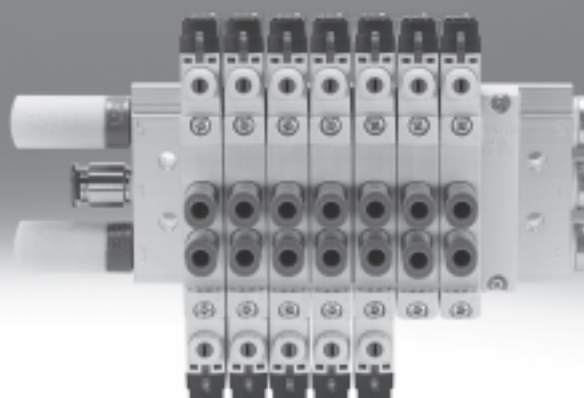


## Solenoid valves VUVG/valve terminal type 26 VTUG

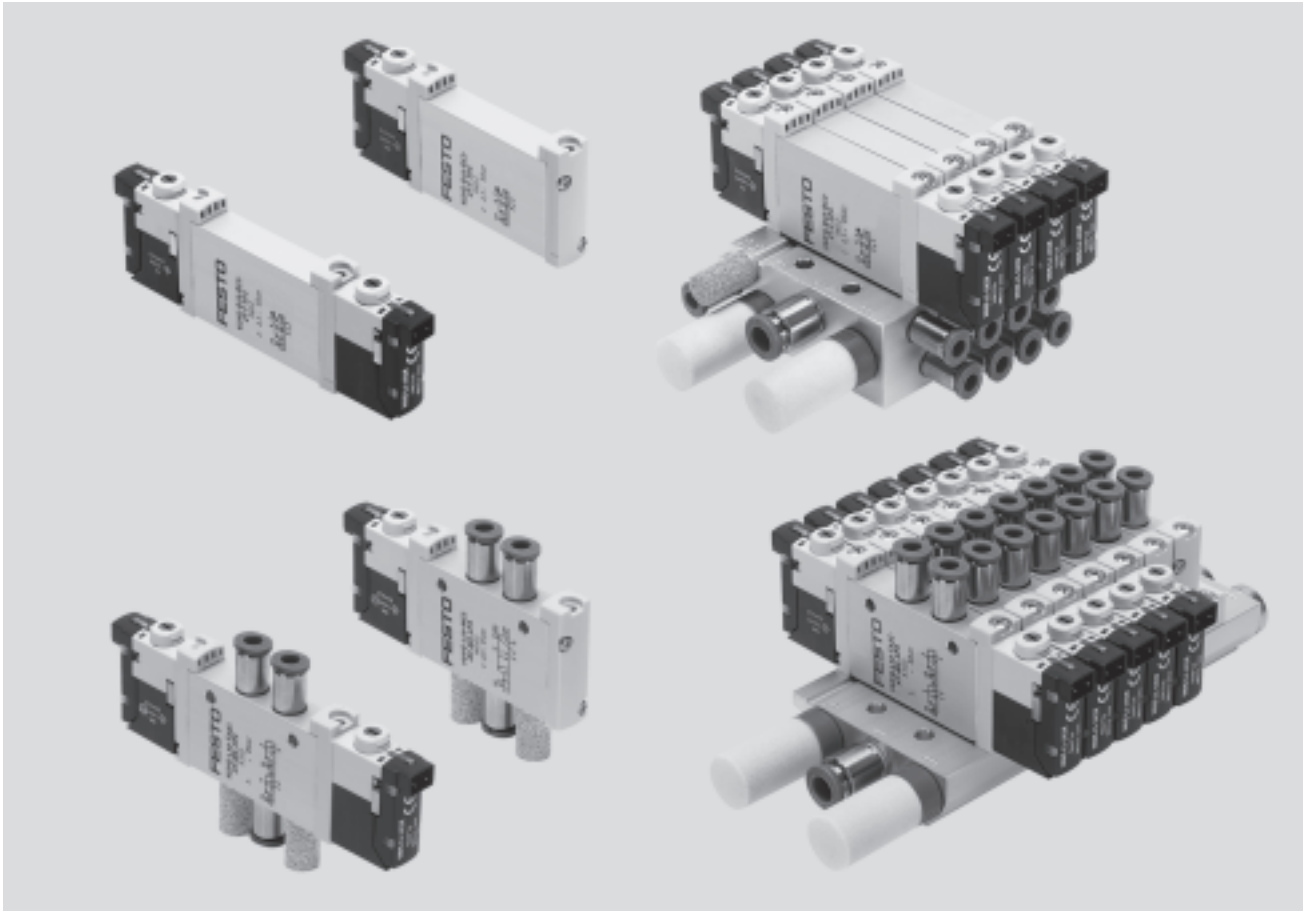
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## Solenoid valves VUVG/valve terminal type 26 VTUG

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

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

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.

Ordering system for valve terminal type 26 VTUG

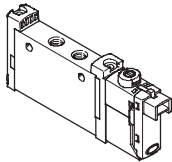
- Individual electrical connection
- Internet: vtug

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

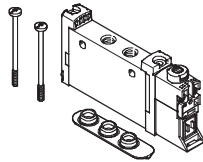
# Solenoid valves VUVG/valve terminal type 26 VTUG

Key features – Pneumatic components

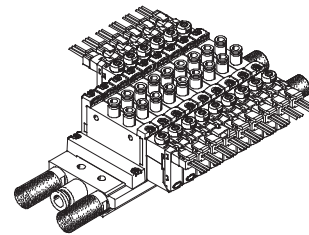
## Individual valves and valve manifolds



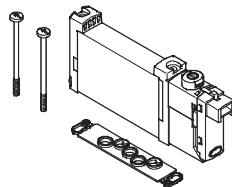
VUVG-L in-line valve  
as individual valve



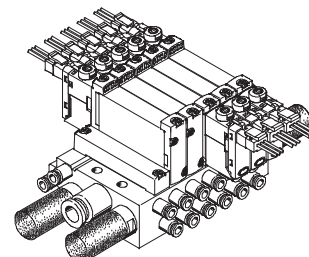
VUVG-S in-line valve  
for manifold assembly



VTUG valve manifold  
from VUVG-S in-line valves

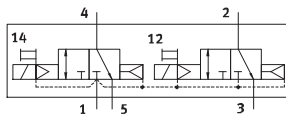


VUVG-B sub-base valve  
for manifold assembly

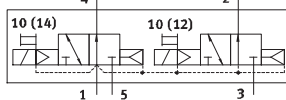


VTUG valve manifold  
from VUVG-B sub-base valves

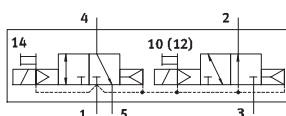
## In-line valve functions



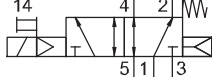
T32C: 2x3/2-way valve with internal pilot air supply, 2x normally closed



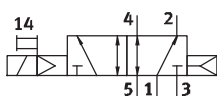
T32U: 2x3/2-way valve with internal pilot air supply, 2x normally open



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



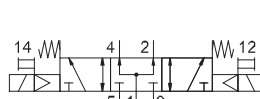
M52: 5/2-way single solenoid valve with internal pilot air supply, size 14



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

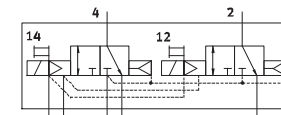


P53U: 5/3-way valve with internal pilot air supply, mid-position pressurised

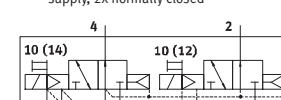


P53E: 5/3-way valve with internal pilot air supply, mid-position exhausted

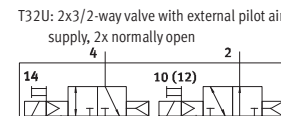
## Sub-base valve functions



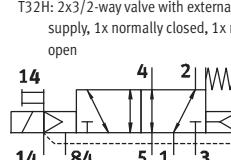
T32C: 2x3/2-way valve with external pilot air supply, 2x normally closed



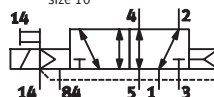
T32U: 2x3/2-way valve with external pilot air supply, 2x normally open



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



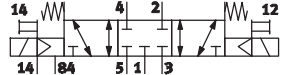
M52: 5/2-way single solenoid valve with external pilot air supply, size 10



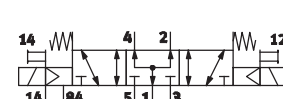
M52: 5/2-way single solenoid valve with external pilot air supply, size 14



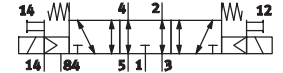
B52: 5/2-way double pilot valve with external pilot air supply



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



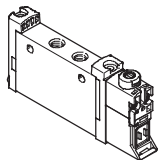
P53E: 5/3-way valve with external pilot air supply, mid-position exhausted

## Solenoid valves VUVG/valve terminal type 26 VTUG

Key features – Pneumatic components

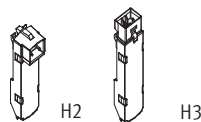
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### VUVG basic valves



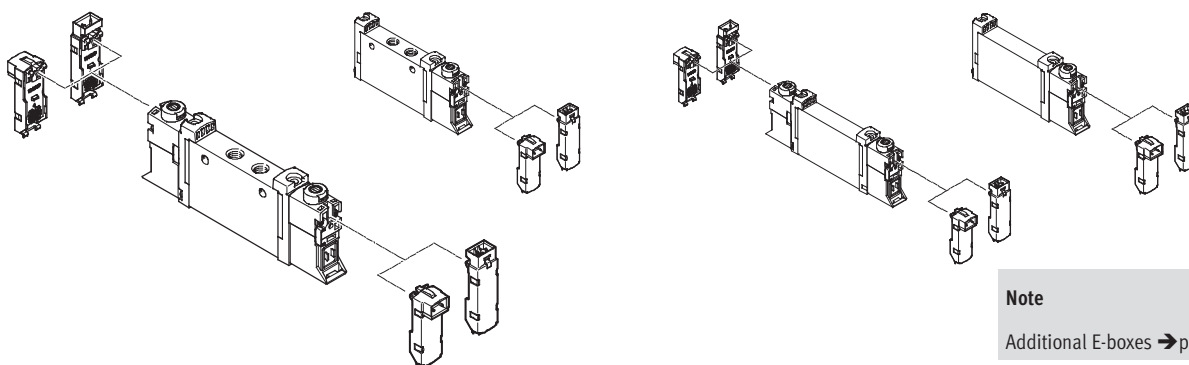
- Width 10 mm and 14 mm
- In-line valves
- Sub-base valves
- 2x3/2-way, 5/2-way and 5/3-way valves

### E-boxes



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

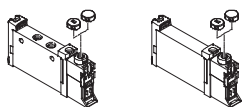
### Basic valve and E-box combinations



#### Note

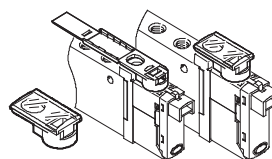
Additional E-boxes → page 51

### 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

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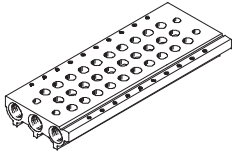
Ordering system for valve terminal type 26 VTUG

- 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

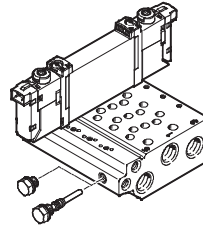


- For in-line valves M3, M5, M7 and G 1/8, width 10
- For 2x3/2-way, 5/2-way and 5/3-way valves
- 2 to 10 and 12, 14, 16 valve positions

### Note

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

### 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.

### 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

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### 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:

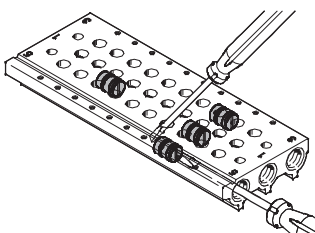
- Duct 1
- Duct 3
- Duct 5

#### 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"> <li>• Duct 1 closed</li> </ul>
	<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.

