

Filter regulator MS12N-LFR

FESTO



Characteristics

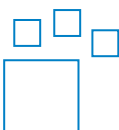
At a glance

Very compact series for use close to the process directly on the machine

- Width dimension: 124 mm
- Filter and pressure regulator are combined into one unit
- Good regulation characteristics with minimal pressure hysteresis and primary pressure compensation
- Good particle and condensate separation
- With or without secondary venting
- High flow rate
- Lockable rotary knob
- Return flow option for exhausting from output 2 to input 1 already integrated

Ordering data - modular system

Link [ms12n-lfr](#)



Configurable product

This product and all its product options can be ordered online via the configurator.

Function

- Directly actuated diaphragm regulator
- For stepless, precise adjustment of the desired operating pressure
- Irrespective of compressed air fluctuations in the network and due to air consumption, the pressure regulator keeps the working pressure largely constant

Pneumatic connection

The installation of connection plates makes it easier to replace the module if necessary (e.g., when using piping).

Pressure regulation range

A pressure regulator always operates with the highest precision within its specified range.

Grade of filtration

Grade of filtration of 5 µm or 40 µm can be selected.

Condensate drains

Moisture is produced in machinery as a result of compressed air cooling down. In the long run, this can cause corrosion or reduce the system's efficiency. The condensate drain can be used to drain off the moisture.

Alternative pressure gauge scale

The scaling of the built-in pressure gauge can be selected. The unit options available are [MPa] and [psi].

Type of mounting

[WP] Mounting bracket standard design



- For connecting the modules for wall mounting
- In conjunction with sub-base for wall mounting of a single device

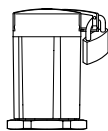
Characteristics

Lockable

Optional possibility to lock the knob to protect the setting values from adjustment.

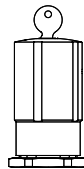
[AS]

Can be locked using accessories



[E11]

With integrated lock



Type code

001	Series	
MS	MS series	
002	Size	
12		
003	Thread type	
N	NPT thread	
004	Function	
LFR	Filter regulator	
005	Pneumatic connection, inch	
AQT	Sub-base NPT1	
AQU	Sub-base NPT1 1/4	
QV	Sub-base NPT1 1/2	
AQW	Sub-base NPT2	
G	Module without connecting thread, without sub-base	
006	Pressure regulation range	
D6	0.3 ... 7 bar	
D7	0.5 ... 12 bar	
D8	0.5 ... 16 bar	
007	Grade of filtration	
C	5 µm	
E	40 µm	
008	Bowl	
U	Metal bowl guard	

009	Condensate drain	
E2	External fully automatic condensate drain, electric, 110 VAC, connection terminals	
E3	External fully automatic condensate drain, electric, 230 VAC, connection terminals	
E4	External fully automatic condensate drain, electric, 24 V DC, connection terminals	
M	Manual	
V	Fully automatic, normally open	
VC	Fully automatic, normally closed	
010	Lockable	
	Without	
AS	Can be locked using accessories	
E11	With integrated lock	
011	Pressure gauge alternatives	
	Without	
A4	Adapter plate for EN pressure gauge 1/4, without pressure gauge	
VS	Cover plate	
012	Alternative pressure gauge scale	
BAR	Bar	
MPA	MPa	
013	Rotary knob alternative	
	Without	
LD	Long rotary knob	
014	Type of mounting	
	Without mounting bracket	
WP	Mounting bracket standard design	
015	Flow direction	
	Flow direction from left to right	
Z	Flow direction from right to left	

Datasheet

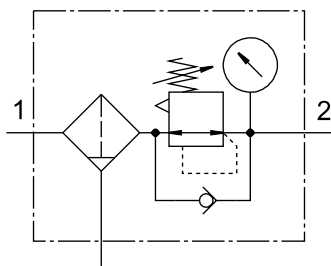
General technical data

Pneumatic connection 1 ¹⁾	–
Pneumatic connection 2 ²⁾	–
Size	12
Structural design	Filter regulator with pressure gauge
Type of mounting	Alternatively: In-line installation With accessories
Mounting position	Vertical $\pm 5^\circ$
Pressure gauge	with pressure gauge
Air quality class at the output	Compressed air as per ISO 8573-1:2010 [6:4:4], Compressed air as per ISO 8573-1:2010 [7:4:4]
Condensate drain	Fully automatic Fully automatic, electrically controlled Manual, non-detenting Manual, rotating
Actuator lock	Rotary knob with detent Rotary knob with integrated lock can be closed with accessories
Max. pressure hysteresis	0.4 bar

