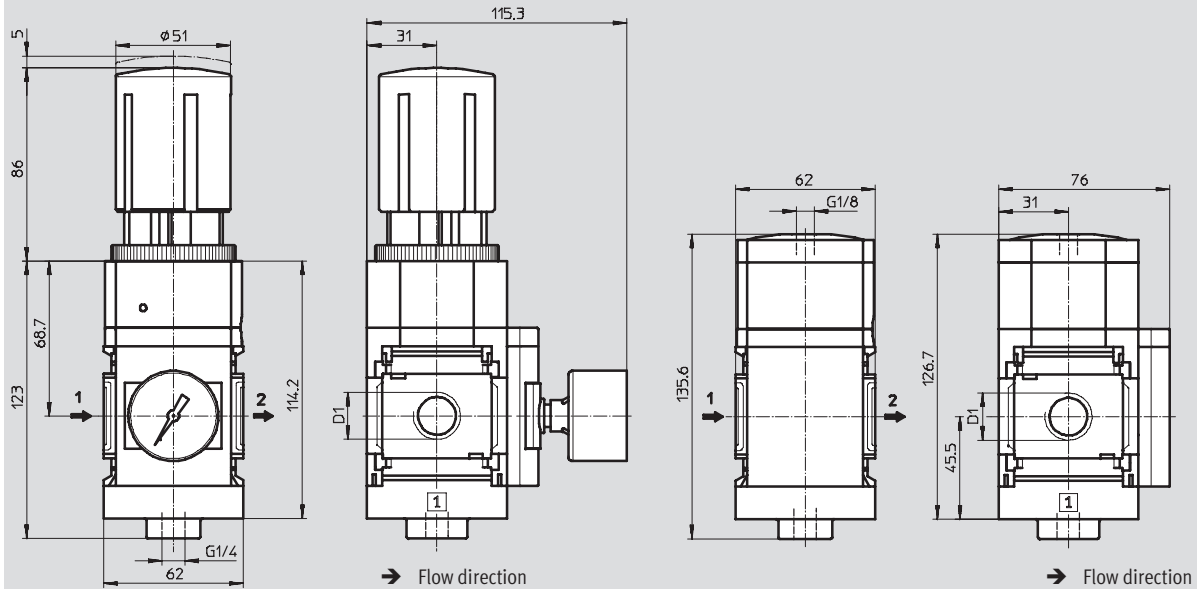
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Dimensions

Download CAD data → www.festo.com

manually operated D2/D4/D5/D7,
with adapter plate A8M for EN pressure gauge $\frac{1}{8}$ as pressure gauge alternative
with precision pressure gauge MAP

pneumatically actuated PO,
with cover plate VS as pressure gauge alternative



Type	D1
MS6-LRP- $\frac{1}{4}$ -D2/D4/D5/D7-A8M	G $\frac{1}{4}$
MS6-LRP- $\frac{3}{8}$ -D2/D4/D5/D7-A8M	G $\frac{3}{8}$
MS6-LRP- $\frac{1}{2}$ -D2/D4/D5/D7-A8M	G $\frac{1}{2}$

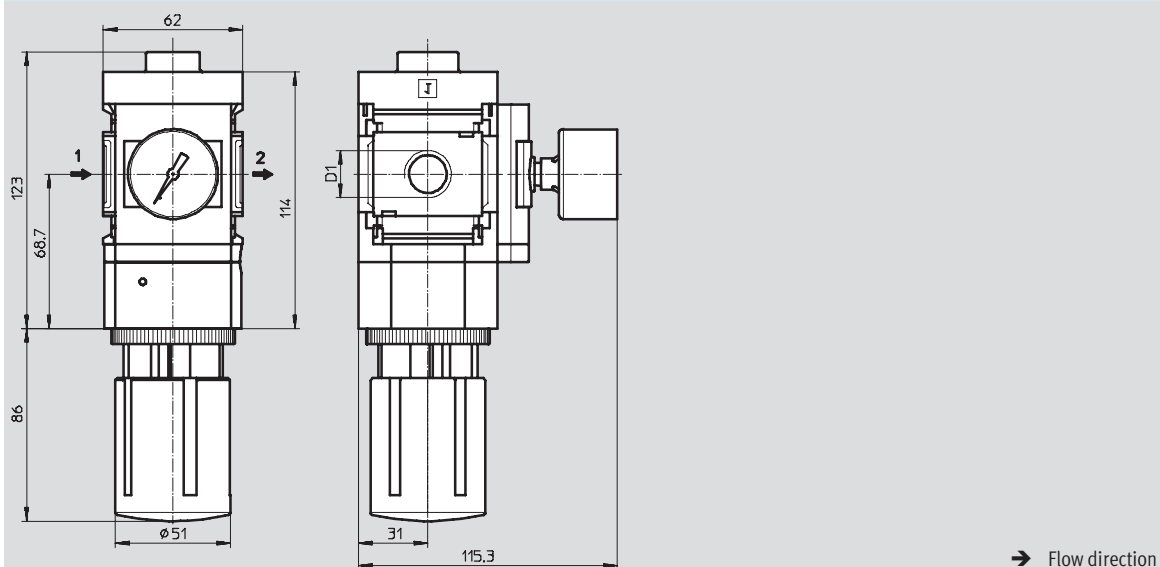
Type	D1
MS6-LRP- $\frac{1}{4}$ -PO-VS	G $\frac{1}{4}$
MS6-LRP- $\frac{3}{8}$ -PO-VS	G $\frac{3}{8}$
MS6-LRP- $\frac{1}{2}$ -PO-VS	G $\frac{1}{2}$

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

Dimensions – Alternative mounting position

Download CAD data → www.festo.com

Rotary knob at bottom KD



Type	D1
MS6-LRP- $\frac{1}{4}$ -...-KD	G $\frac{1}{4}$
MS6-LRP- $\frac{3}{8}$ -...-KD	G $\frac{3}{8}$
MS6-LRP- $\frac{1}{2}$ -...-KD	G $\frac{1}{2}$

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

New
Variant AD7 ... AD10, PO

Precision pressure regulators MS6-LRP, MS series

Technical data

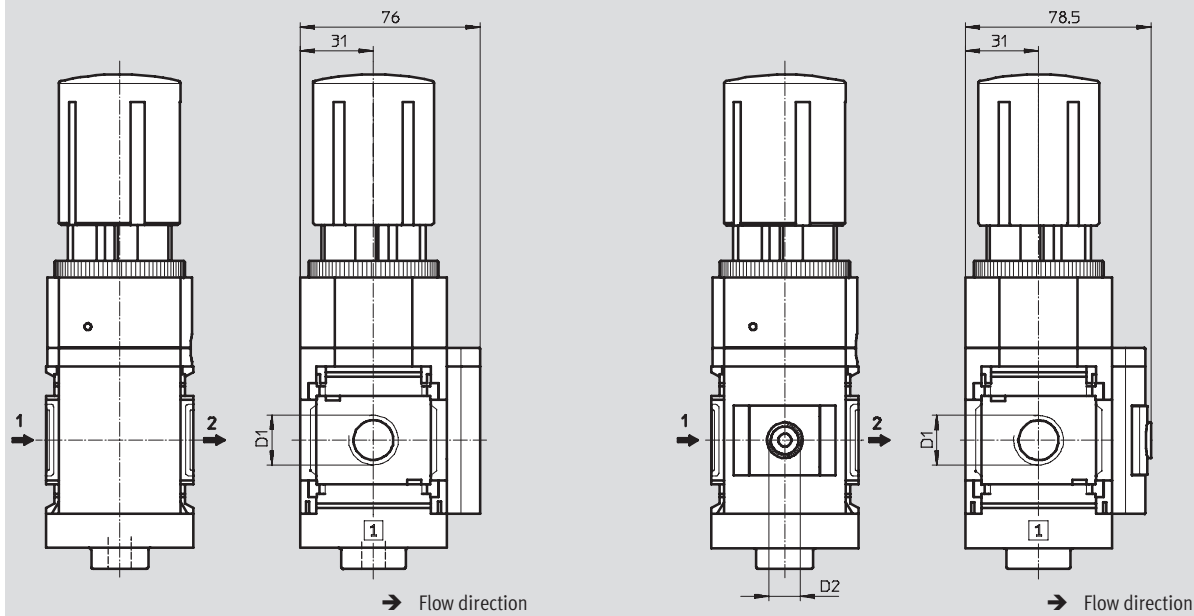
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Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Cover plate VS

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



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	

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

Precision pressure regulators MS6-LRP, MS series

Technical data

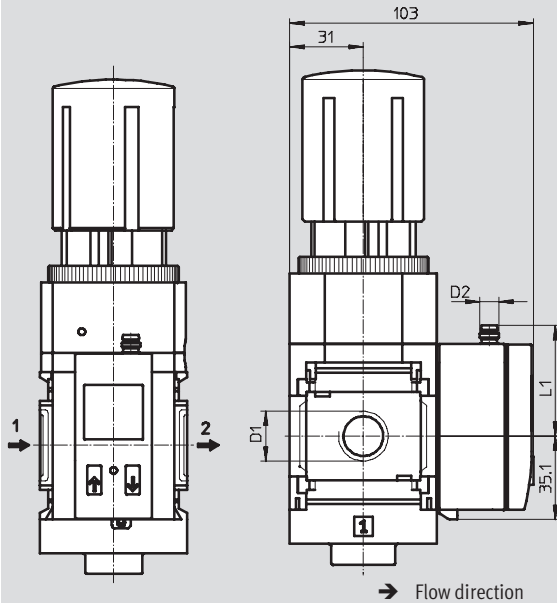
FESTO

Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Pressure sensor with LCD display AD1 ... AD4

Technical data → Internet: [sde1](#)



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

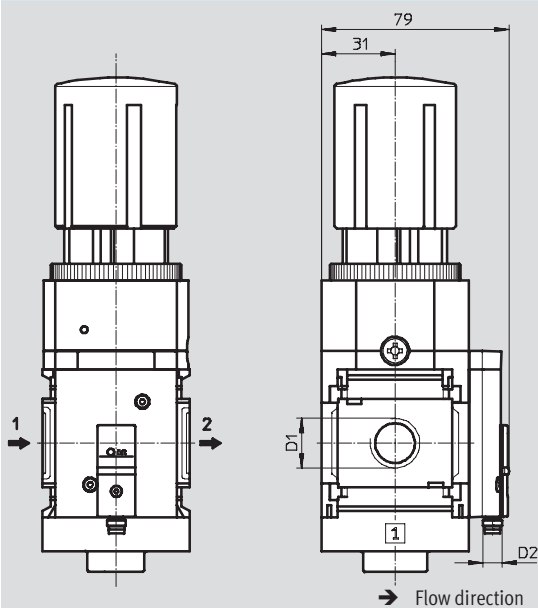
Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with
4-pin plug M12x1, 1 switching out-
put PNP and 4 ... 20 mA analogue

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

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with
4-pin plug M12x1, 1 switching out-
put NPN and 4 ... 20 mA analogue

Pressure sensor without LCD display (operational status indicator only) AD7 ... AD10

Technical data → Internet: [sde5](#)



Variant AD7:
SDE5-D10-O-...-P-M8 with 3-pin
plug M8x1, threshold value
comparator, 1 switching output PNP,
N/O contact

Variant AD9:
SDE5-D10-O3-...-P-M8 with 3-pin
plug M8x1, window comparator,
1 switching output PNP, N/O contact

Variant AD8:
SDE5-D10-C-...-P-M8 with 3-pin
plug M8x1, threshold value
comparator, 1 switching output PNP,
N/C contact

Variant AD10:
SDE5-D10-C3-...-P-M8 with 3-pin
plug M8x1, window comparator,
1 switching output PNP, N/C contact

Type	D1	D2	L1
MS6-LRP-1/4-...-AD1/AD2	G1/4	M8x1	46.7
MS6-LRP-3/8-...-AD1/AD2	G3/8		
MS6-LRP-1/2-...-AD1/AD2	G1/2		
MS6-LRP-1/4-...-AD3/AD4	G1/4	M12x1	55.8
MS6-LRP-3/8-...-AD3/AD4	G3/8		
MS6-LRP-1/2-...-AD3/AD4	G1/2		
MS6-LRP-1/4-...-AD7/AD8/AD9/AD10	G1/4	M8x1	—
MS6-LRP-3/8-...-AD7/AD8/AD9/AD10	G3/8		
MS6-LRP-1/2-...-AD7/AD8/AD9/AD10	G1/2		

