

Membrane Air Dryers MS6N-LDM1 – Inch Series



Membrane air dryers remove water vapor from the compressed air and lower the dew point preventing moisture from forming downstream. Pre-filtration with a grade of 0.01 micron is required.

- Pneumatic connection: 1/4 NPT, 3/8 NPT, 1/2 NPT, 3/4 NPT
- Pressure dew point reduction: 20 K
- Supply pressure: 44 ... 184 psi
- Flow rate: 7.1 ... 14.1 scfm

Product Range Overview						
Type	Flow rate [scfm]	Pneumatic connections		Bowl guard		Reverse flow
		Body thread	Port plate	Plastic bowl guard	Metal bowl	Flow direction from right to left
MS6N			AG...	R	U	Z
LDM1	7.1 ... 14.1	1/4 NPT, 3/8 NPT, 1/2 NPT	1/4 NPT, 3/8 NPT, 1/2 NPT, 3/4 NPT	-	■	■

Features

- Optimum final dryer with excellent operational reliability
- Suitable for use as an individual unit or for integration in existing service unit combinations
- Flow rate-dependent dew point reduction
- Wear-free function requiring no external energy
- 15% purge air flow rate
- Optional purge ring for ducting of purging air

Typical areas of application:

- Drying, cleaning of precision parts
- Measuring technology
- Rinsing of precision glass scales
- Painting systems
- Paper and packaging machines

Contents

- Technical Data → 880
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- Ordering Data → 883
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→ www.festo.com/catalog/ms6n-ldm

Membrane Air Dryers MS6N-LDM1 – Inch Series

Technical Data

ISO Symbol



Note

Prefiltration of the compressed air using a micro filter MS-LFM-A, filtration grade 0.01 μm (residual particles < 0.1 μm, residual oil content < 0.1 mg/m³) is vital for flawless functioning of the unit.

General Technical Data			
Pneumatic connection 1, 2	1/4 NPT	3/8 NPT	1/2 NPT
Pressure dew point reduction [°F]	68		
Supply pressure [psi]	44 ... 184		

Standard Flow Rate q _n ¹⁾ [scfm]			
	Cartridge P20	Cartridge P30	Cartridge P40
Input q _n In	8.3	12.5	16.6
Output q _n Out	7.1	10.6	14.1
Purge air q _n Purge	1.2	1.9	2.5

1) Measured at p₁ = 102 psi, θ_{pd In} = 77 °F, θ_{pd Out} = 41 °F ± 3 °F (θ_{pA Out} = -7 °F ± 2 °F), θ_{amb} = 77 °F

Operating and Environmental Conditions	
Operating medium	Compressed air, air quality class 1.7.2 to DIN ISO 8573-1
Ambient temperature [°F]	36 ... 122
Temperature of medium [°F]	36 ... 122
Storage temperature [°F]	-4 ... 140
Assembly position	Vertical ±5°
Corrosion resistance class CRC ²⁾	2

2) 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]			
	Cartridge P20	Cartridge P30	Cartridge P40
Membrane air dryer	2.10	2.40	2.60

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

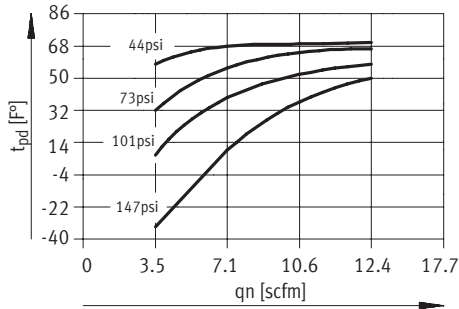
Membrane Air Dryers MS6N-LDM1 – Inch Series

Technical Data

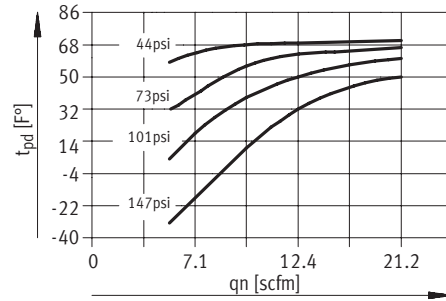


Pressure Dew Point t_{pd} (Output) as a Function of the Standard Flow Rate at Output q_n

