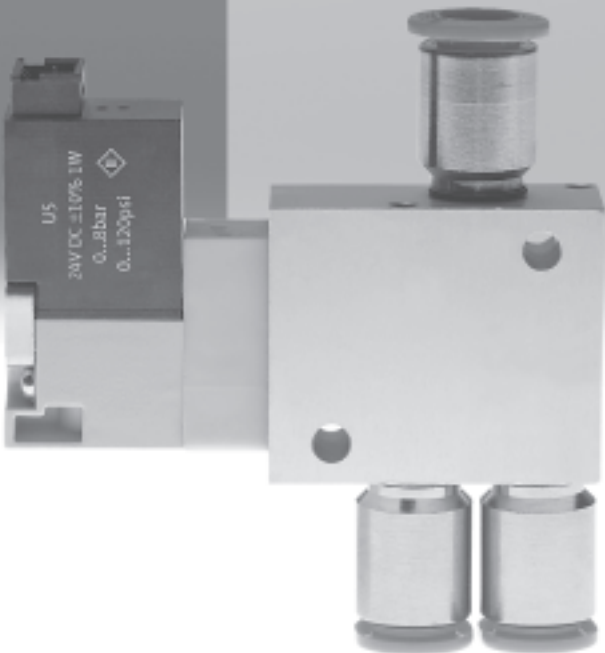


Valve series VOVG



Solenoid valves VOVG

Product range overview

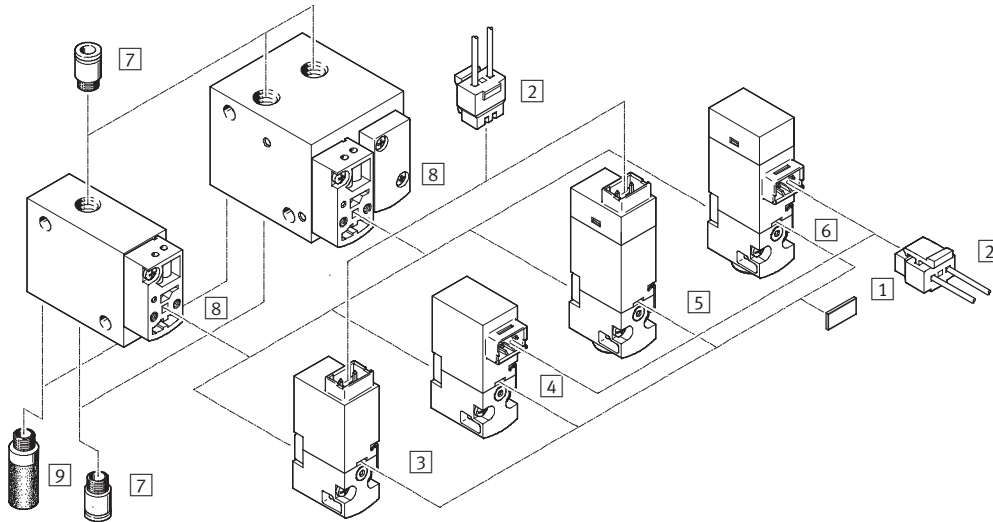
Function	Symbol	Version	Normally		Voltage [V DC]			→ Page/ Internet
			open	closed	5	12	24	
3/2-way valve		In-line valve	■	■	■	■	■	8/vovg
		Semi in-line valve	■	■	■	■	■	
		Sub-base valve	■	■	■	■	■	
5/2-way valve		In-line valve	-	-	■	■	■	
		Semi in-line valve	-	-	■	■	■	
		Sub-base valve	-	-	■	■	■	