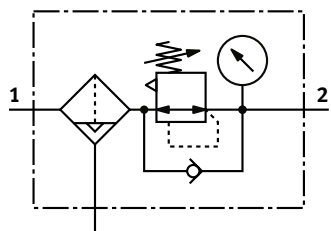
1) With sub-bases: 1 NPT, 1 1/4 NPT, 1 1/2 NPT or 2 NPT

2) With sub-bases: 1 NPT, 1 1/4 NPT, 1 1/2 NPT or 2 NPT

Function – Condensate drain, manual rotary, with pressure gauge



Function – Condensate drain semi- or fully automatic, with pressure gauge



Standard nominal flow rate q_{nN}

Grade of filtration	5	40
Normal nominal flow rate (normalized to DIN 1343) ¹⁾	11,000 ... 14,000 l/min	12,000 ... 17,000 l/min

1) Measured at p₁ = 6 bar and p₂ = 5 bar, Δp = 1 bar, depending on the selected sub-bases, which must be ordered separately → Accessories page: ms12-aq

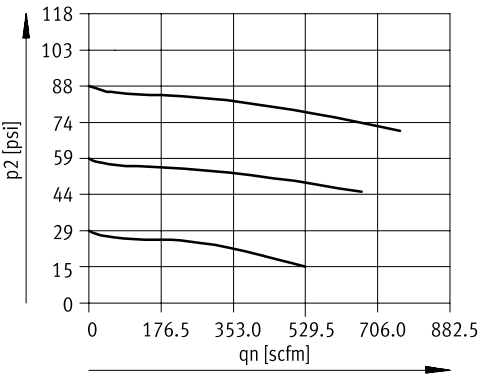
Datasheet

Operating and environmental conditions			
Condensate drain	Manual, rotating	Fully automatic	Fully automatic, electrically actuated
Operating pressure	0.8 ... 20 bar	2 ... 12 bar	0.8 ... 16 bar
Operating medium	Compressed air to ISO 8573-1:2010 [-:4:-]	Compressed air to ISO 8573-1 [2010:7:4:-]	Compressed air to ISO 8573-1:2010 [-:4:-]
	Inert gases		
Note on the operating/pilot medium	–	Ester oil < 0.1mg/m³, according to ISO 8573-1:2010 [-:2]	–
Ambient temperature	–10 ... +60 °C	+5 ... +60 °C	+1 ... +60 °C
Temperature of medium	–10 ... +60 °C	+5 ... +60 °C	+1 ... +60 °C
Storage temperature	–10 ... +60 °C	–10 ... +60 °C	+1 ... +60 °C
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress		

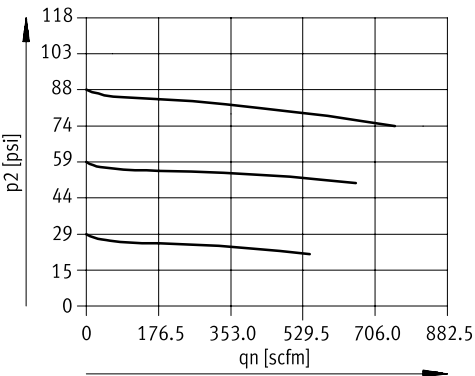
1) More information: www.festo.com/x/topic/crc

Materials	
Housing material	Die-cast aluminum
Material of bowl	Wrought aluminum alloy
LABS (PWIS) conformity	VDMA24364-B1/B2-L

Normal flow qn as a function of outlet pressure p2 (p1 =147 psi) for 1 NPT with sub-base AGF

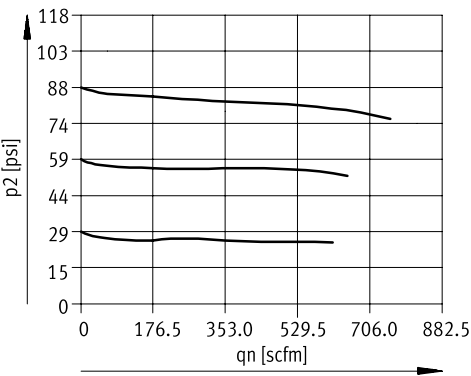


Normal flow qn as a function of outlet pressure p2 (p1 =147 psi) for 1/4 NPT with sub-base AGG

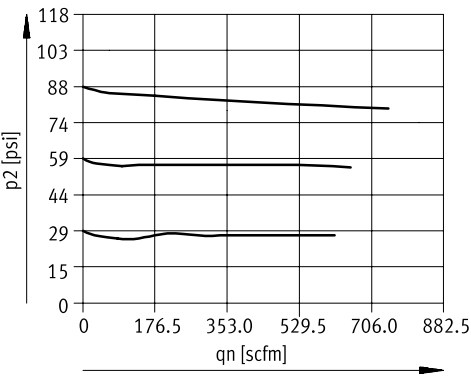


Datasheet

Normal flow qn as a function of outlet pressure p2 (p1 =147 psi) for 1/2 NPT with sub-base AGH

