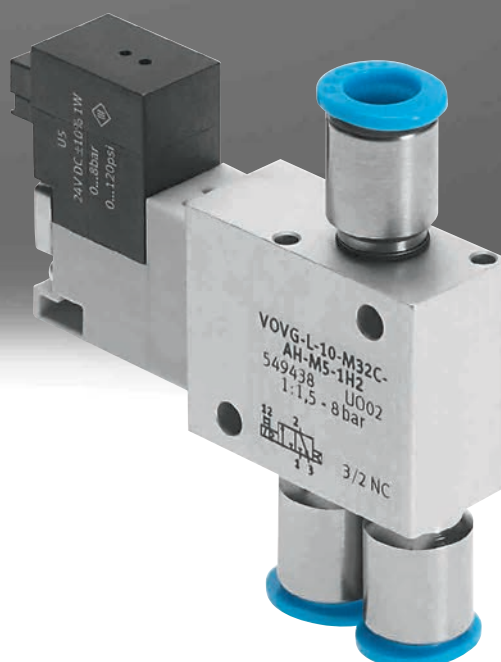
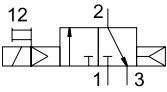
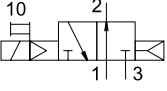
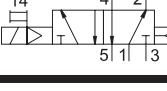


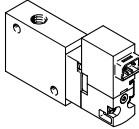
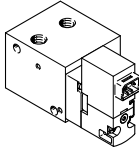
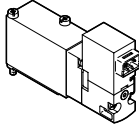
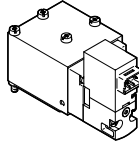
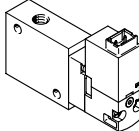
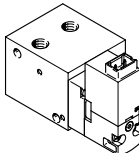
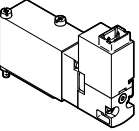
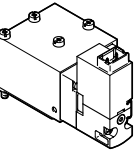
Valve series VOVG

FESTO



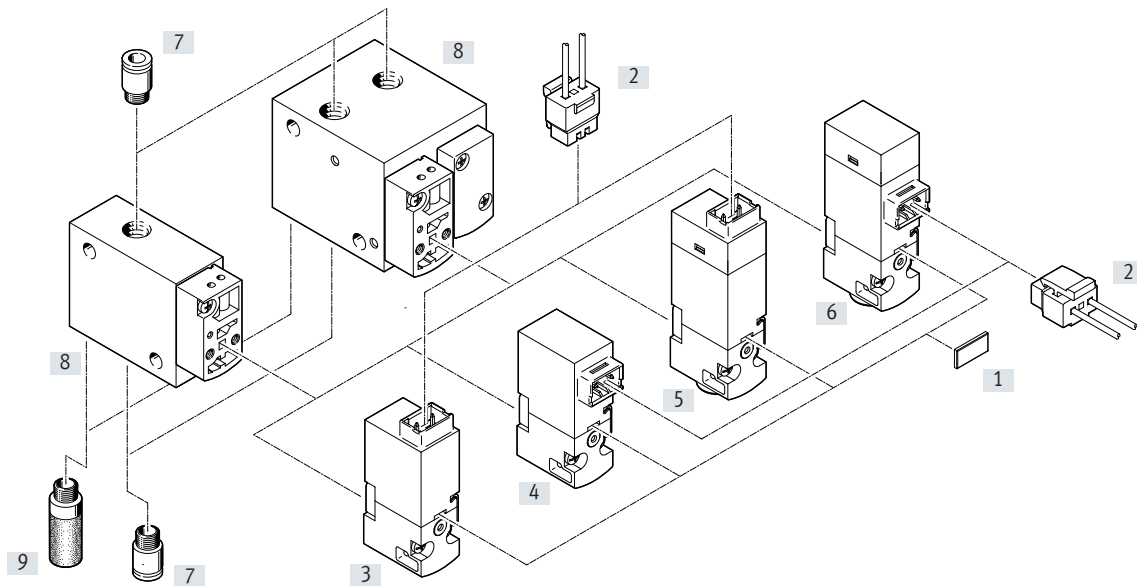
Product range overview

Function	Symbol	Design	Normal position		Voltage [V DC]			→ Page/ Internet
			Open	Closed	5	12	24	
3/2-way valve		In-line valve	■	■	■	■	■	8
		Semi in-line valve	■	■	■	■	■	
		Sub-base valve	■	■	■	■	■	
5/2-way valve		In-line valve	–	–	■	■	■	
		Semi in-line valve	–	–	■	■	■	
		Sub-base valve	–	–	■	■	■	

Mounting options					
Voltage		5 V DC	12 V DC	24 V DC	
				Without switching status indication	With switching status indication
Horizontal plug connection (H2)					
 	 	Direct mounting			
		Manifold assembly			
Vertical plug connection (H3)					
 	 	Direct mounting			
		Manifold assembly			