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

Precision pressure regulators MS6-LRP, MS series

Technical data

FESTO

Dimensions – Rotary knob

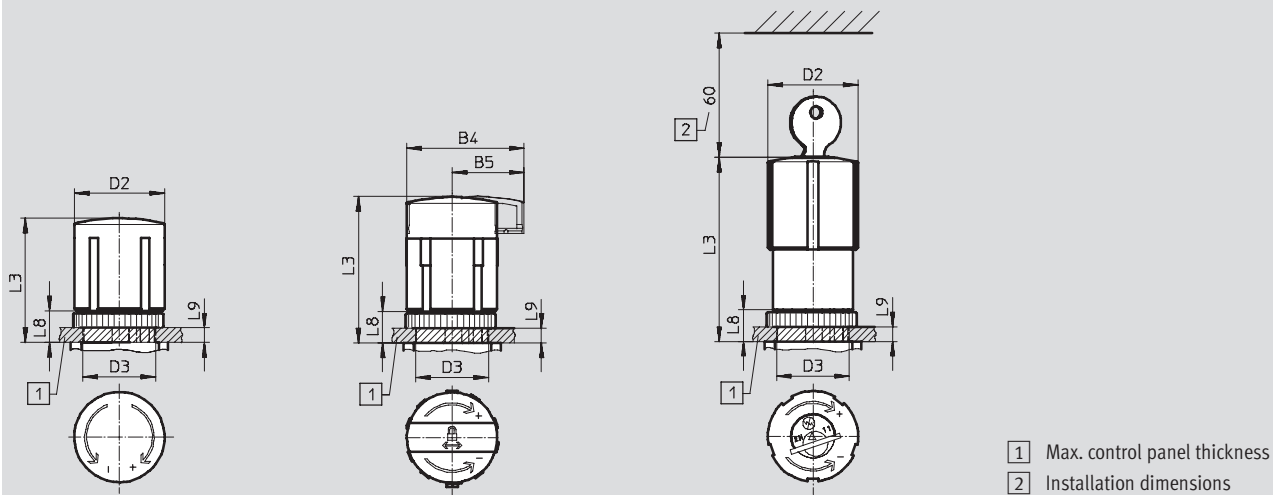
Download CAD data → www.festo.com

For installation into control panel

Standard rotary knob with detent

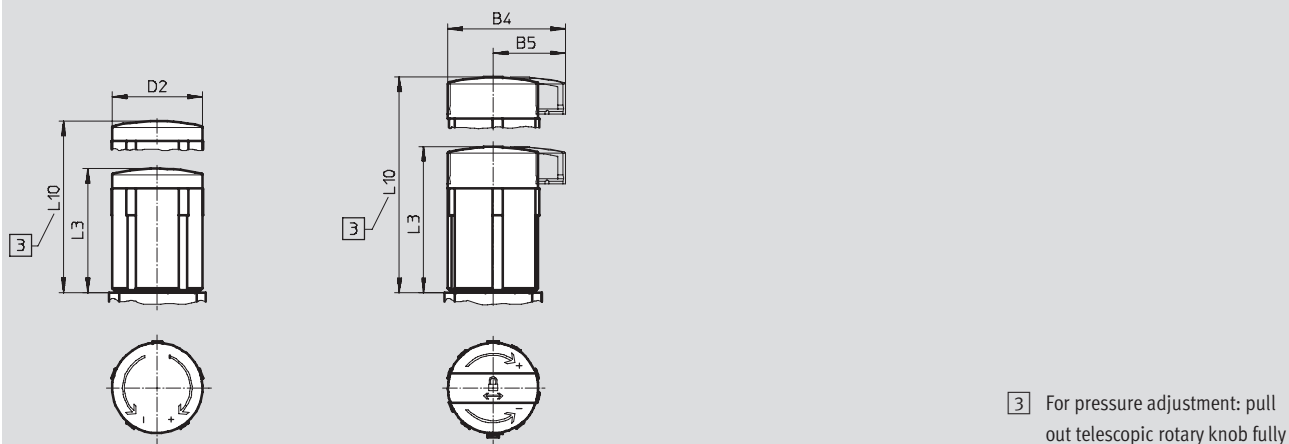
Standard rotary knob with detent,
lockable via accessories AS

Rotary knob with integrated lock
E11



Long rotary knob with detent LD

Long rotary knob with detent,
lockable via accessories LD-AS



Type	B4	B5	D2	D3 +1	L3	L8	L9	L10
MS6-LRP-...	–	–	51	44	86	22	14	–
MS6-LRP-...-AS	64.4	39	51.8	44	95.5	22	14	–
MS6-LRP-...-E11	–	–	51.8	44	112.1	22	14	–
MS6-LRP-...-LD	–	–	51	–	86	–	–	139
MS6-LRP-...-LD-AS	64.4	39	51	–	95.5	–	–	148.5

Precision pressure regulators MS6-LRP, MS series

Technical data

FESTO

Ordering data			
Adapter plate for EN pressure gauge 1/8, standard rotary knob with detent			
Size	Connection	Part No.	Type
Pressure regulation range 0.05 ... 0.7 bar, manually operated			
MS6	G1/4	538004	MS6-LRP-1/4-D2-A8¹⁾
	G3/8	538012	MS6-LRP-3/8-D2-A8¹⁾
	G1/2	538020	MS6-LRP-1/2-D2-A8¹⁾
Pressure regulation range 0.05 ... 2.5 bar, manually operated			
MS6	G1/4	538006	MS6-LRP-1/4-D4-A8¹⁾
	G3/8	538014	MS6-LRP-3/8-D4-A8¹⁾
	G1/2	538022	MS6-LRP-1/2-D4-A8¹⁾
Pressure regulation range 0.1 ... 4 bar, manually operated			
MS6	G1/4	538008	MS6-LRP-1/4-D5-A8¹⁾
	G3/8	538016	MS6-LRP-3/8-D5-A8¹⁾
	G1/2	538024	MS6-LRP-1/2-D5-A8¹⁾
Pressure regulation range 0.1 ... 12 bar, manually operated			
MS6	G1/4	538010	MS6-LRP-1/4-D7-A8¹⁾
	G3/8	538018	MS6-LRP-3/8-D7-A8¹⁾
	G1/2	538026	MS6-LRP-1/2-D7-A8¹⁾

1) Free of copper and PTFE

 New
Variant AD7 ... AD10, PO

Precision pressure regulators MS6-LRP, MS series

Ordering data – Modular products

FESTO

M Mandatory data →						
Module No.	Series	Size	Function	Connection size	Pressure regulation range/operation	Pressure gauge alternatives
538028	MS	6	LRP	1/4, 3/8, 1/2, AGB, AGC, AGD, AGE	D2 D4 D5 D7 PO	VS A8 A8M A4 AD1 ... AD4, AD7 ... AD10
Order example						
538028	MS	6	LRP	1/2	D4	A4

Ordering table					
Grid dimension	[mm]	62	Condi- tions	Code	Enter code
M Module No.	538028				
Series	Standard			MS	MS
Size	6			6	6
Function	Precision pressure regulator			-LRP	-LRP
Connection size	Thread G1/4			-1/4	
	Thread G3/8			-3/8	
	Thread G1/2			-1/2	
	Connecting plate G1/4			-AGB	
	Connecting plate G3/8			-AGC	
	Connecting plate G1/2			-AGD	
	Connecting plate G3/4			-AGE	
Pressure regulation range/ operation	0.05 ... 0.7 bar, manually operated			-D2	
	0.05 ... 2.5 bar, manually operated			-D4	
	0.1 ... 4 bar, manually operated			-D5	
	0.1 ... 12 bar, manually operated			-D7	
	0.1 ... 12 bar, pneumatically actuated		1	-PO	
	(pressure range determined by means of pilot regulator)				
Pressure gauge alternatives	Cover plate			-VS	
	Adapter plate for EN pressure gauge 1/8, without pressure gauge			-A8	
	Adapter plate for EN pressure gauge 1/8, with precision pressure gauge			-A8M	
	Adapter plate for EN pressure gauge 1/4, 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, analogue output 4 ... 20 mA		2	-AD3	
	Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analogue output 4 ... 20 mA		2	-AD4	
	Pressure sensor without display, plug M8, threshold value comparator, PNP, N/O contact		3	-AD7	
	Pressure sensor without display, plug M8, threshold value comparator, PNP, N/C contact		3	-AD8	
	Pressure sensor without display, plug M8, window comparator, PNP, N/O contact		3	-AD9	
	Pressure sensor without display, plug M8, window comparator, PNP, N/C contact		3	-AD10	

1 PO Not with rotary knob alternative LD
Not with security AS, E11
Not with mounting type WR

2 AD1 ... AD4 Measuring range max. 10 bar.
Not with pressure regulation range/operation D2, D4
3 AD7 ... AD10 Measuring range max. 10 bar.
Not with pressure regulation range/operation D2

Transfer order code

538028	MS	6	-	LRP	-		-		-	
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Precision pressure regulators MS6-LRP, MS series

Ordering data – Modular products

FESTO

→ 0 Options

Rotary knob alternative	Alternative mounting position	Security	Type of mounting	Alternative flow direction
LD	KD	AS E11	WR WP WPM WB	Z
- LD	-	- AS	- WB	- Z

Ordering table					
Grid dimension	[mm]	62	Condi- tions	Code	Enter code
0 Rotary knob alternative	Long rotary knob		4	-LD	
Alternative mounting position	Rotary knob underneath		5	-KD	
Security	Lockable via accessories			-AS	
	With integrated lock			-E11	
Type of mounting	Mounting bracket with knurled nut for regulator head		6	-WR	
	Mounting bracket		7	-WP	
	Mounting bracket		7	-WPM	
	Mounting bracket			-WB	
Alternative flow direction	Flow direction from right to left (without pressure output, no pressure gauge)			-Z	

4 LD Not with integrated lock E11
5 KD Not with mounting type WP

6 WR Not with rotary knob alternative LD
7 WP, WPM Only with connecting plate AGB, AGC, AGD or AGE

Transfer order code

- - - - -

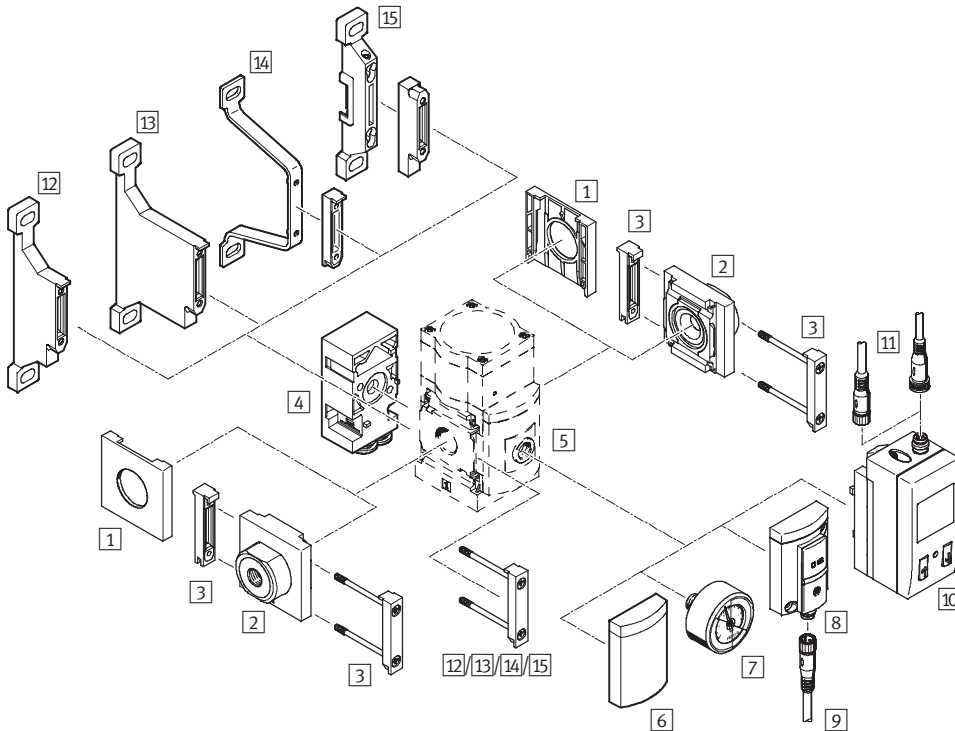
New
Variant AD7 ... AD10, PO

Precision pressure regulators MS6-LRPB, MS series

Peripherals overview

FESTO

Precision pressure regulator MS6-LRPB with pressure output to the rear



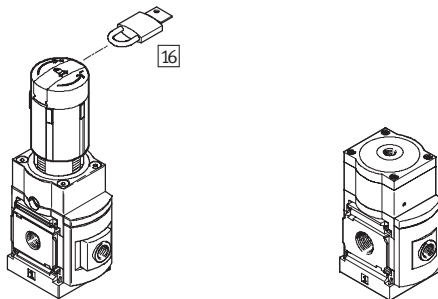
Note

Additional accessories:

- Module connector for combination with size MS4/MS6 or size MS9 → Internet: amv, rmv, armv
- Adapter plate for mounting on profiles → Internet: ipm-80, ipm-40-80, ipm-80-80

Manually operated

Pneumatically actuated



Precision pressure regulators MS6-LRPB, MS series

Peripherals overview

FESTO

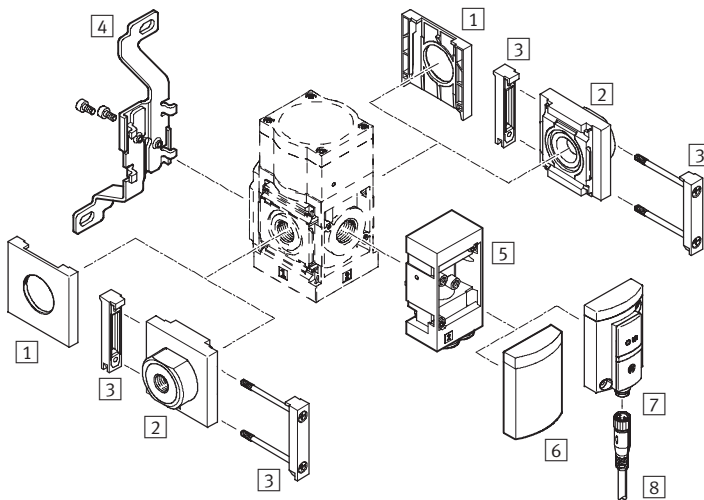
Mounting attachments and accessories						
		Individual device		Combination		➔ Page/Internet
		Without connecting plate	With connecting plate	Without connecting plate	With connecting plate	
1	Cover cap MS6-END	■	–	■	–	ms6-end
2	Connecting plate MS6-AG...	–	■	–	■	ms6-ag
3	Module connector MS6-MV	–	■	■	■	ms6-mv
4	Angled outlet block B...	■	■	■	■	64
5	Adapter plate for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	64
6	Cover plate VS	■	■	■	■	64
7	Precision pressure gauge A8M/MAP	■	■	■	■	64, 86
8	Pressure sensor without display AD7 ... AD10	■	■	■	■	64
9	Connecting cable NEBU-M8...-LE3	■	■	■	■	86
10	Pressure sensor with display AD1 ... AD4	■	■	■	■	64
11	Connecting cable NEBU-M8...-LE3/NEBU-M12...-LE4	■	■	■	■	86
12	Mounting bracket MS6-WP	–	■	■	■	ms6-wp
13	Mounting bracket MS6-WPB	–	■	■	■	ms6-wp
14	Mounting bracket MS6-WPE	–	■	■	■	ms6-wp
15	Mounting bracket MS6-WPM	–	■	■	■	ms6-wp
16	Padlock LRVS-D	■	■	■	■	86

