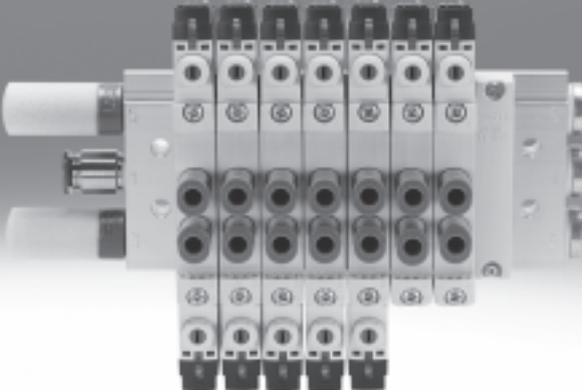


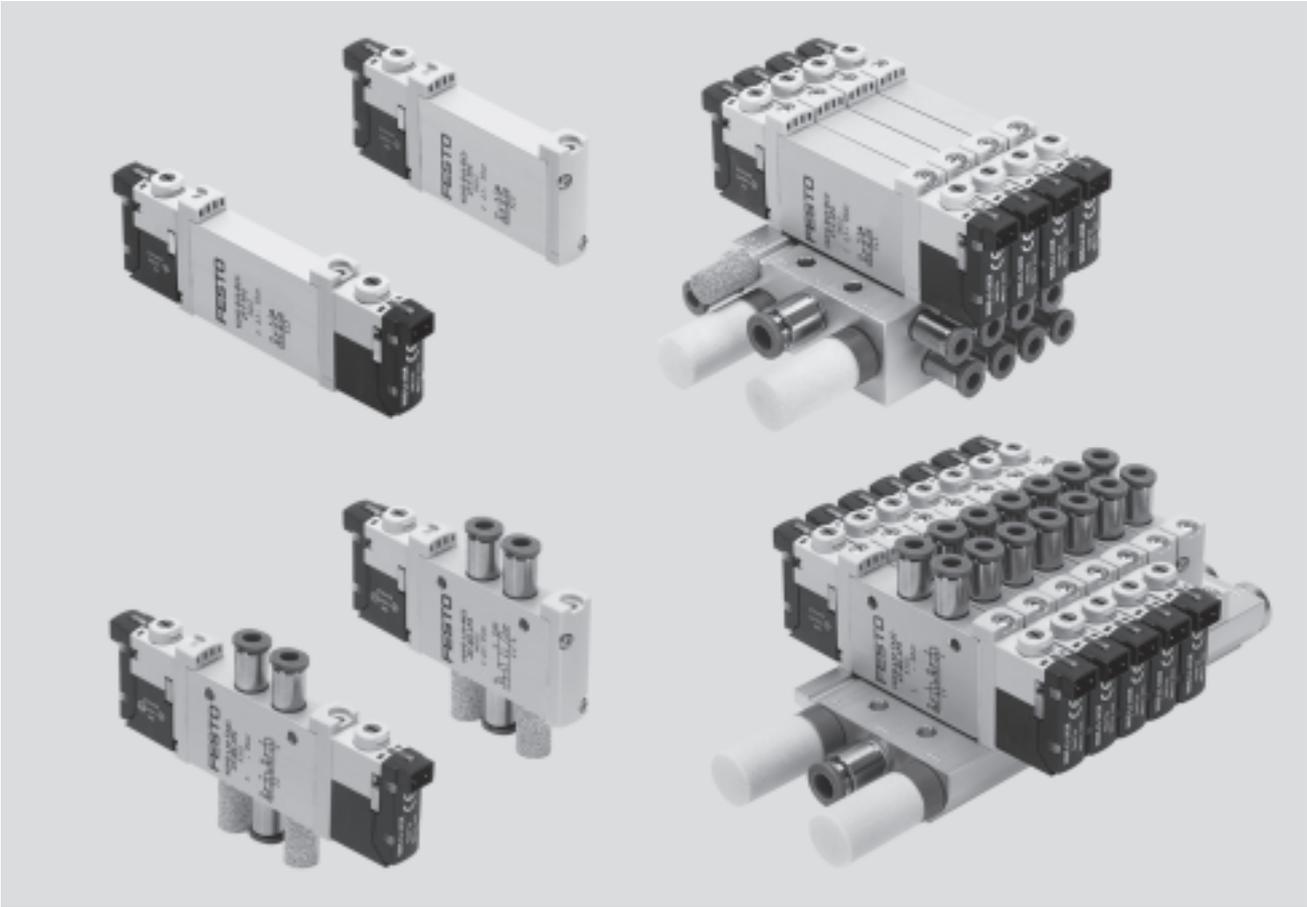
Solenoid valves VUVG/valve terminal type 26 VTUG



Solenoid valves VUVG/valve terminal type 26 VTUG

Key features

FESTO



Innovative

- Both internal and external pilot air supply can be used for manifolds with sub-base valves
- Connection technology easy to change via the E-box
- Max. pressure 10 bar

Versatile

- Wide range of valve functions
- Choice of quick plug connectors
- In-line valves can be used as individual valves or manifold valves
- M5 and M7 in-line valves can be combined on one manifold rail
- Identical sub-base valves for M5 or M7 manifold rail
- Manifolds with pressure zones
- IP40, IP65

Reliable

- Sturdy and durable metal components
 - Valves
 - Manifold rails
- Fast troubleshooting thanks to 360° LED display
- Convenient servicing thanks to valves that can be replaced quickly and easily
- Choice of manual override: non-detenting, detenting or covered

Easy to mount

- Secure mounting on wall or H-rail
- Easy mounting thanks to captive screws and seal
- Connection technology easy to change via the E-box
- Inscription label holder for labelling

Valve terminal configurator

A valve terminal configurator is available to help you select a suitable valve terminal VTUG. This makes it much easier to order the right product. Valve terminals type 26 VTUG are ordered via an identcode.

All valve terminals are supplied fully assembled and individually tested. This reduces assembly and installation time to a minimum.

Download CAD data → www.festo.com

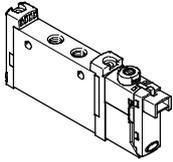
Ordering system for valve terminal type 26 VTUG

- Individual electrical connection
- Internet: vtug

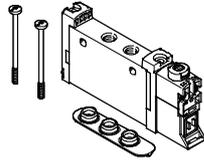
Solenoid valves VUVG/valve terminal type 26 VTUG

Key features – Pneumatic components

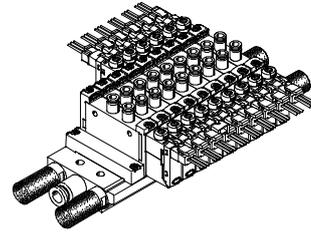
Individual valves and valve manifolds



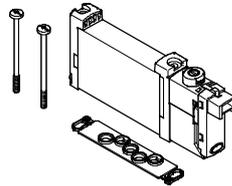
VUVG-L in-line valve
as individual valve



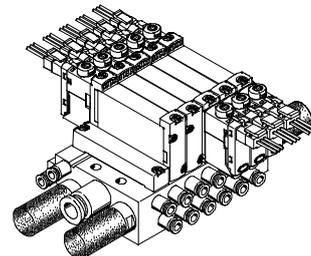
VUVG-S in-line valve
for manifold assembly



VTUG valve manifold
from VUVG-S in-line valves

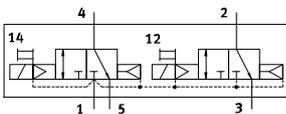


VUVG-B sub-base valve
for manifold assembly

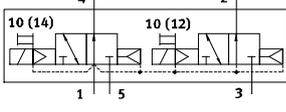


VTUG valve manifold
from VUVG-B sub-base valves

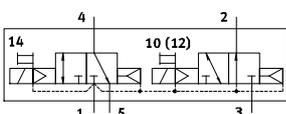
In-line valve functions



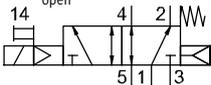
T32C: 2x3/2-way valve with internal pilot air supply, 2x normally closed



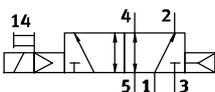
T32U: 2x3/2-way valve with internal pilot air supply, 2x normally open



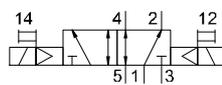
T32H: 2x3/2-way valve with internal pilot air supply, 1x normally closed, 1x normally open



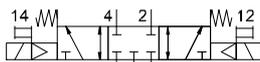
M52: 5/2-way single solenoid valve with internal pilot air supply, size 10



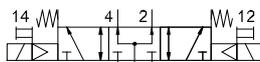
M52: 5/2-way single solenoid valve with internal pilot air supply, size 14



B52: 5/2-way double solenoid valve with internal pilot air supply



P53C: 5/3-way valve with internal pilot air supply, mid-position closed

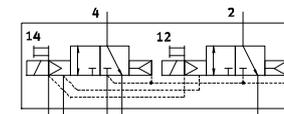


P53U: 5/3-way valve with internal pilot air supply, mid-position pressurised

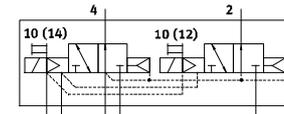


P53E: 5/3-way valve with internal pilot air supply, mid-position exhausted

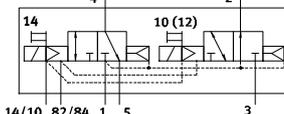
Sub-base valve functions



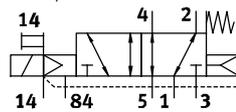
T32C: 2x3/2-way valve with external pilot air supply, 2x normally closed



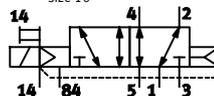
T32U: 2x3/2-way valve with external pilot air supply, 2x normally open



T32H: 2x3/2-way valve with external pilot air supply, 1x normally closed, 1x normally open



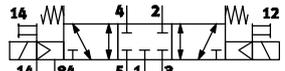
M52: 5/2-way single solenoid valve with external pilot air supply, size 10



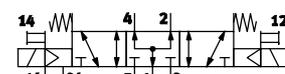
M52: 5/2-way single solenoid valve with external pilot air supply, size 14



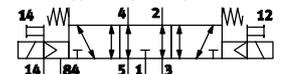
B52: 5/2-way double pilot valve with external pilot air supply



P53C: 5/3-way valve with external pilot air supply, mid-position closed



P53U: 5/3-way valve with external pilot air supply, mid-position pressurised

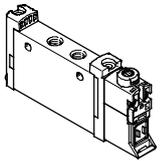


P53E: 5/3-way valve with external pilot air supply, mid-position exhausted

Solenoid valves VUVG/valve terminal type 26 VTUG

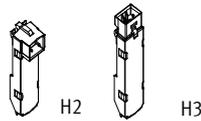
Key features – Pneumatic components

VUVG basic valves



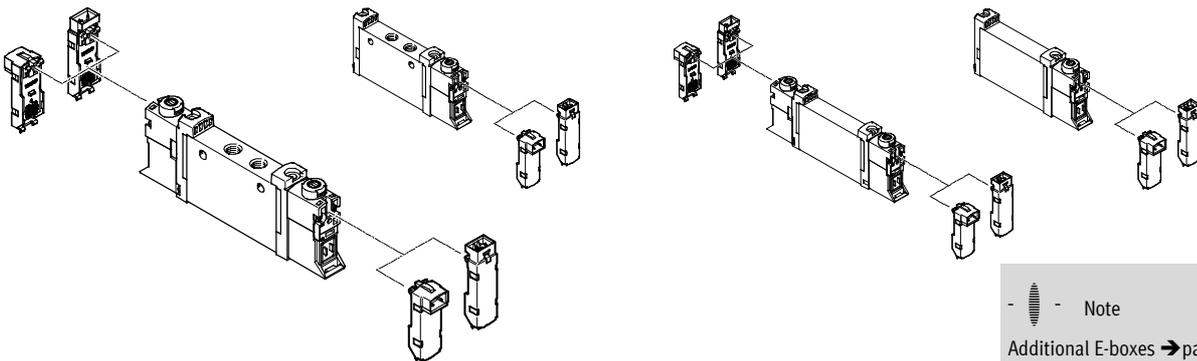
- Width 10 mm and 14 mm
- In-line valves
- Sub-base valves
- 2x3/2-way, 5/2-way and 5/3-way valves

E-boxes



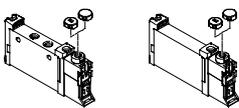
- 5, 12 and 24 V DC
- With or without holding current reduction
- LED

Basic valve and E-box combinations



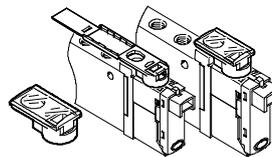
Note
Additional E-boxes → page 54

Cover caps for manual override



- Closed cover cap for covering the manual override
- Slotted cover cap for enabling only non-detenting operation of the manual override

Inscription label holder



- The inscription label holder can be used in place of the slotted cover cap
- The hinged inscription label holder covers the mounting screw and the manual override

Valve terminal configurator

Download CAD data → www.festo.com

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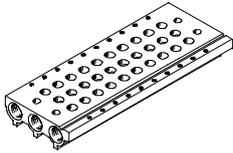
Ordering system for valve terminal type 26 VTUG

- Individual electrical connection
 - Electrical multi-pin plug connection
- Internet: vtug

Solenoid valves VUVG/valve terminal type 26 VTUG

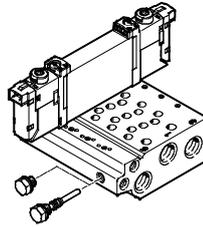
Key features – Pneumatic components

Manifold rail for in-line valves



- For in-line valves M3, M5, M7 and G 1/8, width 10
- For 2x3/2-way, 5/2-way and 5/3-way valves
- 2 to 10 and 12, 14, 16 valve positions

Manifold rail for sub-base valves



- For sub-base valves 10, 10A and 14, width 10
- Manifold rail with M5 or M7 working lines
- For 2x3/2-way, 5/2-way and 5/3-way valves
- 2 to 10, 12, 14 and 16 valve positions
- The sub-base valves always have external pilot air. The pilot air is set via the manifold rail. A short and a long blanking plug are included with the manifold rail for this purpose.

Note

With more than seven valve positions, ensure sufficient compressed air supply and exhaust at both ends.

Blanking plate for vacant position



- Vacant position cover

Supply plate



- For additional air supply and exhaust via a valve position

Separator for pressure zones



- For creating multiple pressure zones in a valve manifold

Solenoid valves VUVG/valve terminal type 26 VTUG

Key features – Pneumatic components

Creating pressure zones and separating exhaust air

Compressed air is supplied and exhausted via the manifold rail and via supply plates.

The position of the supply plates and duct separations can be freely selected with the VUVG.

Pressure zones are created by isolating the internal supply ducts between the manifold sub-bases by means of appropriate duct separation.

Pressure zone separation can be used for the following ducts:

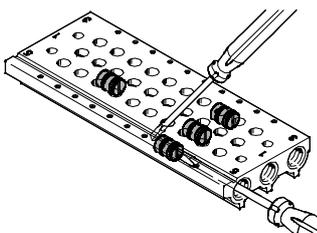
- Duct 1
- Duct 3
- Duct 5

Note

- Use a separator if the exhaust air pressures are high
- Use at least one supply plate/supply for each pressure zone
- Pressure zone separation is not possible with pilot air supply (duct 12/14)

Duct separation	Description
	<p>The pressure zones can be freely configured with the VUVG. The following duct separations are possible:</p> <ul style="list-style-type: none"> • Duct 1 closed
	<ul style="list-style-type: none"> • Duct 1/3/5 closed
	<ul style="list-style-type: none"> • Duct 3/5 closed
	<p>The number of pressure zones with the VUVG is only limited by the number of valve positions on the manifold rail. Note that each supply plate occupies one valve position.</p>

Separator VABD



Note

As the separators are mounted from only one side using a slotted screwdriver, several pressure zones can be created in one profile.

Solenoid valves VUVG/valve terminal type 26 VTUG

Key features – Pneumatic components

Pilot air supply

Internal pilot air supply

Internal pilot air supply can be chosen with an operating pressure in the range 1.5 ... 8 bar, 2.5 ... 8 bar or 3 ... 8 bar (depending on the valve used).

The pilot air supply is branched from duct 1 (compressed air supply) using an internal connection.

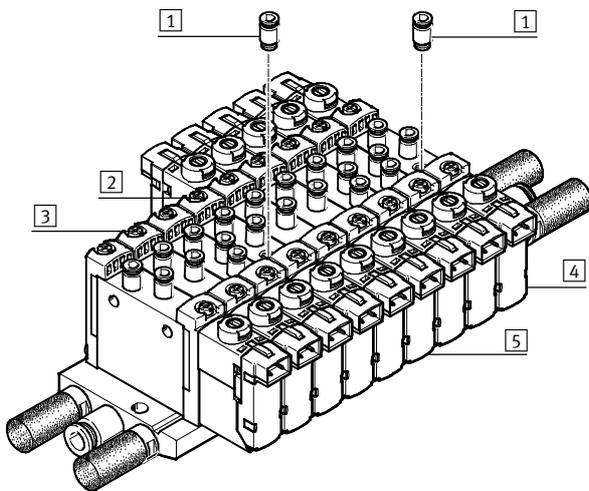
External pilot air supply

External pilot air supply is required for vacuum operation. The port for external pilot air supply (port 12/14) is located on the valve in the case of in-line valves and on the manifold rail in the case of sub-base valves.

Pilot exhaust air port

With sub-base valves, the pilot air is exhausted via duct 82/84 of the manifold rail. With in-line valves, the pilot exhaust air escapes via exhaust holes.

Pilot air supply with in-line and semi in-line valves



- 1 QS fitting for external pilot air at port 12/14
- 2 Single solenoid valve with external pilot air supply
- 3 Single solenoid valve with internal pilot air supply
- 4 Double solenoid valve with external pilot air supply
- 5 Double solenoid valve with internal pilot air supply

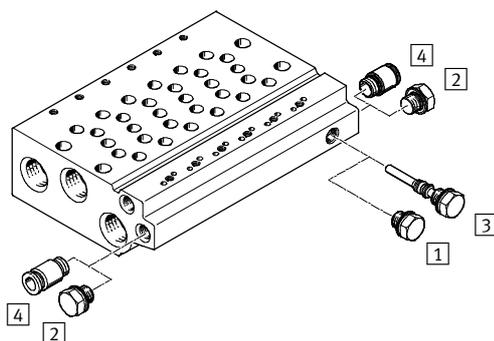
The internal pilot air is branched from port 1 in the valve body. The external pilot air (port 12/14) is supplied individually at each valve housing.



Note

Semi in-line valves cannot be supplied centrally with external pilot air via the manifold rail.