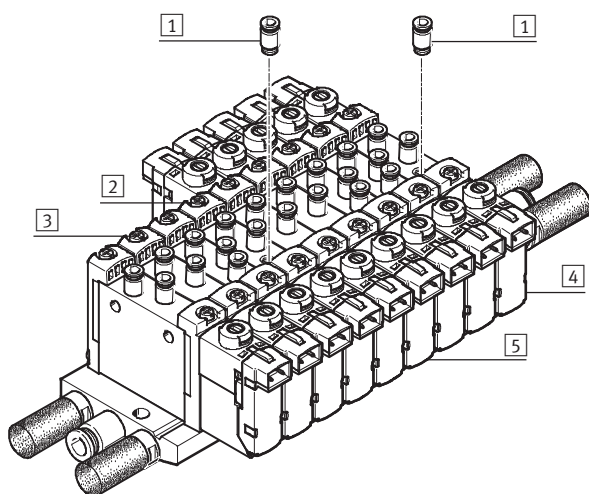
The port for external pilot air supply (port 12/14) is located on the valve in the case of in-line valves and on the manifold rail in the case of sub-base valves.

#### 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

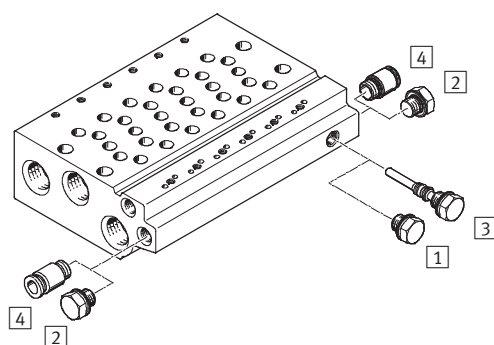
The internal pilot air is branched from port 1 in the valve body. The external pilot air (port 12/14) is supplied individually at each valve housing.

### 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

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### 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.

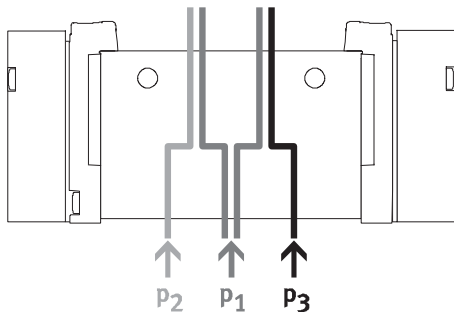
#### Reverse operation

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

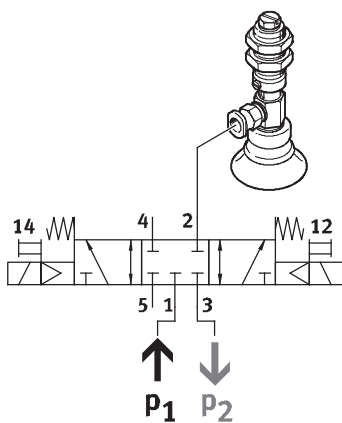
- With internal pilot air, the minimum pilot pressure must be adhered to in duct 1

- 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



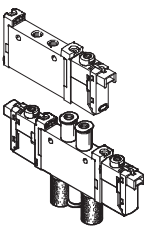
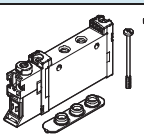
Vacuum, ejector pulse and normal position with internal pilot air can be achieved by connecting vacuum

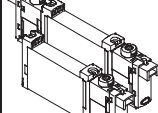
at duct 3 and pressure for the ejector pulse at duct 1.

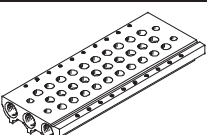
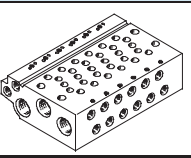


# Solenoid valves VUVG/valve terminal type 26 VTUG

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	–	–	–	■ 100	■ 100	■ 90	■ 90	■ 90	12	
		M5	10	■ 150	■ 150	■ 150	■ 220	■ 220	■ 210	■ 210	■ 210	19	
		M7	10	■ 190	■ 190	■ 190	■ 380	■ 380	■ 320	■ 320	■ 320	21	
		G1/8	14	■ 650	■ 600	■ 650	■ 780	■ 780	■ 650	■ 600	■ 600	27	
In-line valve for manifold assembly	Solenoid valve VUVG-S												
		M3	10A	–	–	–	■ 100	■ 100	■ 90	■ 90	■ 90	12	
		M5	10	■ 150	■ 150	■ 150	■ 220	■ 220	■ 210	■ 210	■ 210	19	
		M7	10	■ 170	■ 170	■ 170	■ 340	■ 340	■ 300	■ 300	■ 300	21	
		G1/8	14	■ 580	■ 580	■ 580	■ 700	■ 700	■ 600	■ 600	■ 600	27	

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	–	–	–	■ 100	■ 100	■ 90	■ 90	■ 90	32
		–	10	■ 150	■ 150	■ 150	■ 210	■ 210	■ 200	■ 200	■ 200	39
		–	10	■ 160	■ 160	■ 160	■ 270	■ 270	■ 250	■ 250	■ 250	39
		–	14	■ 510	■ 510	■ 510	■ 580	■ 580	■ 540	■ 540	■ 540	45

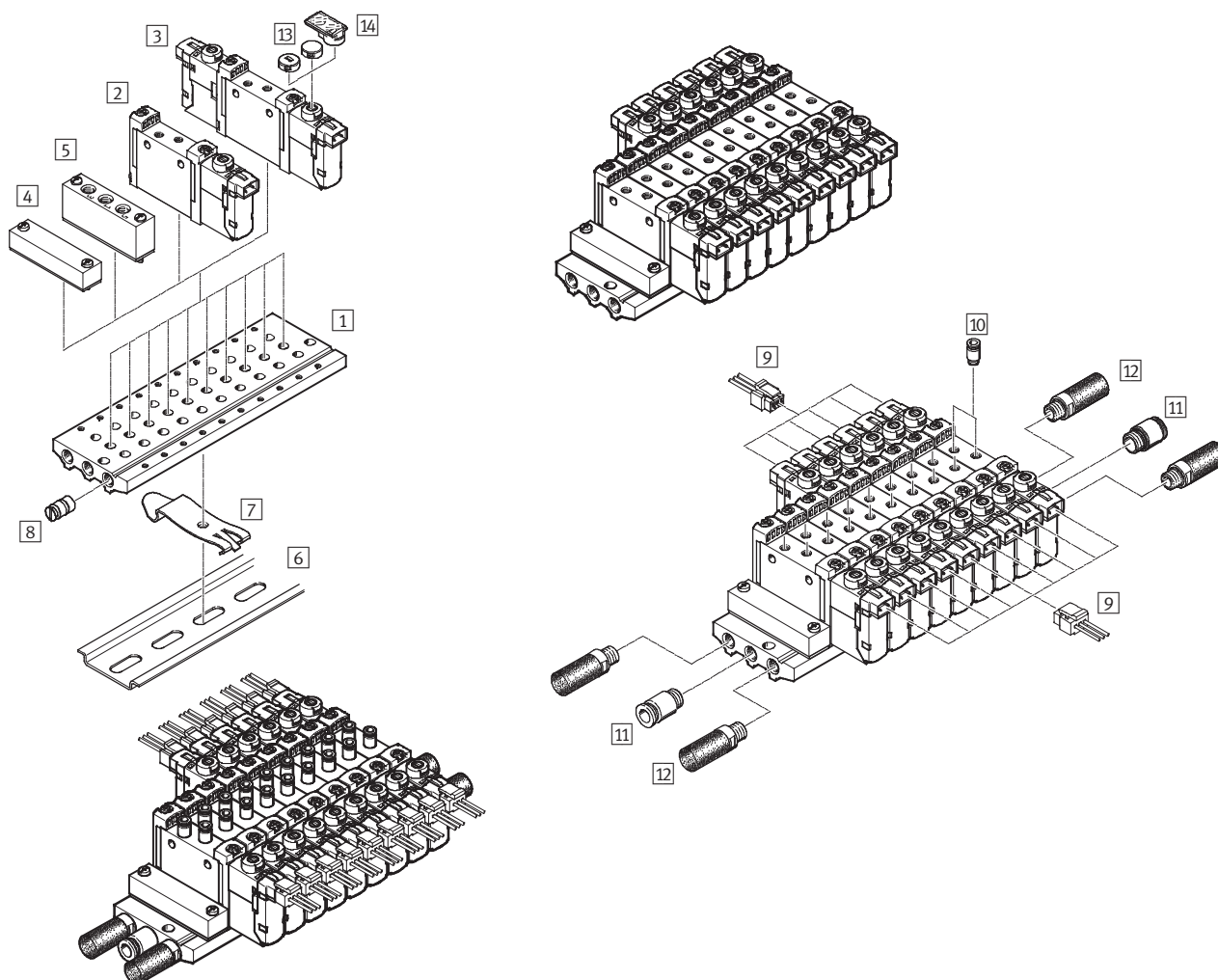
Design	Working line	Type code	Description	→ Page/ Internet
Manifold rail	<b>Manifold rail VABM- ... -S- ... , for in-line valves (manifold assembly)</b>			
		–	Valve size M3, M5, M7, G1/8	vabm
Manifold rail	<b>Manifold rail VABM, for sub-base valves</b>			
		–	10AW Connection size M3	vabm
		–	10W Connection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

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

System overview

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

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

Technical data

Function	Width
5/2-way, single solenoid	
5/2-way, double solenoid	Flow rate
5/3C, 5/3U, 5/3E	90 ... 100 l/min
Circuit symbol → page 3	Voltage
	5, 12 and 24 V DC



General technical data					
Valve function	5/2-way		5/3-way		
Normal position	–	–	C <sup>1)</sup>	U <sup>2)</sup>	E <sup>3)</sup>
Stable position	One position	Two positions	Centre		
Pneumatic spring reset method	Yes <sup>5)</sup>	–	No		
Mechanical spring reset method	Yes <sup>5)</sup>	–	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 <sup>7)</sup> 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 <sup>6)</sup>			

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			Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated	
Operating pressure at port 1 with pilot air supply	Internal	[bar]	2.5 ... 8	1.5 ... 8
	External	[bar]	–0.9 ... 10	3 ... 8
Operating pressure at port 3 or 5 with pilot air supply	Internal or external	[bar]	–0.9 ... 10	
Pilot pressure <sup>1)</sup>		[bar]	2.5 ... 8	1.5 ... 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

