

Valve series VOVG

FESTO



Solenoid valves VOVG

Product range overview

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Function	Symbol	Version	Normally		Voltage [V DC]			→ Page/ Internet
			open	closed	5	12	24	
3/2-way valve		In-line valve	■	■	■	■	■	8/vovg
		Semi in-line valve	■	■	■	■	■	
		Sub-base valve	■	■	■	■	■	
5/2-way valve		In-line valve	–	–	■	■	■	
		Semi in-line valve	–	–	■	■	■	
		Sub-base valve	–	–	■	■	■	

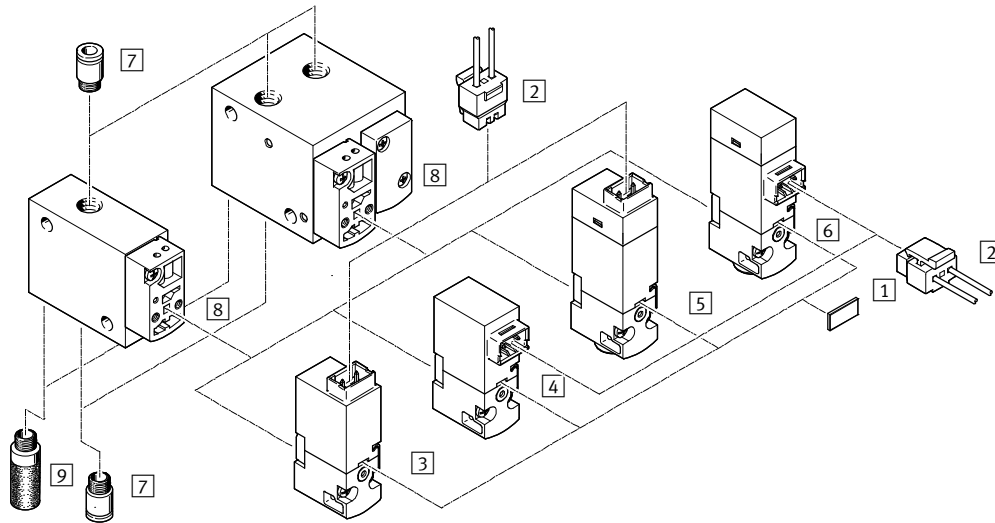
Mounting options					
Voltage [V DC]		5	12	24	
Signal status display		None	None	None	Via LED
Horizontal plug connection (H2)					
	Direct mounting	■	■	■	■
	Manifold assembly	■	■	■	■
Vertical plug connection (H3)					
	Direct mounting	■	■	■	■
	Manifold assembly	■	■	■	■

Solenoid valves VOVG

Peripherals overview

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In-line valve



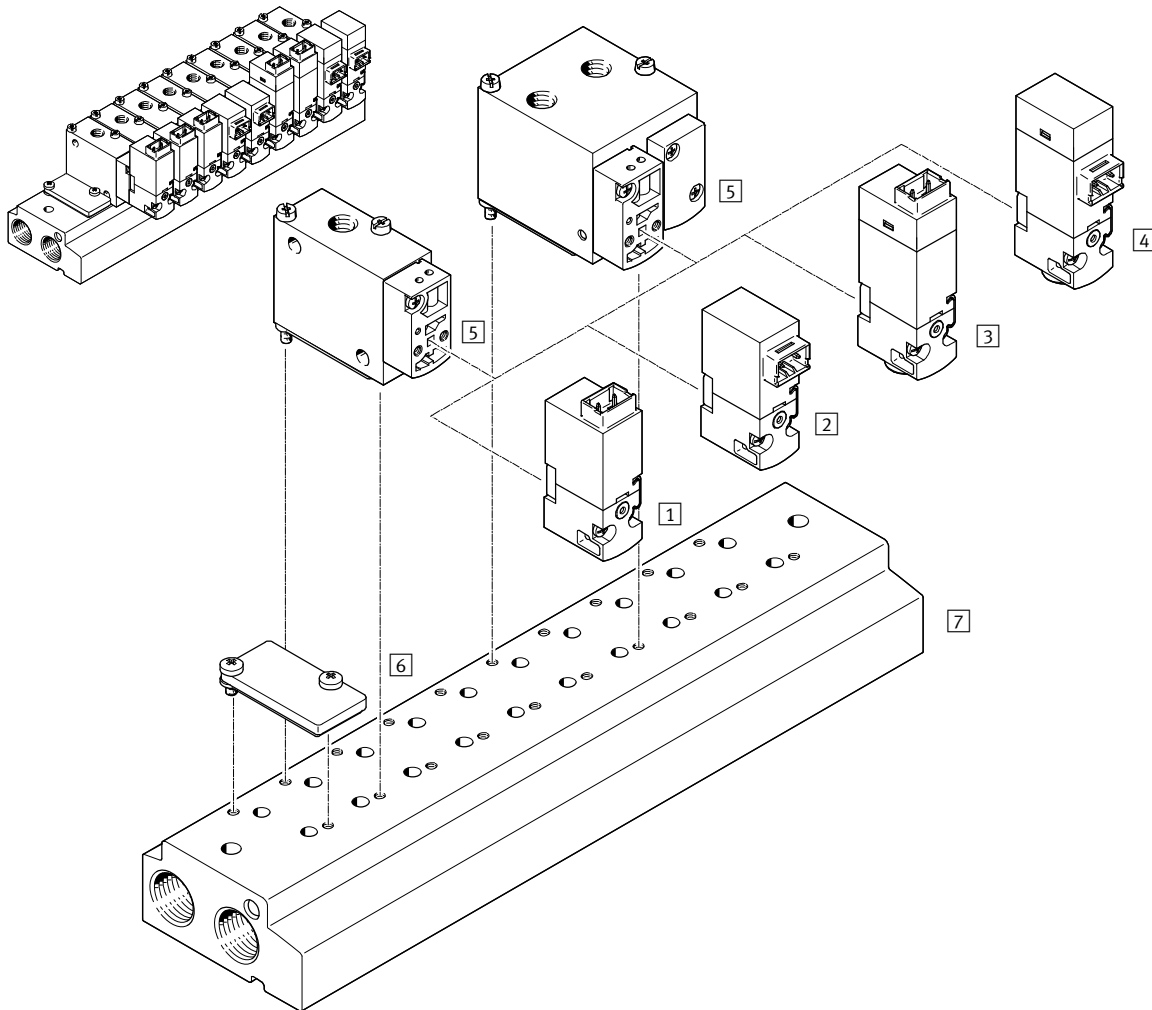
Component parts				
	Type	Brief description	➔ Page/ Internet	
1	Inscription label	MH-BZ-80X	For identifying the solenoid valves	19
2	Plug socket with cable	NEBV	For solenoid coils	19
3	Pilot valve	–	Sub-assembly of the solenoid valve VOVG with vertical plug connection	8
4	Pilot valve	–	Sub-assembly of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

