

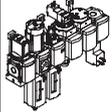
**Soft start and exhaust valves MS6-SV,
MS series**



Soft start and exhaust valves MS6-SV, MS series



Product range overview – MS series service units

Type	Size	Pneumatic connection in housing	Connecting plate	Pressure regulation range [bar]						Grade of filtration [µm]			
				0.05 ... 0.7	0.05 ... 2.5	0.1 ... 4	0.3 ... 7	0.1 ... 12	0.5 ... 16	0.01	1	5	40
Code			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, G1 1/4, G1 1/2, 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, G1 1/4, G1 1/2, 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	G3/4, G1	G1/2, G3/4, G1, G1 1/4, G1 1/2	-	-	-	-	-	-	■	■	-	-
	12	-	G1, G1 1/4, G1 1/2, 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	G3/4, G1	G1/2, G3/4, G1, G1 1/4, G1 1/2	-	-	-	-	-	-	-	-	-	-
	12	-	G1, G1 1/4, G1 1/2, G2	-	-	-	-	-	-	-	-	-	-
Water separators MS-LWS 	4	-	-	-	-	-	-	-	-	-	-	-	-
	6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-

Soft start and exhaust valves MS6-SV, MS series

Product range overview – MS series service units

Type	Size	Bowl guard		Condensate drains				Pressure indicator					Actuator lock		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 G 1/8	Adapter plate for EN pressure gauge G 1/4	Pressure sensor	Rotary knob, lockable	Rotary knob, long	Silencer	Flow direction from right to left	
Code		R	U	M	H	V	E...	VS	AG	A8	A4	AD...	AS	LD	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Soft start and exhaust valves MS6-SV, MS series



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	G ¹ / ₈ , G ¹ / ₄	G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈	-	-	■	■	■	-	-	-	-	
		6	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄	-	-	■	■	■	■	-	-	-	-
		9	-											
		12	-	G1, G1 ¹ / ₄ , G1 ¹ / ₂ , G2	-	-	-	■	■	■	-	-	-	-
Pressure regulators MS-LRB		4	G ¹ / ₄	G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈	-	-	■	■	■	-	-	-	-	
		6	G ¹ / ₂	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄	-	-	■	■	■	■	-	-	-	-
		9	-											
		12	-											
Precision pressure regulators MS-LRP		4	-											
		6	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄	■	■	■	-	■	-	-	-	-	
		9	-											
		12	-											
Precision pressure regulators MS-LRPB		4	-											
		6	G ¹ / ₂	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄	■	■	■	-	■	-	-	-	-	
		9	-											
		12	-											
Electrical pressure regulators MS-LRE		4	-											
		6	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄	-	-	■	■	■	■	-	-	-	-
		9	-											
		12	-											
Lubricators MS-LOE		4	G ¹ / ₈ , G ¹ / ₄	G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈	-	-	-	-	-	-	-	-	-	
		6	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄	-	-	-	-	-	-	-	-	-	
		9	-											
		12	-	G1, G1 ¹ / ₄ , G1 ¹ / ₂ , G2	-	-	-	-	-	-	-	-	-	-
Electrical on-off valves MS-EM(1)		4	G ¹ / ₈ , G ¹ / ₄	G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈	-	-	-	-	-	-	-	-	-	
		6	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄	-	-	-	-	-	-	-	-	-	
		9	-											
		12	-	G1, G1 ¹ / ₄ , G1 ¹ / ₂ , G2	-	-	-	-	-	-	-	-	-	-
Electrical on-off valves MS-EE		4	G ¹ / ₈ , G ¹ / ₄	G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈	-	-	-	-	-	-	■	-	■	■
		6	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄	-	-	-	-	-	-	■	-	■	■
		9	-											
		12	-	G1, G1 ¹ / ₄ , G1 ¹ / ₂ , G2	-	-	-	-	-	-	-	■	■	■
Electrical soft-start valves MS-DL		4	G ¹ / ₈ , G ¹ / ₄	G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈	-	-	-	-	-	-	-	-	-	-
		6	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄	-	-	-	-	-	-	-	-	-	-
		9	-											
		12	-	G1, G1 ¹ / ₄ , G1 ¹ / ₂ , G2	-	-	-	-	-	-	-	-	-	-
Electrical soft-start valves MS-DE		4	G ¹ / ₈ , G ¹ / ₄	G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈	-	-	-	-	-	-	■	-	■	■
		6	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄	-	-	-	-	-	-	■	-	■	■
		9	-											
		12	-	G1, G1 ¹ / ₄ , G1 ¹ / ₂ , G2	-	-	-	-	-	-	-	■	■	■
Soft start and exhaust valves MS-SV		4	-											
		6	G ¹ / ₂	G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄	-	-	-	-	-	-	■	-	-	-
		9	-											
		12	-											

Soft start and exhaust valves MS6-SV, MS series

Product range overview – MS series service units



Type	Size	Bowl guard		Pressure indicator				Actuator lock		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 G 3/8	Adapter plate for EN pressure gauge G 1/4	Pressure sensor	Rotary knob, lockable	Rotary knob, long	Silencer		Flow direction from right to left
Code		R	U	VS	AG	A8	A4	AD...	AS	LD	S	Z	
Individual devices													
Pressure regulators MS-LR	4	-	-	■	■	■	■	■	■	■	-	■	ms4-lr
	6	-	-	■	■	-	■	■	■	■	-	■	ms6-lr
	9	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	-	■	■	-	■	-	■	■	-	■	ms12-lr
Pressure regulators MS-LRB	4	-	-	■	■	■	■	■	■	■	-	■	ms4-lrb
	6	-	-	■	■	-	■	■	■	■	-	■	ms6-lrb
	9	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-
Precision pressure regulators MS-LRP	4	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	■	-	■	■	■	■	■	-	■	ms6-lrp
	9	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-
Precision pressure regulators MS-LRPB	4	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	■	-	■	■	■	■	■	-	■	ms6-lrpb
	9	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-
Electrical pressure regulators MS-LRE	4	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	■	■	-	■	-	-	-	-	■	ms6-lre
	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	-	-	■	■	-	■	■	-	-	■	■	8
	9	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-

