

Fine and Micro Filters MS4N-LFM – Inch Series



Fine and micro filters, with 1 micron or 0.01 micron filtration grades, remove submicronic water or oil droplets and dirt particles for exceptionally clean compressed air.

- Pneumatic connection: 1/8 NPT, 1/4 NPT, 3/8 NPT
- Supply pressure
 - For manual drain: 0 ... 235 psi
 - For semiautomatic drain: 22 ... 176 psi
 - For fully automatic drain: 29 ... 176 psi
- Flow rate: 4.2 ... 6.4 scfm

Product Range Overview													
Type	Pneumatic connections		Filtration grade [µm]				Bowl guard		Bowl drain			Contamination control	Reverse flow
	Body thread	Port plate	0.01	1	5	40	Plastic bowl guard	Metal bowl	Manual	Semiautomatic	Fully automatic	Differential pressure indicator	Flow direction from right to left
MS4N		AG...	A	B	C	E	R	U	M	H	V	DA	Z
LFM	1/8 NPT, 1/4 NPT	1/8 NPT, 1/4 NPT, 3/8 NPT	■	■	-	-	■	■	■	■	■	■	■

Features

- High-performance filter for exceptionally clean compressed air
- Air quality to DIN ISO 8573-1
- Available with differential pressure indicator for optical indication of filter contamination
- LFM-A:
 - ISO class 1 for particles: max. particle density 0.1 mg/m³
 - ISO class 2 for oil aerosols: max. oil concentration 0.1 mg/m³
 - Filter efficiency 99.9999%
- LFM-B:
 - ISO class 2 for particles: max. particle density 1 mg/m³
 - ISO class 3 for oil aerosols: max. oil concentration 1 mg/m³
 - Filter efficiency 99.99%

Contents

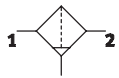
Technical Data	➔ 260
Dimensional Drawings	➔ 264
Ordering Data	➔ 265
Accessories	➔ 268
Replacement Parts	➔ 276

➔ www.festo.com/catalog/ms4n-lfm

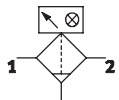
Fine and Micro Filters MS4N-LFM – Inch Series

Technical Data

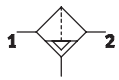
ISO Symbol



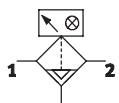
Manual bowl drain
without differential pressure indicator



With differential pressure indicator



Semi or fully automatic bowl drain
without differential pressure indicator



With differential pressure indicator



General Technical Data			
Pneumatic connection 1, 2		1/8 NPT	1/4 NPT
Filtration grade	[µm]	0.01 (micro filter LFM-A, air purity class at the output 1.7.2 to DIN ISO 8573-1) 1 (fine filter LFM-B, air purity class at the output 2.7.3 to DIN ISO 8573-1)	
Supply pressure	M [psi]	0 ... 206 (manual drain)	
	H [psi]	22 ... 17 (semiautomatic drain)	
	V [psi]	29 ... 176 (fully automatic drain)	

Standard Nominal Flow Rate qnN ¹⁾ and Standard Flow Rate qn [scfm]			
Pneumatic connection 1, 2		1/8 NPT	1/4 NPT
Micro filter LFM-A			
qnN 1 → 2		4.2	4.2
qn min		1.9	1.9
qn max		12.7	12.7
Fine filter LFM-B			
qnN 1 → 2		6.4	6.4
qn min		1.9	1.9
qn max		12.7	12.7

1) Measured at p1 = 88 psi and Δp = 1.0 psi

Fine and Micro Filters MS4N-LFM – Inch Series

Technical Data

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Operating and Environmental Conditions			
Bowl drain	Manual M	Semiautomatic H	Fully automatic V
Operating medium micro filter LFM-A	Compressed air, filtered, unlubricated, filtration grade 1 µm		
Operating medium fine filter LFM-B	Compressed air, filtered, unlubricated, filtration grade 5 µm		
Max. condensate volume [in ³]	1.16 (with plastic bowl guard) 1.53 (with metal bowl)		
Bowl guard	Plastic bowl guard		
	Metal bowl		
Ambient temperature [°F]	14 ... 140	41 ... 140	41 ... 140
Temperature of medium [°F]	14 ... 140	41 ... 140	41 ... 140
Storage temperature [°F]	14 ... 140	14 ... 140	14 ... 140
Assembly position	Vertical ±5°		
Corrosion resistance CRC ¹⁾	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 plastic bowl guard	0.38
With metal bowl	0.70