Solenoid valves VOVG

System overview

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Manifold assembly – Semi in-line valves



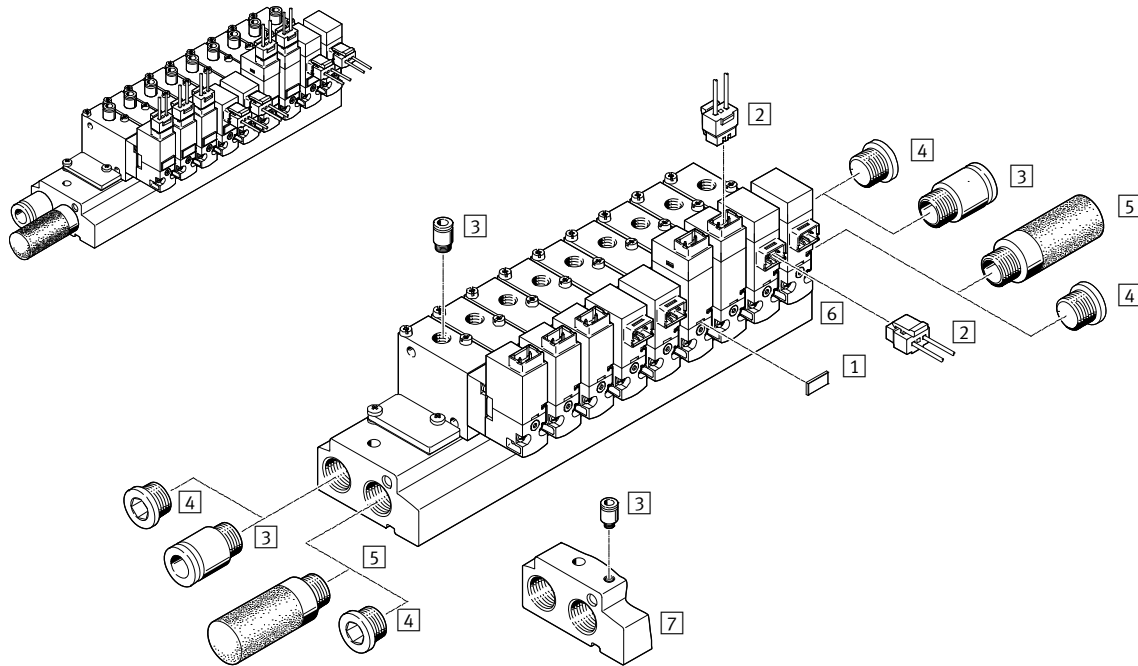
Component parts			
	Type	Brief description	→ Page/ Internet
1	Pilot valve	Sub-assembly of the solenoid valve VOVG with vertical plug connection	8
2	Pilot valve	Sub-assembly of the solenoid valve VOVG with horizontal plug connection	
3	Pilot valve with LED	Sub-assembly of the solenoid valve VOVG with vertical plug connection and LED	
4	Pilot valve with LED	Sub-assembly of the solenoid valve VOVG with horizontal plug connection and LED	
5	Basic valves	Sub-assemblies of the solenoid valves VOVG	
6	Blanking plate	VABB-C7-12-W For vacant positions	18
7	Manifold rail	VABM-C7-... For semi in-line valves	16

Solenoid valves VOVG

Peripherals overview

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Manifold assembly – Semi in-line valves with accessories