Soft start and exhaust valves MS6-SV, MS series



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	-	-	-	-	-	-	-	-	-

Soft start and exhaust valves MS6-SV, MS series

Product range overview – MS series service units

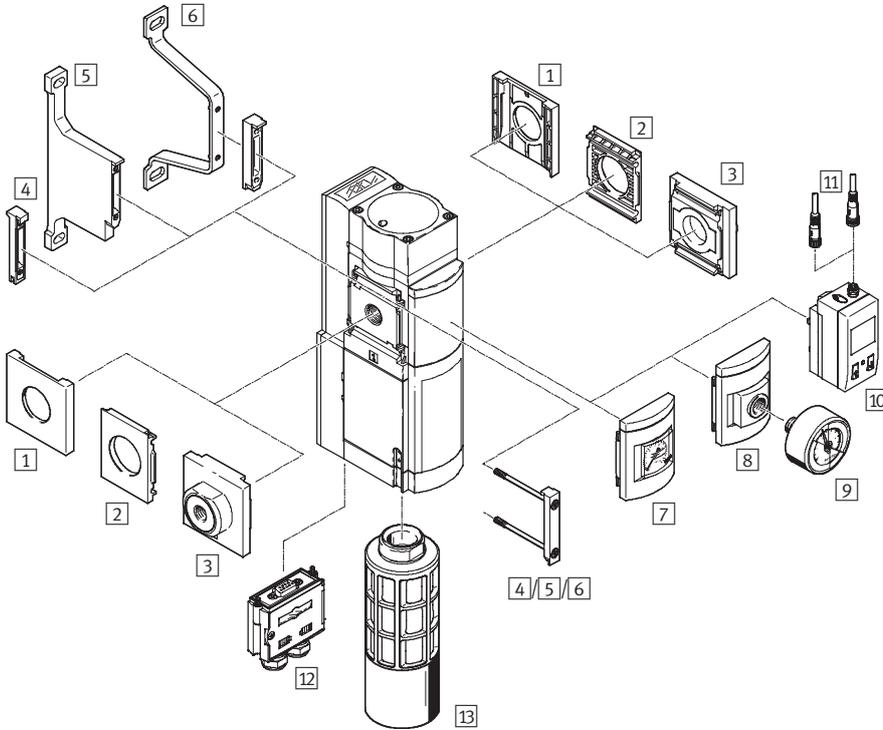
Type	Size	Bowl guard		Pressure indicator					Switch output		Options		→ Page/ Internet
		Plastic bowl with plastic bowl guard	Metal bowl	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter plate for EN pressure gauge G 3/8	Adapter plate for EN pressure gauge G 1/4	Pressure sensor	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⁾	ms6-sfe
	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

Soft start and exhaust valves MS6-SV, MS series

Peripherals overview

Soft start and exhaust valves MS6-SV



 **Note**

Other 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 device		Combination		→ Page/Internet
		Without connecting plate	With connecting plate	Without connecting plate	With connecting plate	
1	Cover cap MS6-END	-	-	■	-	22
2	Mounting plate MS6-AEND	■ ¹⁾	-	■ ²⁾	-	22
3	Connecting plate MS6-AG...	-	■ ¹⁾	-	■ ²⁾	21
4	Module connector MS6-MV	-	-	■	■	20
5	Mounting bracket MS6-WPB	■	■	■	■	19
6	Mounting bracket MS6-WPE	■	■	■	■	20
7	MS pressure gauge AG	■	■	■	■	15
8	Adapter plate for EN pressure gauge 1/4 A4	■	■	■	■	15
9	Pressure gauge MA	■	■	■	■	ma
10	Pressure sensor with display AD1 ... AD4	■	■	■	■	15
11	Connecting cable NEBU-M8...-LE3/NEBU-M12...-LE4	■	■	■	■	nebu
12	Multi-pin plug socket NECA	■	■	■	■	16
13	Silencer UOS-1	■	■	■	■	17

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.

Soft start and exhaust valves MS6-SV, MS series

FESTO

Type codes

		MS	6	-	SV	-	1/2	-	D	-	10V24	-	SO	-	AG
Series															
MS	Standard service unit														
Size															
6	Grid dimension 62 mm														
Service function															
SV	Soft start and exhaust valve														
Connection sizes															
1/2	Thread G1/2														
Performance Level															
D	Category 3, 2-channel with self-monitoring, maximum attainable according to ISO 13849-1														
Supply voltage															
10V24	Supply voltage 24 V DC														
Silencer															
	Without silencer														
SO	Silencer, open														
Pressure gauge/adaptor plate															
AG	MS pressure gauge														
AD1	Pressure sensor with display, plug M8, PNP, 3-pin														

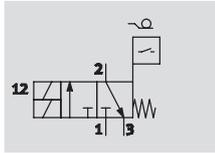
Further variants can be ordered using the modular system → 15

- Connecting plates
- Pressure gauge/adaptor plate
- Alternative pressure gauge scale
- Multi-pin plug socket
- Type of mounting
- Alternative flow direction

Soft start and exhaust valves MS6-SV, MS series

Technical data

Function



-  - Flow rate
4300 l/min
-  - Temperature range
-10 ... +50 °C
-  - Operating pressure
3.5 ... 10 bar



The electropneumatic soft-start and exhaust valve is used to reduce pressure quickly and reliably and to build up pressure gradually in pneumatic systems and following devices in industry. The device is a self-testing, redundant mechatronic system in accordance

with the requirements of DIN EN ISO 13849-1, for which the safety-related pneumatic protection objective and safe venting, even in the case of failures within a valve (e.g. caused by wear, contamination) are guaranteed. With the 2-channel design and its monitoring, the device

fulfils controller category 3 requirements. Thus, with correct installation and consideration of the specific application data, a performance level of max. “d” can be attained. Via the electrical connection (multi-pin plug socket NECA Sub-D, 9-pin), the device receives the secure enable

signals (EN1/EN2) from commercially available electronic or electromechanical protective switchgear, which monitor the protective equipment of the machine (e.g. emergency stop, light curtain, electrical door switch of the protective enclosure etc.).