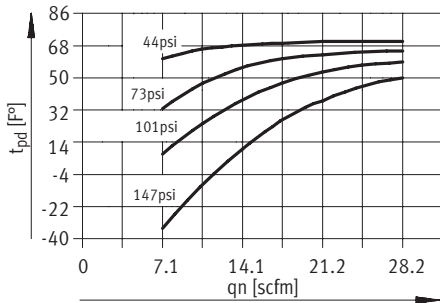
MS6N-LDM1-...-P20



MS6N-LDM1-...-P30

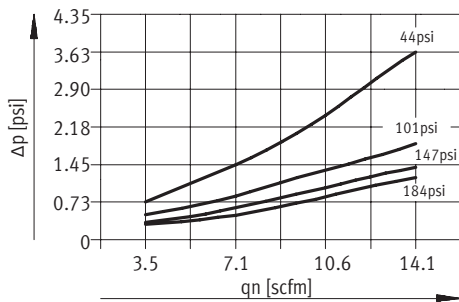


MS6N-LDM1-...-P40

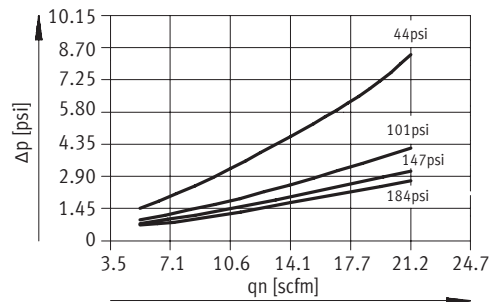


Differential Pressure Δp as a Function of the Standard Flow Rate at Output q_n

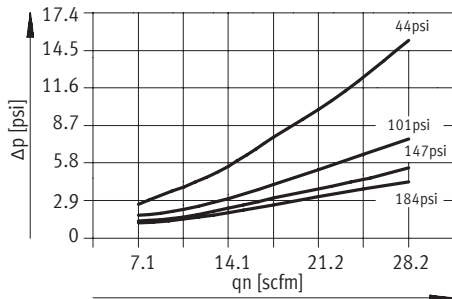
MS6N-LDM1-...-P20



MS6N-LDM1-...-P30



MS6N-LDM1-...-P40

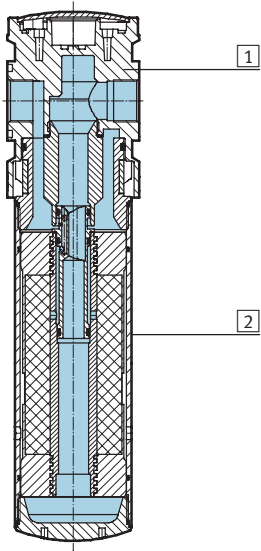


Membrane Air Dryers MS6N-LDM1 – Inch Series

Technical Data

Materials

Sectional view



Membrane air dryer		
1	Housing	Die-cast aluminum
2	Bowl	Wrought aluminum alloy
-	Seals	Nitrile rubber

Membrane Air Dryers MS6N-LDM1 – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

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

1 Push-in fitting QS-1/4-10 (included in scope of delivery), for tubing with outside diameter of 0.39 in and min. inside diameter of 0.28 in.

→ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS6N-LDM1-1/4-P20	2.44	1.22	2.99	1/4 NPT	3.15	13.58	1.65	3.43	1.34	1.57
MS6N-LDM1-1/4-P30						16.34				
MS6N-LDM1-1/4-P40						18.70				
MS6N-LDM1-3/8-P20	2.44	1.22	2.99	3/8 NPT	3.15	13.58	1.65	3.43	1.34	1.57
MS6N-LDM1-3/8-P30						16.34				
MS6N-LDM1-3/8-P40						18.70				
MS6N-LDM1-1/2-P20	2.44	1.22	2.99	1/2 NPT	3.15	13.58	1.65	3.43	1.34	1.57
MS6N-LDM1-1/2-P30						16.34				
MS6N-LDM1-1/2-P40						18.70				

1) Dimensions are in inches, unless otherwise noted.

