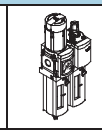
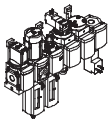
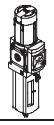
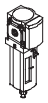
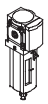
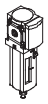
Lubricators MS-LOE, MS series

FESTO

Lubricators MS-LOE, MS series

Product range overview – MS series service units

FESTO

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	G⅛, G¼	G⅛, G¼, G⅜	–	–	–	■	■	–	–	–	■	■
		6	G¼, G⅜, G½	G¼, G⅜, G½, G¾	–	–	–	■	■	–	–	–	■	■
		9	–											
		12	–											
Service unit combinations (further variants can be ordered using the configurator ➔ Internet: msb4, msb6 or msb9)														
MSB		4	G¼	G⅛, G¼, G⅜	–	–	–	■	■	–	–	–	■	■
		6	G½	G¼, G⅜, G½, G¾	–	–	–	■	■	–	–	–	■	■
		9	–											
		12	–											
Individual devices														
Filter regulators **MS-LFR**		4	G⅛, G¼	G⅛, G¼, G⅜	–	–	■	■	■	–	–	–	■	■
		6	G¼, G⅜, G½	G¼, G⅜, G½, G¾	–	–	■	■	■	■	–	–	■	■
		9	G¾, G1	G½, G¾, G1, G1¼, G1½	–	–	■	■	■	■	–	–	■	■
		12	–	G1, G1¼, G1½, G2	–	–	–	■	■	■	–	–	■	■
Filters **MS-LF**		4	G⅛, G¼	G⅛, G¼, G⅜	–	–	–	–	–	–	–	–	■	■
		6	G¼, G⅜, G½	G¼, G⅜, G½, G¾	–	–	–	–	–	–	–	–	■	■
		9	G¾, G1	G½, G¾, G1, G1¼, G1½	–	–	–	–	–	–	–	–	■	■
		12	–	G1, G1¼, G1½, G2	–	–	–	–	–	–	–	–	■	■
Fine and micro filters **MS-LFM**		4	G⅛, G¼	G⅛, G¼, G⅜	–	–	–	–	–	–	■	■	–	–
		6	G¼, G⅜, G½	G¼, G⅜, G½, G¾	–	–	–	–	–	–	■	■	–	–
		9	G¾, G1	G½, G¾, G1, G1¼, G1½	–	–	–	–	–	–	■	■	–	–
		12	–	G1, G1¼, G1½, G2	–	–	–	–	–	–	■	■	–	–
Activated carbon filters **MS-LFX**		4	G⅛, G¼	G⅛, G¼, G⅜	–	–	–	–	–	–	–	–	–	–
		6	G¼, G⅜, G½	G¼, G⅜, G½, G¾	–	–	–	–	–	–	–	–	–	–
		9	G¾, G1	G½, G¾, G1, G1¼, G1½	–	–	–	–	–	–	–	–	–	–
		12	–	G1, G1¼, G1½, G2	–	–	–	–	–	–	–	–	–	–
Water separators **MS-LWS**		4	–											
		6	G¼, G⅜, G½	G¼, G⅜, G½, G¾	–	–	–	–	–	–	–	–	–	–
		9	G¾, G1	G½, G¾, G1, G1¼, G1½	–	–	–	–	–	–	–	–	–	–
		12	–	G1, G1¼, G1½, G2	–	–	–	–	–	–	–	–	–	–

Lubricators MS-LOE, MS series

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	4	■	■	■	■	■	–	■	■	■	■	■	■	■	–	■	ms4-lfr
MS-LFR	6	■	■	■	■	■	■	■	■	–	■	■	■	■	–	■	ms6-lfr
	9	–	■	■	■	■	■	■	■	–	■	■	■	■	–	■	ms9-lfr
	12	–	■	■	–	■	■	■	■	–	■	–	■	■	–	■	ms12-lfr
Filters	4	■	■	■	■	■	–	–	–	–	–	–	–	–	–	■	ms4-lf
MS-LF	6	■	■	■	■	■	■	–	–	–	–	–	–	–	–	■	ms6-lf
	9	–	■	■	■	■	■	–	–	–	–	–	–	–	–	■	ms9-lf
	12	–	■	■	–	■	■	–	–	–	–	–	–	–	–	■	ms12-lf
Fine and micro	4	■	■	■	■	■	–	–	–	–	–	–	–	–	–	■	ms4-lfm
filters	6	■	■	■	■	■	■	–	–	–	–	–	–	–	–	■	ms6-lfm
MS-LFM	9	–	■	■	■	■	■	–	–	–	–	–	–	–	–	■	ms9-lfm
	12	–	■	■	–	■	■	–	–	–	–	–	–	–	–	■	ms12-lfm
Activated carbon	4	■	■	–	–	–	–	–	–	–	–	–	–	–	–	■	ms4-lfx
filters	6	■	■	–	–	–	–	–	–	–	–	–	–	–	–	■	ms6-lfx
MS-LFX	9	–	■	–	–	–	–	–	–	–	–	–	–	–	–	■	ms9-lfx
	12	–	■	–	–	–	–	–	–	–	–	–	–	–	–	■	ms12-lfx
Water separators	4	–															–
MS-LWS	6	–	■	–	–	■	■	–	–	–	–	–	–	–	–	■	ms6-lws
	9	–	■	–	–	■	■	–	–	–	–	–	–	–	–	■	ms9-lws
	12	–	■	–	–	■	■	–	–	–	–	–	–	–	–	■	ms12-lws

Lubricators MS-LOE, MS series

Product range overview – MS series service units

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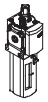
Type		Size	Pneumatic connection in housing	Connecting plate	Pressure regulation range [bar]						Supply voltage			
					0.05 ... 0.7	0.05 ... 2.5	0.1 ... 4	0.3 ... 7	0.1 ... 12	0.5 ... 16	24 V DC, connection pattern to EN 175301	24 V DC, connection M12 to IEC 61076-2-101	110 V AC, connection pattern 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	G3⁄4, G1	G1⁄2, G3⁄4, G1, G1 1⁄4, G1 1⁄2	–	–	■	■	■	■	–	–	–	–
		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	G3⁄4, G1	G1⁄2, G3⁄4, G1, G1 1⁄4, G1 1⁄2	–	–	–	–	–	–	–	–	–	–
		12	–	G1, G1 1⁄4, G1 1⁄2, G2	–	–	–	–	–	–	–	–	–	–
On-off valves, manually actuated **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	G3⁄4, G1	G1⁄2, G3⁄4, G1, G1 1⁄4, G1 1⁄2	–	–	–	–	–	–	–	–	–	–
		12	–	G1, G1 1⁄4, G1 1⁄2, G2	–	–	–	–	–	–	–	–	–	–
On-off valves, electrically actuated **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	G3⁄4, G1	G1⁄2, G3⁄4, G1, G1 1⁄4, G1 1⁄2	–	–	–	–	–	–	■	■	■	■
		12	–	G1, G1 1⁄4, G1 1⁄2, G2	–	–	–	–	–	–	■	■	■	■
Soft-start valves, pneumatically actuated **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	–	–	–	–	–	–	–	–	–	–
Soft-start valves, electrically actuated **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	–	–	–	–	–	–	■	■	■	■