Peripherals overview

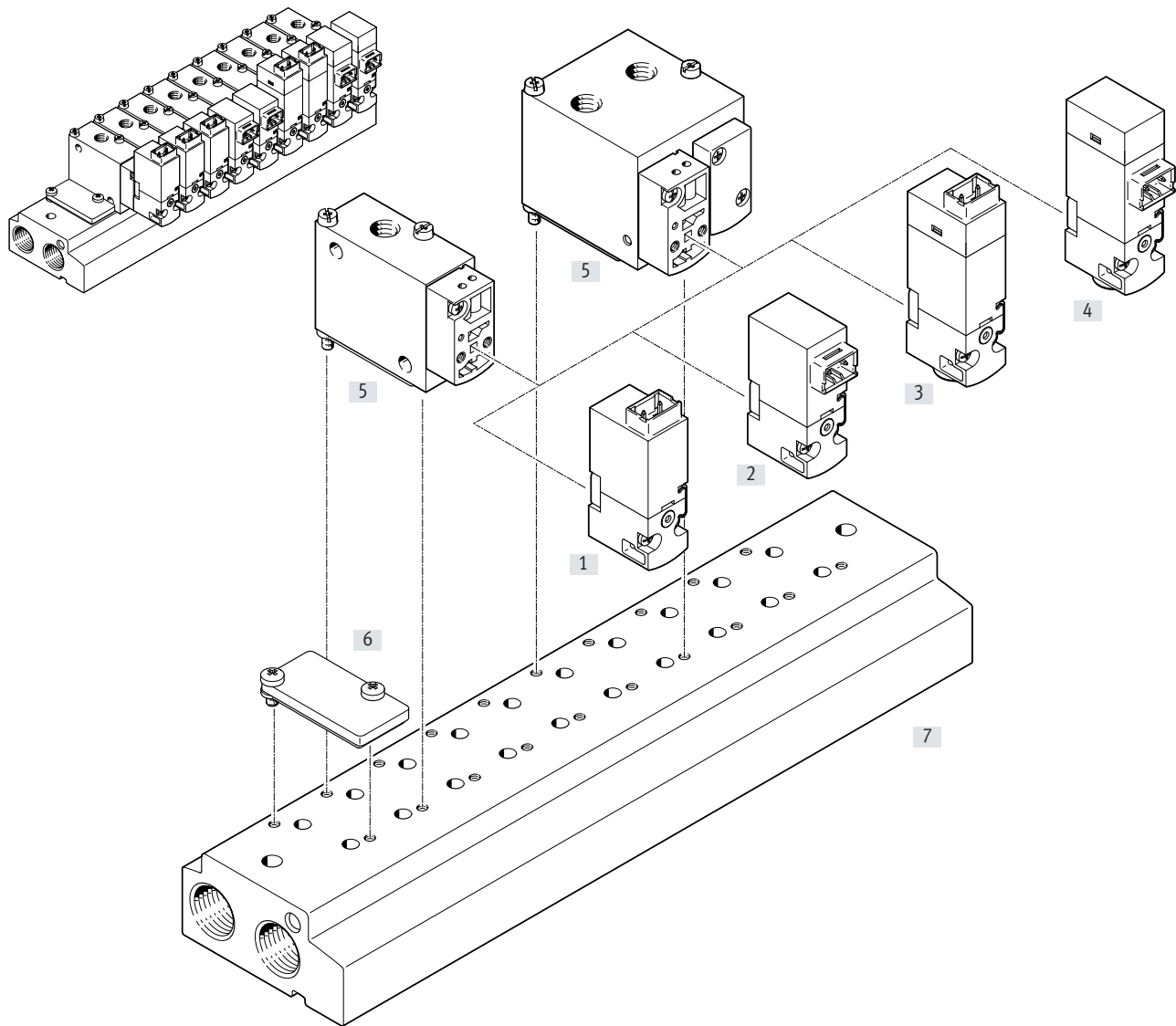
In-line valve



Individual components		Type	Brief description	→ Page/ Internet
[1]	Inscription label	MH-BZ-80X	For identifying the solenoid valves	19
[2]	Plug socket with cable	NEBV	For solenoid coils	19
[3]	Pilot valve	–	With vertical plug connection	8
[4]	Pilot valve	–	With horizontal plug connection	
[5]	Pilot valve	–	With vertical plug connection and LED	
[6]	Pilot valve	–	With horizontal plug connection and LED	
[7]	Push-in fitting	QS/QSM	For standard O.D. tubing	18
[8]	Basic valves	–	Modules of the solenoid valves VOVG	8
[9]	Silencer	U	For mounting in exhaust ports	18

System overview

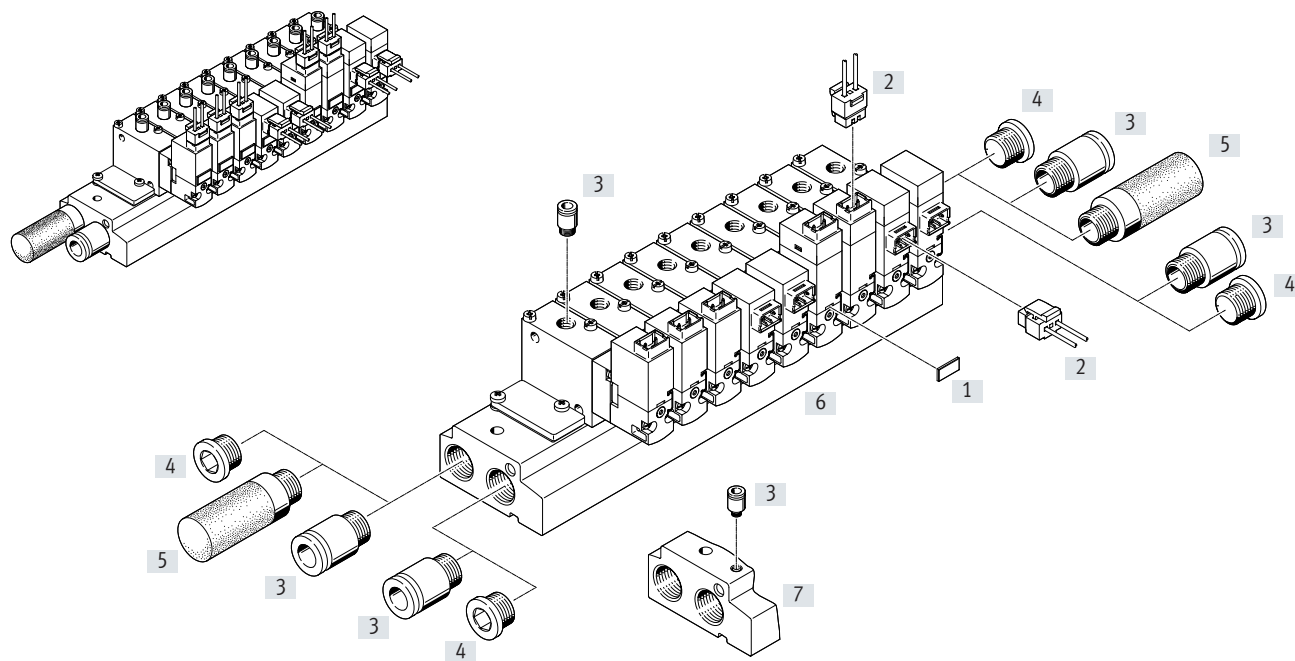
Manifold assembly – Semi in-line valves



Individual components		Type	Brief description	→ Page/ Internet
[1]	Pilot valve	–	With vertical plug connection	8
[2]	Pilot valve	–	With horizontal plug connection	
[3]	Pilot valve with LED	–	With vertical plug connection and LED	
[4]	Pilot valve with LED	–	With horizontal plug connection and LED	
[5]	Basic valves	–	Modules of the solenoid valves VOVG	
[6]	Cover plate	VABB-C7-12-W	For vacant positions	18
[7]	Manifold rail	VABM-C7-...	For semi in-line valves	16