Precision pressure regulators MS6-LRPB, MS series

Peripherals overview

FESTO

Precision pressure regulator MS6-LRPB with pressure output to the front



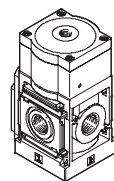
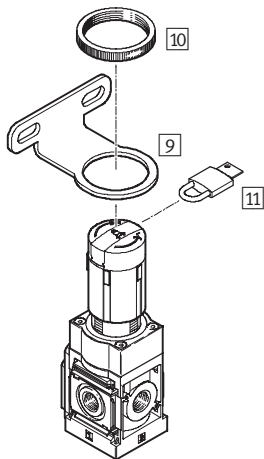
Note

Additional accessories:

- Module connector for combination with size MS4/MS6 or size MS9 → Internet: amv, rmv, armv
- Adapter plate for mounting on profiles → Internet: ipm-80, ipm-40-80, ipm-80-80

Manually operated

Pneumatically actuated



Precision pressure regulators MS6-LRPB, MS series

Peripherals overview

FESTO

Mounting attachments and accessories						
		Individual device		Combination		➔ Page/Internet
		Without connecting plate	With connecting plate	Without connecting plate	With connecting plate	
1	Cover cap MS6-END	■	–	■	–	ms6-end
2	Connecting plate MS6-AG...	–	■	–	■	ms6-ag
3	Module connector MS6-MV	–	■	■	■	ms6-mv
4	Mounting bracket MS6-WB	■	■	–	–	ms6-wb
5	Angled outlet block B...	■	■	■	■	64
6	Cover plate VS	■	■	■	■	64
7	Pressure sensor without display AD7 ... AD10	■	■	■	■	64
8	Connecting cable NEBU-M8...-LE3	■	■	■	■	86
9	Mounting bracket MS6-WR	■	■	–	–	ms6-wr
10	Knurled nut (included in scope of delivery) MS-LR	■	■	–	–	–
11	Padlock LRVS-D	■	■	■	■	86



New

Variant AD7 ... AD10, PO

Precision pressure regulators MS6-LRPB, MS series

Type codes

FESTO

		MS	6	-	LRPB	-	1/2	-	D7	-	A8	-	BD
Series													
MS	Standard service unit												
Size													
6	Grid dimension 62 mm												
Service function													
LRPB	Precision pressure regulator for manifold assembly												
Connection size													
1/2	G1/2 thread												
Pressure regulation range/operation													
D2	0.05 ... 0.7 bar, manually operated												
D4	0.05 ... 2.5 bar, manually operated												
D5	0.1 ... 4 bar, manually operated												
D7	0.1 ... 12 bar, manually operated												
Pressure gauge alternatives													
A8	Adapter plate for EN pressure gauge 1/8, without pressure gauge												
Pressure output													
	Without angled outlet block												
BD	Angled outlet block QS-8												
BE	Angled outlet block QS-10												

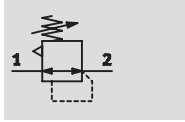
Further variants can be ordered using the modular system → 64

- Connecting plates
- Pressure regulation range/operation
- Pressure gauge alternatives
- Rotary knob alternatives
- Alternative mounting position
- Security
- Type of mounting
- Alternative flow direction

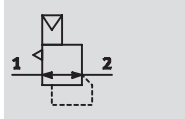
Precision pressure regulators MS6-LRPB, MS series

Technical data

Pressure regulation range/operation manually operated D2/D4/D5/D7



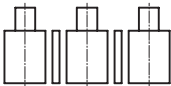
pneumatically actuated PO



-  Flow rate
1,600 ... 5,000 l/min
-  Temperature range
-10 ... +60 °C
-  Supply pressure
1 ... 14 bar
-  www.festo.com



Precision pressure regulator for manifold assembly:



The precision pressure regulator is suitable for sensitive applications requiring a hysteresis of 0.02 bar. The output pressure p2 can be set within

the pressure regulation range either manually using the rotary knob or pneumatically via a pilot pressure p12 by an external pilot regulator (if possible using a precision pressure regulator). When switching off the supply pressure p1, the output pressure p2 is vented via connection 3 (secondary venting).

- Good regulation characteristics with low hysteresis and primary pressure compensation
- Manifold assembly with through air supply
- For configuring a regulator manifold with independent pressure regulation ranges
- Regulator lock for protecting the values against adjustment
- Four pressure regulation ranges: 0.05 ... 0.7 bar, 0.05 ... 2.5 bar, 0.1 ... 4 bar and 0.1 ... 12 bar
- Optional pressure sensor

General technical data		
Size		MS6
Pneumatic connection 1		G1/2
Pneumatic connection 2		G1/2
		QS-8 with angled outlet block BD
		QS-10 with angled outlet block BE
Pneumatic connection 3 (secondary venting)		G1/4
Pilot air connection 12 with variant PO		G1/8
Constructional design		Piloted precision diaphragm regulator with through pressure supply
Regulating function		Output pressure constant, via secondary venting
Type of mounting		Via accessories
		In-line installation
		Front panel mounting
Mounting position		Any
Regulator lock		Rotary knob with detent
		Rotary knob with detent, lockable via accessories
		Rotary knob with integrated lock
Pressure regulation range/operation ¹⁾	D2 [bar]	0.05 ... 0.7, manually operated
	D4 [bar]	0.05 ... 2.5, manually operated
	D5 [bar]	0.1 ... 4, manually operated
	D7 [bar]	0.1 ... 12, manually operated (0.1 ... 10 with pressure sensor variant AD...)
	PO [bar]	0.1 ... 12, pneumatically actuated (0.1 ... 10 with pressure sensor variant AD...)
Max. hysteresis	[bar]	0.02
Pressure indication		Via pressure sensor for displaying output pressure via LCD display and electrical output
		Via pressure sensor for displaying output pressure via operational status indicator and electrical output
		Via pressure gauge for displaying output pressure
		G1/8 prepared
		G1/4 prepared

1) Variant D2/D4/D5/D7: Supply pressure p1 ≥ output pressure p2 + 1 bar. Variant PO: Output pressure p2 = pilot pressure p12 + max. 0.5 bar.

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

New
Variant AD7 ... AD10, PO

Precision pressure regulators MS6-LRPB, MS series

Technical data

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Flow rates				
Pressure regulation range	D2 (0.05 ... 0.7 bar)	D4 (0.05 ... 2.5 bar)	D5 (0.1 ... 4 bar)	D7/PO (0.1 ... 12 bar)
Standard nominal flow rate q _N [l/min]				
q _N 1 → 2	G ¹ / ₂	1,600 ¹⁾	2,300 ²⁾	3,000 ³⁾
Secondary venting flow rate [l/min]				
q _N 2 → 3	≥ 220 ⁵⁾	≥ 450 ⁶⁾	≥ 650 ⁷⁾	≥ 900 ⁸⁾

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

5) Measured at p₁ = 10 bar and p₂ = 0.7 bar, Δp₂ = 0.1 bar

6) Measured at p₁ = 10 bar and p₂ = 2.5 bar, Δp₂ = 0.1 bar

7) Measured at p₁ = 10 bar and p₂ = 4.0 bar, Δp₂ = 0.1 bar

8) Measured at p₁ = 10 bar and p₂ = 6.0 bar, Δp₂ = 0.1 bar

Operating and environmental conditions		
Variant	Standard	Pressure sensor AD...
Supply pressure [bar]	1 ... 14	1 ... 14
Operating medium	Filtered compressed air, unlubricated, grade of filtration 40 μm	
Ambient temperature [°C]	-10 ... +60	0 ... +50
Temperature of medium [°C]	-10 ... +60	0 ... +50
Storage temperature [°C]	-10 ... +60	-10 ... +60
Corrosion resistance class CRC ¹⁾	2	

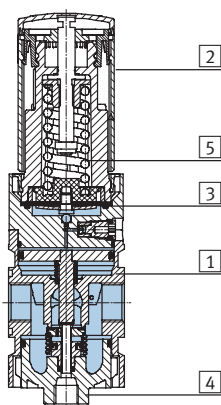
1) Corrosion resistance class 2 as per Festo standard 940 070

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
Precision pressure regulator with rotary knob with integrated lock E11	1,120

Materials

Sectional view



Precision pressure regulator (manifold assembly)		
1	Housing	Die-cast aluminium
2	Rotary knob	Polyamide/polyacetate
	Rotary knob with integrated lock E11	Aluminium
3	Diaphragm	Nitrile rubber
4	Cap, bottom	Polycarbonate
5	Springs	Steel
–	Seals	Nitrile rubber
Note on materials		Free of copper and PTFE (not with variant A8M or AD...)

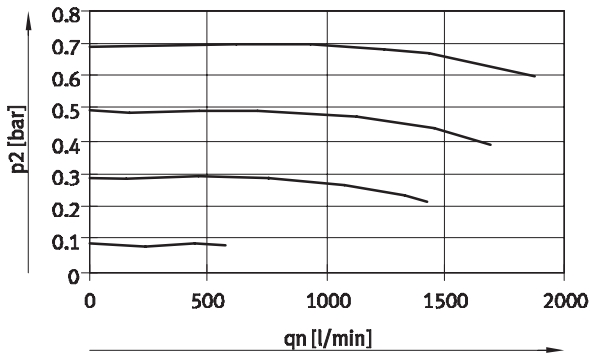
Precision pressure regulators MS6-LRPB, MS series

Technical data

FESTO

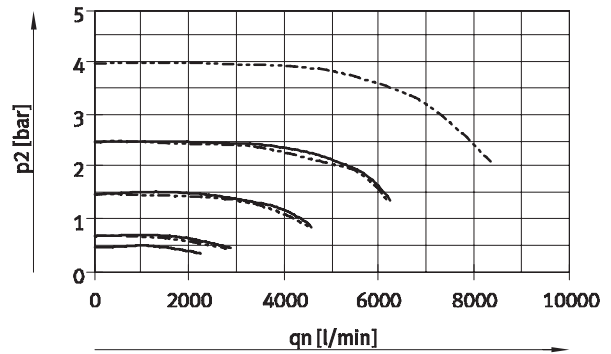
Standard flow rate q_n as a function of output pressure p_2 ($p_1 = 10$ bar)

MS6-LRPB-1/2-D2



D2: 0.05...0.7 bar

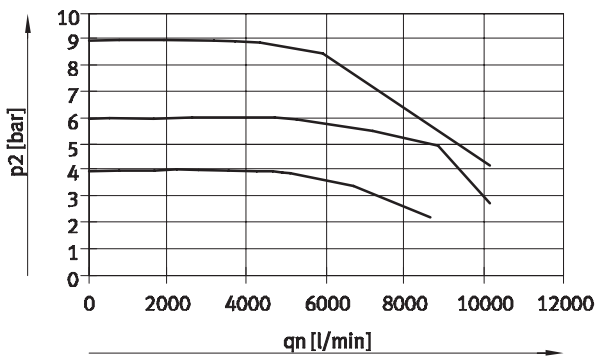
MS6-LRPB-1/2-D4/D5



D4: 0.05...2.5 bar

D5: 0.1...4 bar

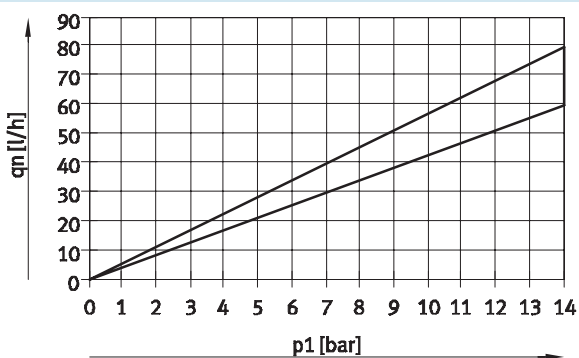
MS6-LRPB-1/2-D7/PO



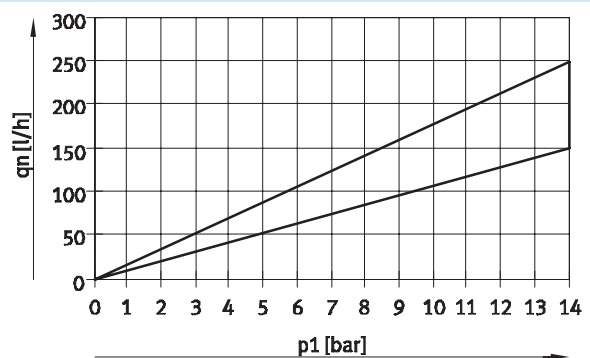
D7/PO: 0.1...12 bar

Internal air consumption q_n as a function of supply pressure p_1

MS6-LRPB-...-D2/D4



MS6-LRPB-...-D5/D7/PO



New
Variant AD7 ... AD10, PO

Precision pressure regulators MS6-LRPB, MS series

Technical data

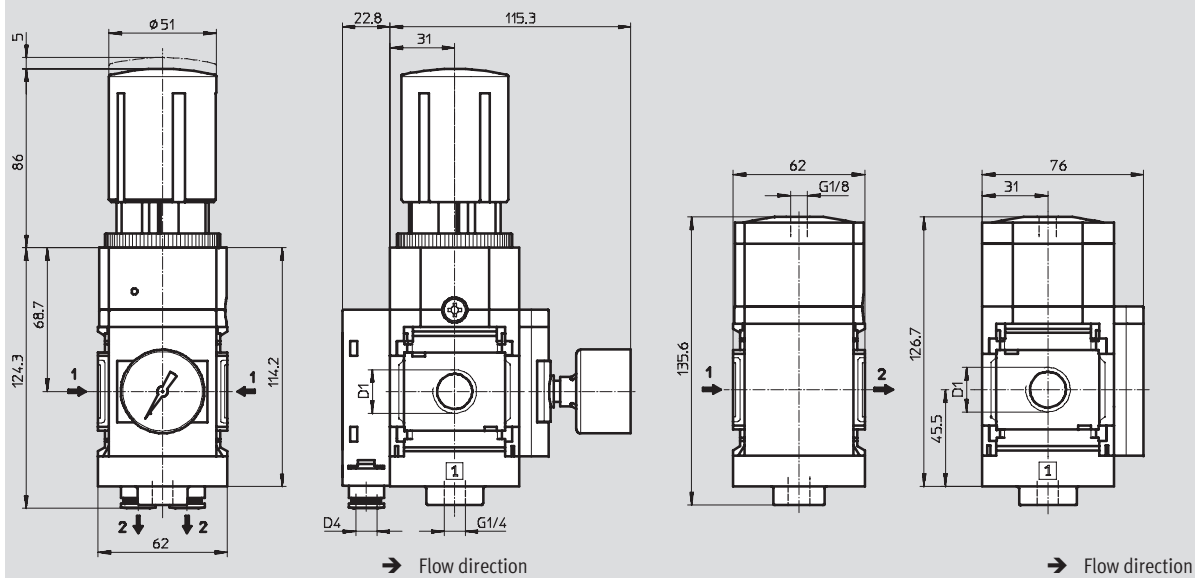
FESTO

Dimensions

Download CAD data → www.festo.com

manually operated D2/D4/D5/D7,
 with adapter plate A8M for EN pressure gauge 1/8 as pressure gauge alternative,
 with precision pressure gauge MAP, with angled outlet block BD/BE