Pilot air supply with sub-base valves



- 1 Blanking plug, short, with internal pilot air
- 2 Blanking plug for duct 12/14 with internal pilot air
- 3 Blanking plug, long, with external pilot air
- 4 QS fitting for duct 12/14 with external pilot air

The manifold rails for sub-base valves have an internal conduit between duct 12/14 and duct 1. Internal or external pilot air supply is selected by inserting a blanking plug into this conduit.

Solenoid valves VUVG/valve terminal type 26 VTUG

Key features – Pneumatic components

Operation with different pressures

Vacuum operation

Points to note with 3/2-way valves

The 3/2-way valves are available in a design with two valves in one valve body and with pneumatic spring return. With these valves, the energy for the return movement is obtained from port 1.

Vacuum operation is therefore only possible at port 3 and 5, not at port 1.

With external pilot air supply, vacuum can be connected at port 1, 3, 5 with the 5/2-way and 5/3-way valves.

Reverse operation

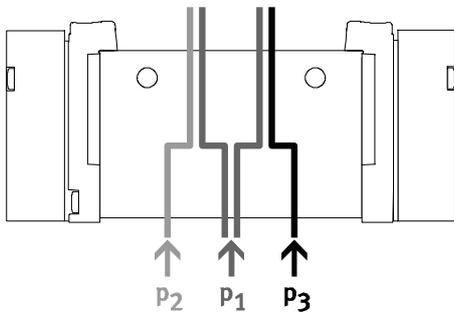
The 3/2-way valves with pneumatic spring are not suitable for reverse operation, since at least the minimum pilot pressure must be present in duct 1.



Note

Pressure must be present at port 1.

Pressure deflector (internal pilot air)



- If two different pressures are required.

- Different pressures can be supplied at duct 1, 3 and 5.



Note

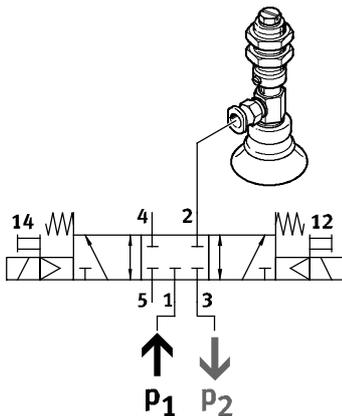
- With internal pilot air, the minimum pilot pressure must be adhered to in duct 1

- With 2x3/2-way valves without spring return, the minimum pilot pressure must always be adhered to in duct 1

Advantages

- Any pressure or vacuum can be connected at duct 3 and 5 both with external and internal pilot air

Vacuum, ejector pulse and normal position

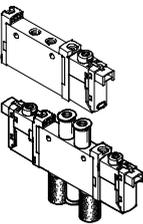
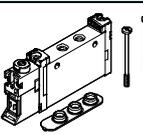


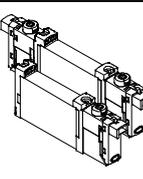
Vacuum, ejector pulse and normal position with internal pilot air can be achieved by connecting vacuum

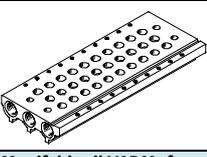
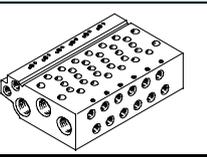
at duct 3 and pressure for the ejector pulse at duct 1.

Solenoid valves VUVG/valve terminal type 26 VTUG

Product range overview

Design	Working line	Type code	Functions and flow rate [l/min]									→ Page/ Internet
			T32C	T32U	T32H	M52	B52	P53C	P53U	P53E		
In-line valve as individual valve 	Solenoid valve VUVG-L											
	M3	10A	–	–	–	■	■	■	■	■	■	12
	M5	10	■	■	■	■	■	■	■	■	■	19
	M7	10	■	■	■	■	■	■	■	■	■	22
	G1/8	14	■	■	■	■	■	■	■	■	■	29
In-line valve for manifold assembly 	Solenoid valve VUVG-S											
	M3	10A	–	–	–	■	■	■	■	■	■	12
	M5	10	■	■	■	■	■	■	■	■	■	19
	M7	10	■	■	■	■	■	■	■	■	■	22
	G1/8	14	■	■	■	■	■	■	■	■	■	29

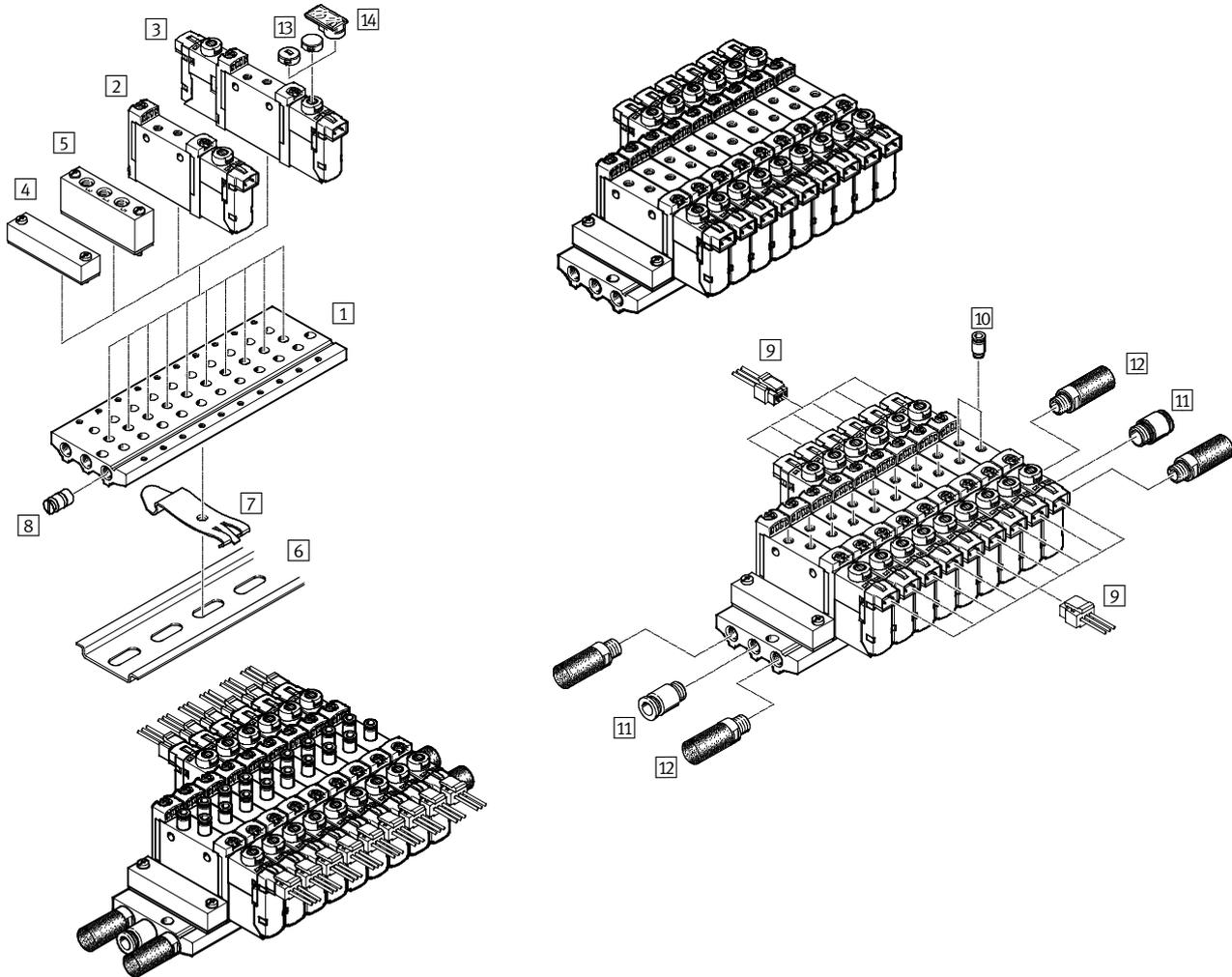
Design	Working line	Type code	Functions and flow rate [l/min]									→ Page/ Internet
			T32C	T32U	T32H	M52	B52	P53C	P53U	P53E		
Sub-base valve 	Solenoid valve VUVG-B											
	–	10A	–	–	–	■	■	■	■	■	■	35
	–	10	■	■	■	■	■	■	■	■	■	42
	–	10	■	■	■	■	■	■	■	■	■	42
	–	14	■	■	■	■	■	■	■	■	■	48

Design	Working line	Type code	Description	→ Page/ Internet
Manifold rail 	Manifold rail VABM- ... -S- ... , for in-line valves (manifold assembly)			vabm
	–	–	Valve size M3, M5, M7, G1/8	
Manifold rail 	Manifold rail VABM, for sub-base valves			vabm
	–	10AW	Connection size M3	
	–	10W	Connection size M5	
	–	10HW	Connection size M7	
	–	14W	Connection size G1/8	

Solenoid valves VUVG-L10A and VUVG-S10A, in-line valves M3

System overview

Manifold assembly



Manifold assembly and accessories				
	Type	Brief description	→ Page/Internet	
1	Manifold rail	VABM-L1-10AS-M5-...	For 2 to 10, 12, 14 and 16 valve positions	16
2	Solenoid valve	VUVG- ...	In-line valve, 5/2-way single solenoid	11
3	Solenoid valve	VUVG-B ...	In-line valve, 5/2-way double solenoid and 5/3-way valve	11
4	Blanking plate	VABB-L1-10-A	For covering an unused valve position	16
5	Supply plate	VABF-L1-10A-P3A4-M5	For air supply port 1 and outlet port 3 and 5	16
6	H-rail	NRH-35-2000	For mounting the valve manifold	58
7	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	58
8	Separator	VABD...	For creating pressure zones	16
9	Plug socket with cable	NEBV-H1G2-...-LE2	For E-box H2 and H3	56
10	Push-in fitting	QS...	Push-in fitting for outlet port 2 and 4	57
11	Push-in fitting	QS...	Push-in fitting for air supply port 1	quick star
12	Silencer	U...	For outlet port 3 and 5	57
13	Cover cap	VMPA-HB...-B	For manual override	58
14	Inscription label holder	ASLR-D	For labelling the valves, covering the mounting screw and the manual override	58

Solenoid valves VUVG-L10A and VUVG-S10A, in-line valves M3

FESTO

Technical data

Function

5/2-way, single solenoid
5/2-way, double solenoid
5/3C, 5/3U, 5/3E

Circuit symbol → page 3

-  - Width 10 mm
-  - Flow rate
90 ... 100 l/min
-  - Voltage
5, 12 and 24 V DC



General technical data					
Valve function	5/2-way		5/3-way		
Normal position	-	-	C ¹⁾	U ²⁾	E ³⁾
Stable position	One position	Two positions	Centre		
Pneumatic spring reset method	Yes ⁵⁾	-	No		
Mechanical spring reset method	Yes ⁵⁾	-	Yes		
Vacuum operation at port 1	Only with external pilot air supply				
Design	Piston spool valve				
Sealing principle	Soft				
Actuation type	Electric				
Type of control	Piloted				
Pilot air supply	Internal or external				
Exhaust function	With flow control				
Manual override	Choice of non-detenting, detenting or covered				
Type of mounting	Optionally via through-holes ⁷⁾ or on manifold rail				
Mounting position	Any				
Nominal size	[mm]	2			
Standard nominal flow rate	[l/min]	100	90		
Flow rate on manifold rail	[l/min]	100	90		
Switching time on/off	[ms]	7/15	-	8/25	
Changeover time	[ms]	-	5	14	
Width	[mm]	10			
Connection	1, 2, 3, 4, 5, 14	M3			
Product weight	[g]	38	49		
Corrosion resistance class	CRC	2 ⁶⁾			

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

5) Combined reset method

6) Corrosion resistance class 2 according to 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.

7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

Solenoid valves VUVG-L10A and VUVG-S10A, in-line valves M3

Technical data

Operating and environmental conditions				
Valve function		5/2-way, single solenoid	5/2-way, double solenoid	5/3-way
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 at port 1 with pilot air supply	Internal [bar]	2.5 ... 8	1.5 ... 8	3 ... 8
	External [bar]	-0.9 ... 10		
Operating pressure at port 3 or 5 with pilot air supply	Internal or external [bar]	-0.9 ... 10		
	Pilot pressure ¹⁾ [bar]	2.5 ... 8	1.5 ... 8	3 ... 8
Ambient temperature [°C]		-5 ... +50, -5 ... +60 with holding current reduction		
Temperature of medium [°C]		-5 ... +50, -5 ... +60 with holding current reduction		

1) Minimum pilot pressure 50% of operating pressure

Electrical data	
Electrical connection	Via E-box
Operating voltage [V DC]	5, 12 and 24 ±10%
Power [W]	1, reduced to 0.35 with holding current reduction
Duty cycle [%]	100
Protection class to EN 60529	IP40 (with plug socket), IP65 (with M8)

Information on materials	
Housing	Wrought aluminium alloy
Seals	HNBR, NBR
Note on materials	RoHS-compliant

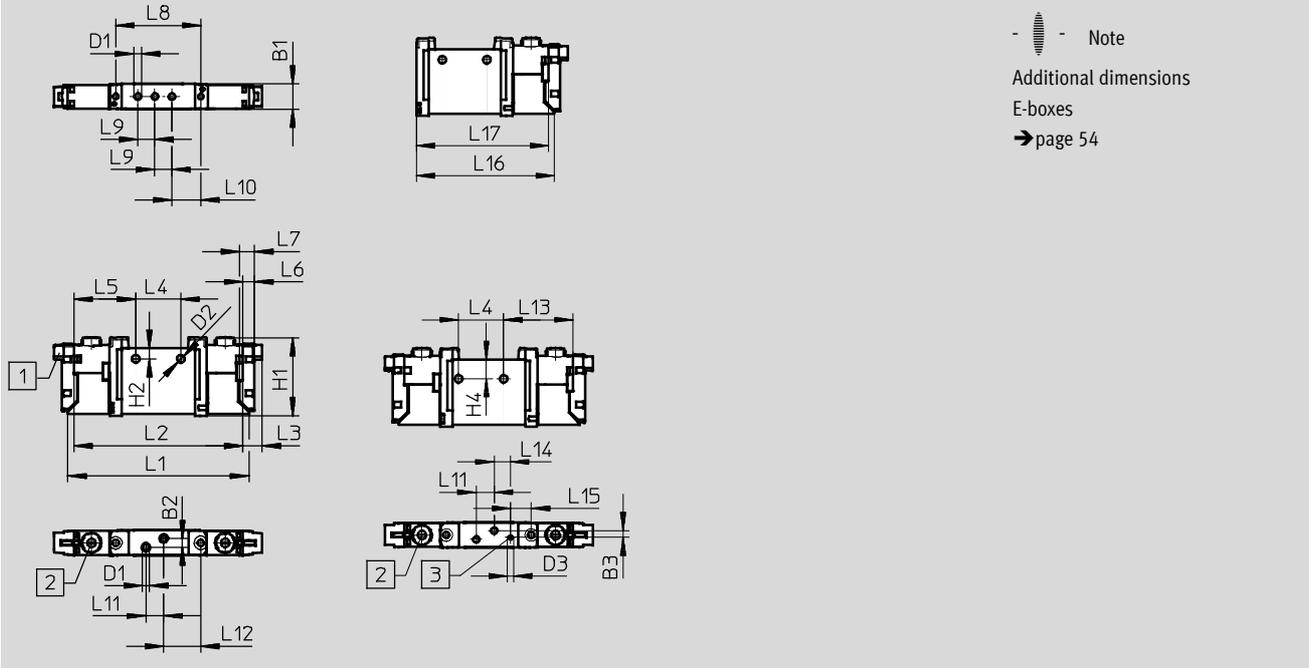
Solenoid valves VUVG-L10A and VUVG-S10A, in-line valves M3

Technical data

Dimensions

Download CAD data → www.festo.com

5/2-way and 5/3-way valve



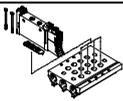
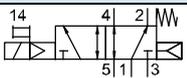
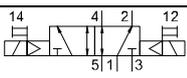
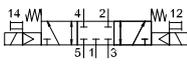
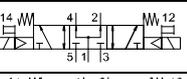
 Note
Additional dimensions
E-boxes
→ page 54

1 Horizontal electrical connection **2** Manual override **3** Port for external pilot air supply

Type	B1	B2	B3	D1	D2	H1	H2	L1	L2	L3	L4	L5
VUVG-L-10 -...-M3 ...	10.2	3.6	2.83	M3	3.2	32.5	4.4	74.3	69.3	8	18.5	25.4
VUVG-S-10 -...-M3 ...	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17
	4.85	6.15	34.9	7	11.9	7.3	15.25	28.5	6.7	8.54	57.06	54.56

Solenoid valves VUVG-L10A and VUVG-S10A, in-line valves M3

Order code

VUVG	10A	L								
Valve design  In-line, individual valve L  In-line valve, manifold valve incl. seal and screws S		Connecting cable W1...4¹⁾ Not sheathed for H  C1...4¹⁾ Sheathed WS1...4¹⁾ Not sheathed for S  S1...4¹⁾ Sheathed N1...4⁶⁾ M8x1, 3-pin  N5...8⁶⁾ M8x1, 4-pin 								
Width 10 mm 10A		Display L LED								
Valve functions⁵⁾  M52  B52  P53C  P53U  P53E		Protective circuit Power [W] - Without holding current reduction (HCR) 1 R²⁾ With holding current reduction (HCR) 1 to 0.35								
Reset method Pneu./mech. spring for M52 R With B52 and P53 -		E-box H2 Connection pattern H, horizontal plug  H3 Connection pattern H, vertical plug  S2 Connection pattern S, horizontal plug  S3 Connection pattern S, vertical plug  L1...4 With 2x flying leads L: 1 = 0.5 m, 2 = 1 m, 3 = 2.5 m, 4 = 5 m  R1 Individual plug M8, 4-pin  R8 Individual plug M8, 3-pin  P3 Without E-box 								
Pilot air supply Internal - External Z		Operating voltage 1 24 V DC 5 12 V DC 4 5 V DC								
Manual override  Non-detenting H  Covered S - Non-detenting, detenting T		Exhausting with VUVG-L QN QS if QS ³⁾ U Silencer - M3								
		<table border="1"> <thead> <tr> <th>Pneumatic connection</th> <th>Flow rate [l/min]⁴⁾</th> </tr> </thead> <tbody> <tr> <td>M3 Thread M3</td> <td>100</td> </tr> <tr> <td>Q3 Push-in connector 3 mm/M3</td> <td>80</td> </tr> <tr> <td>Q4 Push-in connector 4 mm/M3</td> <td>100</td> </tr> </tbody> </table>	Pneumatic connection	Flow rate [l/min] ⁴⁾	M3 Thread M3	100	Q3 Push-in connector 3 mm/M3	80	Q4 Push-in connector 4 mm/M3	100
Pneumatic connection	Flow rate [l/min] ⁴⁾									
M3 Thread M3	100									
Q3 Push-in connector 3 mm/M3	80									
Q4 Push-in connector 4 mm/M3	100									