 - Note
The device may only be used together with the multi-pin plug socket NECA approved for it. The multi-pin plug socket can be ordered via the modular product system (MP... → 15) or as an accessory (NECA → 16).

 - Note
To avoid back pressures, it is recommended that the device be operated together with the silencer UOS-1. The silencer can be ordered via the modular product system (SO → 15) or as an accessory (UOS-1 → 17).

 - Note
Only devices that do not impair the pneumatic protective measure – safe venting – may be placed after the MS6-SV.

- Conforms to DIN EN ISO 13849-1
- Max. achievable performance level “d”
- A switching time delay adjusted via a flow control valve for gradual pressure build-up
- Optional pressure sensor

General technical data	
Pneumatic connection 1, 2	G1/2
Pneumatic connection 3	G1
Design	Piston seat
Type of mounting	Via accessories In-line installation
Assembly position	Any
Pressure display	Via pressure sensor for displaying output pressure via LCD display and electrical output Via pressure gauge for displaying output pressure
Performance Level	Max. “d”
Position sensing principle	Solenoid piston principle
Valve function	3/2-way valve, single solenoid, closed
Manual override	None
Reset method	Mechanical spring
Switching position display	LED and floating contact
Type of actuation	Direct
Pilot air supply	Internal
Direction of flow	Non-reversible
C value [l/(s*bar)]	19.3
b value	0.21

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

Soft start and exhaust valves MS6-SV, MS series

Technical data

FESTO

 **Safety instruction: switching frequency min. 1/week**

In the processing-safe (i.e. pressurized) state the mechanical system is not tested. If the process-specific switching frequency (reliable exhausting) is less than once a week, compulsory switching off must be carried out by the machine user.

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]	
In main flow direction 1 \rightarrow 2	4,300
In relief direction 2 \rightarrow 3	9,000 ²⁾
	6,000 ²⁾ (in the event of a critical error)

1) Measured at $p_1 = 6$ bar and $p_2 = 5$ bar, $\Delta p = 1$ bar

2) Measured with respect to atmosphere with silencer UOS-1.

Electrical data	
Electrical connection	Sub-D 9-pin
Operating voltage range [V DC]	21.6 ... 26.4
Nominal operating voltage [V DC]	24
Duty cycle [%]	100
Response time off [ms]	40
Response time on [ms]	130
Protection class	IP65 with multi-pin plug socket NECA

Operating and environmental conditions		
Variant	Standard	Pressure sensor AD...
Operating pressure [bar]	3.5 ... 10	3.5 ... 10
Operating medium	Compressed air	Filtered compressed air, lubricated or unlubricated, grade of filtration 40 μ m
Ambient temperature [°C]	-10 ... +50	0 ... +50
Temperature of medium [°C]	-10 ... +50	0 ... +50
Corrosion resistance class CRC ¹⁾	2	
Noise level [dB (A)]	75 (with silencer UOS-1)	
CE mark (see declaration of conformity)	In accordance with EU EMC directive	
Fire protection classification to UL 94	V0-V2	

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weight [g]	
Soft start and exhaust valve	2,000
Soft start and exhaust valve with silencer UOS-1	2,200

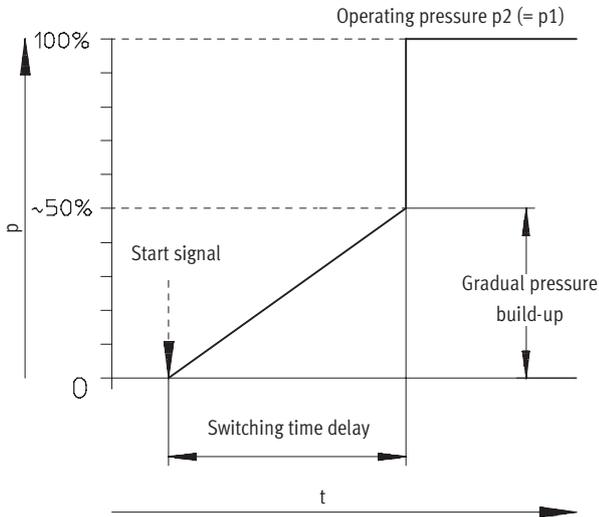
Materials	
Housing	Die-cast aluminium
Seals	Nitrile rubber

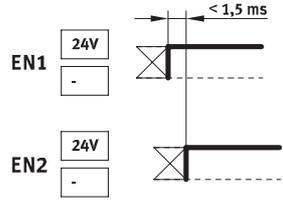
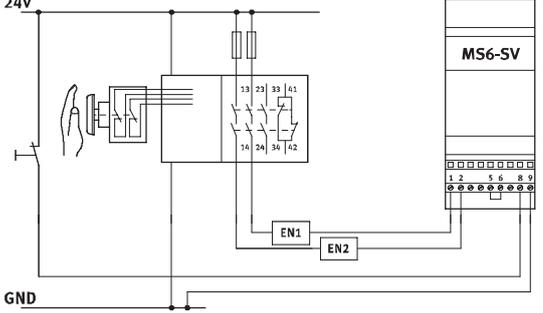
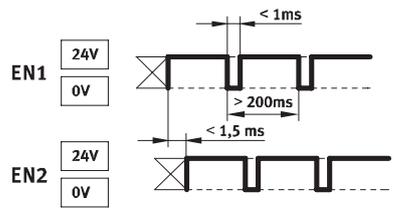
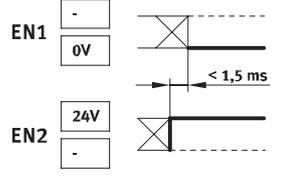
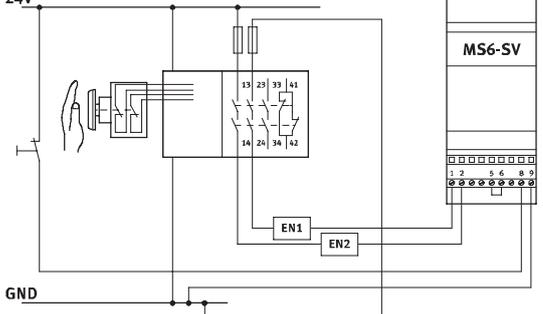
Soft start and exhaust valves MS6-SV, MS series