Ordering Data				
Flow cartridge	Connection	Part No.	Type	LT
P20	1/4 NPT	543652	MS6N-LDM1-1/4-P20	Q
	3/8 NPT	543654	MS6N-LDM1-3/8-P20	Q
	1/2 NPT	543656	MS6N-LDM1-1/2-P20	Q
P40	1/4 NPT	543658	MS6N-LDM1-1/4-P40	Q
	3/8 NPT	543660	MS6N-LDM1-3/8-P40	Q
	1/2 NPT	543662	MS6N-LDM1-1/2-P40	Q

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

Membrane Air Dryers MS6N-LDM1 – Inch Series



Ordering Data – Configurable Products

M Mandatory Data						O Options			
Part No.	Series	Size	Thread	Function	Connection size	Flow cartridge	Purging air	Type of mounting	Reverse flow direction
543639	MS	6	N	LDM1	1/4, 3/8, 1/2, AQN, AQP, AQR, AQS	P20 P30 P40	PAC	WP WPM WB	Z
Order example									
543639	MS	6	N	-LDM1	-AQP	-P20	-	-WP	-

Ordering Table		Grid dimension [mm]	62	Conditions	Code	Enter code
M	Part No.	543639				
	Series	Standard			MS	MS
	Size	6			6	6
	Thread	NPT thread			N	N
	Function	Membrane dryer			-LDM1	-LDM1
	Connection size	Body thread 1/4 NPT			-1/4	
		Body thread 3/8 NPT			-3/8	
		Body thread 1/2 NPT			-1/2	
		Port plate 1/4 NPT (dimensions → 889)			-AQN	
		Port plate 3/8 NPT (dimensions → 889)			-AQP	
		Port plate 1/2 NPT (dimensions → 889)			-AQR	
	Flow cartridge	7.1 scfm			-P20	
		10.6 scfm			-P30	
		14.1 scfm			-P40	
O	Purging air	Ducted purging air			-PAC	
	Type of mounting	Mounting bracket (dimensions → 890)		1	-WP	
		Mounting bracket (dimensions → 890)		1	-WPM	
		Mounting bracket (dimensions → 887)			-WB	
	Reverse flow direction	Flow direction from right to left			-Z	

