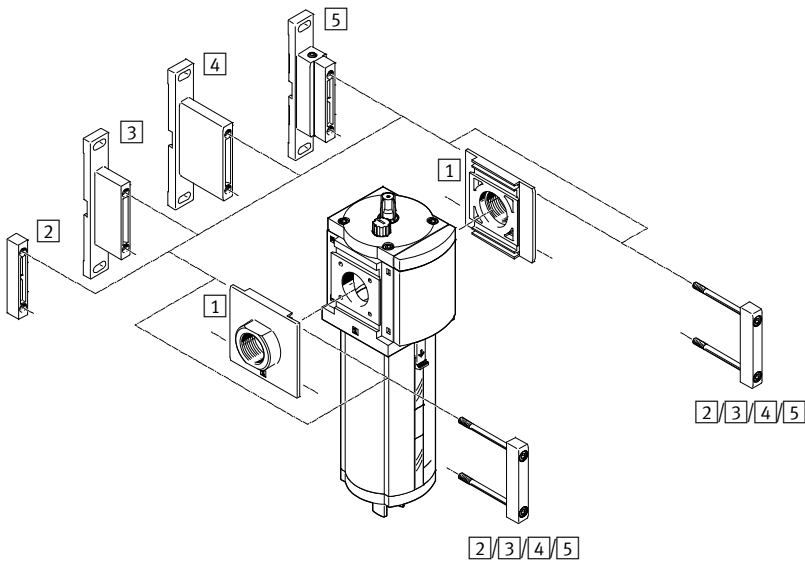



Lubricators MS-LOE, MS series, NPT



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 Module without connecting thread, without connecting plate G	→ Page/ Internet
	With female thread N $\frac{3}{4}$ or N1	With connecting plate AQ...		
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

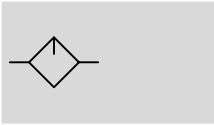
New
Variant UL1




Lubricators MS9-LOE, MS series, NPT

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	NPT3/4-14	NPT1-11 1/2	NPT1 1/2-14 ... NPT1 1/2-11 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 ±5°			
Bowl guard	Integrated as metal bowl			
Minimum flow rate for lubricator operation [l/min]	100			
Max. oil capacity [ml]	490			

Standard nominal flow rate qnN ¹⁾ [l/min]					
Pneumatic connection	Connecting plate AQR	Thread NPT3/4-14 or connecting plate AQS	Thread NPT1-11 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 p₁ = 6 bar and Δp = 1 bar.

Lubricators MS9-LOE, MS series, NPT

Technical data

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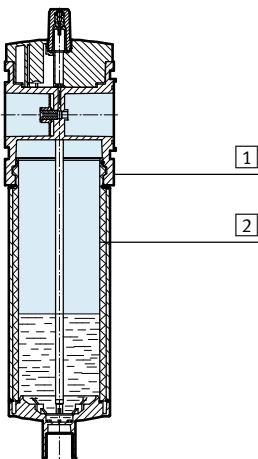
Operating and environmental conditions		
Operating pressure [bar]		1... 16
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
Ambient temperature [°C]		-10 ... +60
Temperature of medium [°C]		-10 ... +60
Storage temperature [°C]		-10 ... +60
Corrosion resistance class CRC ¹⁾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

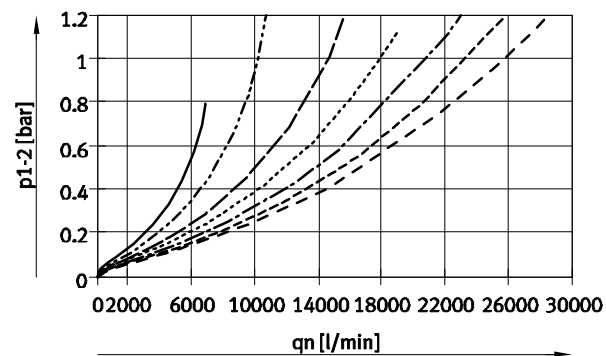
Sectional view



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

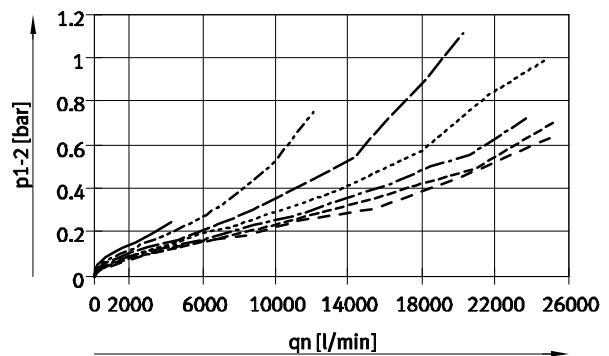
Standard flow rate q_n as a function of differential pressure p_{1-2}

