

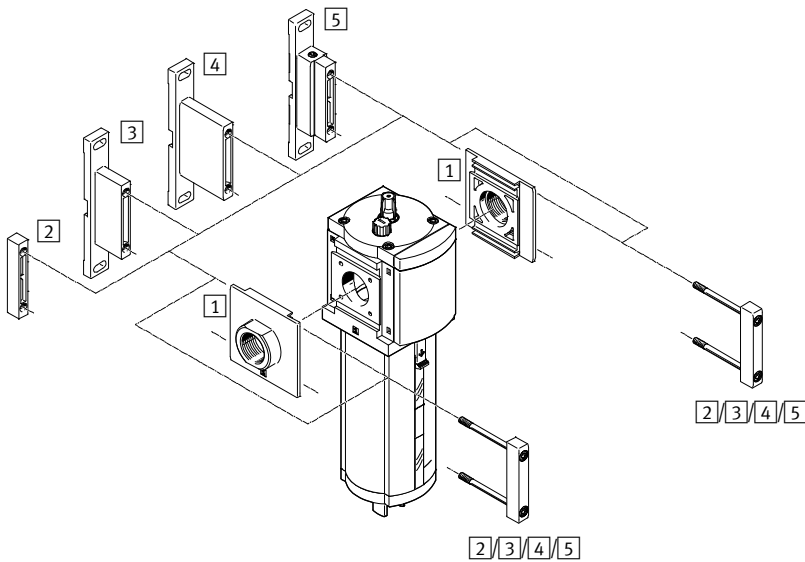
Lubricators MS-LOE, MS series, NPT




New
Variant UL1

Lubricators MS9-LOE, MS series, NPT

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 N $\frac{3}{4}$ or N1	With connecting plate AQ...	Module without connecting thread, without connecting plate G	
1	Connecting plate-SET MS9-AQ...	-	■	■	ms9-aq
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

Lubricators MS9-LOE, MS series, NPT

Type codes

		MS	9	-	LOE	-	G	-	U	
Series										
MS	Standard service unit									
Size										
9	Grid dimension 90 mm									
Service function										
LOE	Lubricator									
Pneumatic connection										
G	Module without connecting thread, without connecting plate									
Bowl guard										
U	Integrated as metal bowl									

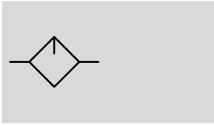
Additional variants can be ordered using the modular product system → 8




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

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Technical data

Function



-  - Flow rate
15,000 ... 20,000 l/min
-  - Temperature range
-10 ... +60 °C
-  - Operating 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 mm²/s (= cSt) at 40 °C

- Festo special oil OFSW-32 → 9
- 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	NPT $\frac{3}{4}$ -14	NPT1-11 $\frac{1}{2}$	NPT $\frac{1}{2}$ -14 ... NPT $\frac{1}{2}$ -11 $\frac{1}{2}$ (with connecting plate AQ...)	– (without connecting thread G)
Design	Proportional standard mist lubricator			
Type of mounting	Via accessories In-line installation			
Mounting position	Vertical $\pm 5^\circ$			
Bowl guard	Integrated as metal bowl			
Minimum flow rate for lubricator operation [l/min]	100			
Max. oil capacity [ml]	490			

Standard nominal flow rate q_{nN^1} [l/min]					
Pneumatic connection	Connecting plate AQR	Thread NPT $\frac{3}{4}$ -14 or connecting plate AQS	Thread NPT1-11 $\frac{1}{2}$ or connecting plate AQT	Connecting plate AQU	Connecting plate AQV
In main flow direction 1 → 2	8,500	15,000	23,000	26,000	27,000

1) Measured at $p_1 = 6$ bar and $\Delta p = 1$ bar.

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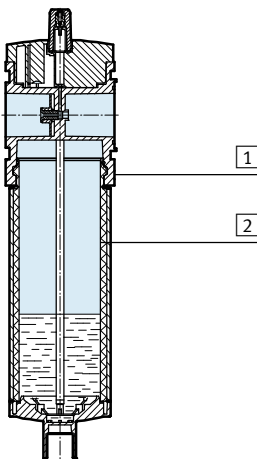
Operating and environmental conditions	
Operating pressure [bar]	1... 16
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
Ambient temperature [°C]	-10 ... +60
Temperature of medium [°C]	-10 ... +60
Storage temperature [°C]	-10 ... +60
Corrosion resistance class CRC ¹⁾	2
Certification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

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Weight [g]	
Lubricator	2,000