1 WP, WPM Only with port plate AQN, AQP, AQR or AQS

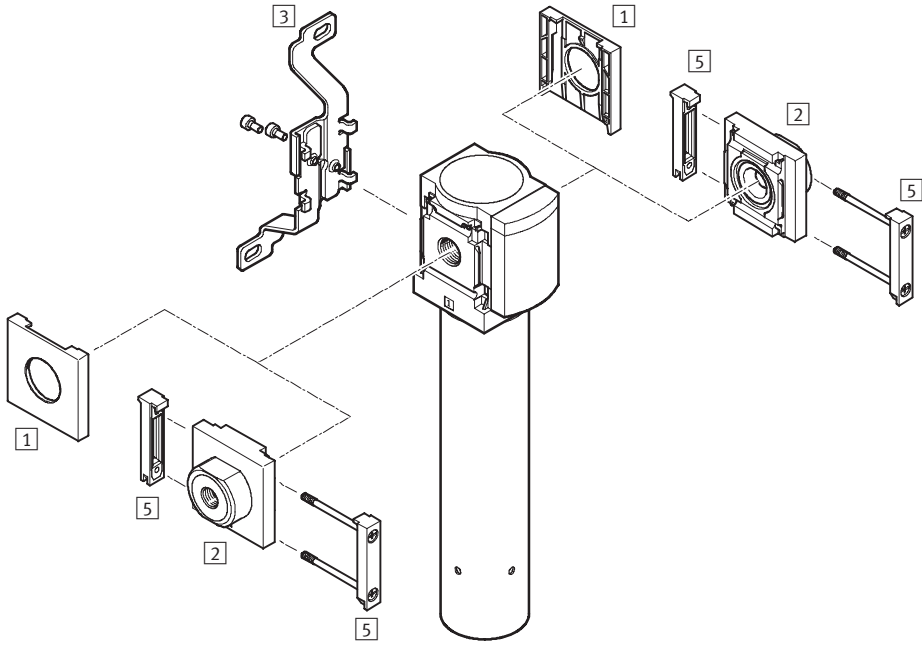
Transfer order code

543639	MS	6	N	-	LDM1	-		-		-		-	
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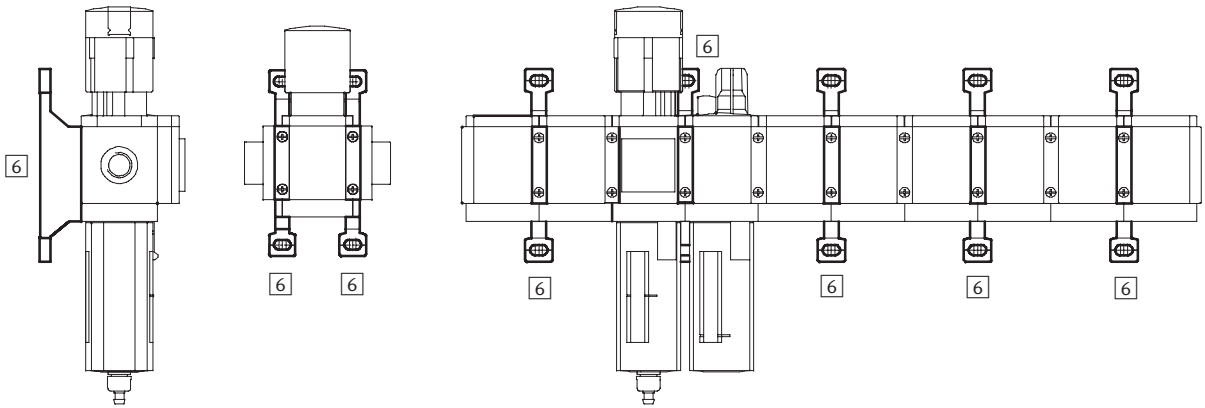
Membrane Air Dryers MS6N-LDM1 – Inch Series

Accessories Overview

Mounting Attachments and Accessories



Single unit and combination unit mounting brackets.



Membrane Air Dryers MS6N-LDM1 – Inch Series

Accessories Overview



Mounting Attachments and Accessories						
		Single unit		Combination unit → 3.1-49		→ Page
		without port plate	with port plate	without port plate	with port plate	
1	Cover cap MS6-END	■	-	■	-	888
2	Port plate MS6N-AQ...	-	■	-	■	889
3	Mounting bracket MS6-WB	■	■	-	-	887
5	Body connector MS6-MV	-	■	■	■	889
6	Mounting bracket MS6-WP/WPB/WPM	-	■	■	■	890

Membrane Air Dryers MS6N-LDM1 – Inch Series



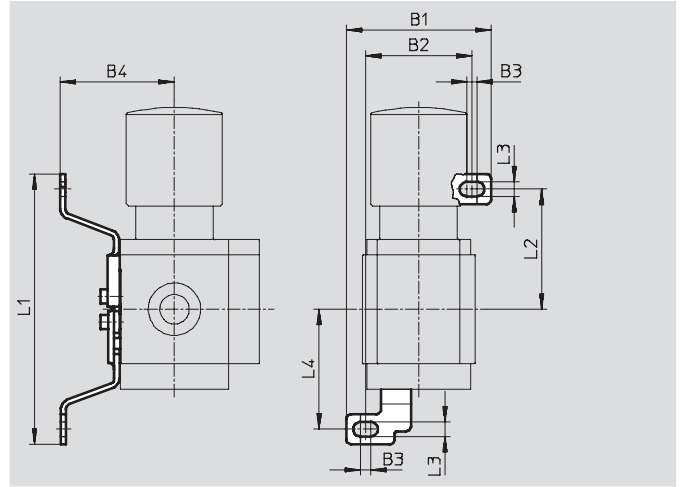
Accessories

3 Mounting bracket MS6-WB

- For wall mounting

Material:

Steel



Dimensions and Ordering Data										
B1	B2	B3	B4	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.13	2.44	0.18	2.17	6.20	2.80	0.26	2.80	0.24	532196	MS6-WB