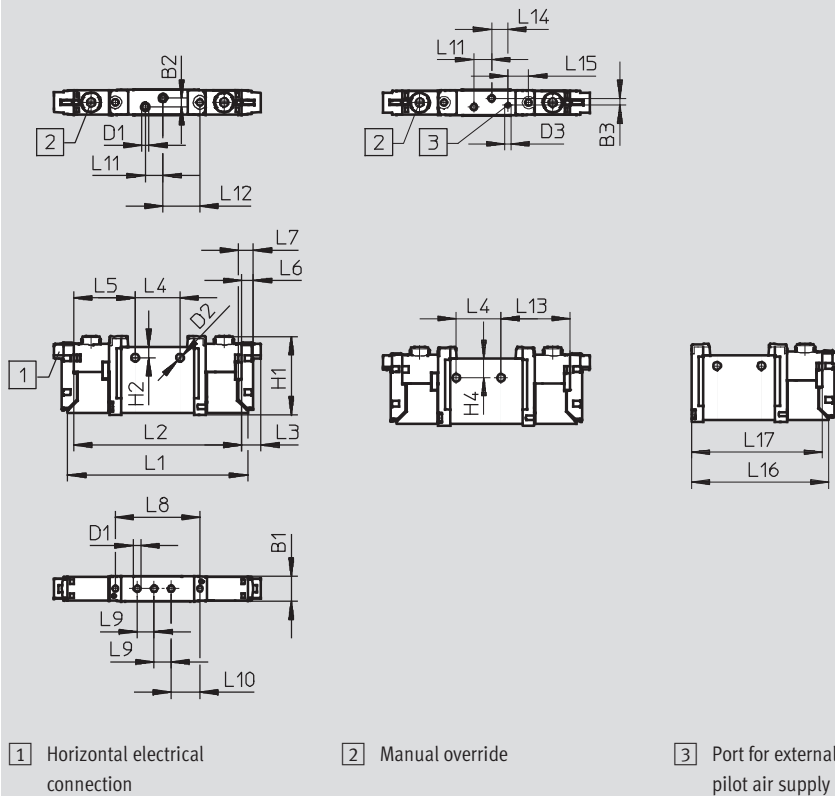
Technical data

**FESTO**

### Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

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



### Note

Additional dimensions

E-boxes

→ page 51

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-S10A, in-line valves M3

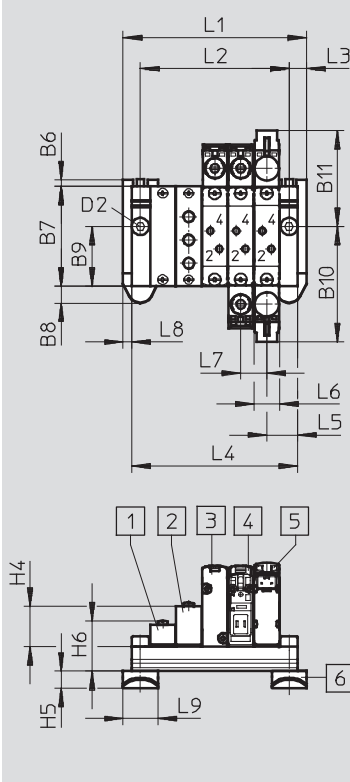
Manifold assembly

In-line valves for  
manifold assembly



### Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



#### Note

Additional dimensions  
E-boxes  
→ page 49

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

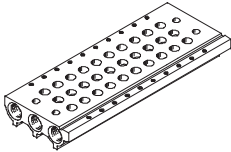
Type												
VUVG-S10A -...-M3 ...	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	D1
	85.3	62.6	29.7	18.7	7.7	3	40.3	6.8	24.2	46.7	38.6	M5
	D2	H1	H2	H3	H4	H5	H6	L3	L5	L6	L7	L8
	Ø4.5	43.8	10	5.5	16.2	6.8	20.3	7	12.5	10.3	10.5	3.5
	L9											
	14											

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

**FESTO**

Ordering data

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




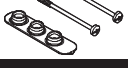
1) Corrosion resistance class 2 according to Festo standard 940 070

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

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

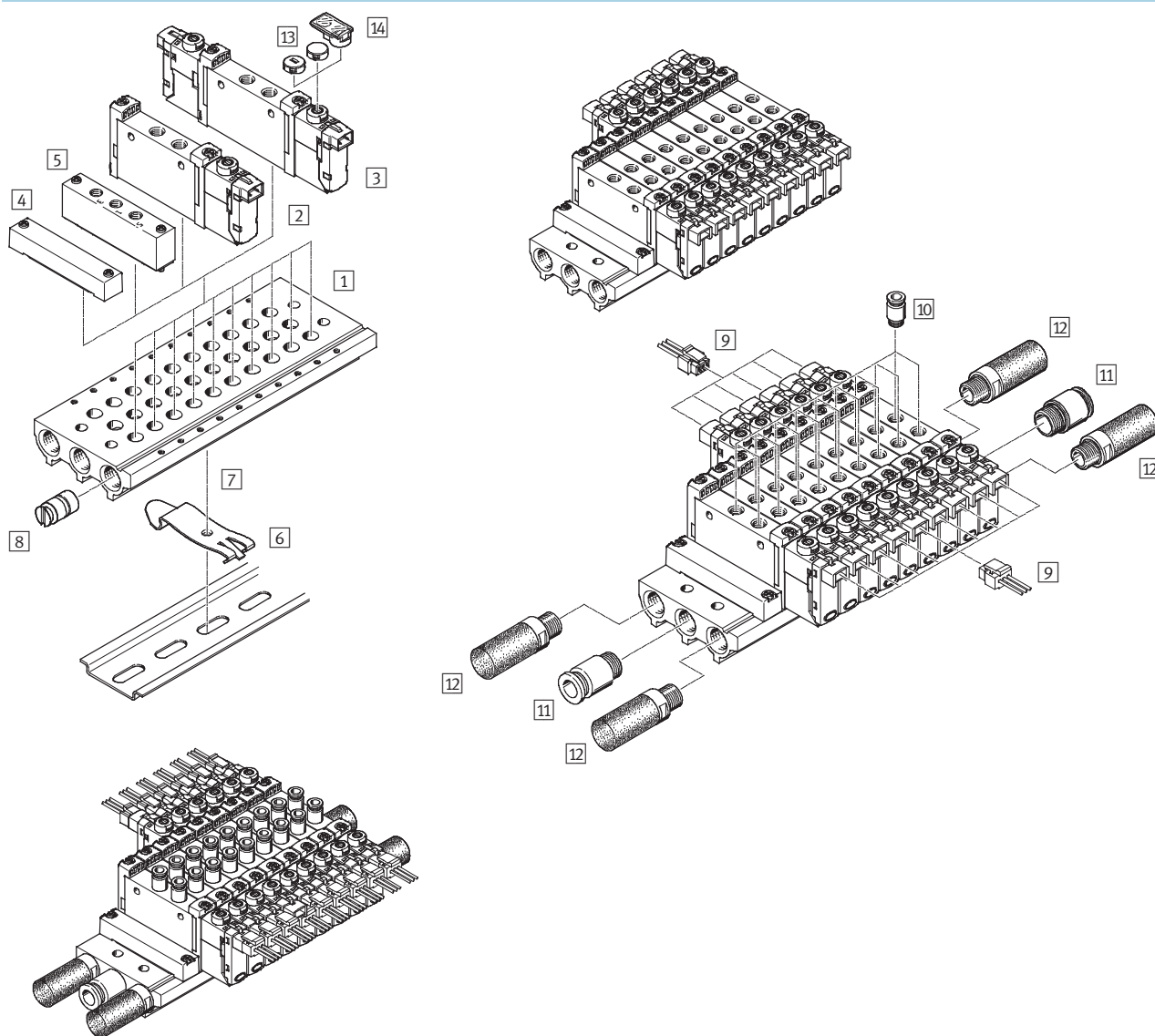
Ordering data – Accessories				Type
Blanking plate				Technical data → Internet: vabb
	For manifold rail for M3 in-line valves	Incl. screws and seal		<b>VABB-L1-10A</b>
Separator				Technical data → Internet: vabd
	For manifold rail for M3 in-line valves	Separator for pressure zones		<b>VABD-4.2-B</b>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



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

System overview

## Manifold assembly



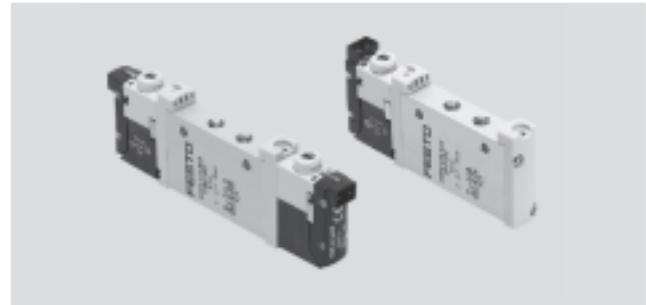
Manifold assembly and accessories			
	Type	Brief description	→ Page/Internet
1	Manifold rail	VABM-L1-10S-G18-...	For 2 to 10, 12, 14 and 16 valve positions
2	Solenoid valve	VUVG- ...	In-line valve, 5/2-way single solenoid
3	Solenoid valve	VUVG- ...	In-line valve, 2x3/2-way, 5/2-way double solenoid and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

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

### Technical data

Function	Width
2x3/2C, 2x3/2U, 2x3/2H	
5/2-way, single solenoid	Flow rate
5/2-way, double solenoid	150 ... 220 l/min
5/3C, 5/3U, 5/3E	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 <sup>1)</sup>	U <sup>2)</sup>	H <sup>4)</sup>	–	–	C <sup>1)</sup>	U <sup>2)</sup>	E <sup>3)</sup>
Stable position	One position				Two positions	Centre		
Pneumatic spring reset method	Yes			Yes <sup>5)</sup>	–	No		
Mechanical spring reset method	No			Yes <sup>5)</sup>	–	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 <sup>7)</sup> 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	–	10/30		
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 <sup>6)</sup>						

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			Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated			
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 <sup>1)</sup>		[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

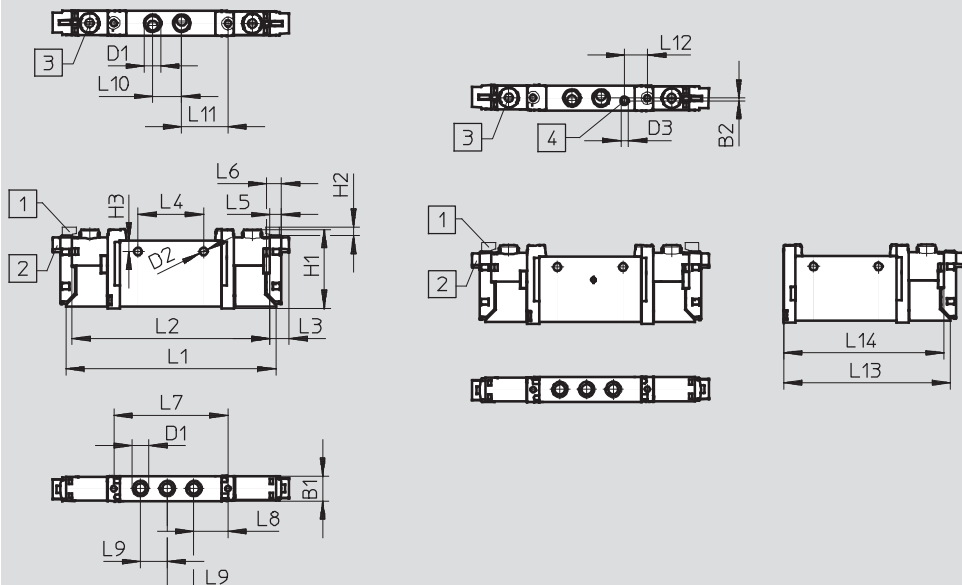
Electrical data		
Electrical connection		Via E-box
Operating voltage	[V DC]	5, 12 and 24 ±10%
Power	[W]	1, reduced to 0.35 with holding current reduction
Duty cycle	[%]	100
Protection class to EN 60529		IP40 (with plug socket), IP65 (with M8)

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

**Dimensions**

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

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



**Note**

Additional dimensions  
E-boxes  
→ page 49

1

Vertical electrical connection

2

Horizontal electrical connection

3

Manual override

4

Port for external pilot air supply

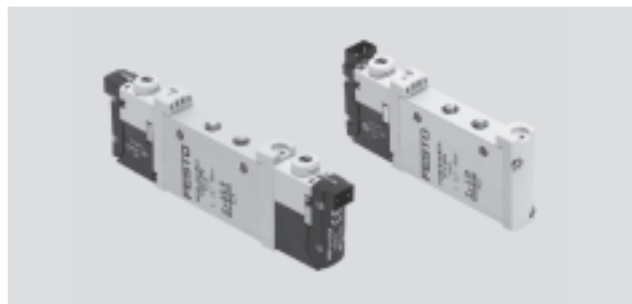
Type												
VUVG-L-10 -...-M5 ...	B1	B2	D1	D2	D3	H1	H2	H3	L1	L2	L3	L4
VUVG-S-10 -...-M5 ...	10.2	—	M5	3.2	M3	32.5	3.6	4.4	86.5	81.5	8	27
	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14		
	4.85	6.15	47	14	11	12	19	—	69.2	66.7		