- Wearing parts kits → 276
- Filter cartridges → 276
- For spare parts go to: www.festo.com/en/spare_parts_service

Fine and Micro Filters MS4N-LFM – Inch Series

Technical Data

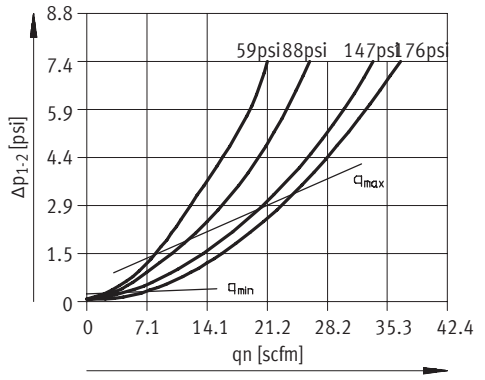
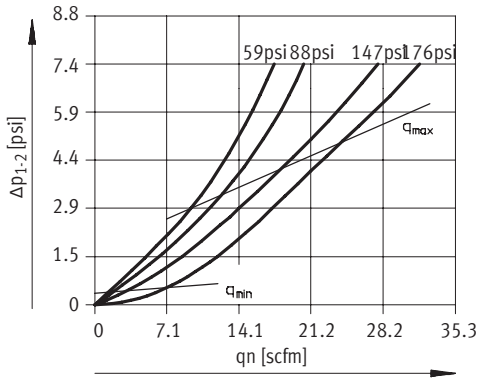


Standard Flow Rate q_n as a Function of the Differential Pressure Δp_{1-2}

Filtration grade 0.01 μm

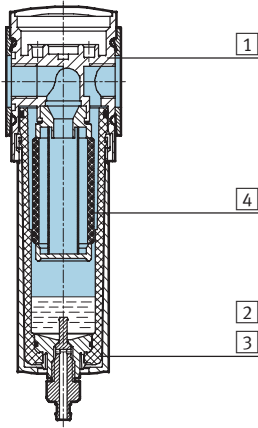
Filtration grade 1 μm

MS4N-LFM-1/8 and MS4N-LFM-1/4



Materials

Sectional view



Fine and micro filter		
1	Body	Die-cast aluminum
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminum
	Viewing window	Polyamide
4	Filters	Borosilicate fiber
-	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Fine and Micro Filters MS4N-LFM – Inch Series

Dimensional Drawings



Dimensions¹⁾ – Standard Download CAD Data → www.festo.com/us/cad

Manual bowl drain

1 Installation dimensions
→ Flow direction

Type	B1	B2	B3	D1	L1		L2	L3	L5	L6	
					Bowl guard					Plastic	Metal
					Plastic	Metal					
MS4N-LFM-1/8	1.57	0.83	2.13	1/8 NPT	5.59	6.30	1.14	2.36	0.98	0.70	0.70
MS4N-LFM-1/4				1/4 NPT							

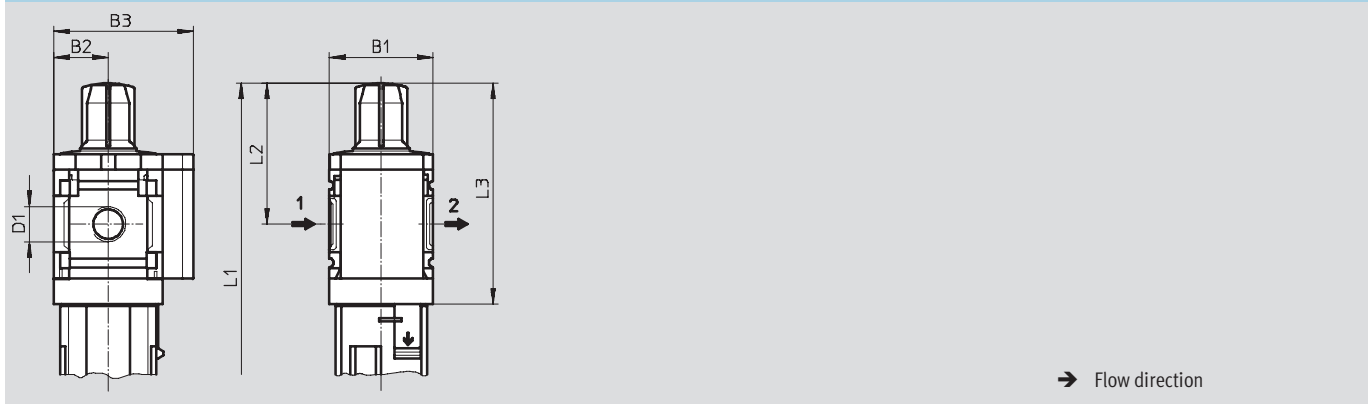
1) Dimensions are in inches, unless otherwise noted.

