

## Standard Filters MS12N-LF – Inch Series



Standard filters, with filtration grades of 5 microns or 40 microns, are equipped with a water separator that cleans the compressed air of impurities, rust, and condensate. For pre-filtering in pneumatic systems or for special applications.

- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Supply pressure
  - For manual drain: 12 ... 294 psi
  - For fully automatic drain: 29 ... 176 psi
  - For fully automatic drain, electrically actuated: 12 ... 235 psi
- Flow rate: 406.0 ... 564.8 scfm

Product Range Overview														
Type	Pneumatic connections	Filtration grade [µm]				Bowl guard	Bowl drain						Contamination control	Reverse flow
		0.01	1	5	40		Manual	Fully automatic	Electrical 24 V DC M12	Electrical 110 V AC with terminals	Electrical 230 V AC with terminals	Electrical 24 V DC with terminals		
MS12N	AG...	A	B	C	E	U	M	V	E1	E2	E3	E4	DA	Z
LF	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	-	-	■	■	■	■	■	■	■	■	■	-	■

### Features

- Sintered filter with centrifugal separation removes contamination, rust and condensate from the compressed air.
- High flow rate with minimal pressure drop
- Replaceable filter cartridges

### Contents

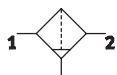
Technical Data	→ 1112
Dimensional Drawings	→ 1115
Ordering Data	→ 1116
Accessories	→ 1118

→ [www.festo.com/catalog/ms12n-lf](http://www.festo.com/catalog/ms12n-lf)

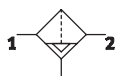
# Standard Filters MS12N-LF – Inch Series

Technical Data

ISO Symbol



Manual bowl drain



Fully automatic bowl drain



General Technical Data		1 NPT	1¼ NPT	1½ NPT	2 NPT
Pneumatic connection 1, 2 <sup>1)</sup>		1 NPT	1¼ NPT	1½ NPT	2 NPT
Filtration grade	[µm]	5 (air purity class at the output 3.7.– to DIN ISO 8573-1)			
		40 (air purity class at the output 5.7.– to DIN ISO 8573-1)			
Supply pressure	M [psi]	12 ... 294 (manual drain)			
	V [psi]	29 ... 176 (fully automatic drain)			
	E... [psi]	12 ... 235 (fully automatic drain, electrically actuated)			

1) Dependent on port plate selected, must be ordered separately as an accessory → 1119

Standard Nominal Flow Rate q <sub>N</sub> <sup>2)</sup> [scfm]		1 NPT	1¼ NPT	1½ NPT	2 NPT
Pneumatic connection 1, 2		1 NPT	1¼ NPT	1½ NPT	2 NPT
Filtration grade	5 µm	406.0	441.3	476.6	494.2
	40 µm	441.3	458.9	494.2	564.8

2) Dependent on port plate selected, must be ordered separately as an accessory → 1119  
Measured at p<sub>1</sub> = 88 psi and Δp = 7.4 psi

# Standard Filters MS12N-LF – Inch Series

Technical Data

Operating and Environmental Conditions			
Bowl drain	Manual M	Fully automatic V	Fully automatic, electrically actuated E...
Operating medium	Compressed air, air quality class 5.7.– to DIN ISO 8573-1		
Max. condensate volume [in <sup>3</sup> ]	24.40		
Bowl guard	Metal bowl		
Ambient temperature [°F]	14 ... 140	41 ... 140	34 ... 140
Temperature of medium [°F]	14 ... 140	41 ... 140	34 ... 140
Storage temperature [°F]	14 ... 140	14 ... 140	34 ... 140
Assembly position	Vertical ±5°		
Corrosion resistance CRC <sup>1)</sup>	2		

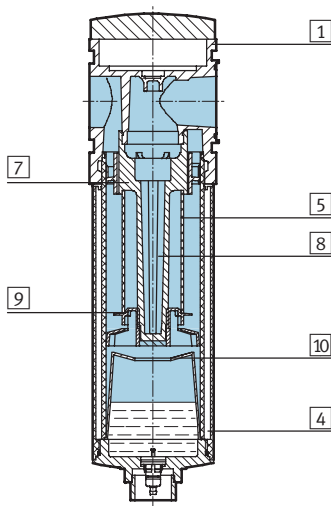
1) Corrosion resistance class 2 according to Festo standard 940 070  
 Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [lb]	
With metal bowl	13.00
With metal bowl and fully automatic, electrically actuated bowl drain	14.40

- Filter cartridges → 1121
- For spare parts go to: [www.festo.com/en/spare\\_parts\\_service](http://www.festo.com/en/spare_parts_service)