pneumatically actuated PO,
 with cover plate VS as pressure gauge alternative



Type	D1	D4
MS6-LRPB-1/2-D2/D4/D5/D7-A8M-BD	G1/2	QS-8
MS6-LRPB-1/2-D2/D4/D5/D7-A8M-BE		QS-10

Type	D1
MS6-LRPB-1/2-PO-VS	G1/2

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

Precision pressure regulators MS6-LRPB, MS series

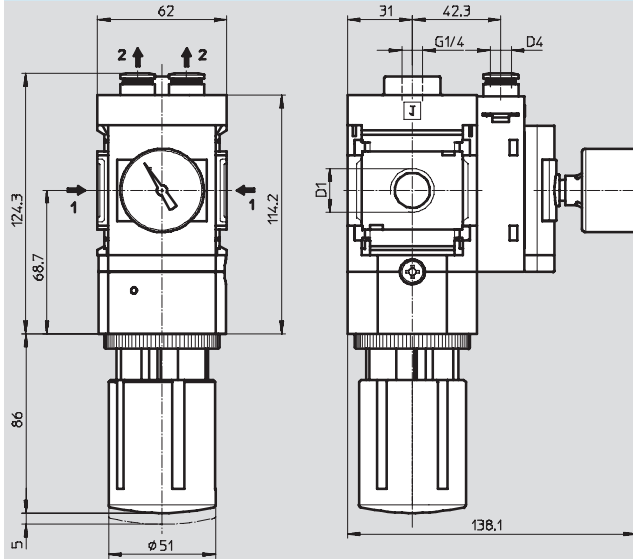
Technical data

FESTO

Dimensions – Alternative mounting position

Download CAD data → www.festo.com

Rotary knob underneath KD, angled outlet block BD/BE



→ Flow direction

Type	D1	D4
MS6-LRPB-1/2-...-KD-BD	G1/4	QS-8
MS6-LRPB-1/2-...-KD-BE		QS-10

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

New
Variant AD7 ... AD10, PO

Precision pressure regulators MS6-LRPB, MS series

Technical data

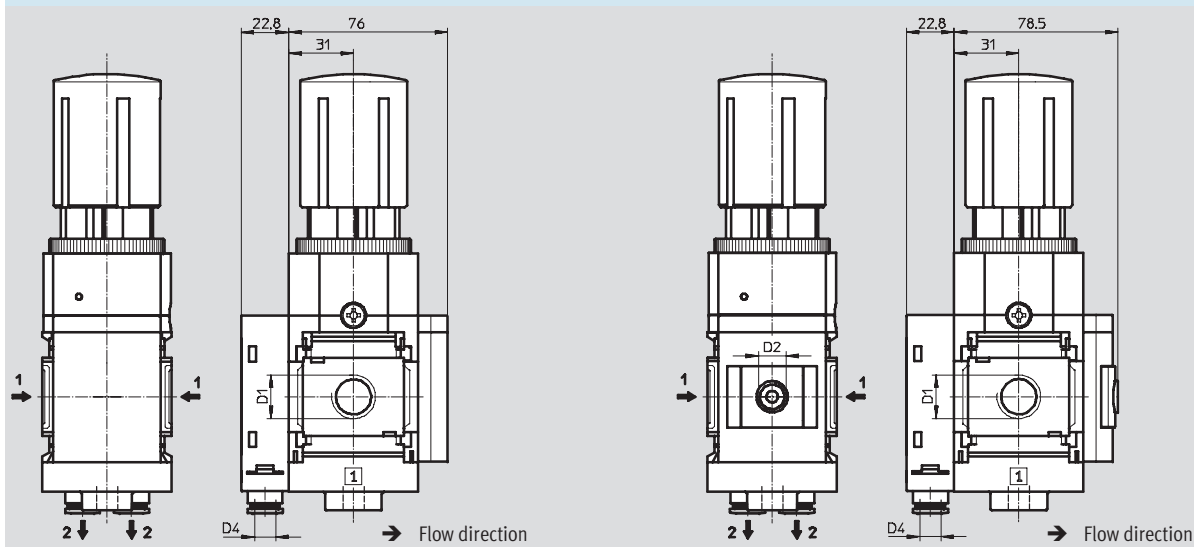
FESTO

Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Cover plate VS, angled outlet block BD/BE

Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge, angled outlet block BD/BE



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

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

Precision pressure regulators MS6-LRPB, MS series

Technical data

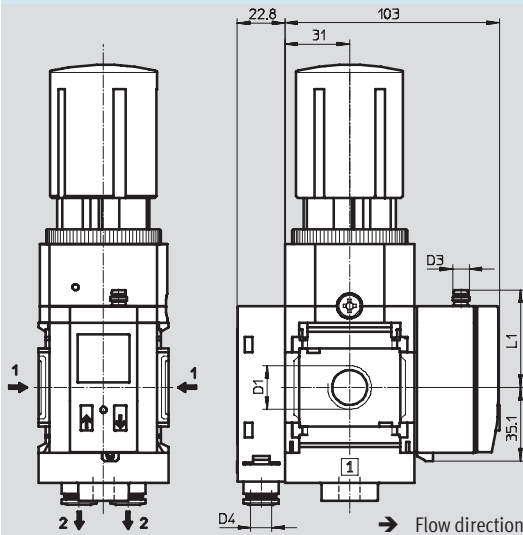
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Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Pressure sensor with LCD display AD1 ... AD4, angled outlet block BD/BE

Technical data → Internet: [sde1](#)



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

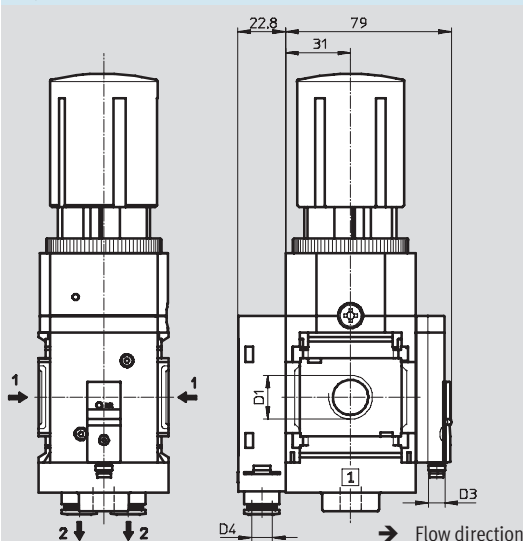
Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with
4-pin plug M12x1, 1 switching out-
put PNP and 4 ... 20 mA analogue

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

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with
4-pin plug M12x1, 1 switching out-
put NPN and 4 ... 20 mA analogue

Pressure sensor without LCD display (operational status indicator
only) AD7 ... AD10, angled outlet block BD/BE

Technical data → Internet: [sde5](#)



Variant AD7:
SDE5-D10-O-...-P-M8 with 3-pin
plug M8x1, threshold value
comparator, 1 switching output PNP,
N/O contact

Variant AD9:
SDE5-D10-O3-...-P-M8 with 3-pin
plug M8x1, window comparator,
1 switching output PNP, N/O contact

Variant AD8:
SDE5-D10-C-...-P-M8 with 3-pin
plug M8x1, threshold value
comparator, 1 switching output PNP,
N/C contact

Variant AD10:
SDE5-D10-C3-...-P-M8 with 3-pin
plug M8x1, window comparator,
1 switching output PNP, N/C contact

Type	D1	D3	D4	L1
MS6-LRPB-1/2-...-AD1/AD2-BD	G $\frac{1}{2}$	M8x1	QS-8	46.7
MS6-LRPB-1/2-...-AD1/AD2-BE			QS-10	
MS6-LRPB-1/2-...-AD3/AD4-BD	G $\frac{1}{2}$	M12x1	QS-8	55.8
MS6-LRPB-1/2-...-AD3/AD4-BE			QS-10	
MS6-LRPB-1/2-...-AD7/AD8/AD9/AD10-BD	G $\frac{1}{2}$	M8x1	QS-8	–
MS6-LRPB-1/2-...-AD7/AD8/AD9/AD10-BE			QS-10	

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

New
Variant AD7 ... AD10, PO

Precision pressure regulators MS6-LRPB, MS series

Technical data

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Dimensions – Rotary knob

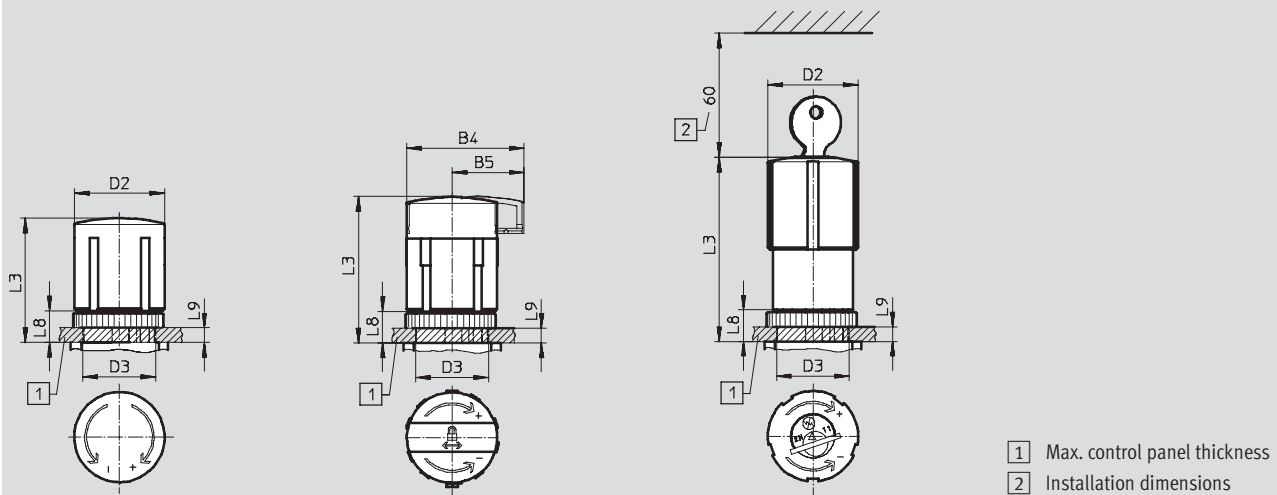
Download CAD data → www.festo.com

For installation into control panel

Standard rotary knob with detent

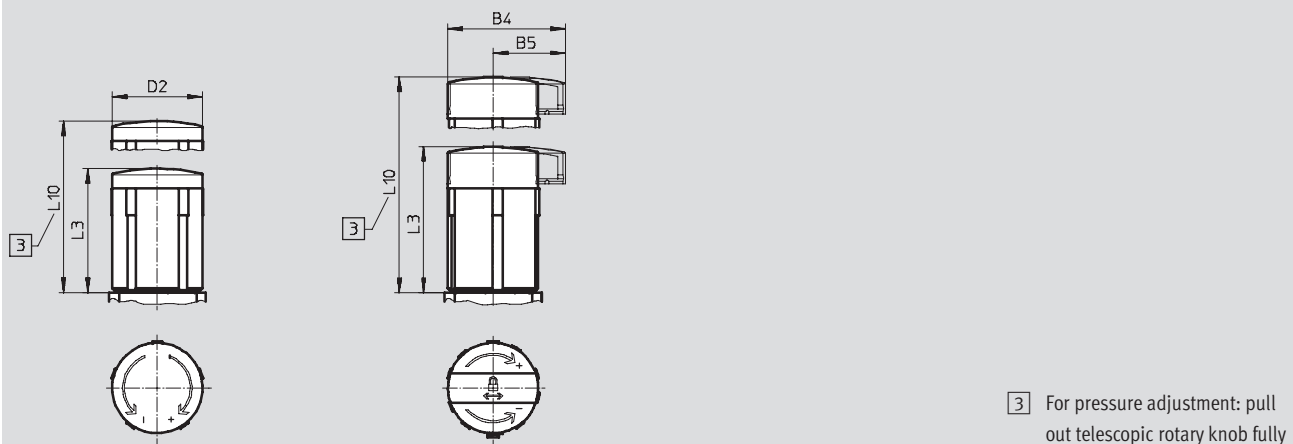
Standard rotary knob with detent,
lockable via accessories AS