Lubricators MS-LOE, MS series

Product range overview – MS series service units

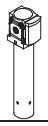
FESTO

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	–	–	■	■	■	■	■	■	■	–	■	ms4-lr
	6	–	–	■	■	–	■	■	■	■	–	■	ms6-lr
	9	–	–	■	■	–	■	■	■	■	–	■	ms9-lr
	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	■	■	–	–	–	–	–	–	–	–	■	8
	6	■	■	–	–	–	–	–	–	–	–	■	8
	9	–	■	–	–	–	–	–	–	–	–	■	15
	12	–	■	–	–	–	–	–	–	–	–	■	22
On-off valves, manually actuated **MS-EM(1)**	4	–	–	■	■	■	■	■	–	–	■	■	ms4-em1
	6	–	–	■	■	–	■	■	–	–	■	■	ms6-em1
	9	–	–	■	■	–	■	–	–	–	■	■	ms9-em
	12	–	–	■	■	–	■	–	–	–	■	■	ms12-em
On-off valves, electrically actuated **MS-EE**	4	–	–	■	■	■	■	■	–	–	■	■	ms4-ee
	6	–	–	■	■	–	■	■	–	–	■	■	ms6-ee
	9	–	–	■	■	–	■	–	–	–	■	■	ms9-ee
	12	–	–	■	■	–	■	–	–	–	■	■	ms12-ee
Soft-start valves, pneumatically actuated **MS-DL**	4	–	–	■	■	■	■	■	–	–	–	■	ms4-dl
	6	–	–	■	■	–	■	■	–	–	–	■	ms6-dl
	9	–											–
	12	–	–	■	■	–	■	–	–	–	–	■	ms12-dl
Soft-start valves, electrically actuated **MS-DE**	4	–	–	■	■	■	■	■	–	–	–	■	ms4-de
	6	–	–	■	■	–	■	■	–	–	–	■	ms6-de
	9	–											–
	12	–	–	■	■	–	■	–	–	–	–	■	ms12-de

Lubricators MS-LOE, MS series

Product range overview – MS series service units

FESTO

Type		Size	Pneumatic connection in housing	Connecting plate	Performance Level		Supply voltage			
					Category 1, 1-channel	Category 4, 2-channel with self-monitoring	24 V DC, connection pattern to EN 175301	24 V DC, connection M12 to IEC 61076-2-101/ to EN 60947-5-2	110 V AC, connection pattern to EN 175301	230 V AC, connection pattern to EN 175301
Code				AG...	C	E	V24	V24P	V110	V230
Individual devices										
Soft start and exhaust valves **MS-SV-C**		4	–							
		6	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	–							
Soft start and exhaust valves **MS-SV-E**		4	–							
		6	G1/2	G1/4, G3/8, G1/2, G3/4	–	■	■	–	–	–
		9	–							
		12	–							
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	G3/4, G1	G1/2, G3/4, G1, G1 1/4, G1 1/2	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	–	–
Distributor blocks **MS-FRM-FRZ**		4	G1/4	–	–	–	–	–	–	–
		6	G1/2	–	–	–	–	–	–	–
		9	–							
		12	–							
Flow sensors **SFAM**		4	–							
		6	G1/2	G1/2	–	–	–	–	–	–
		9	–	G1, G1 1/2	–	–	–	–	–	–
		12	–							

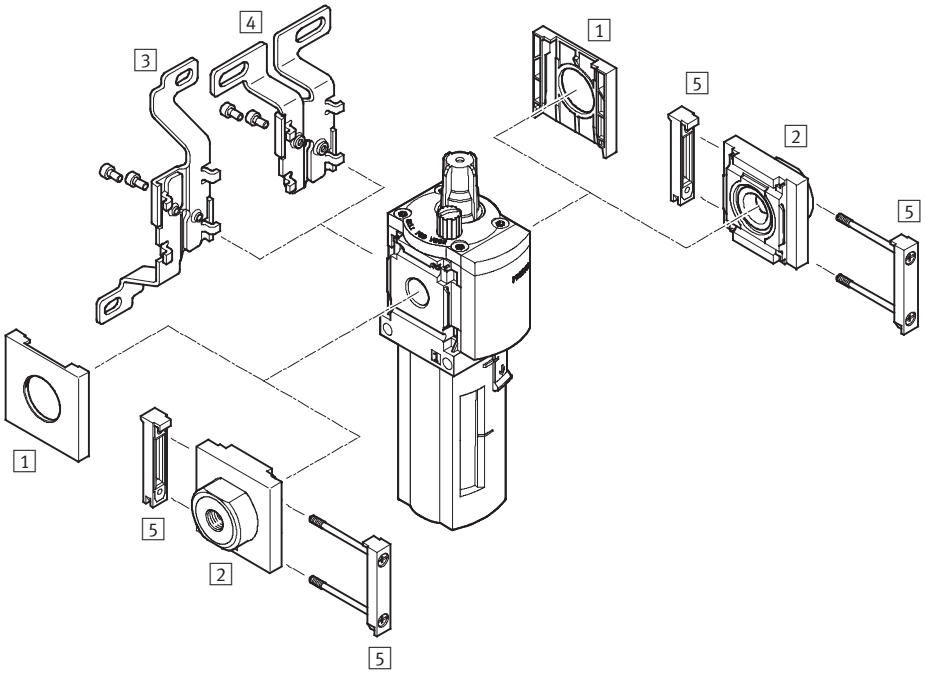
Lubricators MS-LOE, MS series

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 G1/8	Adapter plate for EN pressure gauge G1/4	Pressure sensor	2x PNP or NPN, 1 analogue output 4 ... 20 mA	2x PNP or NPN, 1 analogue output 0 ... 10 V	Silencer	Flow direction from right to left	
Code		R	U	VS	AG	A8	A4	AD...	2SA	2SV	S	Z/R	
Individual devices													
Soft start and exhaust valves **MS-SV-C**	4	–											–
	6	–	–	■	■	–	■	■	–	–	■	■	ms6-sv
	9	–	–	■	■	–	■	■	–	–	■	■	ms9-sv
	12	–											–
Soft start and exhaust valves **MS-SV-E**	4	–											–
	6	–	–	■	■	–	■	■	–	–	■	■	ms6-sv
	9	–											–
	12	–											–
Membrane air dryers **MS-LDM1**	4	–	■	–	–	–	–	–	–	–	–	■	ms4-ldm1
	6	–	■	–	–	–	–	–	–	–	–	■	ms6-ldm1
	9	–											–
	12	–											–
Branching modules **MS-FRM**	4	–	–	■	■	■	■	■	–	–	–	■	ms4-frm
	6	–	–	■	■	–	■	■	–	–	–	■	ms6-frm
	9	–	–	■	■	–	■	■	–	–	–	■	ms9-frm
	12	–	–	■	–	–	–	–	–	–	–	–	ms12-frm
Distributor blocks **MS-FRM-FRZ**	4	–	–	–	–	–	–	–	–	–	–	■	ms4-frm
	6	–	–	–	–	–	–	–	–	–	–	■	ms6-frm
	9	–											–
	12	–											–
Flow sensors **SFAM**	4	–											–
	6	–	–	–	–	–	–	–	■	■	–	■	sfam-62
	9	–	–	–	–	–	–	–	■	■	–	■	sfam-90
	12	–											–

