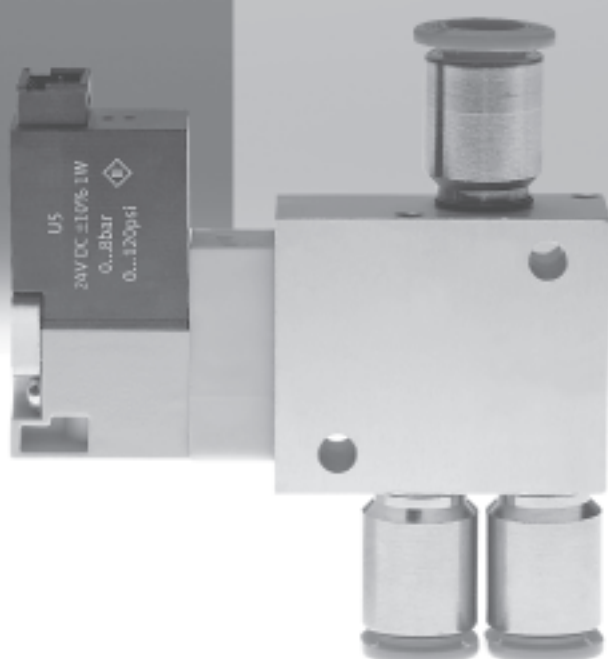


Valve series VOVG

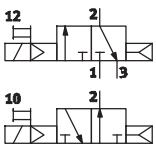
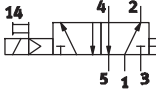
FESTO

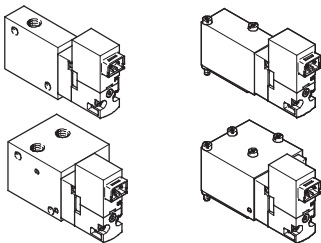
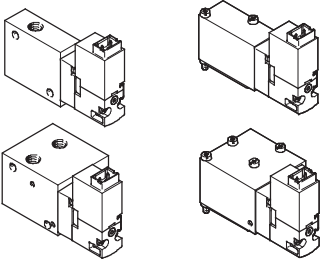


Solenoid valves VOVG

Product range overview

FESTO

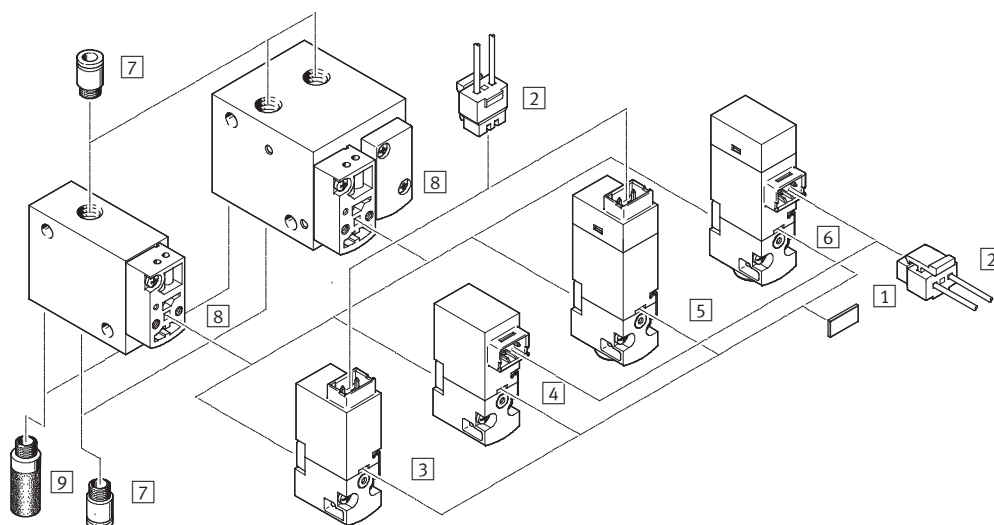
Function	Symbol	Version	Normally		Voltage [V DC]			→ Page/ Internet
			open	closed	5	12	24	
3/2-way valve		In-line valve	■	■	■	■	■	8/vovg
		Semi in-line valve	■	■	■	■	■	
		Sub-base valve	■	■	■	■	■	
5/2-way valve		In-line valve	–	–	■	■	■	
		Semi in-line valve	–	–	■	■	■	
		Sub-base valve	–	–	■	■	■	