1) W1/C1/S1/WS1 = 0.5 m, W2/C2/S2/WS2 = 1 m, W3/C3/S3/WS3 = 2.5 m, W4/C4/S4/WS4 = 5 m
 2) At 24 V DC

3) If QN is chosen for the pneumatic connection, this also applies to the exhaust ports 3 and 5
 4) Flow rate applies to 5/2-way individual valve

5) Circuit symbol for internal pilot air supply
 6) Straight: N1/N5 = 2.5 m, N2/N6 = 5 m
 Angled: N3/N7 = 2.5 m, N4/N8 = 5 m

Solenoid valves VUVG-S10A, in-line valves M3

Manifold assembly

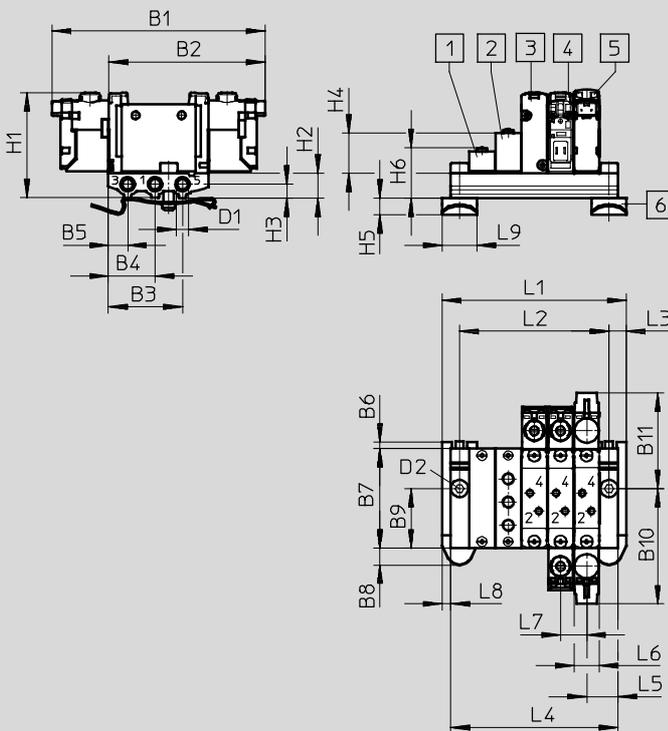
FESTO

In-line valves for
manifold assembly



Dimensions

Download CAD data → www.festo.com



 Note
Additional dimensions
E-boxes
→ page 52

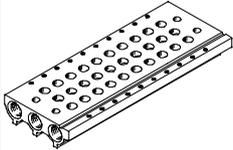
- 1 Blanking plate
VABB-L1-10A-S
- 2 Supply plate
VABF-
L1-10A-P3A4-M3
- 3 Single solenoid valve,
without E-box
- 4 Double solenoid
valve, without E-box
- 5 Solenoid valve, vertical electrical connection
- 6 H-rail mounting (two M4x16 screws to DIN 912
are required for mounting)

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	D1
VUVG-S10A -...-M3 ...	85.3	62.6	29.7	18.7	7.7	3	40.3	6.8	24.2	46.7	38.6	M5
	D2	H1	H2	H3	H4	H5	H6	L3	L5	L6	L7	L8
	Ø4.5	43.8	10	5.5	16.2	6.8	20.3	7	12.5	10.3	10.5	3.5
	L9											
	14											

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1 [mm]	42.5	53	63.5	74	84.5	95	105.5	116	126.5	147.5	168.5	189.5
L2 [mm]	28.5	39	49.5	60	70.5	81	91.5	102	112.5	133.5	154.5	175.5
L4 [mm]	35.5	46	56.5	67	77.5	88	98.5	109	119.5	140.5	161.5	182.5
VABM weight [g]	26	34	42	50	58	66	74	82	90	106	122	138

Solenoid valves VUVG-S10A, in-line valves M3

Ordering data

Technical data – Manifold rails							
	Connection	CRC	Material ²⁾	Operating pressure	Max. tightening torque for assembly [Nm]		
	1, 3, 5			[bar]	Valve	H-rail	Wall
	M5	2 ¹⁾	Wrought aluminium alloy	-0.9 ... 10	0.45	1.5	3

- 1) Corrosion resistance class 2 according to 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.
- 2) Note on materials: RoHS-compliant

Order code – Manifold rails

VABM	-	L1	-	10A	S	-	M5	-	
Manifold assembly parts									Number of valve positions
Manifold rail	VABM								2 to 10, 12, 14 and 16
Valve series									Ports 1, 3, 5
VUVG		L1					M5	M5	
Valve width									
10 mm				10A					
Manifold rail with ports 1, 3, 5									
For M3 in-line valves					S				

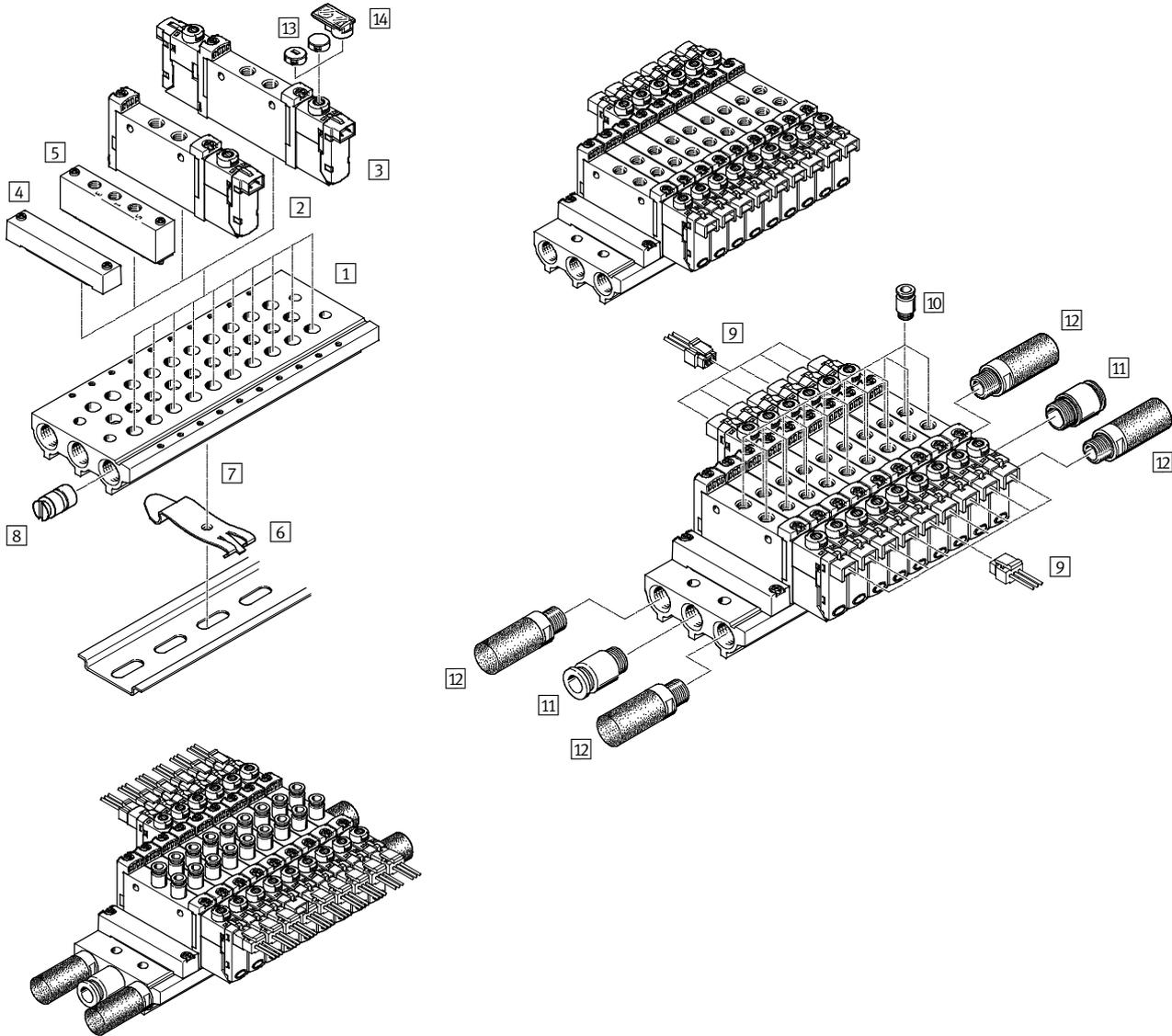
Ordering data – Accessories

				Type
Blanking plate				Technical data → Internet: vabb
	For manifold rail for M3 in-line valves	Incl. screws and seal		VABB-L1-10A
Separator				Technical data → Internet: vabd
	For manifold rail for M3 in-line valves	Separator for pressure zones		VABD-4.2-B
Supply plate				Technical data → Internet: vabf
	For manifold rail for M3 in-line valves	Incl. screws and seal		VABF-L1-10A-P3A4-M5
Seals for in-line valves				Technical data → Internet: vabd
	M3	10 seals and 20 screws		VABD-L1-10AX-S-M3

Solenoid valves VUVG-L10 and VUVG-S10, in-line valves M5/M7

System overview

Manifold assembly



Manifold assembly and accessories				
	Type	Brief description	→ Page/Internet	
1	Manifold rail	VABM-L1-10S-G18-...	For 2 to 10, 12, 14 and 16 valve positions	26
2	Solenoid valve	VUVG- ...	In-line valve, 5/2-way single solenoid	18
3	Solenoid valve	VUVG- ...	In-line valve, 2x3/2-way, 5/2-way double solenoid and 5/3-way valve	18
4	Blanking plate	VABB-L1-10-S	For covering an unused valve position	26
5	Supply plate	VABF-L1-10-P3A4- ...	For air supply port 1 and outlet port 3 and 5	26
6	H-rail	NRH-35-2000	For mounting the valve manifold	56
7	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	56
8	Separator	VABD-...	For creating pressure zones	26
9	Plug socket with cable	NEBV-H1G2-...-LE2	For E-box H2 and H3	56
10	Push-in fitting	QS...	Push-in fitting for outlet port 2 and 4	56
11	Push-in fitting	QS...	Push-in fitting for air supply port 1	quick star
12	Silencer	U...	For outlet port 3 and 5	56
13	Cover cap	VMPA-HB...-B	For manual override	56
14	Inscription label holder	ASLR-D	For labelling the valves, covering the mounting screw and the manual override	58

Solenoid valves VUVG-L10 and VUVG-S10, in-line valves M5

Technical data

Function

2x3/2C, 2x3/2U, 2x3/2H

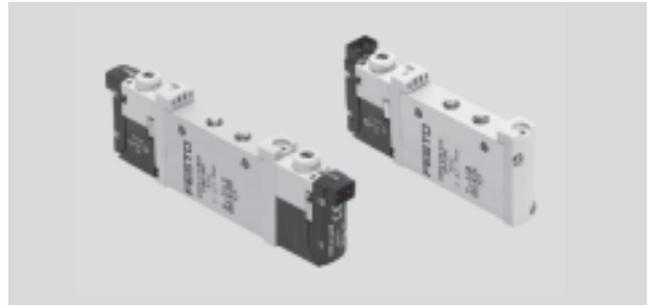
5/2-way, single solenoid

5/2-way, double solenoid

5/3C, 5/3U, 5/3E

Circuit symbol → page 3

-  - Width 10 mm
-  - Flow rate
150 ... 220 l/min
-  - Voltage
5, 12 and 24 V DC



General technical data								
Valve function	2x3/2-way			5/2-way		5/3-way		
Normal position	C ¹⁾	U ²⁾	H ⁴⁾	-	-	C ¹⁾	U ²⁾	E ³⁾
Stable position	One position				Two positions		Centre	
Pneumatic spring reset method	Yes			Yes ⁵⁾		-		No
Mechanical spring reset method	No			Yes ⁵⁾		-		Yes
Vacuum operation at port 1	No			Only with external pilot air supply				
Design	Piston spool valve							
Sealing principle	Soft							
Actuation type	Electric							
Type of control	Piloted							
Pilot air supply	Internal or external							
Exhaust function	With flow control							
Manual override	Choice of non-detenting, detenting or covered							
Type of mounting	Optionally via through-holes ⁷⁾ or on manifold rail							
Mounting position	Any							
Nominal size	[mm]	2.7			3.2			
Standard nominal flow rate	[l/min]	150			220		210	
Flow rate on manifold rail	[l/min]	150			220		210	
Switching time on/off	[ms]	6/16			7/19		-	
Changeover time	[ms]	-			7		16	
Width	[mm]	10						
Connection	1, 2, 3, 4, 5	M5						
	12, 14	M3						
Product weight	[g]	55			45		55	
Corrosion resistance class	CRC	2 ⁶⁾						

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open

5) Combined reset method

6) Corrosion resistance class 2 according to 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.

7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

Solenoid valves VUVG-L10 and VUVG-S10, in-line valves M5

Technical data

Operating and environmental conditions						
Valve function			2x3/2-way	5/2-way, single solenoid	5/2-way, double solenoid	5/3-way
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 at port 1 with pilot air supply	Internal	[bar]	1.5 ... 8	2.5 ... 8	1.5 ... 8	3 ... 8
	External	[bar]	1.5 ... 10	-0.9 ... 10		
Operating pressure at port 3 or 5 with pilot air supply	Internal or external	[bar]	-0.9 ... 10			
Pilot pressure ¹⁾		[bar]	1.5 ... 8	2.5 ... 8	1.5 ... 8	3 ... 8
Ambient temperature		[°C]	-5 ... +50, -5 ... +60 with holding current reduction			
Temperature of medium		[°C]	-5 ... +50, -5 ... +60 with holding current reduction			

1) Minimum pilot pressure 50% of operating pressure

Electrical data	
Electrical connection	Via E-box
Operating voltage [V DC]	5, 12 and 24 ±10%
Power [W]	1, reduced to 0.35 with holding current reduction
Duty cycle [%]	100
Protection class to EN 60529	IP40 (with plug socket), IP65 (with M8)

Information on materials	
Housing	Wrought aluminium alloy
Seals	HNBR, NBR
Note on materials	RoHS-compliant

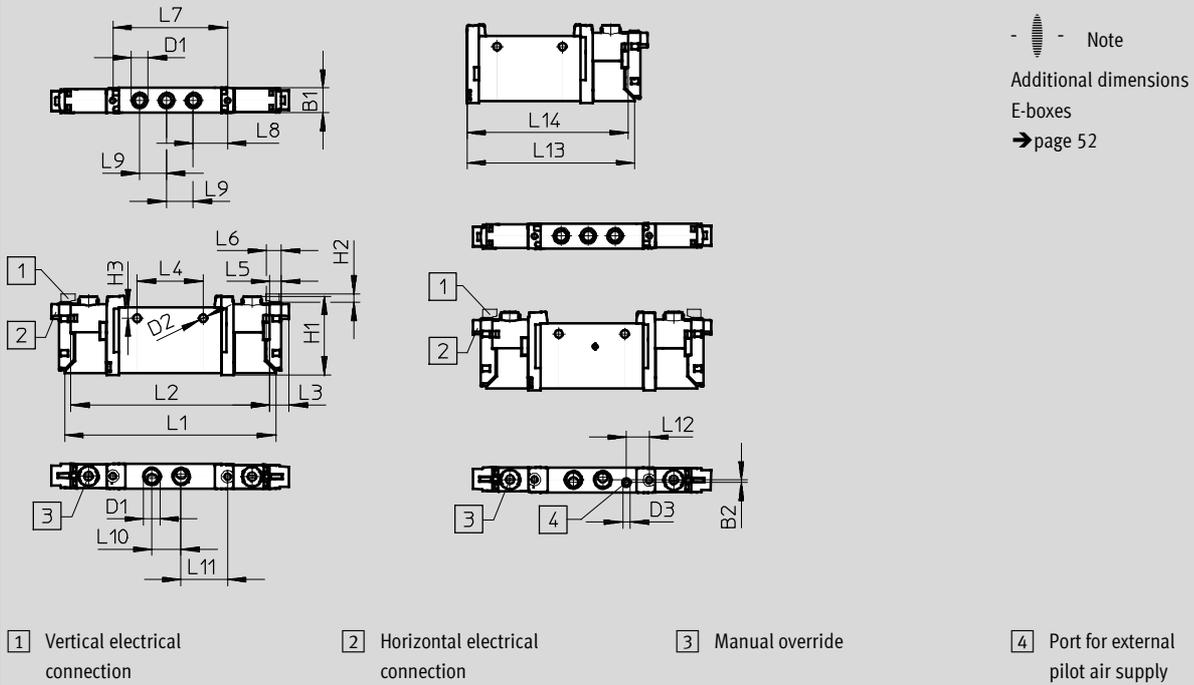
Solenoid valves VUVG-L10 and VUVG-S10, in-line valves M5

Technical data

Dimensions

Download CAD data → www.festo.com

2x3/2-way, 5/2-way and 5/3-way valve



Type	B1	B2	D1	D2	D3	H1	H2	H3	L1	L2	L3	L4
VUVG-L-10 -...-M5 ...	10.2	-	M5	3.2	M3	32.5	3.6	4.4	86.5	81.5	8	27
VUVG-S-10 -...-M5 ...	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14		
	4.85	6.15	47	14	11	12	19	-	69.2	66.7		

Solenoid valves VUVG-L10 and VUVG-S10, in-line valves M7

FESTO

Technical data

Function

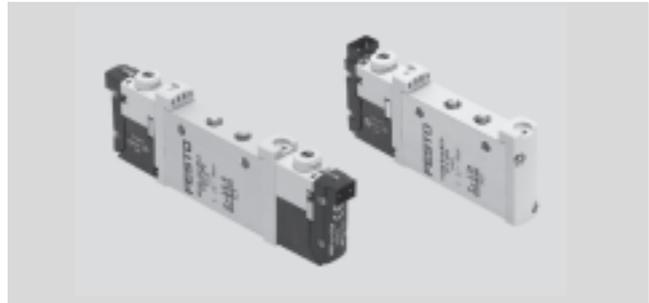
2x3/2C, 2x3/2U, 2x3/2H
5/2-way, single solenoid
5/2-way, double solenoid
5/3C, 5/3U, 5/3E

 - Width 10 mm

 - Flow rate
190 ... 380 l/min

 - Voltage
5, 12 and 24 V DC

Circuit symbol → page 3



General technical data						
Valve function	2x3/2-way			5/2-way		5/3-way
Normal position	C ¹⁾	U ²⁾	H ⁴⁾	-	-	C ¹⁾ U ²⁾ E ³⁾
Stable position	One position			Two positions		Centre
Pneumatic spring reset method	Yes			Yes ⁵⁾	-	No
Mechanical spring reset method	No			Yes ⁵⁾	-	Yes
Vacuum operation at port 1	No			Only with external pilot air supply		
Design	Piston spool valve					
Sealing principle	Soft					
Actuation type	Electric					
Type of control	Piloted					
Pilot air supply	Internal or external					
Exhaust function	With flow control					
Manual override	Choice of non-detenting, detenting or covered					
Type of mounting	Optionally via through-holes ⁷⁾ or on manifold rail					
Mounting position	Any					
Nominal size [mm]	2.7		4.0		3.5	
Standard nominal flow rate [l/min]	190		380		320	
Flow rate on manifold rail [l/min]	170		340		300	
Switching time on/off [ms]	6/16			7/19	-	10/30
Changeover time [ms]	-			7		16
Width [mm]	10					
Connection	1, 2, 3, 4, 5		M7			
	12, 14		M3			
Product weight [g]	55		45	55		
Corrosion resistance class	CRC		2 ⁶⁾			

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open

5) Combined reset method

6) Corrosion resistance class 2 according to 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.