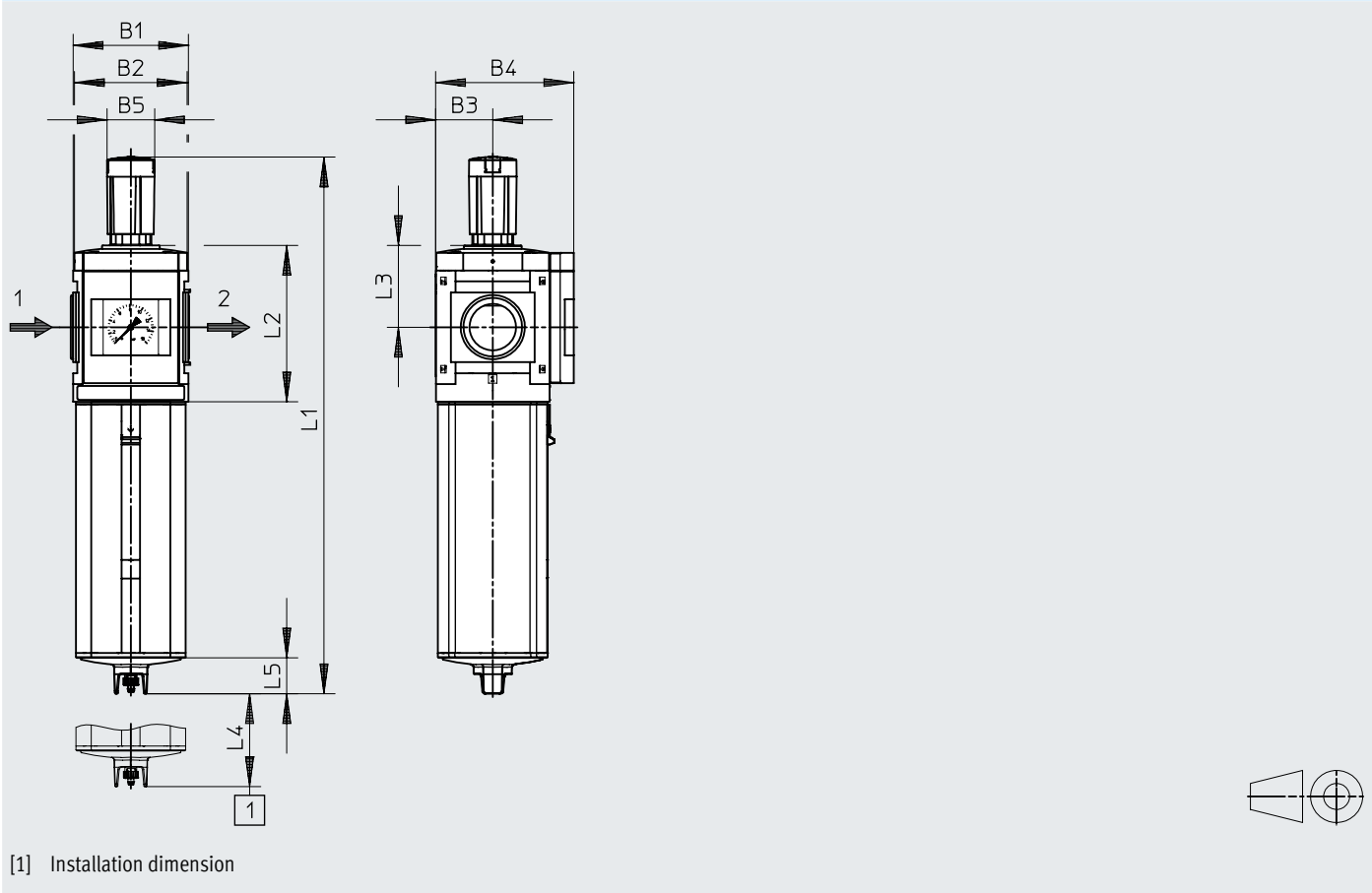


Normal flow qn as a function of outlet pressure p2 (p1 =147psi) for 2NPT with sub-base AGI