## Materials

Sectional view



Filter		
1	Body	Die-cast aluminum
4	Metal bowl	Wrought aluminum alloy
5	Filter element	Sintered bronze
7	Spin disk	Polyacetate
8	Filter holder	Polyacetate
9	Separating plate	Polyacetate
10	Stabilizing disk	Polyacetate
-	Seals	Nitrile rubber

# Standard Filters MS12N-LF – Inch Series

Technical Data

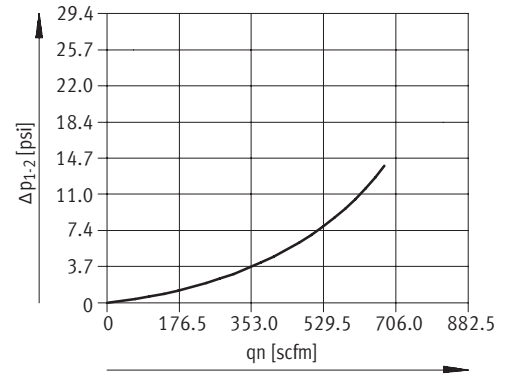
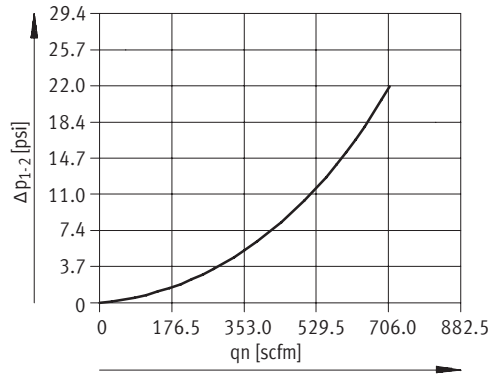


## Standard Flow Rate $q_n$ as a Function of the Differential Pressure $\Delta p_{1-2}$

Filtration grade 5  $\mu\text{m}$

With port plate MS12-AGF  
Pneumatic connection 1 NPT

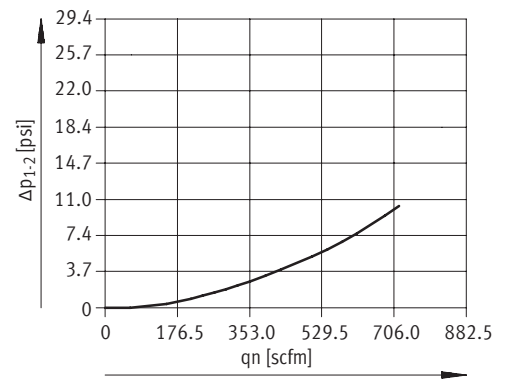
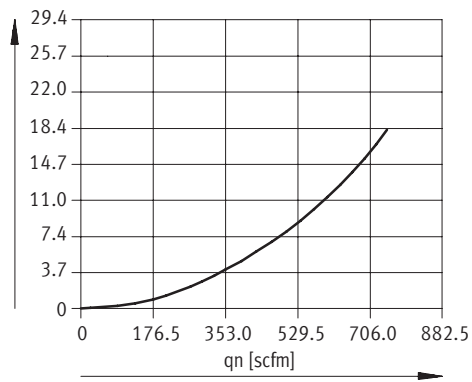
With port plate MS12-AGI  
Pneumatic connection 2 NPT



