

Filter regulator MS12N-LFR

FESTO



Characteristics

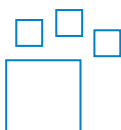
At a glance

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

- Grid dimension: 124 mm
- Filter and pressure regulator are combined into one unit
- Good control characteristics with minimal pressure hysteresis and primary pressure compensation
- Good particle and condensate separation
- With or without secondary exhausting
- 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 control valve
- For stepless, precise adjustment of the required operating pressure
- The pressure regulator keeps the working pressure largely constant, irrespective of compressed air fluctuations in the network and due to air consumption

Pneumatic connection

By installing connecting plates it is easier to replace the module if necessary (e.g. when using piping).

Pressure regulation range

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

Grade of filtration

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

Condensate drain

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

Alternative pressure gauge scale

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

Type of mounting

[WP] Mounting bracket basic design



- For connecting the modules for wall mounting
- In combination with connecting plate for wall mounting an individual unit

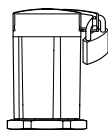
Characteristics

Lockability

Various options for locking the rotary knob to protect the settings from being changed.

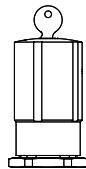
[AS]

Can be locked using accessories



[E11]

With integrated lock



Type code

001	Series	
MS	MS series	
002	Size	
12	Grid dimension 124 mm	
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	
AQV	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	

009	Condensate drain	
E2	External fully automatic condensate drain, electric, 110 V AC, connection terminals	
E3	External fully automatic condensate drain, electric, 230 V AC, 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	Lockability	
	None	
AS	Can be locked using accessories	
E11	With integrated lock	
011	Pressure gauge alternatives	
	None	
A4	Adapter 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	
	None	
LD	Long rotary knob	
014	Type of mounting	
	Without mounting bracket	
WP	Mounting bracket basic design	
015	Flow direction	
	Flow direction from left to right	
Z	Flow direction from right to left	

Datasheet

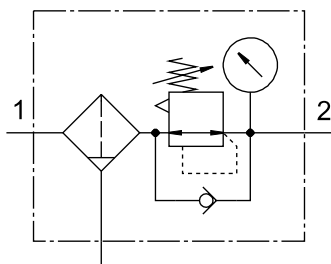
General technical data

Pneumatic connection, port 1 ¹⁾	–
Pneumatic connection, port 2 ²⁾	–
Size	12
Design	Filter regulator with pressure gauge
Type of mounting	Either: Inline installation With accessories
Mounting position	Vertical +/-5°
Pressure gauge (ANALOG) or Pressure display (DIGITAL)	With pressure gauge
Air purity class at output	Compressed air to ISO 8573-1:2010 [6:4:4], Compressed air to ISO 8573-1:2010 [7:4:4]
Condensate drain	Fully automatic Fully automatic, electrically actuated 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

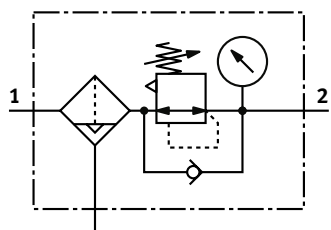
1) With connecting plates: 1 NPT, 1 1/4 NPT, 1 1/2 NPT or 2 NPT

2) With connecting plates: 1 NPT, 1 1/4 NPT, 1 1/2 NPT or 2 NPT

Function – Condensate drain, manual, with pressure gauge



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



Standard nominal flow rate q_N

Grade of filtration	5	40
Standard nominal flow rate (standardised 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 connecting plates, which must be ordered separately → Accessories page: ms12-aq