Dimensions

Dimensions – Basic type Download CAD data www.festo.com

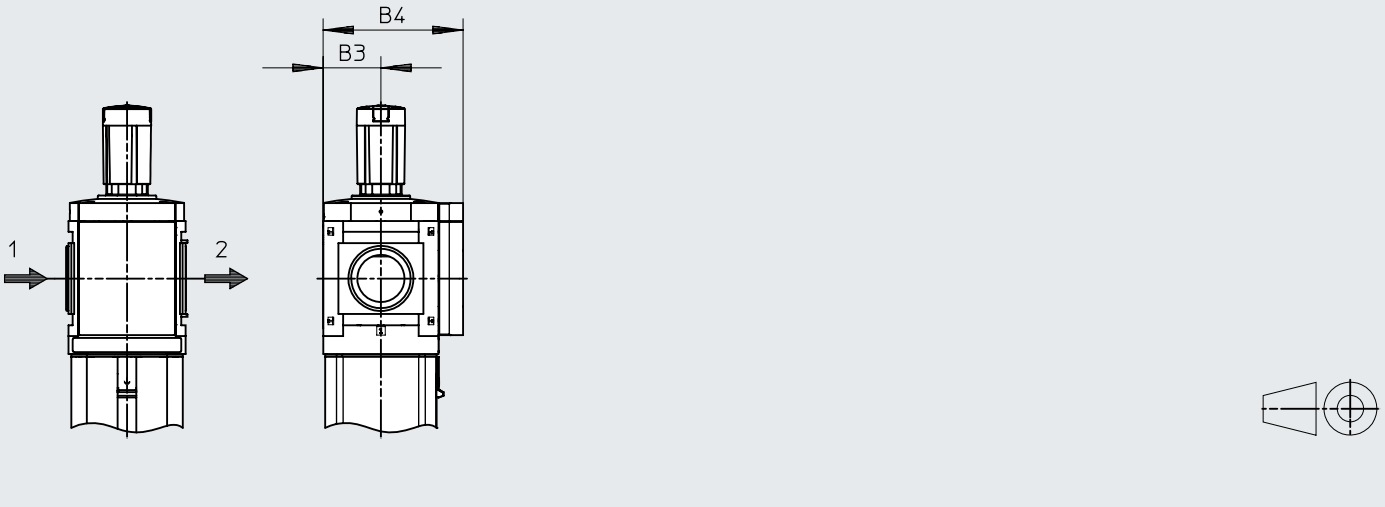


	B1	B2	B3	B4	B5 ø	L1	L2	L3	L4	L5
	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]
MS12N-LFR-G	4,88	4,80	2,40	5,83	2,02	22,72	6,61	3,46	9,84	1,54

Dimensions

Dimensions – Pressure gauge alternatives, cover plate

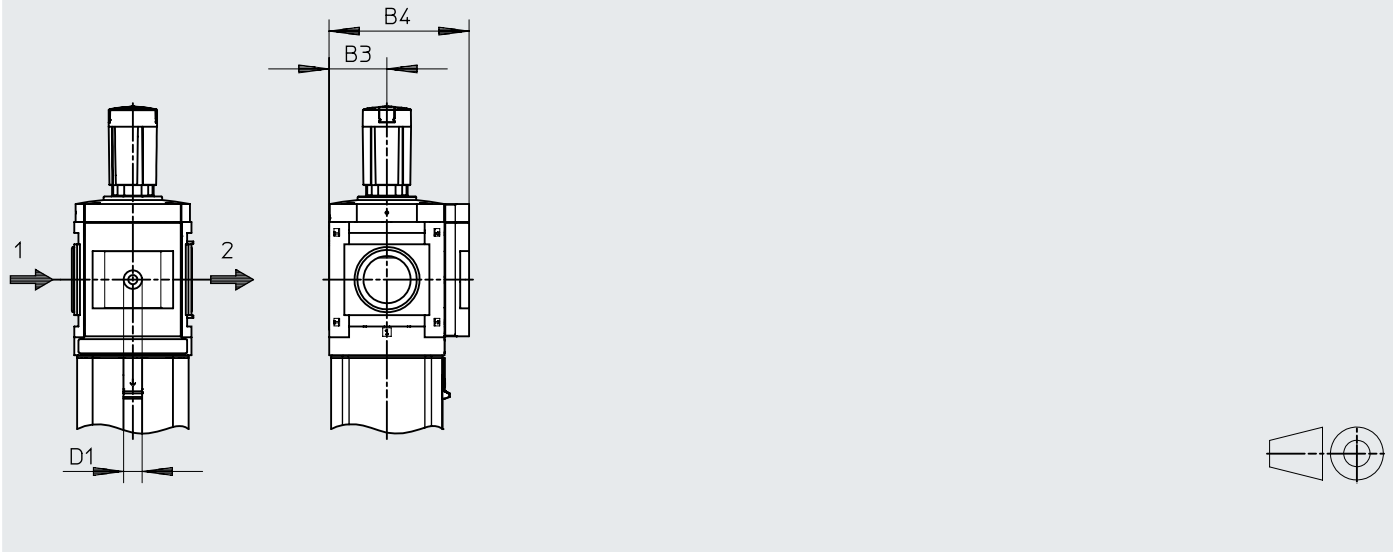
Download CAD data www.festo.com



	B3 [inch]	B4 [inch]
MS12N-LFR-...-VS	2,40	5,83

Dimensions

Dimensions – Pressure gauge alternatives, adapter for EN pressure gauge 1/4, without pressure gauge www.festo.com