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

In-line valve

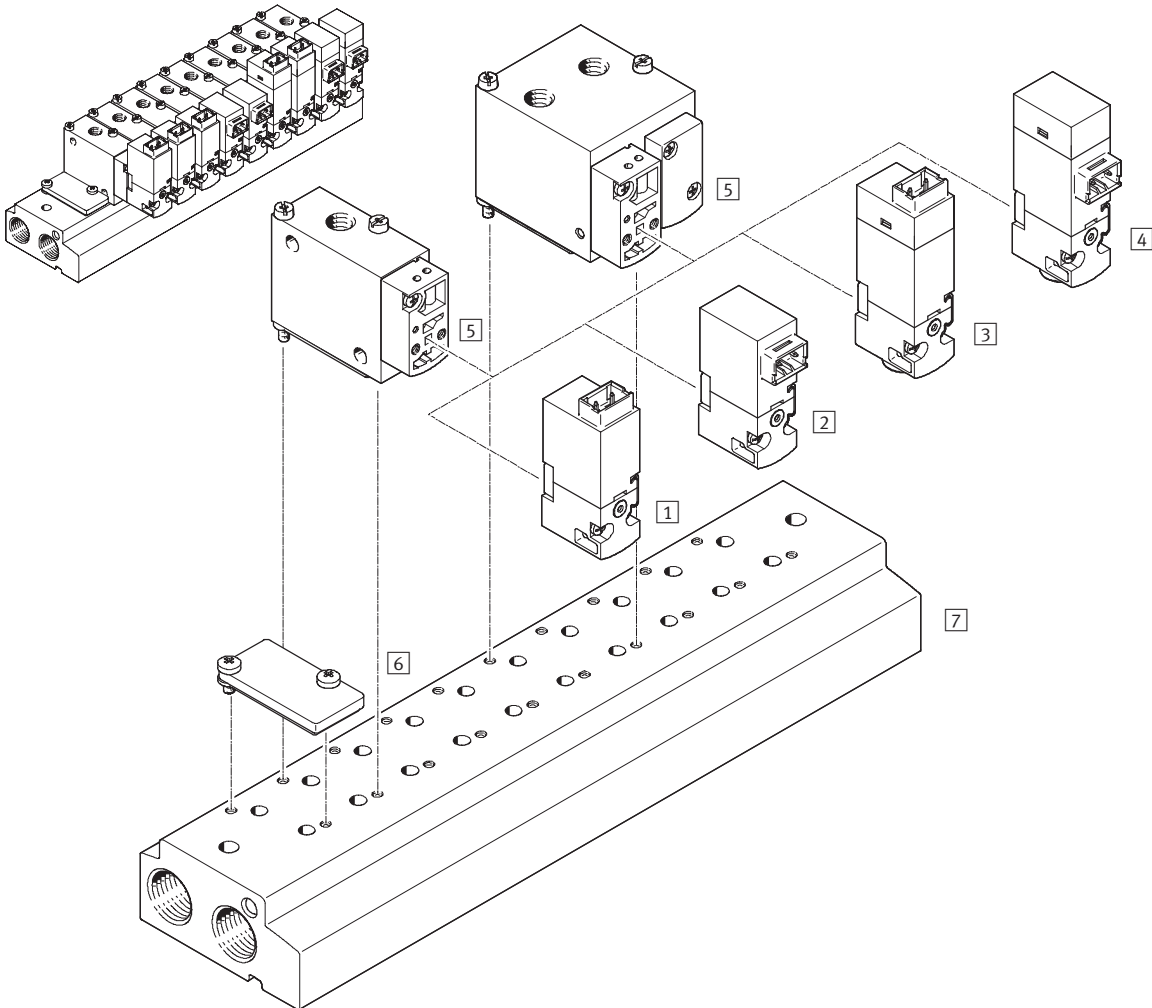


Component parts				
	Type	Brief description	→ Page/ Internet	
1	Inscription label	MH-BZ-80X	For identifying the solenoid valves	19
2	Plug socket with cable	KMH	For solenoid coils	19
3	Pilot valve	-	Sub-assembly of the solenoid valve VOVG with vertical plug connection	8
4	Pilot valve	-	Sub-assembly of 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

Manifold assembly – Semi in-line valves

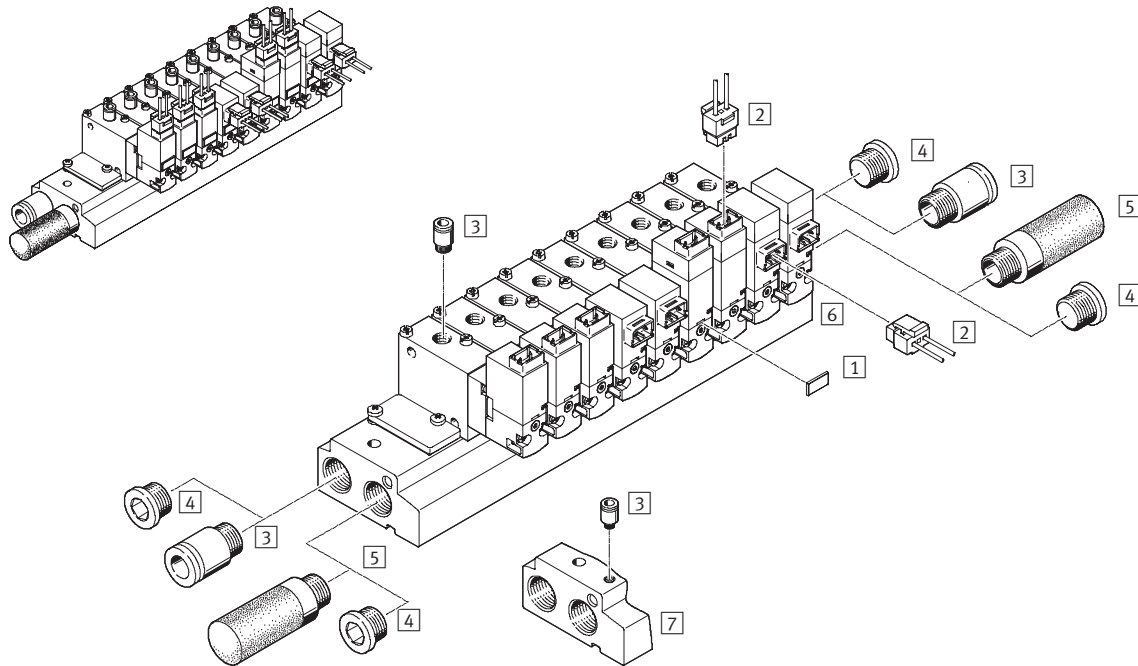


Component parts			
	Type	Brief description	→ Page/ Internet
1	–	Sub-assembly of the solenoid valve VOVG with vertical plug connection	8
2	–	Sub-assembly of the solenoid valve VOVG with horizontal plug connection	
3	–	Sub-assembly of the solenoid valve VOVG with vertical plug connection and LED	
4	–	Sub-assembly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