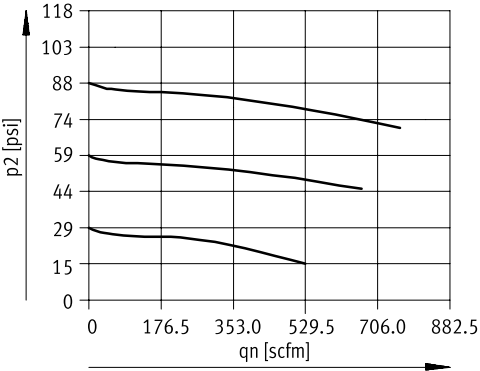
Datasheet

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		

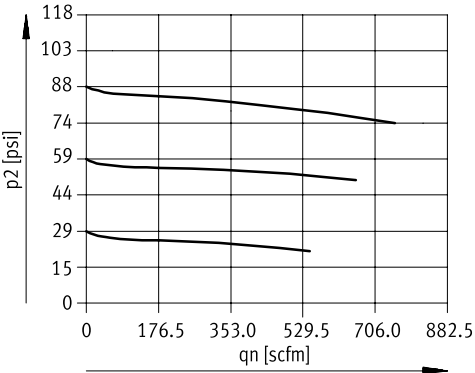
1) More information: www.festo.com/x/topic/crc

Materials	
Material housing	Die-cast aluminium
Material bowl	Wrought aluminium alloy
LABS (PWIS) conformity	VDMA24364-B1/B2-L

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

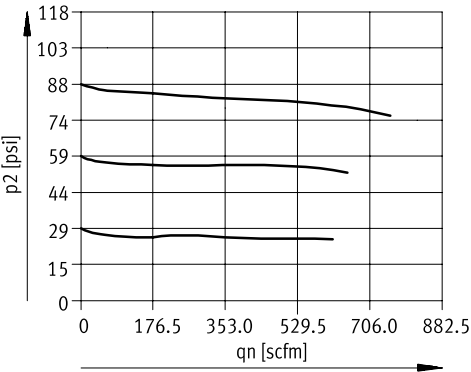


Standard flow rate qn as a function of output pressure p2 (p1 = 147 psi) for 1/4 NPT with sub-base AGG

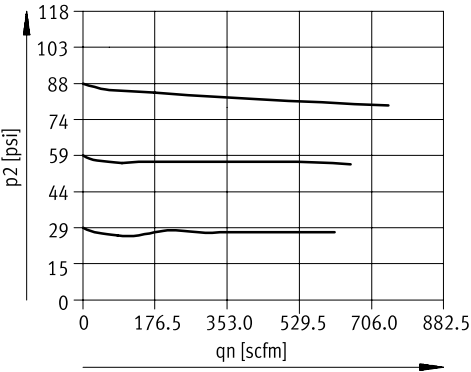


Datasheet

Standard flow rate q_n as a function of output pressure p_2 ($p_1 = 147 \text{ psi}$) for 1/2 NPT with sub-base AGH