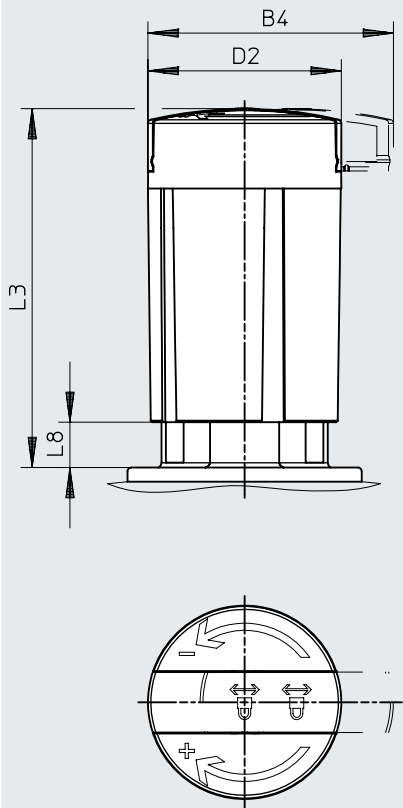


	B3 [inch]	B4 [inch]	D1
MS12N-LFR-...-A4	2,40	5,83	1/4 NPT

Dimensions

Dimensions – Rotary knob, rotary knob long with latch, closable with accessories

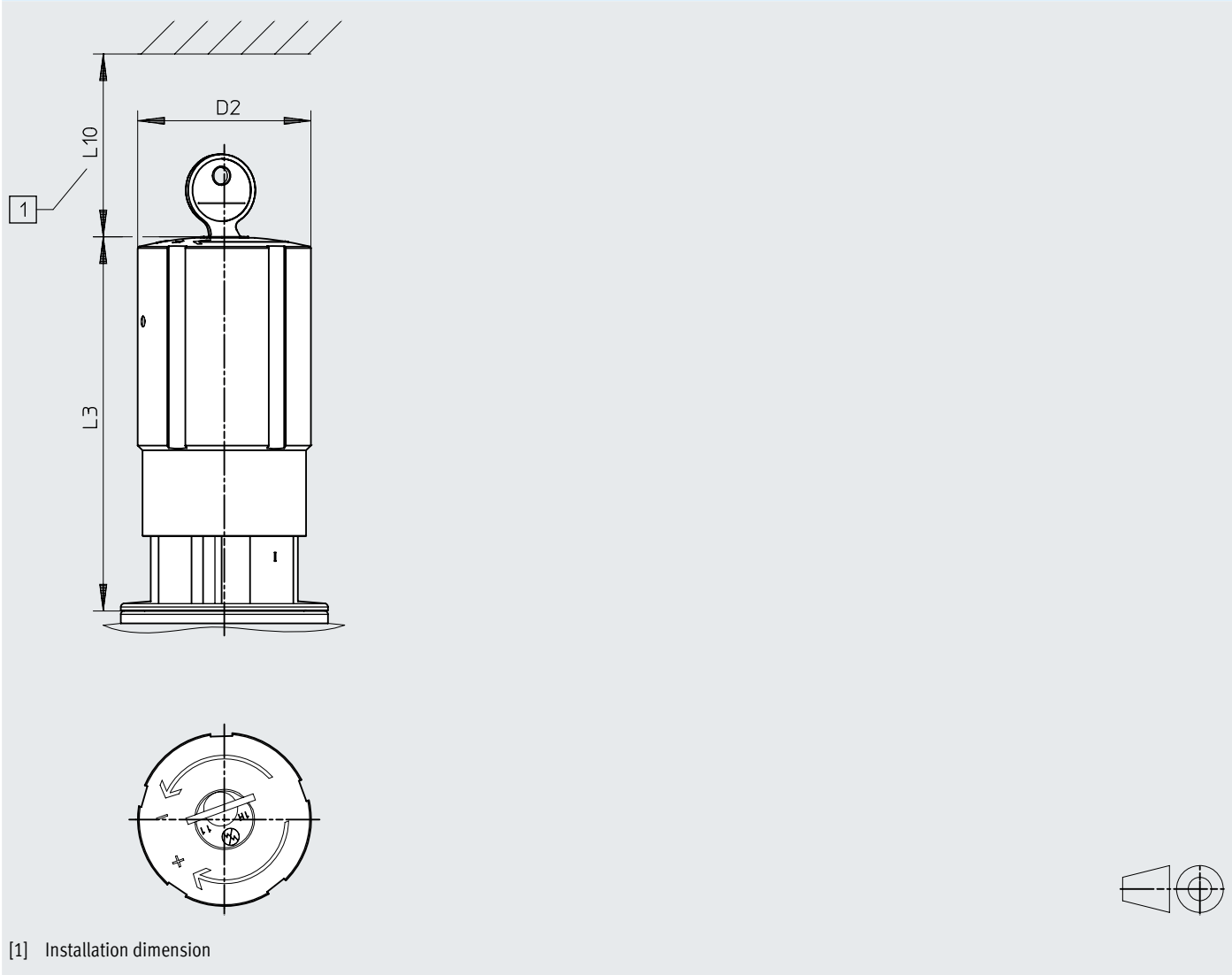
Download CAD data www.festo.com



	B4	D2 Ø	L3	L8
	[inch]	[inch]	[inch]	[inch]
MS12N-LFR-...-LD-AS	2,54	2,02	3,74	0,47

Dimensions

Dimensions – Rotary knob, rotary knob with integrated lock Download CAD data www.festo.com

