

Lubricators MS-LOE, MS series, NPT

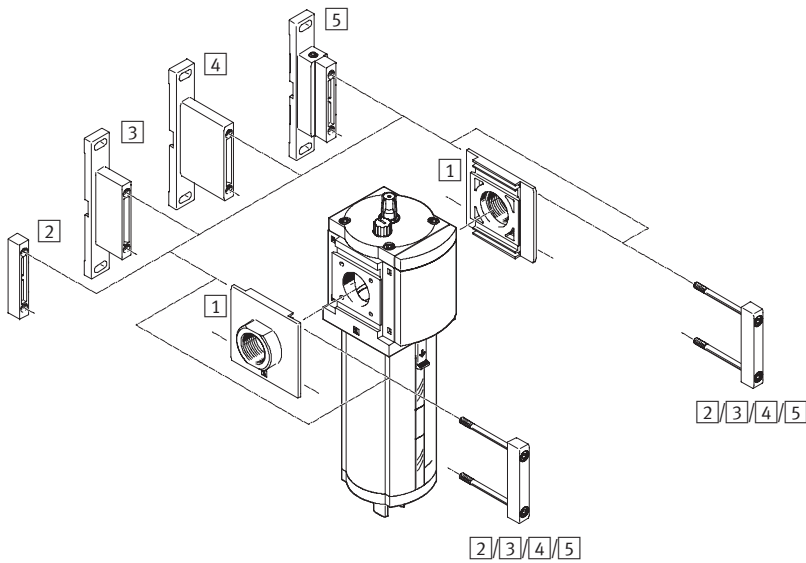
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Lubricators MS9-LOE, MS series, NPT

Peripherals overview

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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
		Without connecting thread	With connecting thread NPT¾-14 or NPT1-11½		
1	Connecting plate 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
- 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 ... NPT1 $\frac{1}{2}$ -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	100 [l/min]			
Max. oil capacity	490 [ml]			

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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Technical data

Operating and environmental conditions		
Operating pressure	[bar]	1... 16
Operating medium		Air quality class 5:7:- to DIN ISO 8573-1
Ambient temperature	[°C]	-10 ... +60
Temperature of medium	[°C]	-10 ... +60
Storage temperature	[°C]	-10 ... +60
Corrosion resistance class CRC ¹⁾		2

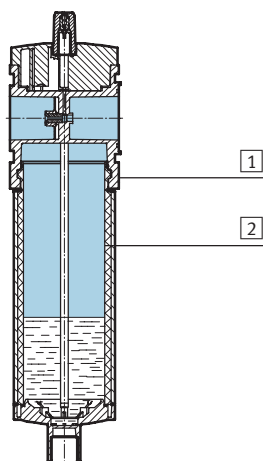
1) Corrosion resistance class 2 according to Festo standard 940 070

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

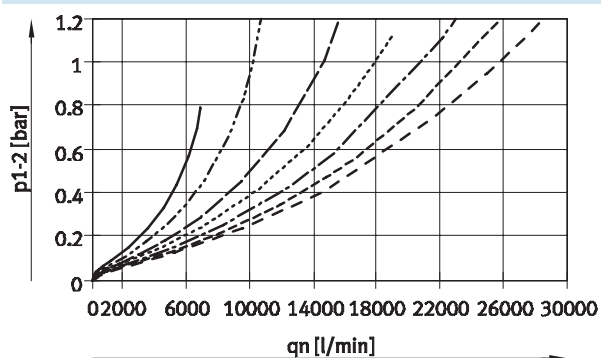
Sectional view



Lubricator		
1	Housing	Die-cast aluminium
2	Bowl	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

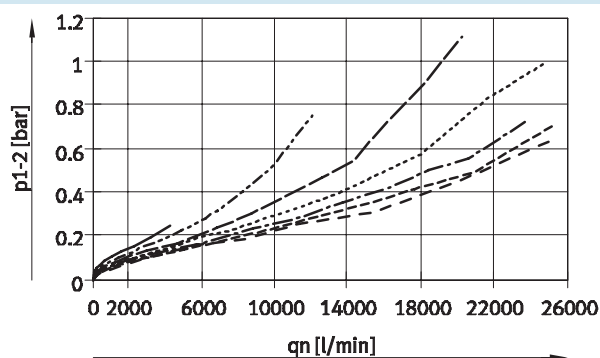
Standard flow rate q_n as a function of differential pressure p_{1-2}