Peripherals overview

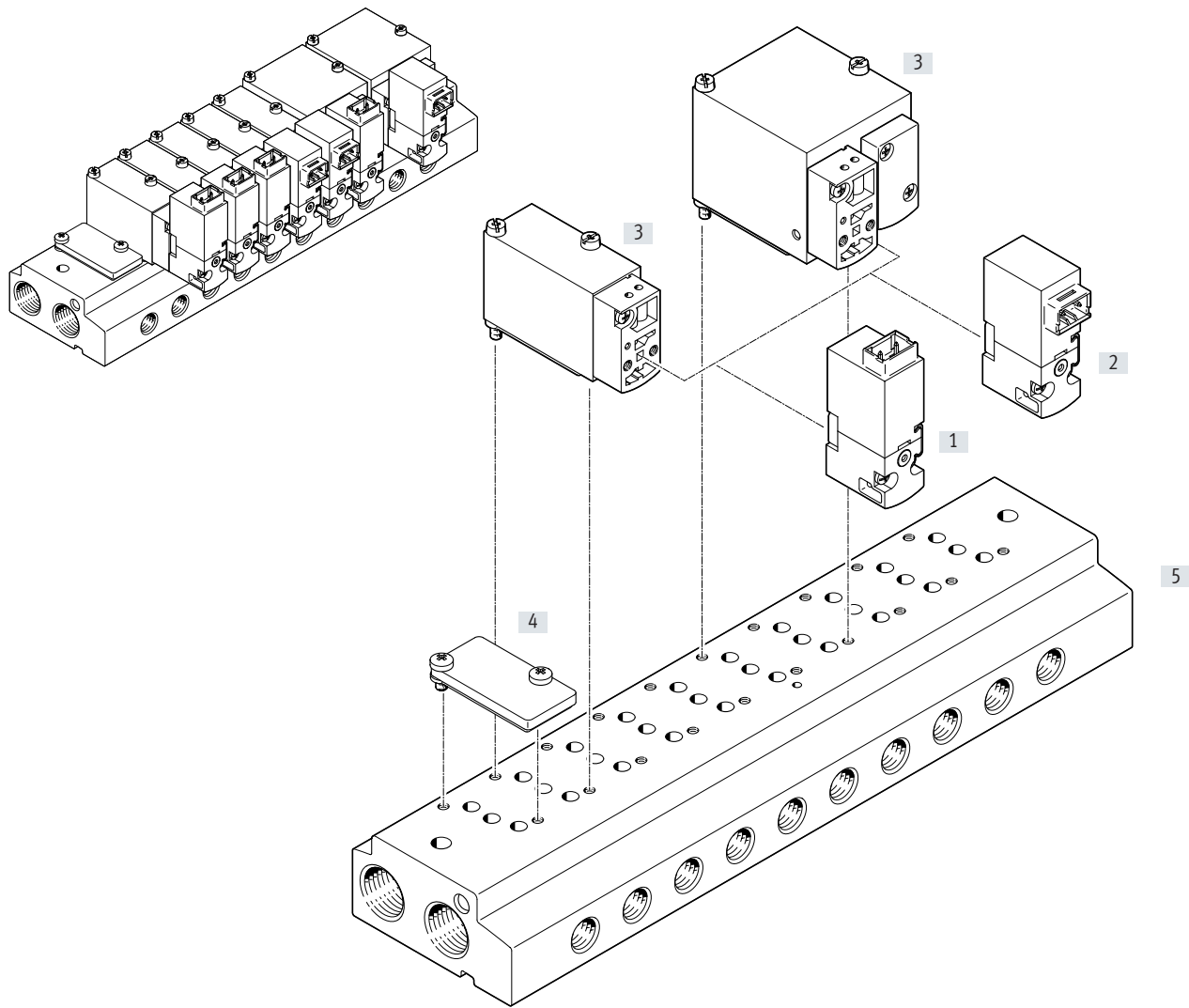
Manifold assembly – Semi in-line valves with accessories



Individual components		Type	Brief description	→ Page/ Internet
[1]	Inscription label	MH-BZ-80X	For identifying the solenoid valves	19
[2]	Plug socket with cable	NEBV	For solenoid coils	19
[3]	Push-in fitting	QS/QSM	For standard O.D. tubing	18
[4]	Blanking plug	B	For sealing unused connections	18
[5]	Silencer	U	For mounting in exhaust ports	18
[6]	Manifold rail	VABM-...-P...	Without port for external pilot air for valves with internal pilot air supply	16
[7]	Manifold rail	VABM-...-G...	With port for external pilot air	16

System overview

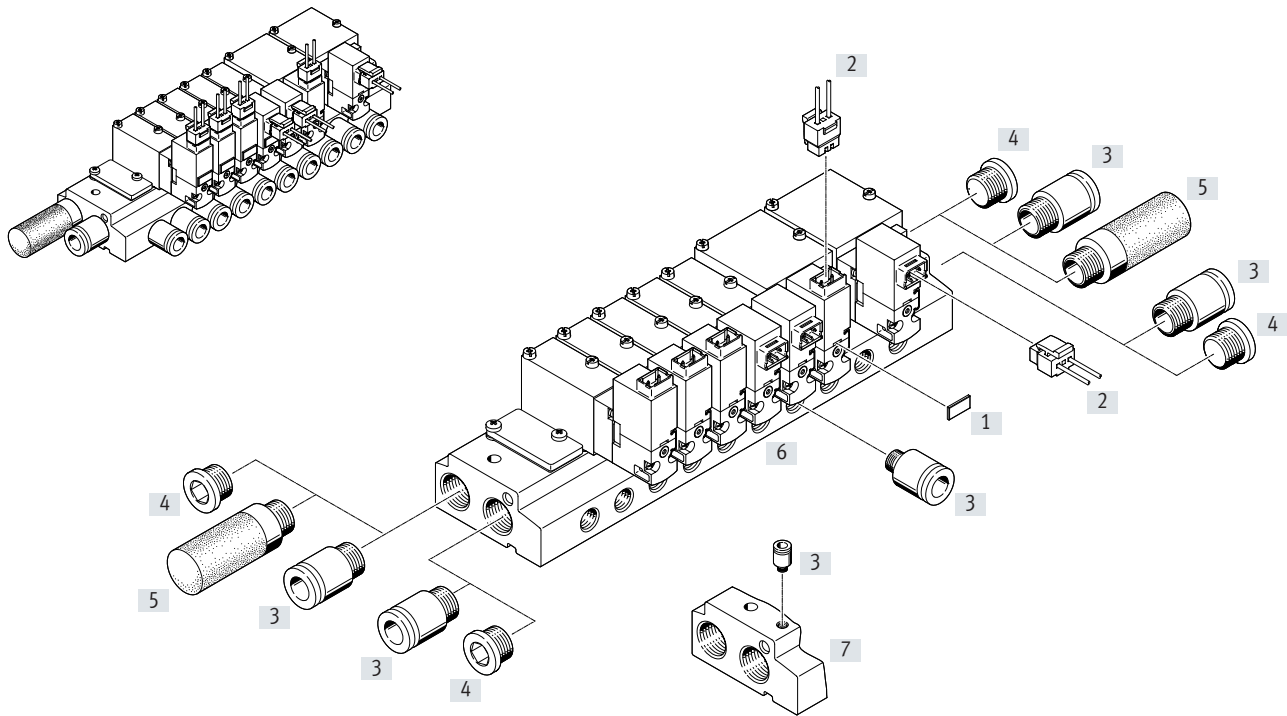
Manifold assembly – Sub-base valves



Individual components		Type	Brief description	→ Page/ Internet
[1]	Pilot valve	–	With vertical plug connection	8
[2]	Pilot valve	–	With horizontal plug connection	
[3]	Basic valves	–	Modules of the solenoid valves VOVG	
[4]	Cover plate	VABB-C7-12-W	For vacant positions	18
[5]	Manifold rail	VABM-C7-...	For sub-base valves	17