Filtration grade 40  $\mu\text{m}$

With port plate MS12-AGF  
Pneumatic connection 1 NPT

With port plate MS12-AGI  
Pneumatic connection 2 NPT



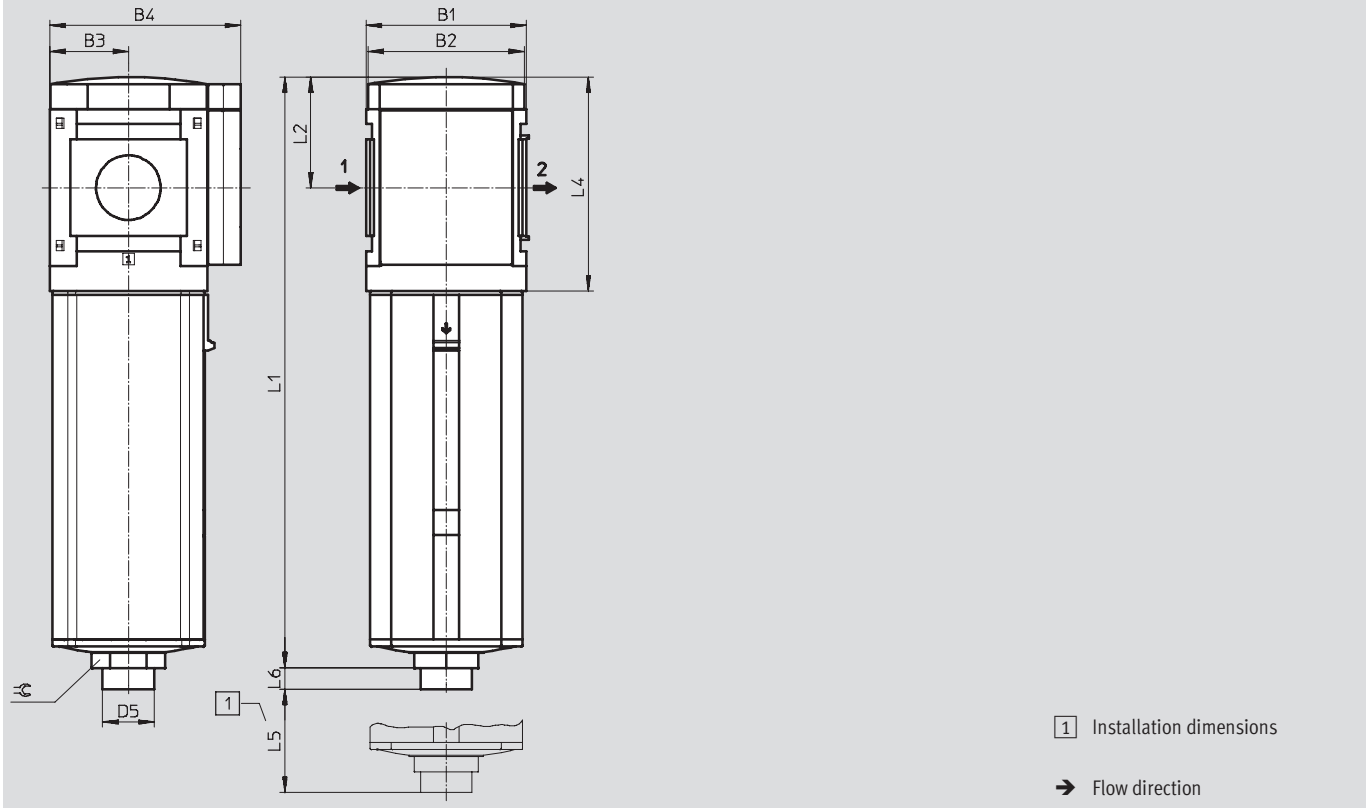
# Standard Filters MS12N-LF – Inch Series

Dimensional Drawings



Dimensions<sup>1)</sup> – Standard

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



B1	B2	B3	B4	D5 Ø	L1	L2	L4	L5	L6	≅
4.88	4.80	2.40	5.83	1.57	18.03	3.39	6.54	9.84	0.63	1.97

1) Dimensions are in inches, unless otherwise noted.

# Standard Filters MS12N-LF – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products



## Dimensions<sup>1)</sup> – Bowl Drain Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

**Manual M**

Barbed fitting for plastic tubing  
PCN-4

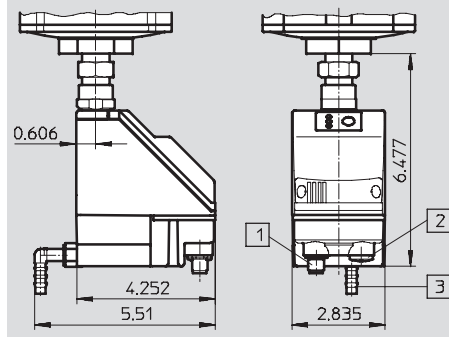
**Fully automatic V**

Barbed fitting for plastic tubing  
PCN-4

Type	L6
MS12-LF-...-M	0.43

Type	L6
MS12-LF-...-V	0.51

## Fully automatic, electrically actuated E1 ... E4 Technical data PWEA → [www.festo.com/catalog/pwea](http://www.festo.com/catalog/pwea)



- 1) Variant E1  
PWEA-AP-... with M12x1 plug,  
5-pin for SIM-M12-5GD-...
- 2) Variant E2/E3/E4  
PWEA-AC-... with cable conduit  
fitting Pg9
- 3) Connection 360° rotatable for  
plastic tubing PUN-H-12x2-...

1) Dimensions are in inches, unless otherwise noted.