Solenoid valves VOVG

Peripherals overview

Manifold assembly – Semi in-line valves with accessories

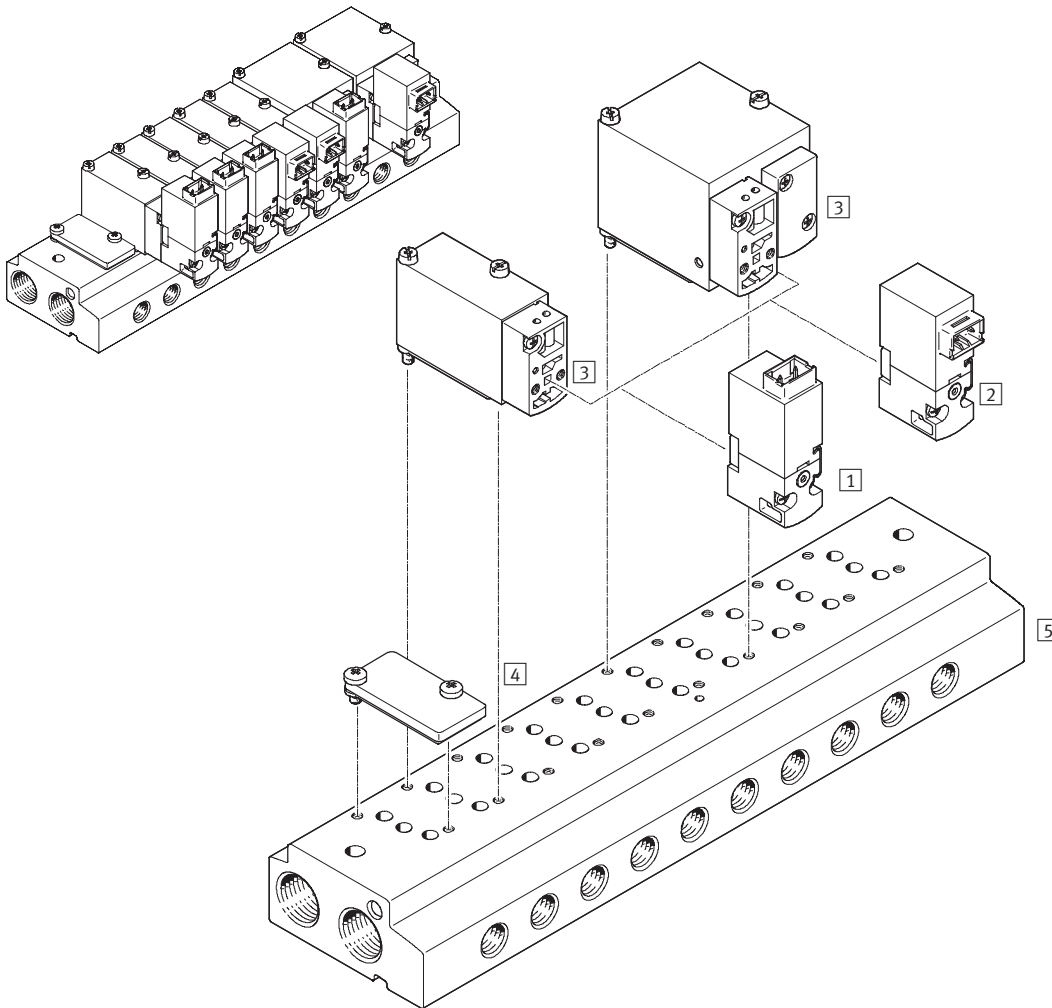


Component parts			
	Type	Brief description	→ Page/ Internet
1	MH-BZ-80X	For identifying the solenoid valves	19
2	KMH	For solenoid coils	19
3	QS/QSM	For standard O.D. tubing	18
4	B	For sealing unused ports	18
5	U	For fitting on exhaust ports	18
6	VABM-...-P...	Without port for external pilot air for valves with internal pilot air supply	16
7	VABM-...-G...	With port for external pilot air	16

