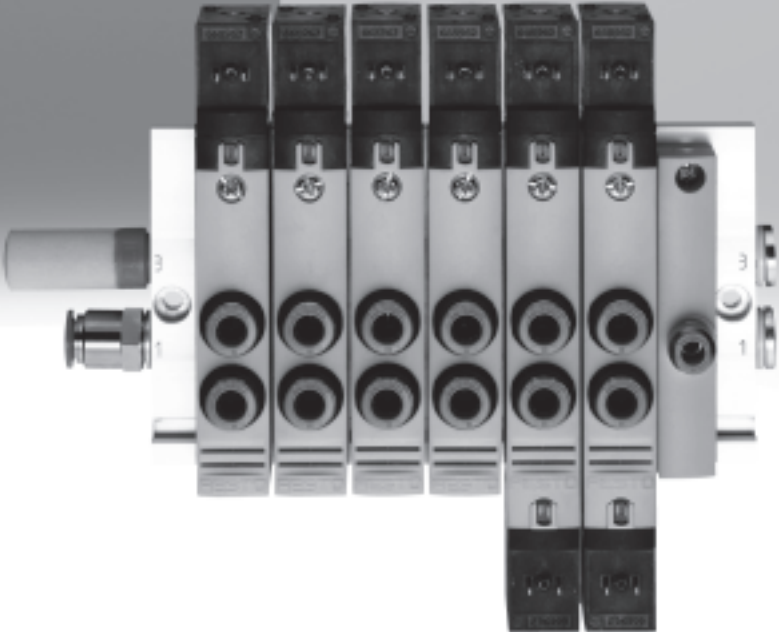


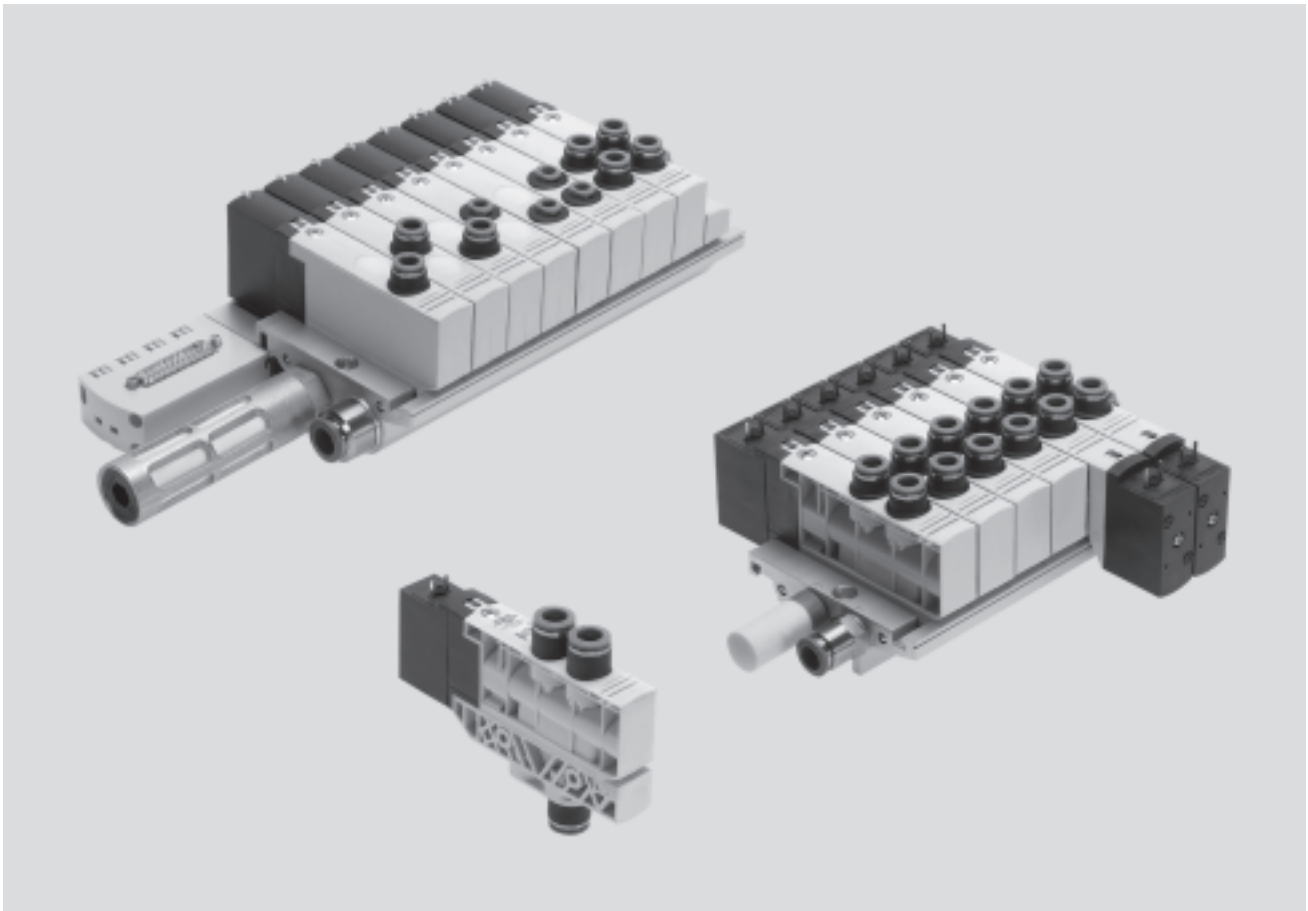
Solenoid valves VUVB/valve terminals type 24 VTUB



# Solenoid valves VUVB/valve terminals type 24 VTUB

Key features

FESTO



## Innovative

- Valve terminal for a wide range of pneumatic applications
- Universal from the individual valve up to the multi-pin plug
- Enormous flexibility during planning, assembly and operational use
- Selectable valve functions; 3/2- and 4/2-way function also suitable for vacuum applications
- Wide selection of optimally tailored accessories for flow rates from 200 to 1,000 l/min

## Flexible

- Room for expansion with 2 ... 16 valve positions on one valve terminal
- Use of individual valves in combination with an individual sub-base
- The flexibility of the pneumatic working ports provides a practical solution to different requirements
- Two pressure zones (others on request)
- High pressure range -0.9 ... 8 bar
- Extensive operating voltage range from 12 V DC to 230 V AC