Peripherals overview

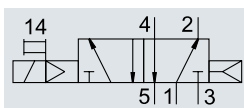
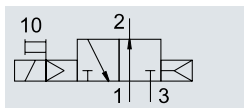
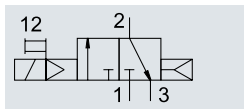
Manifold assembly – Sub-base valves with accessories



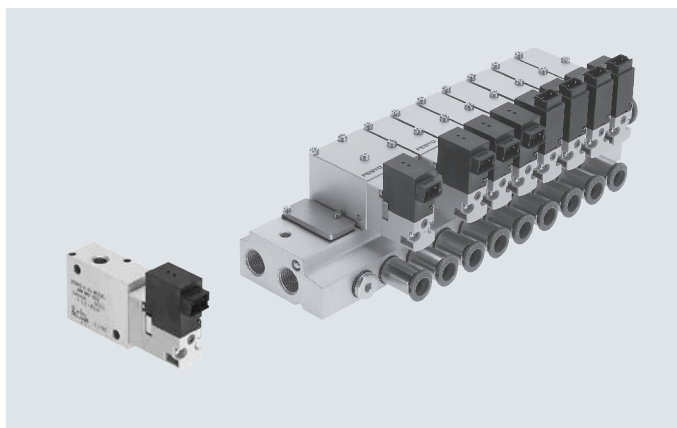
Individual components		Type	Brief description	→ Page/ Internet
[1]	Inscription label	MH-BZ-80X	For identifying the solenoid valves	19
[2]	Plug socket with cable	NEBV	For solenoid coils	19
[3]	Push-in fitting	QS/QSM	For standard O.D. tubing	18
[4]	Blanking plug	B	For sealing unused connections	18
[5]	Silencer	U	For mounting in exhaust ports	18
[6]	Manifold rail	VABM-...-M...	Without port for external pilot air for valves with internal pilot air supply	17
[7]	Manifold rail	VABM-...-W...	With port for external pilot air	17

Data sheet

Function



-  - Voltage
5, 12, 24 V DC
-  - Pressure
-0.9 ... +8 bar
-  - Temperature range
-5 ... +50°C



General technical data

General technical data		In-line valve		Semi in-line valve		Sub-base valve	
Design							
Valve function		3/2	5/2	3/2	5/2	3/2	5/2
Stable position		Monostable					
Design		Piston spool					
Overlap		Positive overlap					
Sealing principle		Soft					
Actuation type		Electrical					
Reset method		Pneumatic spring					
Type of control		Piloted					
Flow direction		Non-reversible					
Exhaust air function		Can be throttled					
Manual override		Non-detenting/detenting		Non-detenting			
Type of mounting		With through-hole		On sub-base via through-hole			
Mounting position		Any					
Nominal size	[mm]	2.1					
Standard nominal flow rate	[l/min]	200	180	180			
Width	[mm]	1 0/12	25	12	25	12	25
Switching time on/off	[ms]	1 2/10	1 5/18	1 2/10	1 5/18	1 2/10	1 5/18
Pneumatic connection		M5		Sub-base			

Operating and environmental conditions

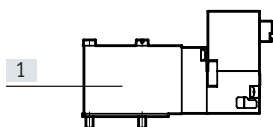
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]					
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)					
Operating pressure with internal pilot air supply	[bar]	2 ... 8				
Operating pressure with external pilot air supply	[bar]	-0.9 ... 8				
Pilot pressure ¹⁾	[bar]	3 ... 8				
Ambient temperature	[°C]	-5 ... +50				
Temperature of medium	[°C]	-5 ... +50				

1) With vacuum (at port 3) and ejector pulse (at port 1), the minimum pressure (at port 12) is 4 bar.

Data sheet

Electrical data		
Operating voltage	[V DC]	5 ±10%, 12 ±10% or 24 ±10%
Connection type		Plug connection
Power consumption	[W]	1
Duty cycle	[%]	100
Degree of protection to EN 60529		
With plug socket with cable NEBV		IP40

Materials



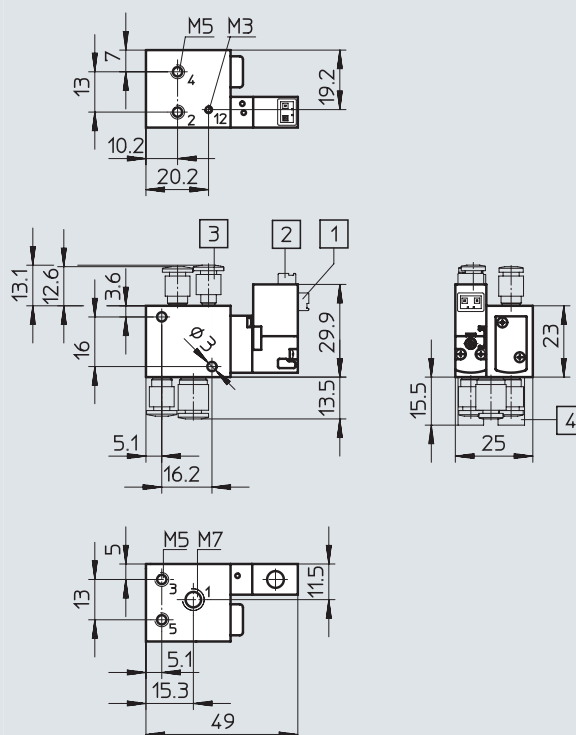
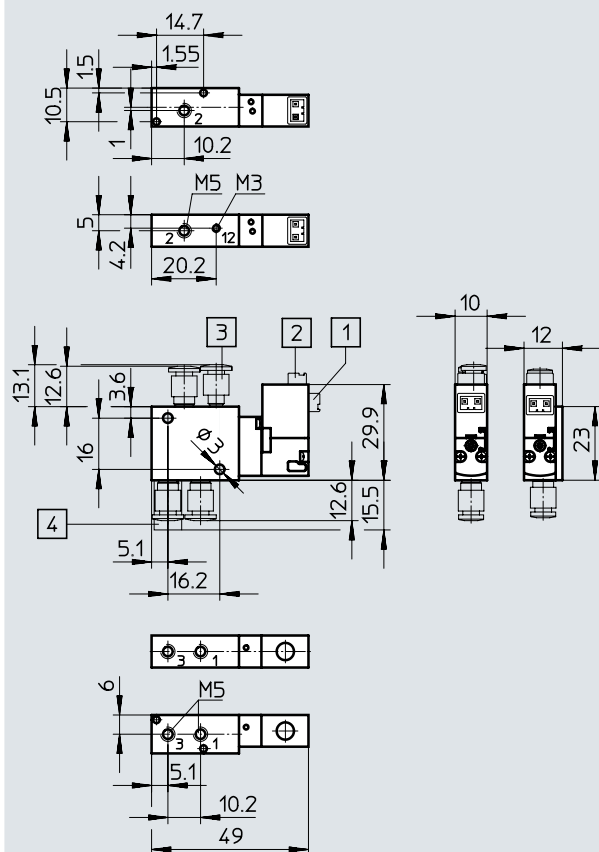
[1]	Housing	Aluminium
-	Seals	FPM, NBR, HNBR
Note on materials		RoHS-compliant