Lubricators MS4/MS6-LOE, MS series

Peripherals overview



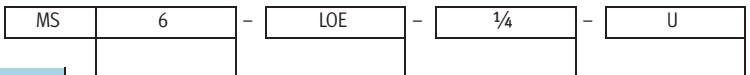
Note

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 MS4/6-END	■	–	■	–	ms4-end, ms6-end
2 Connecting plate MS4/6-AG...	–	■	–	■	ms4-ag, ms6-ag
3 Mounting bracket MS4/6-WB	■	■	–	–	ms4-wb, ms6-wb
4 Mounting bracket MS4-WBM	■	■	–	–	ms4-wbm
5 Module connector MS4/6-MV	–	■	■	■	ms4-mv, ms6-mv
– Mounting bracket MS4/6-WP/WPB/WPE/WPM	–	■	■	■	ms4-wp, ms6-wp

Lubricators MS4/MS6-LOE, MS series

Type codes



Series	
MS	Standard service unit

Size	
4	Grid dimension 40 mm
6	Grid dimension 62 mm

Service function	
LOE	Lubricators

Connection size	
MS4	
⅛	Thread G⅛
¼	Thread G¼
MS6	
¼	Thread G¼
⅜	Thread G⅜
½	Thread G½

Bowl guard	
R	Plastic bowl guard
U	Integrated as metal bowl

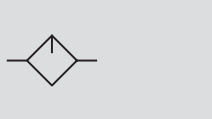
Further variants can be ordered using the modular system ➔ 14

- Connecting plates
- Type of mounting
- Alternative flow direction

Lubricators MS4/MS6-LOE, MS series

Technical data

Function



Flow rate
1,100 ... 7,200 l/min
Temperature range
–10 ... +60 °C
Pressure
1 ... 16 bar

The proportional lubricator adds a precision adjustable quantity of oil to the compressed air stream.
The pressure drop that occurs when air flows through a Venturi nozzle is used to convey oil from the container to the drip cap. From here, the oil drips into the air duct directly behind the proportional valve, where it is atomised. The oil mist component is proportional to the compressed air flow rate.

- Proportional lubricator with precision oil metering
- Reduces wear on drive units subject to high loading
- High flow rate
- Quick and easy oil top-up even during operation (under pressure)

The following oils are recommended for Festo components:
Viscosity range to ISO 3448, ISO class VG 32
32 mm^2/s (= cSt) at 40°C
- Festo special oil OFSW-32 ➔ 29
- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32

General technical data						
Size		MS4		MS6		
Pneumatic connection 1, 2		G1⁄8	G1⁄4	G1⁄4	G3⁄8	G1⁄2
Design		Proportional standard mist lubricator				
Type of mounting		Via accessories				
		In-line installation				
Assembly position		Vertical ±5°				
Bowl guard		Plastic bowl guard				
		Integrated as metal bowl				
Minimum flow for lubricator operation	[l/min]	40		50		
Max. oil capacity	[cm^3]	30 (with plastic bowl guard) 36 (with metal bowl)		75 (with plastic bowl guard) 80 (with metal bowl)		

Note: This product conforms to ISO 1179-1 and ISO 228-1

Standard nominal flow rate qnN [l/min]						
Size		MS4		MS6		
Pneumatic connection		G1⁄8	G1⁄4	G1⁄4	G3⁄8	G1⁄2
In main flow direction 1 ⇢ 2		1,100	2,200	2,500	5,300	7,200

Lubricators MS4/MS6-LOE, MS series

Technical data

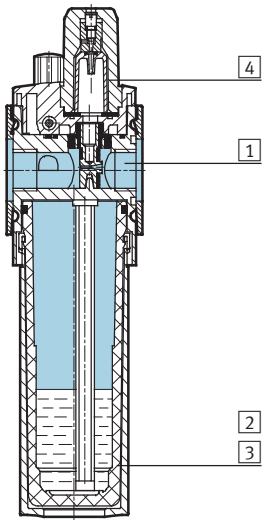
Operating and environmental conditions			
Size		MS4	MS6
Operating pressure	[bar]	1 ... 12	1 ... 16
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]	
		Inert gases	
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)	
Ambient temperature	[°C]	–10 ... +60	0 ... +60
Temperature of medium	[°C]	–10 ... +60	0 ... +60
Storage temperature	[°C]	–10 ... +60	–10 ... +60
Corrosion resistance	CRC[1)]	2	

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

Weights [g]		
Size	MS4	MS6
Lubricator with plastic bowl guard R	194	600
Lubricator with metal bowl U	354	810

Materials

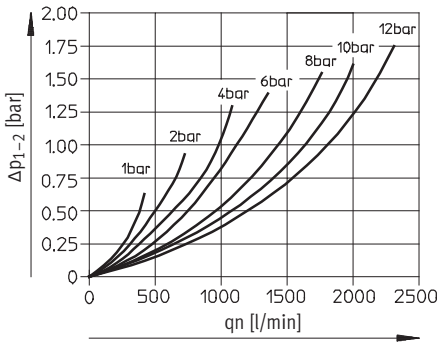
Sectional view



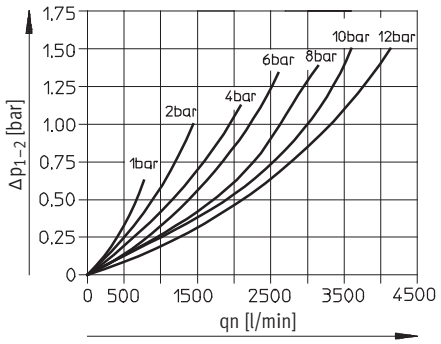
Lubricators		
1	Body	Die-cast aluminium
2	Plastic bowl guard	PC
3	Metal bowl	Aluminium
	Viewing window	PA
4	Lubricator dome	PC
–	Seals	NBR
Note on materials		RoHS-compliant