Fine and Micro Filters MS4N-LFM – Inch Series



Dimensional Drawings

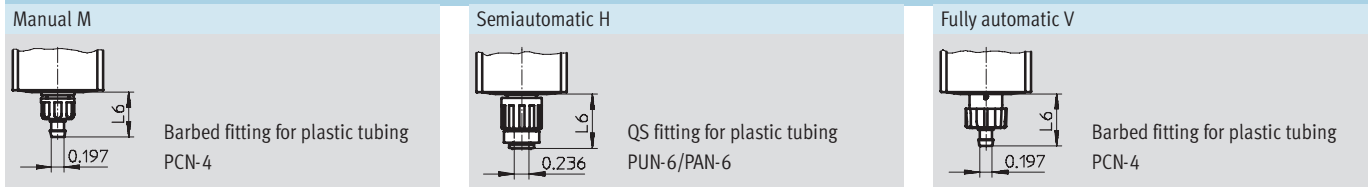
Dimensions¹⁾ – Differential Pressure Indicator Download CAD Data → www.festo.com/us/cad



Type	B1	B2	B3	D1	L1 Bowl guard		L2	L3
					Plastic	Metal		
MS4N-LFM-1/8-...-DA	1.57	0.83	2.13	1/8 NPT	6.61	7.32	2.17	3.39
MS4N-LFM-1/4-...-DA				1/4 NPT				

1) Dimensions are in inches, unless otherwise noted.

Dimensions¹⁾ – Bowl Drain Download CAD Data → www.festo.com/us/cad



Type	L6
Plastic bowl guard	
MS4N-LFM-...-M	0.70
Metal bowl	
MS4N-LFM-...-M	0.70

Type	L6
Plastic bowl guard	
MS4N-LFM-...-H	0.87
Metal bowl	
MS4N-LFM-...-H	0.87

Type	L6
Plastic bowl guard	
MS4N-LFM-...-V	0.80
Metal bowl	
MS4N-LFM-...-V	0.80

1) Dimensions are in inches, unless otherwise noted.

Fine and Micro Filters MS4N-LFM – Inch Series

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Ordering Data – Pre-configured Products

Ordering Data									
Without differential pressure indicator									
Bowl drain	Connection	Micro filter				Fine filter			
		Filtration grade 0.01 µm				Filtration grade 1 µm			
		Part No.	Type	LT	Part No.	Type	LT		
Plastic bowl guard									
Manual	1/8 NPT	536701	MS4N-LFM-1/8-ARM	1D	536699	MS4N-LFM-1/8-BRM	1D		
	1/4 NPT	531812	MS4N-LFM-1/4-ARM	1D	531810	MS4N-LFM-1/4-BRM	1D		
Metal bowl									
Fully automatic	1/8 NPT	539210	MS4N-LFM-1/8-AUV	Q	539206	MS4N-LFM-1/8-BUV	Q		
	1/4 NPT	535776	MS4N-LFM-1/4-AUV	Q	535774	MS4N-LFM-1/4-BUV	Q		

Ordering Data									
With differential pressure indicator									
Bowl drain	Connection	Micro filter				Fine filter			
		Filtration grade 0.01 µm				Filtration grade 1 µm			
		Part No.	Type	LT	Part No.	Type	LT		
Plastic bowl guard									
Manual	1/8 NPT	536829	MS4N-LFM-1/8-ARM-DA	1D	536825	MS4N-LFM-1/8-BRM-DA	1D		
	1/4 NPT	536830	MS4N-LFM-1/4-ARM-DA	1D	536826	MS4N-LFM-1/4-BRM-DA	1D		
Metal bowl									
Fully automatic	1/8 NPT	537221	MS4N-LFM-1/8-AUV-DA	Q	537217	MS4N-LFM-1/8-BUV-DA	Q		
	1/4 NPT	537222	MS4N-LFM-1/4-AUV-DA	Q	537218	MS4N-LFM-1/4-BUV-DA	Q		