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

Solenoid valves VOVG

Peripherals overview

In-line valve



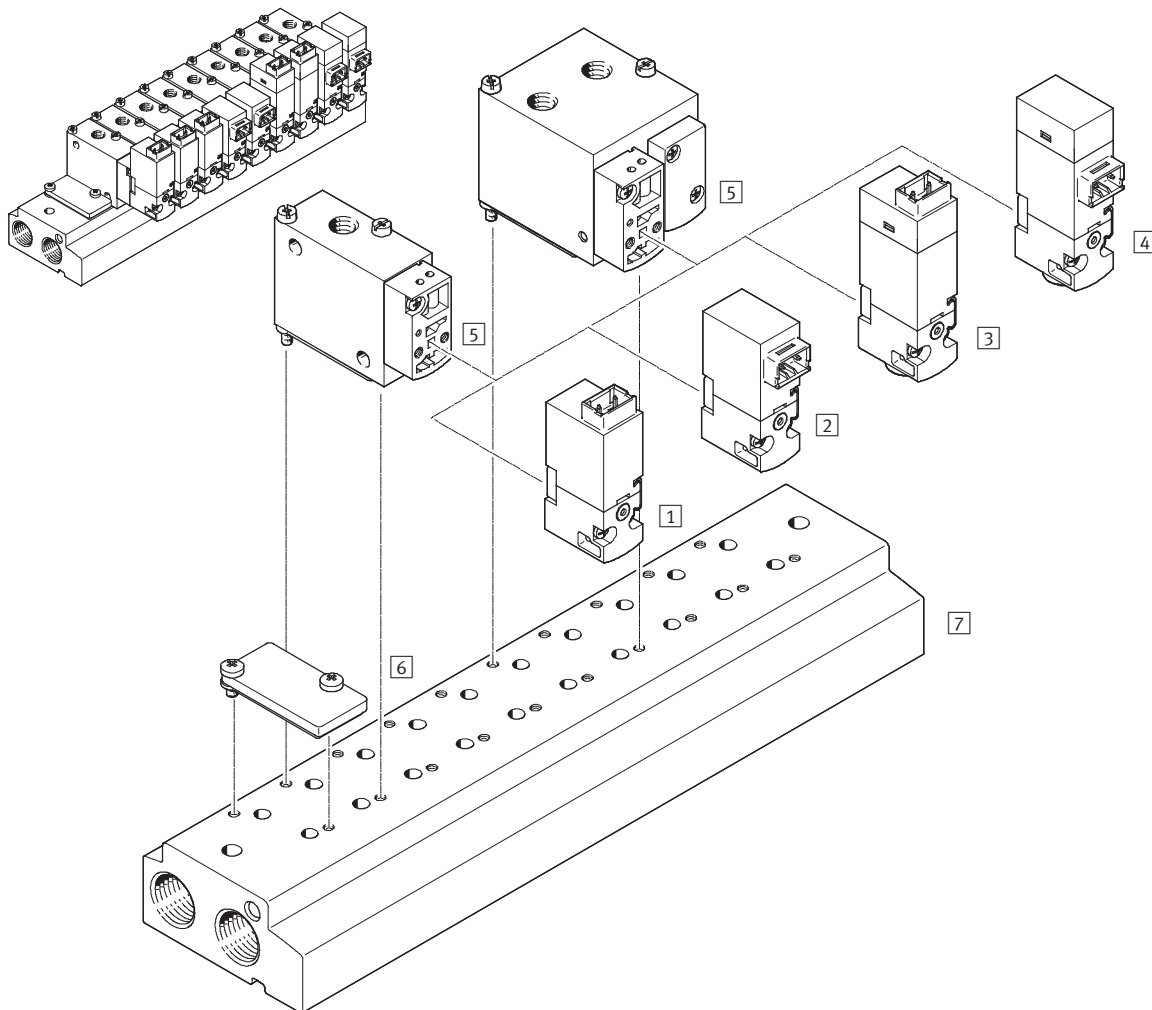
Component parts				
	Type	Brief description	➔ Page/ Internet	
1	Inscription label	MH-BZ-80X	For identifying the solenoid valves	19
2	Plug socket with cable	KMH	For solenoid coils	19
3	Pilot valve	–	Sub-assembly of the solenoid valve VOVG with vertical plug connection	8
4	Pilot valve	–	Sub-assembly of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