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

Technical data

Function	Width
2x3/2C, 2x3/2U, 2x3/2H	
5/2-way, single solenoid	Flow rate
5/2-way, double solenoid	190 ... 380 l/min
5/3C, 5/3U, 5/3E	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 <sup>1)</sup>	U <sup>2)</sup>	H <sup>4)</sup>	–	–	C <sup>1)</sup>	U <sup>2)</sup> E <sup>3)</sup>
Stable position		One position				Two positions	Centre	
Pneumatic spring reset method		Yes			Yes <sup>5)</sup>	–	No	
Mechanical spring reset method		No			Yes <sup>5)</sup>	–	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 <sup>7)</sup> 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 12, 14		M7						
		M3						
Product weight [g]		55			45	55		
Corrosion resistance class CRC		2 <sup>6)</sup>						

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			Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated			
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 <sup>1)</sup>		[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			

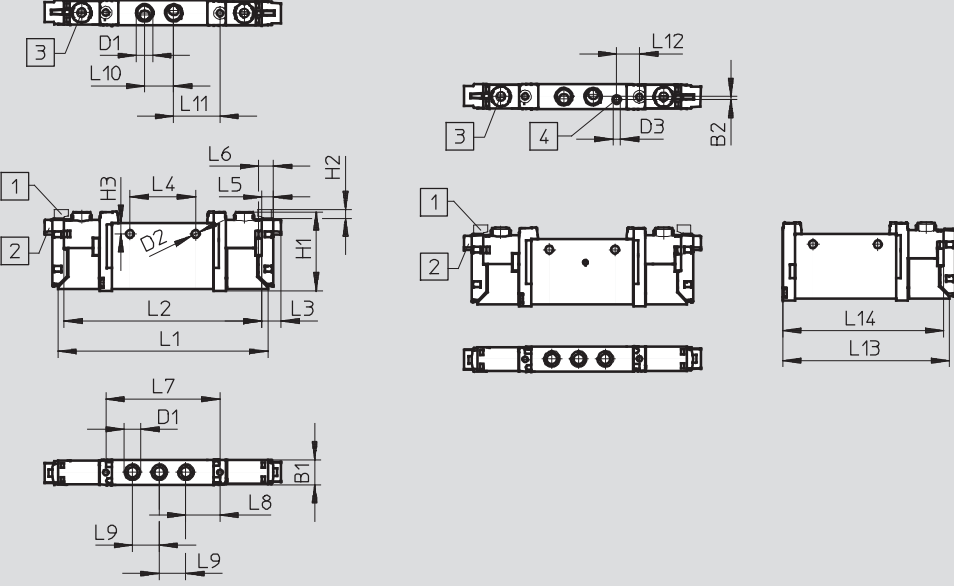
1) Minimum pilot pressure 50% of operating pressure

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

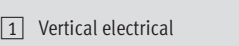
## Dimensions Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

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




**Note**

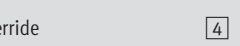
Additional dimensions  
E-boxes  
→ page 49




1 Vertical electrical connection



2 Horizontal electrical connection



3 Manual override



4 Port for external pilot air supply

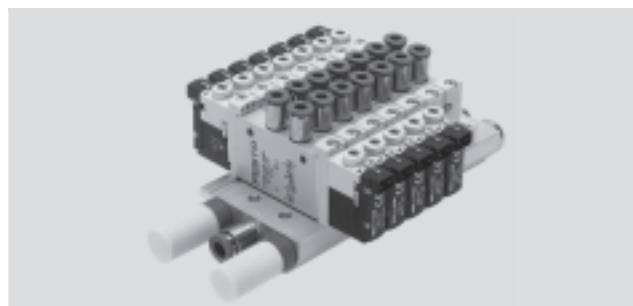
Type												
VUVG-L-10 ...-M7 ...	B1	B2	D1	D2	D3	H1	H2	H3	L1	L2	L3	L4
VUVG-S-10 ...-M7 ...	10.2	—	M7	3.2	M3	32.5	3.6	4.4	86.5	81.5	8	27
	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14		
	4.85	6.15	47	14	11	12	19	—	69.2	66.7		



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

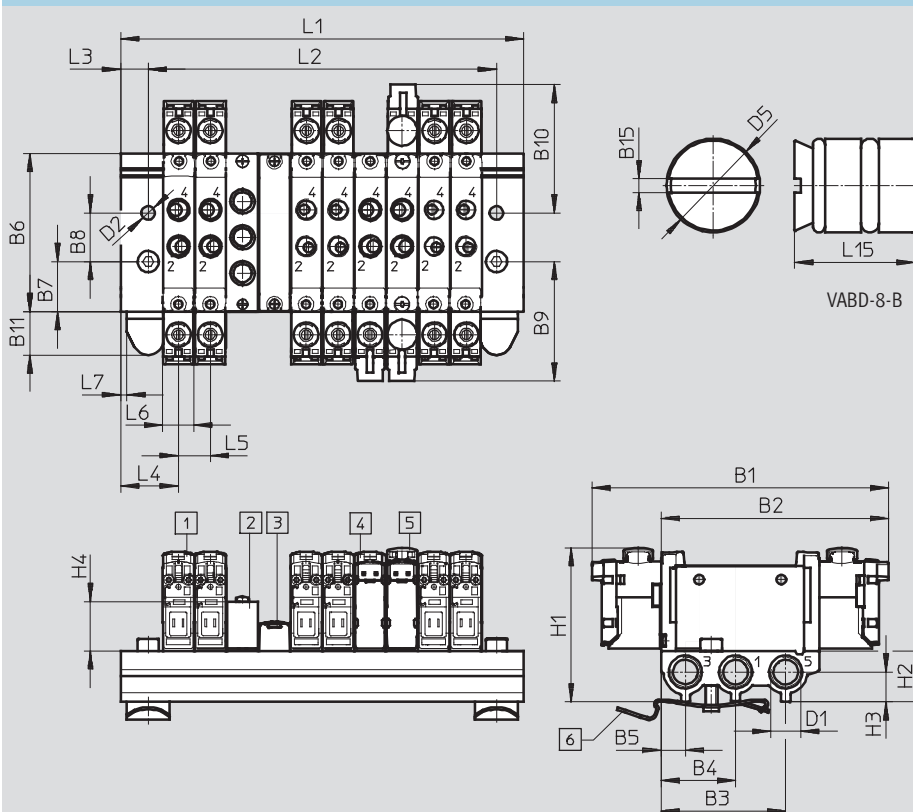
Manifold assembly

In-line valves for  
manifold assembly









### Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



#### Note

Additional dimensions  
E-boxes  
→ page 49

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

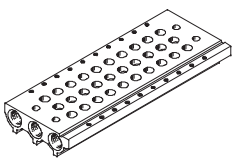
Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B15
VUVG-S10 -...-M5 ...	97.5	74.8	41	24.5	8	52	16.5	16	39.2	42.3	14.45	1
	D1	D2	D5	H1	H2	H3	H4	L3	L4	L5	L6	L7
	G $\frac{1}{8}$	4.5	Ø8	50.6	16.8	7	16.2	9	19	10.5	10.2	2
	L15											
	10											

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

**FESTO**

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



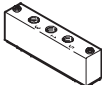

1) Corrosion resistance class 2 according to Festo standard 940 070

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

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

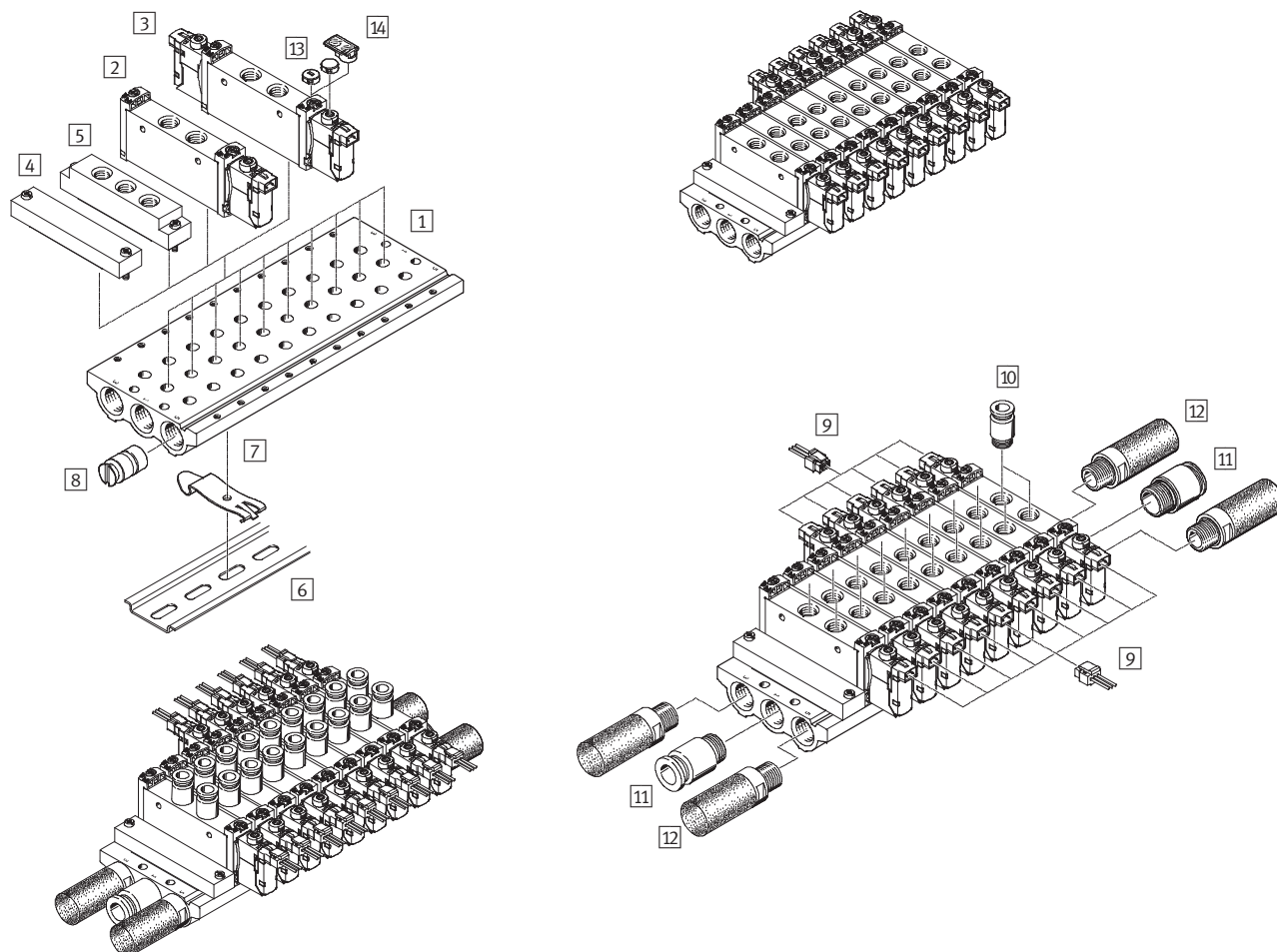
Ordering data – Accessories				Type
Blanking plate				Technical data → Internet: vabb
	For manifold rail for M5/M7 in-line valves	Incl. screws and seal		<b>VABB-L1-10-S</b>
Separator				Technical data → Internet: vabd
	For manifold rail for M5/M7 in-line valves	Separator for pressure zones		<b>VABD-8-B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