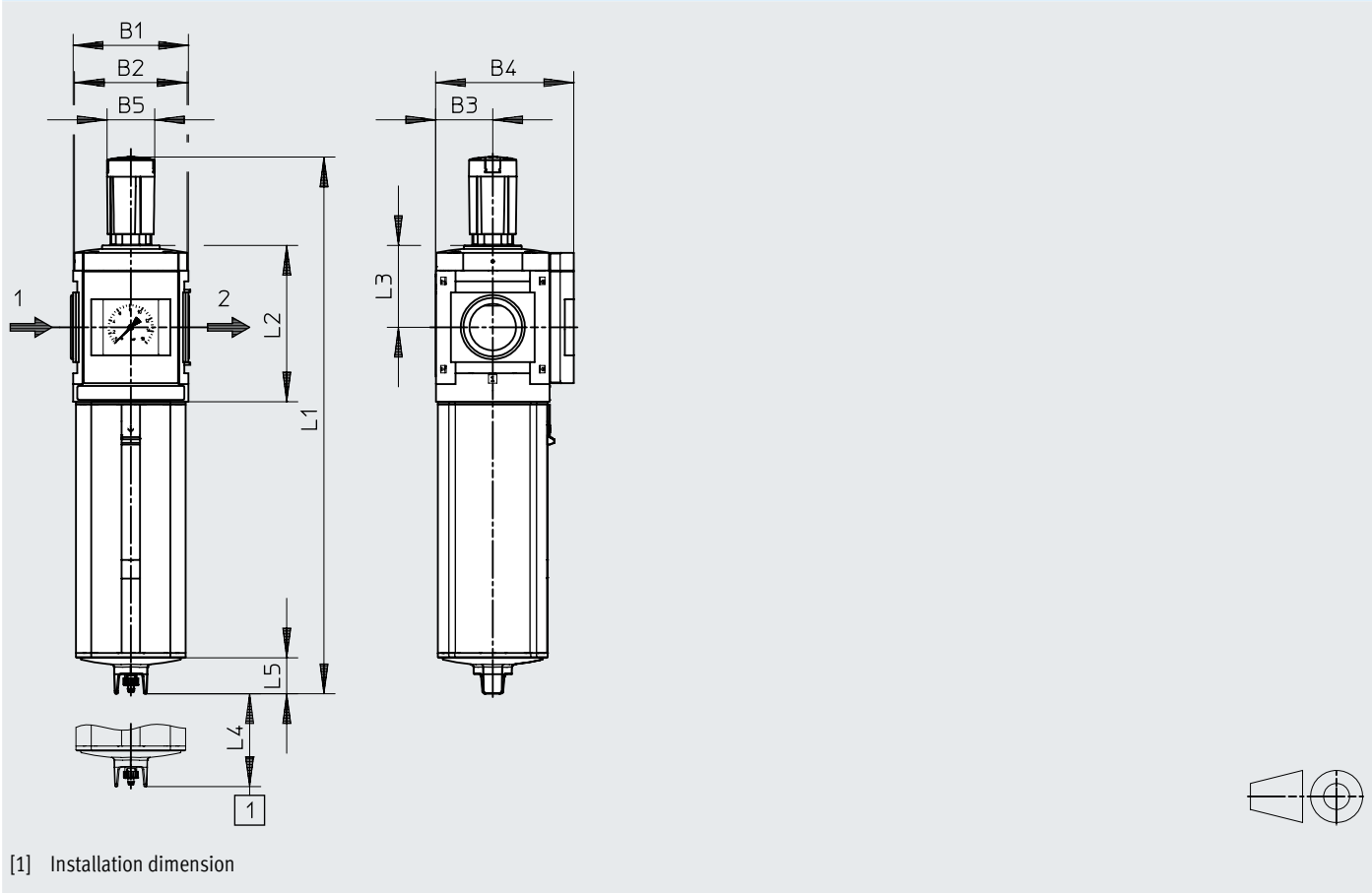


Standard flow rate q_n as a function of output pressure p_2 ($p_1 = 147 \text{ psi}$) for 2 NPT with sub-base AGI