FESTO

Manifold assembly – Semi in-line valves

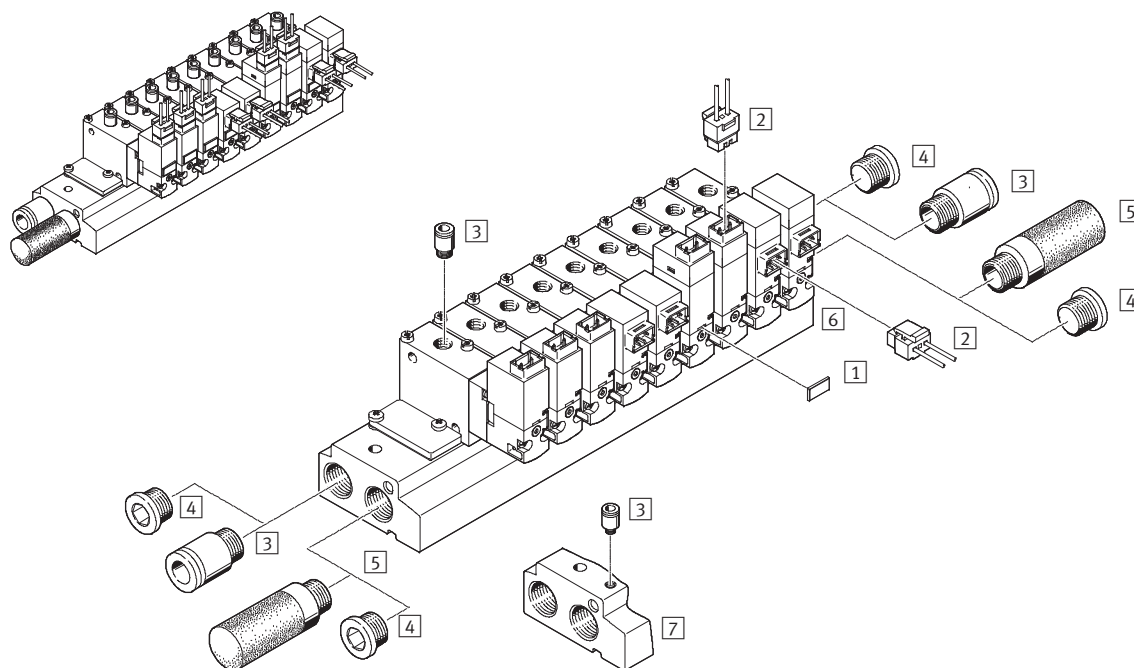


Component parts			
	Type	Brief description	→ Page/ Internet
1	Pilot valve	–	8
2	Pilot valve	–	
3	Pilot valve with LED	–	
4	Pilot valve with LED	–	
5	Basic valves	–	18
6	Blanking plate	VABB-C7-12-W	
7	Manifold rail	VABM-C7-...	
		For semi in-line valves	16

Solenoid valves VOVG

Peripherals overview

Manifold assembly – Semi in-line valves with accessories



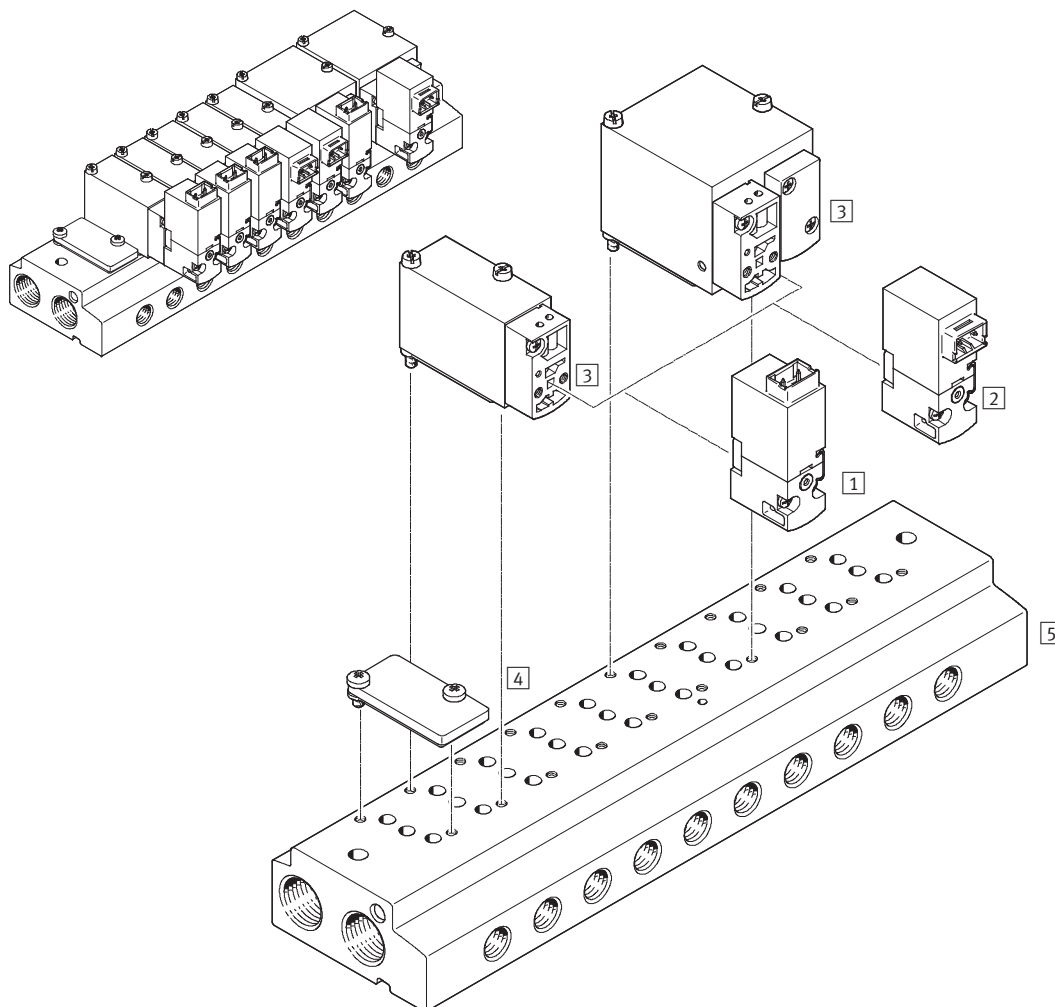
Component parts				
	Type	Brief description	➔ Page/ Internet	
1	Inscription label	MH-BZ-80X	For identifying the solenoid valves	19
2	Plug socket with cable	KMH	For solenoid coils	19
3	Push-in fitting	QS/QSM	For standard O.D. tubing	18
4	Blanking plug	B	For sealing unused ports	18
5	Silencer	U	For fitting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