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

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

**FESTO**

Technical data

Function	Width
2x3/2C, 2x3/2U, 2x3/2H	
5/2-way, single solenoid	Flow rate
5/2-way, double solenoid	580 ... 780 l/min
5/3C, 5/3U, 5/3E	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 <sup>1)</sup>	U <sup>2)</sup>	H <sup>4)</sup>	–	–	C <sup>1)</sup>	U <sup>2)</sup> E <sup>3)</sup>
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 <sup>7)</sup> 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						
14		M5						
Product weight [g]		89			78	89		
Corrosion resistance class		CRC		2 <sup>6)</sup>				

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			Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated			
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 <sup>1)</sup>		[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

**Dimensions**

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

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



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

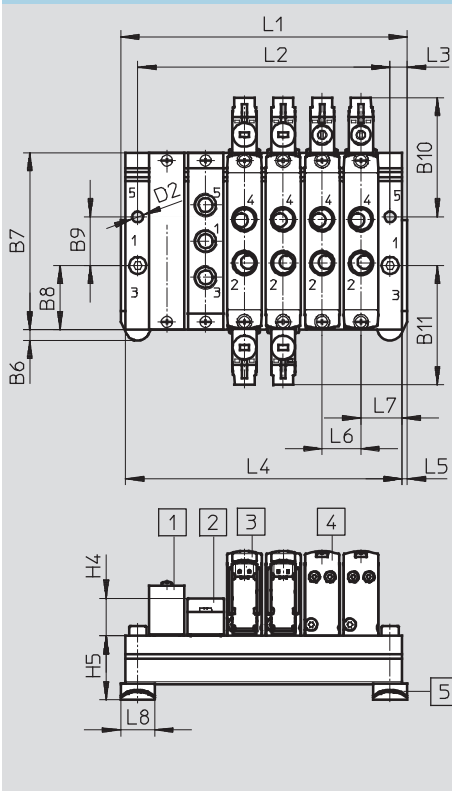
Manifold assembly

In-line valves for  
manifold assembly



### Dimensions

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#### Note

Additional dimensions

E-boxes

→ page 49

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												
VUVG-S14 ...-G18 ...	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	D1
	118.3	95.1	56.55	36.45	16.35	4.5	72.9	26.45	20	49.15	49.15	G1/4
	D2	H1	H2	H3	H4	H5	L3	L5	L6 <sup>1)</sup>	L7		
	Ø4.5	54.8	20	10.6	15.4	26.4	7	2	16	17		

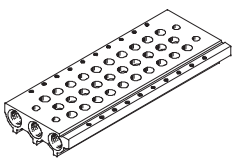
Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1 [mm]	54	70	86	98	118	134	150	166	182	214	246	278
L2 [mm]	40	56	72	88	104	120	136	152	168	200	232	264
L4 [mm]	50	66	82	98	114	130	146	162	178	210	242	274
VABM weight [g]	118	159	200	241	282	323	364	405	446	528	610	692

1) Grid dimension

## Solenoid valves VUVG-S14, in-line valves G $\frac{1}{8}$

Ordering data

**FESTO**

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



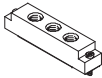

1) Corrosion resistance class 2 according to Festo standard 940 070

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

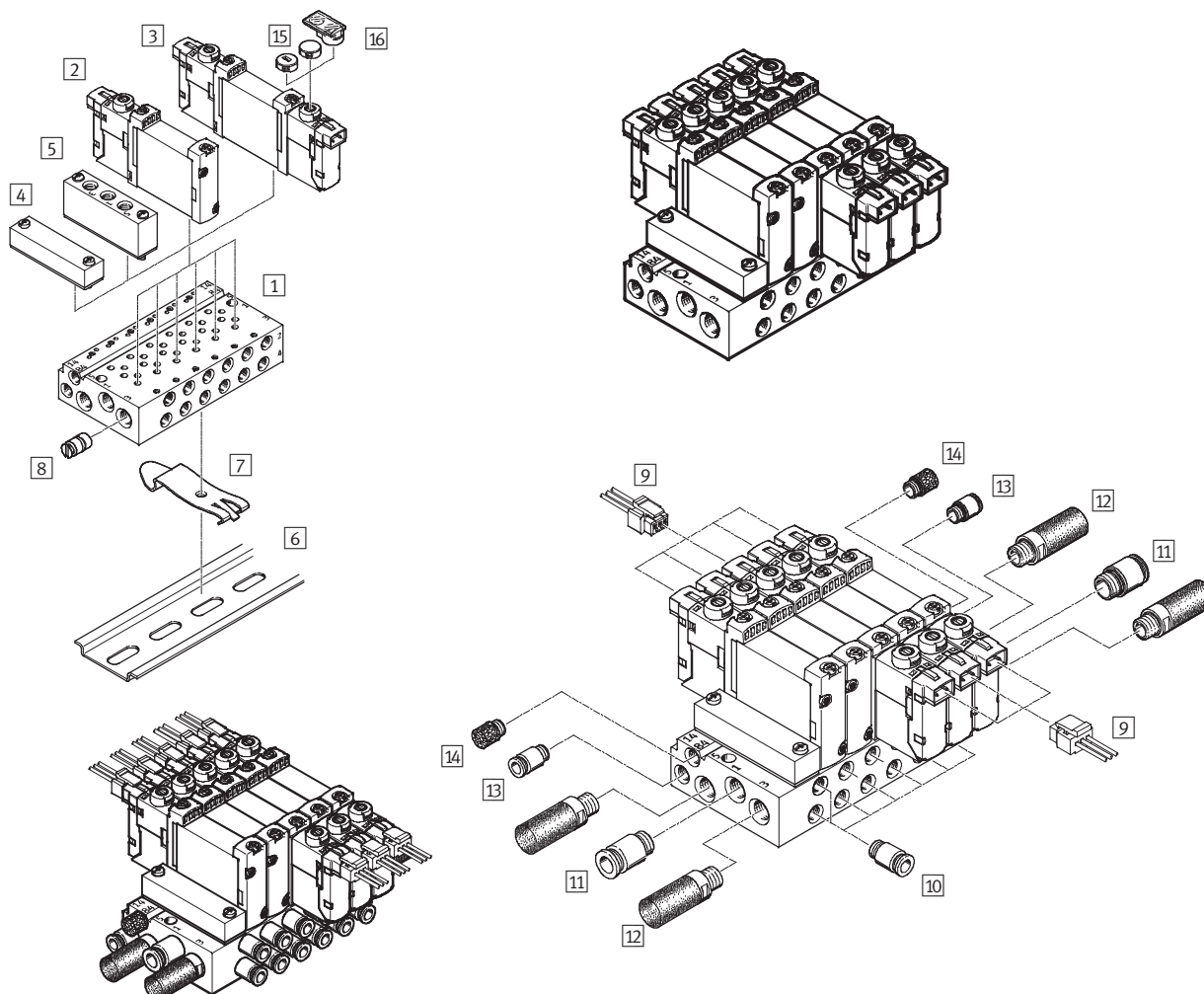
<b>VABM</b>	-	<b>L1</b>	-	<b>14</b>	<b>S</b>	-	<b>G14</b>	-	
Manifold assembly parts									Number of valve positions
Manifold rail <b>VABM</b>									2 to 10, 12, 14 and 16
Valve series									Ports 1, 3, 5
VUVG		<b>L1</b>					<b>G14</b>	G $\frac{1}{4}$	
Valve width									
14 mm				<b>14</b>		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

Ordering data – Accessories				Type
Blanking plate				Technical data → Internet: vabb
	For manifold rail for G $\frac{1}{8}$ in-line valves	Incl. screws and seal		<b>VABB-L1-14</b>
Separator				Technical data → Internet: vabd
	For manifold rail for G $\frac{1}{8}$ in-line valves	Separator for pressure zones		<b>VABD-10-B</b>
Supply plate				Technical data → Internet: vabf
	For manifold rail for G $\frac{1}{8}$ in-line valves	Incl. screws and seal		<b>VABF-L1-14-P3A4-G18</b>
Seals for in-line valves				Technical data → Internet: vabd
	G $\frac{1}{8}$	10 seals and 20 screws		<b>VABD-L1-14X-S-G18</b>

# 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	36
2	Solenoid valve	VUVG- ...	Sub-base valve, 5/2-way single solenoid	32
3	Solenoid valve	VUVG- ...	Sub-base valve, 5/2-way double solenoid and 5/3-way valve	32
4	Blanking plate	VABB-L1-10-A	For covering an unused valve position	36
5	Supply plate	VABF-L1-10-P3A4- ...	For air supply port 1 and outlet port 3 and 5	36
6	H-rail	NRH-35-2000	For mounting the valve manifold	53
7	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	54
8	Separator	VABD- ...	For creating pressure zones	30
9	Plug socket with cable	NEBV-H1G2-KN-...-LE2	For E-box H2 and H3	53
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	53
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	53
16	Inscription label holder	ASLR-D	For labelling the valves, covering the mounting screw and the manual override	55

## Solenoid valves VUVG-B10A, sub-base valves

### Technical data

Function	Width
5/2-way, single solenoid	
5/2-way, double solenoid	Flow rate
5/3C, 5/3U, 5/3E	90 ... 100 l/min
Circuit symbol → page 3	Voltage
	5, 12 and 24 V DC



General technical data					
Valve function		5/2-way		5/3-way	
Normal position		–	–	C <sup>1)</sup>	U <sup>2)</sup>
Stable position		One position	Two positions	Centre	
Pneumatic spring reset method		Yes <sup>5)</sup>	–	No	
Mechanical spring reset method		Yes <sup>5)</sup>	–	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 <sup>6)</sup>			

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		Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated		
Operating pressure at port 1 with pilot air supply	Internal	[bar]	2.5 ... 8	1.5 ... 8
	External	[bar]	-0.9 ... 10	3 ... 8
Operating pressure at port 3 or 5 with pilot air supply	Internal or external	[bar]	-0.9 ... 10	
Pilot pressure <sup>1)</sup>		[bar]	2.5 ... 8	1.5 ... 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

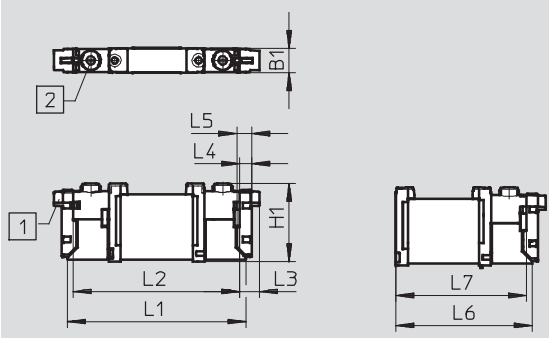
Electrical data	
Electrical connection	Via E-box
Operating voltage	[V DC] 5, 12 and 24 ±10%
Power	[W] 1, reduced to 0.35 with holding current reduction
Duty cycle	[%] 100
Protection class to EN 60529	IP40 (with plug socket), IP65 (with M8)

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

**Dimensions**

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

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



**1** Vertical electrical connection

**2** Manual override

**Note**

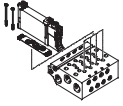
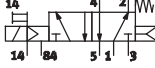
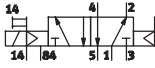
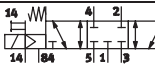