Dimensions – Valve

Download CAD data → www.festo.com

3/2-way in-line valve

5/2-way in-line valve



[1] Electrical connection at rear

[2] Electrical connection at top

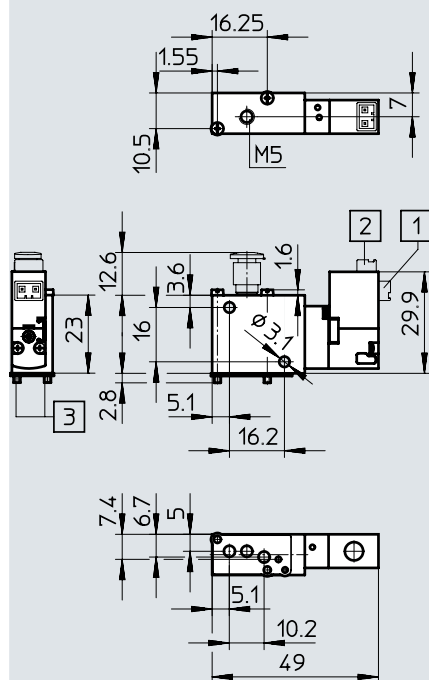
[3] Pilot air supply

[4] Silencer

Data sheet

Dimensions – Valve

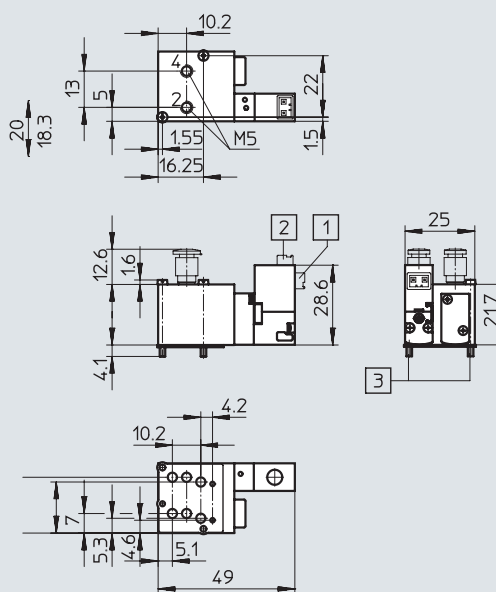
3/2-way semi in-line valve

Download CAD data → www.festo.com

[1] Electrical connection at rear

[2] Electrical connection at top

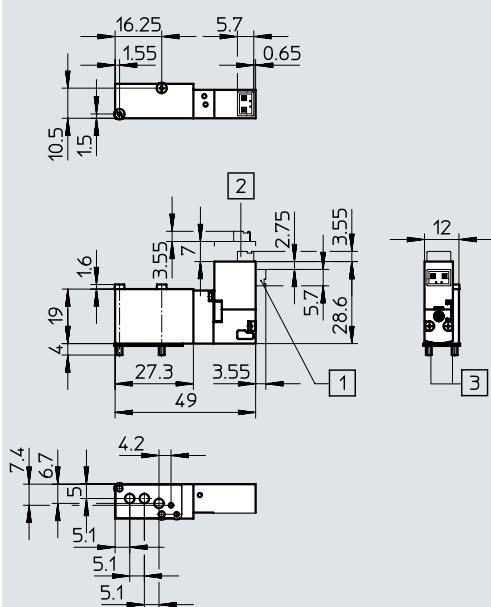
5/2-way semi in-line valve



[3] Retaining screws M2x25

Dimensions – Valve

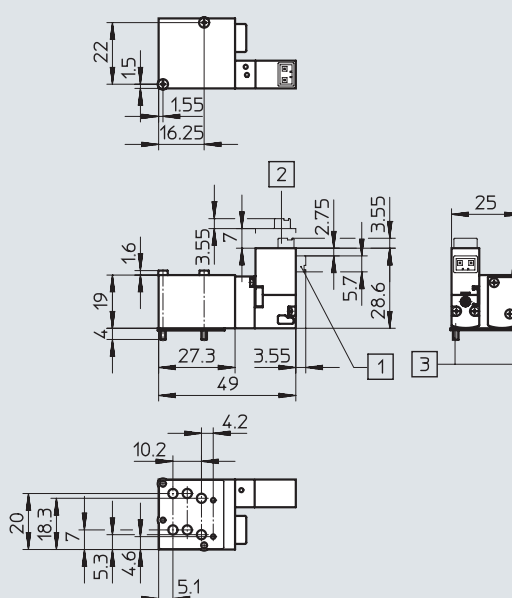
3/2-way sub-base valve

Download CAD data → www.festo.com

[1] Electrical connection at rear

[2] Electrical connection at top

5/2-way sub-base valve



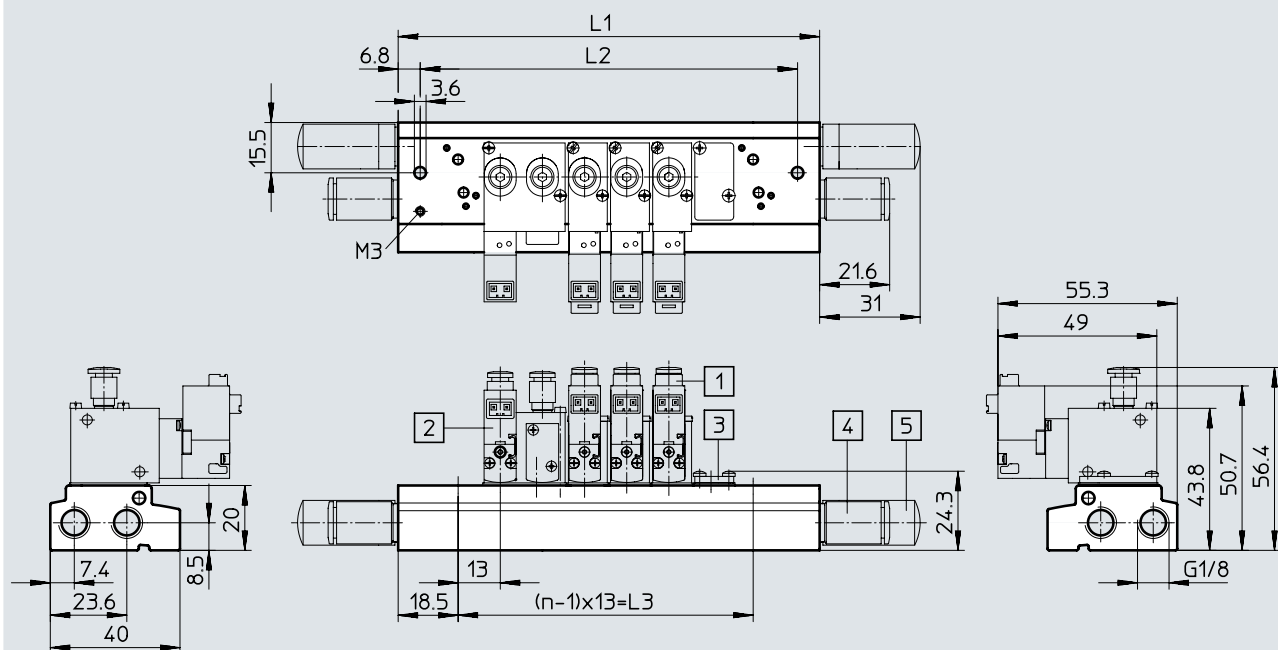
[3] Retaining screws M2x23

Data sheet

Dimensions – Manifold assembly

Download CAD data → www.festo.com

Semi in-line valve



[1] 3/2-way semi in-line valve
 [2] 5/2-way semi in-line valve
 occupying two valve positions

[3] Cover plate
 VABB-C7-12-W

[4] Push-in fitting