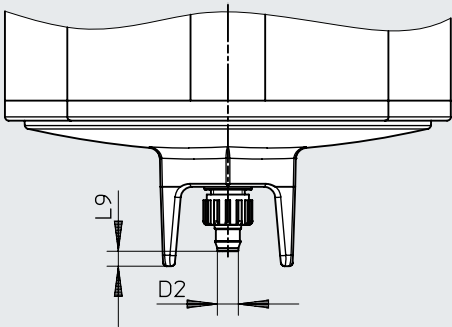


	D2 Ø [inch]	L3 [inch]	L10 [inch]
MS12N-LFR-...-E11	2,04	4,41	2,36

Dimensions

Dimensions – Condensate drain, manual rotary

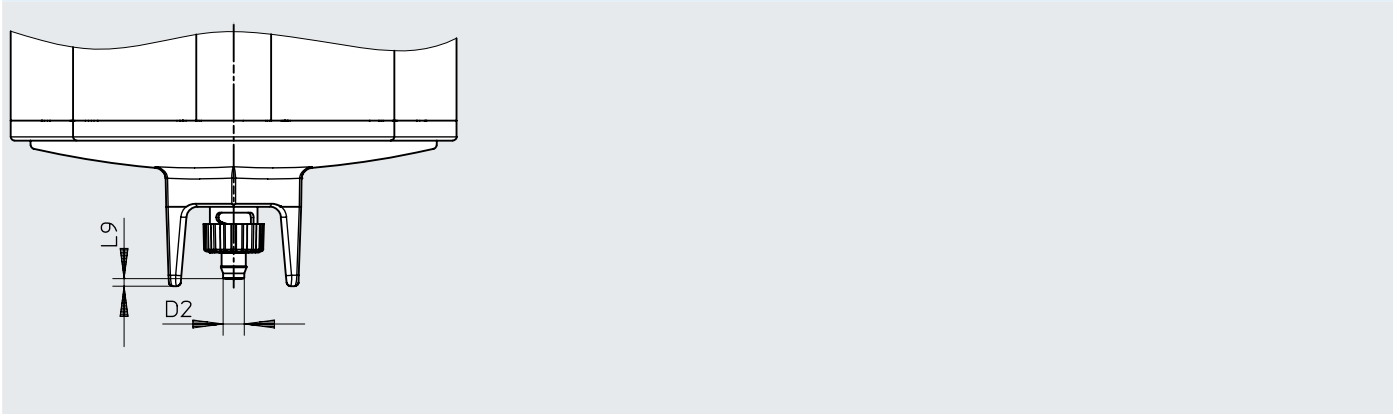
Download CAD data www.festo.com



	D2 Ø [inch]	L9 [inch]
MS12N-LFR-...-M	0,22	0,16

Dimensions

Dimensions – Condensate drain, fully automatic [Download CAD data](#) www.festo.com