## Reliable

- Manual override facility
- Durable thanks to the use of tried-and-tested piston spool valves
- Sturdy thanks to the polymer housing and metal manifold rail
- Fast troubleshooting thanks to an LED signal status display in the plug socket with cable or on the valve in the case of the design with multi-pin plug

## Easy to mount

- Ready-to-install unit, already assembled and tested
- Minimised expenditure with regard to ordering, installation and commissioning
- Secure wall mounting or H-rail mounting

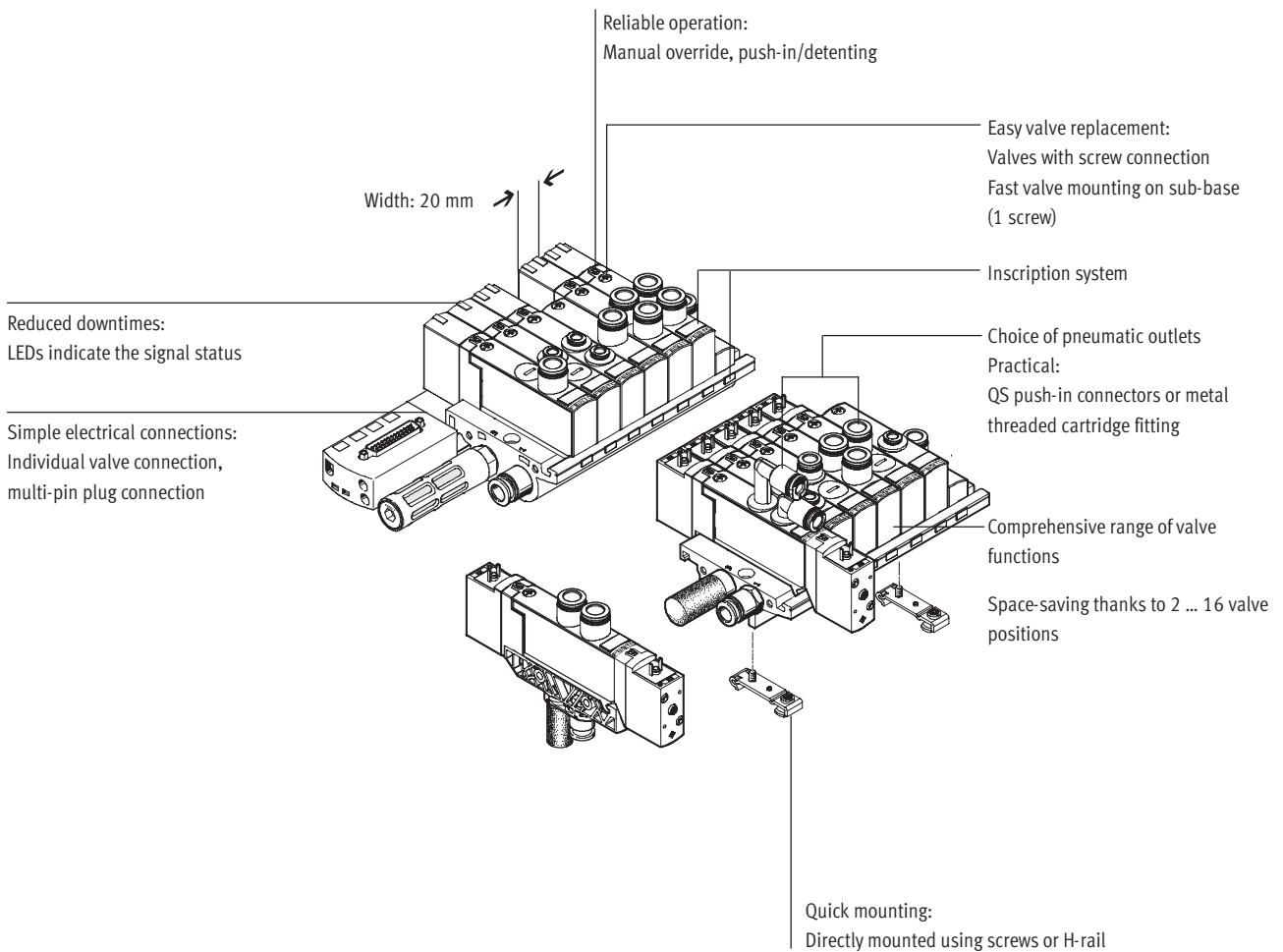
-  - Note

There are valve terminals for 4, 6, 8, 10, 12 and 16 valve locations in connection size G $\frac{1}{2}$ . In the design with 16 valve locations, only single-solenoid valves can be fitted as from the 9<sup>th</sup> valve location.

# Solenoid valves VUVB/valve terminals type 24 VTUB

FESTO

Key features



## Equipment options

### Valve functions

- 3/2-way valve, normally open
- 3/2-way valve, normally closed
- 4/2-way valve, single solenoid
- 4/2-way valve, double solenoid

### Electrical connection options

#### Individual connection/individual valve connection

- 2 ... 16 valve positions with manifold rail
- 2 ... 32 solenoid coils
- Via plug socket with cable with either LED or illuminating seal

#### Multi-pin plug

- 4 ... 16 valve positions/  
max. 24 solenoid coils
- Sub-D

## Valve terminal configurator

Download CAD data → [www.festo.com](http://www.festo.com)

A valve terminal configurator is available to help you select a suitable valve terminal VTUB. This makes it much easier for you to find the right product.

Valve terminals type 24 VTUB are ordered via an ident. code.

All valve terminals are supplied fully assembled and individually tested. This reduces the amount of assembly and installation required to a minimum.

Ordering system for valve terminal type 24 VTUB

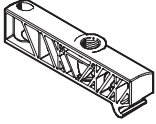
- Individual electrical connection
- Electrical multi-pin connection
- Internet: vtub

# Solenoid valves VUVB/valve terminals type 24 VTUB

Key features

FESTO

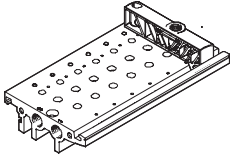
## Pilot air supply module



The pilot air supply module is included in the scope of delivery of the manifold rail.

The pilot air supply module for internal or external pilot air supply ensures even greater flexibility.

## Manifold rail

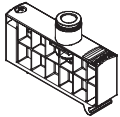


The manifold rail features a groove into which the semi in-line valves are latched and secured with just one screw.

The valve functions 4/2-way single solenoid, 4/2-way double solenoid, 3/2-way normally closed and 3/2-way normally open are available. All semi in-line valves can be supplied with cartridges QSP for tubing

diameters 4, 6, 8 and 10. 4/2-way valves are also supplied without cartridges, allowing the user to fit cartridges of their choice or blanking plugs.