Solenoid valves VOVG

System overview

Manifold assembly – Sub-base valves

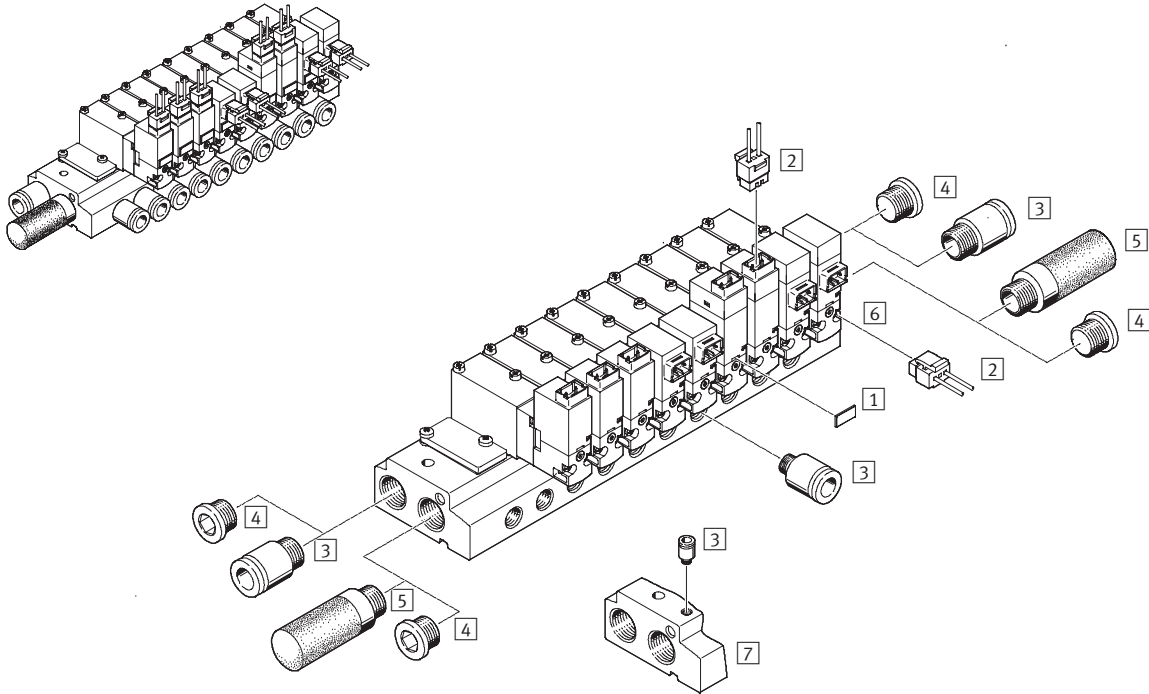


Component parts			
	Type	Brief description	→ Page/ Internet
1	–	Sub-assembly of the solenoid valve VOVG with vertical plug connection	8
2	–	Sub-assembly of the solenoid valve VOVG with horizontal plug connection	
3	–	Sub-assemblies of the solenoid valves VOVG	
4	VABB-C7-12-W	For vacant positions	18
5	VABM-C7-...	For sub-base valves	17

Solenoid valves VOVG

Peripherals overview

Manifold assembly – Sub-base valves with accessories

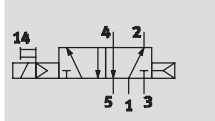
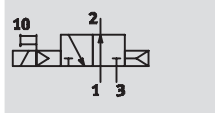
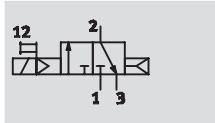



Component parts			
	Type	Brief description	→ Page/ Internet
1	MH-BZ-80X	Inscription label For identifying the solenoid valves	19
2	KMH	Plug socket with cable For solenoid coils	19
3	QS/QSM	Push-in fitting For standard O.D. tubing	18
4	B	Blanking plug For sealing unused ports	18
5	U	Silencer For fitting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


Solenoid valves VOVG


Technical data

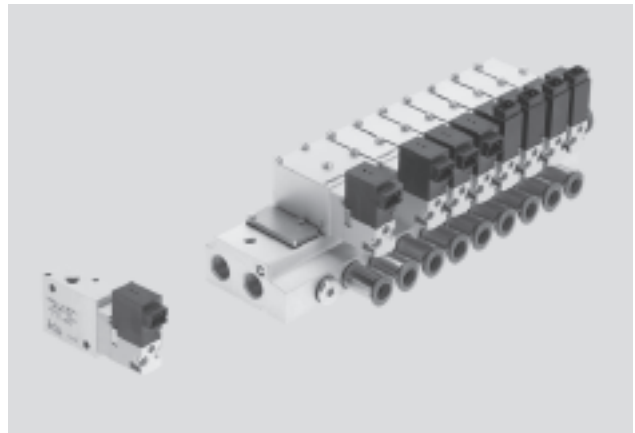
Function



 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	Filtered compressed air, lubricated or unlubricated, grade of filtration 40 µm
Operating pressure with internal pilot air supply	[bar] 2 ... 8
Operating pressure with external pilot air supply ¹⁾	[bar] -0.9 ... 8
Pilot pressure	[bar] 3 ... 8
Ambient temperature	[°C] -5 ... +50
Temperature of medium	[°C] -5 ... +50