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 $\frac{1}{2}$



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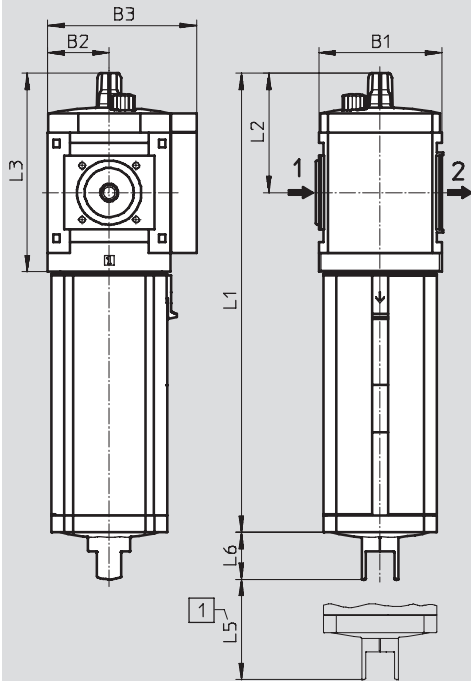
Technical data

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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

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Technical data

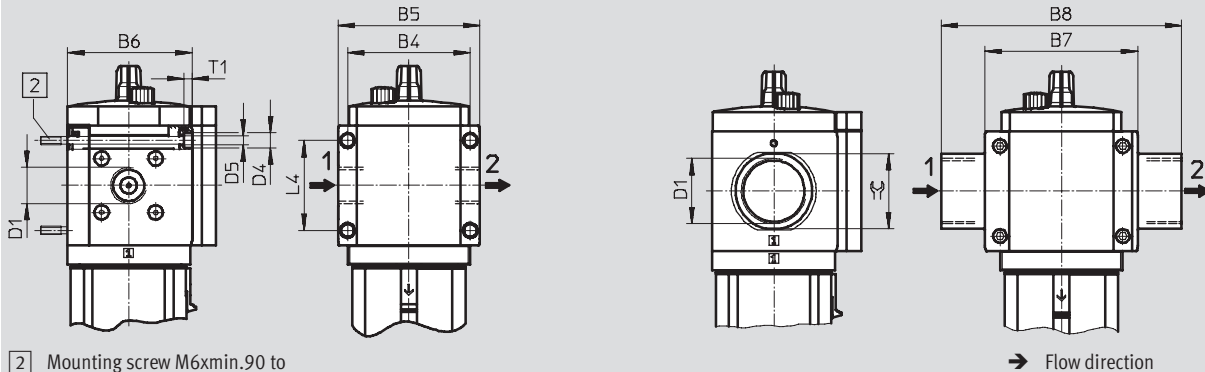
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Dimensions – Connecting thread/connecting plate

Download CAD Data → www.festo.com/us/cad

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

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M Mandatory data						O Options	
Module No.	Series	Size	Function	Connection size	Bowl	Type of mounting	Alternative flow direction
562533	MS	9	LOE	N $\frac{3}{4}$, N1, AQR, AQS, AQT, AQU, AQV, G	U	WP, WPM, WPB	Z
Ordering example							
562533	MS	9	- LOE	- AQR	- U	- WP	

Ordering table							
Grid dimension		[mm]	90	Condition	s	Code	Enter code
M	Module No.	562533					
	Series	Standard service unit				MS	MS
	Size	9				9	9
	Function	Lubricator				-LOE	-LOE
	Connection size	Thread N $\frac{3}{4}$				-N $\frac{3}{4}$	
		Thread N1				-N1	
		Connecting plate N $\frac{1}{2}$				-AQR	
		Connecting plate N $\frac{3}{4}$				-AQS	
		Connecting plate N1				-AQT	
		Connecting plate N1 $\frac{1}{4}$				-AQU	
		Connecting plate N1 $\frac{1}{2}$				-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	
	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



Special oil



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

Product Range and Company Overview

A Complete Suite of Automation Services

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



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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 & drives



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 12,000 employees in 56 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.

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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.

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