7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

Solenoid valves VUVG-L10 and VUVG-S10, in-line valves M7

Technical data

Operating and environmental conditions						
Valve function			2x3/2-way	5/2-way, single solenoid	5/2-way, double solenoid	5/3-way
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 at port 1 with pilot air supply	Internal	[bar]	1.5 ... 8	2.5 ... 8	1.5 ... 8	3 ... 8
	External	[bar]	1.5 ... 10	-0.9 ... 10		
Operating pressure at port 3 or 5 with pilot air supply	Internal or external	[bar]	-0.9 ... 10			
Pilot pressure ¹⁾		[bar]	1.5 ... 8	2.5 ... 8	1.5 ... 8	3 ... 8
Ambient temperature		[°C]	-5 ... +50, -5 ... +60 with holding current reduction			
Temperature of medium		[°C]	-5 ... +50, -5 ... +60 with holding current reduction			

1) Minimum pilot pressure 50% of operating pressure

Electrical data		
Electrical connection		Via E-box
Operating voltage	[V DC]	5, 12, 24 ±10%
Power	[W]	1, reduced to 0.35 with holding current reduction
Duty cycle	[%]	100
Protection class to EN 60529		IP40 (with plug socket), IP65 (with M8)

Information on materials	
Housing	Wrought aluminium alloy
Seals	HNBR, NBR
Note on materials	RoHS-compliant

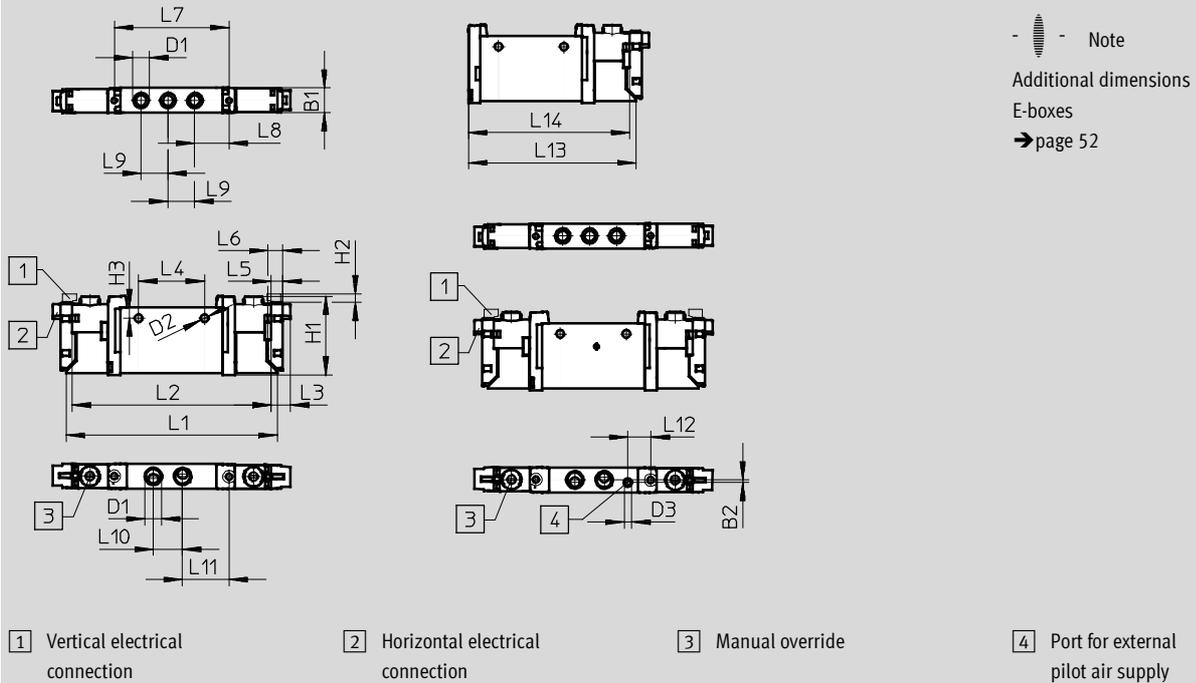
Solenoid valves VUVG-L10 and VUVG-S10, in-line valves M7

Technical data

Dimensions

Download CAD data → www.festo.com

2x3/2-way, 5/2-way and 5/3-way valve

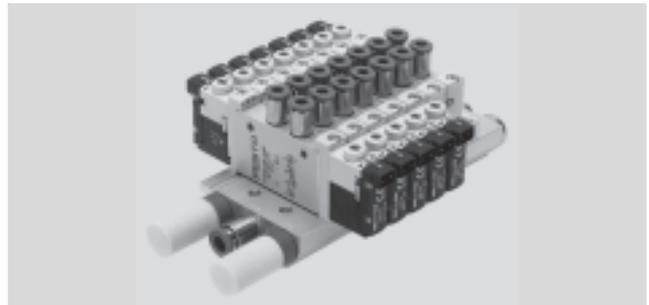


Type	B1	B2	D1	D2	D3	H1	H2	H3	L1	L2	L3	L4
VUVG-L-10 -...-M7 ...	10.2	-	M7	3.2	M3	32.5	3.6	4.4	86.5	81.5	8	27
VUVG-S-10 -...-M7 ...	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14		
	4.85	6.15	47	14	11	12	19	-	69.2	66.7		

Solenoid valves VUVG-S10, in-line valves M5/M7

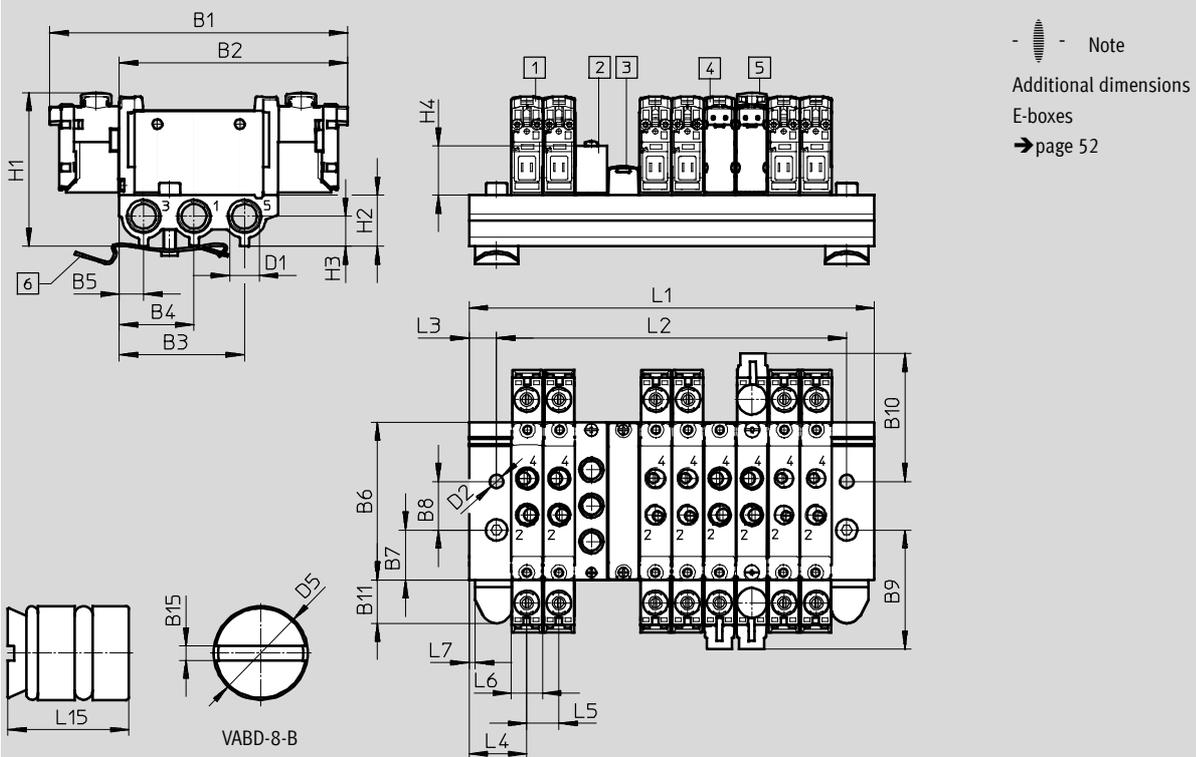
Manifold assembly

In-line valves for
manifold assembly



Dimensions

Download CAD data → www.festo.com



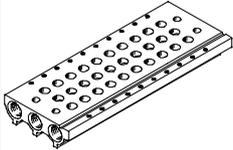
- 1 Solenoid valve, vertical electrical connection
- 2 Supply plate M5 or M7 for 1, 3, 5
- 3 Blanking plate VABB-L1-10-S
- 4 Solenoid valve, horizontal electrical connection
- 5 Cover cap for manual override
- 6 H-rail mounting (two M4x20 screws to DIN 912 are required)

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B15
VUVG-S10 -...-M5 ...	97.5	74.8	41	24.5	8	52	16.5	16	39.2	42.3	14.45	1
	D1	D2	D5	H1	H2	H3	H4	L3	L4	L5	L6	L7
	G1/8	4.5	Ø8	50.6	16.8	7	16.2	9	19	10.5	10.2	2
	L15											
	10											

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1 [mm]	48.5	59	69.5	80	90.5	101	111.5	122	132.5	153.5	174.5	195.5
L2 [mm]	30.5	41	51.5	62	72.5	83	93.5	104	114.5	135.5	156.5	177.5
VABM weight [g]	66	81	96	111	126	141	156	171	186	216	246	276

Solenoid valves VUVG-S10, in-line valves M5/M7

Ordering data

Technical data – Manifold rails							
	Connection	CRC	Material ²⁾	Operating pressure	Max. tightening torque for assembly [Nm]		
	1, 3, 5			[bar]	Valve	H-rail	Wall
	G $\frac{1}{8}$	2 ¹⁾	Wrought aluminium alloy	-0.9 ... 10	0.45	1.5	3

- 1) Corrosion resistance class 2 according to 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.
- 2) Note on materials: RoHS-compliant

Order code – Manifold rails

VABM	-	L1	-	10	S	-	G18	-	
Manifold assembly parts									
Manifold rail	VABM								
Valve series									
VUVG	L1								
Valve width									
10 mm	10								
Manifold rail with ports 1, 3, 5									
For M5 and M7 in-line valves	S								
Number of valve positions									
2 to 10, 12, 14 and 16									
Ports 1, 3, 5									
G18 G $\frac{1}{8}$									

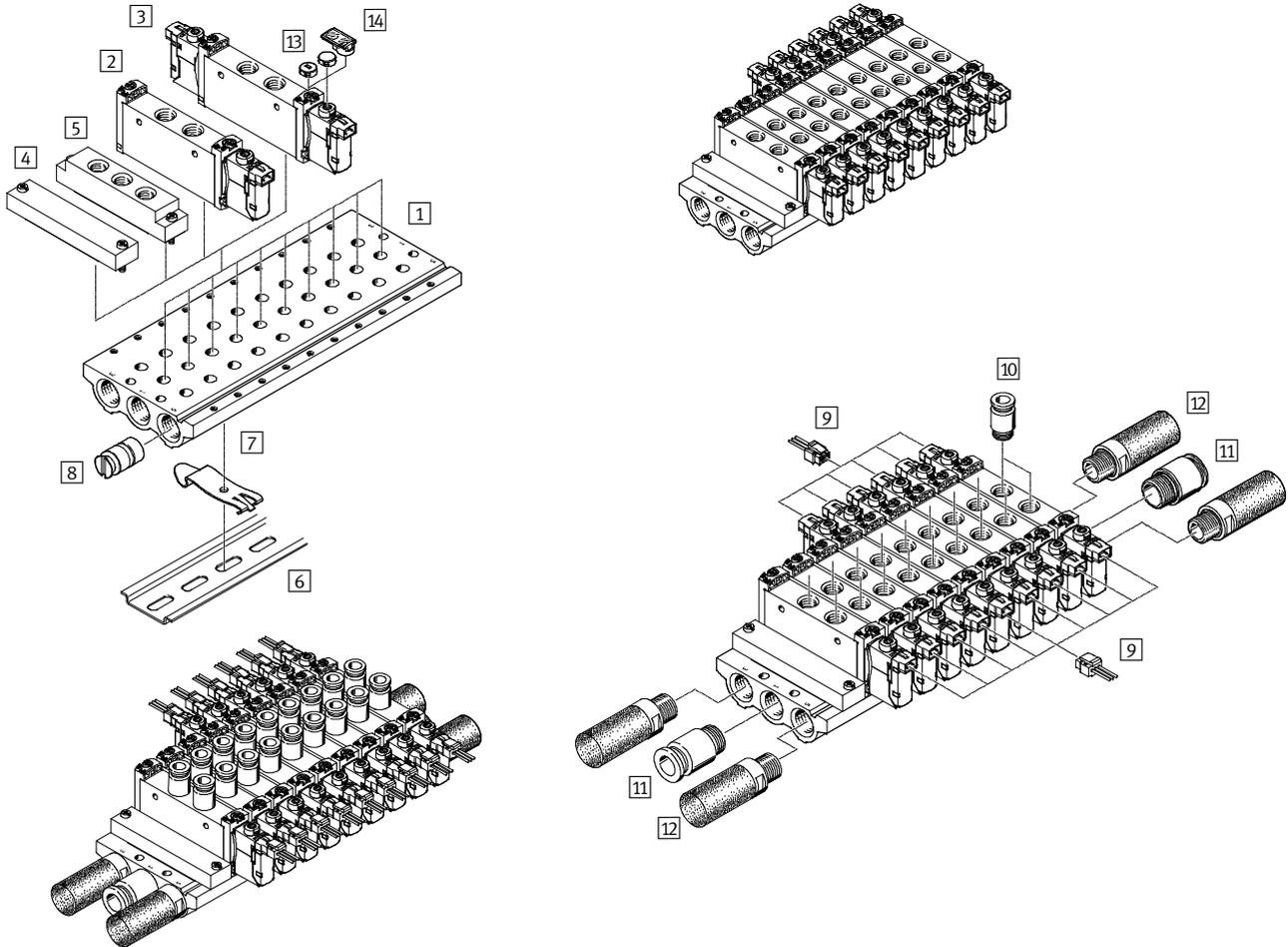
Ordering data – Accessories

				Type
Blanking plate				Technical data → Internet: vabb
	For manifold rail for M5/M7 in-line valves	Incl. screws and seal		VABB-L1-10-S
Separator				Technical data → Internet: vabd
	For manifold rail for M5/M7 in-line valves	Separator for pressure zones		VABD-8-B
Supply plate				Technical data → Internet: vabf
	For manifold rail for M5 in-line valves	Incl. screws and seal		VABF-L1-10-P3A4-M5
	For manifold rail for M7 in-line valves			VABF-L1-10-P3A4-M7
Seals for in-line valves				Technical data → Internet: vabd
	M5	10 seals and 20 screws		VABD-L1-10X-S-M5
	M7			VABD-L1-10X-S-M7

Solenoid valves VUVG-L14 and VUVG-S14, in-line valves G1/8

System overview

Manifold assembly



Manifold assembly and accessories				
	Type	Brief description	→ Page/Internet	
1	Manifold rail	VABM-L1-14S-G14-...	For 2 to 10, 12, 14 and 16 valve positions	33
2	Solenoid valve	VUVG- ...	In-line valve, 5/2-way single solenoid	28
3	Solenoid valve	VUVG- ...	In-line valve, 2x3/2-way, 5/2-way double solenoid and 5/3-way valve	28
4	Blanking plate	VABB-L1-14	For covering an unused valve position	33
5	Supply plate	VABF-L1-14-P3A4- ...	For air supply port 1 and outlet port 3 and 5	33
6	H-rail	NRH-35-2000	For mounting the valve manifold	57
7	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	57
8	Separator	VABD...	For creating pressure zones	33
9	Plug socket with cable	NEBV-H1 G2-KN-...-LE2	For E-box H2 and H3	56
10	Push-in fitting	QS...	Push-in fitting for outlet port 2 and 4	56
11	Push-in fitting	QS...	Push-in fitting for air supply port 1	quick star
12	Silencer	U...	For outlet port 3 and 5	56
13	Cover cap	VMPA-HB...-B	For manual override	56
14	Inscription label holder	ASLR-D	For labelling the valves, covering the mounting screw and the manual override	58

Solenoid valves VUVG-L14 and VUVG-S14, in-line valves G1/8

Technical data

Function

2x3/2C, 2x3/2U, 2x3/2H
5/2-way, single solenoid
5/2-way, double solenoid
5/3C, 5/3U, 5/3E