Technical data

Switching point

Pressure p as a function of time t



Multi-pin plug socket		
Description	Enable signals (EN1/EN2)	Example of connection
NECA-...-MP1	<ul style="list-style-type: none"> Static enable signals (EN1 = 24 V, EN2 = 24 V). 	
<ul style="list-style-type: none"> Pulsing enable signals (EN1 = 0 ... 24 V, EN2 = 0 ... 24 V) for cross-circuit recognition. The cross-circuit recognition by means of pulse signals is always carried out by the safety switching device/safety PLC used.  <p>Note As the pulse outputs of diverse controllers are not standardized, individual use must be checked. If the pulse lies outside the limits described, this will be recognized as a fault by the MS6-SV and the device will be switched off.</p>		
NECA-...-MP3	<ul style="list-style-type: none"> Static enable signals (EN1 = 0 V, EN2 = 24 V). Cross-circuit monitoring is possible statically. A cross-circuit between cables EN1 and EN2 does not cause the valve to start unintentionally. 	

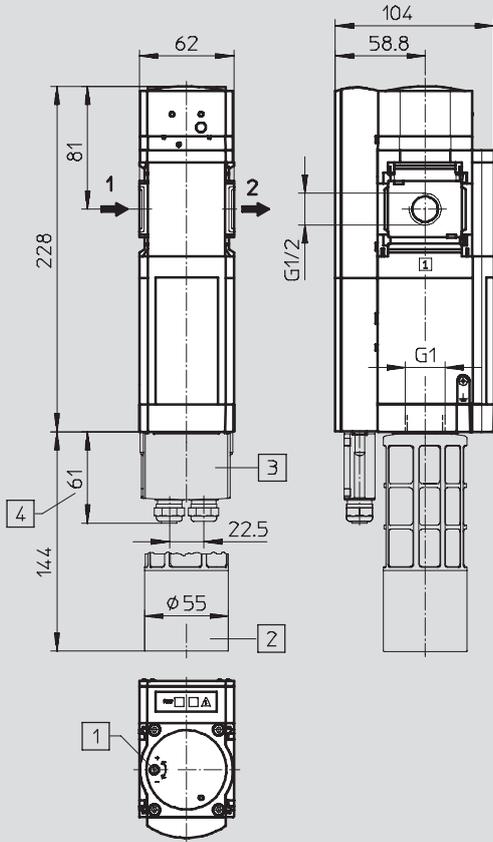
Soft start and exhaust valves MS6-SV, MS series

Technical data

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Dimensions – Standard

Download CAD data → www.festo.com



- 1 Regulating screw for flow control valve
- 2 Silencer UOS-1
- 3 Multi-pin plug socket NECA
- 4 Dimension without cable

→ Flow direction

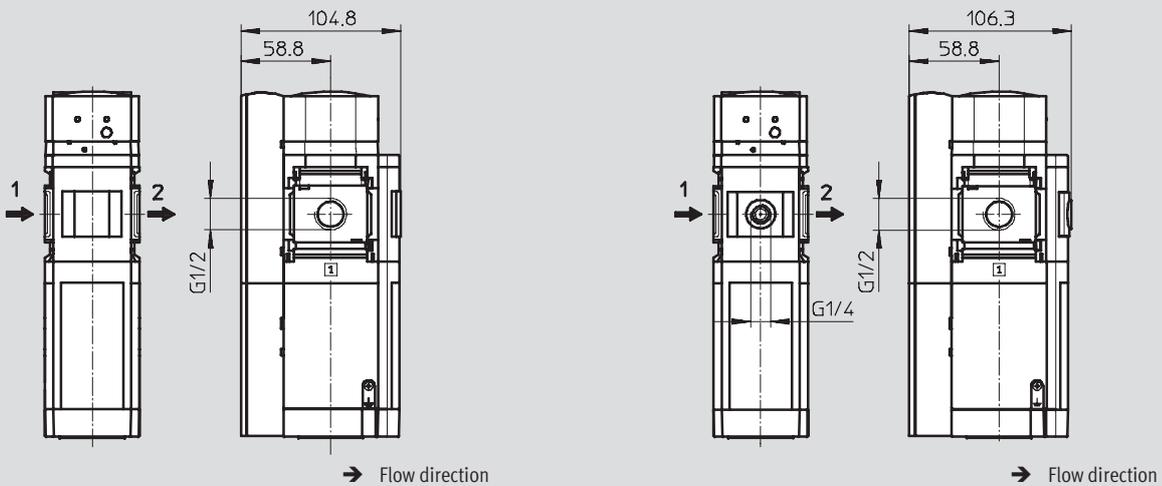
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Integrated MS pressure gauge AG, display unit [bar]