Ordering Data							
Metal bowl							
Bowl drain	Connection	Filtration grade 5 µm			Filtration grade 40 µm		
		Part No.	Type	LT	Part No.	Type	LT
Fully automatic	1 NPT ... 2 NPT <sup>2)</sup>	537152	MS12-LF-G-CUV	1D	537151	MS12-LF-G-EUV	1D

LT = Lead time      1D typically ships same day/next day      1W typically ships within 1 week      Q request a quote for lead time

2) Port plate must be ordered separately as an accessory → 1119

# Standard Filters MS12N-LF – Inch Series



Ordering Data – Configurable Products

M Mandatory Data									O Options	
Part No.	Series	Size	Thread	Function	Connection size	Filtration grade	Bowl	Bowl drain	Type of mounting	Reverse flow direction
535026	MS	12	N	LF	AQT AQU AQV AQW G	E C	U	M V E1 E2 E3 E4	WP	Z
<b>Order example</b>										
<b>535026</b>	<b>MS</b>	<b>12</b>	<b>N</b>	<b>- LF</b>	<b>- G</b>	<b>- E</b>	<b>- U</b>	<b>- V</b>	<b>- WP</b>	<b>- Z</b>

Ordering Table			Conditions	Code	Enter code
Grid dimension	[mm]	124			
<b>M</b> Part No.	<b>535026</b>				
Series	Standard			<b>MS</b>	MS
Size	12			<b>12</b>	12
Thread	NPT thread			<b>N</b>	N
Function	Filter			<b>-LF</b>	-LF
Connection size	Port plate 1 NPT (dimensions → 1119)			<b>-AQT</b>	
	Port plate 1¼ NPT (dimensions → 1119)			<b>-AQU</b>	
	Port plate 1½ NPT (dimensions → 1119)			<b>-AQV</b>	
	Port plate 2 NPT (dimensions → 1119)			<b>-AQW</b>	
	Module without connecting thread, without port plate			<b>-G</b>	
Filtration grade	40 µm			<b>-E</b>	
	5 µm			<b>-C</b>	
Bowl	Metal bowl			<b>-U</b>	-U
Bowl drain	Manual			<b>-M</b>	
	Fully automatic (P1 max. 176 psi)			<b>-V</b>	
	External fully automatic bowl drain, electrical, 24 V DC, M12			<b>-E1</b>	
	External fully automatic bowl drain, electrical, 110 V AC, terminals			<b>-E2</b>	
	External fully automatic bowl drain, electrical, 230 V AC, terminals			<b>-E3</b>	
External fully automatic bowl drain, electrical, 24 V DC, terminals			<b>-E4</b>		
<b>O</b> Type of mounting	Mounting bracket (dimensions → 1120)		<b>1</b>	<b>-WP</b>	
Reverse flow direction	Flow direction from right to left			<b>-Z</b>	

**1 WP** Only with port plate AQT, AQU, AQV or AQW

**Transfer order code**

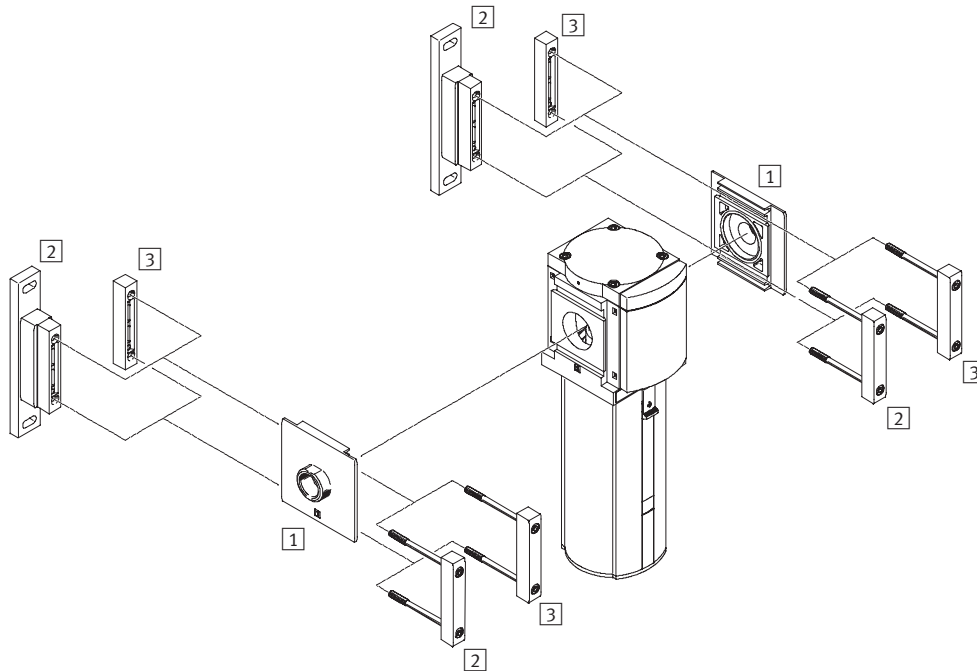
<b>535026</b>	<b>MS</b>	<b>12</b>	<b>N</b>	<b>- LF</b>			<b>- U</b>			
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# Standard Filters MS12N-LF – Inch Series