Circuit symbol → page 3

-  - Width 14 mm
-  - Flow rate
580 ... 780 l/min
-  - Voltage
5, 12 and 24 V DC



General technical data								
Valve function	2x3/2-way			5/2-way		5/3-way		
Normal position	C ¹⁾	U ²⁾	H ⁴⁾	-	-	C ¹⁾	U ²⁾	E ³⁾
Stable position	One position				Two positions	Centre		
Pneumatic spring reset method	Yes				-	No		
Mechanical spring reset method	No				-	Yes		
Vacuum operation at port 1	No			Only with external pilot air supply				
Design	Piston spool valve							
Sealing principle	Soft							
Actuation type	Electric							
Type of control	Piloted							
Pilot air supply	Internal or external							
Exhaust function	With flow control							
Manual override	Choice of non-detenting, detenting or covered							
Type of mounting	Optionally via through-holes ⁷⁾ or on manifold rail							
Mounting position	Any							
Nominal size	[mm] 4.6			5.6				
Standard nominal flow rate	[l/min] 650	600	650	780		650	600	
Flow rate on manifold rail	[l/min] 580			700		600		
Switching time on/off	[ms] 8/23			14/28	-	12/40		
Changeover time	[ms] -			8		20		
Width	[mm] 14							
Connection	1, 2, 3, 4, 5			G1/8				
	14			M5				
Product weight	[g] 89			78	89			
Corrosion resistance class	CRC			2 ⁶⁾				

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open

6) Corrosion resistance class 2 according to 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 VUVG-L14 and VUVG-S14, in-line valves G1/8

FESTO

Technical data

Operating and environmental conditions						
Valve function			2x3/2-way	5/2-way, single solenoid	5/2-way, double solenoid	5/3-way
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 at port 1 with pilot air supply	Internal	[bar]	1.5 ... 8	2.5 ... 8	1.5 ... 8	3 ... 8
	External	[bar]	1.5 ... 10	-0.9 ... 10		
Operating pressure at port 3 or 5 with pilot air supply	Internal or external	[bar]	-0.9 ... 10			
Pilot pressure ¹⁾		[bar]	1.5 ... 8	2.5 ... 8	1.5 ... 8	3 ... 8
Ambient temperature		[°C]	-5 ... +50, -5 ... +60 with holding current reduction			
Temperature of medium		[°C]	-5 ... +50, -5 ... +60 with holding current reduction			

1) Minimum pilot pressure 50% of operating pressure

Electrical data		
Electrical connection		Via E-box
Operating voltage	[V DC]	5, 12 and 24 ±10%
Power	[W]	1, reduced to 0.35 with holding current reduction
Duty cycle	[%]	100
Protection class to EN 60529		IP40 (with plug socket), IP65 (with M8)

Information on materials		
Housing		Wrought aluminium alloy
Seals		HNBR, NBR
Note on materials		RoHS-compliant

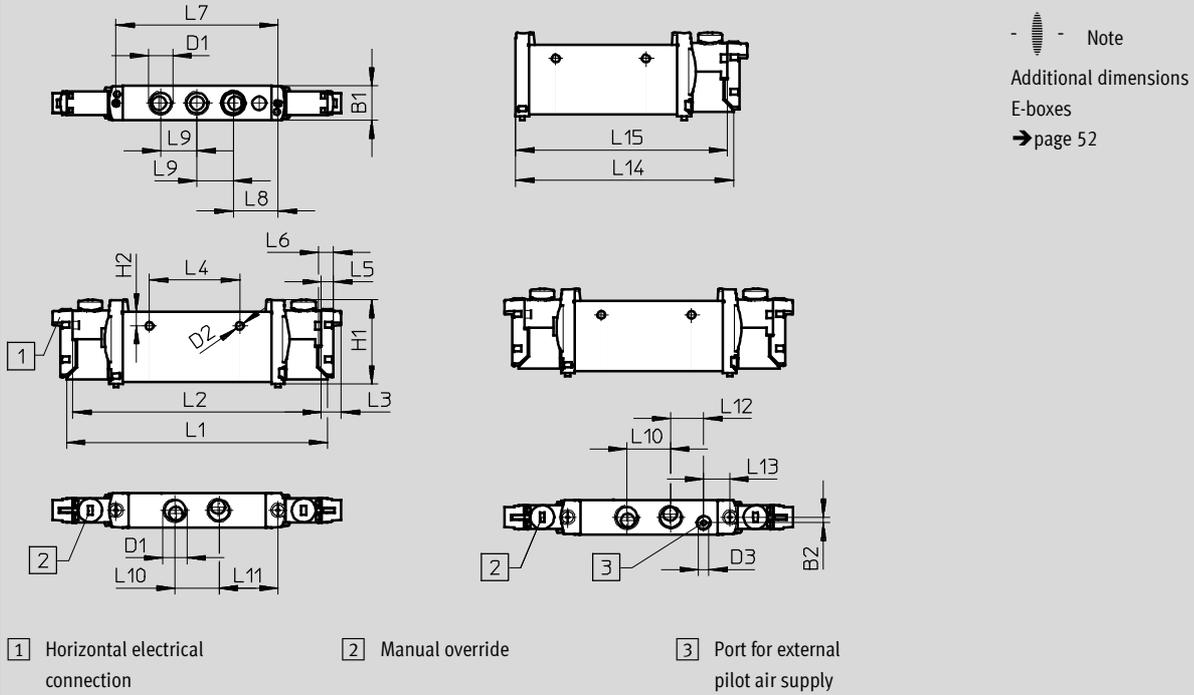
Solenoid valves VUVG-L14 and VUVG-S14, in-line valves G1/8

Technical data

Dimensions

Download CAD data → www.festo.com

2x3/2-way, 5/2-way and 5/3-way valve

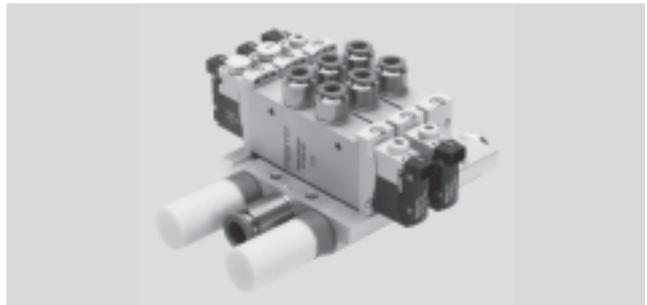


Type	B1	B2	D1	D2	D3	H1	H2	L1	L2	L3	L4	L5	L6
VUVG-L-14 -...-G18 ...	14.4	2.3	G1/8	∅3.2	M5	34.8	5.8	107	102	8	37	4.85	6.15
VUVG-S-14 -...-G18 ...	L7	L8	L9	L10	L11	L12	L13	L14	L15				
	66.5	18.35	14.9	18	24.25	13.45	10.8	89.4	86.95				

Solenoid valves VUVG-S14, in-line valves G1/8

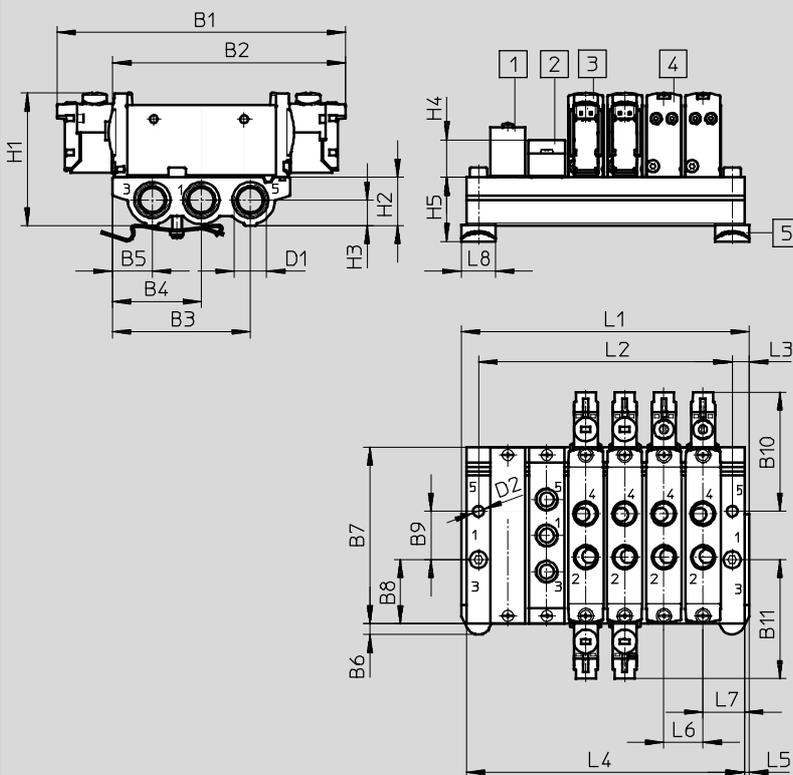
Manifold assembly

In-line valves for
manifold assembly



Dimensions

Download CAD data → www.festo.com



Note
Additional dimensions
E-boxes
→ page 52

1 Blanking plate
VABB-L1-14

2 Supply plate
VABF-L1-14-P3A4-G18

3 Double solenoid valve

4 Single solenoid valve

5 H-rail mounting (two M4x25
screws to DIN 912 are required
for mounting)

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	D1
VUVG-S14 -...-G18 ...	118.3	95.1	56.55	36.45	16.35	4.5	72.9	26.45	20	49.15	49.15	G1/8
	D2	H1	H2	H3	H4	H5	L3	L5	L6 ¹⁾	L7		
	Ø4.5	54.8	20	10.6	15.4	26.4	7	2	16	17		

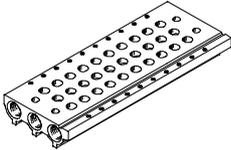
Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1 [mm]	54	70	86	98	118	134	150	166	182	214	246	278
L2 [mm]	40	56	72	88	104	120	136	152	168	200	232	264
L4 [mm]	50	66	82	98	114	130	146	162	178	210	242	274
VABM weight [g]	118	159	200	241	282	323	364	405	446	528	610	692

1) Grid dimension

Solenoid valves VUVG-S14, in-line valves G1/8

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Ordering data

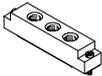
Technical data – Manifold rails							
	Connection	CRC	Material ²⁾	Operating pressure	Max. tightening torque for assembly [Nm]		
	1, 3, 5			[bar]	Valve	H-rail	Wall
	G1/4	2 ¹⁾	Wrought aluminium alloy	-0.9 ... 10	0.65	1.5	3

- 1) Corrosion resistance class 2 according to 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.
- 2) Note on materials: RoHS-compliant

Order code – Manifold rails

VABM	-	L1	-	14	S	-	G14	-	
Manifold assembly parts								Number of valve positions	
Manifold rail		VABM						2 to 10, 12, 14 and 16	
Valve series								Ports 1, 3, 5	
VUVG		L1						G14 G1/4	
Valve width									
14 mm				14					
Manifold rail with ports 1, 3, 5									
For G 1/8 in-line valves				S					

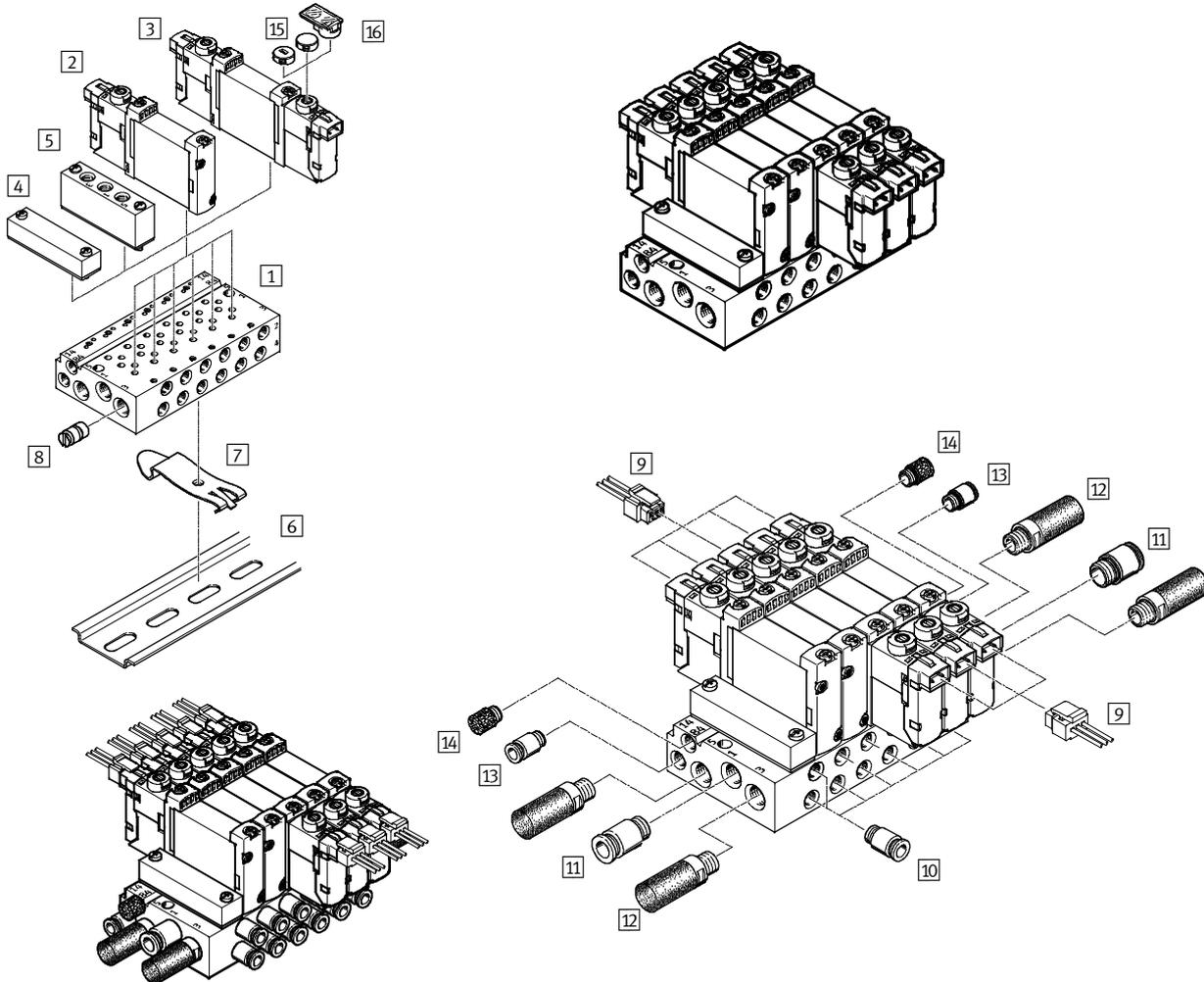
Ordering data – Accessories

			Type
Blanking plate Technical data → Internet: vabb			
	For manifold rail for G 1/8 in-line valves	Incl. screws and seal	VABB-L1-14
Separator Technical data → Internet: vabd			
	For manifold rail for G 1/8 in-line valves	Separator for pressure zones	VABD-10-B
Supply plate Technical data → Internet: vabf			
	For manifold rail for G 1/8 in-line valves	Incl. screws and seal	VABF-L1-14-P3A4-G18
Seals for in-line valves Technical data → Internet: vabd			
	G1/8	10 seals and 20 screws	VABD-L1-14X-S-G18

Solenoid valves VUVG-B10A, sub-base valves

System overview

Manifold assembly



Manifold assembly and accessories

	Type	Brief description	→ Page/Internet	
1	Manifold rail	VABM-L1-10A ...-M7- ...	For 2 to 10, 12, 14 and 16 valve positions	39
2	Solenoid valve	VUVG- ...	Sub-base valve, 5/2-way single solenoid	35
3	Solenoid valve	VUVG- ...	Sub-base valve, 5/2-way double solenoid and 5/3-way valve	35
4	Blanking plate	VABB-L1-10-A	For covering an unused valve position	39
5	Supply plate	VABF-L1-10-P3A4- ...	For air supply port 1 and outlet port 3 and 5	39
6	H-rail	NRH-35-2000	For mounting the valve manifold	56
7	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	57
8	Separator	VABD- ...	For creating pressure zones	33
9	Plug socket with cable	NEBV-H1G2-KN-...-LE2	For E-box H2 and H3	56
10	Push-in fitting	QS...	Push-in fitting for outlet port 2 and 4	quick star
11	Push-in fitting	QS...	Push-in fitting for air supply port 1	quick star
12	Silencer	U...	For outlet port 3 and 5	56
13	Push-in fitting	QS...	Push-in fitting for pilot air supply port 12/14	quick star
14	Silencer	U...	Silencer for pilot air outlet 82/84	quick star
15	Cover cap	VMPPA-HB...-B	For manual override	56
16	Inscription label holder	ASLR-D	For labelling the valves, covering the mounting screw and the manual override	58

Solenoid valves VUVG-B10A, sub-base valves

Technical data

Function

5/2-way, single solenoid
5/2-way, double solenoid
5/3C, 5/3U, 5/3E

Circuit symbol → page 3

-  - Width 10 mm
-  - Flow rate
90 ... 100 l/min
-  - Voltage
5, 12 and 24 V DC



General technical data					
Valve function	5/2-way		5/3-way		
Normal position	-	-	C ¹⁾	U ²⁾	E ³⁾
Stable position	One position	Two positions	Centre		
Pneumatic spring reset method	Yes ⁵⁾	-	No		
Mechanical spring reset method	Yes ⁵⁾	-	Yes		
Vacuum operation at port 1	Only with external pilot air supply				
Design	Piston spool valve				
Sealing principle	Soft				
Actuation type	Electric				
Type of control	Piloted				
Pilot air supply	External, internal; can be selected via sub-base				
Exhaust function	With flow control				
Manual override	Choice of non-detenting, detenting or covered				
Type of mounting	On manifold rail				
Mounting position	Any				
Nominal size	[mm]	2			
Standard nominal flow rate	[l/min]	100	90		
Flow rate on manifold rail M3	[l/min]	100	90		
Switching time on/off	[ms]	7/15	-	8/25	
Changeover time	[ms]	-	5	14	
Width	[mm]	10			
Connection	1, 3, 5	M7 in manifold rail			
	2, 4	M5 in manifold rail			
	12/14, 82/84	M5 in manifold rail			
Product weight	[g]	38	49		
Corrosion resistance class	CRC	2 ⁶⁾			

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

5) Combined reset method

6) Corrosion resistance class 2 according to 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 VUVG-B10A, sub-base valves

Technical data

Operating and environmental conditions			
Valve function		5/2-way, single solenoid	5/2-way, double solenoid
			5/3-way
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 at port 1 with pilot air supply	Internal	[bar]	2.5 ... 8
	External	[bar]	-0.9 ... 10
Operating pressure at port 3 or 5 with pilot air supply	Internal or external	[bar]	-0.9 ... 10
Pilot pressure ¹⁾		[bar]	2.5 ... 8
			1.5 ... 8
			3 ... 8
Ambient temperature		[°C]	-5 ... +50, -5 ... +60 with holding current reduction
Temperature of medium		[°C]	-5 ... +50, -5 ... +60 with holding current reduction