FESTO

Manifold assembly – Sub-base valves

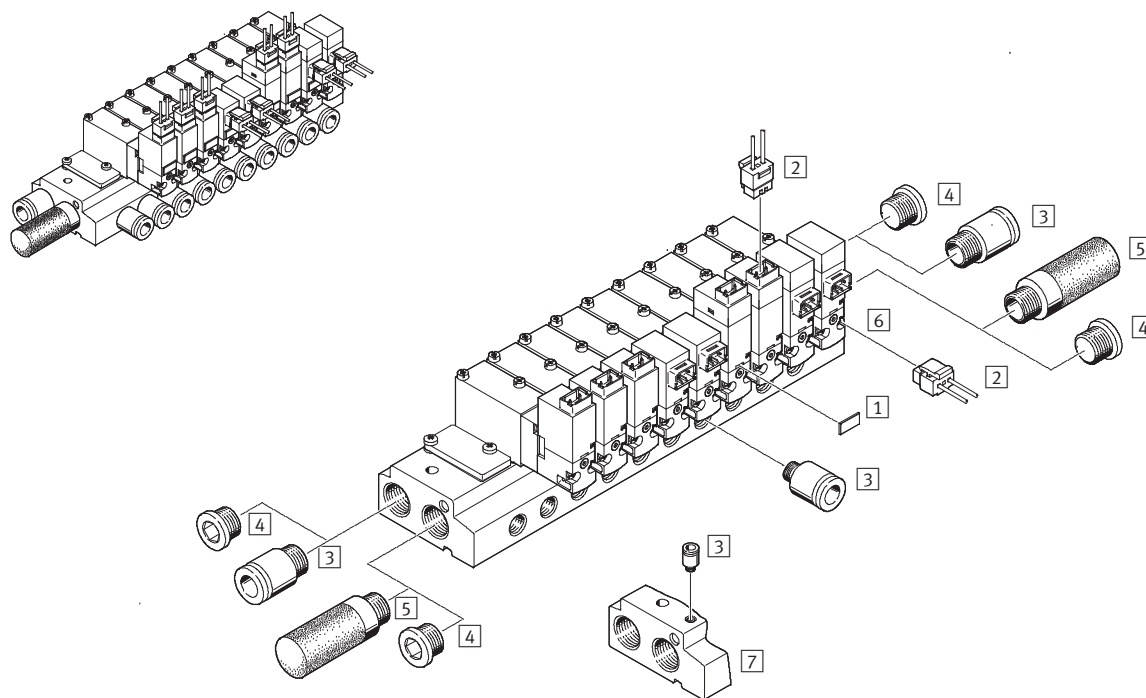


Component parts				
	Type	Brief description	➔ Page/ Internet	
1	Pilot valve	–	8	
2	Pilot valve	–		
3	Basic valves	–		
4	Blanking plate	VABB-C7-12-W	For vacant positions	18
5	Manifold rail	VABM-C7-...	For sub-base valves	17

Solenoid valves VOVG

Peripherals overview

Manifold assembly – Sub-base valves with accessories



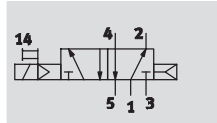
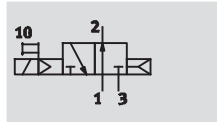
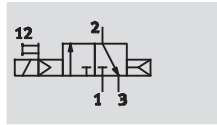
Component parts			
	Type	Brief description	→ Page/ Internet
1	MH-BZ-80X	For identifying the solenoid valves	19
2	KMH	For solenoid coils	19
3	QS/QSM	For standard O.D. tubing	18
4	B	For sealing unused ports	18
5	U	For fitting on exhaust ports	18
6	VABM-...-M...	Without port for external pilot air for valves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

Solenoid valves VOVG

Technical data

FESTO

Function



Voltage

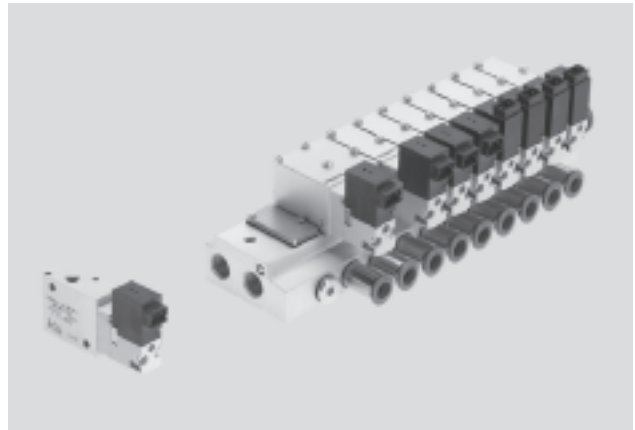
5, 12, 24 V DC

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	[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).