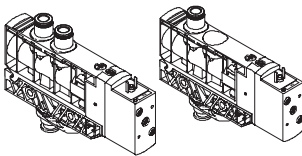
## Pressure zone supply module



The pressure zone supply module occupies one valve position and can

be used as an additional supply or for supplying a pressure zone.

## Individual valve



The individual valve can be ordered as an in-line valve (comprising semi in-line valve and sub-base ready assembled) in all functions. Tubing

diameters 6 and 8 can be selected here. The in-line valve, however, can also be assembled from the individual parts

sub-base and semi in-line valve. All tubing diameters and the variant without cartridge are available in this case.

## Blanking plate

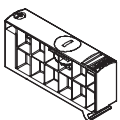
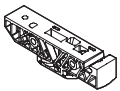


Plate without valve function for reserving valve positions on a valve terminal.

Valves and blanking plates are attached to the manifold rail using a screw.

## Sub-base



Individual sub-bases can be equipped with any valve.

Electrical connection is by means of a standardised connector plug, square design to EN 175301-803, type C.

Prefabricated plug sockets with cable or plugs for self-assembly are offered for this.

# Solenoid valves VUVB/valve terminals type 24 VTUB

Key features – Pneumatic components

## Pneumatic connection

### Supply and exhaust

The valves are supplied pneumatically via manifold rails or individual sub-bases.

The manifold rails contain common lines for compressed air supply, exhaust and pilot exhaust for all valves.

The common lines can be connected

- at the left (code L)
- at the right (code R) or
- at both ends (no code)

## Pilot air supply

In-line valves are offered with internal and external pilot air. In the case of semi in-line valves, the installation position of the insert in the sub-base determines whether the valves will be actuated internally or externally.

### Internal pilot air supply

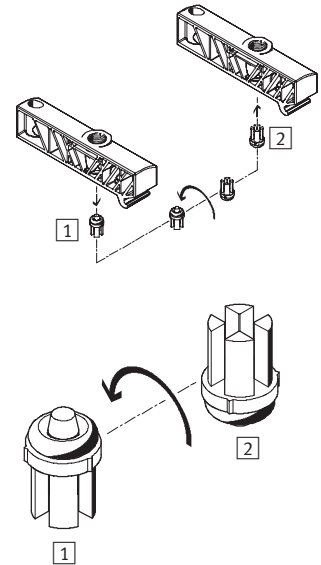
An internal pilot air supply can be selected if the supply pressure is between 2 and 8 bar. The pilot air is branched from channel 1 in the pressure zone supply module in this case.

If the selector is installed as shown in position **1**, it means that the pilot air supply will be branched internally from channel 1.

### External pilot air supply

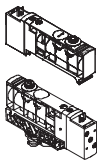
An external pilot air supply must be used if the supply pressure is between  $-0.9$  and  $+2$  bar. The pilot air is supplied via port 12/14 of the pressure zone supply module in this case.

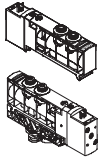
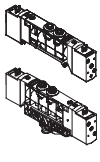
If the selector is turned  $180^\circ$  and installed as shown in position **2**, it means that the valve manifold is set to external pilot air supply.



# Solenoid valves VUVB/valve terminals type 24 VTUB

Product range overview – Individual valves and manifold valves


Function	Version	Type	Nominal flow rate [l/min]	Pneumatic connection	Operating voltage [V]	Semi in-line valve	In-line valve	Pilot air supply		→ Page/Internet
								internal	external	
3/2-way valves	Single solenoid valve for individual connection and valve manifold									
		VUVB-...-M32-...	200	QS-4	24 DC 110 AC 230 AC 12 DC/24 AC	■	-	-	■	14
			500	QS-6		■	■	■	■	
			800	QS-8		■	■	■	■	
			1,000	QS-10		■	-	-	■	



Function	Version	Type	Nominal flow rate [l/min]	Pneumatic connection	Operating voltage [V]	Semi in-line valve	In-line valve	Pilot air supply		→ Page/Internet
								internal	external	
4/2-way valves	Single solenoid valve for individual connection and valve manifold									
		VUVB-...-M42-...	200	QS-4	24 DC 110 AC 230 AC 12 DC/24 AC	■	-	-	■	14
			500	QS-6		■	■	■	■	
			800	QS-8		■	■	■	■	
			1,000	QS-10		■	-	-	■	
			1,000	QX <sup>1)</sup>		■	-	-	■	
	Double solenoid valve for individual connection and valve manifold									
		VUVB-...-B42-...	200	QS-4	24 DC 110 AC 230 AC 12 DC/24 AC	■	-	-	■	14
			500	QS-6		■	■	■	■	
			800	QS-8		■	■	■	■	
			1,000	QS-10		■	-	-	■	
1,000			QX <sup>1)</sup>	■		-	-	■		

1) Cartridge not included

# Solenoid valves VUVB/valve terminals type 24 VTUB

Product range overview – Terminal valves

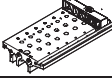
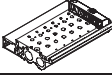
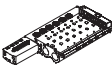
Function	Version	Type	Nominal flow rate [l/min]	Pneumatic connection	Operating voltage [V]	Semi in-line valve	Pilot air supply external	→ Page/ Internet
3/2-way valves	Single solenoid valve for valve terminal with electrical multi-pin plug connection							
		VUVB-...-M32-...	200	QS-4	24 DC	<input type="checkbox"/>	<input type="checkbox"/>	36
			500	QS-6		<input type="checkbox"/>	<input type="checkbox"/>	
			800	QS-8		<input type="checkbox"/>	<input type="checkbox"/>	
			1,000	QS-10		<input type="checkbox"/>	<input type="checkbox"/>	


Function	Version	Type	Nominal flow rate [l/min]	Pneumatic connection	Operating voltage [V]	Semi in-line valve	Pilot air supply external	→ Page/ Internet
4/2-way valves	Single solenoid valve for valve terminal with electrical multi-pin plug connection							
		VUVB-...-M42-...	200	QS-4	24 DC	<input type="checkbox"/>	<input type="checkbox"/>	36
			500	QS-6		<input type="checkbox"/>	<input type="checkbox"/>	
			800	QS-8		<input type="checkbox"/>	<input type="checkbox"/>	
			1,000	QS-10		<input type="checkbox"/>	<input type="checkbox"/>	
			1,000	QX <sup>1)</sup>		<input type="checkbox"/>	<input type="checkbox"/>	
	Double solenoid valve for valve terminal with electrical multi-pin plug connection							
		VUVB-...-B42-...	200	QS-4	24 DC	<input type="checkbox"/>	<input type="checkbox"/>	36
			500	QS-6		<input type="checkbox"/>	<input type="checkbox"/>	
			800	QS-8		<input type="checkbox"/>	<input type="checkbox"/>	
			1,000	QS-10		<input type="checkbox"/>	<input type="checkbox"/>	
1,000			QX <sup>1)</sup>	<input type="checkbox"/>		<input type="checkbox"/>		