Dimensions

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

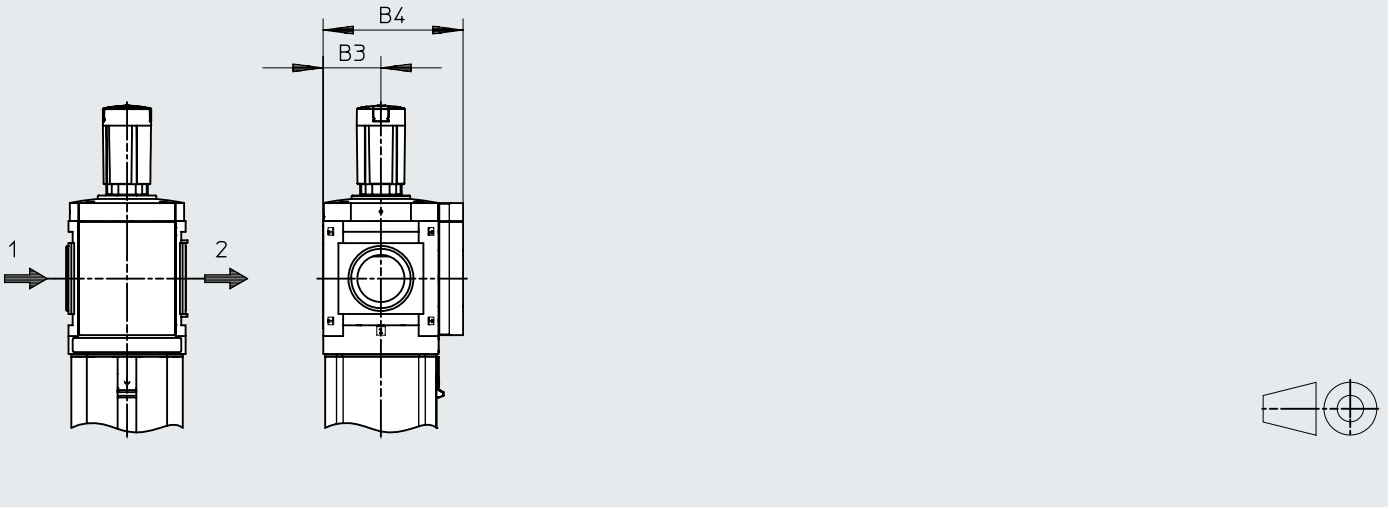


	B1	B2	B3	B4	B5 ∅	L1	L2	L3	L4	L5
	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]	[inch]
MS12N-LFR-G	4,88	4,80	2,40	5,83	2,02	22,72	6,61	3,46	9,84	1,54

Dimensions

Dimensions – Pressure gauge alternatives, cover plate

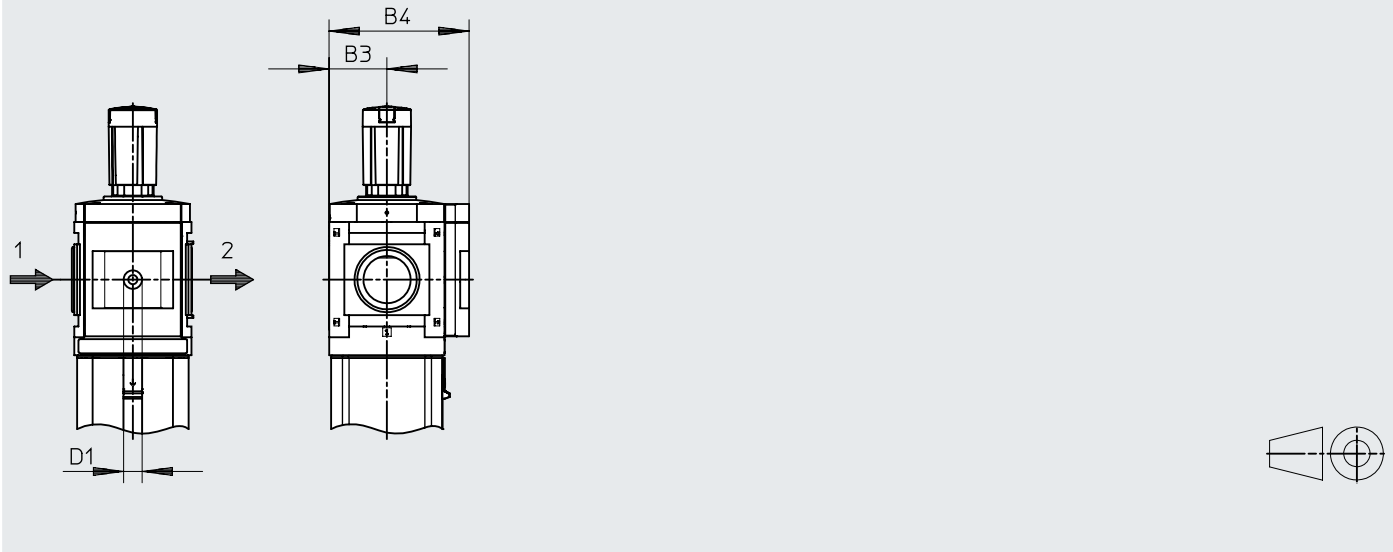
Download CAD data www.festo.com



	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 Download CAD data www.festo.com