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



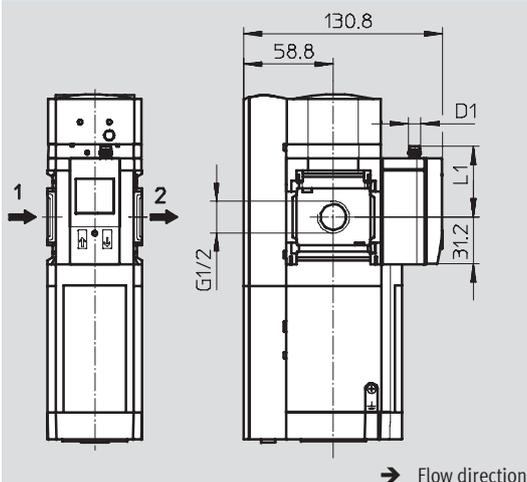
→ Flow direction

→ Flow direction

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

Soft start and exhaust valves MS6-SV, MS series

Technical data

Dimensions – Pressure gauge alternatives		Download CAD data → www.festo.com
Pressure sensor with LCD display AD1 ... AD4		Technical data → Internet: sde1
 <p style="text-align: center;">→ Flow direction</p>	<p>Variant AD1: SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switch output PNP</p> <p>Variant AD2: SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switch output NPN</p>	
	<p>Variant AD3: SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switch output PNP and 4 ... 20 mA analogue</p> <p>Variant AD4: SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switch output NPN and 4 ... 20 mA analogue</p>	

Type	D1	L1
MS6-SV-...-AD1/AD2	M8x1	46.7
MS6-SV-...-AD3/AD4	M12x1	55.8

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

Ordering data					
Size	Connection	Without silencer		With silencer	
		Part No.	Type	Part No.	Type
MS pressure gauge, display unit [bar]					
MS6	G1/2	548715	MS6-SV-1/2-D-10V24-AG	548717	MS6-SV-1/2-D-10V24-SO-AG
Pressure sensor with display, plug M8, PNP, 3-pin					
MS6	G1/2	562580	MS6-SV-1/2-D-10V24-AD1	-	

Soft start and exhaust valves MS6-SV, MS series

Ordering data – Modular products

M Mandatory data				O Options			
Module No.	Series	Function	Performance Level	Silencer	Alternative pressure gauge scale	Type of mounting	
	Size	Connection sizes	Supply voltage	Pressure gauge/adaptor plate	Multi-pin plug socket	Alternative flow direction	
548713	MS 6	SV 1/2 AGB AGC AGD AGE	D 10V24	SO AG A4 AD1 AD2 AD3 AD4	PSI MPA MP1 MP3	WPB	Z
Order example							
548713	MS 6	- SV - AGB -	D - 10V24 -	SO - AG -	- MP1 -	WPB -	-

Ordering table					
Grid dimension	[mm]	62	Condi-tions	Code	Enter code
M	Module No.	548713			
	Series	Standard		MS	MS
	Size	6		6	6
	Function	Soft start and exhaust valve		-SV	-SV
	Connection sizes	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	
	Performance Level	Category 3, 2-channel with self-monitoring, maximum attainable according to ISO 13849-1		-D	-D
	Supply voltage	24 V DC, 10 bar		-10V24	-10V24
O	Silencer	Silencer, open		-SO	
	Pressure gauge/ adaptor plate	Pressure gauge	MS pressure gauge		-AG
		Adapter plates	For EN pressure gauge 1/4, without pressure gauge		-A4
		Pressure sensor	With display, plug M8, PNP, 3-pin		-AD1
			With display, plug M8, NPN, 3-pin		-AD2
			With display, plug M12, PNP, 4-pin, analogue output 4 ... 20 mA		-AD3
		With display, plug M12, NPN, 4-pin, analogue output 4 ... 20 mA		-AD4	
	Alternative pressure gauge scale	psi	1	-PSI	
		MPa	1	-MPA	
	Multi-pin plug socket	Sub-D, 9-pin, screw terminal	Without cable, enable signals static (EN1 = 24 V, EN2 = 24 V)		-MP1
			Without cable, enable signals static (EN1 = 0 V, EN2 = 24 V), short-circuit detection possible		-MP3
	Type of mounting	Wall mounting plate, large clearance		-WPB	
	Alternative flow direction	Flow direction from right to left		-Z	

1 PSI, MPA Not with pressure gauge/adaptor plate A4, AD1, AD2, AD3, AD4

Transfer order code

548713 MS 6 - SV - - D - 10V24 - - - - -

Soft start and exhaust valves MS6-SV, MS series

Accessories

Multi-pin plug socket NECA

(order code: MP1/MP3)

- For soft start and exhaust valve MS6-SV

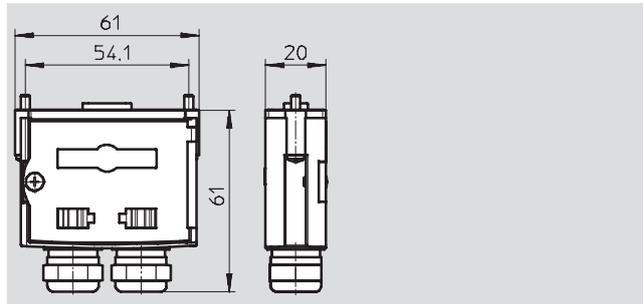
Material:

Housing: Reinforced polyamide

Screws: Steel

Union nut: Brass

Seals: Nitrile rubber



Technical data	
Type of mounting	Via through-holes
Electrical connection	Sub-D, 9-pin, screw terminal 9-pin
Operating voltage range [V DC]	21.6 ... 26.4
Nominal operating voltage [V DC]	24
Current-carrying capacity [A]	1
Connection cross section [mm ²]	0.34 ... 1 without wire end sleeves
	0.34 ... 0.5 with wire end sleeves
Permissible cable diameter [mm]	5 ... 10
Protection class to IEC 60529	IP65

Operating and environmental conditions	
Relative air humidity	95%, non-condensing
Ambient temperature [°C]	0 ... +50
Storage temperature [°C]	-20 ... +70
Corrosion resistance class CRC ¹⁾	2

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Ordering data				
Size	Connection	Weight [g]	Part No.	Type
MS6	Without cable, enable signals static (EN1 = 24 V, EN2 = 24 V)	60	548719	NECA-S1G9-P9-MP1
	Without cable, enable signals static (EN1 = 0 V, EN2 = 24 V), short-circuit detection possible	60	552703	NECA-S1G9-P9-MP3