Standard flow rate qn as a function of the differential pressure Δp1-2

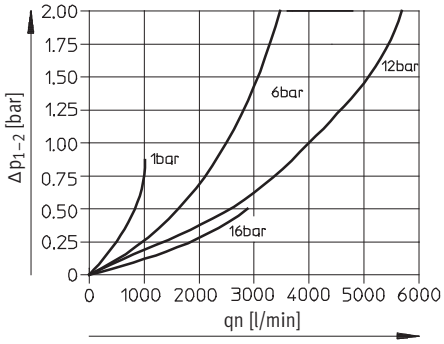
MS4-LOE-⅛



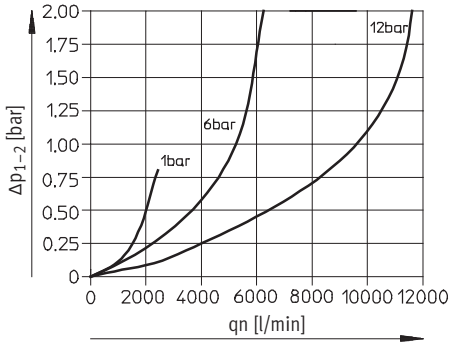
MS4-LOE-¼



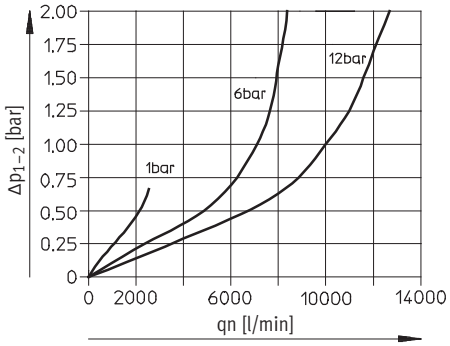
MS6-LOE-¼



MS6-LOE-⅜

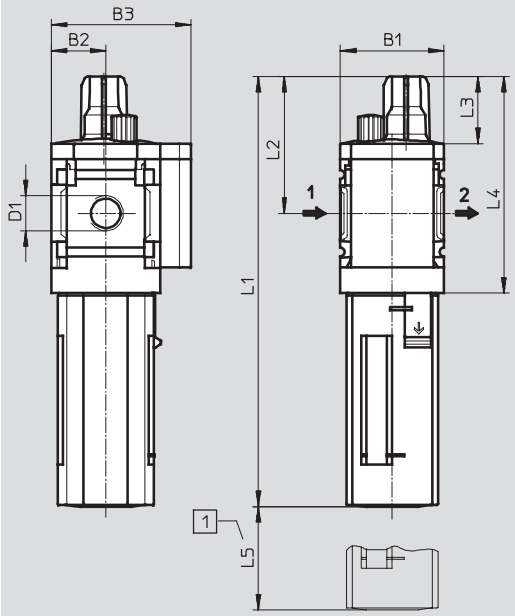


MS6-LOE-½



Dimensions – Basic version

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



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3	L4	L5
					Plastic	Metal				
MS4-LOE-⅛	42	21	54	G⅛	166.6	184.9	53	26	84	80
MS4-LOE-¼				G¼						
MS6-LOE-¼	62	31	76	G¼	216.6	223.1	66.1	27.1	111.6	130
MS6-LOE-⅜				G⅜						
MS6-LOE-½				G½						

Note: This product conforms to ISO 1179-1 and ISO 228-1

Ordering data

Size	Connection	Plastic bowl guard		Integrated as metal bowl	
		Part No.	Type	Part No.	Type
MS4	G⅛	**529413**	**MS4-LOE-⅛-R**	**535791**	**MS4-LOE-⅛-U**
	G¼	**529411**	**MS4-LOE-¼-R**	**535790**	**MS4-LOE-¼-U**
MS6	G¼	**529779**	**MS6-LOE-¼-R**	**529781**	**MS6-LOE-¼-U**
	G⅜	**529783**	**MS6-LOE-⅜-R**	**529785**	**MS6-LOE-⅜-U**
	G½	**529775**	**MS6-LOE-½-R**	**529777**	**MS6-LOE-½-U**

Lubricators MS4/MS6-LOE, MS series

Ordering data – Modular products

FESTO

M Mandatory data													O Options		
Module No.		**Series**	**Size**		**Function**		**Connection size**		**Bowl**		**Type of mounting**		**Alternative flow direction**		
527701 527674		MS	4 6		LOE		1/8, 1/4, 3/8, 1/2, AGA, AGB, AGC, AGD, AGE		R U		WP WPM WB WBM		Z		
Order example															
527701		**MS**	**4**	**–**	**LOE**	**–**	**AGB**	**–**	**R**	**–**	**WP**	**–**	**Z**		

Ordering table

Grid dimension [mm]		40	62	Conditions	Code		Enter code
M	Module No.	**527701**	**527674**				
	Series	Standard			**MS**		MS
	Size	4	6		**...**		
	Function	Lubricators			**-LOE**		-LOE
	Connection size	G1/8 thread	–		**-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**		
	Bowl	Plastic bowl with plastic bowl guard			**-R**		
		Metal bowl			**-U**		
O	Type of mounting	Mounting bracket		1	**-WP**		
		Mounting bracket		1	**-WPM**		
		Mounting bracket			**-WB**		
		Mounting bracket	–		**-WBM**		
	Alternative flow direction	Flow direction from right to left			**-Z**		

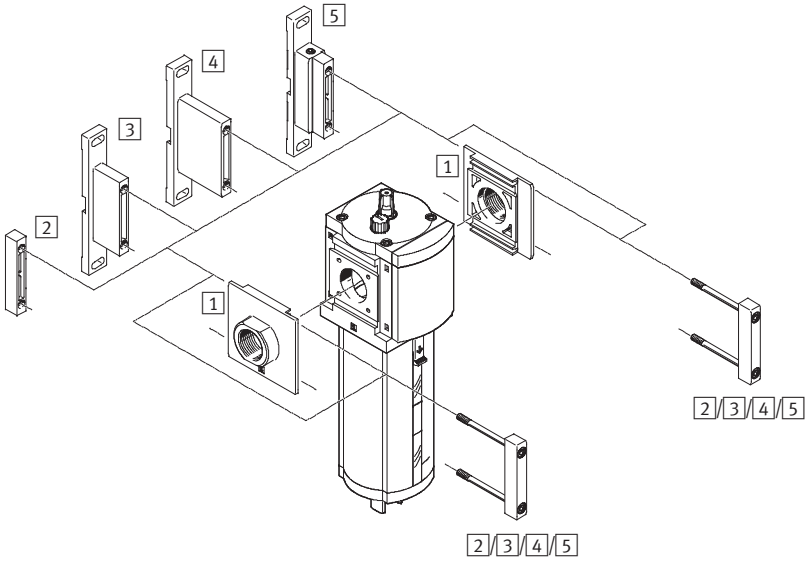
1 **WP, WPM** Only with connecting plate AGA, AGB, AGC, AGD or AGE.

Transfer order code

	MS		**–**	**LOE**	**–**		**–**		**–**		**–**	

Lubricators MS9-LOE, MS series

Peripherals overview



Note

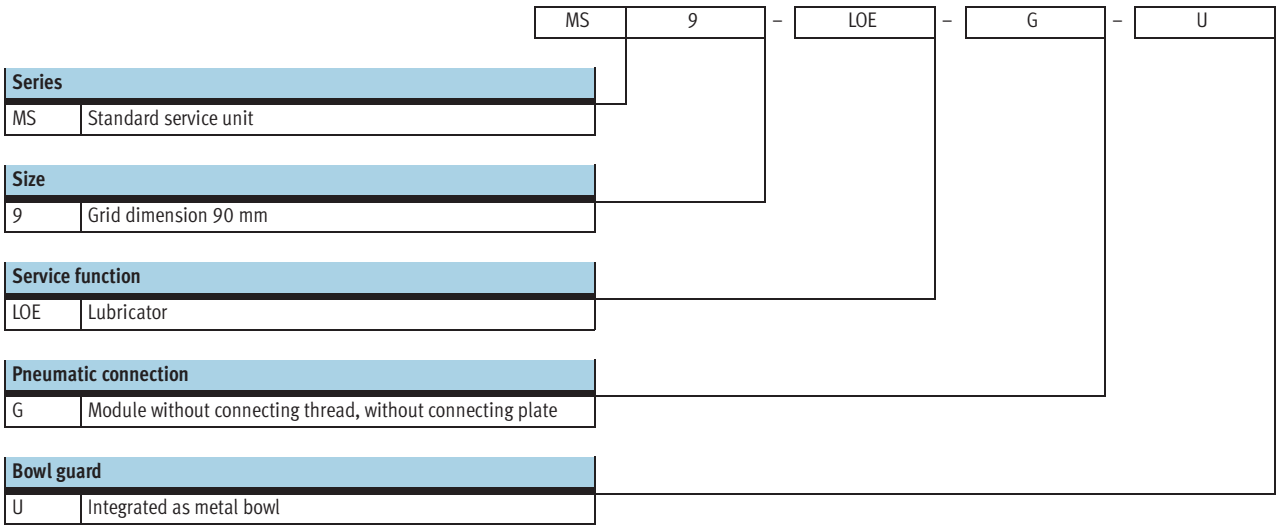
Additional accessories:
- Module connector for combinations with size MS6, MS9 or MS12 ➔ Internet: rmv, armv