MS9-LOE-N $\frac{3}{4}$ /AQS, pneumatic connection NPT $\frac{3}{4}$ -14



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

MS9-LOE-N1/AQT, pneumatic connection NPT1-11 $\frac{1}{2}$



New
Variant UL1

Lubricators MS9-LOE, MS series, NPT

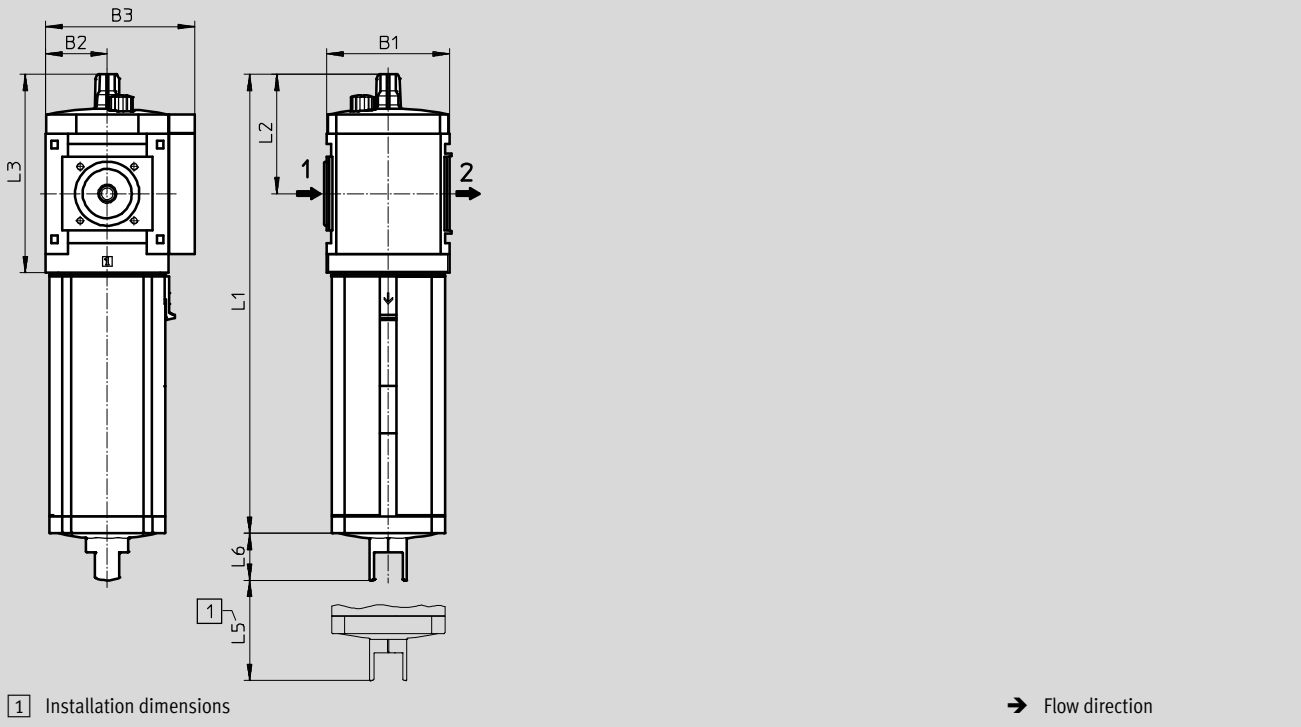
Technical data

FESTO

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

Lubricators MS9-LOE, MS series, NPT

Technical data

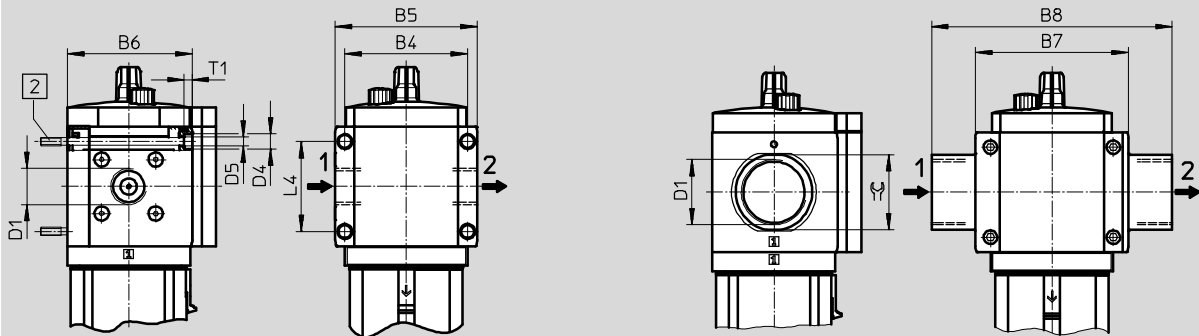
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Dimensions – Connecting thread/connecting plate