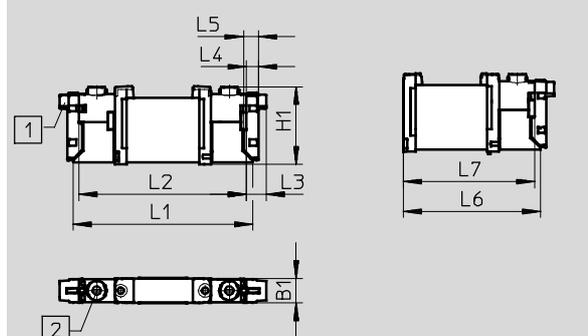
1) Minimum pilot pressure 50% of operating pressure

Electrical data	
Electrical connection	Via E-box
Operating voltage	[V DC] 5, 12 and 24 ±10%
Power	[W] 1, reduced to 0.35 with holding current reduction
Duty cycle	[%] 100
Protection class to EN 60529	IP40 (with plug socket), IP65 (with M8)

Information on materials	
Housing	Wrought aluminium alloy
Seals	HNBR, NBR
Note on materials	RoHS-compliant

Dimensions Download CAD data → www.festo.com

5/2-way and 5/3-way valve



 Note

Additional dimensions
E-boxes
→ page 52

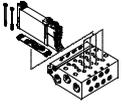
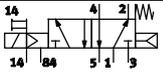
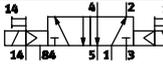
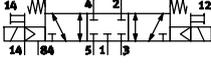
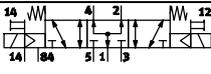
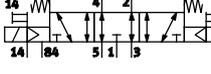
1 Vertical electrical connection

2 Manual override

Type	B1	H1	L1	L2	L3	L4	L5	L6	L7
VUVG-B10A -...-F ...	10.2	32.5	73.9	68.9	8	4.85	6.15	56.9	54.4

Solenoid valves VUVG-B10A, sub-base valves

Order code

VUVG	-	B	10A	-	-	Z	-	F	-	-	-	-	-	L	-
Valve design															
 <p>Sub-base, manifold valve incl. seal and screws</p>															
Width															
10 mm 10A															
Valve functions															
												M52			
												B52			
												P53C			
												P53U			
												P53E			
Reset method															
Pneu./mech. spring for M52 R															
With B52 and P53 -															
Pilot air supply															
External Z															
Manual override															
 Non-detenting												H			
 Covered												S			
- Non-detenting, detenting												T			
Connecting cable															
W1...4¹⁾ Not sheathed for H 															
C1...4¹⁾ Sheathed for H 															
WS1...4¹⁾ Not sheathed for S 															
S1...4¹⁾ Sheathed for S 															
N1...4⁶⁾ M8x1, 3-pin 															
N5...8⁶⁾ M8x1, 4-pin 															
Display															
L LED															
Protective circuit															
- Without holding current reduction (HCR) 1															
R²⁾ With holding current reduction (HCR) 1 to 0.35															
E-box															
H2 Connection pattern H, horizontal plug 															
H3 Connection pattern H, vertical plug 															
S2 Connection pattern S, horizontal plug 															
S3 Connection pattern S, vertical plug 															
L1...4 With 2x flying leads L: 1 = 0.5 m, 2 = 1 m, 3 = 2.5 m, 4 = 5 m 															
R1 Individual plug M8, 4-pin 															
R8 Individual plug M8, 3-pin 															
P3 Without E-box 															
Operating voltage															
1 24 V DC															
5 12 V DC															
4 5 V DC															
Pneumatic connection															
F In the manifold rail															

1) W1/C1/S1/WS1 = 0.5 m, W2/C2/S2/WS2 = 1 m, W3/C3/S3/WS3 = 2.5 m, W4/C4/S4/WS4 = 5 m
2) At 24 V DC

3) If Q... is chosen for the pneumatic connection, this also applies to the exhaust ports 3 and 5

6) Straight: N1/N5 = 2.5 m, N2/N6 = 5 m
Angled: N3/N7 = 2.5 m, N4/N8 = 5 m

Solenoid valves VUVG-B10A, sub-base valves

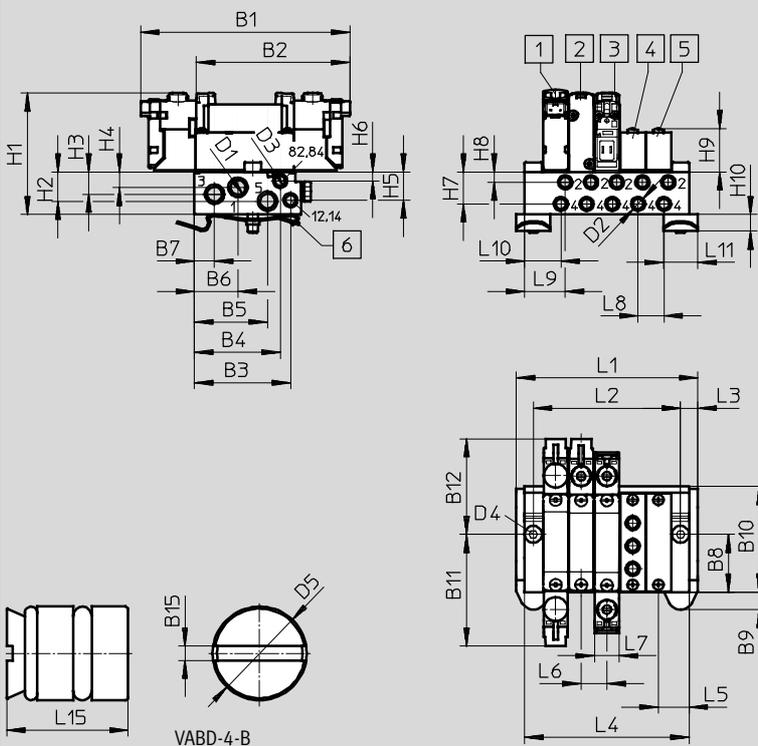
Manifold assembly

Sub-base valve for
manifold assembly
M5 connection



Dimensions

Download CAD data → www.festo.com



Note

Additional dimensions

E-boxes

→ page 52

- 1 Solenoid valve
- 2 Solenoid valve

- 3 Solenoid valve
- 4 Supply plate

- 5 Blanking plate

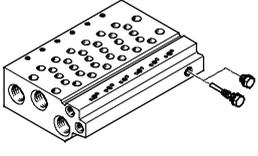
- 6 H-rail mounting
(two M4x25 screws to DIN 912
are required)

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
VUVG-B10A -...-F- ...	84.9	62.4	39.12	34.95	29.83	17.75	8.15	24	7.15	43.5	45.75	39.15
	B15	D1	D2	D3	D4	D5	H1	H2	H3	H4	H5	H6
	0.48	M7	M5	M5	Ø4.5	Ø4	53.1	12	9.1	6.3	11.57	3.6
	H7	H8	H9	H10	H15	L3	L5	L6	L7	L8	L9	L10
	13.1	4.2	16.2	6.8	1.9	7	12.5	10.5	10.2	10.5	16.5	14.7
	L11	L15										
	14	8.5										

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1 [mm]	42.5	53	63.5	74	84.5	96	106.5	116	126.5	147.5	168.5	189.5
L2 [mm]	28.5	39	49.5	60	70.5	81	91.5	102	112.5	133.5	154.5	175.5
L4 [mm]	35.5	46	56.5	67	77.5	89	99.5	109	119.5	140.5	161.5	182.5
VABM weight [g]	60	78	96	114	132	150	168	186	204	240	276	312

Solenoid valves VUVG-B10A, sub-base valves

Ordering data

Technical data – Manifold rails ¹⁾									
	Connection			CRC	Material ³⁾	Operating pressure [bar]	Max. tightening torque for assembly [Nm]		
	2, 4	1, 3, 5	12/14, 82/84				Valve	H-rail	Wall
	M5	M7	M5	2 ²⁾	Wrought aluminium alloy	-0.9 ... 10	0.45	1.5	1.5

- 1) Blanking plugs are included with the manifold rail.
- 2) Corrosion resistance class 2 according to 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.
- 3) Note on materials: RoHS-compliant

Order code – Manifold rails M3

VABM	-	L1	-	10A	-	M7	-	
Manifold assembly parts						Number of valve positions		
Manifold rail		VABM				2 to 10, 12, 14 and 16		
Valve series						Ports 1, 3, 5		
VUVG		L1				M7 M7		
Valve width								
10 mm				10A				
Rail with ports 1, 2, 3, 4, 5, 12/14, 82/84								
Ports 2 and 4 in M5								W

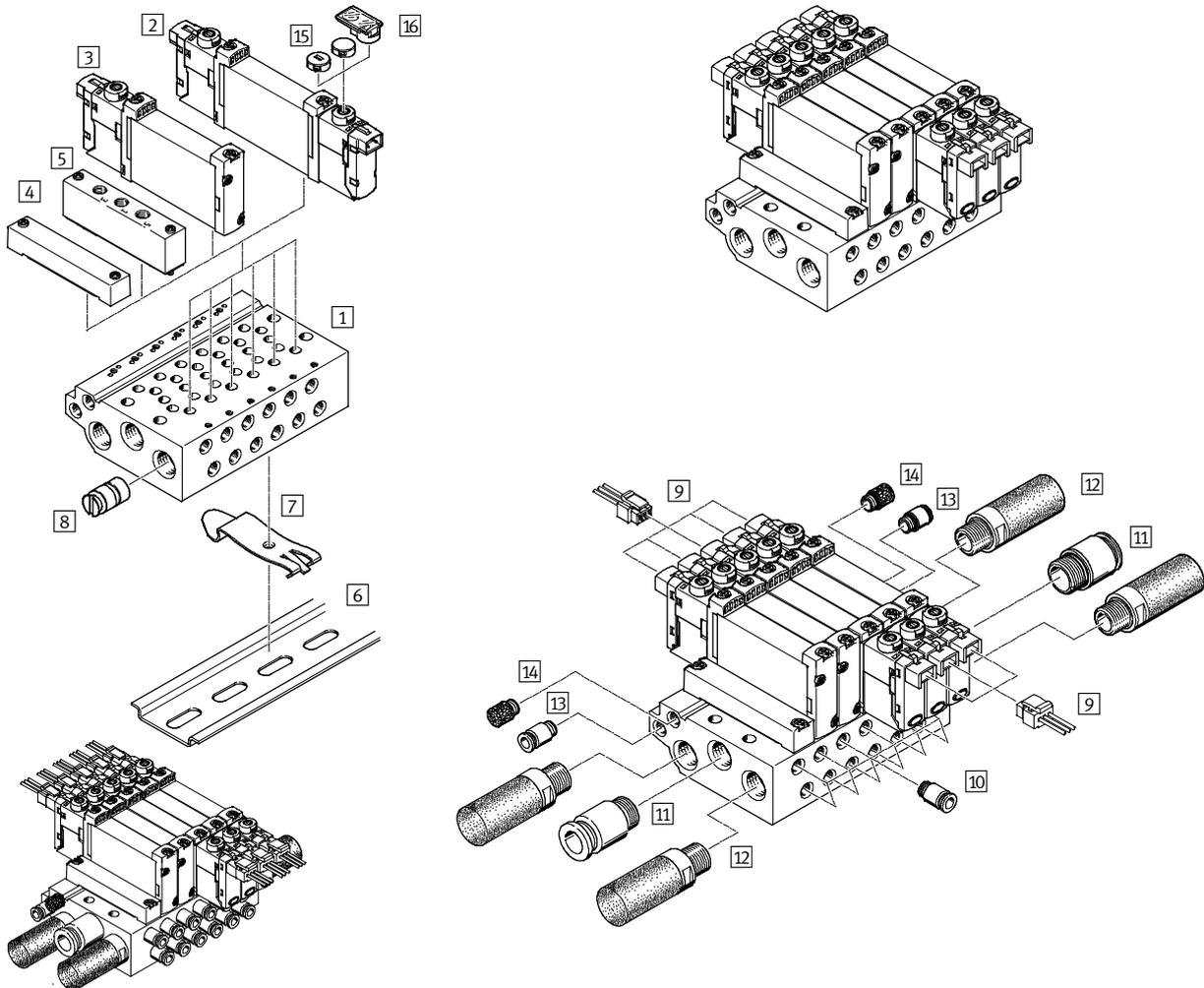
Ordering data – Accessories

			Type
Blanking plate			Technical data → Internet: vabb
	For manifold rail 10AW	Incl. screws and seal	VABB-L1-10A
Separator			Technical data → Internet: vabd
	For manifold rail 10AW	Separator for pressure zones	VABD-4.2-B
Supply plate			Technical data → Internet: vabf
	For manifold rail 10AW	Incl. screws and seal	VABF-L1-10A-P3A4-M5
Seals			Technical data → Internet: vabd
	For sub-base valves B10A	10 seals and 20 screws	VABD-L1-10AB-S-M3

Solenoid valves VUVG-B10, sub-base valves

System overview

Manifold assembly



Manifold assembly and accessories				
	Type	Brief description	→ Page/Internet	
1	Manifold rail	VABM-L1-10 ...-G18- ...	For 2 to 10, 12, 14 and 16 valve positions	45
2	Solenoid valve	VUVG- ...	Sub-base valve, 5/2-way single solenoid	41
3	Solenoid valve	VUVG- ...	Sub-base valve, 2x3/2-way, 5/2-way double solenoid and 5/3-way valve	41
4	Blanking plate	VABB-L1-10-W	For covering an unused valve position	45
5	Supply plate	VABF-L1-10-P3A4- ...	For air supply port 1 and outlet port 3 and 5	45
6	H-rail	NRH-35-2000	For mounting the valve manifold	56
7	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	56
8	Separator	VABD- ...	For creating pressure zones	45
9	Plug socket with cable	NEBV-H1G2-KN-...-LE2	For E-box H2 and H3	56
10	Push-in fitting	QS...	Push-in fitting for outlet port 2 and 4	quick star
11	Push-in fitting	QS...	Push-in fitting for air supply port 1	quick star
12	Silencer	U...	For outlet port 3 and 5	56
13	Push-in fitting	QS...	Push-in fitting for pilot air supply port 12/14	quick star
14	Silencer	U...	Silencer for pilot air outlet 82/84	quick star
15	Cover cap	VMPA-HB...-B	For manual override	56
16	Inscription label holder	ASLR-D	For labelling the valves, covering the mounting screw and the manual override	58

Solenoid valves VUVG-B10, sub-base valves

Technical data

Function

2x3/2C, 2x3/2U, 2x3/2H

5/2-way, single solenoid

5/2-way, double solenoid

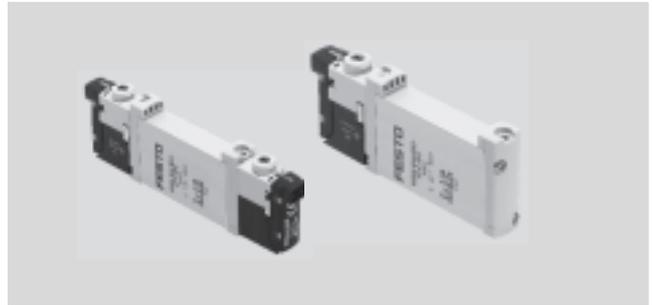
5/3C, 5/3U, 5/3E

Circuit symbol → page 3

 - Width 10 mm

 - Flow rate
160 ... 270 l/min

 - Voltage
5, 12 and 24 V DC



General technical data								
Valve function	2x3/2-way			5/2-way		5/3-way		
Normal position	C ¹⁾	U ²⁾	H ⁴⁾	-	-	C ¹⁾	U ²⁾	E ³⁾
Stable position	One position				Two positions		Centre	
Pneumatic spring reset method	Yes			Yes ⁵⁾		-		No
Mechanical spring reset method	No			Yes ⁵⁾		-		Yes
Vacuum operation at port 1	No			Only with external pilot air supply				
Design	Piston spool valve							
Sealing principle	Soft							
Actuation type	Electric							
Type of control	Piloted							
Pilot air supply	External, internal; can be selected via sub-base							
Exhaust function	With flow control							
Manual override	Choice of non-detenting, detenting or covered							
Type of mounting	On manifold rail							
Mounting position	Any							
Nominal size	[mm]	2.7		3.2				
Standard nominal flow rate	[l/min]	160		270		250		
Flow rate on manifold rail M5	[l/min]	150		210		200		
Flow rate on manifold rail M7	[l/min]	160		270		250		
Switching time on/off	[ms]	6/16		7/19		-		10/30
Changeover time	[ms]	-			7		16	
Width	[mm]	10						
Connection	1, 3, 5	G1/8 in manifold rail						
	2, 4	M5 or M7 in manifold rail						
	12/14, 82/84	M5 in manifold rail						
Product weight	[g]	55		45		55		
Corrosion resistance class	CRC	2 ⁶⁾						

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open

5) Combined reset method

6) Corrosion resistance class 2 according to 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 VUVG-B10, sub-base valves

Technical data

Operating and environmental conditions						
Valve function			2x3/2-way	5/2-way, single solenoid	5/2-way, double solenoid	5/3-way
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 at port 1 with pilot air supply	Internal	[bar]	1.5 ... 8	2.5 ... 8	1.5 ... 8	3 ... 8
	External	[bar]	1.5 ... 10	-0.9 ... 10		
Operating pressure at port 3 or 5 with pilot air supply	Internal or external	[bar]	-0.9 ... 10			
Pilot pressure ¹⁾		[bar]	1.5 ... 8	2.5 ... 8	1.5 ... 8	3 ... 8
Ambient temperature		[°C]	-5 ... +50, -5 ... +60 with holding current reduction			
Temperature of medium		[°C]	-5 ... +50, -5 ... +60 with holding current reduction			

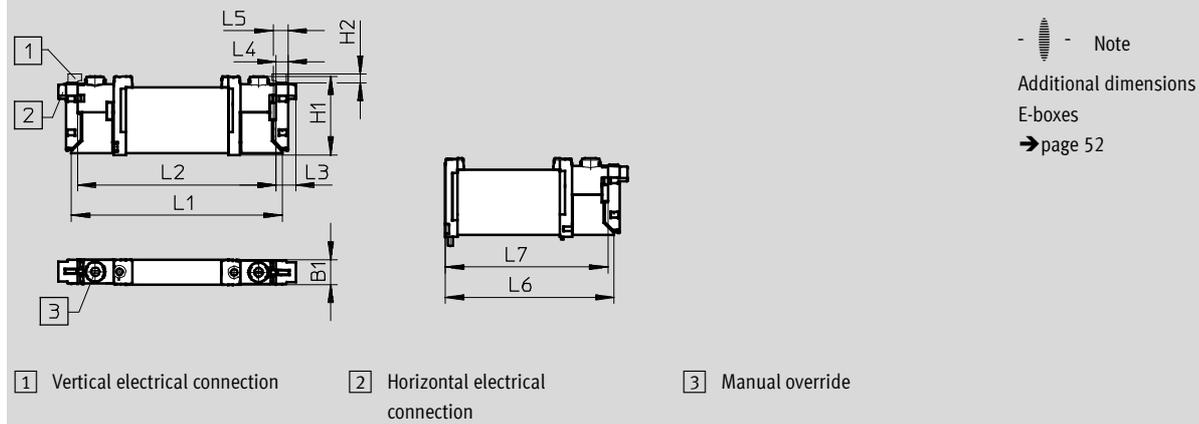
1) Minimum pilot pressure 50% of operating pressure