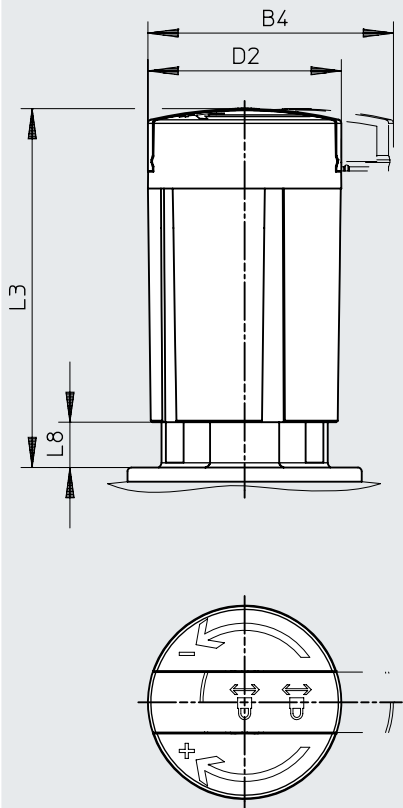


	B3 [inch]	B4 [inch]	D1
MS12N-LFR-...-A4	2,40	5,83	1/4 NPT

Dimensions

Dimensions – Rotary knob, long rotary knob with latch, can be locked using accessories