Mounting attachments and accessories				
	Individual unit		Combination	➔ Page/ Internet
	With female thread ¾ or 1	With connecting plate AG...	Module without connecting thread, without connecting plate G	
1 Connecting plate MS9-AG...	–	■	■	ms9-ag
2 Module connector MS9-MV	–	–	■	ms9-mv
3 Mounting bracket MS9-WP	■	■	■	ms9-wp
4 Mounting bracket MS9-WPB	■	■	■	ms9-wp
5 Mounting bracket MS9-WPM	■	■	■	ms9-wp

New
Variant UL1

Lubricators MS9-LOE, MS series

Type codes



Additional variants can be ordered using the modular product system ➔ 21

- Connecting thread
- Connecting plates
- Type of mounting
- UL certification
- Alternative flow direction

Lubricators MS9-LOE, MS series

Technical data

FESTO

Function

Flow rate
15,000 ... 20,000 l/min
Temperature range
–10 ... +60 °C
Pressure
1 ... 16 bar

The proportional lubricator adds a precisely adjustable quantity of oil to the compressed air.
The pressure drop that occurs when air flows through a Venturi nozzle is used to convey oil from the container to the drip cap. From here, the oil drips into the air duct directly behind the proportional valve, where it is atomised. The oil mist part is proportional to the compressed air flow rate.

- Proportional lubricator with precision oil metering
- Integrated sintered filter for filtering the oil
- Reduces wear on drive units subject to high loading
- High flow rate
- Quick and easy oil top-up even during operation (under pressure)

The following oils are recommended for Festo components:
Viscosity range to ISO 3448, ISO class VG 32
32 mm^2/s (= cSt) at 40 °C
- Festo special oil OFSW-32 ➔ 29
- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32

General technical data					
Size	MS9				
Pneumatic connection 1, 2	G¾	G1	G½ ... G1½ (with connecting plate AG...)	– (without connecting thread G)	
Design	Proportional standard mist lubricator				
Type of mounting	Via accessories				
	In-line installation				
Mounting position	Vertical ±5°				
Bowl guard	Integrated as metal bowl				
Minimum flow rate for lubricator operation [l/min]	100				
Max. oil capacity [ml]	490				

Note: This product conforms to ISO 1179-1 and ISO 228-1

Standard nominal flow rate qnN[1] [l/min]					
Pneumatic connection	Connecting plate AGD	Thread G¾ or connecting plate AGE	Thread G1 or connecting plate AGF	Connecting plate AGG	Connecting plate AGH
In main flow direction 1 ⇢ 2	8,500	15,000	23,000	26,000	27,000

1) Measured at p1 = 6 bar and Δp = 1 bar.

Lubricators MS9-LOE, MS series

Technical data

FESTO

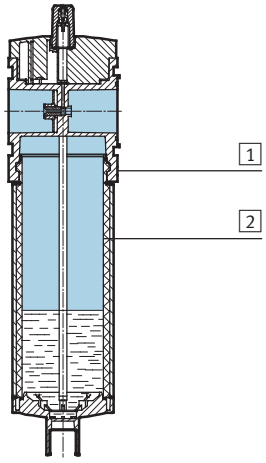
Operating and environmental conditions		
Operating pressure	[bar]	1... 16
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
Ambient temperature	[°C]	–10 ... +60
Temperature of medium	[°C]	–10 ... +60
Storage temperature	[°C]	–10 ... +60
Corrosion resistance class CRC[1)]		2
Certification (variant UL1)		cULus recognized (OL)

1) Corrosion resistance class 2 according 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]	
Lubricator	2,000

Materials

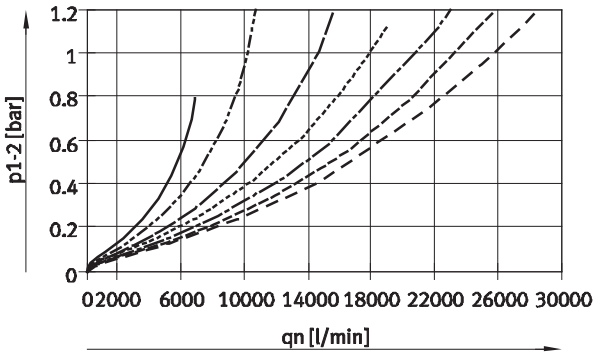
Sectional view



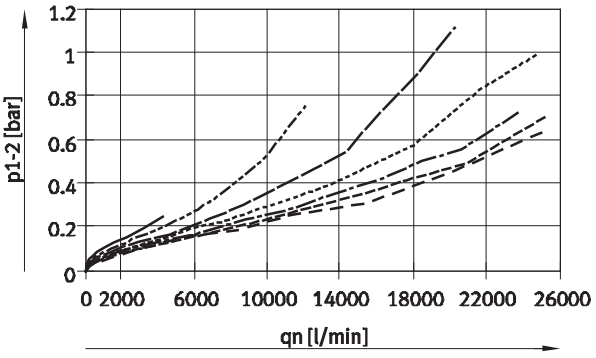
Lubricator		
1	Housing	Die-cast aluminium
2	Bowl Inspection window	Wrought aluminium alloy PA
–	Cover	PA reinforced
–	Connecting plate, module connector, mounting bracket	Die-cast aluminium
–	Seals	NBR
Note on materials		RoHS-compliant

Standard flow rate qn as a function of differential pressure p1-2

MS9-LOE-¾/AGE, pneumatic connection G¾



MS9-LOE-1/AGF, pneumatic connection G1



1 bar
2 bar
4 bar
6 bar
8 bar
10 bar
12 bar

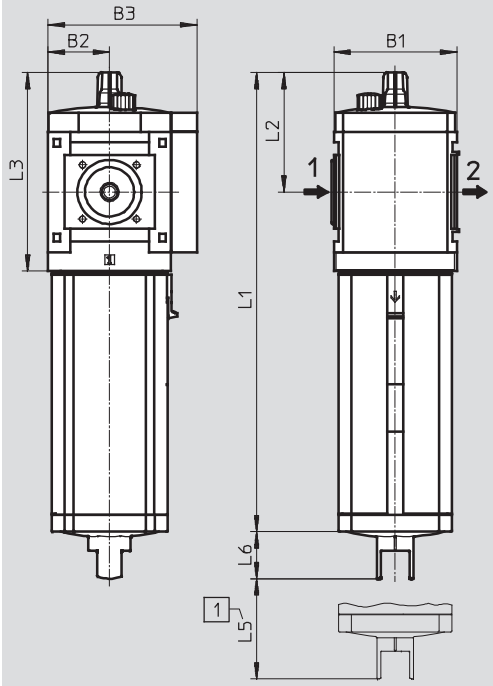
Lubricators MS9-LOE, MS series

Technical data

FESTO

Dimensions – Basic version Download CAD Data ➔ **www.festo.com/us/cad**

Without connecting thread G



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	L1	L2	L3	L5 min.	L6
MS9-LOE-G	90	45	109	336.3	87	145	225	34.5