Soft start and exhaust valves MS6-SV, MS series

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Accessories

Silencer UOS-1

(order code: SO)

- For soft start and exhaust valve MS6-SV

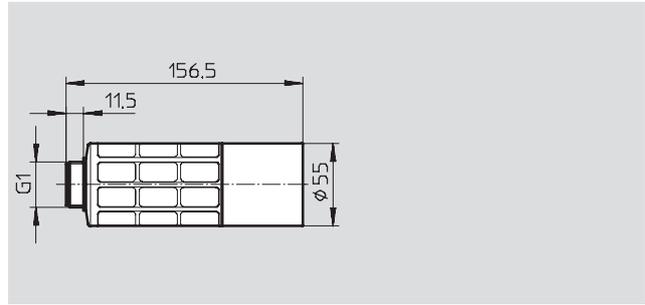
Materials:

Housing: Polyacetate

Sleeve: Wrought aluminium alloy

Silencer insert: Polyethylene

Free of copper and PTFE



Technical data	
Pneumatic connection	G1
Design	Silencer, open
Type of mounting	Via male thread
Assembly position	Any
Type of seal on threaded collar	No seal

Operating and environmental conditions	
Operating pressure [bar]	0 ... 10
Operating medium	Compressed air
Ambient temperature [°C]	-10 ... +50
Corrosion resistance class CRC ¹⁾	2

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Ordering data			
Size	Weight [g]	Part No.	Type
MS6	200	552252	UOS-1

Accessories, MS series

Mounting attachments MS4/MS6



Mounting bracket MS4/6-WP...

Clearances for mounting service unit combinations

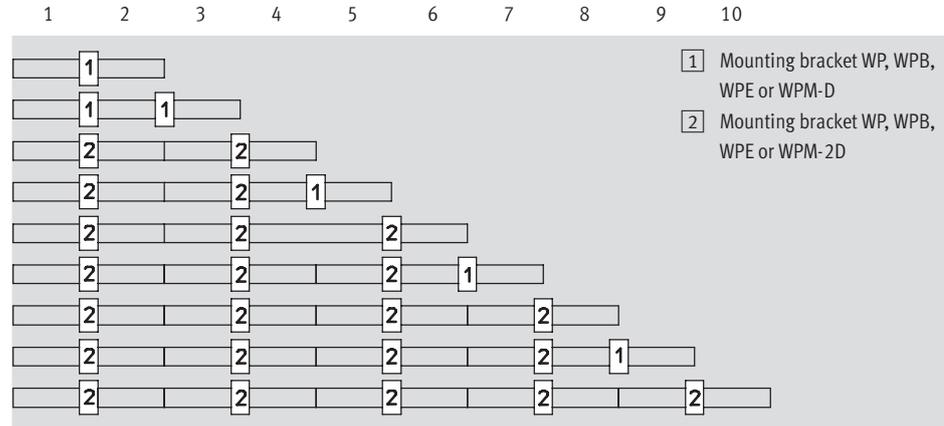
Size MS4

- 1 service unit with MS4-WP... : 40.2 mm (20.1 mm)¹⁾
- 2 service units with MS4-WP... : 80.4 mm (40.2 mm)¹⁾

Size MS6

- 1 service unit with
 - MS6-WP/WPB/WPE: 62 mm (31 mm)¹⁾
 - MS6-WPM-D: 69 mm (38 mm)¹⁾
- 2 service units with
 - MS6-WP/WPB/WPE: 124 mm (62 mm)¹⁾
 - MS6-WPM-2D: 138 mm (76 mm)¹⁾

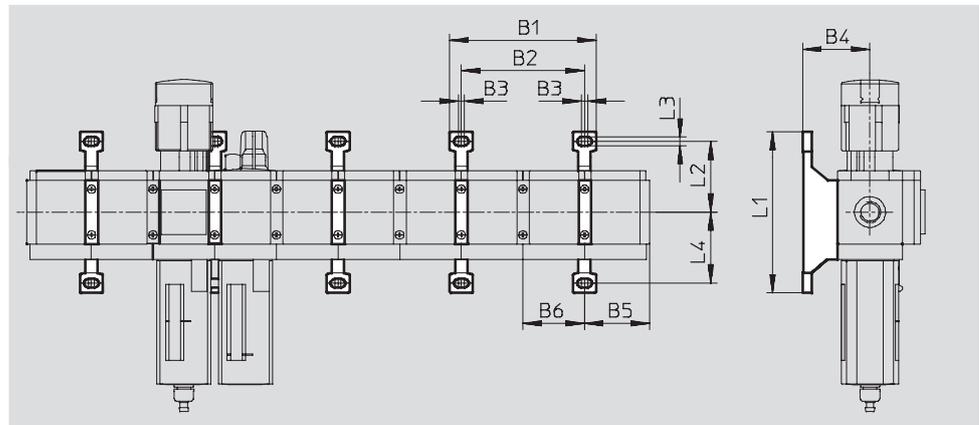
Number of units



1) With distributor block MS-FRM-FRZ

Mounting dimensions

Note
The distributor block MS4/6-FRM-FRZ has a dimension of half grid width.