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

Fine and Micro Filters MS4N-LFM – Inch Series

Ordering Data – Configurable Products



M Mandatory Data →

Part No.	Series	Size	Thread	Function	Connection size	Filtration grade	Bowl
527698	MS	4	N	LFM	1/8, 1/4, AQK, AQN, AQP	B A	R U
Order example							
527698	MS	4	N	- LFM	- AQK	- B	- U

Ordering Table

Grid dimension	[mm]	40	Conditions	Code	Enter code
M Part No.		527698			
Series		Standard		MS	MS
Size		4		4	4
Thread		NPT thread		N	N
Function		Fine and micro filter		-LFM	-LFM
Connection size		Body thread 1/8 NPT		-1/8	
		Body thread 1/4 NPT		-1/4	
		Port plate 1/8 NPT (dimensions → 272)		-AQK	
		Port plate 1/4 NPT (dimensions → 272)		-AQN	
		Port plate 3/8 NPT (dimensions → 272)		-AQP	
Filtration grade		1 µm		-B	
		0.01 µm		-A	
Bowl		Plastic bowl with plastic bowl guard		-R	
		Metal bowl		-U	

Transfer order code

527698	MS	4	N	- LFM	-	-	-	-
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Fine and Micro Filters MS4N-LFM – Inch Series



Ordering Data – Configurable Products

Mandatory Data		Options	
Bowl drain	Filter change sensor	Type of mounting	Reverse flow direction
M H V	DA	WP WPM WB WBM	Z
- V	-	- WP	- Z

Ordering Table			
Grid dimension	[mm]	40	Conditions Code Enter code
Mandatory Data	Bowl drain	Manual	-M
		Semiautomatic (P1 max. 176 psi)	-H
		Fully automatic (P1 max. 176 psi)	¹ -V
Options	Filter change sensor	Differential pressure indicator, optical	-DA
	Type of mounting	Mounting bracket (dimensions → 273)	² -WP
		Mounting bracket (dimensions → 273)	² -WPM
		Mounting bracket (dimensions → 270)	-WB
		Mounting bracket (dimensions → 270)	-WBM
Reverse flow direction	Flow direction from right to left	-Z	

- ¹ **V** Only with bowl U
- ² **WP, WPM** Only with port plate AQQ, AQN or AQP

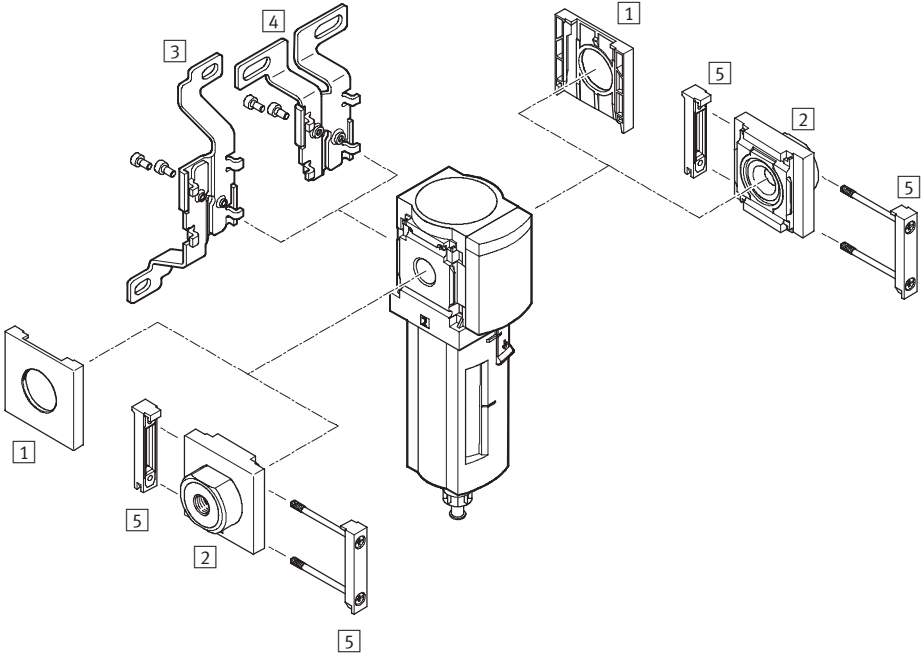
Transfer order code

- [] - [] - [] - []