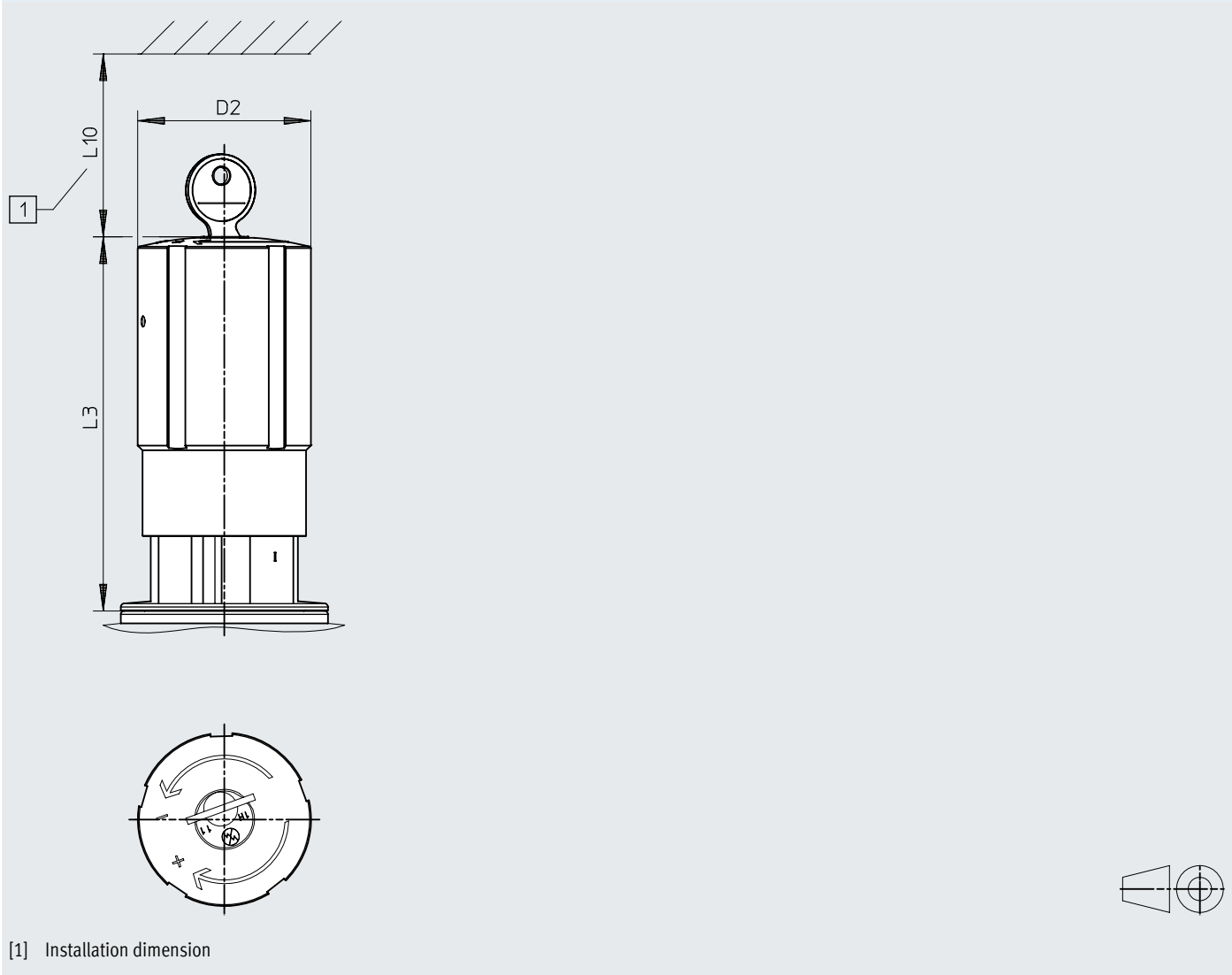
Download CAD data www.festo.com



	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

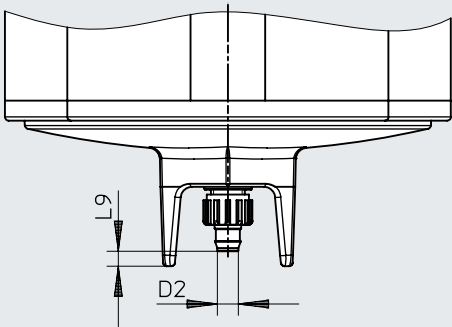


	D2 Ø [inch]	L3 [inch]	L10 [inch]
MS12N-LFR-...-E11	2,04	4,41	2,36

Dimensions

Dimensions – Condensate drain, manual, rotating

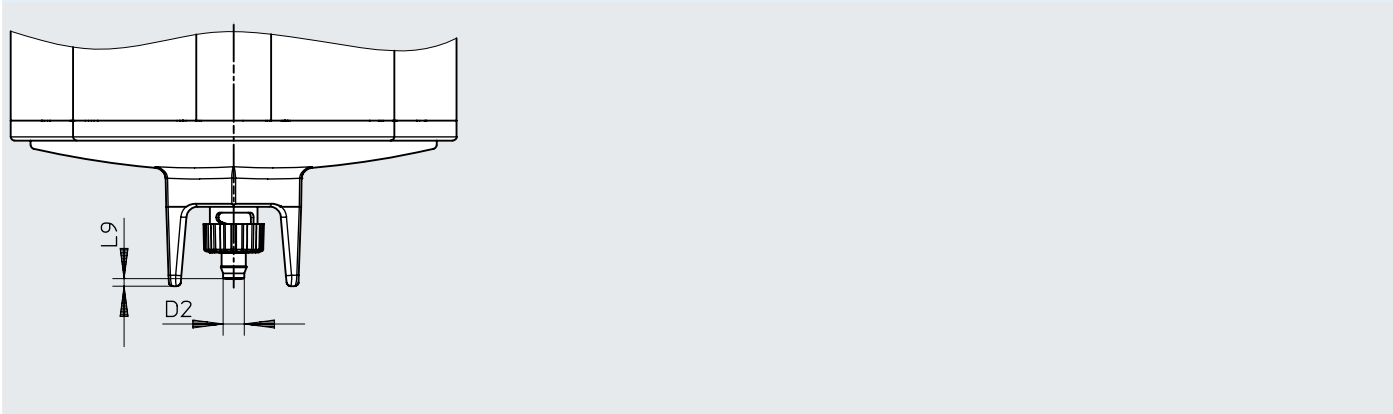