Type	2 service units with grid dimension		1 service unit with grid dimension and 1 distributor block MS-FRM-FRZ		2 distributor blocks MS-FRM-FRZ		B3	B4	Service unit with grid dimension		Distributor block MS-FRM-FRZ		L1	L2	L3	L4
	B1	B2	B1	B2	B1	B2			B5 ¹⁾	B6	B5 ¹⁾	B6				
MS4-WP	95.4	80.4	75.3	60.3	55.2	40.2	4	44	41.9	40.2	21.8	20.1	106	46.5	5.6	46.7
MS4-WPB/WPE								66								
MS4-WPM-...D								44								
MS6-WP	141	124	110	93	79	62	4.5	54.1	64.5	62	33.5	31	158	71	6.6	71
MS6-WPB/WPE								90.5								
MS6-WPM-...D								168								

1) With accessory cover plate MS-END

Accessories, MS series

Mounting attachments MS4/MS6

FESTO

Mounting bracket MS4/6-WPB

(order code: WPB)

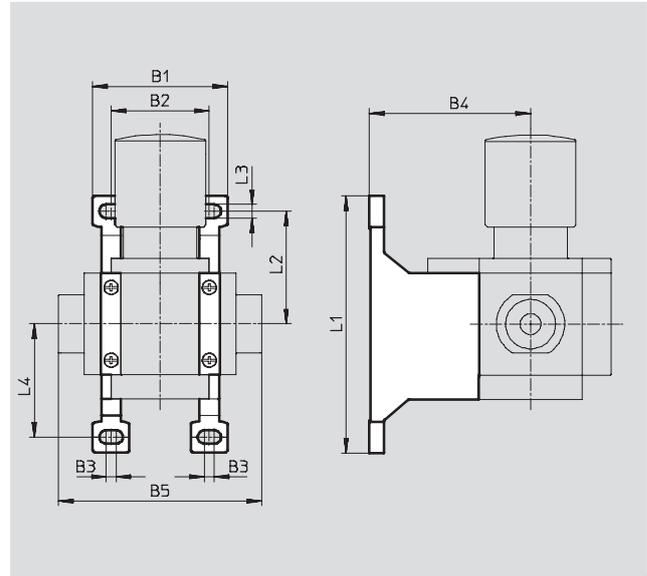
- For connecting modules via wall mounting
- In combination with a connecting plate MS4/6-AG... for individual wall mounting
- In combination with mounting plate MS4/6-AEND for individual wall mounting via direct thread
- Provides large wall gap for pressure regulator

Material:

Die-cast aluminium

Note on materials:

Free of copper and PTFE



Dimensions and ordering data													
Size	B1	B2	B3	B4	B5	L1	L2	L3	L4	CRC ¹⁾	Weight [g]	Part No.	Type
MS4	55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	2	55	526063	MS4-WPB
MS6	79	62	4.5	90.5	115	158	71	6.6	71	2	115	526074	MS6-WPB
For use in explosive areas in zones 2 and 22													
MS4	55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	2	55	541552	MS4-WPB-EX
MS6	79	62	4.5	90.5	115	158	71	6.6	71	2	115	541542	MS6-WPB-EX

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.

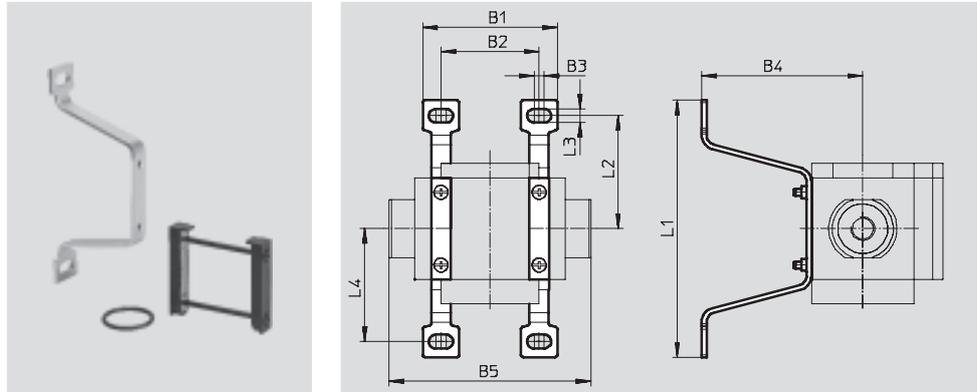
Accessories, MS series

Mounting attachments MS4/MS6

Mounting bracket MS4/6-WPE

- Inexpensive alternative to mounting bracket MS4/6-WPB

Note on materials:
RoHS-compliant



Dimensions and ordering data												
Size	B1	B2	B3	B4	B5	L1	L2	L3	L4	CRC ¹⁾	Part No.	Type
MS4	55.2	40.2	4.2	66	83.4	106	46.6	5.7	46.6	2	558869	MS4-WPE New
MS6	79	62	4.3	90.5	115	158	71	6.5	71	2	1025936	MS6-WPE New

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.

Module connector MS4/6-MV

- For connecting modules

Material:
Stainless steel/polyacetal

Note on materials:
Free of copper and PTFE



Ordering data				
Size	CRC ¹⁾	Weight [g]	Part No.	Type
MS4	2	36	532798	MS4-MV
MS6	2	54	532799	MS6-MV
For use in explosive areas in zones 2 and 22				
MS4	2	36	541553	MS4-MV-EX
MS6	2	54	541543	MS6-MV-EX

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.

Accessories, MS series

Connecting plates MS4/MS6

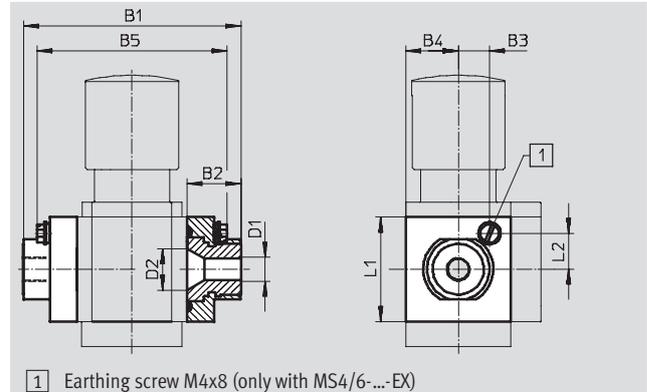
Connecting plate MS4/6-AG...

(order code: AG...)