[5] Silencer
 n Number of valve positions

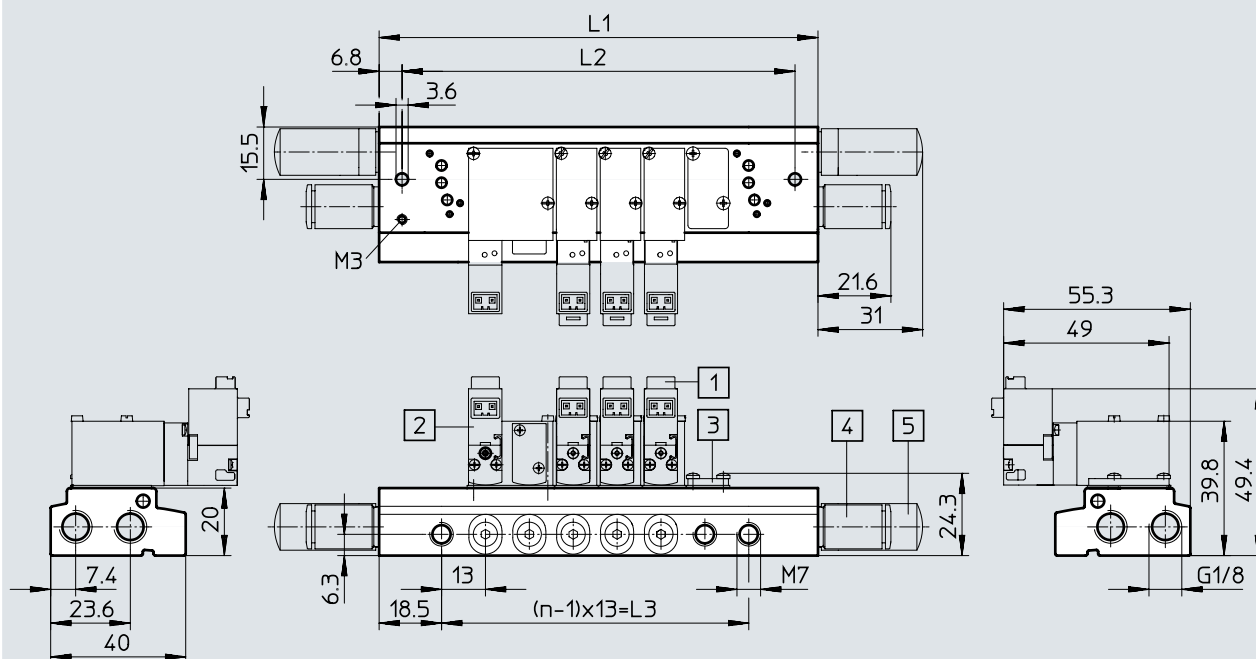
Number of valve positions n	L1	L2(-0/+0.4)	L3
2	52	38.4	13
3	65	51.4	26
4	78	64.4	39
5	91	77.4	52
6	104	90.4	65
7	117	103.4	78
8	130	116.4	91
9	143	129.4	104
10	156	142.4	117

Data sheet

Dimensions – Manifold assembly

Download CAD data → www.festo.com

Sub-base valve



- [1] 3/2-way sub-base valve
 [2] 5/2-way sub-base valve
 occupying two valve positions

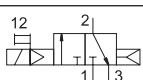
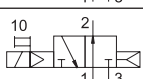
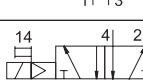
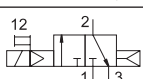
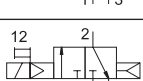
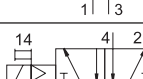
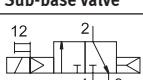
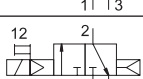
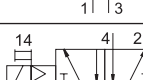
- [3] Cover plate
 VABB-C7-12-W

- [4] Push-in fitting

- [5] Silencer
 n Number of valve positions

Number of valve positions n	L1	L2(-0/+0.4)	L3
2	52	38.4	13
3	65	51.4	26
4	78	64.4	39
5	91	77.4	52
6	104	90.4	65
7	117	103.4	78
8	130	116.4	91
9	143	129.4	104
10	156	142.4	117