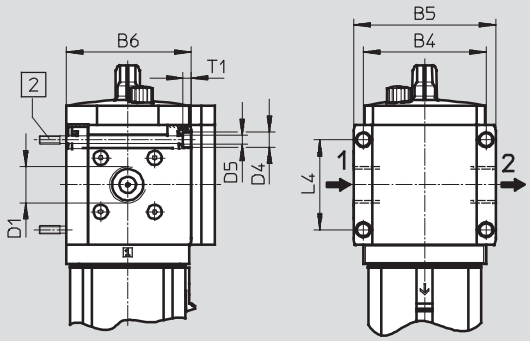
Lubricators MS9-LOE, MS series

Technical data

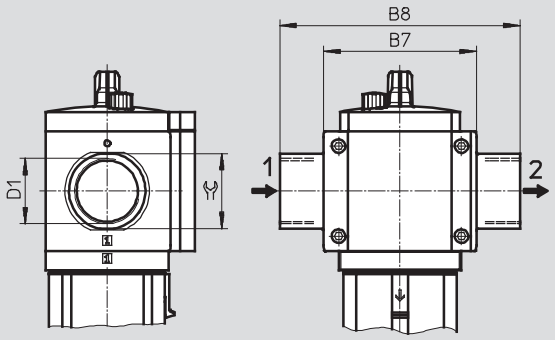
FESTO

Dimensions – Connecting thread/connecting plate Download CAD Data ➔ **www.festo.com/us/cad**

With connecting thread ¾ or 1



With connecting plate AG...



[2] Mounting screw M6xmin.90 to DIN 912 (not included in the scope of delivery) for wall mounting without mounting bracket

➔ Flow direction

Type	B4	B5	B6	B7	B8	D1	D4 Ø	D5 Ø	L4	T1	⌀
MS9-LOE-¾	90	104	91.5	–	–	G¾	11	6.5	66	6	–
MS9-LOE-1						G1					
MS9-LOE-AGD	–	–	–	112	132	G½	–	–	–	–	30
MS9-LOE-AGE					132	G¾					36
MS9-LOE-AGF					142	G1					41
MS9-LOE-AGG					162	G1¼					50
MS9-LOE-AGH					176	G1½					55

Note: This product conforms to ISO 1179-1 and ISO 228-1

Ordering data

Size	Connection	Part No.	Type
MS9	–	**564144**	**MS9-LOE-G-U**

Lubricators MS9-LOE, MS series

FESTO

Ordering data – Modular products

M Mandatory data						O Options		
Module No.	Series	Size	Function	Connection size	Bowl	Type of mounting	UL certification	Alternative flow direction
562533	MS	9	LOE	¾, 1, AGD, AGE, AGF, AGG, AGH, G	U	WP, WPM, WPB	UL1	Z
Ordering example								
562533	**MS**	**9**	– **LOE**	– **AGD**	– **U**	– **WP**	–	–

Ordering table

Grid dimension [mm]		90	Conditions	Code		Enter code
M	Module No.	**562533**				
	Series	Standard service unit		**MS**		MS
	Size	9		**9**		9
	Function	Lubricator		**-LOE**		-LOE
	Connection size	Thread G¾		**-¾**		
		Thread G1		**-1**		
		Connecting plate G½		**-AGD**		
		Connecting plate G¾		**-AGE**		
		Connecting plate G1		**-AGF**		
		Connecting plate G1¼		**-AGG**		
		Connecting plate G1½		**-AGH**		
		Module without connecting thread, without connecting plate		**-G**		
	Bowl	Metal bowl		**-U**		-U
O	Type of mounting	Mounting bracket	1	**-WP**		
		Mounting bracket	1	**-WPM**		
		Mounting bracket for large wall gap	1	**-WPB**		
	UL certification	cULus, ordinary location for Canada and USA		**-UL1**		
	Alternative flow direction	Flow direction from right to left		**-Z**		

