

Distribution Blocks MS12N-FRM – Inch Series



Distributor blocks provide additional air outlets to create separate pressure or air quality branches, or to attach pressure sensors.

- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Operating pressure: 0 ... 309 psi
- Flow rate: 882.5 ... 1,482.6 scfm

Product Range Overview								
Type	Pneumatic connections		Pressure indicator					Reverse flow
	Body thread	Port plate	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge 1/8 NPT	Adapter for pressure gauge 1/4 NPT	Pressure sensor with display	Flow direction from right to left
MS12N		AG...	VS	AG	A8	A4	AD...	Z
FRM	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	■	–	–	–	–	■

Features

- Pneumatic manifold with 4 connections
- Attachment facility for auxiliary modules
- Outlet top and bottom
- Can be used as an intermediate distributor for varying air qualities

Contents

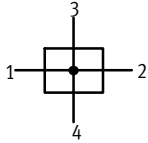
- Technical Data → 1250
- Dimensional Drawings → 1251
- Ordering Data → 1251
- Accessories → 1253

→ www.festo.com/catalog/ms12n-frm

Distribution Blocks MS12N-FRM – Inch Series

Technical Data

ISO Symbol



General Technical Data

Pneumatic connection 1, 2 ¹⁾	1 NPT	1¼ NPT	1½ NPT	2 NPT
Pneumatic connection 3	2 NPT			
Pneumatic connection 4	1 NPT			
Operating pressure [psi]	0 ... 309			

1) Dependent on port plate selected, must be ordered separately as an accessory → 1254

Standard Nominal Flow Rate q_{N^2} [scfm]

In main flow direction 1 → 2	882.5 ... 1,482.6
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2) Dependent on port plate selected, must be ordered separately as an accessory → 1254
 Measured at $p_1 = 88$ psi and $p_2 = 74$ psi, $\Delta p = 15$ psi

Operating and Environmental Conditions

Operating medium	Compressed air
Ambient temperature [°F]	14 ... 140
Temperature of medium [°F]	14 ... 140
Storage temperature [°F]	14 ... 140
Assembly position	Any
Corrosion resistance CRC ³⁾	2

3) 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]

Distribution block	6.00
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• For spare parts go to: www.festo.com/en/spare_parts_service

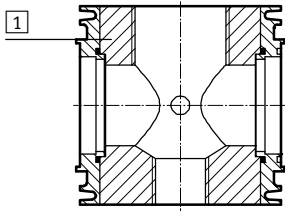
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Technical Data, Ordering Data – Pre-configured Products



Materials

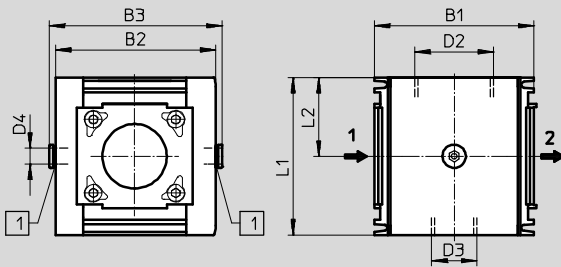
Sectional view



Distribution block		
1	Body	Die-cast aluminum
-	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Dimensions¹⁾ – Standard

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



1 1/4 NPT Female thread in body, sealed with cover plate by default

→ Flow direction

B1	B2	B3	D2	D3	D4	L1	L2
4.88	4.88	5.28	2NPT	1NPT	1/4NPT	4.80	2.40

1) Dimensions are in inches, unless otherwise noted.

Ordering Data

Connection	Part No.	Type	LT
1 NPT ... 2 NPT ²⁾	541682	MS12N-FRM-G ³⁾	Q

LT = Lead time

1D typically ships same day/next day

3D typically ships within 3 days

2) Port plate must be ordered separately as an accessory → 1254

3) Free of copper and PTFE

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Ordering Data – Configurable Products



M Mandatory Data						O Options
Part No.	Series	Size	Thread	Function	Connection size	Type of mounting
535040	MS	12	N	FRM	AQT AQU AQV AQW G	WP
Order example						
535040	MS	12	N	- FRM	- AQT	- WP

Ordering Table						
Grid dimension	[mm]	124	Conditions	Code	Enter code	
M	Part No.	535040				
	Series	Standard		MS		MS
	Size	12		12		12
	Thread	NPT thread		N		N
	Function	Distribution block		-FRM		-FRM
	Connection size	Port plate 1 NPT (dimensions → 1254)		-AQT		
		Port plate 1¼ NPT (dimensions → 1254)		-AQU		
		Port plate 1½ NPT (dimensions → 1254)		-AQV		
		Port plate 2 NPT (dimensions → 1254)		-AQW		
		Module without connecting thread, without port plate		-G		
O	Type of mounting	Mounting bracket (dimensions → 1255)	1	-WP		