1) Cartridge not included

# Solenoid valves VUVB/valve terminals type 24 VTUB


Product range overview


Function	Version	Type	Pneumatic connection	Valve positions													Pilot air supply		→ Page/ Internet
				2	3	4	5	6	7	8	9	10	11	12	16	inter- nal	exter- nal		
Manifold rail	For valve manifold with individual electrical connection																		
		VABM	G $\frac{1}{4}$	■	■	■	■	■	■	■	■	■	■	■	■	-	■	■	23
		VABM	G $\frac{1}{2}$	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
For valve terminal with electrical multi-pin plug connection																			
		VABM-...-M1	G $\frac{1}{2}$	-	-	■	-	■	-	■	-	■	-	■	■	■	■	■	42

Function	Version	Type	Pilot air supply		→ Page/ Internet
			internal	external	
Sub-base	Individual valve				
		VABS	■	■	25

Function	Version	Type	Pneumatic connection	Use	→ Page/ Internet
Pressure zone supply module		VABF	QS-10	For additional supply to the manifold rail	43

Function	Version	Type	Use	→ Page/ Internet
Blanking plate		VABB	For covering vacant positions	44

Function	Version	Type	Use	→ Page/ Internet
Separator		VABD	For duct separation	44

Function	Version	Type	Use	→ Page/ Internet
H-rail mounting kit		VAME	For mounting on the H-rail NRH-35-2000	45

Function	Version	Type	Use	→ Page/ Internet
Cartridge fitting		QSP...		48

Function	Version	Type	Use	→ Page/ Internet
Adapter		NPFA		49



# Solenoid valves VUVB

Peripherals overview

## Overview – Solenoid valve VUVB

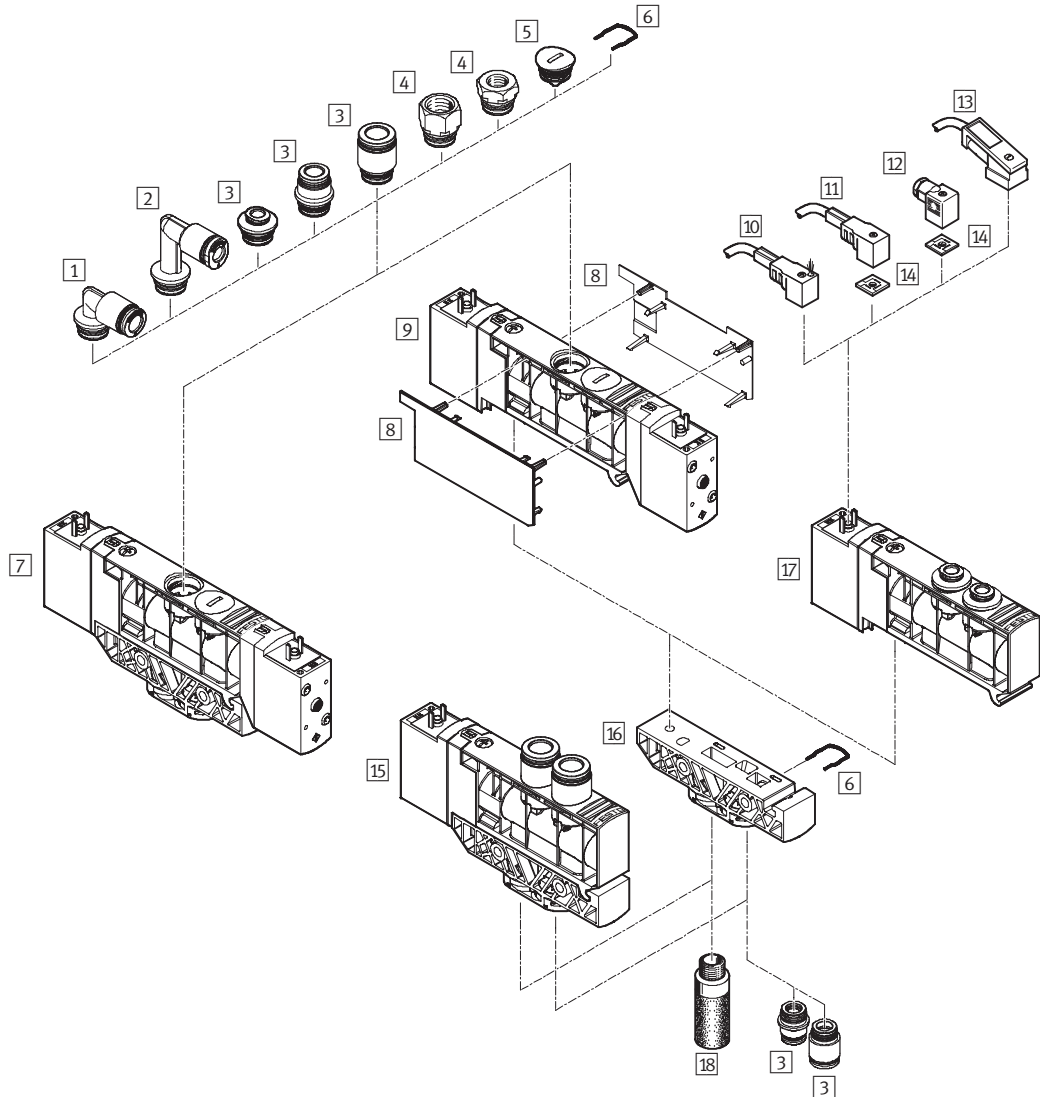
### Individual position with individual electrical connection

These peripherals are ordered via individual parts/accessories.

The individual valve can be ordered as an in-line valve or as a fully assembled semi in-line valve on a sub-base.

The in-line valve is available with 6 or 8 mm plug connectors. The semi in-line valve on sub-base is available

with 4, 6, 8 or 10 mm plug connectors or as a variant without cartridge fitting.