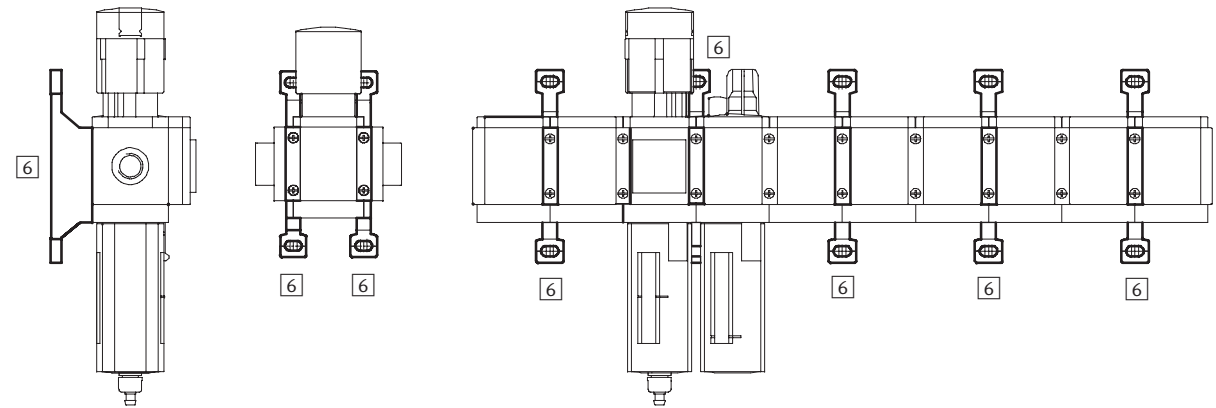
Fine and Micro Filters MS4N-LFM – Inch Series

Accessories Overview

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Fine and Micro Filters MS4N-LFM – Inch Series

Accessories Overview



Mounting Attachments and Accessories						
		Single unit		Combination unit → 2.1-49		→ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS4-END	■	-	■	-	271
2	Port plate MS4N-AQ..	-	■	-	■	272
3	Mounting bracket MS4-WB	■	■	-	-	270
4	Mounting bracket MS4-WBM	■	■	-	-	270
5	Body connector MS4-MV	-	■	■	■	272
6	Mounting bracket MS4-WP/WPB/WPM	-	■	■	■	273

Fine and Micro Filters MS4N-LFM – Inch Series

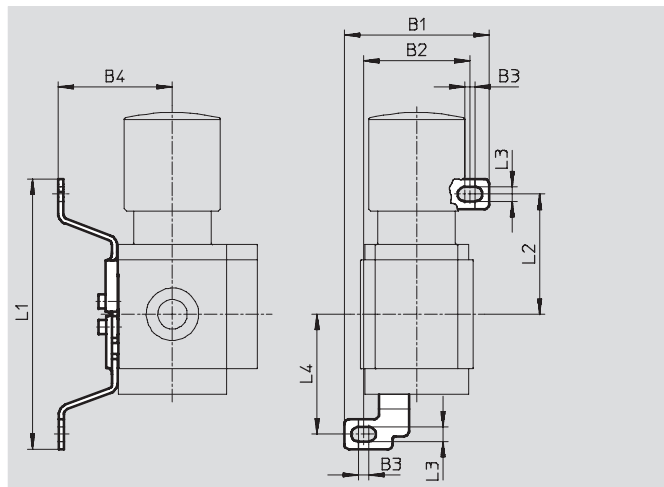


Accessories

3 Mounting bracket MS4-WB

- For wall mounting

Material:
Steel

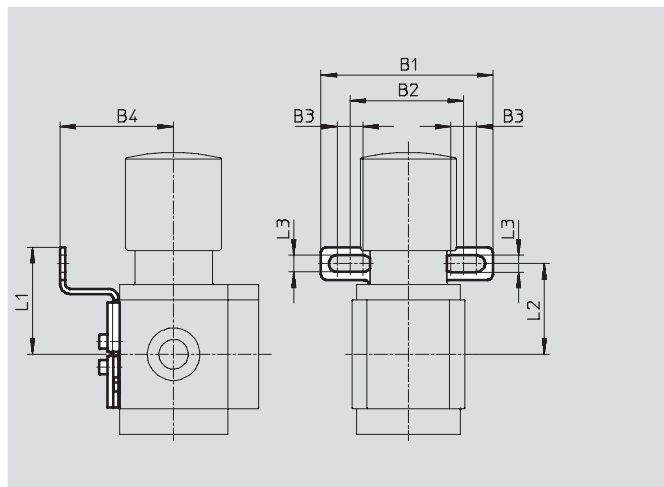


Dimensions and Ordering Data										
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.21	1.62	0.16	1.74	4.12	1.83	0.22	1.79	0.09	532185	MS4-WB