Rotary knob with integrated lock
E11



Long rotary knob with detent LD

Long rotary knob with detent,
lockable via accessories LD-AS



Type	B4	B5	D2	D3 +1	L3	L8	L9	L10
MS6-LRPB-...	–	–	51	44	86	22	14	–
MS6-LRPB-...-AS	64.4	39			95.5			
MS6-LRPB-...-E11	–	–	51.8		112.1			
MS6-LRPB-...-LD	–	–	51	–	86	–	–	139
MS6-LRPB-...-LD-AS	64.4	39			95.5			148.5

Precision pressure regulators MS6-LRPB, MS series

FESTO

Technical data

Ordering data			
Adapter plate A8 for EN pressure gauge 1/8, standard rotary knob with detent			
Size	Connection	Pressure output to rear without angled outlet block	
		Part No.	Type
Pressure regulation range 0.05 ... 0.7 bar, manually operated			
MS6	G1/2	534911	MS6-LRPB-1/2-D2-A8 ¹⁾
Pressure regulation range 0.05 ... 2.5 bar, manually operated			
MS6	G1/2	534914	MS6-LRPB-1/2-D4-A8 ¹⁾
Pressure regulation range 0.1 ... 4 bar, manually operated			
MS6	G1/2	534917	MS6-LRPB-1/2-D5-A8 ¹⁾
Pressure regulation range 0.1 ... 12 bar, manually operated			
MS6	G1/2	534920	MS6-LRPB-1/2-D7-A8 ¹⁾

1) Free of copper and PTFE

Ordering data			
Adapter plate A8 for EN pressure gauge 1/8, standard rotary knob with detent			
Size	Connection	Pressure output to rear with angled outlet block QS-8	Pressure output to rear with angled outlet block QS-10
		Part No. Type	Part No. Type
Pressure regulation range 0.05 ... 0.7 bar, manually operated			
MS6	G1/2	534865 MS6-LRPB-1/2-D2-A8-BD ¹⁾	534913 MS6-LRPB-1/2-D2-A8-BE ¹⁾
Pressure regulation range 0.05 ... 2.5 bar, manually operated			
MS6	G1/2	534868 MS6-LRPB-1/2-D4-A8-BD ¹⁾	534916 MS6-LRPB-1/2-D4-A8-BE ¹⁾
Pressure regulation range 0.1 ... 4 bar, manually operated			
MS6	G1/2	534871 MS6-LRPB-1/2-D5-A8-BD ¹⁾	534919 MS6-LRPB-1/2-D5-A8-BE ¹⁾
Pressure regulation range 0.1 ... 12 bar, manually operated			
MS6	G1/2	534874 MS6-LRPB-1/2-D7-A8-BD ¹⁾	534922 MS6-LRPB-1/2-D7-A8-BE ¹⁾

1) Free of copper and PTFE

Precision pressure regulators MS6-LRPB, MS series

Ordering data – Modular products

FESTO

M Mandatory data						
Module No.	Series	Size	Function	Connection size	Pressure regulation range/operation	Pressure gauge alternatives
535007	MS	6	LRPB	1/2, AGB, AGC, AGD, AGE	D2 D4 D5 D7 PO	VS A8 A8M A4 AD1 ... AD4 AD7 ... AD10
Order example						
535007	MS	6	- LRPB	- AGD	- D5	- VS

Ordering table					
Grid dimension	[mm]	62	Condi- tions	Code	Enter code
M Module No.	535007				
Series	Standard			MS	MS
Size	6			6	6
Function	Precision pressure regulator for manifold assembly			-LRPB	-LRPB
Connection size	Thread G1/2			-1/2	
	Connecting plate G1/4			-AGB	
	Connecting plate G3/8			-AGC	
	Connecting plate G1/2			-AGD	
	Connecting plate G3/4			-AGE	
Pressure regulation range/ operation	0.05 ... 0.7 bar, manually operated			-D2	
	0.05 ... 2.5 bar, manually operated			-D4	
	0.1 ... 4 bar, manually operated			-D5	
	0.1 ... 12 bar, manually operated			-D7	
	0.1 ... 12 bar, pneumatically actuated (pressure range determined by means of pilot regulator)	1		-PO	
Pressure gauge alternatives	Cover plate	2		-VS	
	Adapter plate for EN pressure gauge 1/8, without pressure gauge	3		-A8	
	Adapter plate for EN pressure gauge 1/8, with precision pressure gauge	3		-A8M	
	Adapter plate for EN pressure gauge 1/4, without pressure gauge	3		-A4	
	Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin	3	4	-AD1	
	Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin	3	4	-AD2	
	Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analogue output 4 ... 20 mA	3	4	-AD3	
	Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analogue output 4 ... 20 mA	3	4	-AD4	
	Pressure sensor without display, plug M8, threshold value comparator, PNP, N/O contact	4	5	-AD7	
	Pressure sensor without display, plug M8, threshold value comparator, PNP, N/C contact	4	5	-AD8	
	Pressure sensor without display, plug M8, window comparator, PNP, N/O contact	4	5	-AD9	
	Pressure sensor without display, plug M8, window comparator, PNP, N/C contact	4	5	-AD10	

1 PO

Not with long rotary knob LD

Not with security AS, E11

Not with mounting type WR

2 VS

Must be selected with alternative flow direction Z without alternative mounting position KD or without alternative pressure output BD, BE

Must be selected with alternative mounting position KD without alternative flow direction Z or without alternative pressure output BD, BE

3 A8, A8M, A4, AD1 ... AD4

In combination with alternative flow direction Z only with alternative mounting position KD

4 AD1 ... AD4, AD7 ... AD10

Measuring range max. 10 bar

Not with pressure regulation range/operation D2, D4

5 AD7 ... AD10 In combination with alternative flow direction Z only with alternative pressure output BD, BE or

In combination with alternative flow direction Z only with alternative mounting position KD

Transfer order code

535007	MS	6	-	LRPB	-		-		-	
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Precision pressure regulators MS6-LRPB, MS series

Ordering data – Modular products

FESTO

→ 0 Options

Rotary knob alternative	Alternative mounting position	Security	Alternative pressure output	Type of mounting	Alternative flow direction
LD	KD	AS E11	BD BE	WR WP WPM WPB WB	Z
- LD	-	- AS	- BE	- WB	- Z

Ordering table					
Grid dimension	[mm]	62	Condi- tions	Code	Enter code
0 Rotary knob alternative	Long rotary knob		6	-LD	
Alternative mounting position	Rotary knob underneath		7	-KD	
Security	Lockable via accessories			-AS	
	With integrated lock			-E11	
Alternative 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		8 9	-WR	
	Mounting bracket		10 11	-WP	
	Mounting bracket		8 10	-WPM	
	Mounting bracket for large wall gap		10 12	-WPB	
	Mounting bracket		8	-WB	
Alternative flow direction	Pressure output to front (without pressure output, no pressure gauge)			-Z	

- 6 **LD** Not with integrated lock E11
- 7 **KD** In combination with pressure gauge alternatives A8, A4, AD1 ... AD4,
AD7 ... AD10 only with alternative flow direction Z
- 8 **WR, WB, WPM**
Only with alternative flow direction Z
Not with alternative mounting position KD
- 9 **WR**
Only with alternative flow direction Z
Not with long rotary knob LD

- 10 **WP, WPM, WPB**
Only with connecting plate AGB, AGC, AGD or AGE
- 11 **WP**
Not with alternative mounting position KD
Either only with alternative flow direction Z
or only with alternative pressure output BD, BE
- 12 **WPB**
Not with alternative mounting position KD
Not with alternative pressure output BD, BE
Not with alternative flow direction Z

Transfer order code

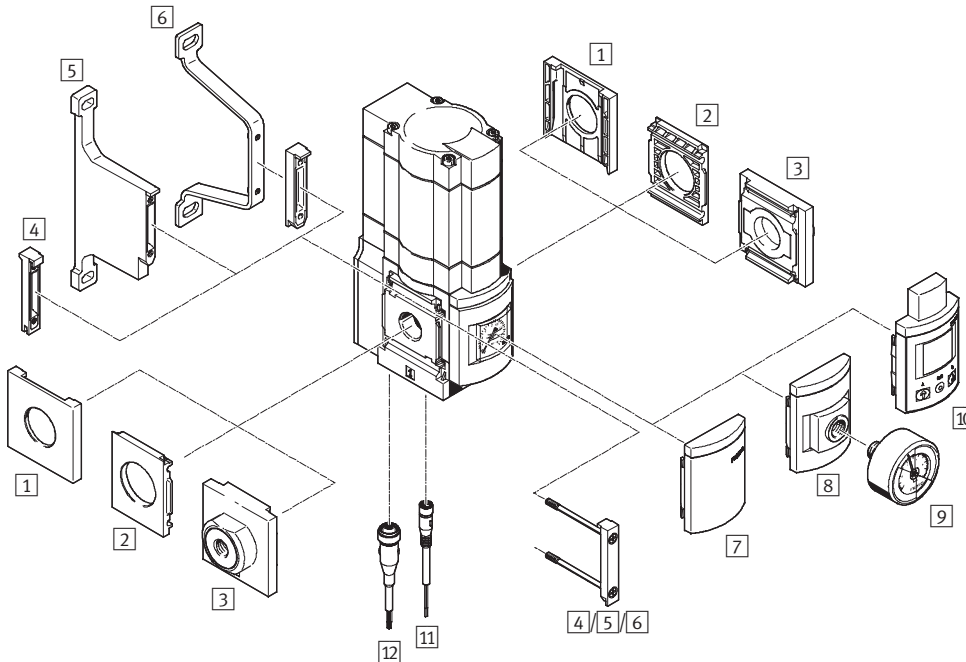
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Electrical pressure regulators MS6-LRE, MS series

Peripherals overview

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Electrical pressure regulators MS6-LRE



 Note

Additional accessories:

- Module connector for combination with sizes MS4/MS6 or size MS9 → Internet: amv, rmv, armv
- Adapter plate for mounting on profiles → Internet: ipm-80, ipm-40-80, ipm-80-80

Mounting attachments and accessories

		Individual unit		Combination		→ Page/Internet
		Without connecting plate	With connecting plate	Without connecting plate	With connecting plate	
1	Cover cap MS6-END	–	–	■	–	ms6-end
2	Mounting plate MS6-AEND	■ ¹⁾	–	■ ²⁾	–	ms6-aend
3	Connecting plate MS6-AG...	–	■ ¹⁾	–	■ ²⁾	ms6-ag
4	Module connector MS6-MV	–	–	■	■	ms6-mv
5	Mounting bracket MS6-WPB	■	■	■	■	ms6-wpb
6	Mounting bracket MS6-WPE	■	■	■	■	ms6-wpe
7	Cover plate VS	■	■	■	■	74
8	Adapter plate for EN pressure gauge 1/4 A4	■	■	■	■	74
9	Pressure gauge MA	■	■	■	■	86
10	Control unit with display OP	■	■	■	■	74
11	Connecting cable NEBU-M8...-LE3	■	■	■	■	86
12	Connecting cable NEBU-M12...-LE5	■	■	■	■	86

1) Mounting bracket MS6-WPB/WPE is required for mounting.

2) Module connector MS6-MV or mounting bracket MS6-WPB/WPE is required for mounting.

Electrical pressure regulators MS6-LRE, MS series

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Type codes

		MS	6	-	LRE	-	1/2	-	D7	-	PI
Series											
MS	Standard service unit										
Size											
6	Grid dimension 62 mm										
Service function											
LRE	Electrical pressure regulator										
Pneumatic connection											
1/4	Thread G1/4										
3/8	Thread G3/8										
1/2	Thread G1/2										
Pressure regulation range											
D6	Pressure regulation range 0.3 ... 7 bar										
D7	Pressure regulation range 0.5 ... 12 bar										
Electrically controlled pressure output (integrated pressure sensor with electrical output)											
	None										
PI	Plug, M8, 3-pin, I out										
PU	Plug, M8, 3-pin, V out										

Further variants can be ordered using the modular system → 74

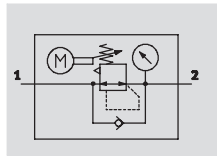
- Connecting plates
- Pressure regulation range
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Secondary venting
- Sensor cables
- Supply cables
- Type of mounting
- Alternative flow direction

Electrical pressure regulators MS6-LRE, MS series

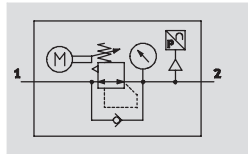
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Technical data

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.

-  - Flow rate
2,200 ... 7,500 l/min
-  - Temperature range
0 ... +50 °C
-  - Input pressure
0.8 ... 20 bar



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.