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

→ Flow direction

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						NPT1-1 $\frac{1}{2}$					
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	NPT1-1 $\frac{1}{2}$					41
MS9-LOE-AQU					162	NPT1 $\frac{1}{4}$ -1 $\frac{1}{2}$					50
MS9-LOE-AQV					176	NPT1 $\frac{1}{2}$ -1 $\frac{1}{2}$					55

Ordering data

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

New
Variant UL1

Lubricators MS9-LOE, MS series, NPT

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			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	-	-	-
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Lubricators MS-LOE, MS series, NPT

Accessories

FESTO

Special oil



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

Product Range and Company Overview

A Complete Suite and Company Overview

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.



Custom Automation Components
Complete custom engineered solutions



Custom Control Cabinets
Comprehensive engineering support and on-site services



Complete Systems
Shipment, stocking and storage services

The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



Electromechanical
Electromechanical actuators, motors, controllers & drivers



Pneumatics
Pneumatic linear and rotary actuators, valves, and air supply



PLCs and I/O Devices
PLC's, operator interfaces, sensors and I/O devices

Supporting Advanced Automation... As No One Else Can!

Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 16,000 employees in 60 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

Quality Assurance, ISO 9001 and ISO 14001 Certifications

Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.

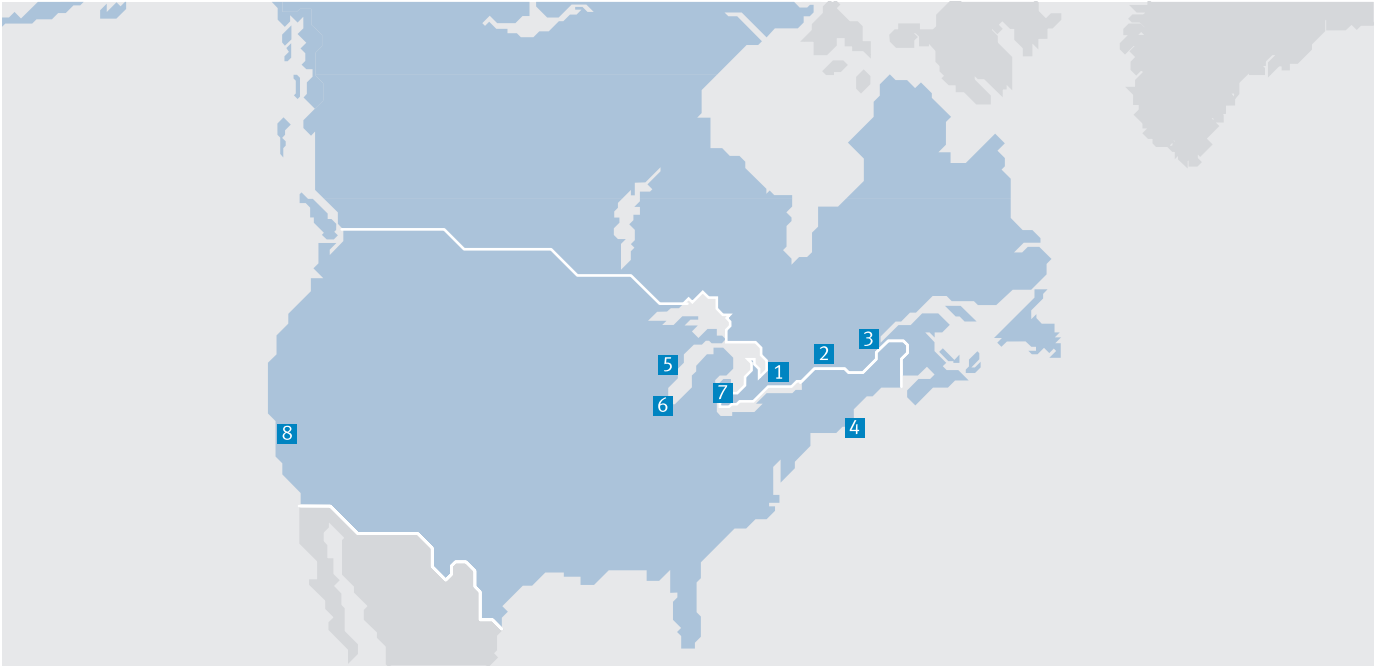


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