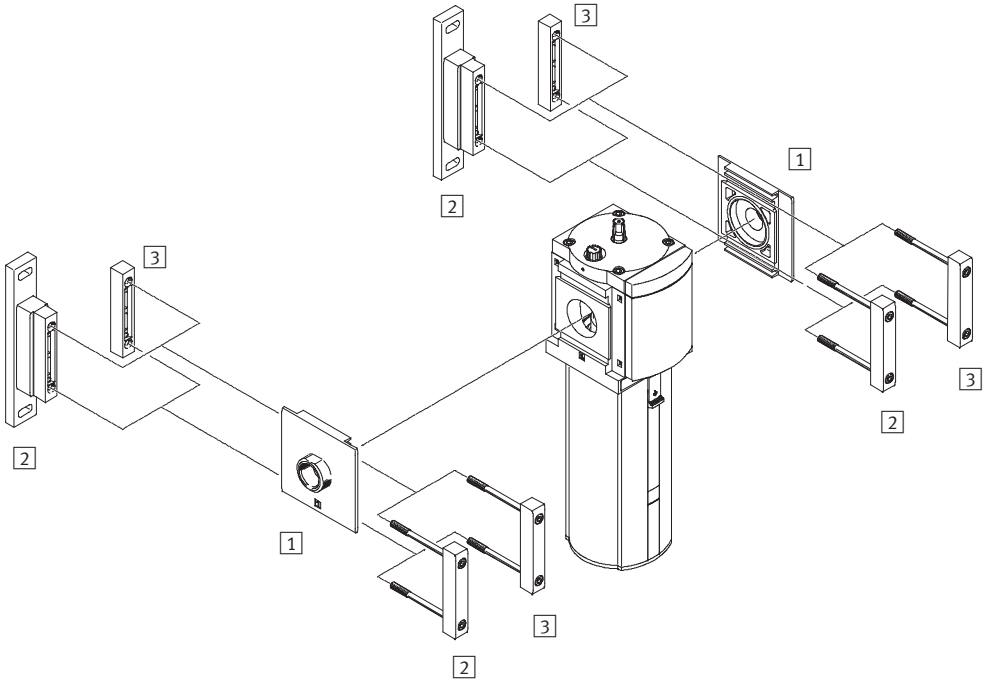
1 **WP, WPM, WPB** Not with module G

Transfer order code

562533	**MS**	**9**	–	**LOE**	–		–	**U**	–		–	–

Lubricators MS12-LOE, MS series

Peripherals overview



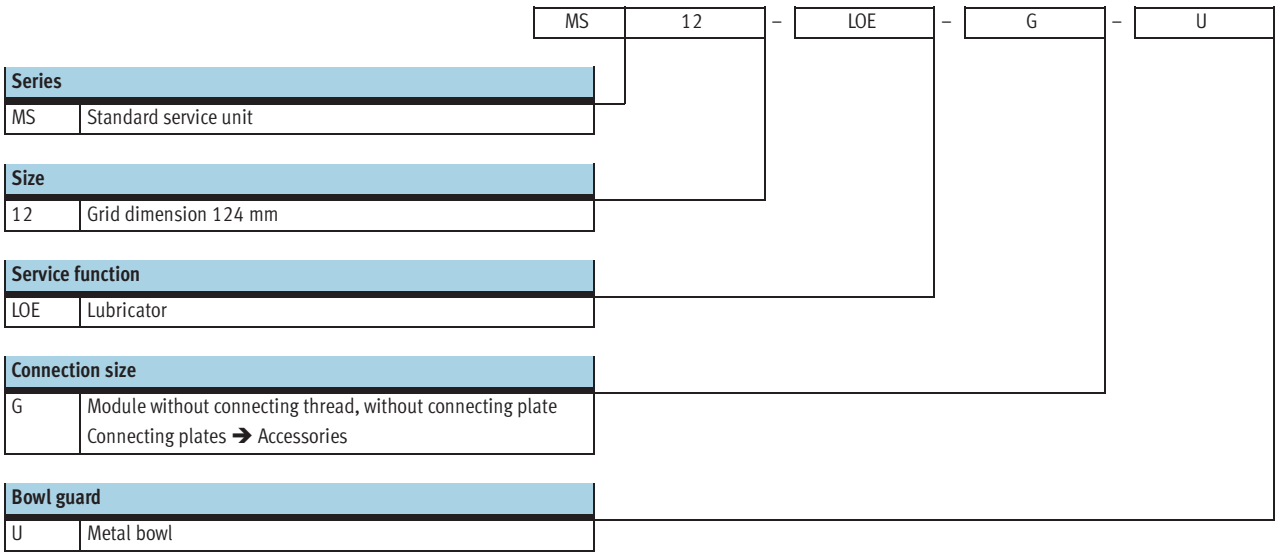
Note

Additional accessories:
- Module connector for combination with size MS9 ➔ Internet: armv

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

Lubricators MS12-LOE, MS series

Type codes



Series	
MS	Standard service unit

Size	
12	Grid dimension 124 mm

Service function	
LOE	Lubricator

Connection size	
G	Module without connecting thread, without connecting plate Connecting plates ➔ Accessories

Bowl guard	
U	Metal bowl

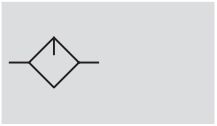
Further variants can be ordered using the modular system ➔ 28

- Connecting plates
- Type of mounting
- Alternative flow direction

Lubricators MS12-LOE, MS series

Technical data

Function



Flow rate
20,000 ... 22,000 l/min
Temperature range
0 ... 60 °C
Pressure
1 ... 16 bar
www.festo.com/en/Spare_parts_service

Wearing parts kits
➔ 27

The proportional lubricator adds a precision adjustable quantity of oil to the compressed air stream.
The pressure drop that occurs when air flows through a Venturi nozzle is used to convey oil from the container to the drip cap. From here, the oil drips into the air duct directly behind the proportional valve, where it is atomised. The oil mist component is proportional to the compressed air flow rate.

- Proportional lubricator with precision oil metering
- Reduces wear on drive units subject to high loading
- High flow rate
- Quick and easy oil top-up even during operation (under pressure)

The following oils are recommended for Festo components:
Viscosity range to ISO 3448, ISO class VG 32
32 mm^2/s (= cSt) at 40°C

- Festo special oil OFSW-32 ➔ 29
- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32

General technical data				
Pneumatic connection 1, 2[1)]	G1	G1¼	G1½	G2
Design	Proportional standard mist lubricator			
Type of mounting	Via accessories			
	In-line installation			
Assembly position	Vertical ±5°			
Bowl guard	Metal bowl			
Minimum flow for lubricator operation [l/min]	≤400			
Max. oil capacity [cm^3]	1,500			

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

Note: This product conforms to ISO 1179-1 and ISO 228-1

Standard nominal flow rate qnN[1)] [l/min]				
Pneumatic connection	G1	G1¼	G1½	G2
In main flow direction 1 ⇢ 2	20,000	20,500	21,000	22,000

1) Dependent on connecting plate selected, must be ordered separately as an accessory ➔ Internet: ms12-ag
Measured at p1 = 6 bar and Δp = 0.5 bar

Lubricators MS12-LOE, MS series

Technical data

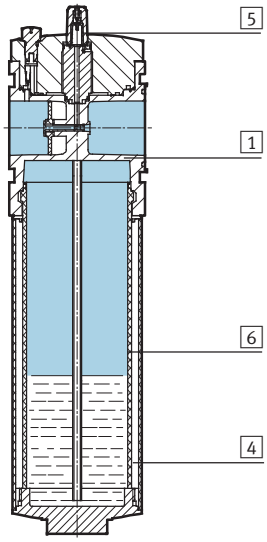
Operating and environmental conditions		
Operating pressure	[bar]	1 ... 16
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
Ambient temperature	[°C]	0 ... +60
Temperature of medium	[°C]	0 ... +60
Storage temperature	[°C]	–10 ... +60
Corrosion resistance	CRC[1)]	2

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

Weights [g]	
Lubricator with metal bowl U	6,500

Materials

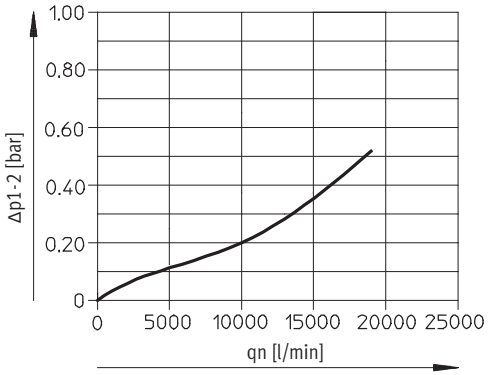
Sectional view



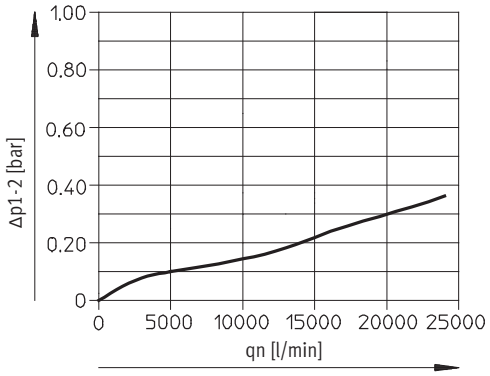
Lubricator		
1	Body	Die-cast aluminium
4	Metal bowl	Aluminium
5	Lubricator dome	PC
6	Metal bowl sight glass	PA
–	Seals	NBR

Standard flow rate qn as a function of the differential pressure Δp1-2

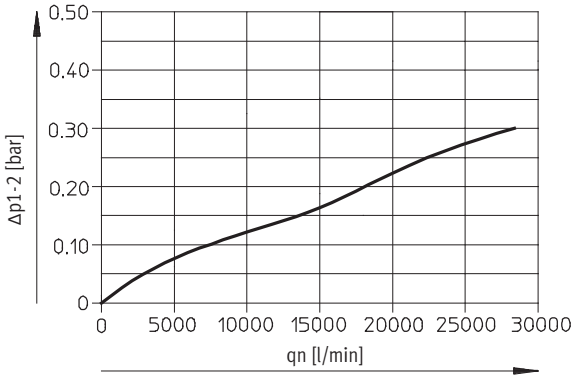
With connecting plate MS12-AGF
Pneumatic connection G1



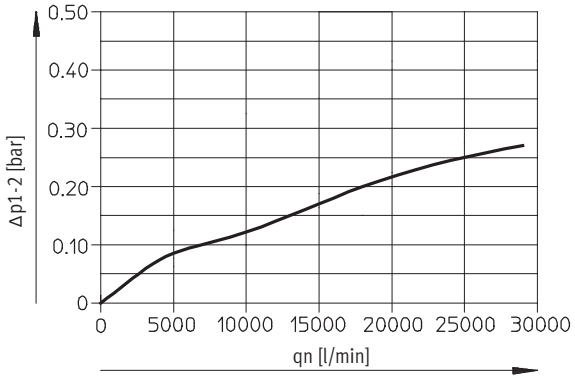
With connecting plate MS12-AGG
Pneumatic connection G1¼