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

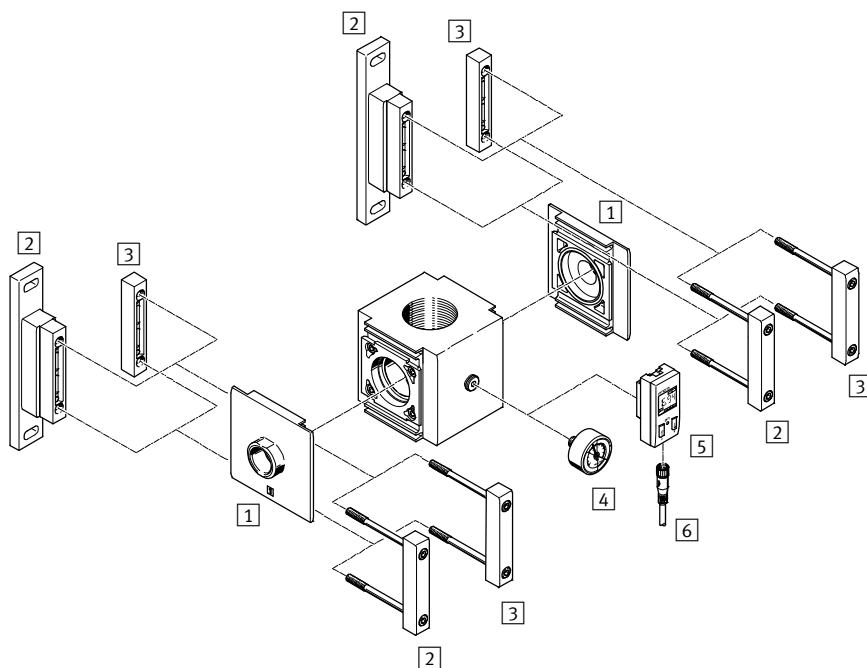
Transfer order code

535040	MS	12	N	- FRM	-		-	
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Distribution Blocks MS12N-FRM – Inch Series

Accessories Overview

Mounting Attachments and Accessories



Mounting Attachments and Accessories

		→ Page
1	Port plate MS12-AQ...	1254
2	Mounting bracket MS12-WP	1255
3	Body connector MS12-MV	1254
4	Pressure gauge MA	1257
5	Pressure sensor SDE1-...-R14/R18	1256
6	Plug socket with cable SIM-M8-3.../SIM-M8-4.../SIM-M12-3...	1257

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Accessories

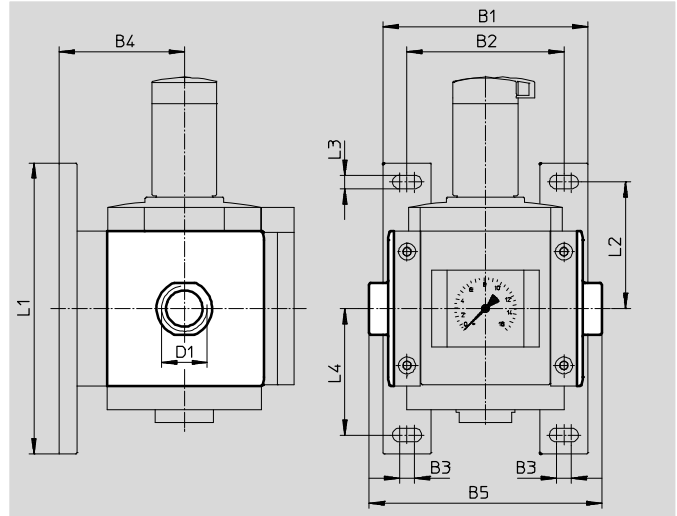
1 Port plate MS12-AQ...

- Adapter for pneumatic connection

Material:

Die-cast aluminum

Free of copper and PTFE



Dimensions and Ordering Data												
B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [lb]	Part No.	Type
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

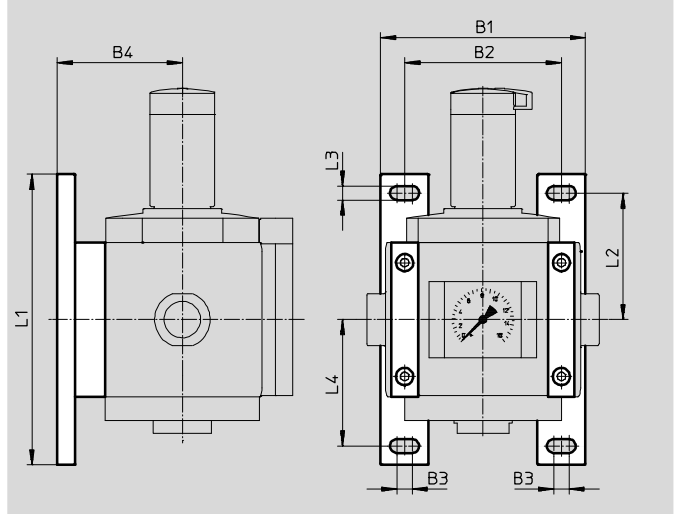
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Accessories

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

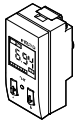


Dimensions and Ordering Data											
Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [[b]	Part No.	Type
MS12	6.38	4.88	0.47	3.90	9.06	3.94	0.43	3.94	1.40	537133	MS12-WP