4 Mounting bracket MS4-WBM

- For wall mounting

Material:
Steel



Dimensions and Ordering Data									
B1	B2	B3	B4	L1	L2	L3	Weight [lb]	Part No.	Type
2.62	1.73	0.39	1.73	1.63	1.38	0.26	0.10	526062	MS4-WBM

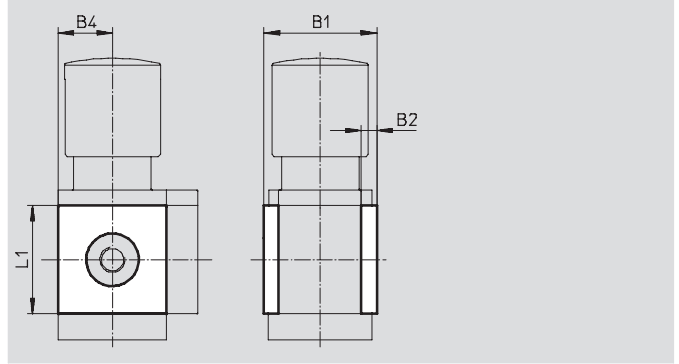
Fine and Micro Filters MS4N-LFM – Inch Series

Accessories

1 Cover cap MS4-END

- Can be used to cover the body sides of the first and last module if port plates are not used.

Material:
Reinforced polyamide
Free of copper and PTFE

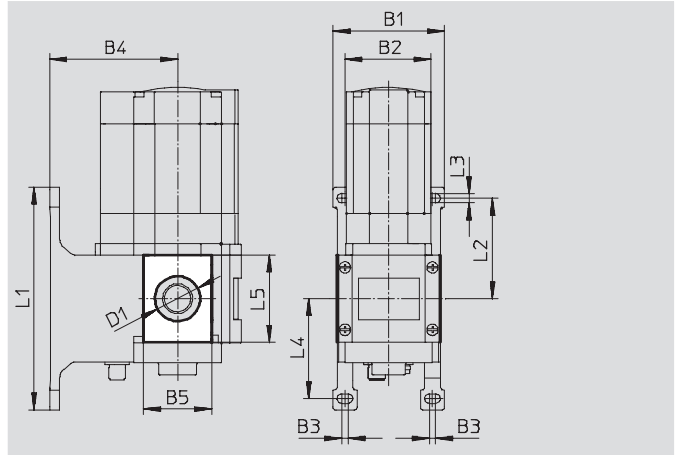


Dimensions and Ordering Data						
B1	B2	B4	L1	Part No.	Type	
1.72	0.24	0.83	1.65	538779	MS4-END	

Mounting plate MS4-AEND

- In combination with mounting bracket MS-WP or MS-WPB for mounting an individual unit with body thread on a wall

Material:
Reinforced polyamide
Conforms to RoHS
Free of copper and PTFE



Dimensions and Ordering Data															
B1	B2	B3	B4		B5	D1 ∅	L1	L2	L3	L4	L5	CRC ¹⁾	Weight [lb]	Part No.	Type
			WP	WPB											
2.17	1.58	0.16	1.73	2.60	1.20	0.80	4.17	1.83	0.22	1.84	1.65	2	0.01	542966	MS4-AEND

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.

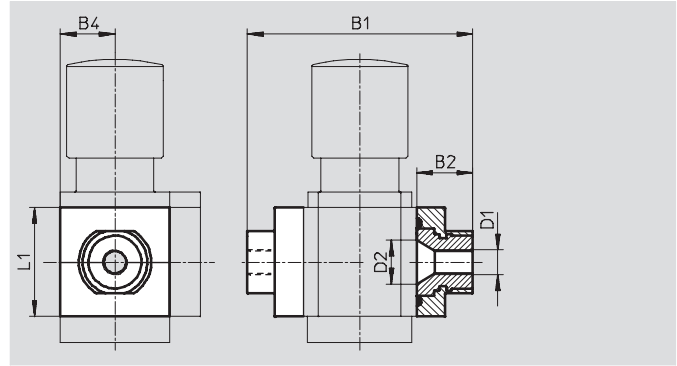
Fine and Micro Filters MS4N-LFM – Inch Series