- Four pressure regulation ranges: 0.3 ... 4 bar, 0.3 ... 7 bar, 0.5 ... 12 bar and 0.5 ... 16 bar
- Optional control unit with display
- Optional integrated pressure sensor with electrical output
- Constant output pressure even in the event of a power failure thanks to the fail-safe function
- Available with or without secondary venting

General technical data				
Size		MS6		
Pneumatic connection 1, 2		G1/4	G3/8	G1/2
Design		Electrically adjustable pressure regulator		
Regulating function		Output pressure constant, with primary pressure compensation, with/without secondary venting		
Type of mounting		Via accessories		
		In-line installation		
Assembly position		Any, preferably vertical		
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		
Pressure indicator		With pressure gauge		
		With control unit		

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

Electrical pressure regulators MS6-LRE, MS series

FESTO

Technical data

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]				
Pneumatic connection		G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
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 $p_1 = 10$ bar and $p_2 = 6$ bar, $\Delta p = 1$ bar

2) Measured at $p_1 = 10$ bar and $p_2 = 3$ bar, $\Delta p = 1$ bar

Electrical data				
		Without integrated pressure sensor	With integrated pressure sensor	
			PI (I out)	PU (V out)
Analogue output	[V]	–	–	0 ... 10
	[mA]	–	4 ... 20	–
Analogue 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		
Supply pressure	[bar]	0.8 ... 20
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
Corrosion resistance	CRC ¹⁾	2
CE symbol (declaration of conformance)	In accordance with EU EMC Directive	
Certification	C-Tick	

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

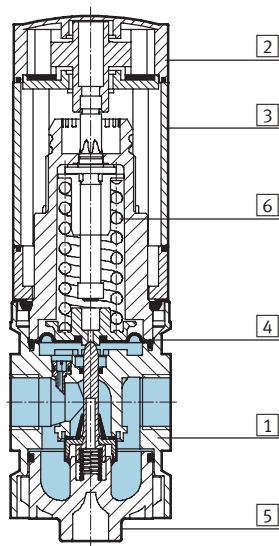
Electrical pressure regulators MS6-LRE, MS series

Technical data

FESTO

Materials

Sectional view



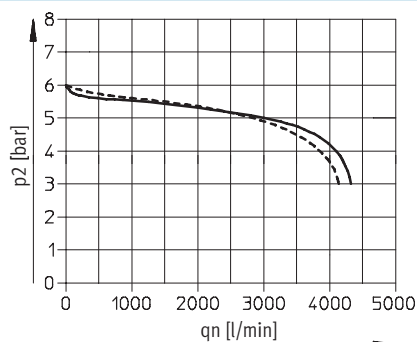
Electrical pressure regulator

1	Body	Die-cast aluminium
2	Drive housing	Reinforced polyamide
3	Profile housing	Wrought aluminium alloy
4	Diaphragm	Nitrile rubber
5	Bottom cap	Polyester, fibreglass reinforced
6	Springs	Steel
-	Display and control unit	Polyamide
-	Seals	Nitrile rubber

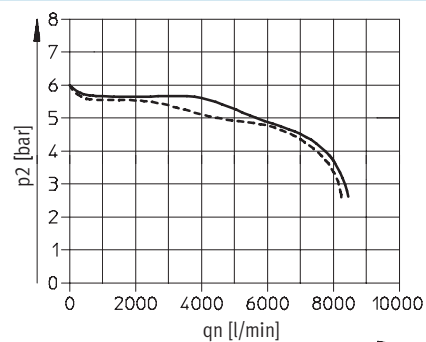
Standard flow rate q_n as a function of output pressure p_2

MS6-LRE-1/4

Primary pressure $p_1 = 10$ bar

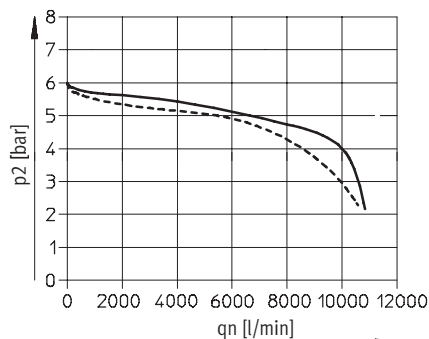


MS6-LRE-3/8



MS6-LRE-1/2

Primary pressure $p_1 = 10$ bar



Electrical pressure regulators MS6-LRE, MS series

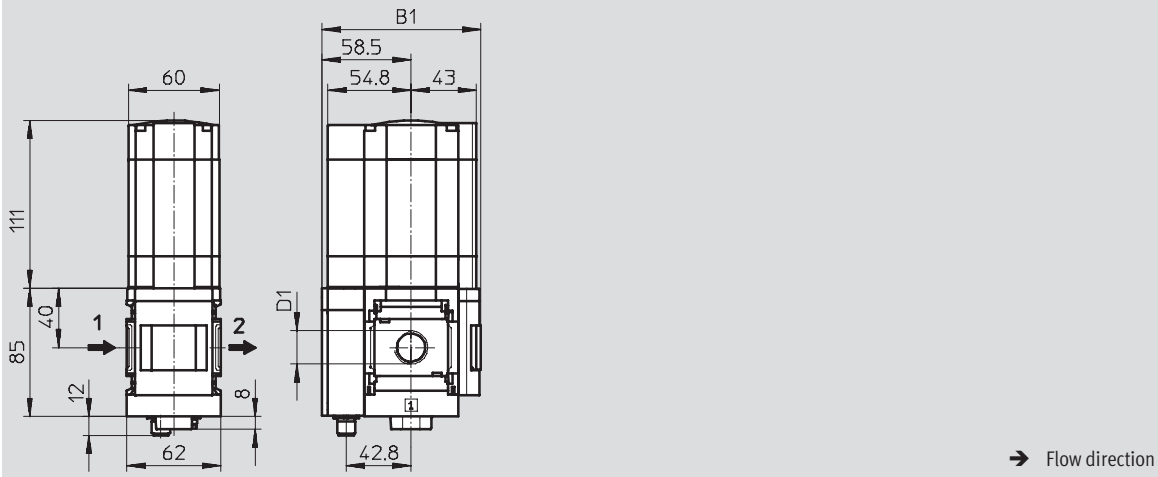
Technical data

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Dimensions – Standard

Download CAD data → www.festo.com

With pressure gauge, display unit [bar]



Type	B1 Pressure gauge		D1
	Standard scale	Red-green scale	
MS6-LRE-1/4	104.5	106	G1/4
MS6-LRE-3/8			G3/8
MS6-LRE-1/2			G1/2

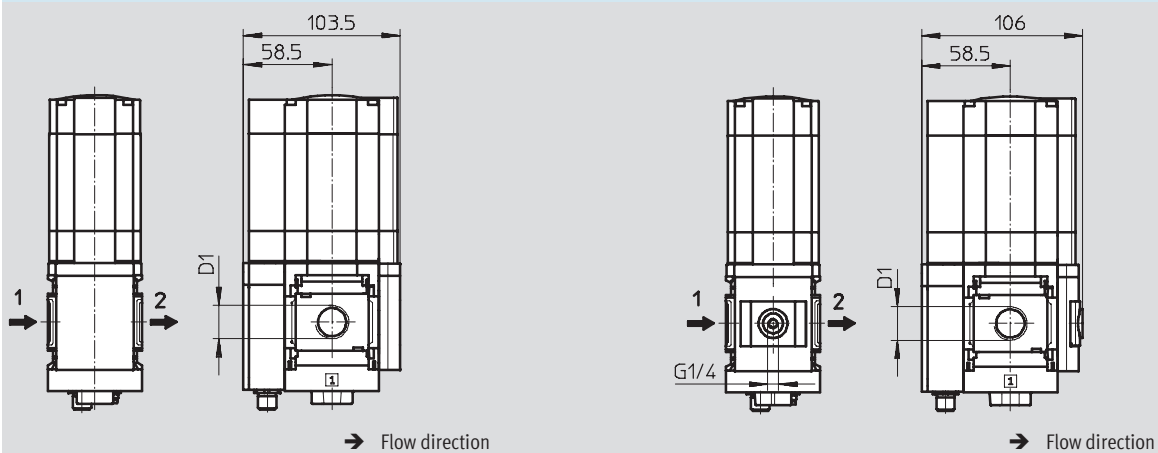
• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Cover plate VS

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



Type	D1
MS6-LRE-1/4	G1/4
MS6-LRE-3/8	G3/8
MS6-LRE-1/2	G1/2

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

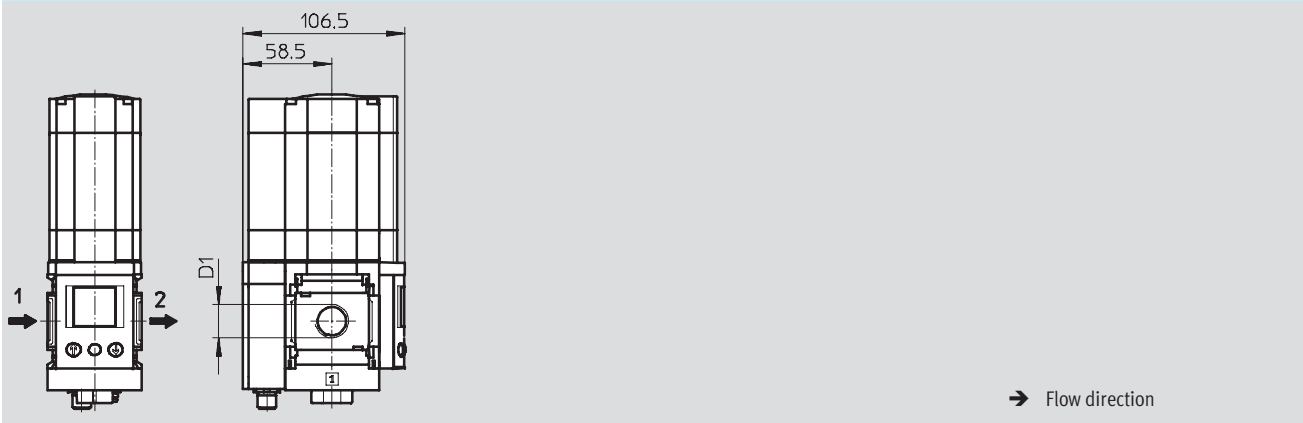
Electrical pressure regulators MS6-LRE, MS series



Technical data

Dimensions – Pressure gauge alternatives
Download CAD data → www.festo.com

Control unit with display OP

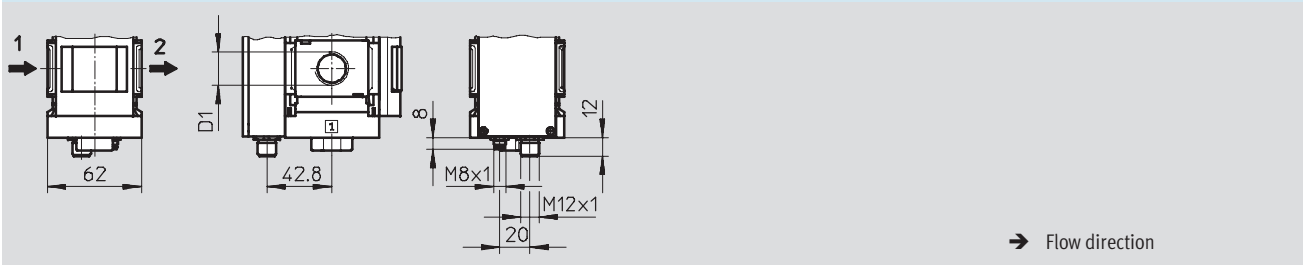


Type	D1
MS6-LRE-1/4	G1/4
MS6-LRE-3/8	G3/8
MS6-LRE-1/2	G1/2

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

Dimensions – Electrically controlled pressure output
Download CAD data → www.festo.com

Integrated pressure sensor with electrical output PI/PU



Electrical pressure regulators MS6-LRE, MS series

FESTO

Technical data

Ordering data					
Pressure gauge					
Size	Connection	Pressure regulation range 0.3... 7 bar		Pressure regulation range 0.5... 12 bar	
		Part No.	Type	Part No.	Type
Standard					
MS6	G1/4	535358	MS6-LRE-1/4-D6	535364	MS6-LRE-1/4-D7
	G3/8	535372	MS6-LRE-3/8-D6	535378	MS6-LRE-3/8-D7
	G1/2	535348	MS6-LRE-1/2-D6	535354	MS6-LRE-1/2-D7
Electrically controlled pressure output (integrated pressure sensor with current output), M8x1 plug, 3-pin					
MS6	G1/4	535360	MS6-LRE-1/4-D6-PI	535366	MS6-LRE-1/4-D7-PI
	G3/8	535374	MS6-LRE-3/8-D6-PI	535380	MS6-LRE-3/8-D7-PI
	G1/2	535350	MS6-LRE-1/2-D6-PI	535356	MS6-LRE-1/2-D7-PI
Electrically controlled pressure output (integrated pressure sensor with voltage output), M8x1 plug, 3-pin					
MS6	G1/4	535362	MS6-LRE-1/4-D6-PU	535369	MS6-LRE-1/4-D7-PU
	G3/8	535376	MS6-LRE-3/8-D6-PU	535382	MS6-LRE-3/8-D7-PU
	G1/2	535352	MS6-LRE-1/2-D6-PU	535357	MS6-LRE-1/2-D7-PU

Electrical pressure regulators MS6-LRE, MS series

Ordering data – Modular products

FESTO

M Mandatory data →					
Module No.	Series	Size	Function	Connection sizes	Pressure regulation range
535191	MS	6	LRE	1/4, 3/8, 1/2, AGB, AGC, AGD, AGE	D5 D6 D7 D8
Order example					
535191	MS	6	- LRE	- AGC	- D6

Ordering table					
Grid dimension [mm]		62	Condi- tions	Code	Enter code
M	Module No.	535191			
	Series	Standard		MS	MS
	Size	6		6	6
	Function	Electrical pressure regulator		-LRE	-LRE
	Connection sizes	Thread G1/4		-1/4	
		Thread G3/8		-3/8	
		Thread G1/2		-1/2	
		Connecting plate G1/4		-AGB	
		Connecting plate G3/8		-AGC	
		Connecting plate G1/2		-AGD	
		Connecting plate G3/4		-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, MS series

FESTO

Ordering data – Modular products

Options							
Pressure gauge alternatives	Alternative pressure gauge scale	Secondary venting	Electrically controlled pressure output	Sensor cables	Supply cable	Type of mounting	Alternative flow direction
VS A4 RG OP	PSI MPA	OS	PI PU	SK2 SK5	VK2 VK5	WBE WPB	Z
- OP	-	- OS	- PU	- SK5	-	-	- Z