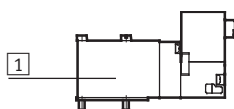
Solenoid valves VOVG

Technical data

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



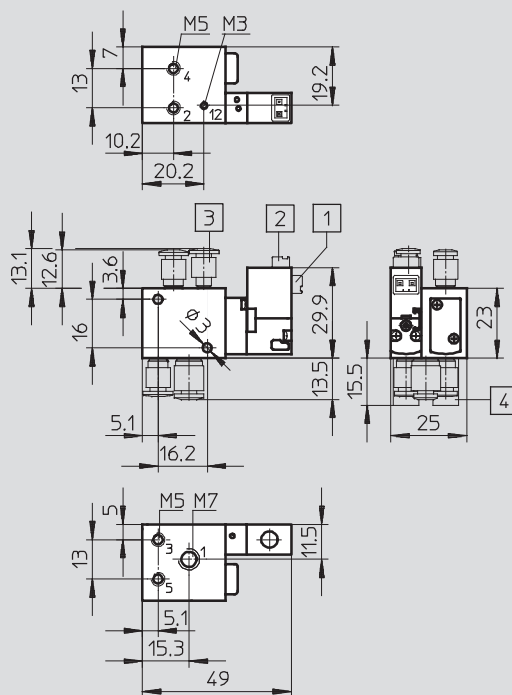
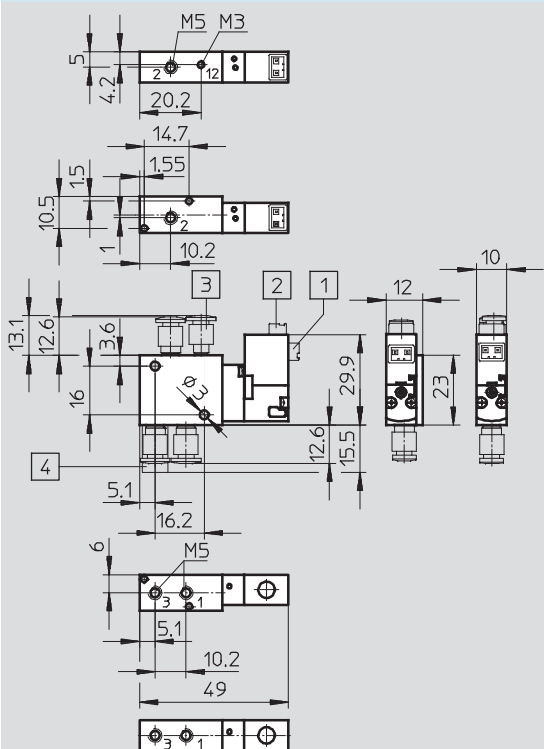
1	Housing	Aluminium
-	Seals	Fluoro elastomer, hydrogenated nitrile rubber, nitrile rubber