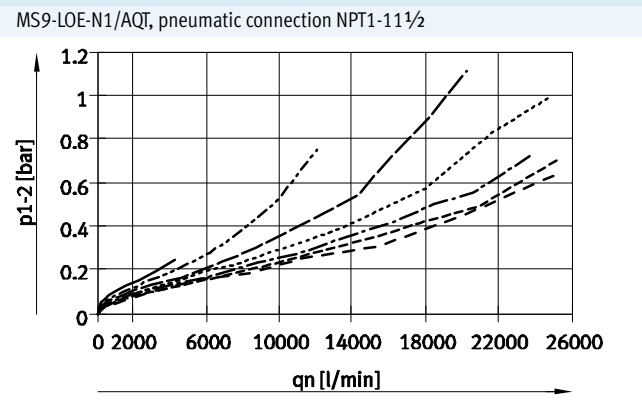
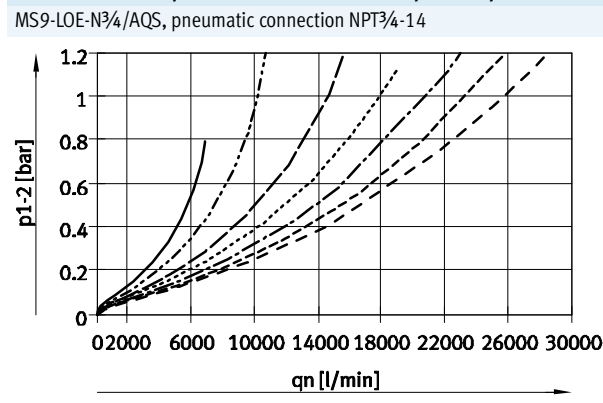
Materials

Sectional view



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

Standard flow rate q_n as a function of differential pressure p_{1-2}



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

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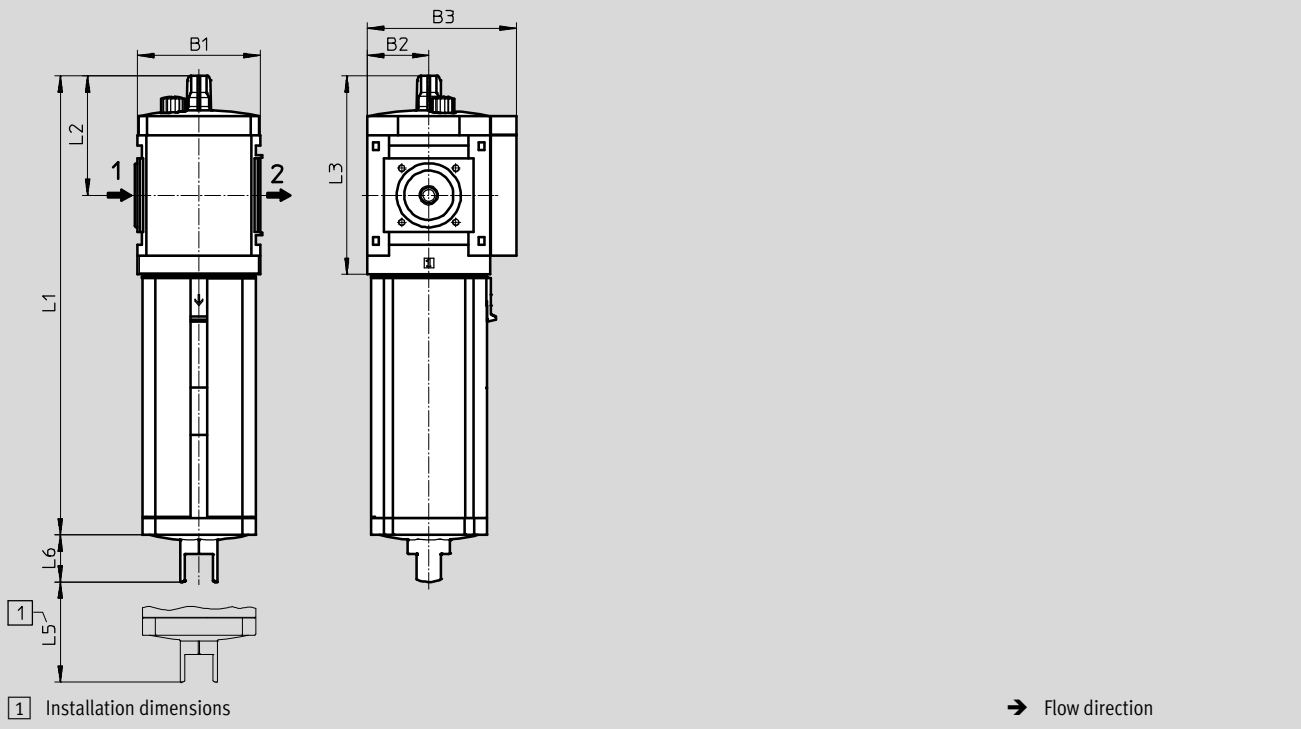
Technical data