Ordering table					
Grid dimension	[mm]	62	Condi- tions	Code	Enter code
0 Pressure gauge alternatives	Cover plate			-VS	
	Adapter plate for EN pressure gauge 1/4, without pressure gauge			-A4	
	Integrated pressure gauge, red-green scale			-RG	
	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		3	-WBE	
	Wall mounting plate for large wall gap		4	-WPB	
Alternative 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, RG, OP

3 WBE Only with connection thread size 1/4, 3/8, 1/2

4 WPB Only with connecting plate size AGB, AGC, AGD, AGE

Transfer order code

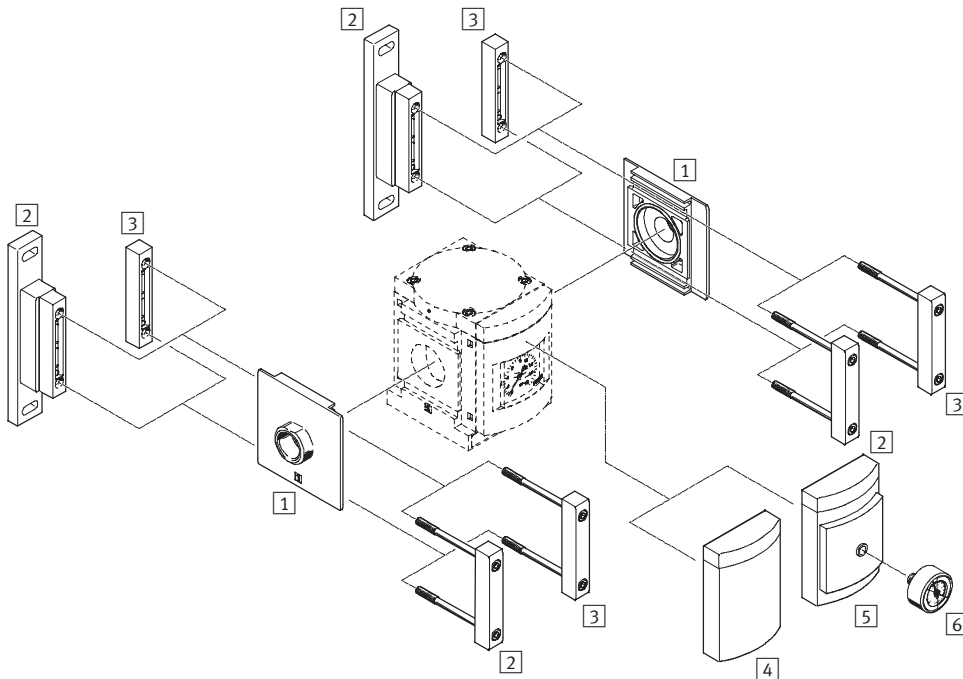
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Pressure regulators MS12-LR, MS series

Peripherals overview

FESTO

Pressure regulator MS12-LR



Note

Additional accessories:

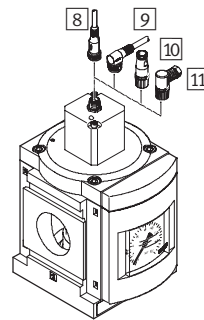
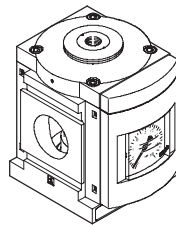
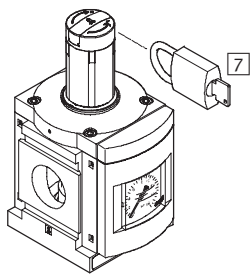
– Module connector
for combination with size MS9

→ Internet: armv

manually operated

pneumatically actuated

solenoid actuated



Pressure regulators MS12-LR, MS series

Peripherals overview

Mounting attachments and accessories		→ Page/Internet
1	Connecting plate MS12-AG...	ms12-ag
2	Mounting bracket MS12-WP	ms12-wp
3	Module connector MS12-MV	ms12-mv
4	Cover plate VS	84
5	Adapter plate for EN pressure gauge 1/4 A4	84
6	Pressure gauge MA	86
7	Padlock LRVS-D	86
8	Connecting cable NEBU-M12G...-LE4	86
9	Connecting cable NEBU-M12W...-LE4	86
10	Sensor socket SIE-GD	86
11	Angled plug socket SIE-WD	86

Pressure regulators MS12-LR, MS series

Type codes

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		MS	12	-	LR	-	G	-	D7	-	LD	-	AS
Series													
MS	Standard service unit												
Size													
12	Grid dimension 124 mm												
Service function													
LR	Pressure regulator												
Connection size													
G	Module without connecting thread, without connecting plate Connecting plates → Accessories												
Pressure regulation range/actuation mode													
D7	0.5 ... 12 bar, manually operated												
PO	0.5 ... 16 bar, pneumatically actuated												
PE6	0.15 ... 6 bar, solenoid actuated												
Rotary knob													
Pressure regulation range/actuation mode D7													
LD	Long rotary knob												
Pressure regulation range/actuation mode PO/PE6													
	No rotary knob												
Security													
Pressure regulation range/actuation mode D7													
AS	Rotary knob with detent, lockable via accessories												
Pressure regulation range/actuation mode PO/PE6													
	No rotary knob												

Further variants can be ordered using the modular system → 84

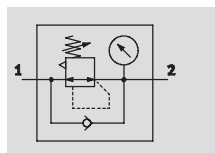
- Connecting plates
- Pressure regulation range/actuation mode
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Security
- Type of mounting
- Alternative flow direction

Pressure regulators MS12-LR, MS series

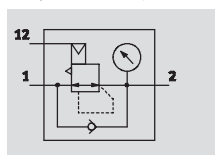
Technical data

Pressure regulation range/actuation mode

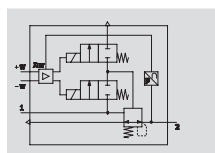
D6/D7/D8, manually operated



P0, pneumatically actuated



PE6, solenoid actuated



-  Flow rate
12,000 ... 22,000 l/min
-  Temperature range
-10 ... +60 °C
-  Supply pressure
0.8 ... 21 bar
-  www.festo.com

Wearing parts kits
→ 83



The pressure regulator maintains an essentially constant output pressure p2 independent of pressure fluctuations in the system and air consumption. The output pressure p2 can be set within the pressure regulation range either manually using the rotary knob, pneumatically via a pilot

pressure p12 by an external pilot regulator or electrically via setpoint signals. When the supply pressure p1 or the voltage for the setpoint signals is switched off, the output pressure p2 is vented via connection 3 (secondary venting).

- Good regulation characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Regulator lock for protecting the values against adjustment
- With secondary venting
- Pressure gauge connection for different fitting options

General technical data						
Pneumatic connection 1, 2		G1 (with sub-base AGF) ¹⁾	G1¼ (with sub-base AGG) ¹⁾	G1½ (with sub-base AGH) ¹⁾	G2 (with sub-base AGI) ¹⁾	– (without connecting thread G)
Pilot air connection 12 with pressure regulation range/actuation mode PO		G¼				
Constructional design		Pressure regulator with/without pressure gauge				
		Pilot actuated diaphragm regulator (except pressure regulation range/actuation mode PO)				
		Diaphragm regulator (with pressure regulation range/actuation mode PO)				
Regulating function		Output pressure constant, via primary pressure compensation, via return flow function, via secondary venting				
Type of mounting		Via accessories				
		In-line installation				
Mounting position		Any				
Regulator lock		Rotary knob with detent				
		Rotary knob with detent, lockable via accessories				
		Rotary knob with integrated lock				
Pressure regulation range/actuation mode	D6	[bar]	0.3 ... 7, manually operated			
	D7	[bar]	0.5 ... 12, manually operated			
	D8	[bar]	0.5 ... 16, manually operated			
	PO	[bar]	0.5 ... 16, pneumatically actuated ²⁾			
	PE6	[bar]	0.15 ... 6, solenoid actuated			
Max. hysteresis		[bar]	0.4 with pressure regulation range/actuation mode D6/D7/D8/PO			
		[bar]	0.04 with pressure regulation range/actuation mode PE6			
Pressure display		Via pressure gauge				

1) Connecting plate must be ordered separately as an accessory → Internet: ms12-ag

2) Output pressure p2 corresponds roughly to the applied pilot pressure p12.

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

Pressure regulators MS12-LR, MS series

Technical data

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Flow rates		
Pressure regulation range/ actuation mode	D6/D7/D8/PO ¹⁾	PE6 ²⁾
Standard nominal flow rate $q_{nN}^{3)}$ [l/min]		
$q_{nN} 1 \rightarrow 2$	G1	13,000
	G1 1/4	13,500
	G1 1/2	16,000
	G2	22,000
Secondary venting flow rate [l/min]		
$q_{nN} 2 \rightarrow 3$	≤ 600	≤ 600

1) Measured at $p_1 = 10$ bar and $p_2 = 6$ bar, $\Delta p = 0.5$ bar

2) Measured at $p_1 = 7$ bar and $p_2 = 6$ bar, $\Delta p = 0.5$ bar

3) Dependent on connecting plate selected, must be ordered separately as an accessory → Internet: ms12-ag

Electrical data (pressure regulation range/actuation mode PE6 only)		
Operating voltage range	[V DC]	21.6 ... 26.4
Nominal operating voltage	[V DC]	24
Residual ripple	[%]	10
Analogue input signal range	[V]	0 ... 10
Max. current consumption	[A]	0.15
Max. electrical power consumption	[W]	3.6
Protection class		IP65

Operating and environmental conditions		
Pressure regulation range/ actuation mode	D6/D7/D8/PO	PE6
Supply pressure p_1	[bar]	0.8 ... 21
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
Corrosion resistance class	CRC ¹⁾	2
CE mark (see declaration of conformity)	–	To EU EMC Directive

1) Corrosion resistance class 2 as per 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.

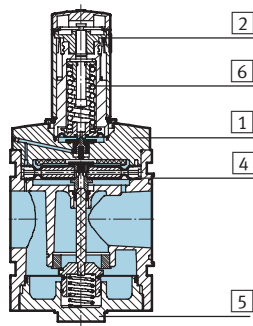
Weight [g]	
Pressure regulator	4,000
Pressure regulator with rotary knob with integrated lock E11	4,300

Pressure regulators MS12-LR, MS series

Technical data

Materials

Sectional view



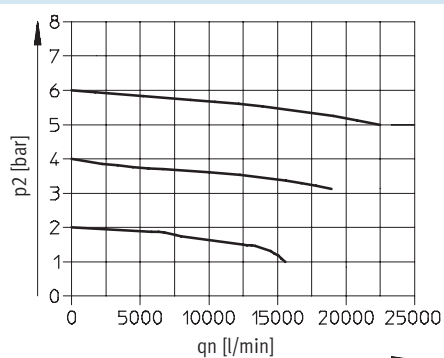
Pressure regulator

1	Housing	Die-cast aluminium
2	Rotary knob	Reinforced polyamide/polyacetate
	Rotary knob with integrated lock E11	Wrought aluminium alloy
4	Diaphragm	Nitrile rubber
5	Cap (bottom)	Wrought aluminium alloy
6	Spring	Spring steel
-	Seals	Nitrile rubber
Note on materials		RoHS-compliant
		Free of copper and PTFE only with cover plate VS

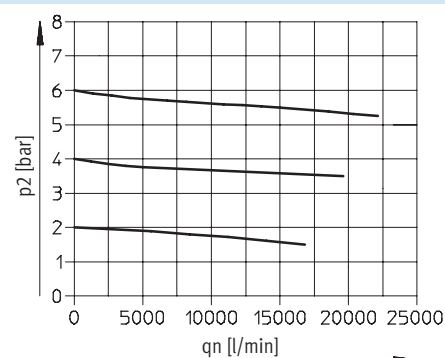
Standard flow rate q_n as a function of output pressure p_2 (MS12-LR-...-D6/D7/D8/PO only)

With connecting plate MS12-AGF
Pneumatic connection G1

Supply pressure $p_1 = 10$ bar

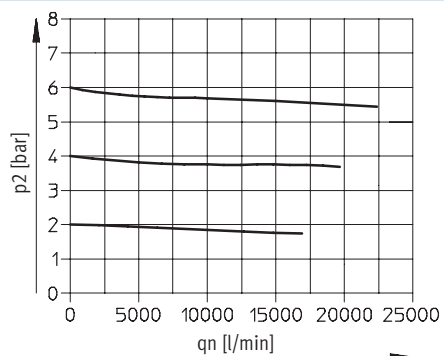


With connecting plate MS12-AGG
Pneumatic connection G1¼

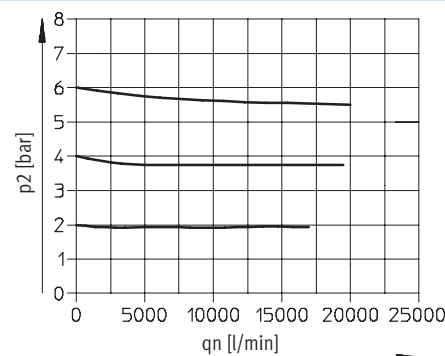


With connecting plate MS12-AGH
Pneumatic connection G1½

Supply pressure $p_1 = 10$ bar



With connecting plate MS12-AGI
Pneumatic connection G2



Pressure regulators MS12-LR, MS series

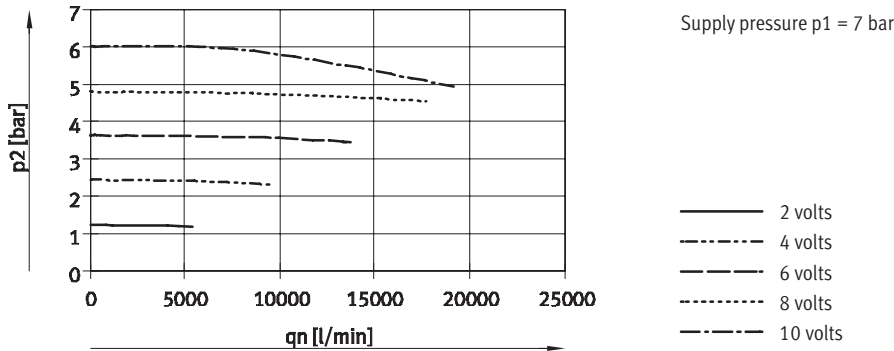
Technical data

FESTO

Standard flow rate q_n as a function of output pressure p_2 (MS12-LR-...-PE6 only)