Dimensions – Valve

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

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

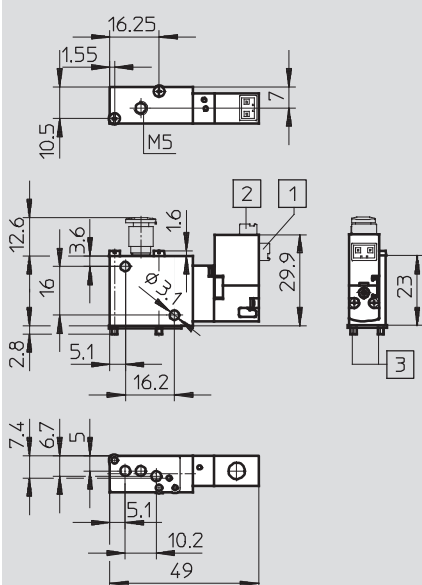
FESTO

Dimensions – Valve

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

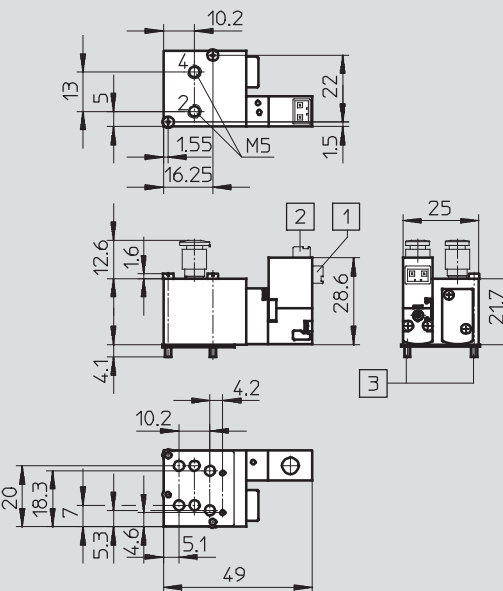
3/2-way semi in-line valve

5/2-way semi in-line valve



1 Electrical connection at rear

2 Electrical connection on top



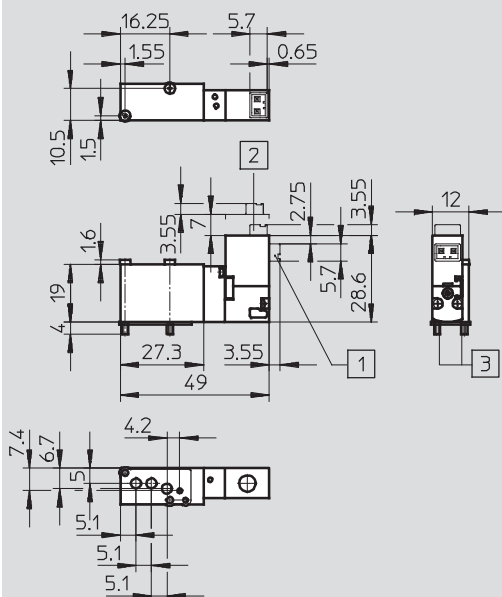
3 Mounting screws M2x25

Dimensions – Valve

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

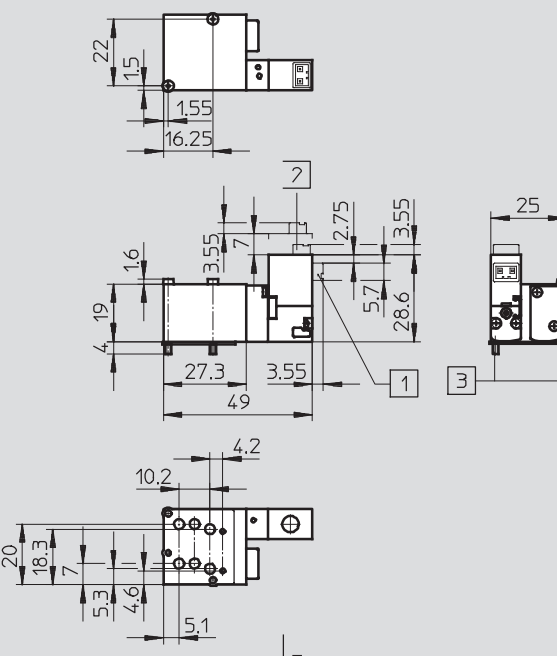
3/2-way sub-base valve

5/2-way sub-base valve



1 Electrical connection at rear

2 Electrical connection on top



3 Mounting screws M2x25

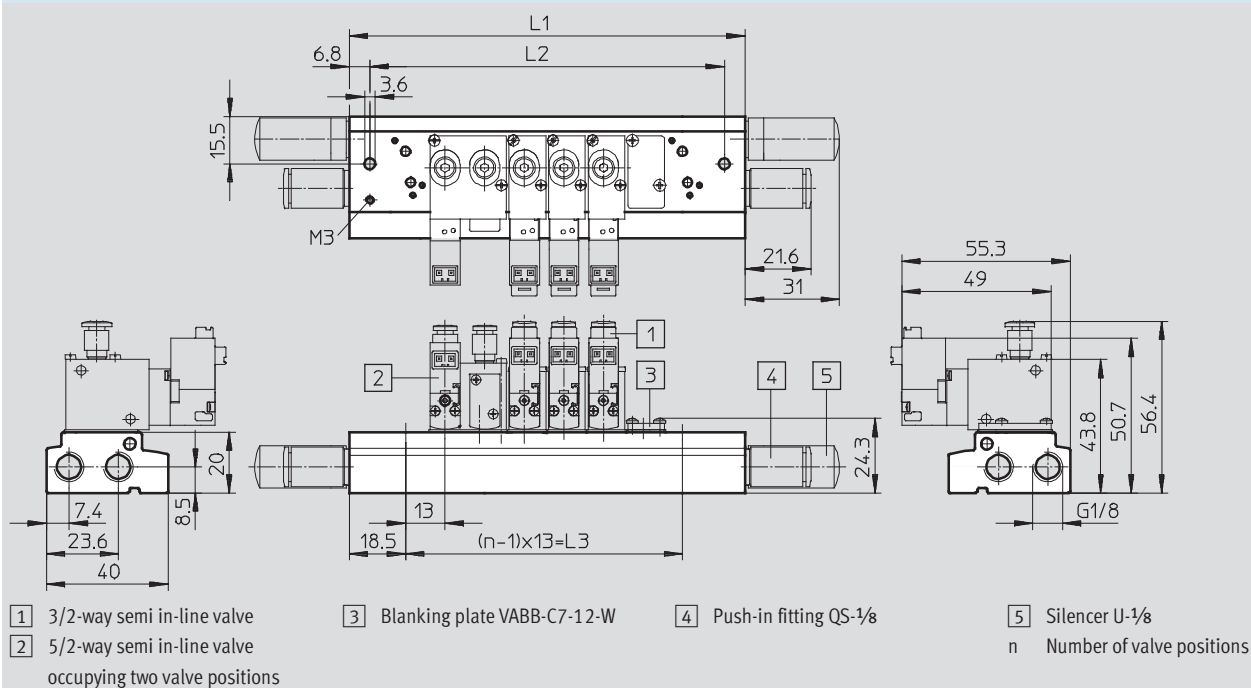
Solenoid valves VOVG

Technical data

Dimensions – Manifold assembly

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

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

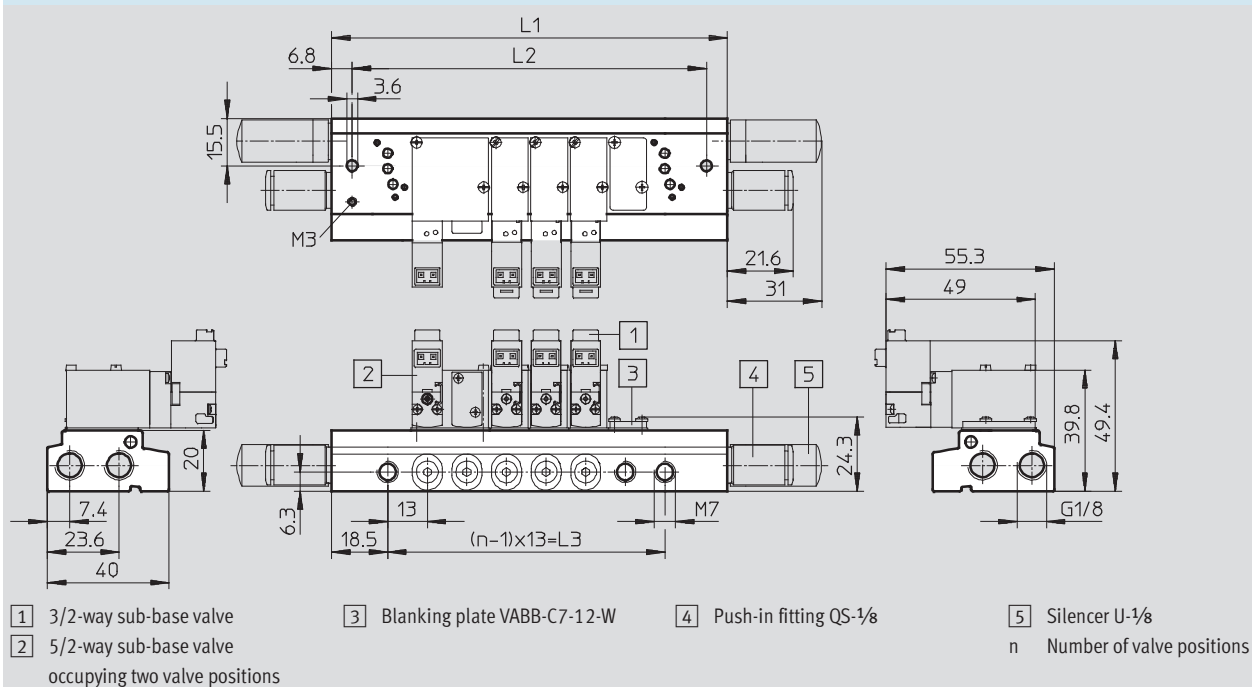
Technical data

FESTO

Dimensions – Manifold assembly

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

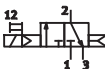
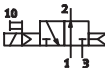
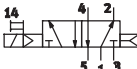
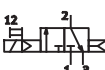
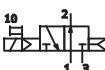

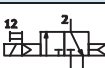
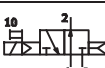

Sub-base valve



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

1105.Solenoid valves VOVG

Ordering data – Modular products

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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 M52Q	A	– Z	
Order example							
549 438	VOVG	– S	12	– M32U	– A		

Ordering table				Condition s	Code	Enter code
M	Module No.	549 438				
	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	
---------	------	---	--	---	--	---	---	--

1106.Solenoid valves VOVG

Ordering data – Modular products

Options				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				Condition s	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 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

Transfer order code

	–				–				+	
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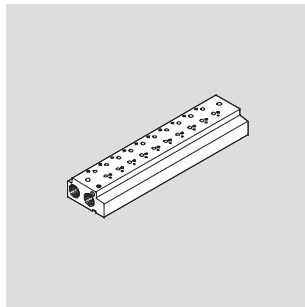
Solenoid valves VOVG