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Dimensions – Basic version

Download CAD data → www.festo.com

Without connecting thread G



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

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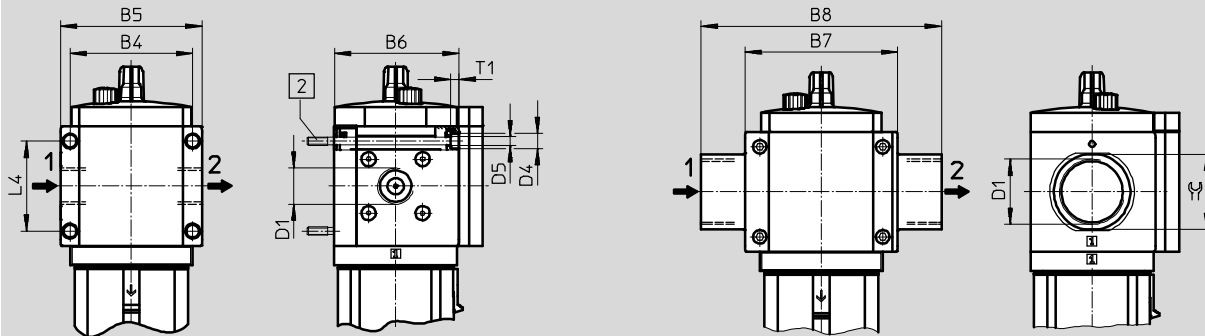
Technical data

Dimensions – Connecting thread/connecting plate

Download CAD data → www.festo.com

With connecting thread N $\frac{3}{4}$ or N1

With connecting plate AQ...



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

Type	B4	B5	B6	B7	B8	D1	D4 Ø	D5 Ø	L4	T1	☉
MS9-LOE-N $\frac{3}{4}$	90	104	91.5	-	-	NPT $\frac{3}{4}$ -14	11	6.5	66	6	-
MS9-LOE-N1						NPT1-11 $\frac{1}{2}$					
MS9-LOE-AQR	-	-	-	112	132	NPT $\frac{1}{2}$ -14	-	-	-	-	30
MS9-LOE-AQS					132	NPT $\frac{3}{4}$ -14					36
MS9-LOE-AQT					142	NPT1-11 $\frac{1}{2}$					41
MS9-LOE-AQU					162	NPT1 $\frac{1}{4}$ -11 $\frac{1}{2}$					50
MS9-LOE-AQV					176	NPT1 $\frac{1}{2}$ -11 $\frac{1}{2}$					55

Ordering data

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

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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	N $\frac{3}{4}$, N1, AQR, AQS, AQT, AQU, AQV, G	U	WP, WPM, WPB	UL1	Z
Ordering example								
562533	MS	9	- LOE	- AQR	- U	- WP		

Ordering table					
Grid dimension	[mm]	90	Condi- tions	Code	Enter code
M	Module No.	562533			
	Series	Standard service unit		MS	MS
	Size	9		9	9
	Function	Lubricator		-LOE	-LOE
	Connection size	Thread NPT $\frac{3}{4}$		-N$\frac{3}{4}$	
		Thread NPT1		-N1	
		Connecting plate NPT $\frac{1}{2}$		-AQR	
		Connecting plate NPT $\frac{3}{4}$		-AQS	
		Connecting plate NPT1		-AQT	
		Connecting plate NPT1 $\frac{1}{4}$		-AQU	
		Connecting plate NPT1 $\frac{1}{2}$		-AQV	
		Module without connecting thread, without connecting plate		-G	
	Bowl	Metal bowl		-U	-U
O	Type of mounting	Mounting bracket	<input type="checkbox"/>	-WP	
		Mounting bracket	<input type="checkbox"/>	-WPM	
		Mounting bracket for large wall gap	<input type="checkbox"/>	-WPB	
	UL certification	cULus, ordinary location for Canada and USA		-UL1	
	Alternative flow direction	Flow direction from right to left		-Z	

WP, WPM, WPB Not with module G

Transfer order code

562533	MS	9	- LOE	-	U	-	-	-	-
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Accessories

FESTO

Special oil



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