Accessories

2 Port plate MS4N-AQ...

- Adapter for pneumatic connection

Material:
Aluminum



Dimensions and Ordering Data								
B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
3.29	0.85	0.83	1/8 NPT	0.66	1.65	0.26	526065	MS4N-AQK
			1/4 NPT				526066	MS4N-AQN
			3/8 NPT				526067	MS4N-AQP

5 Body connector MS4-MV

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data		
Weight [lb]	Part No.	Type
0.07	532798	MS4-MV

Fine and Micro Filters MS4N-LFM – Inch Series

Accessories

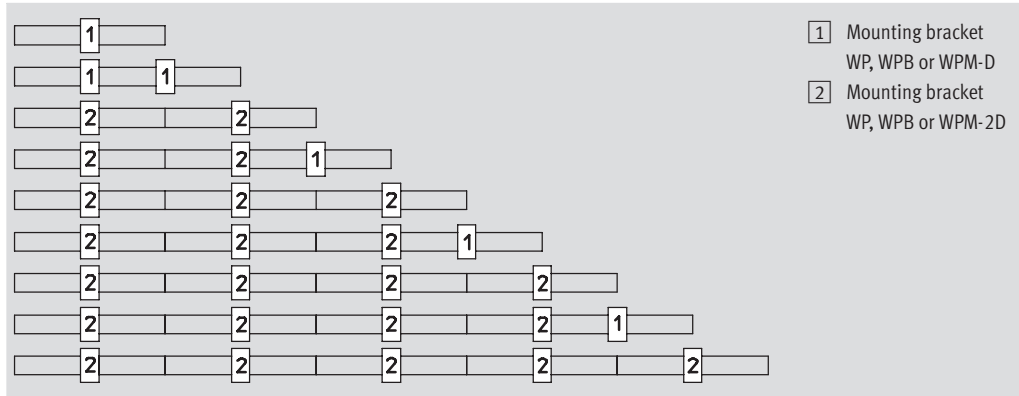
6 Mounting Bracket MS4-WP... Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 1.575 in

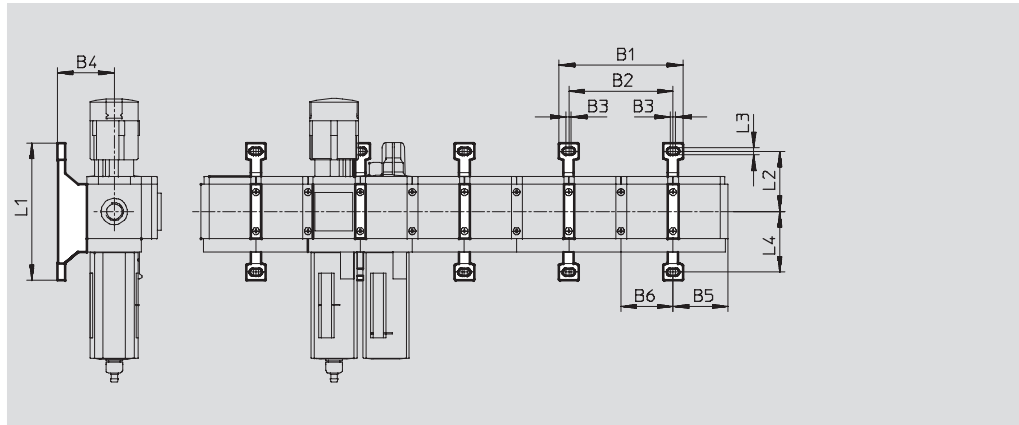
2 units: 3.15 in

Number of units

1 2 3 4 5 6 7 8 9 10



Mounting dimensions



Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	3.75	3.15	0.16	1.73	1.65	1.57	4.17	1.83	0.22	1.84
MS4-WPB				2.60						1.57
MS4-WPM-...D				1.73						3.65