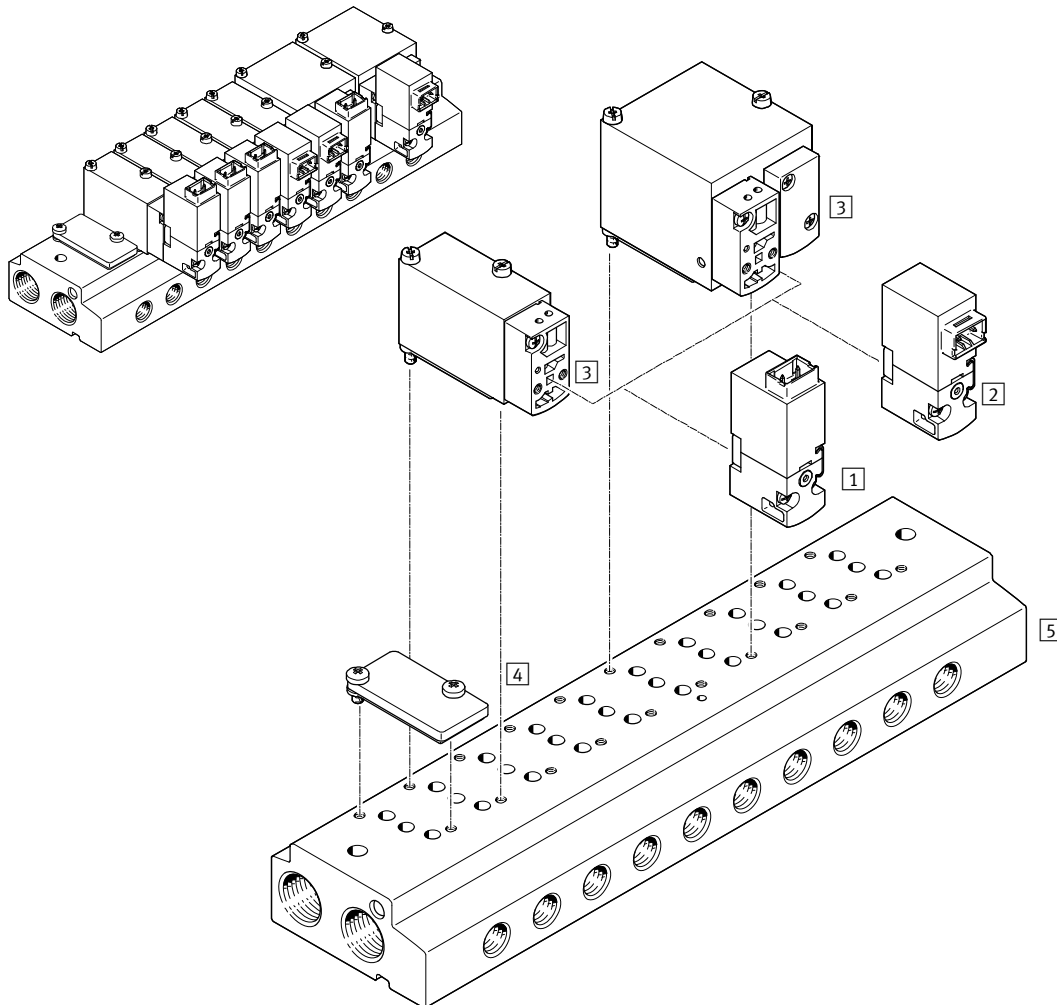
Component parts				
	Type	Brief description	➔ Page/ Internet	
1	Inscription label	MH-BZ-80X	For identifying the solenoid valves	19
2	Plug socket with cable	NEBV	For solenoid coils	19
3	Push-in fitting	QS/QSM	For standard O.D. tubing	18
4	Blanking plug	B	For sealing unused ports	18
5	Silencer	U	For fitting on 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

Solenoid valves VOVG

System overview

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Manifold assembly – Sub-base valves



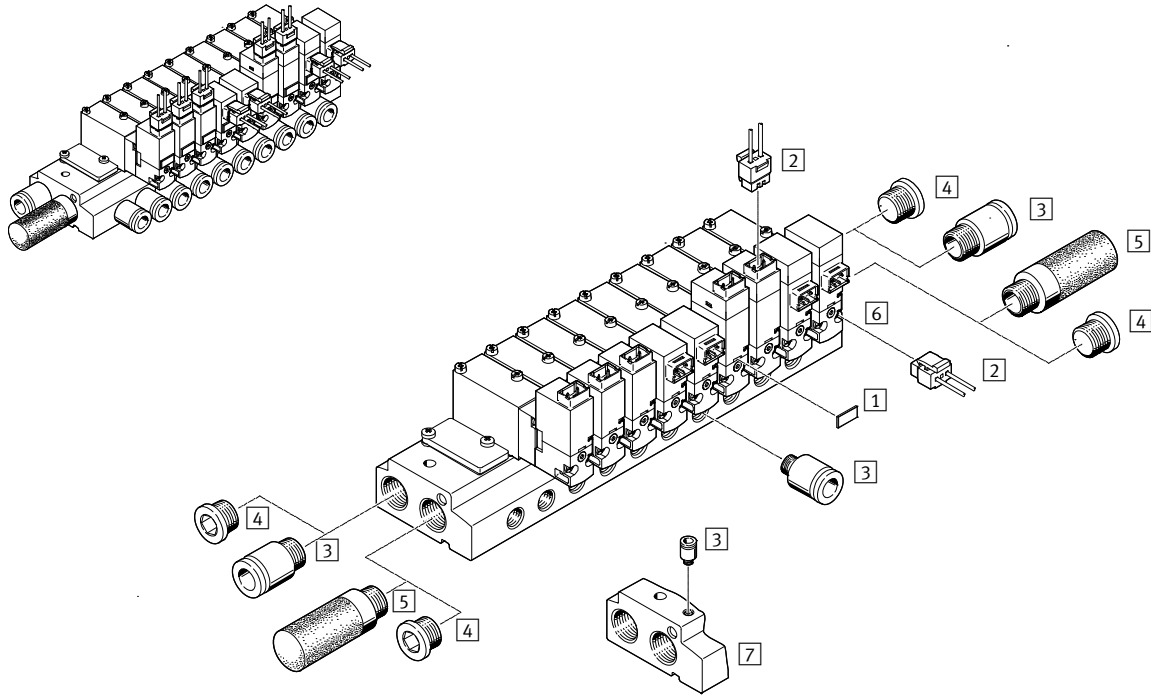
Component parts			
	Type	Brief description	→ Page/ Internet
1	–	Sub-assembly of the solenoid valve VOVG with vertical plug connection	8
2	–	Sub-assembly of the solenoid valve VOVG with horizontal plug connection	
3	–	Sub-assemblies of the solenoid valves VOVG	
4	VABB-C7-12-W	For vacant positions	44
5	VABM-C7-...	For sub-base valves	17