Electrical data	
Electrical connection	Via E-box
Operating voltage	[V DC] 5, 12 and 24 ±10%
Power	[W] 1, reduced to 0.35 with holding current reduction
Duty cycle	[%] 100
Protection class to EN 60529	IP40 (with plug socket)

Information on materials	
Housing	Wrought aluminium alloy
Seals	HNBR, NBR
Note on materials	RoHS-compliant

Dimensions Download CAD data → www.festo.com

2x3/2-way, 5/2-way and 5/3-way valve



Type	B1	H1	H2	L1	L2	L3	L4	L5	L6	L7
VUVG-B10 -...-F ...	10.2	32.5	3.6	86.5	81.5	8	4.85	6.15	69.2	66.7

Solenoid valves VUVG-B10, sub-base valves

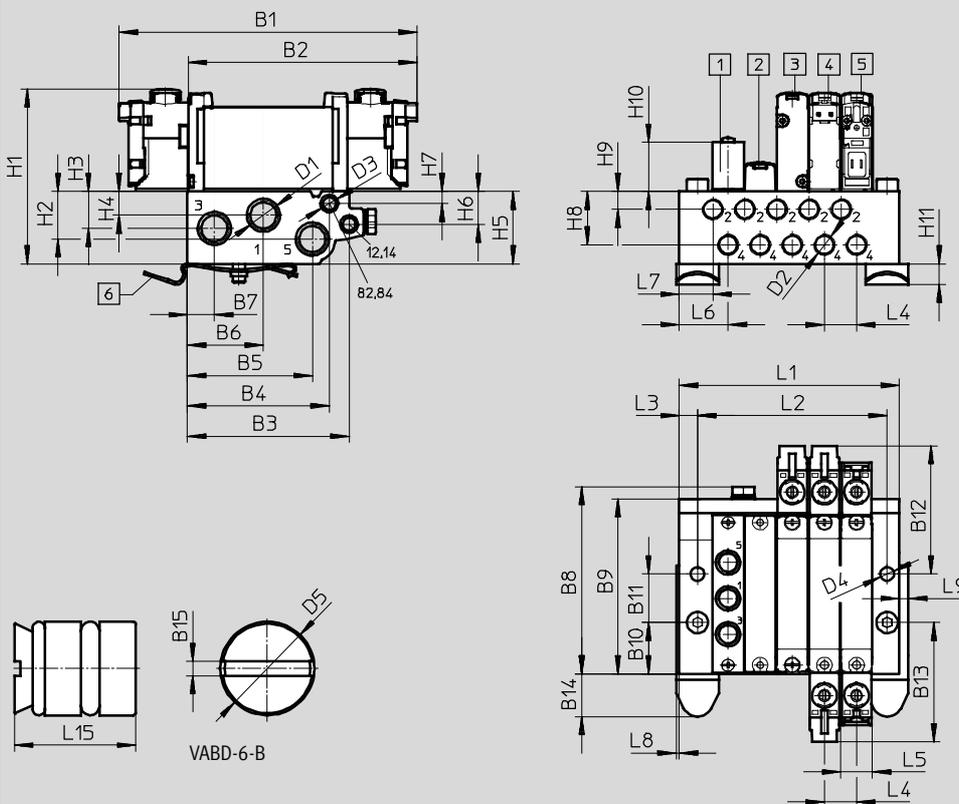
Manifold assembly

Sub-base valve for
manifold assembly
M5 or M7 connection



Dimensions

Download CAD data → www.festo.com



Note
Additional dimensions
E-boxes
→ page 52

- 1 Supply plate
- 2 Blanking plate
- 3 Solenoid valve
- 4 Solenoid valve
- 5 Solenoid valve
- 6 H-rail mounting (two M4x30 screws to DIN 912 are required)

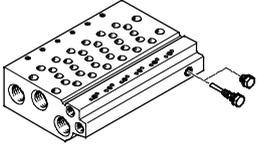
Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
VUVG-B10 -...-F- ...	97.5	74.8	52.9	46.5	40.9	24.9	8.9	62	57.7	16.9	16	42.2
	B13	B14	B15	D1	D2	D3	D4	D5	H1	H2	H3	H4
	39.3	14.05	1.2	G $\frac{1}{8}$	M5/M7	M5	4.5	∅6	56.4	15.7	12.17	7.87
	H5	H6	H7	H8	H9	H10	H11	L3	L4	L5	L6	L7
	23.9	10.8	4	17.6	5.9	16.2	6.8	4	10.5	10.2	16	11
	L8	L9	L15									
	1	3	10									

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1 [mm]	40.5	51	61.5	72	82.5	93	103.5	114	124.5	145.5	166.5	187.5
L2 [mm]	30.5	41	51.5	62	72.5	83	93.5	104	114.5	135.5	156.5	177.5
VABM weight [g]	107	135	163	191	219	247	275	303	331	387	415	471

Solenoid valves VUVG-B10, sub-base valves

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Ordering data

Technical data – Manifold rails ¹⁾									
	Connection			CRC	Material ³⁾	Operating pressure [bar]	Max. tightening torque for assembly [Nm]		
	2, 4	1, 3, 5	12/14, 82/84				Valve	H-rail	Wall
	M5 or M7	G $\frac{1}{8}$	M5	2 ²⁾	Wrought aluminium alloy	-0.9 ... 10	0.45	1.5	3

1) Blanking plugs are included with the manifold rail.

2) Corrosion resistance class 2 according to Festo standard 940 070

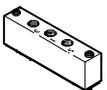
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

3) Note on materials: RoHS-compliant

Order code – Manifold rails M5 and M7

VABM	-	L1	-	10	-	G18	-	
Manifold assembly parts						Number of valve positions		
Manifold rail	VABM						2 to 10, 12, 14 and 16	
Valve series						Ports 1, 3, 5		
VUVG	L1				G18		G $\frac{1}{8}$	
Valve width								
10 mm								10
Manifold rail with ports 1, 2, 3, 4, 5, 12/14, 82/84								
Ports 2 and 4 in M5								W
Ports 2 and 4 in M7								HW

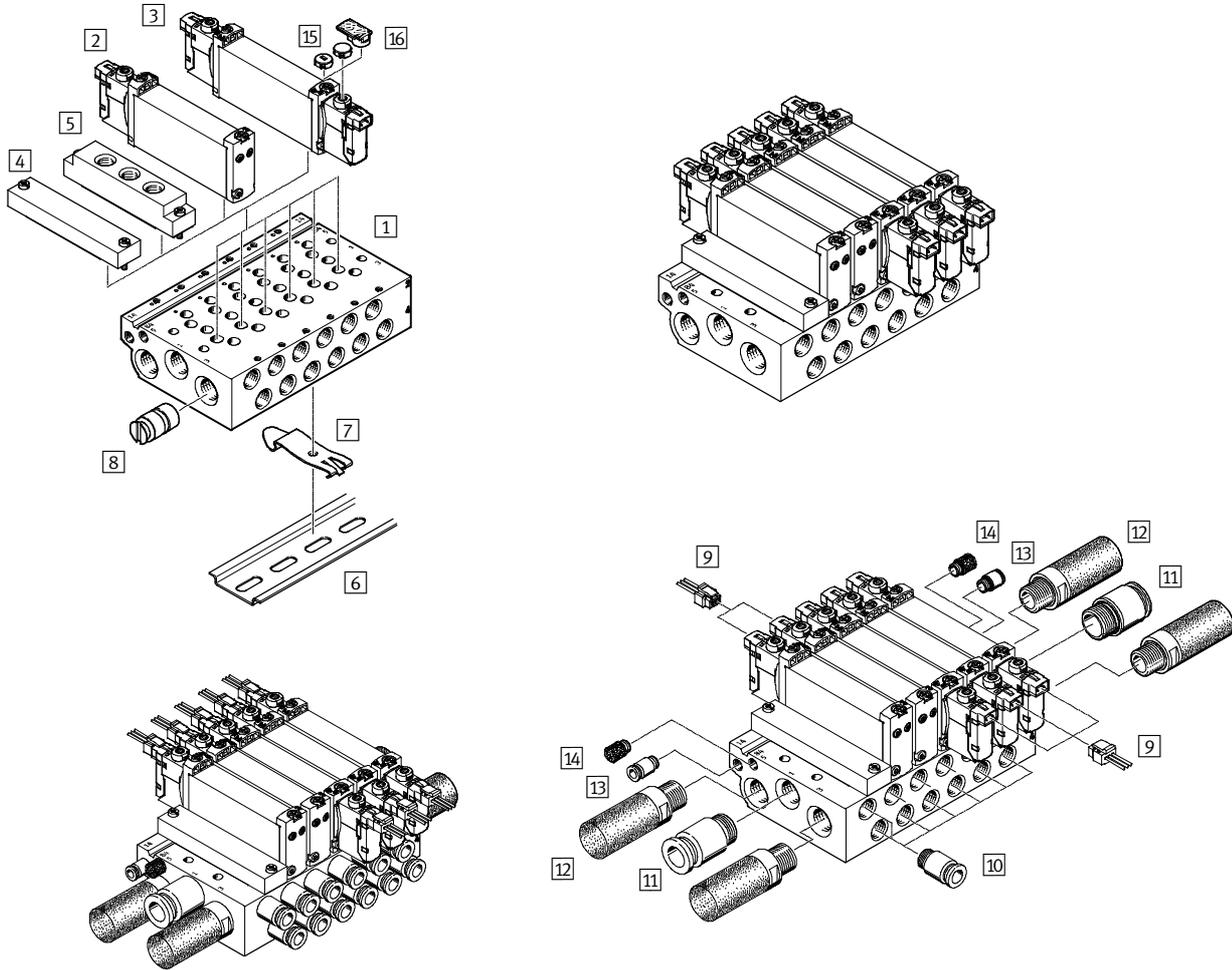
Ordering data – Accessories

			Type
Blanking plate			Technical data → Internet: vabb
	For manifold rail 10W/10HW, sub-base valves	Incl. screws and seal	VABB-L1-10-W
Separator			Technical data → Internet: vabd
	For manifold rail 10W and 10HW, sub-base valves	Separator for pressure zones	VABD-6-B
Supply plate			Technical data → Internet: vabf
	For manifold rail 10W	Incl. screws and seal	VABF-L1-10-P3A4-M5
	For manifold rail 10HW		VABF-L1-10-P3A4-M7
Seals			Technical data → Internet: vabd
	For sub-base valves B10	10 seals and 20 screws	VABD-L1-10B-S-M7

Solenoid valves VUVG-B14, sub-base valves

System overview

Manifold assembly



Manifold assembly and accessories				
	Type	Brief description	→ Page/Internet	
1	Manifold rail	VABM-L1-14 ...-G14- ...	For 2 to 10, 12, 14 and 16 valve positions	51
2	Solenoid valve	VUVG- ...	Sub-base valve, 5/2-way single solenoid	47
3	Solenoid valve	VUVG- ...	Sub-base valve, 2x3/2-way, 5/2-way double solenoid and 5/3-way valve	47
4	Blanking plate	VABB-L1-14	For covering an unused valve position	51
5	Supply plate	VABF-L1-10-P3A4- ...	For air supply port 1 and outlet port 3 and 5	51
6	H-rail	NRH-35-2000	For mounting the valve manifold	56
7	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	56
8	Separator	VABD- ...	For creating pressure zones	51
9	Plug socket with cable	NEBV-H1G2-KN-...-LE2	For E-box H2 and H3	56
10	Push-in fitting	QS...	Push-in fitting for outlet port 2 and 4	quick star
11	Push-in fitting	QS...	Push-in fitting for air supply port 1	quick star
12	Silencer	U...	For outlet port 3 and 5	56
13	Push-in fitting	QS...	Push-in fitting for pilot air supply port 12/14	quick star
14	Silencer	U...	Silencer for pilot air outlet 82/84	quick star
15	Cover cap	VMPA-HB...-B	For manual override	56
16	Inscription label holder	ASLR-D	For labelling the valves, covering the mounting screw and the manual override	58

Solenoid valves VUVG-B14, sub-base valves

Technical data

Function

2x3/2C, 2x3/2U, 2x3/2H

5/2-way, single solenoid

5/2-way, double solenoid

5/3C, 5/3U, 5/3E

Circuit symbol → page 3

 - Width 14 mm

 - Flow rate
510 ... 700 l/min

 - Voltage
5, 12 and 24 V DC

General technical data							
Valve function	2x3/2-way			5/2-way		5/3-way	
Normal position	C ¹⁾	U ²⁾	H ⁴⁾	–	–	C ¹⁾	U ²⁾ E ³⁾
Stable position	One position				Two positions	Centre	
Pneumatic spring reset method	Yes			–		No	
Mechanical spring reset method	No			–		Yes	
Vacuum operation at port 1	No			Only with external pilot air supply			
Design	Piston spool valve						
Sealing principle	Soft						
Actuation type	Electric						
Type of control	Piloted						
Pilot air supply	External, internal; can be selected via sub-base						
Exhaust function	With flow control						
Manual override	Choice of non-detenting, detenting or covered						
Type of mounting	On manifold rail						
Mounting position	Any						
Nominal size	[mm]	4.6		5.6			
Standard nominal flow rate	[l/min]	580		700		600	
Flow rate on manifold rail G ¹ / ₈	[l/min]	510		580		540	
Switching time on/off	[ms]	8/23		14/28		– 12/40	
Changeover time	[ms]	–		8		20	
Width	[mm]	14					
Connection	1, 3, 5	G ¹ / ₄ in manifold rail					
	2, 4	G ¹ / ₈ in manifold rail					
	12/14, 82/84	M5 in manifold rail					
Product weight	[g]	89		78		89	
Corrosion resistance class	CRC	2 ⁶⁾					

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open

6) Corrosion resistance class 2 according to 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 VUVG-B14, sub-base valves

Technical data

Operating and environmental conditions						
Valve function	2x3/2-way		5/2-way, single solenoid	5/2-way, double solenoid	5/3-way	
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 at port 1 with pilot air supply	Internal	[bar]	1.5 ... 8	2.5 ... 8	1.5 ... 8	3 ... 8
	External	[bar]	1.5 ... 10	-0.9 ... 10		
Operating pressure at port 3 or 5 with pilot air supply	Internal or external	[bar]	-0.9 ... 10			
Pilot pressure ¹⁾		[bar]	1.5 ... 8	2.5 ... 8	1.5 ... 8	3 ... 8
Ambient temperature		[°C]	-5 ... +50, -5 ... +60 with holding current reduction			
Temperature of medium		[°C]	-5 ... +50, -5 ... +60 with holding current reduction			

1) Minimum pilot pressure 50% of operating pressure

Electrical data	
Electrical connection	Via E-box
Operating voltage [V DC]	5, 12 and 24 ±10%
Power [W]	1, reduced to 0.35 with holding current reduction
Duty cycle [%]	100
Protection class to EN 60529	IP40 (with plug socket)

Information on materials	
Housing	Wrought aluminium alloy
Seals	HNBR, NBR
Note on materials	RoHS-compliant

Dimensions Download CAD data → www.festo.com

2x3/2-way, 5/2-way and 5/3-way valve

1 Horizontal electrical connection 2 Manual override

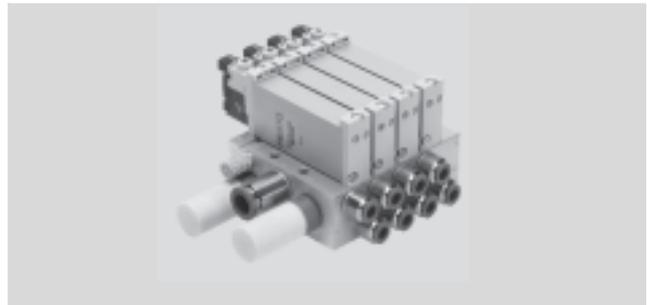
- Note
Additional dimensions
E-boxes
→ page 52

Type	B1	H1	L1	L2	L3	L4	L5	L6	L7	L8
VUVG-B14 -...-F ...	14.4	34.8	107	102	8	66.5	4.85	6.15	89.45	86.95

Solenoid valves VUVG-B14, sub-base valves

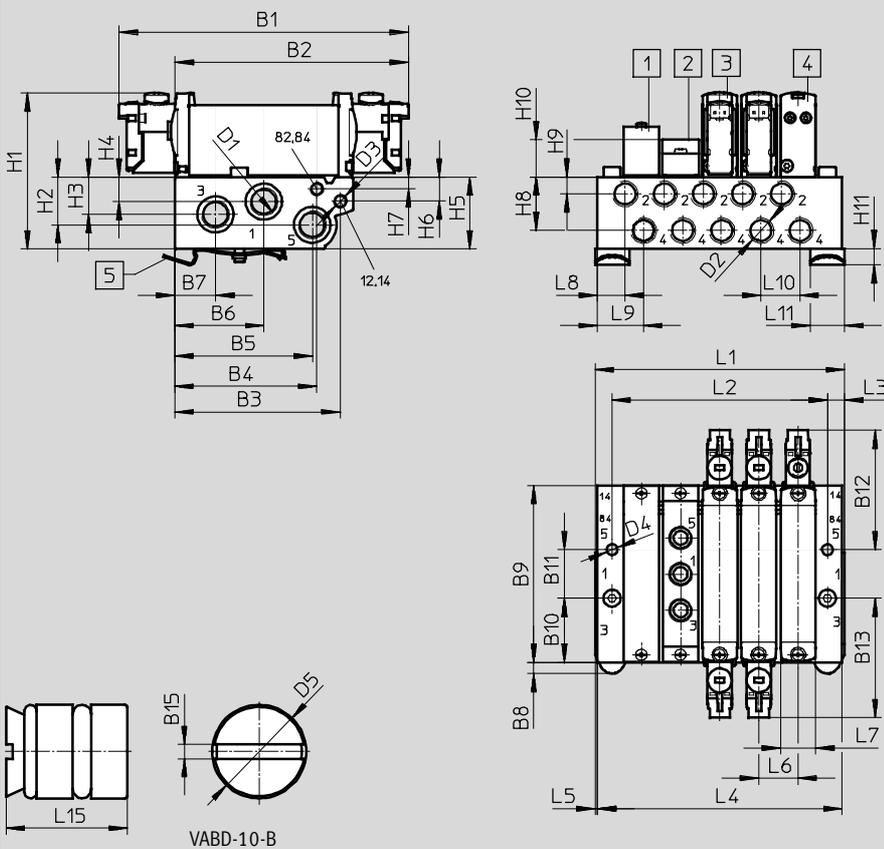
Manifold assembly

Sub-base valve for
manifold assembly
G $\frac{1}{8}$ connection



Dimensions

Download CAD data → www.festo.com



Note
Additional dimensions
E-boxes
→ page 52

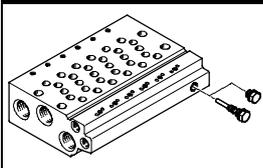
- 1 Blanking plate VABB-L1-14
- 2 Supply plate VABF-L1-14-P3A4-G18
- 3 Double solenoid valve
- 4 Single solenoid valve
- 5 H-rail mounting (two M4x25 screws to DIN 912 are required)