Download CAD data www.festo.com



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

Dimensions

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

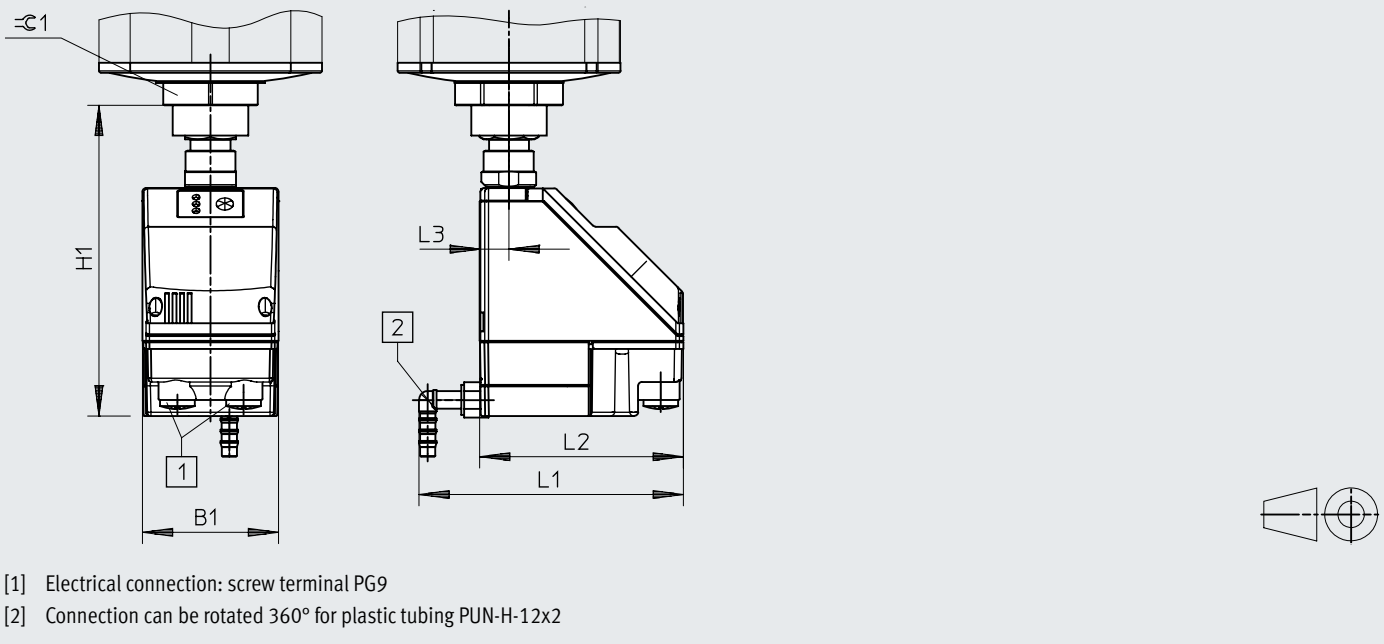


	D2 Ø [inch]	L9 [inch]
MS12N-LFR-...-V	0,22	0,08

Dimensions

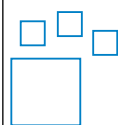
Dimensions – Condensate drain, fully automatic, electrically controlled