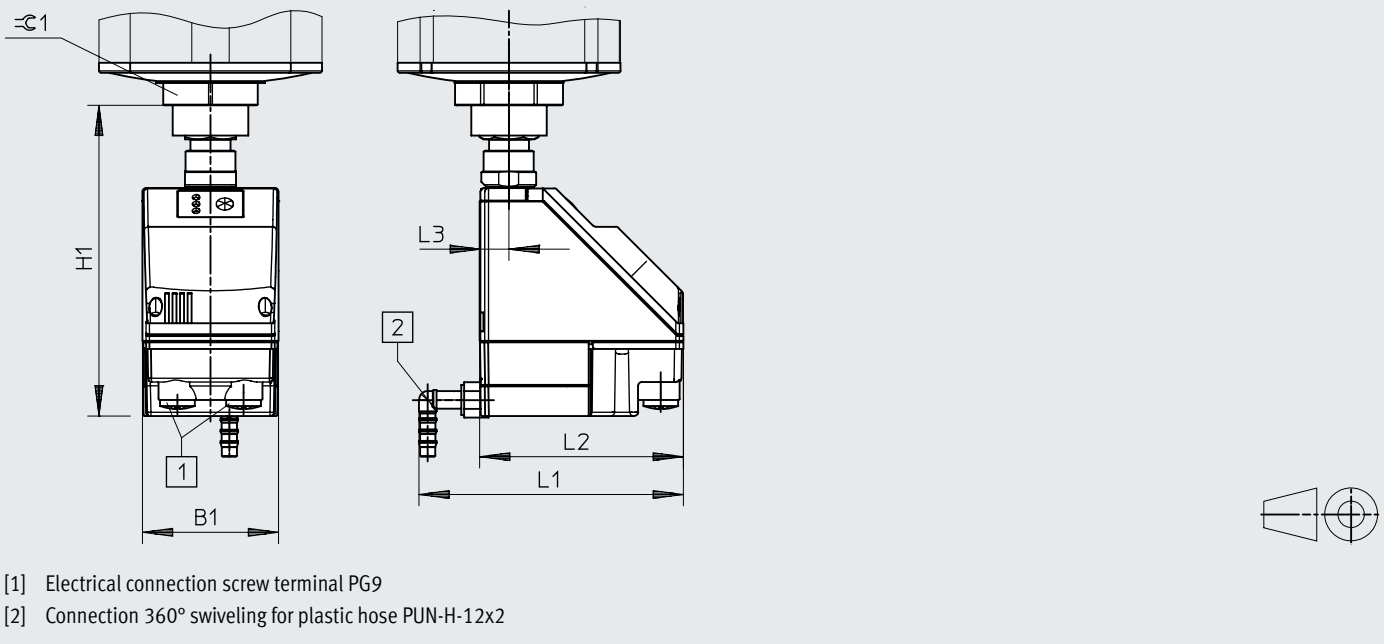


	D2 Ø [inch]	L9 [inch]
MS12N-LFR-...-V	0,22	0,08

Dimensions

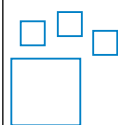
Dimensions – Condensate drain, fully automatic, electrically controlled

Download CAD data www.festo.com



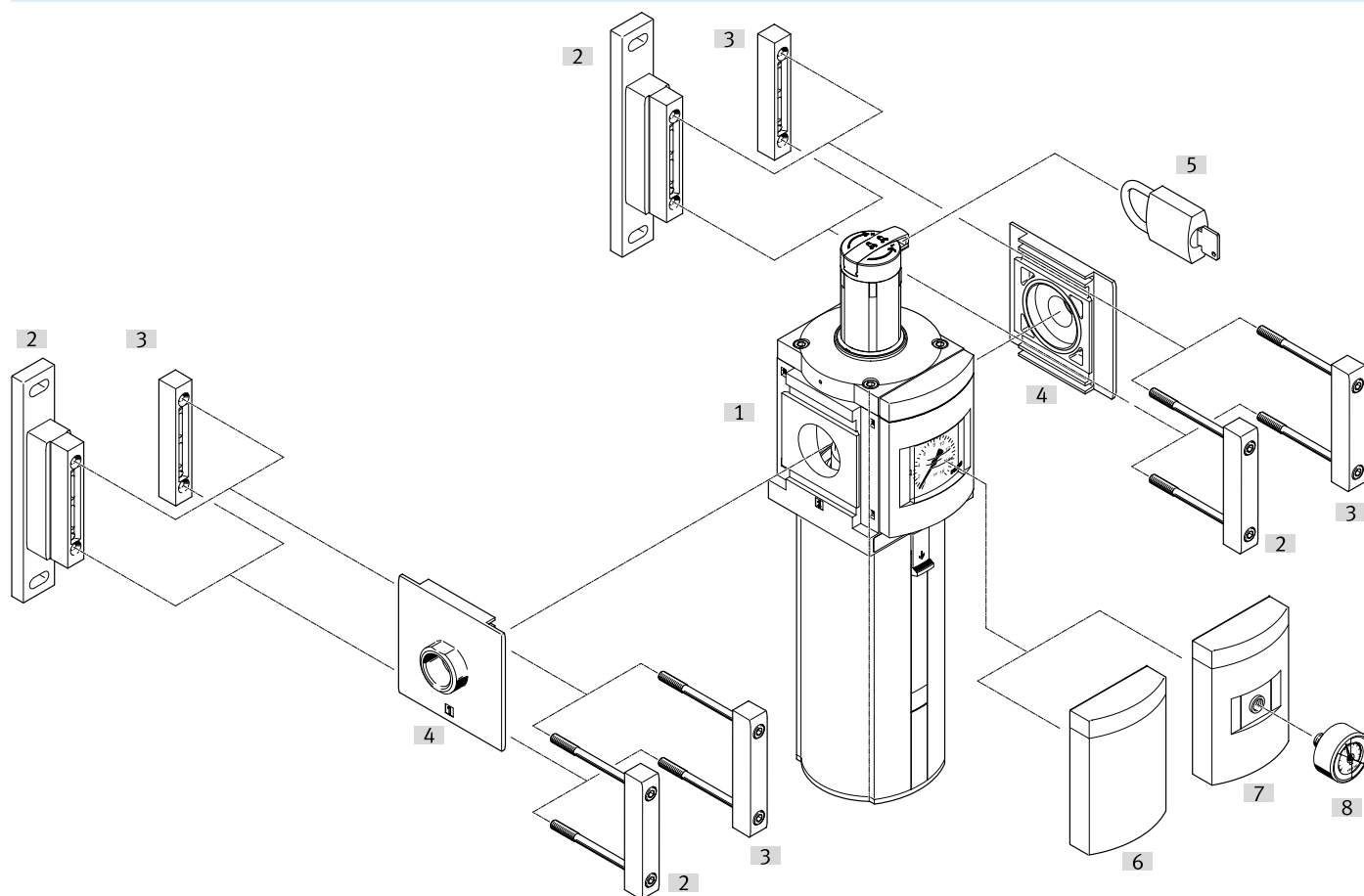
	B1 [inch]	H1 [inch]	L1 [inch]	L2 [inch]	L3 [inch]	$\approx \varnothing 1$ [inch]
MS12N-LFR-...-E2/E3/E4	2,83	6,46	5,51	4,25	0,59	1,97