With connecting plate MS12-AGH

Pneumatic connection G1 $\frac{1}{2}$

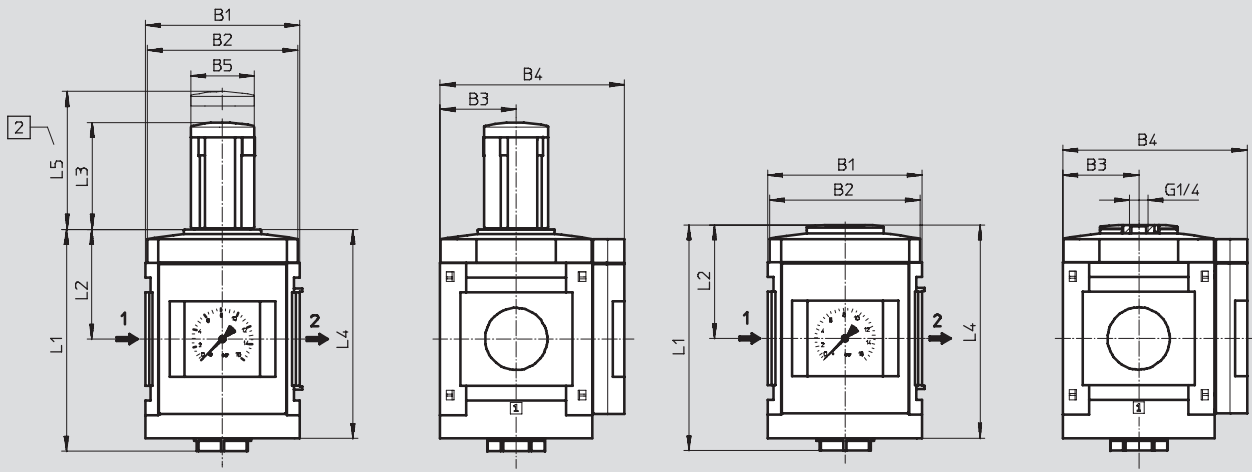


Dimensions

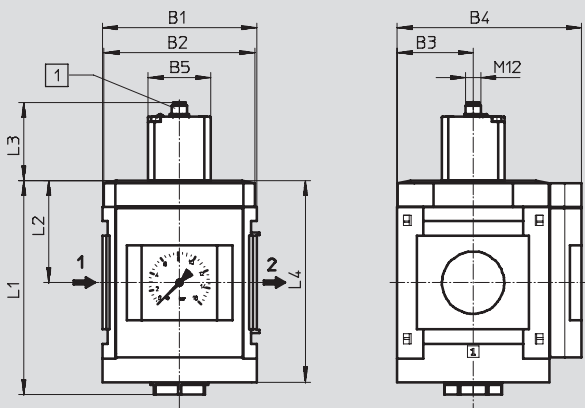
Download CAD data → www.festo.com

Pressure regulation range/actuation mode D6/D7/D8, manually operated, integrated pressure gauge, display unit [bar], long rotary knob

Pressure regulation range/actuation mode PO, pneumatically actuated, integrated pressure gauge, display unit [bar]



Pressure regulation range/actuation mode PE6, solenoid actuated, integrated pressure gauge, display unit [bar]



- 1 Suitable for
- Connecting cable NEBU-M12G...-LE4/NEBU-M12W...-LE4
 - Sensor socket SIE-GD
 - Angled plug socket SIE-WD-TR
- 2 For pressure adjustment: pull out telescopic rotary knob fully

→ Flow direction

Type	B1	B2	B3	B4	B5	L1	L2	L3	L4	L5
MS12-LR-...-D6/D7/D8	124	122	61	148	51	178	88	86	168	139
MS12-LR-...-PO					–	181	91	–	171	–
MS12-LR-...-PE6					50	172	82	62.7	162	–

Pressure regulators MS12-LR, MS series

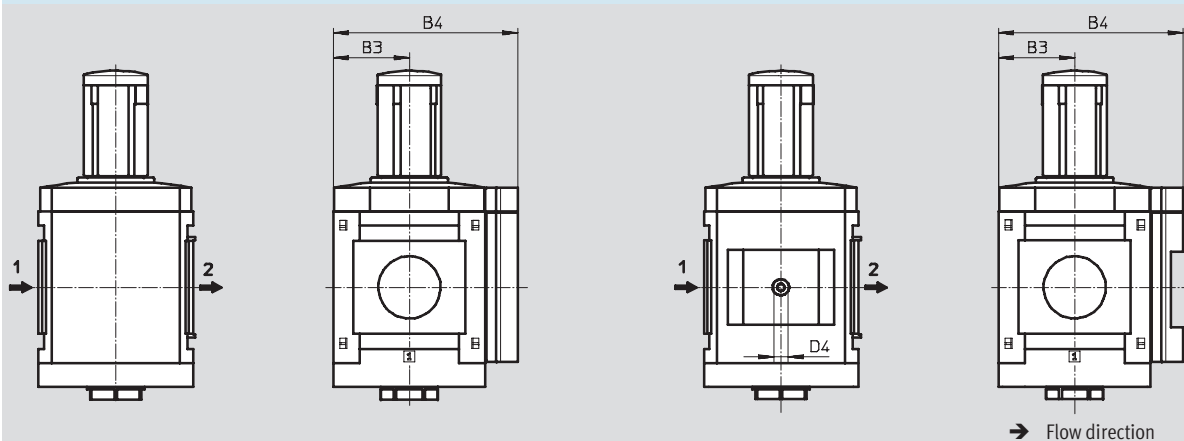
Technical data

Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Cover plate VS

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



Type	B3	B4	D4
MS12-LR-...-VS	61	148	–
MS12-LR-...-A4	61	148	G1/4

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

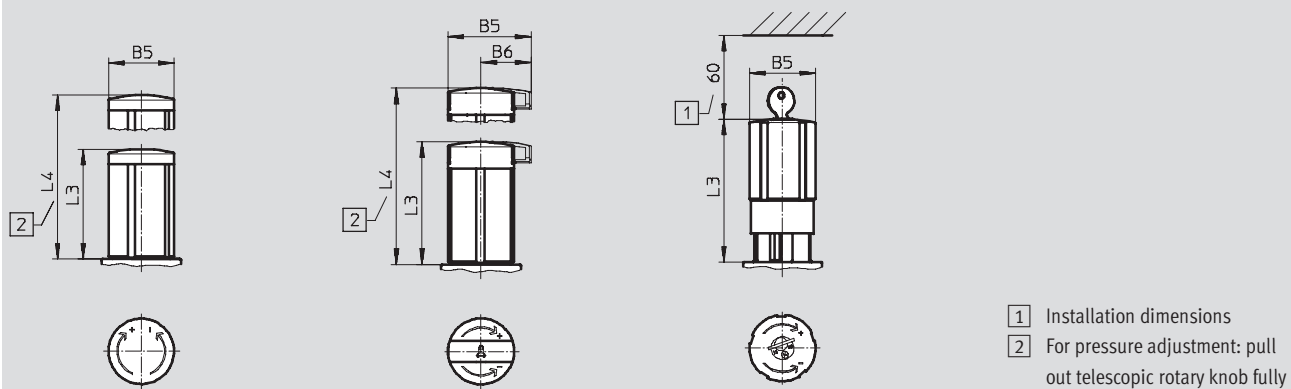
Dimensions – Rotary knob

Download CAD data → www.festo.com

Long rotary knob with detent LD

Long rotary knob with detent,
lockable via accessories LD-AS

Rotary knob with integrated lock
E11



Type	B5	B6	L3	L4
MS12-LR-...-LD	51	–	86	139
MS12-LR-...-LD-AS	64.4	39	95.5	148.5
MS12-LR-...-E11	51.8	–	112	–

Ordering data

Integrated pressure gauge, display unit [bar]

Size	Connection	Pressure regulation range 0.5 ... 12 bar, manually actuated, long rotary knob with detent, lock- able via accessories	Pressure regulation range 0.5 ... 16 bar, pneumatically actuated	Pressure regulation range 0.15 ... 6 bar, solenoid actuated
		Part No. Type	Part No. Type	Part No. Type
MS12	G1 ... G2 ¹⁾	537148 MS12-LR-G-D7-LD-AS	541680 MS12-LR-G-PO	564888 MS12-LR-G-PE6 

1) Connecting plate must be ordered separately as an accessory → Internet: ms12-ag

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

Ordering data – Wearing parts kits

Size	Part No. Type
MS12	673586 MS12-LR/LFR

Pressure regulators MS12-LR, MS series

Ordering data – Modular products

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M Mandatory data →					
Module No.	Series	Size	Function	Connection size	Pressure regulation range/ actuation mode
535021	MS	12	LR	AGF AGG AGH AGI G	D6 D7 D8 PO PE6
Order example					
535021	MS	12	- LR	- G	- D8

Ordering table					
Grid dimension	[mm]	124	Condi- tions	Code	Enter code
M Module No.	535021				
Series	Standard			MS	MS
Size	12			12	12
Function	Pressure regulator			-LR	-LR
Connection size	Connecting plate G1			-AGF	
	Connecting plate G1¼			-AGG	
	Connecting plate G1½			-AGH	
	Connecting plate G2			-AGI	
	Module without connecting thread, without connecting plate			-G	
Pressure regulation range/ actuation mode	0.3 ... 7 bar, manually operated			-D6	
	0.5 ... 12 bar, manually operated			-D7	
	0.5 ... 16 bar, manually operated			-D8	
	Max. 16 bar, pneumatically actuated (pressure range defined by means of pilot regulator)		3 4	-PO	
	0.15 ... 6 bar, solenoid actuated (pilot control via proportional pressure regulator)		3 4	-PE6	

3 LD, PO, PE6 Not with integrated lock E11

4 PO, PE6 Not with rotary knob alternative LD
Not with integrated lock AS

Transfer order code

535021	MS	12	- LR	-		-	
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Pressure regulators MS12-LR, MS series

Ordering data – Modular products

0 Options					
Pressure gauge alternatives	Alternative pressure gauge scale	Rotary knob alternative	Security	Type of mounting	Alternative flow direction
VS A4	PSI MPa	LD	AS E11	WP	Z
- VS	-	- LD	- AS	-	- Z

Ordering table					
Grid dimension	[mm]	124	Condi- tions	Code	Enter code
0 Pressure gauge alternatives	Cover plate			-VS	
	Adapter plate for EN pressure gauge 1/4, without pressure gauge			-A4	
Alternative pressure gauge scale	psi	1		-PSI	
	MPa	1		-MPa	
Rotary knob alternative	Long rotary knob	2 3		-LD	
Security	Lockable via accessories			-AS	
	With integrated lock	2		-E11	
Type of mounting	Mounting bracket	5		-WP	
Alternative flow direction	Flow direction from right to left			-Z	

1 **PSI, MPa** Not with pressure gauge alternatives VS, A4

2 **LD, E11** When selecting D6/D7/D8, rotary knob alternative LD or integrated lock E11 must be selected

3 **LD, PO, PE6** Not with integrated lock E11

5 **WP** Only with sub-base AGF, AGG, AGH or AGI

Transfer order code

- - - - - -

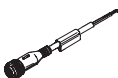
Pressure regulators MS-LR/LRB/LRP/LRPB/LRE, MS series

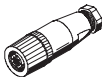
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Accessories

Ordering data – Pressure gauge MA						
	Nominal size	Pneumatic connection	Indicating range		Part No.	Type
			[bar]	[psi]		
	Pressure gauge MA, EN 837-1				Technical data → Internet: ma	
	40	G¼	0 ... 16	0 ... 232	183901	MA-40-16-G¼-EN
	Pressure gauge MA, EN 837-1, with red/green range				Technical data → Internet: 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, EN 837-1				Technical data → Internet: 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	

Ordering data – Connecting cable NEBU-M8					Technical data → Internet: nebu
	Electrical connection	Number of wires	Cable length [m]	Part No.	Type
	M8x1, straight socket	3	2.5	541333	NEBU-M8G3-K-2.5-LE3
			5	541334	NEBU-M8G3-K-5-LE3
	M8x1, angled socket	3	2.5	541338	NEBU-M8W3-K-2.5-LE3
			5	541341	NEBU-M8W3-K-5-LE3

Ordering data – Connecting cable NEBU-M12					Technical data → Internet: nebu
	Electrical connection	Number of wires	Cable length [m]	Part No.	Type
	M12x1, straight socket	4	2.5	550326	NEBU-M12G5-K-2.5-LE4
			5	541328	NEBU-M12G5-K-5-LE4
		5	2.5	541330	NEBU-M12G5-K-2.5-LE5
			5	541331	NEBU-M12G5-K-5-LE5
	M12x1, angled socket	4	2.5	550325	NEBU-M12W5-K-2.5-LE4
			5	541329	NEBU-M12W5-K-5-LE4

Ordering data – Sensor socket SIE-GD				Technical data → Internet: sie-gd	
	Electrical connection	Part No.	Type		
	M12x1, 4-pin	18494	SIE-GD		

Ordering data – Angled plug socket SIE-WD				Technical data → Internet: sie-wd	
	Electrical connection	Part No.	Type		
	M12x1, 4-pin	12956	SIE-WD-TR		

Ordering data – Padlock LRVS-D					
	Weight [g]	Part No.	Type		
	120	193786	LRVS-D		