Technical data – Manifold rail

FESTO

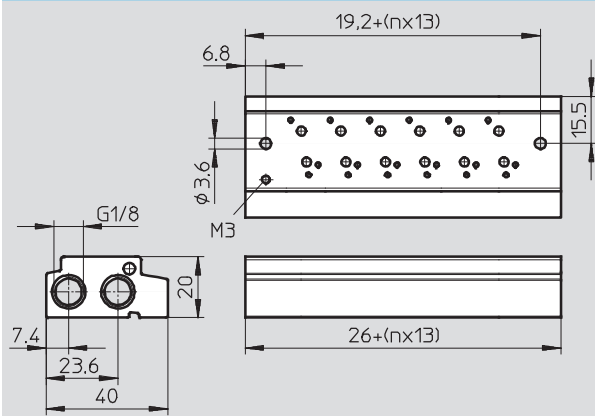
Manifold rail VABM-C7 for semi in-line valves

Material:
Wrought aluminium alloy



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

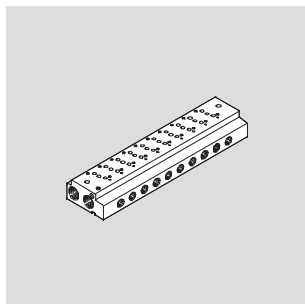
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Solenoid valves VOVG

Technical data – Manifold rail

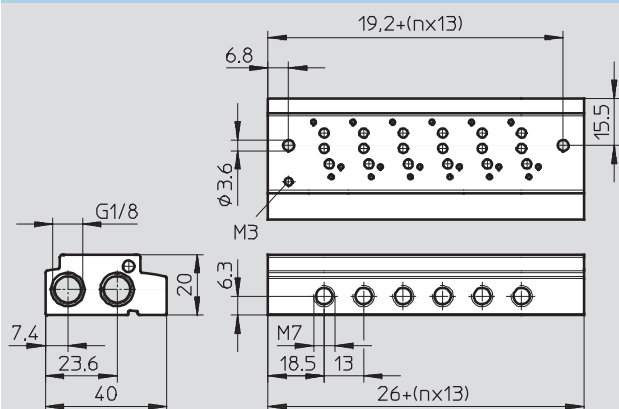
Manifold rail VABM-C7 for sub-base valves

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

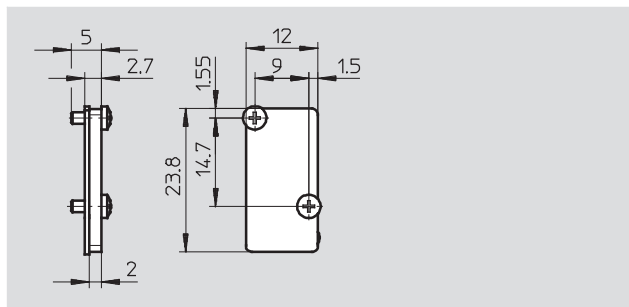
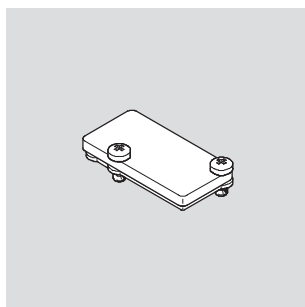
FESTO

Blanking plate VABB-C7

Material:

Blanking plate: Steel

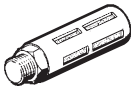

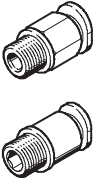
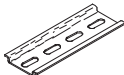
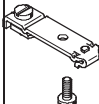
Seal: Nitrile rubber



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


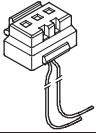
1) Corrosion resistance class 2 as per Festo standard 940 070

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 G $\frac{1}{8}$		2 307	U- $\frac{1}{8}$
			6 841	U- $\frac{1}{8}$ -B
Blanking plug				
	Thread G $\frac{1}{8}$	10 pieces	3 568	B- $\frac{1}{8}$
Push-in fitting				
	Connecting thread G $\frac{1}{8}$ for tubing O.D.	6 mm (10 pieces)	153 002	QS- $\frac{1}{8}$ -6
		8 mm (10 pieces)	153 004	QS- $\frac{1}{8}$ -8
	Connecting thread M3 for tubing O.D.	3 mm (10 pieces)	153 312	QSM-M3-3-I
	Connecting thread M5 for tubing O.D.	3 mm (10 pieces)	153 313	QSM-M5-3-I
		4 mm (10 pieces)	153 315	QSM-M5-4-I
		6 mm (10 pieces)	153 317	QSM-M5-6-I
	Connecting thread M7 for tubing O.D.	4 mm (10 pieces)	153 319	QSM-M7-4-I
		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

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Complete custom engineered solutions



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Comprehensive engineering support and on-site services



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With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



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Electromechanical actuators, motors, controllers & drives



Pneumatics
Pneumatic linear and rotary actuators, valves, and air supply



PLCs and I/O Devices
PLC's, operator interfaces, sensors and I/O devices

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