1) Vacuum operation possible with special connection method

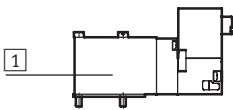
Solenoid valves VOVG

Technical data

FESTO

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 KMH		IP40

Materials



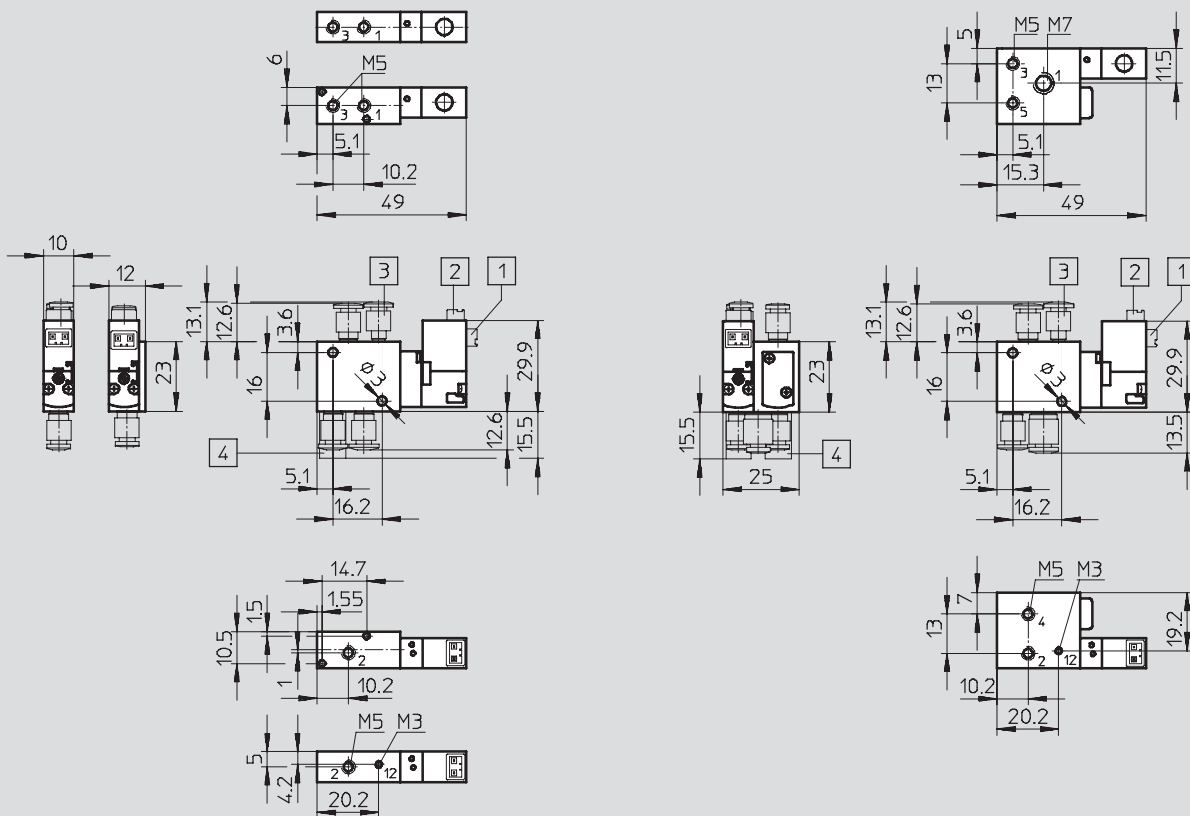
1	Housing	Aluminium
-	Seals	Fluoro elastomer, hydrogenated nitrile rubber, nitrile rubber

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

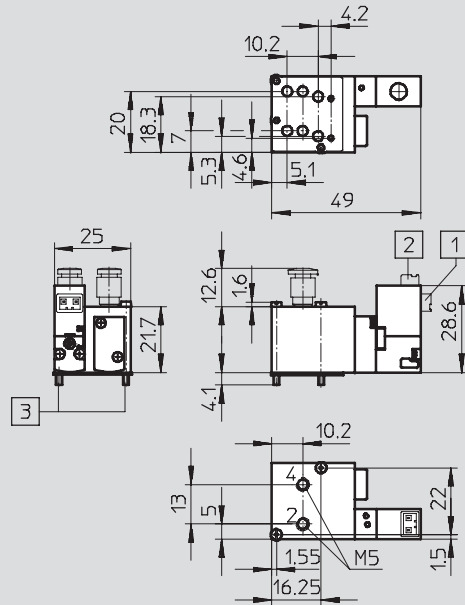
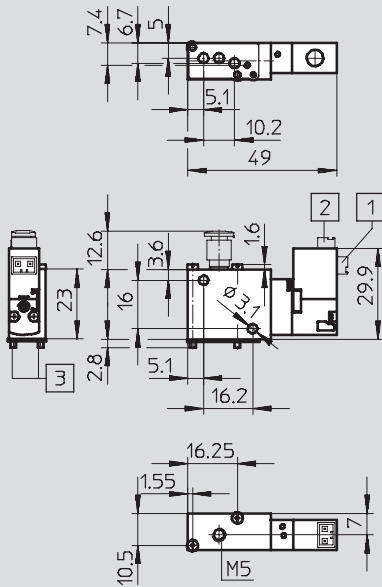
Technical data

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

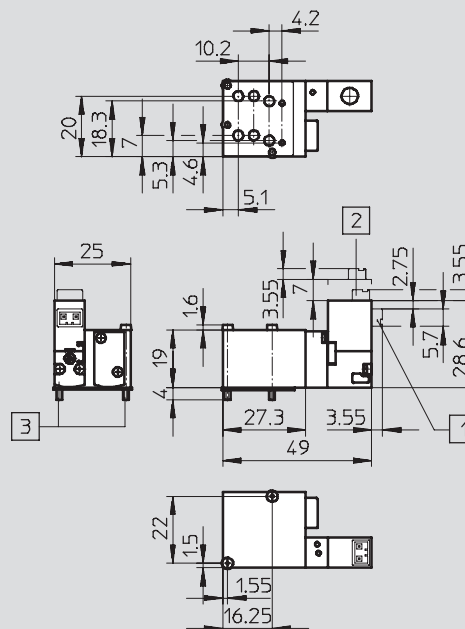
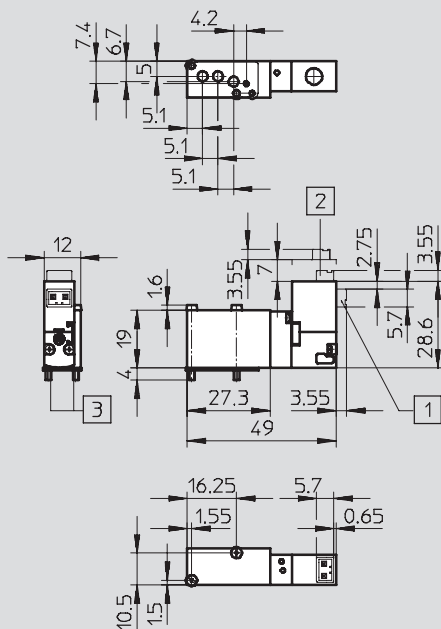
3 Mounting screws M2x25