Download CAD data www.festo.com



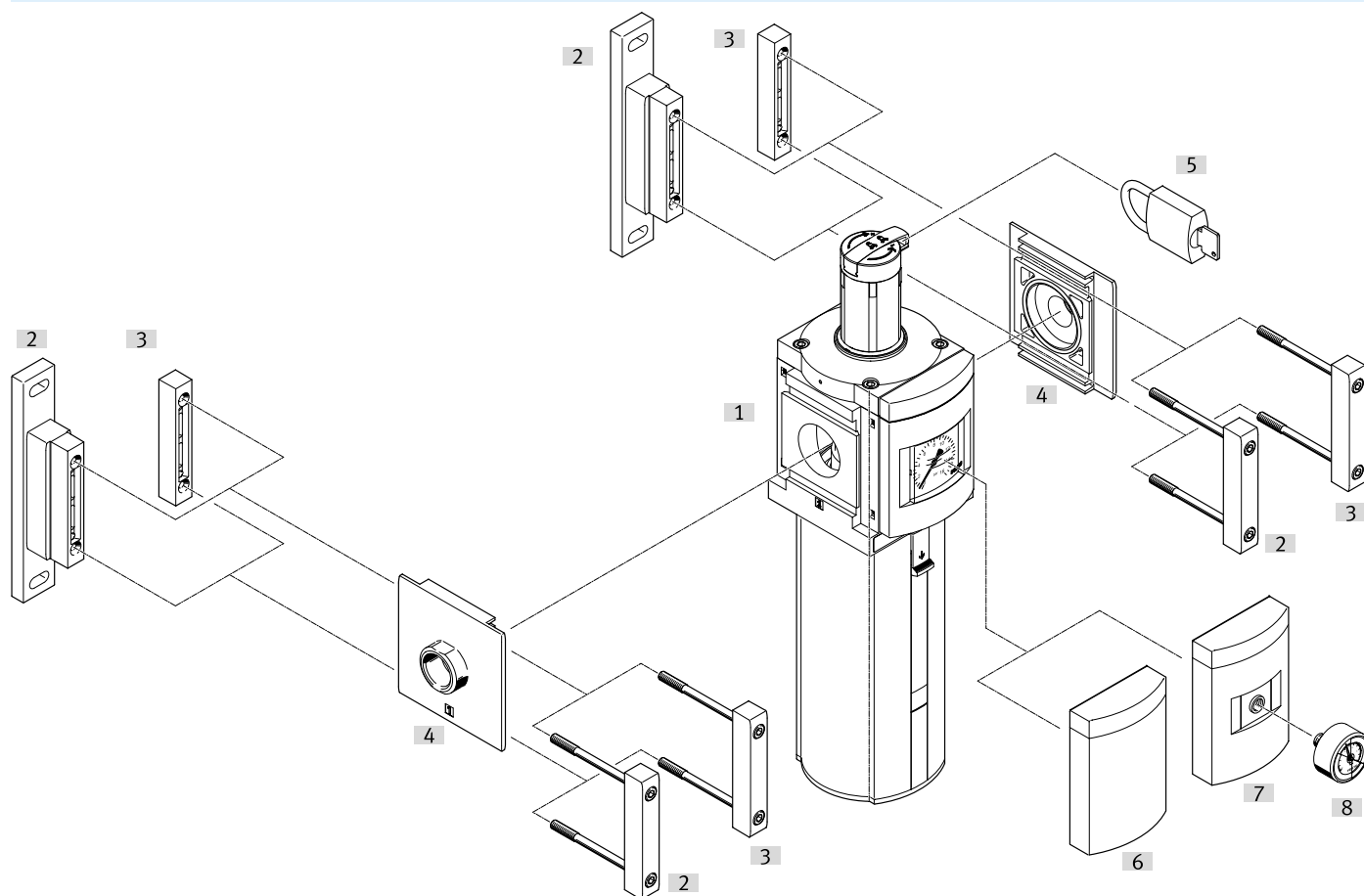
	B1 [inch]	H1 [inch]	L1 [inch]	L2 [inch]	L3 [inch]	≈ 1 [inch]
MS12N-LFR-...-E2/E3/E4	2,83	6,46	5,51	4,25	0,59	1,97

Ordering data

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

Peripherals

Peripherals overview



Accessories		→ Link
Type/order code	Description	
[1] Filter regulator MS12-LFR		ms12n-lfr
[2] Mounting bracket MS12-WP	For individual device	18
[3] Module connector MS12-MV	For device combinations and individual devices with connecting plate	18
[4] Connecting plate 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					
	Material plate	LABS (PWIS) conformity	Product weight	Part no.	Type
	Die-cast aluminium	VDMA24364-B1/B2-L	500 g	537134	MS12-MV

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

Pressure gauge MA						
	Pneumatic con- nection	Indicating range	Indicating 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

Connecting plate SET MS12-AG...						
	Pneumatic connection, port 1	Material sub-base	LABS (PWIS) conformity	Product weight	Part no.	Type
	1 NPT	Die-cast aluminium	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