Solenoid valves VOVG

Peripherals overview

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Manifold assembly – Sub-base valves with accessories



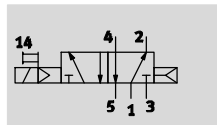
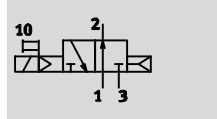
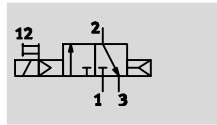
Component parts				
	Type	Brief description	➔ Page/ Internet	
1	Inscription label	MH-BZ-80X	For identifying the solenoid valves	19
2	Plug socket with cable	NEBV	For solenoid coils	19
3	Push-in fitting	QS/QSM	For standard O.D. tubing	18
4	Blanking plug	B	For sealing unused ports	18
5	Silencer	U	For fitting on 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

Solenoid valves VOVG

Technical data

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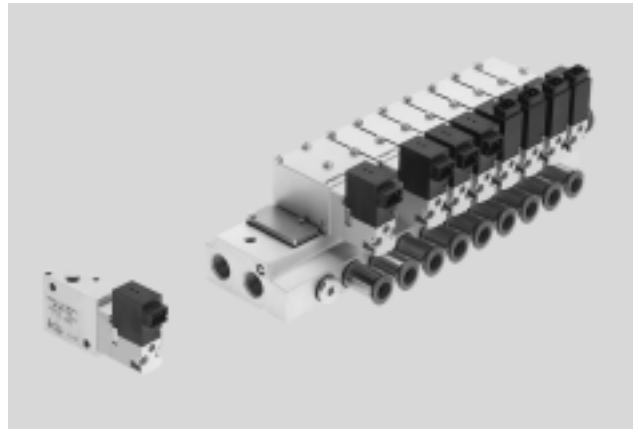
Function



-  - Voltage
5, 12, 24 V DC

-  - Pressure
-0.9 ... +8 bar

-  - Temperature range
-5 ... +50 °C



General technical data							
Design	In-line valve		Semi in-line valve		Sub-base valve		
Valve function	3/2	5/2	3/2	5/2	3/2	5/2	
Memory stability	Single						
Constructional design	Piston spool						
Sealing principle	Soft						
Actuation type	Electrical						
Reset method	Pneumatic spring						
Type of control	Piloted						
Direction of flow	Non-reversible						
Exhaust function	Flow control						
Manual override	Non-detenting/detenting		Non-detenting				
Type of mounting	Via through-holes		On sub-base or manifold, via through-holes				
Mounting position	Any						
Nominal size	[mm]	2.1					
Standard nominal flow rate	[l/min]	200	180	180			
Width	[mm]	10/12	25	12	25	12	25
Switching time on/off	[ms]	12/10	15/18	12/10	15/18	12/10	15/18
Pneumatic connection	M5			Sub-base			

Operating and environmental conditions			
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]		
Note on operating/pilot medium	Operation with lubricated medium 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) The minimum pilot pressure (at port 12) is 4 bar with vacuum (at port 3) and ejector pulse (at port 1).