# Solenoid valves VUVB

Peripherals overview

FESTO

Accessories		
	Brief description	→ Page/Internet
1	Cartridge fitting QSPL	For connecting compressed air tubing with standard external diameters 48
2	Cartridge fitting QSPLL	For connecting compressed air tubing with standard external diameters 48
3	Cartridge fitting QSP	For connecting compressed air tubing with standard external diameters 48
4	Adapter NPFA	– 49
5	Blanking plug QSPC18	For sealing the pneumatic connections on the valve 49
6	Retaining clip	For fitting cartridges and blanking plugs (included in the scope of delivery of the cartridge QSP... and the blanking plug QSPC18) –
7	Double solenoid valve VUVB-L-...-B-...	In-line valve 14
8	Cover plate for valve housing VAMC	– 46
9	Double solenoid valve VUVB-S-...-B-...	Semi in-line valve 14
10	Plug socket with cable with LED KMEB-1-...-LED	For indicating the signal status 50
11	Plug socket with cable KMEB-1-230AC-...	Can be used up to 230 V 50
12	Plug socket MSSD-EB	– 50
13	Plug socket with cable with LED KMEB-2-24-...	For indicating the signal status 50
14	Illuminating seal MEB-LD	For indicating the signal status 50
15	Single solenoid valve VUVB-L-...-M-...	In-line valve 14
16	Sub-base VABS-B6-PB-...	For individual valve 47
17	Single solenoid valve VUVB-S-...-M-...	Semi in-line valve 14
18	Silencer U, UC	For fitting in exhaust ports 49

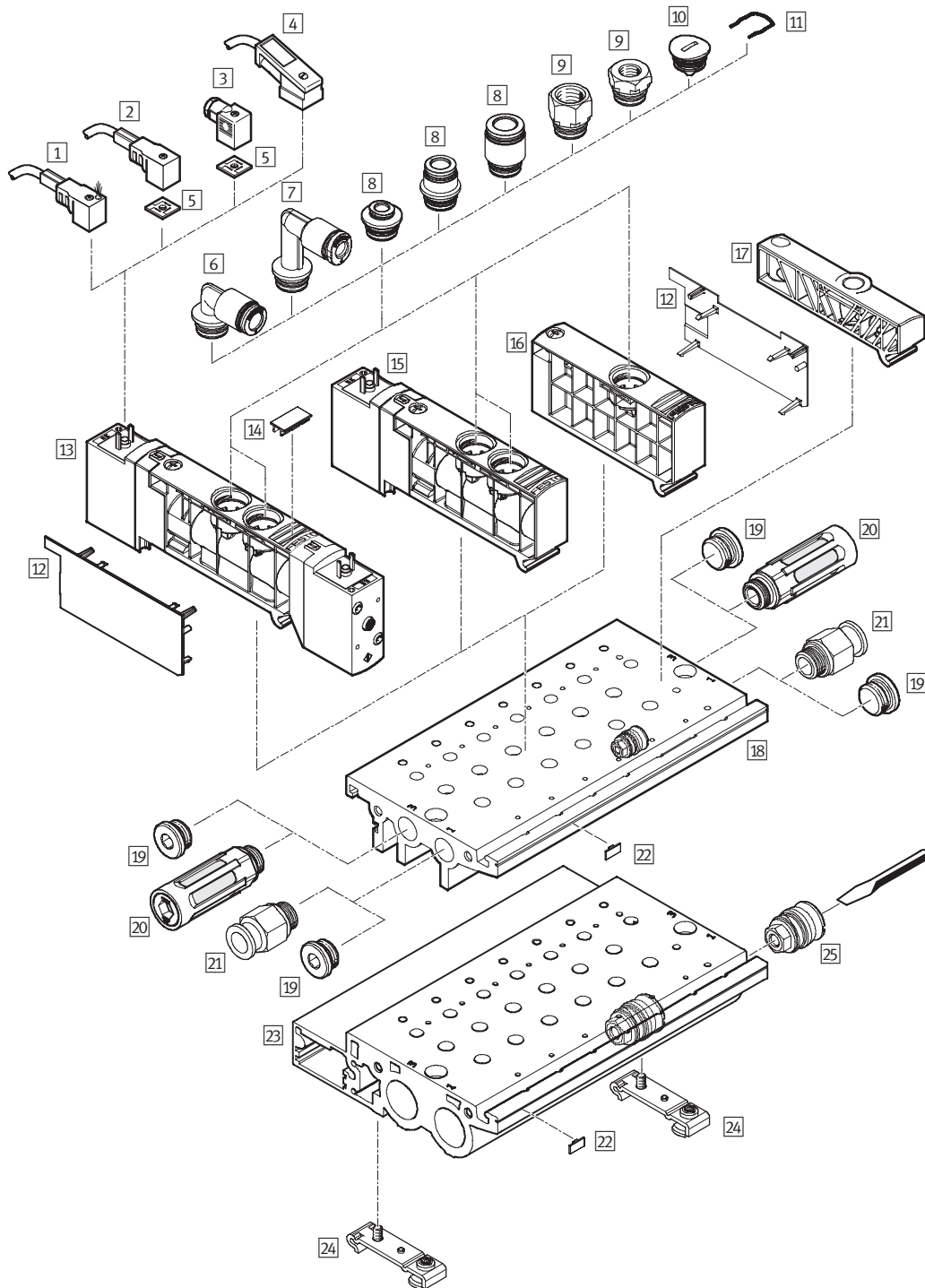
# Solenoid valves VUVB

Peripherals overview

## Overview – Solenoid valve VUVB

Manifold assembly/valve terminal with individual electrical connections

- “Individual connection type” code: ET  
Valve terminals with individual electrical connections are available in gradations from 2 to max. 16 valve positions.
- Valve positions can either be fitted with a valve or a blanking plate for future expansions.
- This gives a total maximum number of 32 controllable valve solenoid coils.