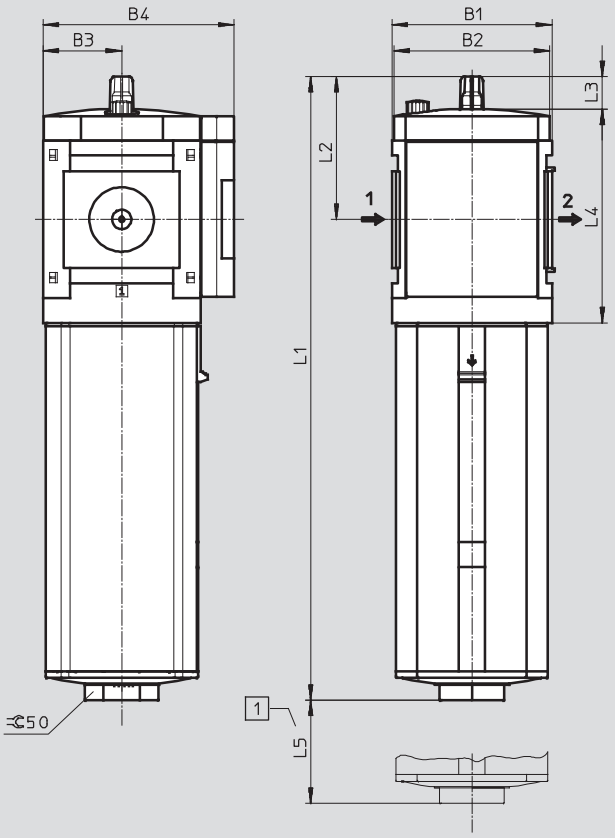
With connecting plate MS12-AGH
Pneumatic connection G1½



With connecting plate MS12-AGI
Pneumatic connection G2



Dimensions – Basic version Download CAD Data ➔ **www.festo.com/us/cad**



1 Installation dimensions

➔ Flow direction

Type	B1	B2	B3	B4	L1	L2	L3	L4	L5
MS12-LOE	124	122	61	148	483	111	25	166	300

Ordering data			
Metal bowl			
Size	Connection	Part No.	Type
MS12	G1 ... G2[1)]	**537156**	**MS12-LOE-G-U**

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

Note: This product conforms to ISO 1179-1 and ISO 228-1

Ordering data – Wearing parts kits		
Size	Part No.	Type
MS12	**673746**	**MS12-LOE**

Lubricators MS12-LOE, MS series

Ordering data – Modular products

FESTO

M Mandatory data												O Options		
Module No.	Series	Size		Function		Connection size		Bowl		Type of mounting		Alternative flow direction		
535041	MS			LOE		AGF AGG AGH AGI G		U		WP		Z		
Order example														
535041	MS	12	–	LOE	–	AGI	–	U	–	WP	–	Z		

Ordering table						
Grid dimension [mm]		124	Conditions	Code		Enter code
M	Module No.	535041				
	Series	Standard		MS		MS
	Size	12		12		12
	Function	Lubricator		-LOE		-LOE
	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		
	Bowl	Metal bowl		-U		-U
O	Type of mounting	Mounting bracket	1	-WP		
	Alternative flow direction	Flow direction from right to left		-Z		

1 **WP** Only with connecting plate AGF, AGG, AGH or AGI.

Transfer order code

535041	MS	12	–	LOE	–		–	U	–		–	

Special oil

Ordering data		
Scope of delivery	Part No.	Type
1 litre	**152811**	**OFSW-32**

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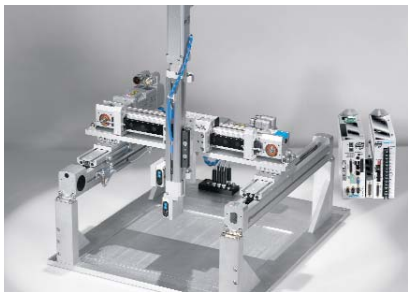

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Festo North America

Festo Regional Contact Center

5300 Explorer Drive
Mississauga, Ontario L4W 5G4
Canada

USA Customers:

For ordering assistance,
Call: 1.800.99.FESTO (1.800.993.3786)
Fax: 1.800.96.FESTO (1.800.963.3786)
Email: customer.service@us.festo.com

For technical support,
Call: 1.866.GO.FESTO (1.866.463.3786)
Fax: 1.800.96.FESTO (1.800.963.3786)
Email: product.support@us.festo.com

Canadian Customers:

Call: 1.877.GO.FESTO (1.877.463.3786)
Fax: 1.877.FX.FESTO (1.877.393.3786)
Email: festo.canada@ca.festo.com

USA Headquarters

Festo Corporation
395 Moreland Road
P.O. Box 18023
Hauppauge, NY 11788, USA
www.festo.com/us

USA Sales Offices

Appleton
North 922 Tower View Drive, Suite N
Greenville, WI 54942, USA

Boston
120 Presidential Way, Suite 330
Woburn, MA 01801, USA

Chicago
1441 East Business Center Drive
Mt. Prospect, IL 60056, USA

Dallas
1825 Lakeway Drive, Suite 600
Lewisville, TX 75057, USA

Detroit – Automotive Engineering Center
2601 Cambridge Court, Suite 320
Auburn Hills, MI 48326, USA

New York
395 Moreland Road
Hauppauge, NY 11788, USA

Silicon Valley
4935 Southfront Road, Suite F
Livermore, CA 94550, USA

United States

USA Headquarters, East: Festo Corp., 395 Moreland Road, Hauppauge, NY 11788
Phone: 1.631.435.0800; Fax: 1.631.435.8026;
Email: info@festo-usa.com **www.festo.com/us**

Canada

Headquarters: Festo Inc., 5300 Explorer Drive, Mississauga, Ontario L4W 5G4
Phone: 1.905.624.9000; Fax: 1.905.624.9001;
Email: festo.canada@ca.festo.com **www.festo.ca**

Mexico

Headquarters: Festo Pneumatic, S.A., Av. Ceylán 3, Col. Tequesquinahuac,
54020 Tlalnepantla, Edo. de México
Phone: 011 52 [55] 53 21 66 00; Fax: 011 52 [55] 53 21 66 65;
Email: festo.mexico@mx.festo.com **www.festo.com/mx**

Central USA
Festo Corporation
1441 East Business
Center Drive
Mt. Prospect, IL 60056, USA
Phone: 1.847.759.2600
Fax: 1.847.768.9480

Western USA
Festo Corporation
4935 Southfront Road,
Suite F
Livermore, CA 94550, USA
Phone: 1.925.371.1099
Fax: 1.925.245.1286

Festo Worldwide

Argentina Australia Austria Belarus Belgium Brazil Bulgaria Canada Chile China Colombia Croatia Czech Republic Denmark Estonia Finland France Germany Great Britain Greece Hong Kong Hungary India Indonesia Iran Ireland Israel Italy Japan Latvia Lithuania Malaysia Mexico Netherlands New Zealand Norway Peru Philippines Poland Romania Russia Serbia Singapore Slovakia Slovenia South Africa South Korea Spain Sweden Switzerland Taiwan Thailand Turkey Ukraine United States Venezuela

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