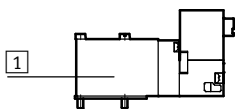
Solenoid valves VOVG

Technical data

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

Materials



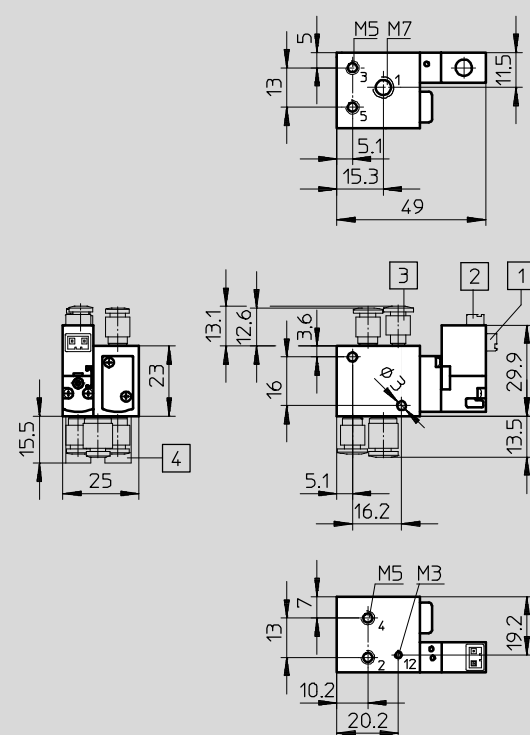
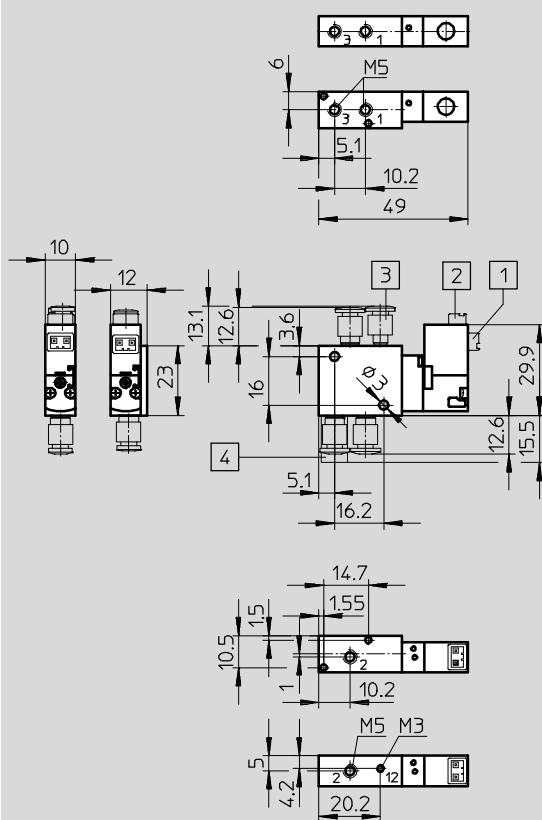
1	Housing	Aluminium
-	Seals	FPM, NBR, HNBR
-	Note on materials	RoHS-compliant

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 on top

3 Pilot air supply

4 Silencer

Solenoid valves VOVG

Technical data

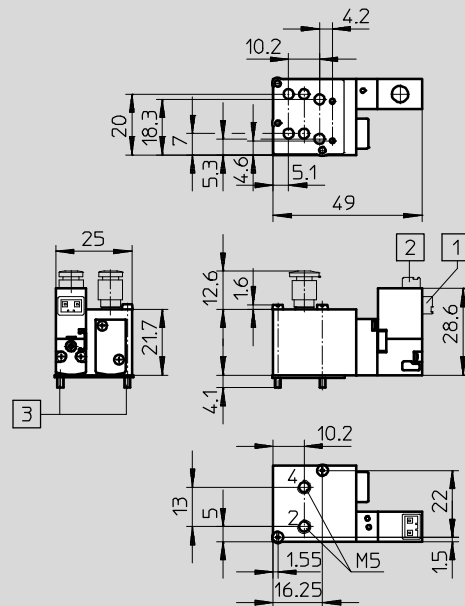
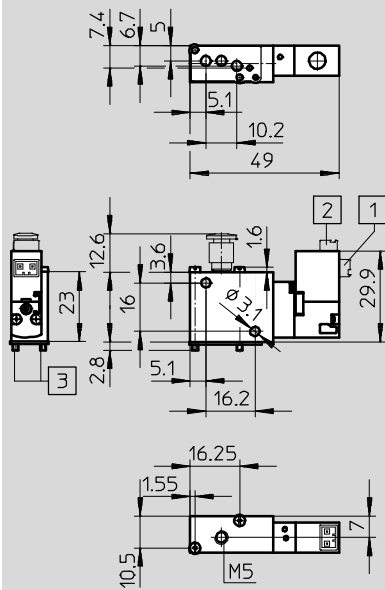
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Dimensions – Valve

Download CAD data → www.festo.com

3/2-way semi in-line valve

5/2-way semi in-line valve



1 Electrical connection at rear

2 Electrical connection on top

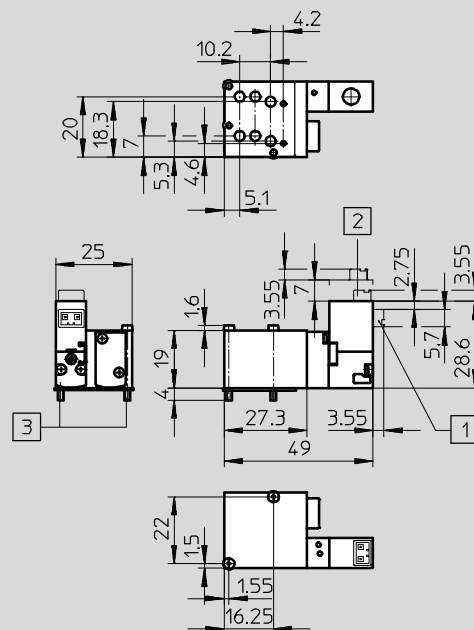
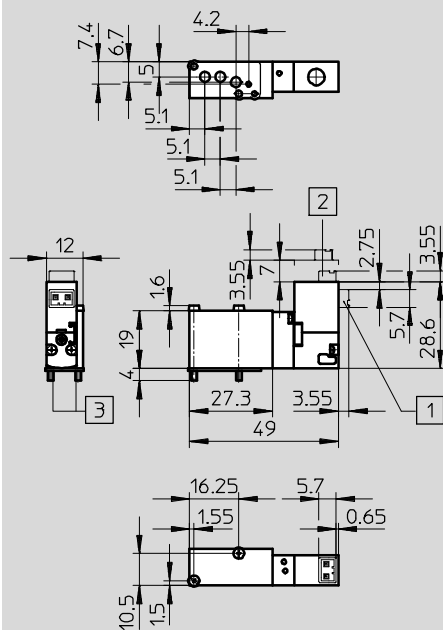
3 Mounting screws M2x25