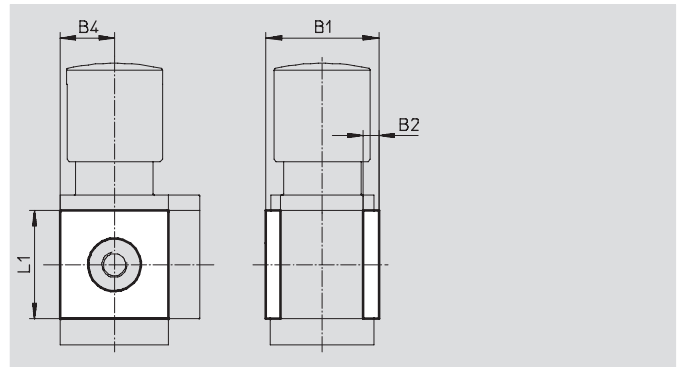
Membrane Air Dryers MS6N-LDM1 – Inch Series

Accessories

1 Cover cap MS6-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



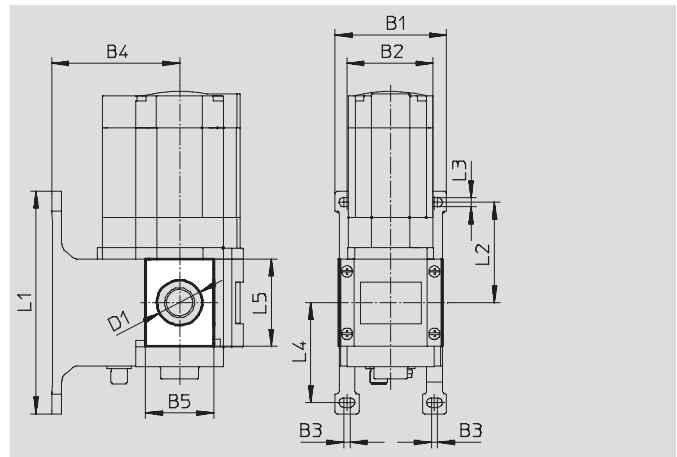
Dimensions and Ordering Data						
B1	B2	B4	L1	Part No.	Type	
2.64	0.31	1.22	2.44	538780	MS6-END	

Mounting plate MS6-AEND

(order code: WBE; scope of delivery includes mounting bracket MS6-WPB)

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

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											
3.11	2.44	0.18	2.13	3.56	1.91	1.26	6.22	2.80	0.26	2.80	2.44	2	0.03	535408	MS6-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.

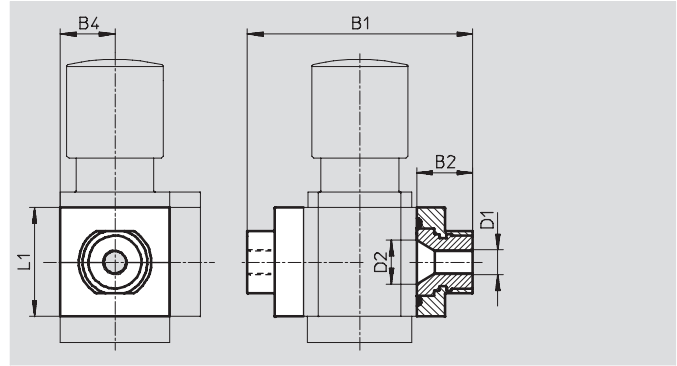
Membrane Air Dryers MS6N-LDM1 – Inch Series

Accessories

2 Port plate MS6N-AQ...

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection 3/4 NPT

Material:
Aluminum



Dimensions and Ordering Data								
B1	B2	B4	D1	D2	L1	Weight [lb]	Part No.	Type
4.53	1.04	1.22	1/4 NPT	0.94	2.44	0.60	526076	MS6N-AQN
			3/8 NPT				526077	MS6N-AQP
			1/2 NPT				526078	MS6N-AQR
			3/4 NPT				526079	MS6N-AQS