# Solenoid valves VUVB

Peripherals overview

FESTO

Accessories			
	Brief description	→ Page/Internet	
1	Plug socket with cable with LED KMEB-1-...-LED	For indicating the signal status	50
2	Plug socket with cable KMEB-1-230AC-...	Can be used up to 230 V	50
3	Plug socket MSSD-EB	–	50
4	Plug socket with cable with LED KMEB-2-24-...	For indicating the signal status	50
5	Illuminating seal MEB-LD	For indicating the signal status	50
6	Cartridge fitting QSPL-...	For connecting compressed air tubing with standard external diameters	48
7	Cartridge fitting QSPL-...	For connecting compressed air tubing with standard external diameters	48
8	Cartridge fitting QSP-...	For connecting compressed air tubing with standard external diameters	48
9	Adapter NPFA-...	–	49
10	Blanking plug QSPC18	For sealing the pneumatic connections on the valve	49
11	Retaining clip	For fitting cartridges and blanking plugs (included in the scope of delivery of the cartridge QSP... and the blanking plug QSPC18)	–
12	Cover plate for valve housing VAMC	–	46
13	Double solenoid valve VUVB-...-B	–	14
14	Inscription label IBS-9x17	For identifying the valves	49
15	Single solenoid valve VUVB-...-M	–	14
16	Pressure zone supply module/ Blanking plate VABF/VABB	Pressure zone supply module VABF: with cartridge fitting Blanking plate VABB: for vacant position, with blanking plug	46
17	Pilot air supply module	For pilot air supply (included in the scope of delivery of the manifold rail VABM)	–
18	Manifold rail VABM-B6-E-G14-...	Pneumatic connection G $\frac{1}{4}$ , for connecting max. 12 valves	47
19	Blanking plug B	–	49
20	Silencer U, UC	For fitting in exhaust ports	49
21	Push-in fitting QS	For connecting compressed air tubing with standard external diameters	48
22	Inscription label MH-BZ-80X	For identifying the manifold rail	49
23	Manifold rail VABM-B6-E-G12-...	Pneumatic connection G $\frac{1}{2}$ , for connecting max. 16 valves	47
24	H-rail mounting kit VAME	For mounting on the H-rail NRH-35-2000	49
25	Separator for pressure zones VABD	For fitting in the manifold rail	44

# Solenoid valves VUVB




Type codes – Individual valves and manifold valves

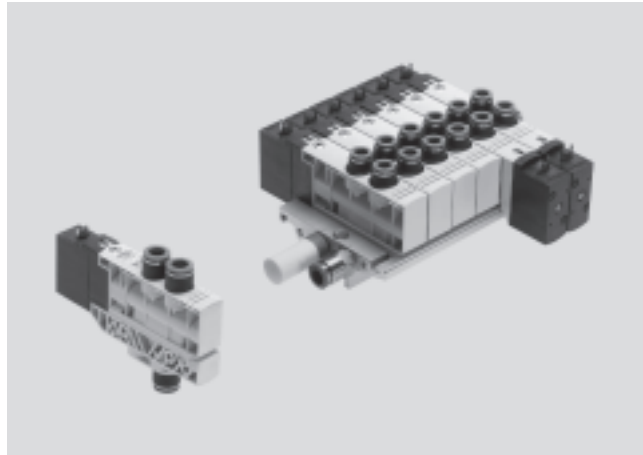
		VUVB	-	L	-	M32C	-	A	Z	D	-	Q6	-	1	C1
<b>Valve family</b>															
VUVB	Solenoid valve														
<b>Constructional design</b>															
L	In-line valve														
S	Semi in-line valve														
<b>Valve function</b>															
M32C	3/2-way valve, normally closed														
M32U	3/2-way valve, normally open														
M42	4/2-way valve, single solenoid														
B42	4/2-way valve, double solenoid														
<b>Type of reset</b>															
	None (double solenoid)														
A	Pneumatic reset														
<b>Pilot air supply</b>															
	Internal														
Z	External														
<b>Manual override facility</b>															
D	Pushing/detenting														
<b>Pneumatic connection</b>															
Q4	For tubing O.D. 4 mm														
Q6	For tubing O.D. 6 mm														
Q8	For tubing O.D. 8 mm														
Q10	For tubing O.D. 10 mm														
X	Without push-in connector														
<b>Operating voltage</b>															
1	24 V DC														
2A	110 V AC														
3A	230 V AC														
5W	12 V DC/24 V AC														
<b>Electrical connection</b>															
C1	Plug socket connection pattern to EN 175301-803, type C														

# Solenoid valves VUVB

Technical data – Individual valves and manifold valves




-  Voltage  
12, 24 V DC  
24, 110, 230 V AC
-  Pressure  
-0.9 ... +8 bar
-  Temperature range  
-5 ... +50 °C



General technical data				
Valve function		3/2, single solenoid	4/2, single solenoid	4/2, double solenoid
Constructional design		Piston spool valve		
Sealing principle		Soft		
Type of actuation		Electrical		
Type of reset		Pneumatic spring		-
Type of control		Piloted		
Pilot air supply		Internal or external		
Direction of flow		Non-reversible		
Exhaust function		No flow control		
Manual override facility		Non-detenting, detenting		
Type of mounting		Via through-holes		
Installation position		Any		
Nominal size		[mm]	7	
Standard nominal flow rate		qnN	[l/min] 200 (QS-4), 500 (QS-6), 800 (QS-8), 1,000 (QS-10)	
Width		[mm]	20	
Product weight		In-line valve	[g]	170
		Semi in-line valve	[g]	150
				170
				240
				220

Operating and environmental conditions	
Operating medium	Dried and filtered compressed air, lubricated or unlubricated, grade of filtration 40 µm, vacuum
Operating pressure	[bar] -0.9 ... +8
Operating pressure for valve terminal with internal pilot air supply	[bar] 2 ... 8
Pilot pressure range	[bar] 2 ... 8
Ambient temperature	[°C] -5 ... +50
Temperature of medium	[°C] -5 ... +50
Corrosion resistance class CRC	1 <sup>1)</sup>
Note on materials	Conforms to RoHS

1) Corrosion resistance class 1 to Festo standard 940 070  
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

-  - Note  
For vacuum operation valves require a filter. This is to avoid that foreign matter is drawn into the valve (e.g. when using a suction cup).