Dimensions – Valve

Download CAD data → www.festo.com

3/2-way sub-base valve

5/2-way sub-base valve



1 Electrical connection at rear

2 Electrical connection on top

3 Mounting screws M2x23

Solenoid valves VOVG

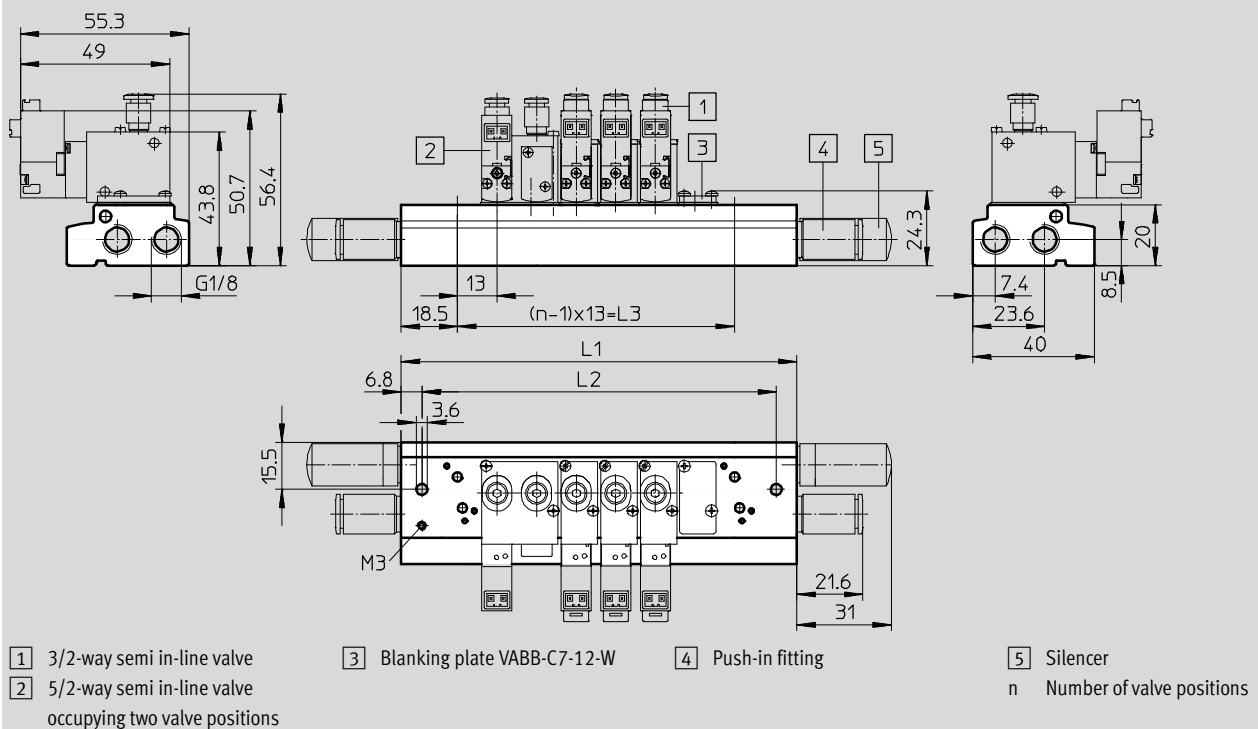
Technical data

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Dimensions – Manifold assembly