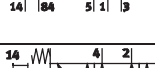










Additional dimensions  
E-boxes  
→ page 49

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

**FESTO**

Order code

VUVG	-	B	10A	-		-	Z	-	F	-		-	L	-	
<div> <div>  <p>Sub-base, manifold valve incl. seal and screws</p> </div> <div>B</div> </div>															
<div> <div>Width</div> <div>10 mm</div> <div>10A</div> </div>															
<div> <div>Valve functions</div> <div>  <div>M52</div> </div> <div>  <div>B52</div> </div> <div>  <div>P53C</div> </div> <div>  <div>P53U</div> </div> <div>  <div>P53E</div> </div> </div>															
<div> <div>Reset method</div> <div> <div>Pneu./mech. spring for M52</div> <div>R</div> </div> <div> <div>With B52 and P53</div> <div>-</div> </div> </div>															
<div> <div>Pilot air supply</div> <div> <div>External</div> <div>Z</div> </div> </div>															
<div> <div>Manual override</div> <div> <div> Non-detenting</div> <div>H</div> </div> <div> <div> Covered</div> <div>S</div> </div> <div> <div>- Non-detenting, detenting</div> <div>T</div> </div> </div>															
<div> <div>Connecting cable</div> <div> <div>W1...4<sup>1)</sup></div> <div>Not sheathed</div> <div>for H</div> </div> <div> <div>C1...4<sup>1)</sup></div> <div>Sheathed</div> <div>for S</div> </div> <div> <div>WS1...4<sup>1)</sup></div> <div>Not sheathed</div> <div>for S</div> </div> <div> <div>S1...4<sup>1)</sup></div> <div>Sheathed</div> <div></div> </div> <div> <div>N1...4<sup>6)</sup></div> <div>M8x1, 3-pin</div> <div></div> </div> <div> <div>N5...8<sup>6)</sup></div> <div>M8x1, 4-pin</div> <div></div> </div> </div>															
<div> <div>Display</div> <div>L LED</div> </div>															
<div> <div>Protective circuit</div> <div> <div>- Without holding current reduction (HCR)</div> <div>1</div> </div> <div> <div>R<sup>2)</sup> With holding current reduction (HCR)</div> <div>1 to 0.35</div> </div> </div>															
<div> <div>E-box</div> <div> <div>H2</div> <div>Connection pattern H, horizontal plug</div> <div></div> </div> <div> <div>H3</div> <div>Connection pattern H, vertical plug</div> <div></div> </div> <div> <div>S2</div> <div>Connection pattern S, horizontal plug</div> <div></div> </div> <div> <div>S3</div> <div>Connection pattern S, vertical plug</div> <div></div> </div> <div> <div>L1...4</div> <div>With 2x flying leads L: 1 = 0.5 m, 2 = 1 m, 3 = 2.5 m, 4 = 5 m</div> <div></div> </div> <div> <div>R1</div> <div>Individual plug M8, 4-pin</div> <div></div> </div> <div> <div>R8</div> <div>Individual plug M8, 3-pin</div> <div></div> </div> <div> <div>P3</div> <div>Without E-box</div> <div></div> </div> </div>															
<div> <div>Operating voltage</div> <div> <div>1 24 V DC</div> <div>5 12 V DC</div> <div>4 5 V DC</div> </div> </div>															
<div> <div>Pneumatic connection</div> <div>F In the manifold rail</div> </div>															

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

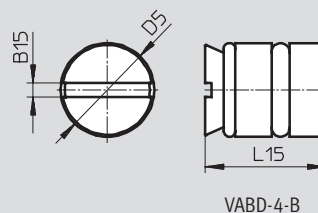
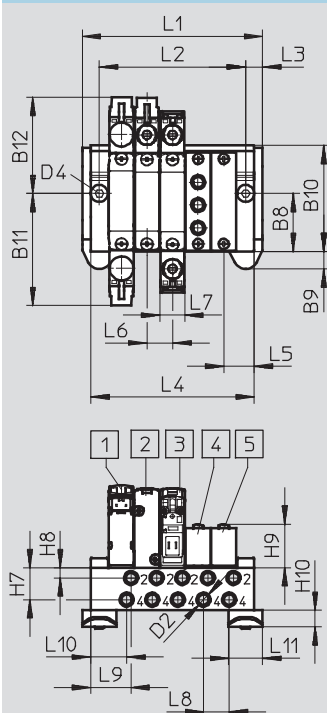
Manifold assembly

Sub-base valve for  
manifold assembly  
M5 connection









### Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



#### Note

Additional dimensions  
E-boxes  
→ page 49

- |  |  |  |   |
|--|--|--|---|
|  Solenoid valve |  Solenoid valve |  Blanking plate |  H-rail mounting |
|  Solenoid valve |  Supply plate   |  | (two M4x25 screws to DIN 912 are required)  |

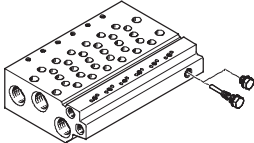
Type												
VUVG-B10A -...-F- ...	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
	84.9	62.4	39.12	34.95	29.83	17.75	8.15	24	7.15	43.5	45.75	39.15
	B15	D1	D2	D3	D4	D5	H1	H2	H3	H4	H5	H6
	0.48	M7	M5	M5	Ø4.5	Ø4	53.1	12	9.1	6.3	11.57	3.6
	H7	H8	H9	H10	H15	L3	L5	L6	L7	L8	L9	L10
	13.1	4.2	16.2	6.8	1.9	7	12.5	10.5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

**FESTO**

Ordering data

Technical data – Manifold rails <sup>1)</sup>									
	Connection			CRC	Material <sup>3)</sup>	Operating pressure	Max. tightening torque for assembly [Nm]		
	2, 4	1, 3, 5	12/14, 82/84			[bar]	Valve	H-rail	Wall
	M5	M7	M5	2 <sup>2)</sup>	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

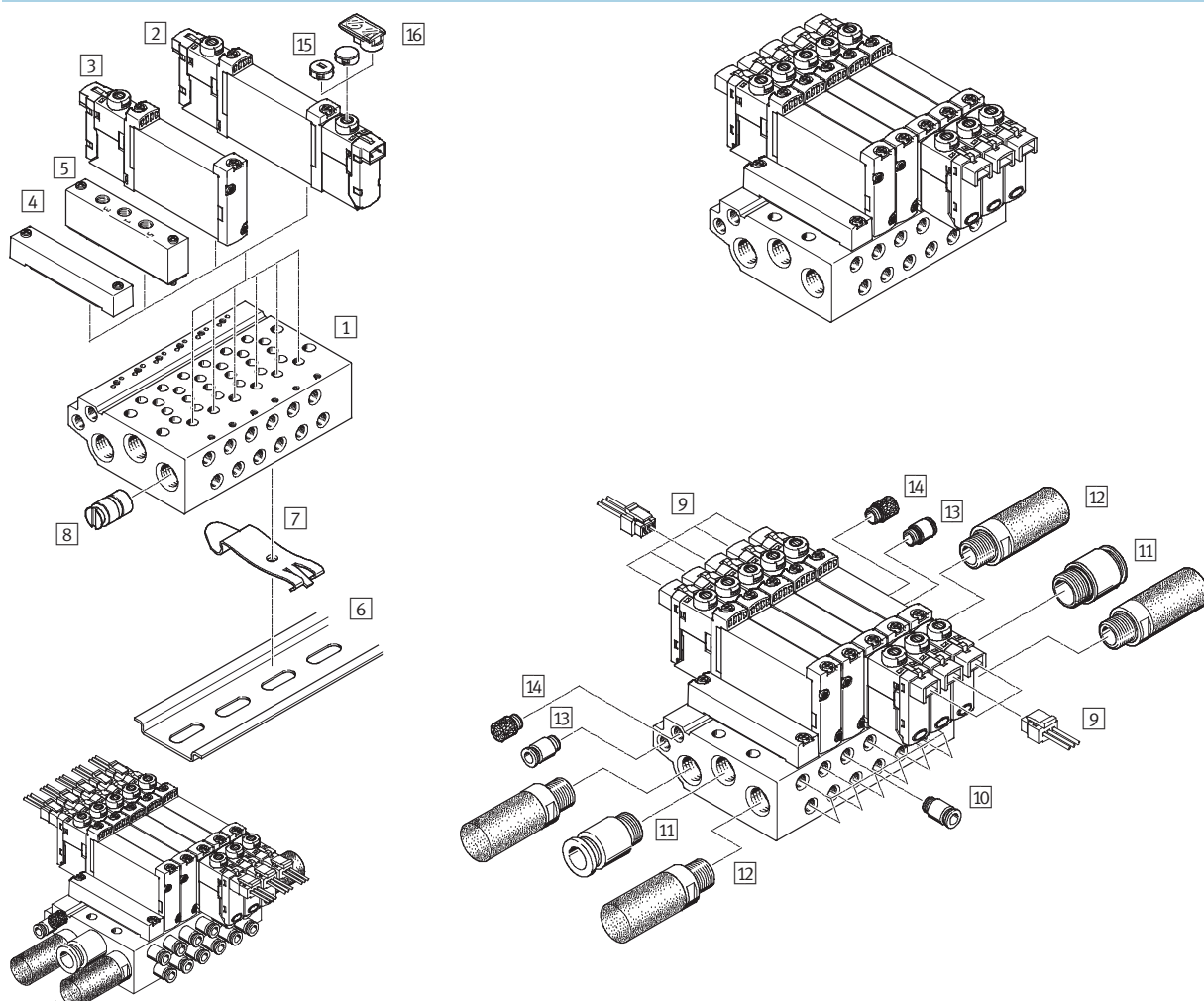
<b>VABM</b>	-	<b>L1</b>	-	<b>10A</b>	-	<b>M7</b>	-	
Manifold assembly parts								Number of valve positions
Manifold rail		<b>VABM</b>						2 to 10, 12, 14 and 16
Valve series								Ports 1, 3, 5
VUVG		<b>L1</b>				<b>M7</b>	M7	
Valve width								
10 mm				<b>10A</b>				
Rail with ports 1, 2, 3, 4,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

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

## Solenoid valves VUVG-B10, sub-base valves

System overview

### Manifold assembly



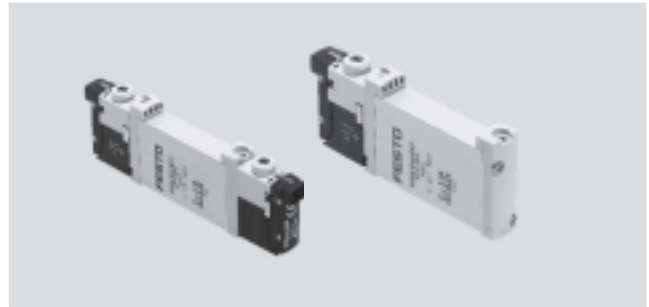
Manifold assembly and accessories				
	Type	Brief description	➔ Page/Internet	
1	Manifold rail	VABM-L1-10 ...-G18- ...	For 2 to 10, 12, 14 and 16 valve positions	42
2	Solenoid valve	VUVG- ...	Sub-base valve, 5/2-way single solenoid	38
3	Solenoid valve	VUVG- ...	Sub-base valve, 2x3/2-way, 5/2-way double solenoid and 5/3-way valve	38
4	Blanking plate	VABB-L1-10-W	For covering an unused valve position	42
5	Supply plate	VABF-L1-10-P3A4- ...	For air supply port 1 and outlet port 3 and 5	42
6	H-rail	NRH-35-2000	For mounting the valve manifold	53
7	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	53
8	Separator	VABD- ...	For creating pressure zones	42
9	Plug socket with cable	NEBV-H1G2-KN-...-LE2	For E-box H2 and H3	53
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	53
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	53
16	Inscription label holder	ASLR-D	For labelling the valves, covering the mounting screw and the manual override	55

## Solenoid valves VUVG-B10, sub-base valves

Technical data

**FESTO**

Function	Width
2x3/2C, 2x3/2U, 2x3/2H	
5/2-way, single solenoid	Flow rate
5/2-way, double solenoid	160 ... 270 l/min
5/3C, 5/3U, 5/3E	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 <sup>1)</sup>	U <sup>2)</sup>	H <sup>4)</sup>	–	–	C <sup>1)</sup>	U <sup>2)</sup>	E <sup>3)</sup>
Stable position		One position				Two positions	Centre		
Pneumatic spring reset method		Yes			Yes <sup>5)</sup>	–	No		
Mechanical spring reset method		No			Yes <sup>5)</sup>	–	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 <sup>6)</sup>							