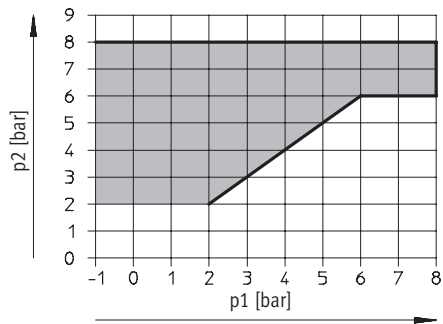
# Solenoid valves VUVB

Technical data – Individual valves and manifold valves

Electrical data			
Electrical connection		Plug, square design to EN 175301-803, type C	
Nominal operating voltage	DC	[V]	12, 24
	AC	[V]	24, 110, 230
Permissible voltage fluctuations		±10%	
Electrical power consumption	12 V DC	[W]	1.4
	24 V DC	[W]	1.5
	24 V AC	[VA]	Pull: 3.1, hold: 2.2
	110 V AC	[VA]	Pull: 3.1, hold: 2.2
	230 V AC	[VA]	Pull: 3.1, hold: 2.2
Protection class to EN 60529		IP65 (in combination with plug socket)	

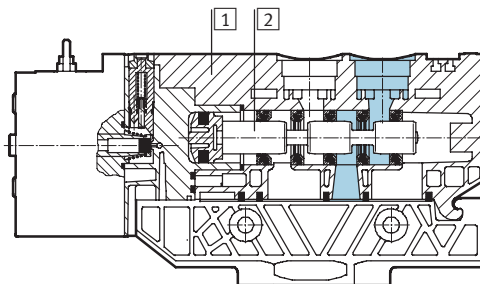
Valve response times [ms]			
Valve function	3/2, single solenoid	4/2, single solenoid	4/2, double solenoid
On	20	20	–
Off	20	20	–
Changeover	–	–	15

### Pilot pressure p2 as a function of operating pressure p1

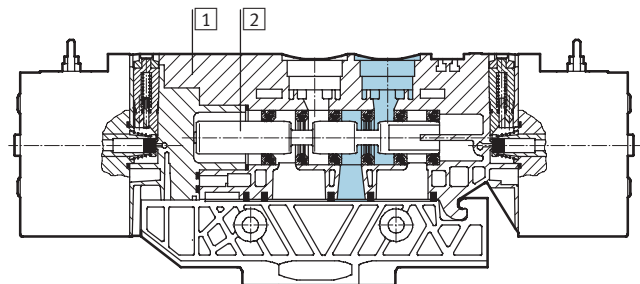


### Materials

Sectional view – Single solenoid valve



Sectional view – Double solenoid valve



1	Housing	Reinforced polyamide
2	Piston spool	Wrought aluminium alloy
–	Seals	Nitrile rubber, hydrogenated nitrile rubber, fluorocarbon rubber

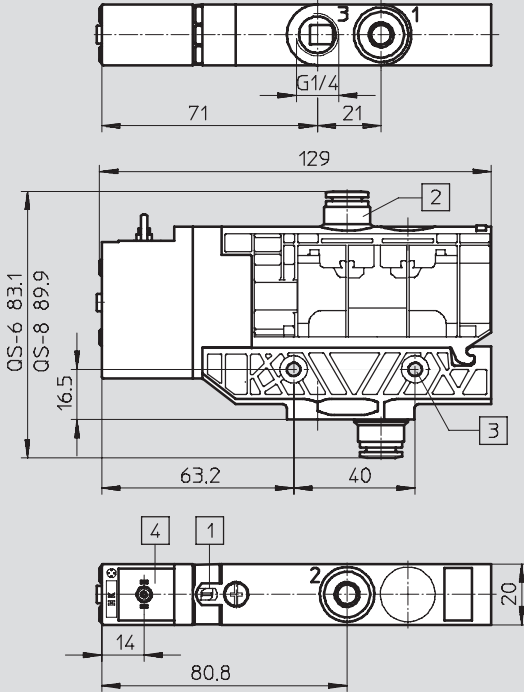
# Solenoid valves VUVB

Technical data – Individual valves and manifold valves

## Dimensions – 3/2-way and 4/2-way valve, single solenoid

Download CAD data → [www.festo.com](http://www.festo.com)

In-line valve

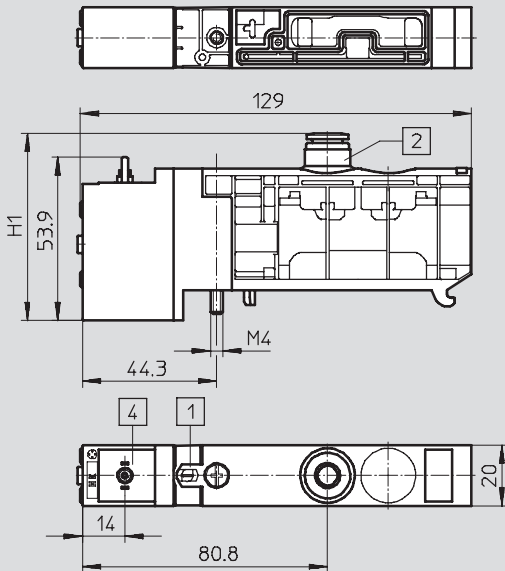


- 1 Manual override tool
- 2 Fitting QS-6 or QS-8
- 3 Through-hole for screw M4
- 4 Plug socket connection pattern to EN 175301-803, type C

## Dimensions – 3/2-way and 4/2-way valve, single solenoid

Download CAD data → [www.festo.com](http://www.festo.com)

Semi in-line valve



- 1 Manual override tool
- 2 Fitting QS
- 4 Plug socket connection pattern to EN 175301-803, type C

Pneumatic connection	H1
QS-4	57
QS-6	60

Pneumatic connection	H1
QS-8	63
QS-10	65



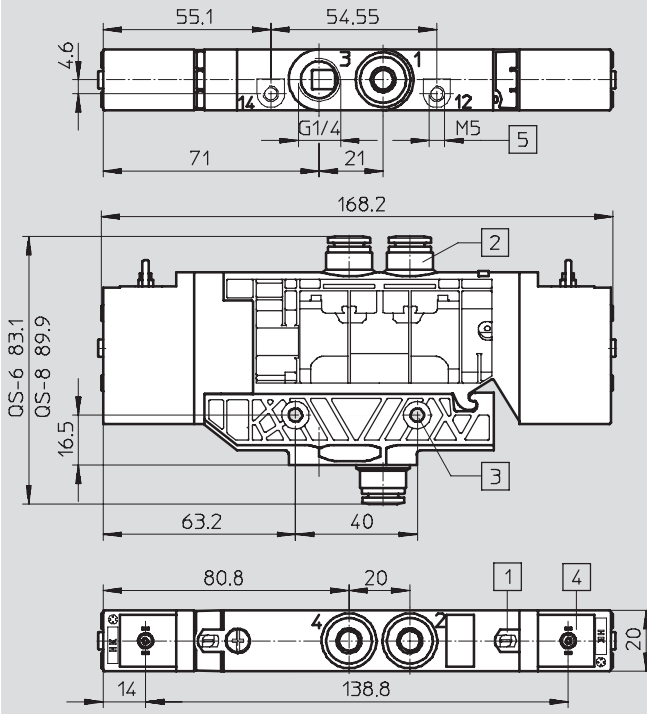
# Solenoid valves VUVB

Technical data – Individual valves and manifold valves

## Dimensions – 4/2-way valve, double solenoid

Download CAD data → [www.festo.com](http://www.festo.com)