Download CAD data → www.festo.com

Semi in-line valve



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

Solenoid valves VOVG

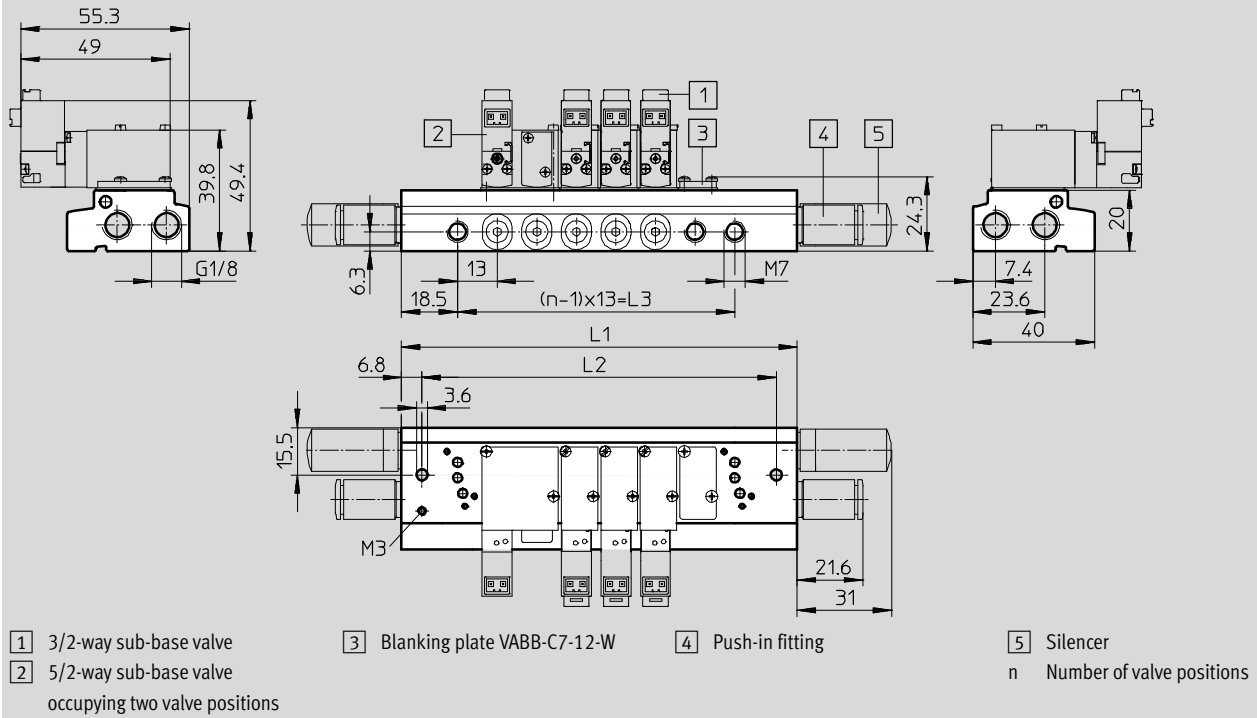
Technical data

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Dimensions – Manifold assembly

Download CAD data → www.festo.com

Sub-base valve

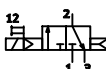
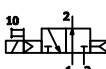
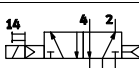
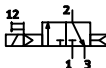
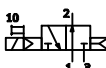
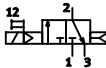
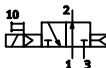


Number of valve positions n	L1	L2 (−0/+0.4)	L3
2	52	38.4	13
3	65	51.4	26
4	78	64.4	39
5	91	77.4	52
6	104	90.4	65
7	117	103.4	78
8	130	116.4	91
9	143	129.4	104
10	156	142.4	117

Solenoid valves VOVG

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Ordering data

Ordering data							
Circuit symbol	Function	Normal position	Plug direction	Pilot air supply	Voltage ¹⁾	Part No.	Type
In-line valve							
	3/2-way, single solenoid	Closed	Horizontal	Internal	24 V DC	560 697	VOVG-L10-M32C-AH-M5-1H2
			Vertical			560 698	VOVG-L10-M32C-AH-M5-1H3
		Open	Horizontal			560 699	VOVG-L10-M32U-AH-M5-1H2
			Vertical			560 700	VOVG-L10-M32U-AH-M5-1H3
	5/2-way, single solenoid	–	Horizontal	560 701	VOVG-L12-M52Q-AH-M5-1H2		
			Vertical	560 702	VOVG-L12-M52Q-AH-M5-1H3		
Semi in-line valve							
	3/2-way, single solenoid	Closed	Horizontal	Internal	24 V DC	560 703	VOVG-S12-M32C-AH-M5-1H2
			Vertical			560 704	VOVG-S12-M32C-AH-M5-1H3
		Open	Horizontal			560 705	VOVG-S12-M32U-AH-M5-1H2
			Vertical			560 706	VOVG-S12-M32U-AH-M5-1H3
	5/2-way, single solenoid	–	Horizontal	560 707	VOVG-S12-M52Q-AH-M5-1H2		
			Vertical	560 708	VOVG-L12-M52Q-AH-M5-1H3		
Sub-base valve							
	3/2-way, single solenoid	Closed	Horizontal	Internal	24 V DC	560 709	VOVG-B12-M32C-AH-F-1H2
			Vertical			560 710	VOVG-B12-M32C-AH-F-1H3
		Open	Horizontal			560 711	VOVG-B12-M32U-AH-F-1H2
			Vertical			560 712	VOVG-B12-M32U-AH-F-1H3
	5/2-way, single solenoid	–	Horizontal	560 713	VOVG-B12-M52Q-AH-F-1H2		
			Vertical	560 714	VOVG-B12-M52Q-AH-F-1H3		

1) See modular system for other voltages

Solenoid valves VOVG

Ordering data – Modular products

FESTO

M Mandatory data						O Options	→
Module No.	Valve	Valve type	Size	Valve function	Reset method	Pilot air supply	
549438	VOVG	B S L	10 12	M32C M32U M52Q	A	– Z	
Order example							
549438	VOVG	– S	12	– M32U	– A		

Ordering table				Condi- tions	Code	Enter code
M	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
O	Pilot air supply	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

Transfer order code

549 438	VOVG	–		–		–	A	
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Solenoid valves VOVG

Ordering data – Modular products

FESTO

→ [M] Options				[M] Mandatory data			
Manual override	Pneumatic connection	Exhaust	Pilot exhaust	Nominal operating voltage	Electrical connection	Display	Electrical accessories
H D	F M5 Q3 Q4 Q6	– U	–	1 4 5	H2 H3	– L	W1, W2, W3, W4
H	– Q3	U		– 4	H3		+ W1