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			Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated			
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 <sup>1)</sup>		[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

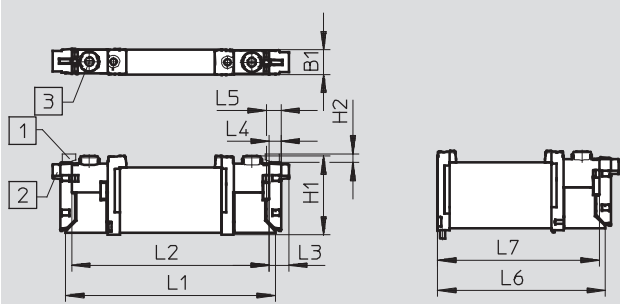
Electrical data		
Electrical connection		Via E-box
Operating voltage	[V DC]	5, 12 and 24 ±10%
Power	[W]	1, reduced to 0.35 with holding current reduction
Duty cycle	[%]	100
Protection class to EN 60529		IP40 (with plug socket)

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

**Dimensions**

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

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



1 Vertical electrical connection

2 Horizontal electrical connection

3 Manual override

**Note**

Additional dimensions  
E-boxes  
→ page 49

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



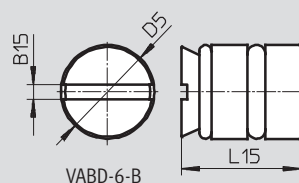
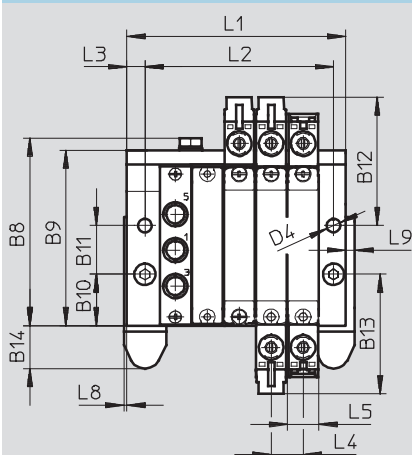


**FESTO**

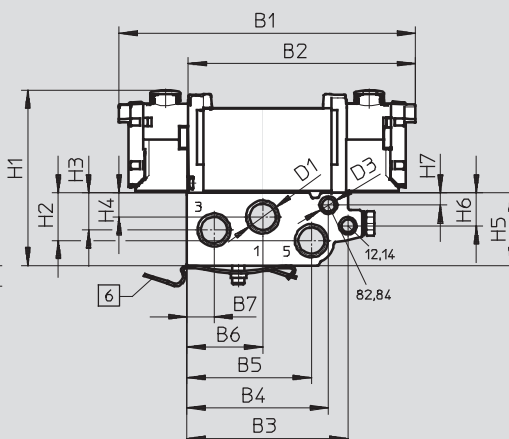
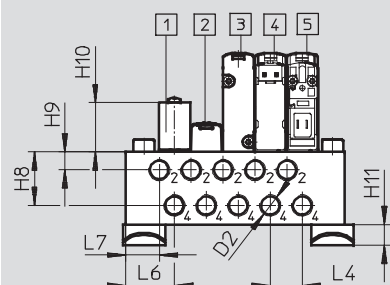
**Sub-base valve for manifold assembly**  
M5 or M7 connection



Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



Additional dimensions  
E-boxes  
➔ page 49



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

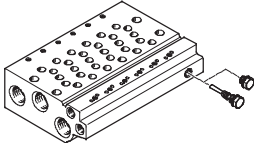
Type												
VUVG-B10 -...-F- ...	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
	97.5	74.8	52.9	46.5	40.9	24.9	8.9	62	57.7	16.9	16	42.2
	B13	B14	B15	D1	D2	D3	D4	D5	H1	H2	H3	H4
	39.3	14.05	1.2	G $\frac{1}{8}$	M5/M7	M5	4.5	Ø6	56.4	15.7	12.17	7.87
	H5	H6	H7	H8	H9	H10	H11	L3	L4	L5	L6	L7
	23.9	10.8	4	17.6	5.9	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

Ordering data

**FESTO**

Technical data – Manifold rails <sup>1)</sup>									
	Connection			CRC	Material <sup>3)</sup>	Operating pressure	Max. tightening torque for assembly [Nm]		
	2, 4	1, 3, 5	12/14, 82/84			[bar]	Valve	H-rail	Wall
	M5 or M7	G1/8	M5	2 <sup>2)</sup>	Wrought aluminium alloy	-0.9 ... 10	0.45	1.5	3

1) Blanking plugs are included with the manifold rail.

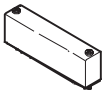

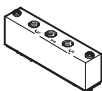
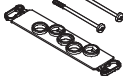
2) Corrosion resistance class 2 according to Festo standard 940 070

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

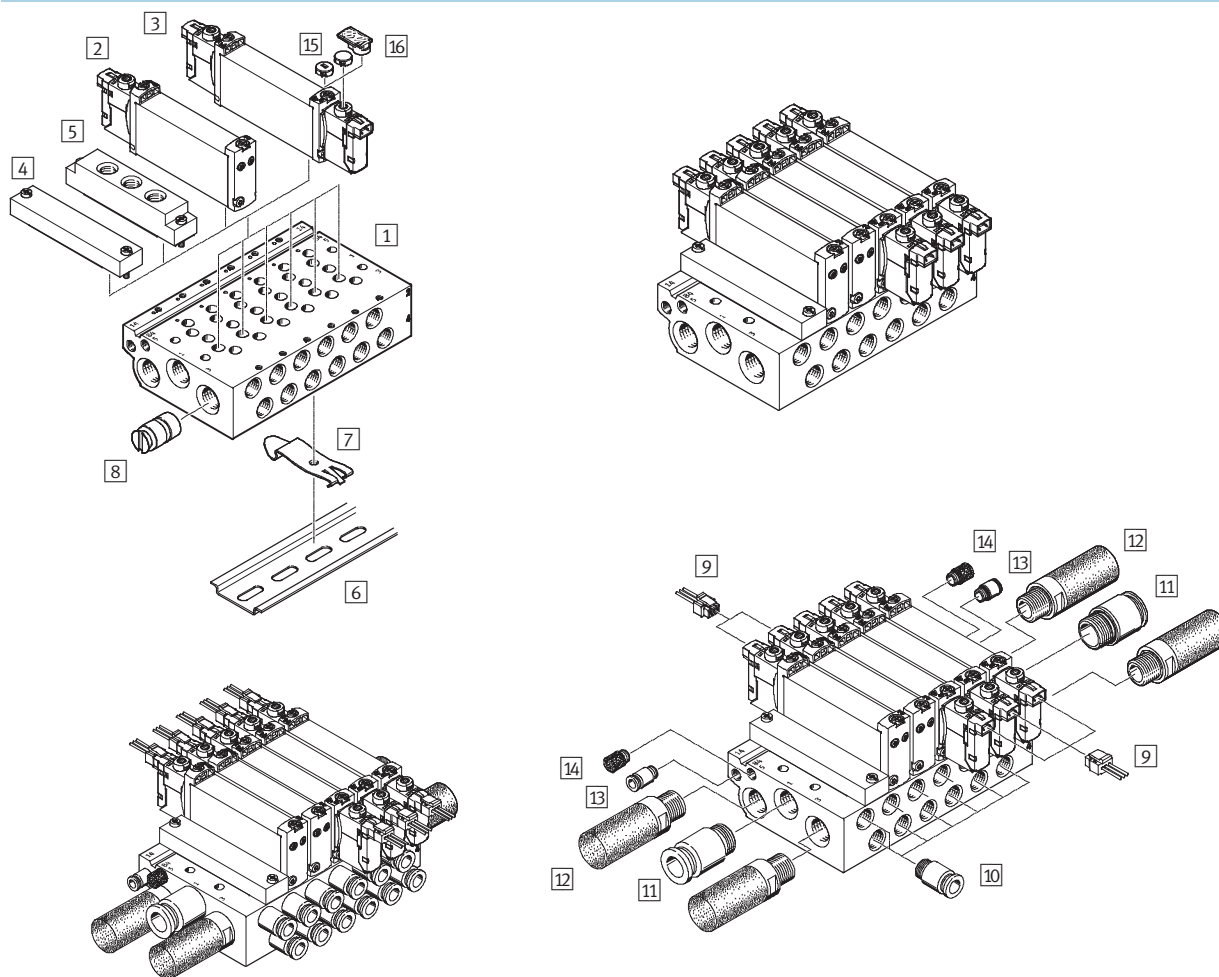
<b>VABM</b>	-	<b>L1</b>	-	<b>10</b>	-	<b>G18</b>	-	
Manifold assembly parts								Number of valve positions
Manifold rail		<b>VABM</b>						2 to 10, 12, 14 and 16
Valve series								Ports 1, 3, 5
VUVG		<b>L1</b>				<b>G18</b>		G1/8
Valve width								
10 mm				<b>10</b>				
Manifold rail with ports 1, 2, 3, 4, 5, 12/14, 82/84								
Ports 2 and 4 in M5							<b>W</b>	
Ports 2 and 4 in M7							<b>HW</b>	

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

## 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	48
2	Solenoid valve	VUVG- ...	Sub-base valve, 5/2-way single solenoid	44
3	Solenoid valve	VUVG- ...	Sub-base valve, 2x3/2-way, 5/2-way double solenoid and 5/3-way valve	44
4	Blanking plate	VABB-L1-14	For covering an unused valve position	48
5	Supply plate	VABF-L1-10-P3A4- ...	For air supply port 1 and outlet port 3 and 5	48
6	H-rail	NRH-35-2000	For mounting the valve manifold	53
7	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	53
8	Separator	VABD- ...	For creating pressure zones	48
9	Plug socket with cable	NEBV-H1G2-KN-...-LE2	For E-box H2 and H3	53
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	53
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	53
16	Inscription label holder	ASLR-D	For labelling the valves, covering the mounting screw and the manual override	55

## Solenoid valves VUVG-B14, sub-base valves

Technical data

Function	Width
2x3/2C, 2x3/2U, 2x3/2H	
5/2-way, single solenoid	Flow rate
5/2-way, double solenoid	510 ... 700 l/min
5/3C, 5/3U, 5/3E	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 <sup>1)</sup>	U <sup>2)</sup>	H <sup>4)</sup>	–	–	C <sup>1)</sup>	U <sup>2)</sup>	E <sup>3)</sup>
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 G¼		[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	G¼ in manifold rail						
		2, 4	G⅛ in manifold rail						
		12/14, 82/84	M5 in manifold rail						
Product weight		[g]	89			78	89		
Corrosion resistance class		CRC	2 <sup>6)</sup>						

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			Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated			
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 <sup>1)</sup>		[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			

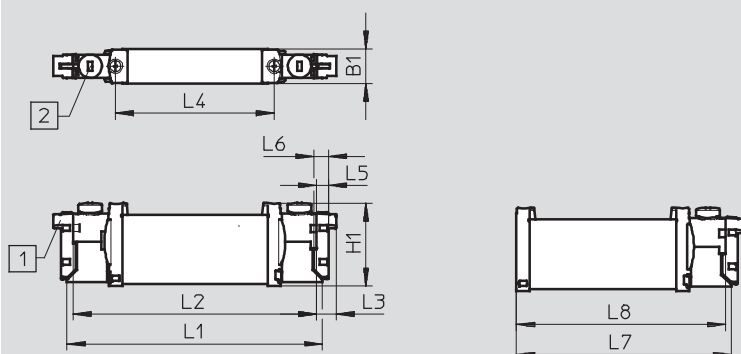
1) Minimum pilot pressure 50% of operating pressure

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/us/cad](http://www.festo.com/us/cad)