5 Body connector MS...-MV

- For connecting modules

Material:
Stainless steel/polyacetate



Ordering Data		
Weight [lb]	Part No.	Type
0.11	532799	MS6-MV

Membrane Air Dryers MS6N-LDM1 – Inch Series

Accessories



6 Mounting Bracket MS6-WP...

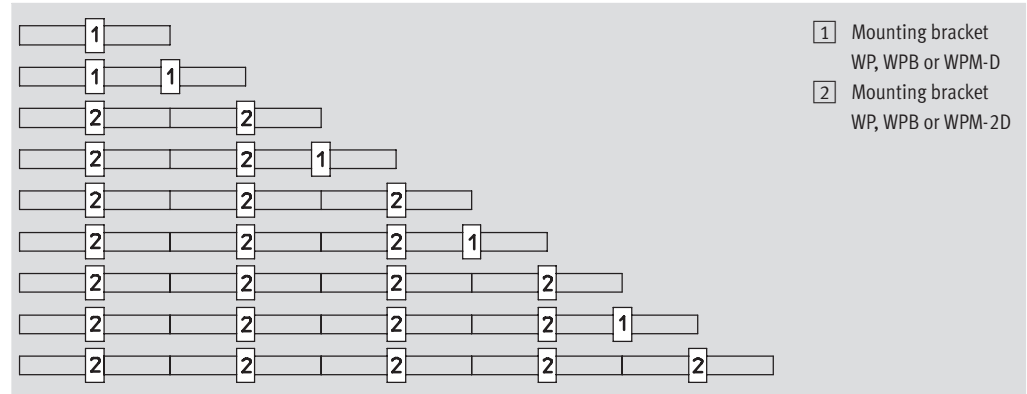
Suggested placement of wall mounting brackets when mounting air preparation combinations

1 unit: 2.44 in with WP, WPB
2.715 in with WPM-D

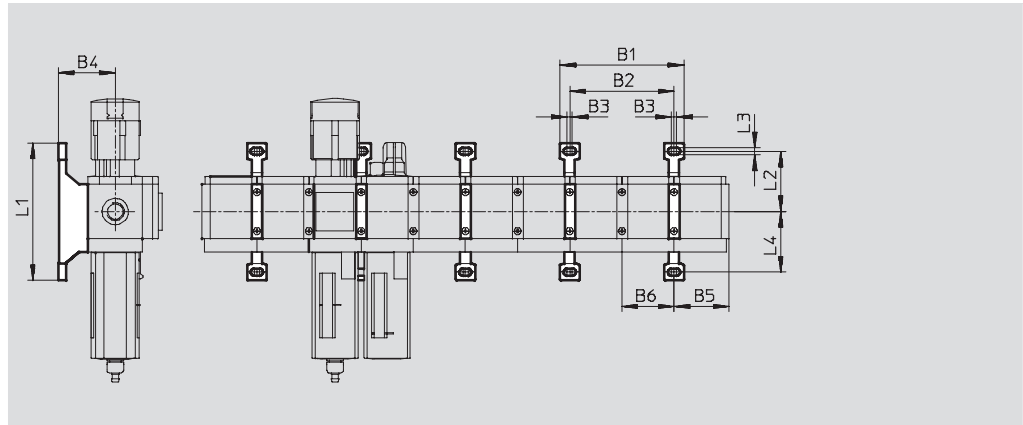
2 units: 4.88 in with WP, WPB
5.43 in with WPM-2D

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
MS6-WP	5.55	4.88	0.18	2.13	2.54	2.44	6.22	2.80	0.26	2.80
MS6-WPB				3.56						1.63
MS6-WPM-...D	6.61	5.43	0.69	2.13	2.58	2.72	3.88	1.63		1.63