Data sheet

Ordering data								
Circuit symbol	Function	Normal position	Plug direction	Pilot air supply ¹⁾	Voltage ¹⁾	Part no.	Type	
In-line valve								
	3/2-way, single solenoid	Closed	Horizontal	Internal	24 V DC	560697	VOVG-L10-M32C-AH-M5-1H2	
			Vertical			560698	VOVG-L10-M32C-AH-M5-1H3	
		Open	Horizontal			560699	VOVG-L10-M32U-AH-M5-1H2	
			Vertical			560700	VOVG-L10-M32U-AH-M5-1H3	
	5/2-way, single solenoid	–	Horizontal			560701	VOVG-L12-M52Q-AH-M5-1H2	
			Vertical			560702	VOVG-L12-M52Q-AH-M5-1H3	
Semi in-line valve								
	3/2-way, single solenoid	Closed	Horizontal	Internal	24 V DC	560703	VOVG-S12-M32C-AH-M5-1H2	
			Vertical			560704	VOVG-S12-M32C-AH-M5-1H3	
		Open	Horizontal			560705	VOVG-S12-M32U-AH-M5-1H2	
			Vertical			560706	VOVG-S12-M32U-AH-M5-1H3	
	5/2-way, single solenoid	–	Horizontal			560707	VOVG-S12-M52Q-AH-M5-1H2	
			Vertical			560708	VOVG-L12-M52Q-AH-M5-1H3	
Sub-base valve								
	3/2-way, single solenoid	Closed	Horizontal	Internal	24 V DC	560709	VOVG-B12-M32C-AH-F-1H2	
			Vertical			560710	VOVG-B12-M32C-AH-F-1H3	
		Open	Horizontal			560711	VOVG-B12-M32U-AH-F-1H2	
			Vertical			560712	VOVG-B12-M32U-AH-F-1H3	
	5/2-way, single solenoid	–	Horizontal			560713	VOVG-B12-M52Q-AH-F-1H2	
			Vertical			560714	VOVG-B12-M52Q-AH-F-1H3	

1) For other variants see modular system

Ordering data – Modular product system

Ordering table		Conditions	Code	Enter code
Module no.	549438			
Valve	Solenoid valve		VOVG	VOVG
Valve type	Sub-base valve		-B	
	Semi in-line valve		-S	
	In-line valve		-L	
Size	10 (200 l/min)	[1]	10	
	12 (200 l/min)		12	
Valve function	3/2-way valve, single solenoid, normally closed		-M32C	
	3/2-way valve, single solenoid, normally open		-M32U	
	5/2-way valve, single solenoid, 2 valve positions	[8]	-M52Q	
Reset method	Pneumatic spring		-A	-A
Pilot air	Internal pilot air supply			
	External pilot air supply	[9]	Z	

[1] 10, D, U Not with valve type B, S

[8] Z Not in combination with size 10

[9] Z Not in combination with valve type L and size 12

Ordering data – Modular product system

Ordering table		Conditions	Code	Enter code
Manual override	Non-detenting		H	
	Non-detenting/detenting	[1] [2]	D	
Pneumatic connection	Flange/sub-base	[3]	-F	
	Metric thread M5	[4]	-M5	
	Push-in connectors 3 mm	[4]	-Q3	
	Push-in connectors 4 mm	[4]	-Q4	
	Push-in connectors 6 mm	[4]	-Q6	
Exhausting	Ducted			
	Silencer	[1] [5]	U	
Pilot exhaust	Unducted			
Nominal operating voltage [V DC]	24		-1	
	5		-4	
	12		-5	
Electrical connection	Horizontal plug		H2	
	Vertical plug		H3	
Display	Without			
	LED signal display	[7]	L	
Electrical accessories			+	+
Connecting cable	Without casing, 0.5 m		W1	
	Without casing, 1 m		W2	
	Without casing, 2.5 m		W3	
	Without casing, 5 m		W4	

[1] 10, D, U Not with valve type B, S

[2] D Not with nominal operating voltage 5 V DC, 12 V DC

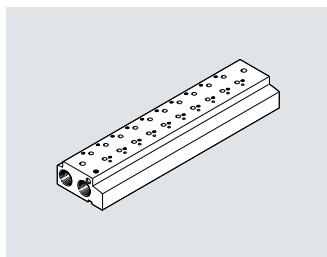
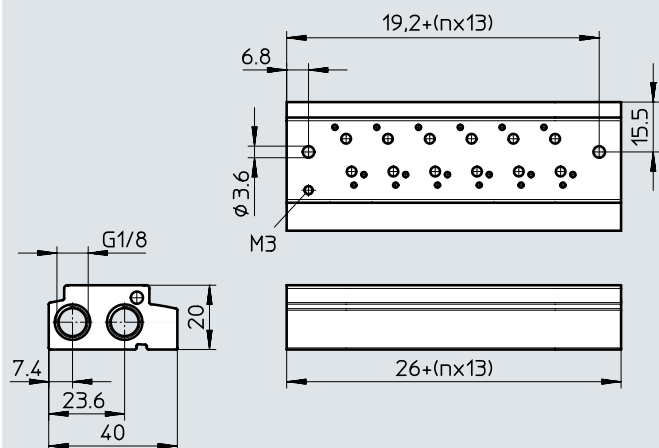
[3] F Not with valve type L, S

[4] M5, Q3, Q4, Q6 Not with valve type B

[5] U Not with pneumatic connection F, M5

[7] L Not with nominal operating voltage 5 V DC, 12 V DC

Data sheet – Manifold rail

Manifold rail VABM-C7
For semi in-line valvesMaterial:
Wrought aluminium alloyNote on materials:
RoHS-compliant**Dimensions – Manifold rails for semi in-line valves**Download CAD data → www.festo.com

n Number of valve positions

Ordering data – Manifold rails for semi in-line valves

Ordering data	Valve positions n	Weight [g]	CRC	Part no.	Type
For valves with internal pilot air					
2	84	2 ¹⁾	552652	VABM-C7-12P-G18-2	
3	105		552653	VABM-C7-12P-G18-3	
4	126		552654	VABM-C7-12P-G18-4	
5	147		552655	VABM-C7-12P-G18-5	
6	168		552656	VABM-C7-12P-G18-6	
7	189		552657	VABM-C7-12P-G18-7	
8	210		552658	VABM-C7-12P-G18-8	
9	231		552659	VABM-C7-12P-G18-9	
10	252		552660	VABM-C7-12P-G18-10	
For valves with external pilot air					
2	84	2 ¹⁾	552661	VABM-C7-12G-G18-2	
3	105		552662	VABM-C7-12G-G18-3	
4	126		552663	VABM-C7-12G-G18-4	
5	147		552664	VABM-C7-12G-G18-5	
6	168		552665	VABM-C7-12G-G18-6	
7	189		552666	VABM-C7-12G-G18-7	
8	210		552667	VABM-C7-12G-G18-8	
9	231		552668	VABM-C7-12G-G18-9	
10	252		552669	VABM-C7-12G-G18-10	