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G $\frac{3}{4}$

Material:
Aluminium

Note on materials:
Free of copper and PTFE



Dimensions and ordering data													
Size	B1	B2	B3	B4	B5	D1	D2	L1	L2	CRC ¹⁾	Weight [g]	Part No.	Type
MS4	83.5	21.5	-	21	-	G $\frac{1}{8}$	16.8	42	-	2	128	526068	MS4-AGA
						G $\frac{1}{4}$						526069	MS4-AGB
						G $\frac{3}{8}$						526070	MS4-AGC
MS6	115	26.5	-	31	-	G $\frac{1}{4}$	24	62	-	2	300	526080	MS6-AGB
						G $\frac{3}{8}$						526081	MS6-AGC
						G $\frac{1}{2}$						526082	MS6-AGD
						G $\frac{3}{4}$						526083	MS6-AGE
For use in explosive areas in zones 2 and 22													
MS4	83.5	21.5	12.5	21	72.5	G $\frac{1}{8}$	16.8	42	14.5	2	128	541549	MS4-AGA-EX
						G $\frac{1}{4}$						541550	MS4-AGB-EX
						G $\frac{3}{8}$						541551	MS4-AGC-EX
MS6	115	26.5	20.5	31	98.3	G $\frac{1}{4}$	24	62	15.5	2	300	541538	MS6-AGB-EX
						G $\frac{3}{8}$						541539	MS6-AGC-EX
						G $\frac{1}{2}$						541540	MS6-AGD-EX
						G $\frac{3}{4}$						541541	MS6-AGE-EX

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

Accessories, MS series

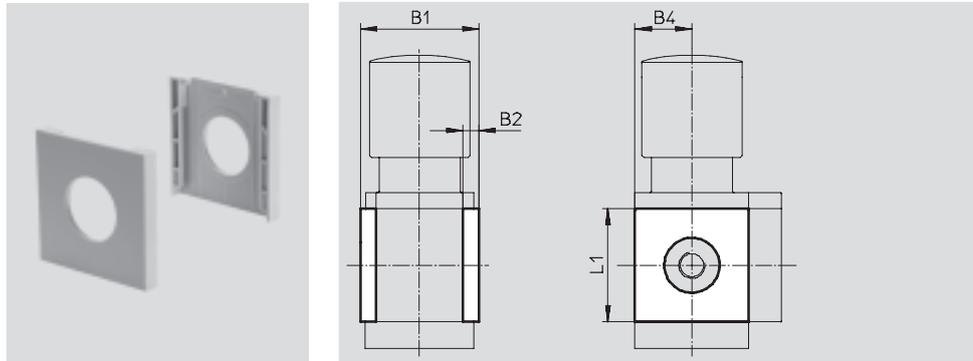
Connecting plates MS4/MS6

FESTO

Cover plate MS4/6-END

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

Material:
Reinforced polyamide
Free of copper and PTFE



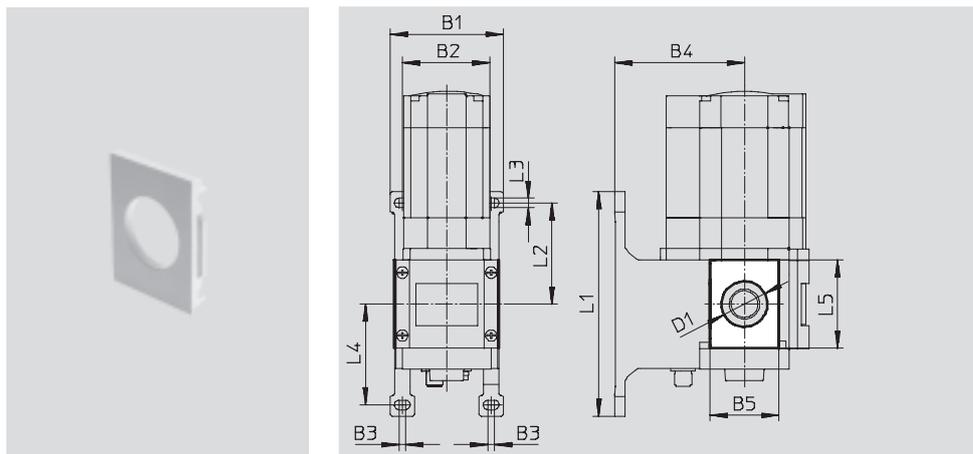
Dimensions and ordering data						
Size	B1	B2	B4	L1	Part No.	Type
MS4	43.6	6	21	42	538779	MS4-END
MS6	67	8	31	62	538780	MS6-END

Mounting plate MS4/6-AEND

(order code: WBE; scope of delivery includes wall mounting plate MS6-WPB)

- In combination with mounting bracket MS-WP or MS-WPB for individual wall mounting via direct thread

Material:
Reinforced polyamide
RoHS-compliant
Free of copper and PTFE



Dimensions and ordering data																
Size	B1	B2	B3	B4		B5	D1 ∅	L1	L2	L3	L4	L5	CRC ¹⁾	Weight [g]	Part No.	Type
				WP	WPB											
MS4	55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	542966	MS4-AEND
MS6	79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	535408	MS6-AEND

1) Corrosion resistance class 2 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.

What must be observed when using Festo components?

Specified limit values for technical data and any specific instructions must be adhered to by the user in order to ensure recommended operating conditions.

When pneumatic components are used, the user shall ensure that they are operated using correctly prepared compressed air without aggressive media.

When Festo components are used in safety-oriented applications, the user shall ensure that all applicable

national and local safety laws and regulations, for example the machine directive, together with the relevant references to standards are observed. Unauthorised conversions or modifications to products and systems from Festo involve a safety risk and are thus not permissible.

Festo does not accept any liability for resulting damages.

You should contact Festo's advisors if one of the following apply to your application:

- The ambient conditions and conditions of use or the operating medium differ from the specified technical data.
- The product is to perform a safety function.
- A risk or safety analysis is required.
- You are unsure about the product's suitability for use in the planned application.
- You are unsure about the product's suitability for use in safety-oriented applications.

All technical data applies at the time of going to print.

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