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

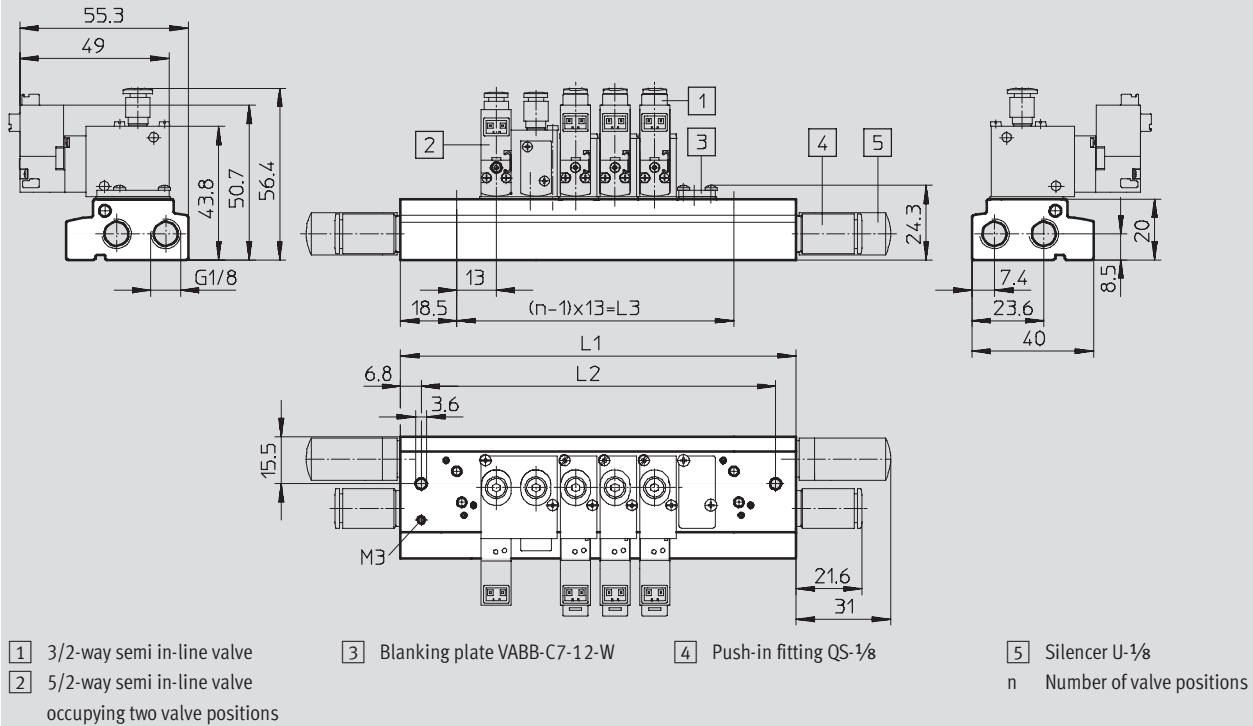
Solenoid valves VOVG

Technical data

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

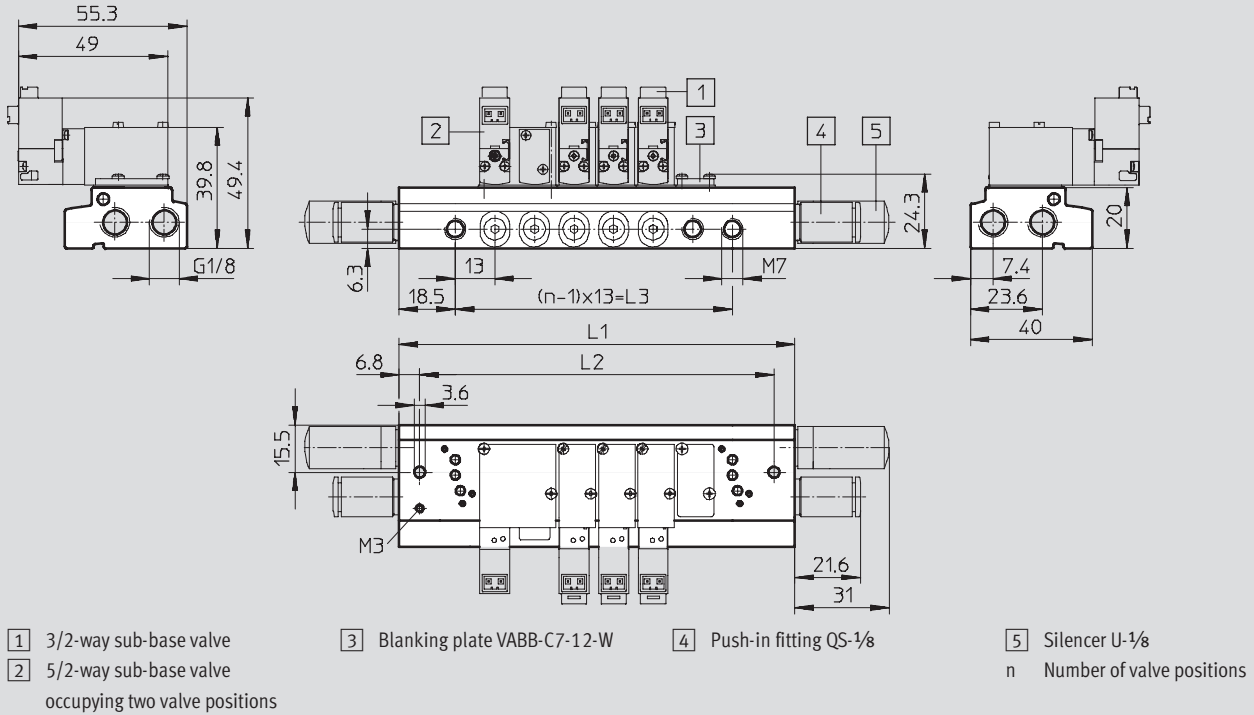
Solenoid valves VOVG

Technical data

Dimensions – Manifold assembly

Download CAD data → www.festo.com

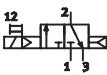
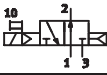

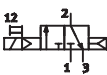
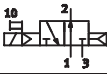
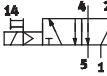
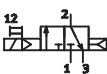
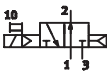
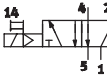
Sub-base valve



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

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

M Mandatory data **O** Options →

Module No.	Valve	Valve type	Size	Valve function	Reset method	Pilot air supply
549 438	VOVG	B S L	10 12	M32C M32U M52 M52Q	A	- Z
Order example						
549 438	VOVG	- S	12	- M32U	- A	

Ordering table

		Condi- tions	Code	Enter code
M	Module No.		549 438	
	Valve		Solenoid valve	VOVG
	Valve type		Sub-base valve	-B
			Semi in-line valve	-S
			In-line valve	-L
	Size		10 (200 l/min)	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	-M52