Ordering data

Ordering information – Modular product system			
	Type code	Part no.	Type
	MS12	535025	MS12N-LFR

Peripherals overview

Peripherals overview



Accessories		→ Page/Internet
Type/order code	Description	
[1] Filter regulator MS12-LFR		ms12n-lfr
[2] Mounting bracket MS12-WP	Order code [WP]; for single device	18
[3] Module connector MS12-MV	For device combinations and individual devices with sub-base	18
[4] Sub-base SET MS12-AG...	Order code [AG...]; for device combinations	18
[5] Padlock LRVS-D		19
[6] Cover plate VS		ms12n-lfr
[7] Adapter for EN pressure gauge 1/4 A4		ms12n-lfr
[8] Pressure gauge MA		18
[9] Filter cartridge MS-LFP	no illustration	18

Accessories

Filter cartridge MS-LFP					
	Grade of filtration	LABS (PWIS) conformity	Product weight	Part no.	Type
	5 µm	VDMA24364-B1/B2-L	295 g	537143	MS12-LFP-C
	40 µm			537144	MS12-LFP-E

Module connector MS6-MV1					
	Plate material	LABS (PWIS) conformity	Product weight	Part no.	Type
	Die-cast aluminum	VDMA24364-B1/B2-L	500 g	537134	MS12-MV

Mounting bracket MS6-WP...					
	Bracket material	LABS (PWIS) conformity	Product weight	Part no.	Type
	Die-cast aluminum	VDMA24364-B1/B2-L	700 g	537133	MS12-WP

Pressure gauge MA						
	Pneumatic connection	Display range	Display range	Product weight	Part no.	Type
	G1/4	0 ... 232 psi	0 ... 16 bar	70 g	183901	MA-40-16-G1/4-EN
	R1/8			60 g	525726	MA-40-16-R1/8-E-RG
	R1/4			75 g	525729	MA-50-16-R1/4-E-RG
			0 ... 232 psi		70 g	187080

Sub-base SET MS12-AG...						
	Pneumatic con- nection 1	Material of sub- base	LABS (PWIS) con- formity	Product weight	Part no.	Type
	1 NPT	Die-cast alumi- num	VDMA24364-B1/ B2-L	1,300 g	537139	MS12-AQT
	1 1/4 NPT		VDMA24364-B2- L		537140	MS12-AQU
	1 1/2 NPT		VDMA24364-B1/ B2-L		537141	MS12-AQV
	2 NPT				537142	MS12-AQW

Accessories

Padlock LRVS-D				
	LABS (PWIS) conformity	Product weight	Part no.	Type
	VDMA24364-B1/B2-L	120 g	193786	LRVS-D