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



- 1 Horizontal electrical connection      2 Manual override

#### Note

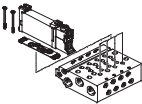
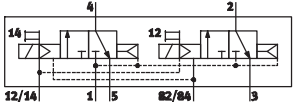
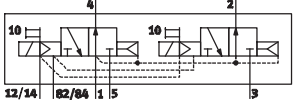
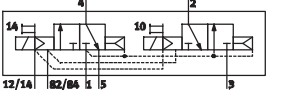
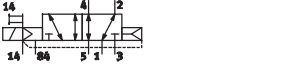
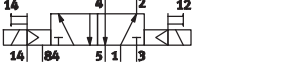
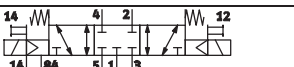
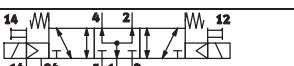
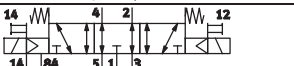














Additional dimensions  
E-boxes  
→ page 49

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

## Solenoid valves VUVG-B14, sub-base valves

Order code

**FESTO**

VUVG		-	B	14	-		-	Z	-	F	-			L	-
Valve design															
		B													
Sub-base, manifold valve incl. seal and screws															
Width															
14 mm		14													
Valve functions															
		T32C													
		T32U													
		T32H													
		M52													
		B52													
		P53C													
		P53U													
		P53E													
Reset method															
Pneumatic spring for T32 and M52		A													
With B52 and P53		-													
Pilot air supply															
External		Z													
Manual override															
		Non-detenting												H	
		Covered												S	
-		Non-detenting, detenting												T	
Connecting cable															
W1...4 <sup>1)</sup>		Not sheathed for H 													
C1...4 <sup>1)</sup>		Sheathed													
WS1...4 <sup>1)</sup>		Not sheathed for S 													
S1...4 <sup>1)</sup>		Sheathed													
N1...4 <sup>6)</sup>		M8x1, 3-pin 													
N5...8 <sup>6)</sup>		M8x1, 4-pin 													
Display															
L		LED													
Protective circuit															
-		Without holding current reduction (HCR)												1	
R <sup>2)</sup>		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

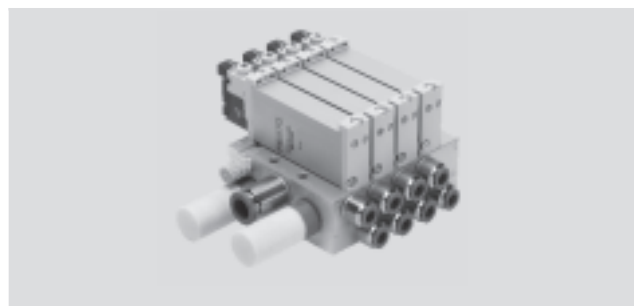
6) Straight: N1/N5 = 2.5 m, N2/N6 = 5 m  
Angled: N3/N7 = 2.5 m, N4/N8 = 5 m

### Solenoid valves VUVG-B14, sub-base valves

## Manifold assembly

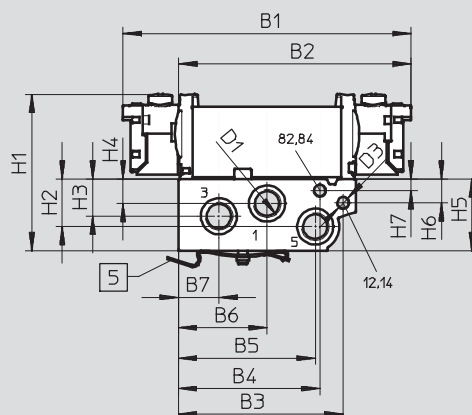
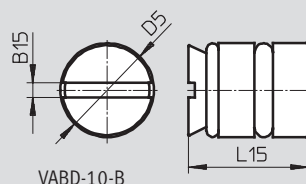
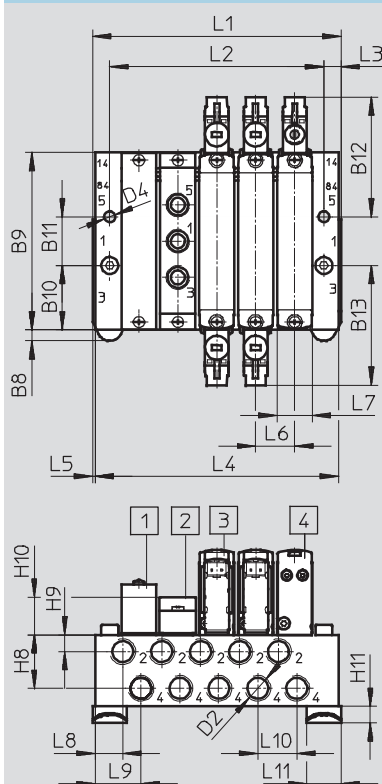
**Sub-base valve for manifold assembly**

**G<sup>1/8</sup> connection**



## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



### Note

### Additional dimensions

### E-boxes

→ page 49

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

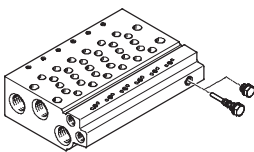
Type												
VUVG-B14 -...-F- ...	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
	118.3	95.1	67.7	58.15	56.25	36.6	16.7	4.5	72.9	26.5	20	49.1
	B13	B15	D1	D2	D3	D4	D5	H1	H2	H3	H4	H5
	49.1	1.2	G¼	G⅛	M5	Ø4.5	Ø9.8	64.3	19.6	15.3	10.1	29.5
	H6	H7	H8	H9	H10	H11	L3	L5	L6	L7	L8	L9
	9.83	4.8	22.1	7	15.4	6.8	6	1	16	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

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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 <sup>1)</sup>									
	Connection			CRC	Material <sup>3)</sup>	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 <sup>2)</sup>	Wrought aluminium alloy	-0.9 ... 10	0.65	1.5	3

1) Blanking plugs are included with the manifold rail.



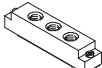

2) Corrosion resistance class 2 according to Festo standard 940 070

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 G $\frac{1}{8}$

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

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

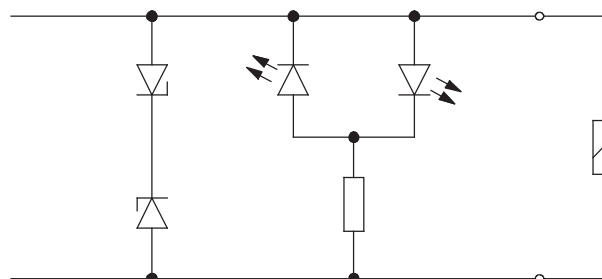


## Solenoid valves VUVG/valve terminal type 26 VTUG

E-boxes

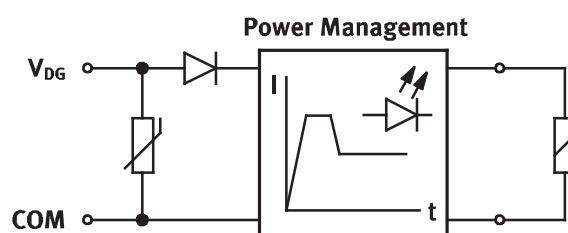
### Protective circuit without holding current reduction

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.



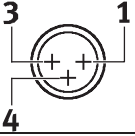
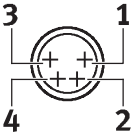
### Pin allocation for E-box

	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 -	

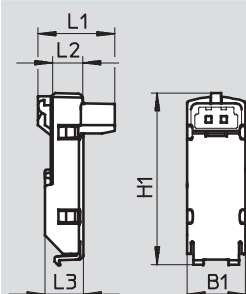
## Solenoid valves VUVG/valve terminal type 26 VTUG

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

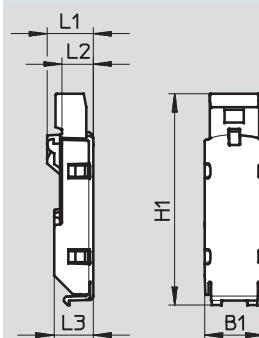
E-boxes, S2/H2



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					

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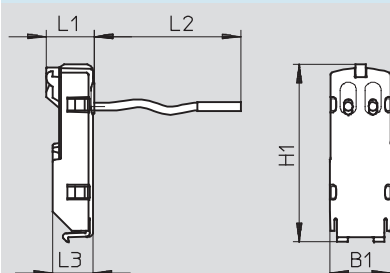
E-boxes, S3/H3



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



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

## Solenoid valves VUVG/valve terminal type 26 VTUG

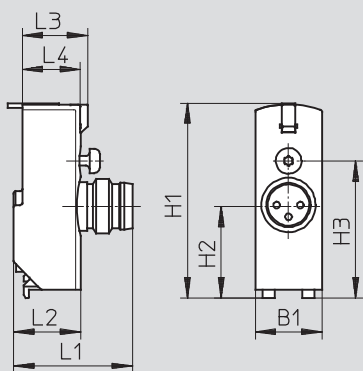
E-boxes

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### Dimensions

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E-boxes, R8/R1


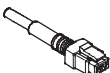
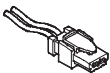
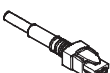




Type	B1	H1	H2	H3	L1	L2	L3	L4
VAVE-L1-1VR8-LP	9.8	28.7	13.5	20.2	17.55	9.9	9.65	8.6
VAVE-L1-1VR1-LP								

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	<b>VAVE-L1-1VH2-LP</b>
		Spark arresting, holding current reduction	–5 ... +60	H2R	1/0.35	24	<b>VAVE-L1-1H2-LR</b>
	NEBV-H1 ...	Spark arresting, bipolar	–5 ... +50	H3	1	12/24	<b>VAVE-L1-1VH3-LP</b>
		Spark arresting, holding current reduction	–5 ... +60	H3R	1/0.35	24	<b>VAVE-L1-1H3-LR</b>
	NEBV-HS ...	Spark arresting, bipolar	–5 ... +50	S2	1	12/24	<b>VAVE-L1-1VS2-LP</b>
		Spark arresting, holding current reduction	–5 ... +60	S2R	1/0.35	24	<b>VAVE-L1-1S2-LR</b>
	NEBV-HS ...	Spark arresting, bipolar	–5 ... +50	S3	1	12/24	<b>VAVE-L1-1VS3-LP</b>
		Spark arresting, holding current reduction	–5 ... +60	S3R	1/0.35	24	<b>VAVE-L1-1S3-LR</b>
	Open cable end	Spark arresting, bipolar	–5 ... +50	L	1	12/24	<b>VAVE-L1-1VL1-LP</b>
							<b>VAVE-L1-1VL2-LP</b>
							<b>VAVE-L1-1VL3-LP</b>
							<b>VAVE-L1-1VL4-LP</b>
		Spark arresting, holding current reduction	–5 ... +60	LR	1/0.35	24	<b>VAVE-L1-1L1-LR</b>
							<b>VAVE-L1-1L2-LR</b>
	NEBU-M8 ...	Spark arresting, bipolar	–5 ... +50	R8	1	12/24	<b>VAVE-L1-1VR8-LP</b>
				R1	1	12/24	<b>VAVE-L1-1VR1-LP</b>

# 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

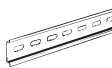




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Accessories

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-M5I-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	<b>NRH-35-2000</b>
H-rail mounting		Technical data ➔ Internet: vame	
	–	2 pieces	<b>VAME-T-M4</b>
Covers for manual override		Technical data ➔ Internet: vmpa	
	Covered	10 pieces	<b>VMPA-HBV-B</b>
	Non-detenting		<b>VMPA-HBT-B</b>
Inscription label holder		Technical data ➔ Internet: aslr	
	Holder for an inscription label and cover for mounting screw and manual override	10 pieces	<b>ASLR-D-L1</b>

## Product Range and Company Overview

### A Complete Suite of Automation Services

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**Custom Automation Components**  
Complete custom engineered solutions



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

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Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 12,000 employees in 56 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

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