Distribution Blocks MS12N-FRM – Inch Series

Accessories



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5 Ordering Data – Pressure Sensor SDE1						Technical data → www.festo.com/catalog/sde1	
Pneumatic connection	Electrical output	Electrical connection	Display	Order code	Part No.	Type	
Pressure sensor SDE1 for direct mounting on the service unit with pressure gauge connection (adapter for pneumatic connection included in scope of delivery), pressure measuring range 0 ... 147 psi, relative pressure measurement							
	Male thread R1/8	1 switch output PNP	M8x1, 3-pin	LCD	–	192026	SDE1-D10-G2-R18-C-P1-M8
			M8x1, 3-pin	Illuminated LCD	–	529970	SDE1-D10-G2-R18-L-P1-M8
			M12x1, 3-pin	Illuminated LCD	–	534064	SDE1-D10-G2-R18-L-P1-M12
		2 switch outputs PNP	M8x1, 4-pin	LCD	–	192027	SDE1-D10-G2-R18-C-P2-M8
			M8x1, 4-pin	Illuminated LCD	–	529971	SDE1-D10-G2-R18-L-P2-M8
			1 switch output PNP and 0 ... 10 V analog	M8x1, 4-pin	LCD	–	529958
	M8x1, 4-pin	Illuminated LCD		–	529972	SDE1-D10-G2-R18-L-PU-M8	
	Male thread R1/4	1 switch output PNP	M8x1, 3-pin	LCD	–	192028	SDE1-D10-G2-R14-C-P1-M8
			M8x1, 3-pin	Illuminated LCD	–	529967	SDE1-D10-G2-R14-L-P1-M8
			M12x1, 3-pin	Illuminated LCD	–	534157	SDE1-D10-G2-R14-L-P1-M12
		2 switch outputs PNP	M8x1, 4-pin	LCD	–	192029	SDE1-D10-G2-R14-C-P2-M8
			M8x1, 4-pin	Illuminated LCD	–	529968	SDE1-D10-G2-R14-L-P2-M8
			1 switch output PNP and 0 ... 10 V analog	M8x1, 4-pin	LCD	–	529957
	M8x1, 4-pin	Illuminated LCD		–	529969	SDE1-D10-G2-R14-L-PU-M8	


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Accessories

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6 Ordering Data – Plug Socket with Cable SIM-M8				Technical data → www.festo.com/catalog/sim-m8	
	Electrical connection	Cable length [ft]		Part No.	Type
	M8x1, 3-pin	8.2		159420	SIM-M8-3GD-2,5-PU
		16.4		159421	SIM-M8-3GD-5-PU
		32.8		192964	SIM-M8-3GD-10-PU
	M8x1, 4-pin	8.2		158960	SIM-M8-4GD-2,5-PU
		16.4		158961	SIM-M8-4GD-5-PU
	M8x1, 3-pin	8.2		159422	SIM-M8-3WD-2,5-PU
		16.4		159423	SIM-M8-3WD-5-PU
		32.8		192965	SIM-M8-3WD-10-PU
	M8x1, 4-pin	8.2		158962	SIM-M8-4WD-2,5-PU
16.4			158963	SIM-M8-4WD-5-PU	

Ordering Data – Plug Socket with Cable SIM-M12				Technical data → www.festo.com/catalog/sim-m12	
	Electrical connection	Cable length [ft]		Part No.	Type
	M12x1, 3-pin	8.2		159428	SIM-M12-3GD-2,5-PU
		16.4		159429	SIM-M12-3GD-5-PU
	M12x1, 3-pin	8.2		159430	SIM-M12-3WD-2,5-PU
		16.4		159431	SIM-M12-3WD-5-PU

4 Ordering Data – Pressure Gauge MA					Technical data → www.festo.com/catalog/ma	
	Nominal size	Pneumatic connection	Indicating range		Part No.	Type
			[bar]	[psi]		
	Pressure gauge MA, DIN EN 837-1					
	1.57	R $\frac{1}{4}$	0 ... 16	0 ... 232	187080	MA-40-16-R $\frac{1}{4}$ -EN
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.97	R $\frac{1}{4}$	–	0 ... 232	526790	MA-50-232-R $\frac{1}{4}$ -PSI-E-RG

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1 Festo Inc.
5300 Explorer Drive
Mississauga, ON L4W 5G4
Canada

Festo Customer Interaction Center
Tel: 1 877 463 3786
Fax: 1 877 393 3786
Email: customer.service.ca@festo.com



2 Festo Pneumatic
Av. Ceylán 3,
Col. Tequesquináhuac
54020 Tlalneantla,
Estado de México

Multinational Contact Center
01 800 337 8669
ventas.mexico@festo.com



3 Festo Corporation
1377 Motor Parkway
Suite 310
Islandia, NY 11749

Festo Customer Interaction Center
1 800 993 3786
1 800 963 3786
customer.service.us@festo.com



4 Regional Service Center
7777 Columbia Road
Mason, OH 45040

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