Ordering table				Condi- tions	Code	Enter code
[M]	Manual override	Pushing			H	
		Pushing/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	
[O]	Exhaust	Ducted				
		Silencer	[1] [5]		U	
	Pilot exhaust	Unducted				
[M]	Nominal operating voltage [V DC]	24			-1	
		5			-4	
		12			-5	
	Electrical connection	Horizontal plug			H2	
		Vertical plug			H3	
[O]	Display	None				
		LED signal display	[7]		L	
	Electrical accessories				+	+
	Connecting cable	Without sheath, 0.5 m			W1	
		Without sheath, 1 m			W2	
		Without sheath, 2.5 m			W3	
		Without sheath, 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**

[5] **U**

[7] **L**

Not with valve type B

Not with pneumatic connection F, M5

Not with nominal operating voltage 5 V DC, 12 V DC

Transfer order code

	–				–				+	
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Solenoid valves VOVG

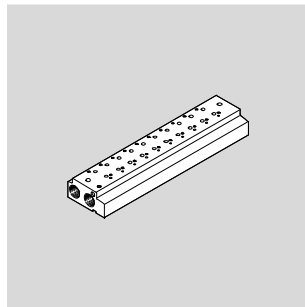
Technical data – Manifold rail

FESTO

Manifold rail VABM-C7 for semi in-line valves

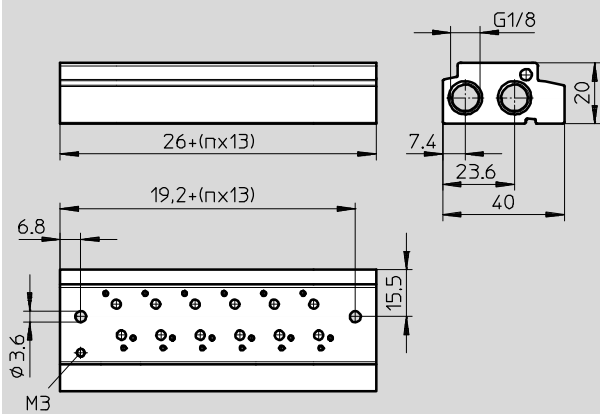
Material:
Wrought aluminium alloy

Note 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

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 2 as per Festo standard 940 070

Components subject to moderate corrosion stress. 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.

Solenoid valves VOVG

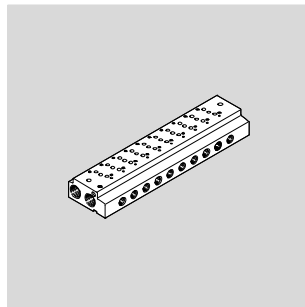
Technical data – Manifold rail

FESTO

Manifold rail VABM-C7 for sub-base valves

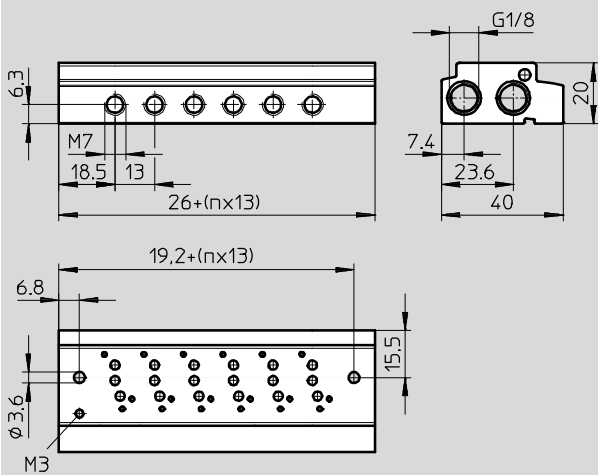
Material:
Wrought aluminium alloy

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 2 as per Festo standard 940 070

Components subject to moderate corrosion stress. 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.

Solenoid valves VOVG

Accessories

FESTO

Blanking plate VABB-C7

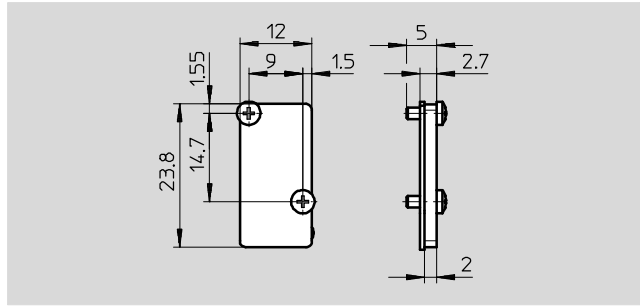
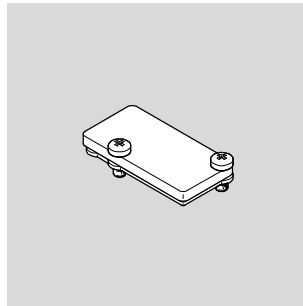
Material:

Blanking plate: Steel

Seal: NBR

Note on materials

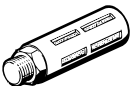
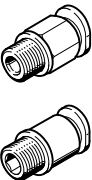
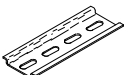
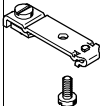
RoHS-compliant



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

1) Corrosion resistance class 2 as per Festo standard 940 070

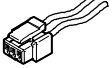
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Ordering data – Accessories				
Designation			Part No.	Type
Silencer				
	Connecting thread G1/8	Polymer version	2307	U-1/8
		Metal version	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
	Connecting thread M5 for tubing O.D.	3 mm (10 pieces)	153313	QSM-M5-3-I
		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

Solenoid valves VOVG

Accessories

FESTO

Ordering data – Accessories				
Designation			Part No.	Type
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