Accessories Overview



## Mounting Attachments and Accessories



Mounting Attachments and Accessories		→ Page
1	Port plate MS12-AQ...	1119
2	Mounting bracket MS12-WP	1120
3	Body connector MS12-MV	1119



# Standard Filters MS12N-LF – Inch Series

Accessories

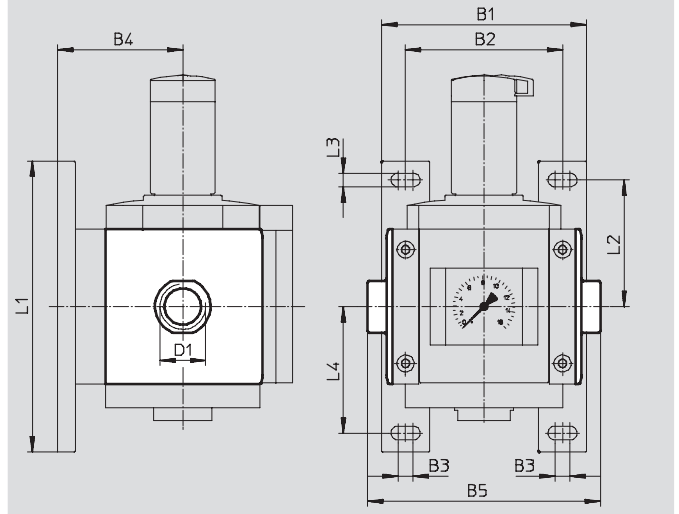
## 1 Port plate MS12-AQ...

- Adapter for pneumatic connection

Material:

Die-cast aluminum

Free of copper and PTFE



Dimensions and Ordering Data												Part No.	Type
B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [lb]			
6.38	4.88	0.47	3.90	7.24	1 NPT	9.06	3.94	0.43	3.94	2.60	537139	MS12-AQT	
				7.24	1¼ NPT						537140	MS12-AQU	
				7.24	1½ NPT						537141	MS12-AQV	
				7.72	2 NPT						537142	MS12-AQW	

## 3 Body connector MS12-MV

- For connecting modules

Material:

Die-cast aluminum,

Free of copper and PTFE



Ordering Data			
Size	Weight [lb]	Part No.	Type
MS12	1.00	537134	MS12-MV

## Standard Filters MS12N-LF – Inch Series

Accessories

FESTO

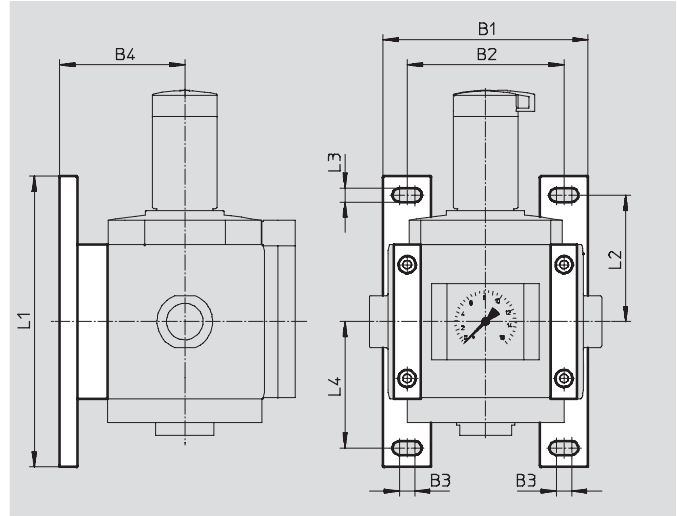
### 2 Mounting bracket MS12-WP

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:

Die-cast aluminum

Free of copper and PTFE



#### Dimensions and Ordering Data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [[b]	Part No.	Type
MS12	6.38	4.88	0.47	3.90	9.06	3.94	0.43	3.94	1.40	537133	MS12-WP

# Standard Filters MS12N-LF – Inch Series

Replacement Parts



Ordering Data – Filter Cartridges			
Size	Filtration grade [ $\mu\text{m}$ ]	Part No.	Type
MS12	5	537143	MS12-LFP-C
	40	537144	MS12-LFP-E

- For spare parts go to: [www.festo.com/en/spare\\_parts\\_service](http://www.festo.com/en/spare_parts_service)

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