			5/2-way valve, single solenoid, 2 valve positions	-M52Q
	Reset method		Pneumatic spring	-A
O	Pilot air supply		Internal pilot air supply	
↓			External pilot air supply	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

Solenoid valves VOVG

Ordering data – Modular products

[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

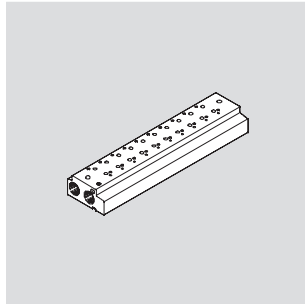
	–								+	
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Solenoid valves VOVG

Technical data – Manifold rail

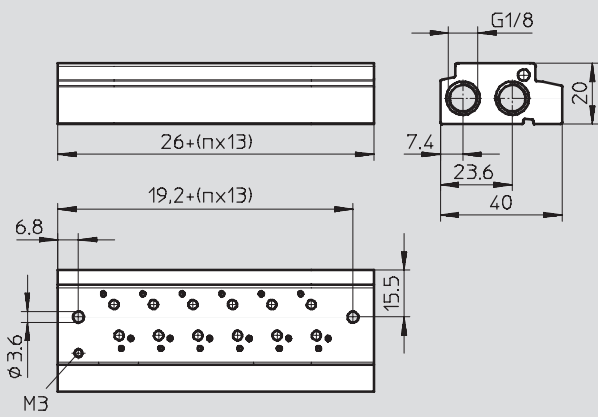
**Manifold rail VABM-C7
for semi in-line valves**

Material:
Wrought aluminium alloy



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⁾	552 652	VABM-C7-12P-G18-2
3	105		552 653	VABM-C7-12P-G18-3
4	126		552 654	VABM-C7-12P-G18-4
5	147		552 655	VABM-C7-12P-G18-5
6	168		552 656	VABM-C7-12P-G18-6
7	189		552 657	VABM-C7-12P-G18-7
8	210		552 658	VABM-C7-12P-G18-8
9	231		552 659	VABM-C7-12P-G18-9
10	252		552 660	VABM-C7-12P-G18-10
For valves with external pilot air				
2	84	2 ¹⁾	552 661	VABM-C7-12G-G18-2
3	105		552 662	VABM-C7-12G-G18-3
4	126		552 663	VABM-C7-12G-G18-4
5	147		552 664	VABM-C7-12G-G18-5
6	168		552 665	VABM-C7-12G-G18-6
7	189		552 666	VABM-C7-12G-G18-7
8	210		552 667	VABM-C7-12G-G18-8
9	231		552 668	VABM-C7-12G-G18-9
10	252		552 669	VABM-C7-12G-G18-10