Fine and Micro Filters MS4N-LFM – Inch Series

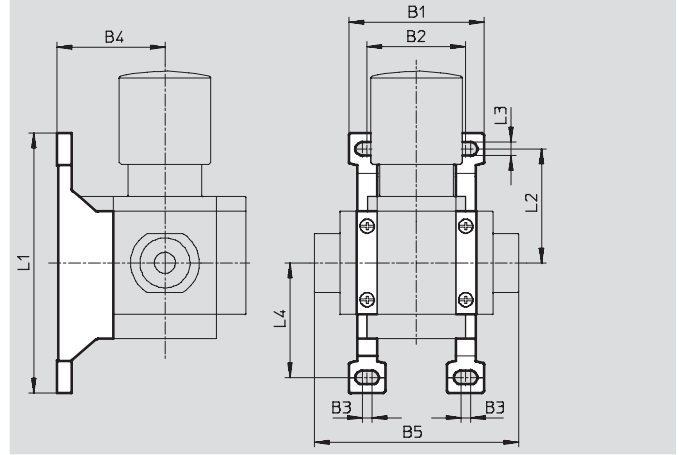


Accessories

Mounting bracket MS4-WP

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with body thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:
Die-cast aluminum

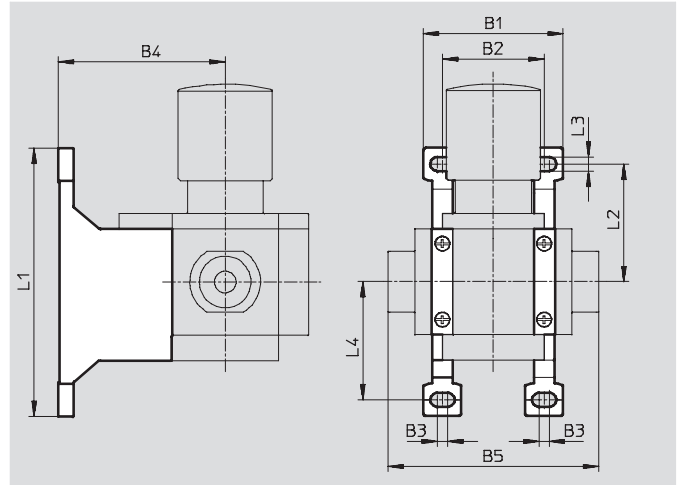


Dimensions and Ordering Data											
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	1.73	3.28	4.17	1.83	0.22	1.84	0.08	532184	MS4-WP

Mounting bracket MS4-WPB

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:
Die-cast aluminum



Dimensions and Ordering Data											
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
2.17	1.58	0.16	2.60	3.28	4.17	1.83	0.22	1.84	0.11	526063	MS4-WPB

Fine and Micro Filters MS4N-LFM – Inch Series

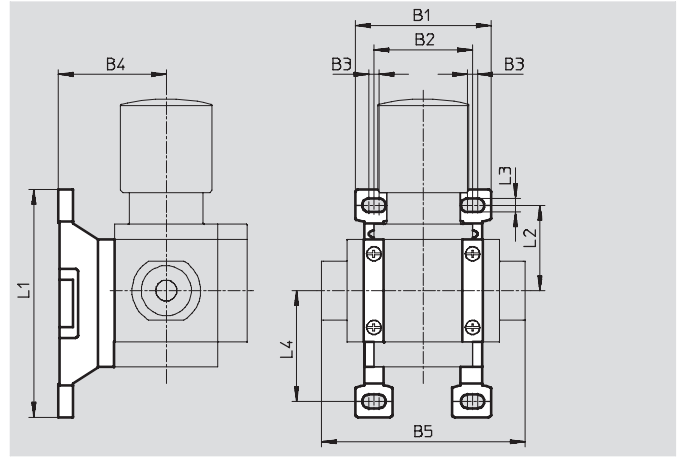
Accessories

Mounting bracket MS4-WPM

- To connect the modules for wall mounting
- In combination with a port plate MS-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:
Die-cast aluminum



Dimensions and Ordering Data												
B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [lb]	Part No.	Type
2.17	1.57	0.16	1.73	3.28	3.65	1.37	0.22	1.78	1.57	0.09	526060	MS4-WPM-D
3.75	3.15			4.86					3.15	0.11	526061	MS4-WPM-2D

Body connector MS4-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data		
Size	Part No.	Type
MS4	532800	MS4-MVM

Fine and Micro Filters MS4N-LFM – Inch Series

FESTO

Replacement Parts

Ordering Data – Wearing Parts Kits			
Size	Description	Part No.	Type
MS4	Flat seal, O-rings, screws	673641	MS4-LFM



Ordering Data – Filter Cartridges			
Size	Filtration grade [µm]	Part No.	Type
MS4	0.01	162674	MS4/D-MINI-LFM-A
	1	162677	MS4/D-MINI-LFM-B

- For spare parts go to: www.festo.com/en/spare_parts_service

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Subject to change