Membrane Air Dryers MS6N-LDM1 – Inch Series

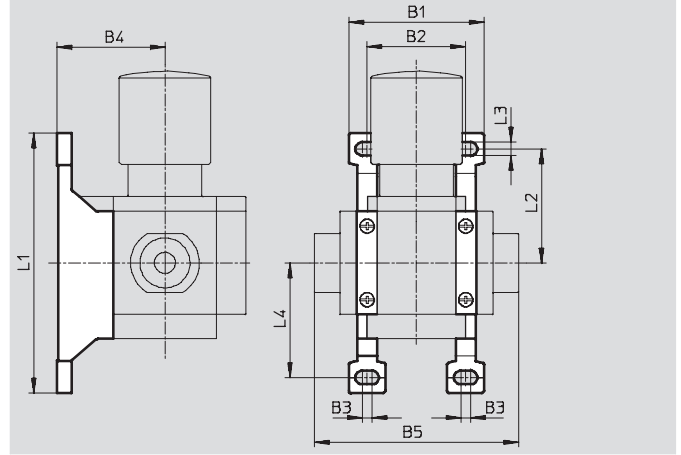


Accessories

Mounting bracket MS6-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

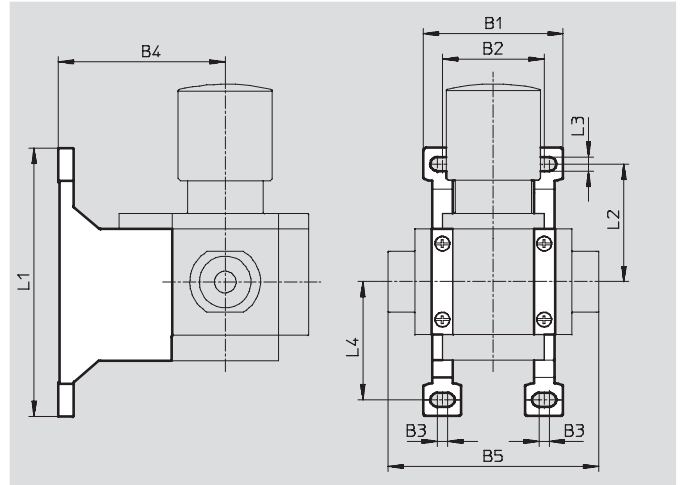


Dimensions and Ordering Data											
B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [lb]	Part No.	Type
3.11	2.44	0.18	2.13	4.53	6.22	2.80	0.26	2.80	0.15	532195	MS6-WP

Mounting bracket MS6-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
3.11	2.44	0.18	3.56	4.53	6.22	2.80	0.26	2.80	0.23	526074	MS6-WPB

Membrane Air Dryers MS6N-LDM1 – Inch Series

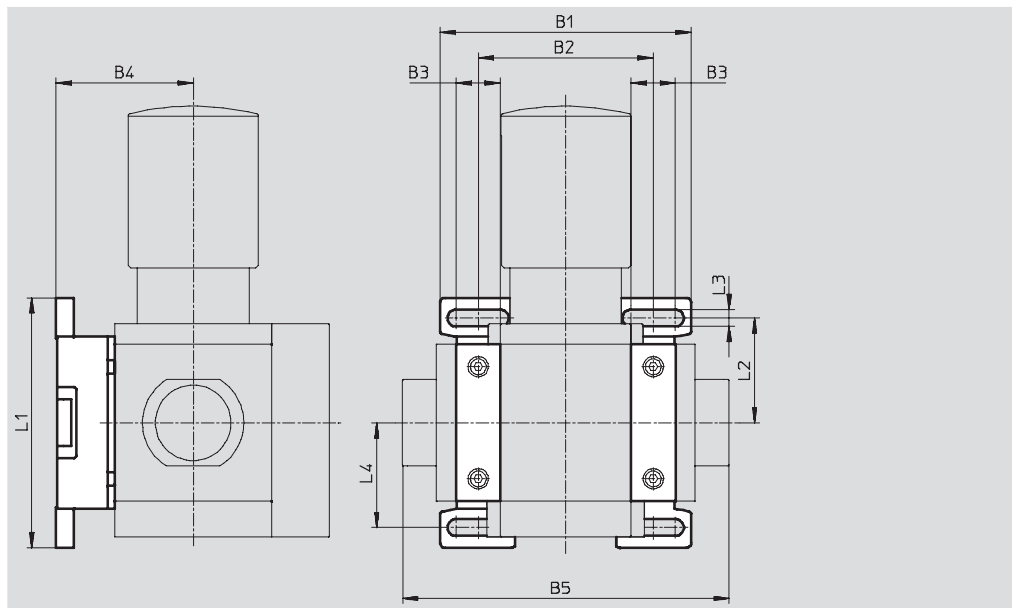
Accessories

Mounting bracket MS6-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
3.90	2.72	0.69	2.13	5.08	3.88	1.63	0.24	1.63	2.44	0.29	526073	MS6-WPM-D
6.61	5.43			7.80					4.88			

Body connector MS6-MVM

- For installation of modules with regulating knob pointing downwards

Material:
Die-cast aluminum



Ordering Data		
Size	Part No.	Type
MS6	532801	MS6-MVM

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