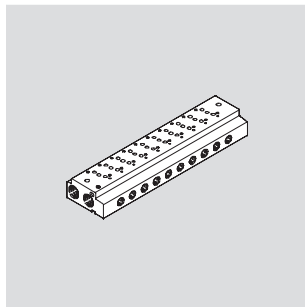
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Solenoid valves VOVG

Technical data – Manifold rail

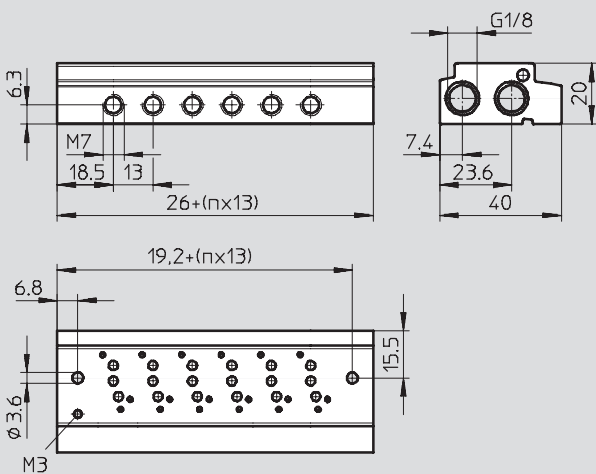
Manifold rail VABM-C7 for sub-base valves

Material:
Wrought aluminium alloy



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⁾	549 639	VABM-C7-12M-G18-2
3	102		549 640	VABM-C7-12M-G18-3
4	122		549 641	VABM-C7-12M-G18-4
5	142		549 642	VABM-C7-12M-G18-5
6	162		549 643	VABM-C7-12M-G18-6
7	182		549 644	VABM-C7-12M-G18-7
8	202		549 645	VABM-C7-12M-G18-8
9	222		549 646	VABM-C7-12M-G18-9
10	242		549 647	VABM-C7-12M-G18-10
For valves with external pilot air				
2	82	2 ¹⁾	549 648	VABM-C7-12W-G18-2
3	102		549 649	VABM-C7-12W-G18-3
4	122		549 650	VABM-C7-12W-G18-4
5	142		549 651	VABM-C7-12W-G18-5
6	162		549 652	VABM-C7-12W-G18-6
7	182		549 653	VABM-C7-12W-G18-7
8	202		549 654	VABM-C7-12W-G18-8
9	222		549 655	VABM-C7-12W-G18-9
10	242		549 656	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

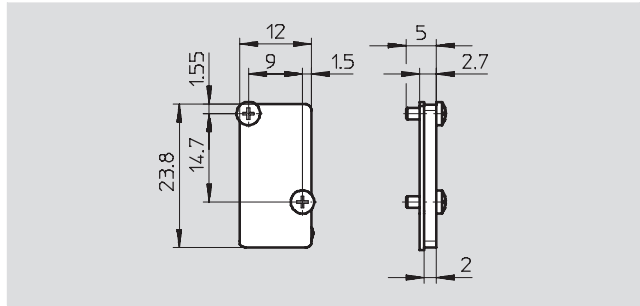
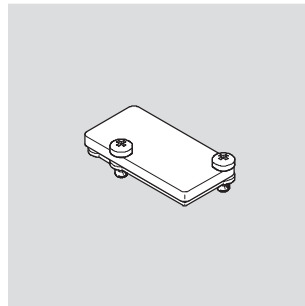
Accessories

Blanking plate VABB-C7

Material:

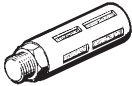

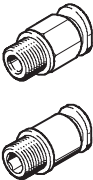
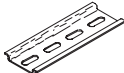
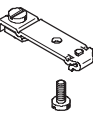
Blanking plate: Steel

Seal: Nitrile rubber




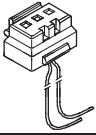
Ordering data				
	Weight [g]	CRC	Part No.	Type
Blanking plate for vacant positions	6	2 ¹⁾	552 651	VABB-C7-12-W

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		2 307	U-1/8
			6 841	U-1/8-B
Blanking plug				
	Thread G1/8	10 pieces	3 568	B-1/8
Push-in fitting				
	Connecting thread G1/8 for tubing O.D.	6 mm (10 pieces)	153 002	QS-1/8-6
		8 mm (10 pieces)	153 004	QS-1/8-8
	Connecting thread M3 for tubing O.D.	3 mm (10 pieces)	153 312	QSM-M3-3-I
		4 mm (10 pieces)	153 315	QSM-M5-4-I
	Connecting thread M5 for tubing O.D.	6 mm (10 pieces)	153 317	QSM-M5-6-I
		4 mm (10 pieces)	153 319	QSM-M7-4-I
Connecting thread M7 for tubing O.D.	6 mm (10 pieces)	153 321	QSM-M7-6-I	
H-rail				
			35 430	NRH-35-2000
Mounting				
	For H-rail		527 392	CPASC1-BG-NRH

Solenoid valves VOVG

Accessories

Ordering data – Accessories			
Designation		Part No.	Type
Inscription label			
	For solenoid valve	80 pieces	197 259 MH-BZ-80X
Plug socket with cable			
	For 1 coil, 2-wire	0.5 m	197 263 KMH-0,5
		1 m	197 264 KMH-1
		2.5 m	527 400 KMH-2,5
		5 m	527 401 KMH-5