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
VUVG-B14 -...-F- ...	118.3	95.1	67.7	58.15	56.25	36.6	16.7	4.5	72.9	26.5	20	49.1
	B13	B15	D1	D2	D3	D4	D5	H1	H2	H3	H4	H5
	49.1	1.2	G $\frac{1}{4}$	G $\frac{1}{8}$	M5	Ø4.5	Ø9.8	64.3	19.6	15.3	10.1	29.5
	H6	H7	H8	H9	H10	H11	L3	L5	L6	L7	L8	L9
	9.83	4.8	22.1	7	15.4	6.8	6	1	16	14.4	11.3	18.5
	L10	L11	L15									
	16	14	11									

Solenoid valves VUVG-B14, sub-base valves for G $\frac{1}{8}$

Ordering data

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1 [mm]	56.3	72.3	88.3	104.3	120.3	136.3	152.3	168.3	184.3	216.3	248.3	280.3
L2 [mm]	40	56	72	88	104	120	136	152	168	200	232	264
L4 [mm]	54.3	70.3	86.3	102.3	118.3	134.3	150.3	166.3	182.3	214.3	246.6	278.3
VABM weight [g]	232	306	380	454	528	602	676	750	824	972	1120	1268

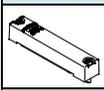
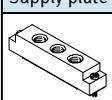
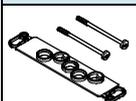
Technical data – Manifold rails ¹⁾									
	Connection			CRC	Material ³⁾	Operating pressure [bar]	Max. tightening torque for assembly [Nm]		
	2, 4	1, 3, 5	12/14, 82/84				Valve	H-rail	Wall
	G $\frac{1}{8}$	G $\frac{1}{4}$	M5	2 ²⁾	Wrought aluminium alloy	-0.9 ... 10	0.65	1.5	3

- Blanking plugs are included with the manifold rail.
- Corrosion resistance class 2 according to 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.
- Note on materials: RoHS-compliant

Order code – Manifold rails G $\frac{1}{8}$

VABM	-	L1	-	14	W	-	G14	-	
Manifold assembly parts									Number of valve positions
Manifold rail		VABM							2 to 10, 12, 14 and 16
Valve series									Ports 1, 3, 5
VUVG		L1					G14	G $\frac{1}{4}$	
Valve width									
14 mm					14				
Manifold rail with ports 1, 2, 3, 4, 5, 12/14, 82/84									
Ports 2 and 4 in G $\frac{1}{8}$					W				

Ordering data – Accessories

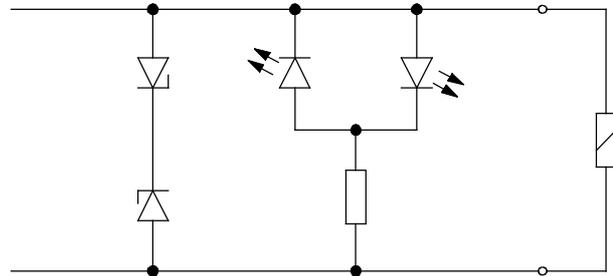
			Type
Blanking plate Technical data → Internet: vabb			
	For manifold rail 14W, sub-base valves	Incl. screws and seal	VABB-L1-14
Separator Technical data → Internet: vabd			
	For manifold rail 14W, sub-base valves	Separator for pressure zones	VABD-10-B
Supply plate Technical data → Internet: vabf			
	For manifold rail 14W	Incl. screws and seal	VABF-L1-14-P3A4-G18
Seals Technical data → Internet: vabd			
	For sub-base valves B14	10 seals and 20 screws	VABD-L1-14B-S-G18

Solenoid valves VUVG/valve terminal type 26 VTUG

E-boxes

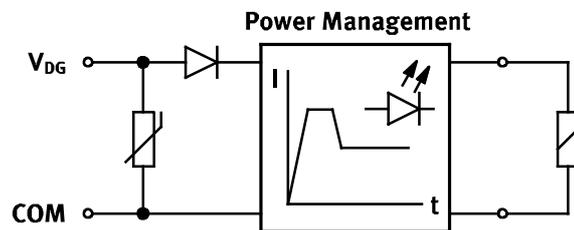
Protective circuit without holding current reduction

The solenoid coils (P type) of the 5, 12 and 24 V designs are equipped with a protective circuit to arrest sparks and protect against polarity reversal.



Protective circuit with holding current reduction

The 24 V DC design (R type) additionally features holding current reduction. This reduces the power from 1 W to 0.35 W.



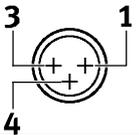
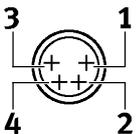
Pin allocation for E-box

		Pin	
Rectangular plug, pin spacing 4 mm, connection pattern H			
	VAVE-L1-1VH2-LP/VAVE-L1-1VH3-LP		
	1	+ or -	Without holding current reduction
	2	+ or -	
	VAVE-L1-1H2-LR/VAVE-L1-1H3-LR		
1	-	With holding current reduction	
2	+		
Rectangular plug, pin spacing 2.5 mm, connection pattern S			
	VAVE-L1-1VS2-LP/VAVE-L1-1VS3-LP		
	1	+ or -	Without holding current reduction
	2	+ or -	
	VAVE-L1-1S2-LR/VAVE-L1-1S3-LR		
1	-	With holding current reduction	
2	+		
Flying leads, 2-pin			
	VAVE-L1-1VL1...4-LP		
	1	+ or -	Without holding current reduction
	2	+ or -	
	VAVE-L1-1L1...4-LR		
1	-	With holding current reduction	
2	+		

Solenoid valves VUVG/valve terminal type 26 VTUG

FESTO

E-boxes

Pin allocation for E-box			
	Pin		
Round plug, M8, 3-pin			
	VAVE-L1-1VR8-LP		
	1	Not used	Without holding current reduction
	3	+ or -	
	4	+ or -	
Round plug, M8, 4-pin			
	VAVE-L1-1VR1-LP		
	1	Not used	Without holding current reduction
	2	Not used	
	3	+ or -	
	4	+ or -	

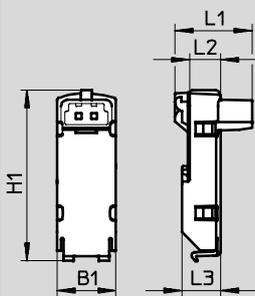
Solenoid valves VUVG/valve terminal type 26 VTUG

E-boxes

General technical data							
Variants	H2	H3	S2	S3	L-	R1	R8
Mounting position	Any						
Electrical connection	2-pin, socket				Flying leads	Individual plug M8, 4-pin	Individual plug M8, 3-pin
Protection class	IP40					IP65	
Switching position display	LED						
Type of mounting	Clip					Self-tapping screw	
Note on materials	RoHS-compliant						
Housing colour	Black						
Housing materials	PA						

Dimensions

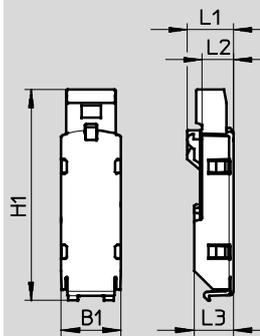
E-boxes, S2/H2



Type	B1	H1	L1	L2	L3
VAVE-L1-1VS2-LP	9.8	28.8	12.9	5.2	6.5
VAVE-L1-1S2-LR			10.75		
VAVE-L1-1VH2-LP					
VAVE-L1-H2-LR					

Download CAD data → www.festo.com

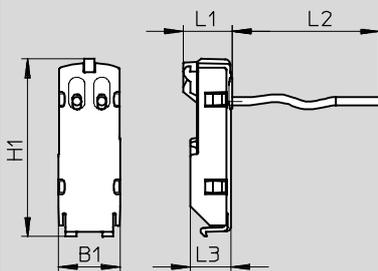
E-boxes, S3/H3



Type	B1	H1	L1	L2	L3
VAVE-L1-1VS3-LP	9.8	35 ± 0.5	7.6	5.2	6.5
VAVE-L1-1S3-LR			7.5		
VAVE-L1-1VH3-LP					
VAVE-L1-1H3-LR					

Dimensions

E-boxes, VL1...4



Type	B1	H1	L1	L2	L3
VAVE-L1-1VL1-LP	9.8	28.8	7.85	0.5	6.5
VAVE-L1-1L1-LR					
VAVE-L1-1VL2-LP				1	
VAVE-L1-1L2-LR					
VAVE-L1-1VL3-LP				2.5	
VAVE-L1-1L3-LR					
VAVE-L1-1VL4-LP				5	
VAVE-L1-1L4-LR					

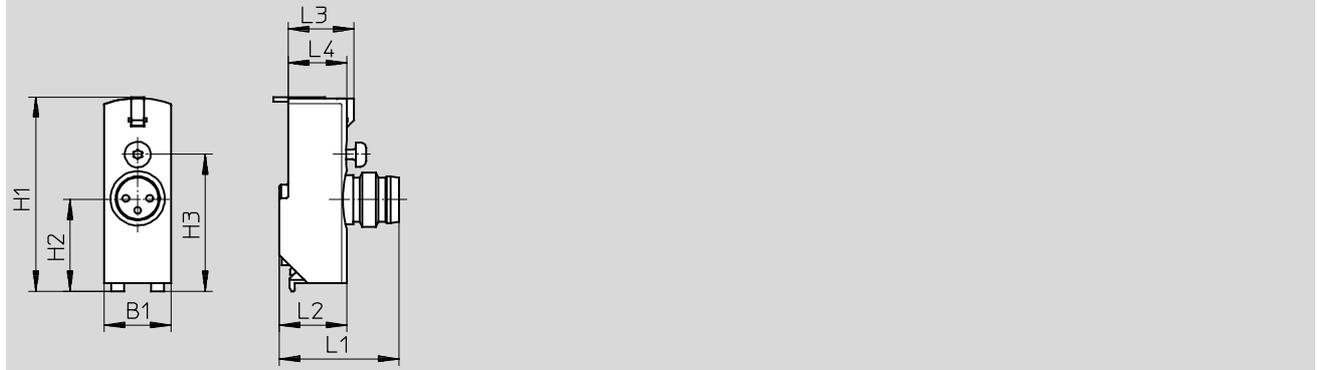
Solenoid valves VUVG/valve terminal type 26 VTUG

E-boxes

Dimensions

Download CAD data → www.festo.com

E-boxes, R8/R1

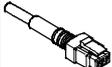
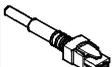


Type	B1	H1	H2	H3	L1	L2	L3	L4
VAVE-L1-1VR8-LP	9.8	28.7	13.5	20.2	17.55	9.9	9.65	8.6
VAVE-L1-1VR1-LP								

Ordering data – E-boxes							
Design	Plug	Additional functions	Ambient temperature [°C]	Code	Power	Voltage	Type
					[W]	[V DC]	
	NEBV-H1 ...	Spark arresting, bipolar	-5 ... +50	H2	1	12/24	VAVE-L1-1VH2-LP
		Spark arresting, holding current reduction	-5 ... +60	H2R	1/0.35	24	VAVE-L1-1H2-LR
	NEBV-H1 ...	Spark arresting, bipolar	-5 ... +50	H3	1	12/24	VAVE-L1-1VH3-LP
		Spark arresting, holding current reduction	-5 ... +60	H3R	1/0.35	24	VAVE-L1-1H3-LR
	NEBV-HS ...	Spark arresting, bipolar	-5 ... +50	S2	1	12/24	VAVE-L1-1VS2-LP
		Spark arresting, holding current reduction	-5 ... +60	S2R	1/0.35	24	VAVE-L1-1S2-LR
	NEBV-HS ...	Spark arresting, bipolar	-5 ... +50	S3	1	12/24	VAVE-L1-1VS3-LP
		Spark arresting, holding current reduction	-5 ... +60	S3R	1/0.35	24	VAVE-L1-1S3-LR
	Open cable end	Spark arresting, bipolar	-5 ... +50	L	1	12/24	VAVE-L1-1VL1-LP
							VAVE-L1-1VL2-LP
							VAVE-L1-1VL3-LP
							VAVE-L1-1VL4-LP
		Spark arresting, holding current reduction	-5 ... +60	LR	1/0.35	24	VAVE-L1-1L1-LR
							VAVE-L1-1L2-LR
							VAVE-L1-1L3-LR
							VAVE-L1-1L4-LR
	NEBU-M8 ...	Spark arresting, bipolar	-5 ... +50	R8	1	12/24	VAVE-L1-1VR8-LP
				R1	1	12/24	VAVE-L1-1VR1-LP

Solenoid valves VUVG/valve terminal type 26 VTUG

Accessories

Ordering data			
	Description	Cable length [m]	Type
Plug socket with cable, not sheathed, open end			Technical data → Internet: nebv
	For E-box code H2, H2R or H3, H3R, 2-pin socket	0.5	NEBV-H1G2-KN-0.5-N-LE2
		1	NEBV-H1G2-KN-1-N-LE2
		2.5	NEBV-H1G2-KN-2.5-N-LE2
		5	NEBV-H1G2-KN-5-N-LE2
Plug socket with cable, sheathed, open end			Technical data → Internet: nebv
	For E-box code H2, H2R or H3, H3R, 2-pin socket	0.5	NEBV-H1G2-P-0.5-N-LE2
		1	NEBV-H1G2-P-1-N-LE2
		2.5	NEBV-H1G2-P-2.5-N-LE2
		5	NEBV-H1G2-P-5-N-LE2
Plug socket with cable, not sheathed, open end			Technical data → Internet: nebv
	For E-box code S2, S2R or S3, S3R, 2-pin socket	0.5	NEBV-HSG2-KN-0.5-N-LE2
		1	NEBV-HSG2-KN-1-N-LE2
		2.5	NEBV-HSG2-KN-2.5-N-LE2
		5	NEBV-HSG2-KN-5-N-LE2
Plug socket with cable, sheathed, open end			Technical data → Internet: nebv
	For E-box code S2, S2R or S3, S3R, 2-pin socket	0.5	NEBV-HSG2-P-0.5-N-LE2
		1	NEBV-HSG2-P-1-N-LE2
		2.5	NEBV-HSG2-P-2.5-N-LE2
		5	NEBV-HSG2-P-5-LE2
Connecting cable, open end			Technical data → Internet: nebu
	For E-box code R8 3-pin, straight socket, M8x1	2.5	NEBU-M8G3-K-2.5-LE3
		5	NEBU-M8G3-K-5-LE3
	For E-box code R1 4-pin, straight socket, M8x1	2.5	NEBU-M8G4-K-2.5-LE4
		5	NEBU-M8G4-K-5-LE4
Connecting cable, open end			Technical data → Internet: nebu
	For E-box code R8 3-pin, angled socket, M8x1	2.5	NEBU-M8W3-K-2.5-LE3
		5	NEBU-M8W3-K-5-LE3
	For E-box code R1 4-pin, angled socket, M8x1	2.5	NEBU-M8W4-K-2.5-LE4
		5	NEBU-M8W4-K-5-LE4

Solenoid valves VUVG/valve terminal type 26 VTUG

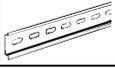
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Accessories

Ordering data			
	Description		Type
Blanking plug Technical data → Internet: b			
	For manifold rail and valve		B-M5-B
			B-M7
	For manifold rail		B-1/8
			B-1/4
Blanking plug Technical data → Internet: qs			
	For valve		QSC-F-G1/8-I
Reducing nipple			
			D-M51-M7A-ISK
Fittings Technical data → Internet: qsm			
	For tubing Ø 3 mm	100 pieces	QSM-M3-3-I-R-100
	For tubing Ø 4 mm		QSM-M3-4-I-R-100
	For tubing Ø 3 mm		QSM-M5-3-I-R100
	For tubing Ø 4 mm		QSM-M5-4-I-R100
	For tubing Ø 6 mm		QSM-M5-6-I-R100
	For tubing Ø 6 mm		QSM-M7-6-I-R100
	For tubing Ø 3 mm	10 pieces	QSM-M5-3-I
	For tubing Ø 4 mm		QSM-M5-4-I
	For tubing Ø 6 mm		QSM-M5-6-I
	For tubing Ø 4 mm		QSM-M7-4-I
	For tubing Ø 6 mm		QSM-M7-6-I
	For tubing Ø 4 mm	10 pieces	QS-G1/8-4-I
	For tubing Ø 6 mm		QS-G1/8-6-I
	For tubing Ø 8 mm		QS-G1/8-8-I
For tubing Ø 10 mm	QS-G1/8-10-I		
	For tubing Ø 6 mm	10 pieces	QS-G1/4-6-I
	For tubing Ø 8 mm		QS-G1/4-8-I
	For tubing Ø 10 mm		QS-G1/4-10-I
Silencer Technical data → Internet: uc			
	For thread M5		U-M5
	For thread M7		UC-M7
	For thread G1/8		UC-1/8
	For thread G1/4		UC-1/4

Solenoid valves VUVG/valve terminal type 26 VTUG

Accessories

Ordering data			
	Description		Type
H-rail Technical data → Internet: nrh			
	To EN 60715, 35 x 7.5 (WxH)	2 m	NRH-35-2000
H-rail mounting Technical data → Internet: vame			
	-	2 pieces	VAME-T-M4
Covers for manual override Technical data → Internet: vmpa			
	Covered	10 pieces	VMPA-HBV-B
	Non-detenting		VMPA-HBT-B
Inscription label holder Technical data → Internet: aslr			
	Holder for an inscription label and cover for mounting screw and manual override	10 pieces	ASLR-D-L1