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Data sheet – Manifold rail

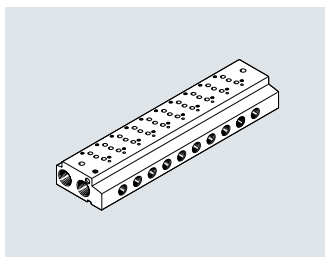
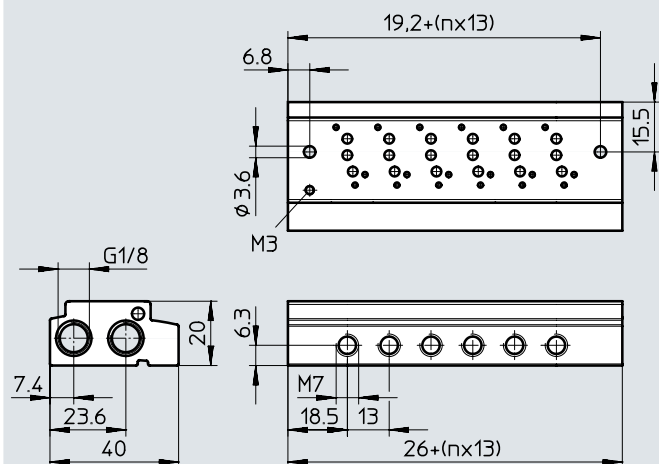
**Manifold rail VABM-C7
for sub-base valves**

Material:

Wrought aluminium alloy

Note on materials:

RoHS-compliant

**Dimensions – Manifold rails for sub-base valves**Download CAD data → www.festo.com

n Number of valve positions

Ordering data – Manifold rails for sub-base valves

Valve positions	Weight [g]	CRC	Part no.	Type
For valves with internal pilot air				
2	82	2 ¹⁾	549639	VABM-C7-12M-G18-2
3	102		549640	VABM-C7-12M-G18-3
4	122		549641	VABM-C7-12M-G18-4
5	142		549642	VABM-C7-12M-G18-5
6	162		549643	VABM-C7-12M-G18-6
7	182		549644	VABM-C7-12M-G18-7
8	202		549645	VABM-C7-12M-G18-8
9	222		549646	VABM-C7-12M-G18-9
10	242		549647	VABM-C7-12M-G18-10
For valves with external pilot air				
2	82	2 ¹⁾	549648	VABM-C7-12W-G18-2
3	102		549649	VABM-C7-12W-G18-3
4	122		549650	VABM-C7-12W-G18-4
5	142		549651	VABM-C7-12W-G18-5
6	162		549652	VABM-C7-12W-G18-6
7	182		549653	VABM-C7-12W-G18-7
8	202		549654	VABM-C7-12W-G18-8
9	222		549655	VABM-C7-12W-G18-9
10	242		549656	VABM-C7-12W-G18-10

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Accessories

Cover plate VABB-C7

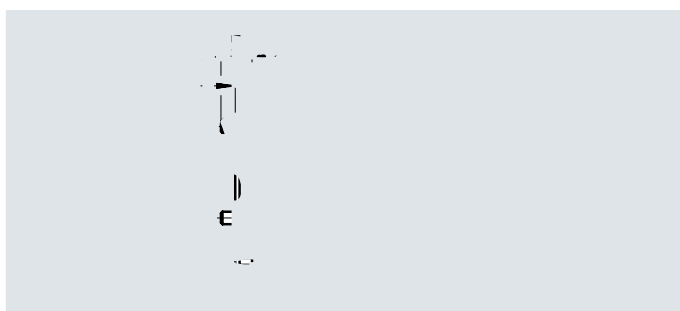
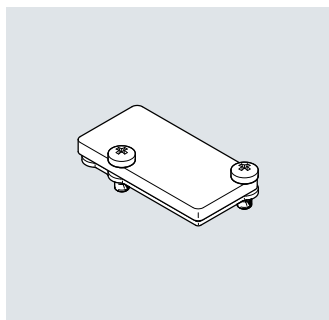
Material:

Cover plate: Steel

Seal: NBR

Note on materials:

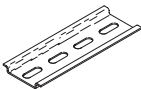
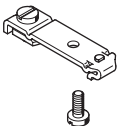
RoHS-compliant



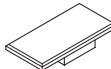
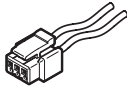
Ordering data		Weight [g]	CRC	Part no.	Type
Cover plate for vacant positions	6	2 ¹⁾		552651	VABB-C7-12-W

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Ordering data		Part no.		Type
Designation				
Silencer				
	Connecting thread G1/8	Polymer version	2307	U-1/8
		Metal design	6841	U-1/8-B
Blanking plug				
	Thread G1/8	10 pieces	3568	B-1/8
Push-in fitting				
 	Connecting thread G1/8 for tubing O.D.	6 mm (10 pieces)	153002	QS-1/8-6
		8 mm (10 pieces)	153004	QS-1/8-8
	Connecting thread M3 for tubing O.D.	3 mm (10 pieces)	153312	QSM-M3-3-I
		3 mm (10 pieces)	153313	QSM-M5-3-I
	Connecting thread M5 for tubing O.D.	4 mm (10 pieces)	153315	QSM-M5-4-I
		6 mm (10 pieces)	153317	QSM-M5-6-I
	Connecting thread M7 for tubing O.D.	4 mm (10 pieces)	153319	QSM-M7-4-I
		6 mm (10 pieces)	153321	QSM-M7-6-I
H-rail				
			35430	NRH-35-2000
Mounting				
	For H-rail		527392	CPASC1-BG-NRH

Accessories

Ordering data			Part no.	Type
Designation				
Inscription label				
	For identifying the valve positions	80 pieces	197259	MH-BZ-80X
Plug socket with cable				
	For 1 coil, 2-wire	0.5 m	566654	NEBV-H1G2-KN-0.5-N-LE2
		1 m	566655	NEBV-H1G2-KN-1-N-LE2
		2.5 m	566656	NEBV-H1G2-KN-2.5-N-LE2
		5 m	566657	NEBV-H1G2-KN-5-N-LE2

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