In-line valve

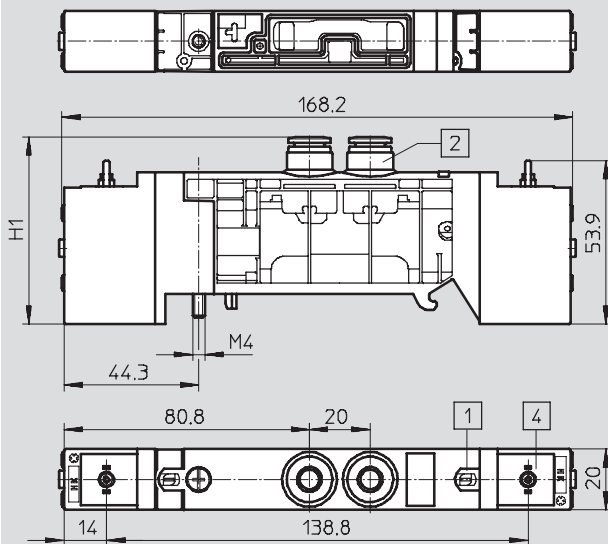


- 1 Manual override tool
- 2 Fitting QS-6 or QS-8
- 3 Through-hole for screw M4
- 4 Plug socket connection pattern to EN 175301-803, type C
- 5 Port for external pilot air

## Dimensions – 4/2-way valve, double solenoid

Download CAD data → [www.festo.com](http://www.festo.com)

Semi in-line valve



- 1 Manual override tool
- 2 Fitting QS
- 4 Plug socket connection pattern to EN 175301-803, type C

Pneumatic connection	H1
QS-4	57
QS-6	60

Pneumatic connection	H1
QS-8	63
QS-10	65

# Solenoid valves VUVB

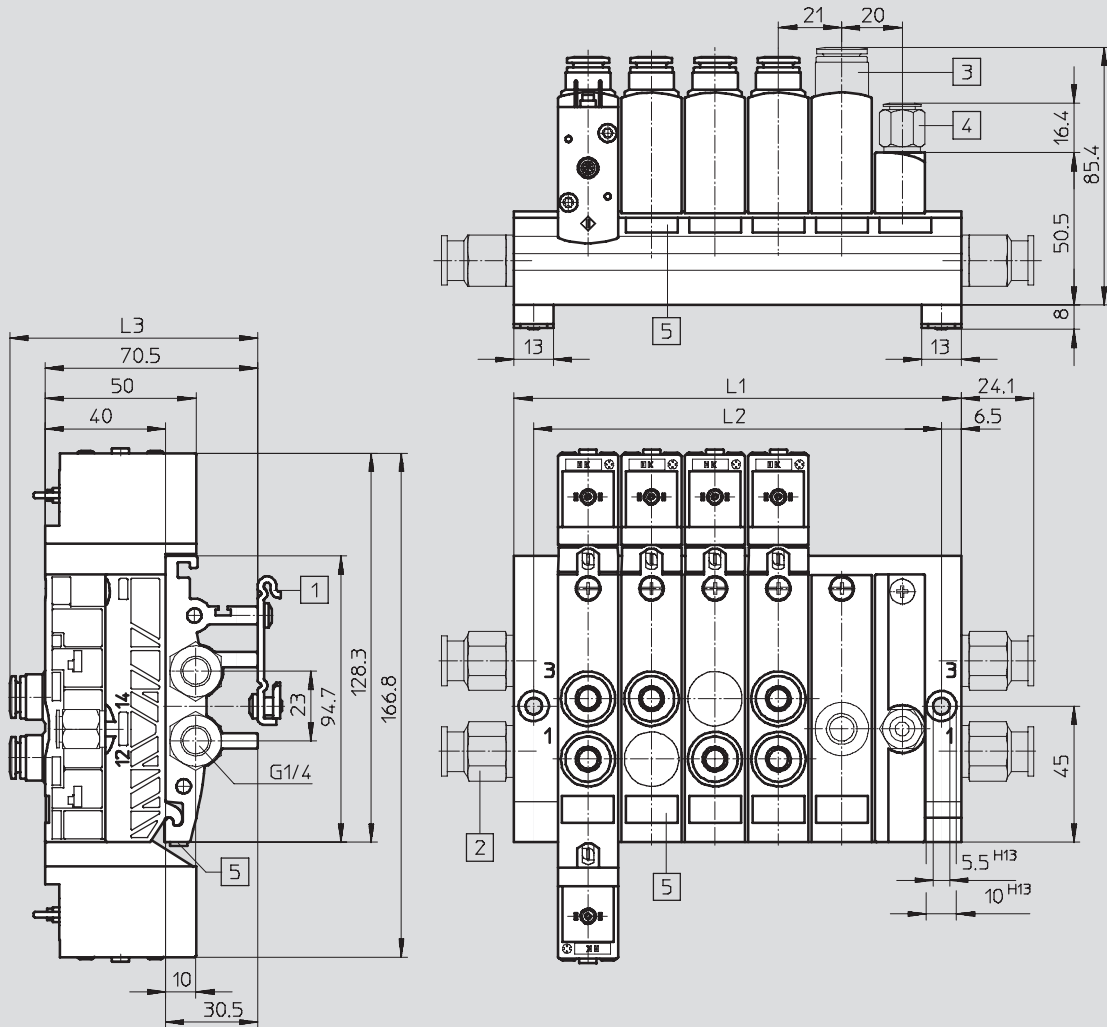
Technical data – Individual valves and manifold valves



## Dimensions – Manifold assembly

Download CAD data → [www.festo.com](http://www.festo.com)

Manifold rail G1/4



- 1 Attachment for mounting rail NRH-35-2000 (optional)
- 2 Push-in fittings (optional)
- 3 Cartridge fitting (optional, only with pressure zone supply module)
- 4 Push-in fitting (optional, only with S types)
- 5 Inscription label (optional)

Valve positions	L1	L2
2	85	72
3	106	93
4	127	114
5	148	135
6	169	156
7	190	177
8	211	198
9	232	219
10	253	240
11	274	261
12	295	282
16	379	366

Pneumatic connection	L3
QS-4	64.4
QS-6	64.4
QS-8	72
QS-10	75.4

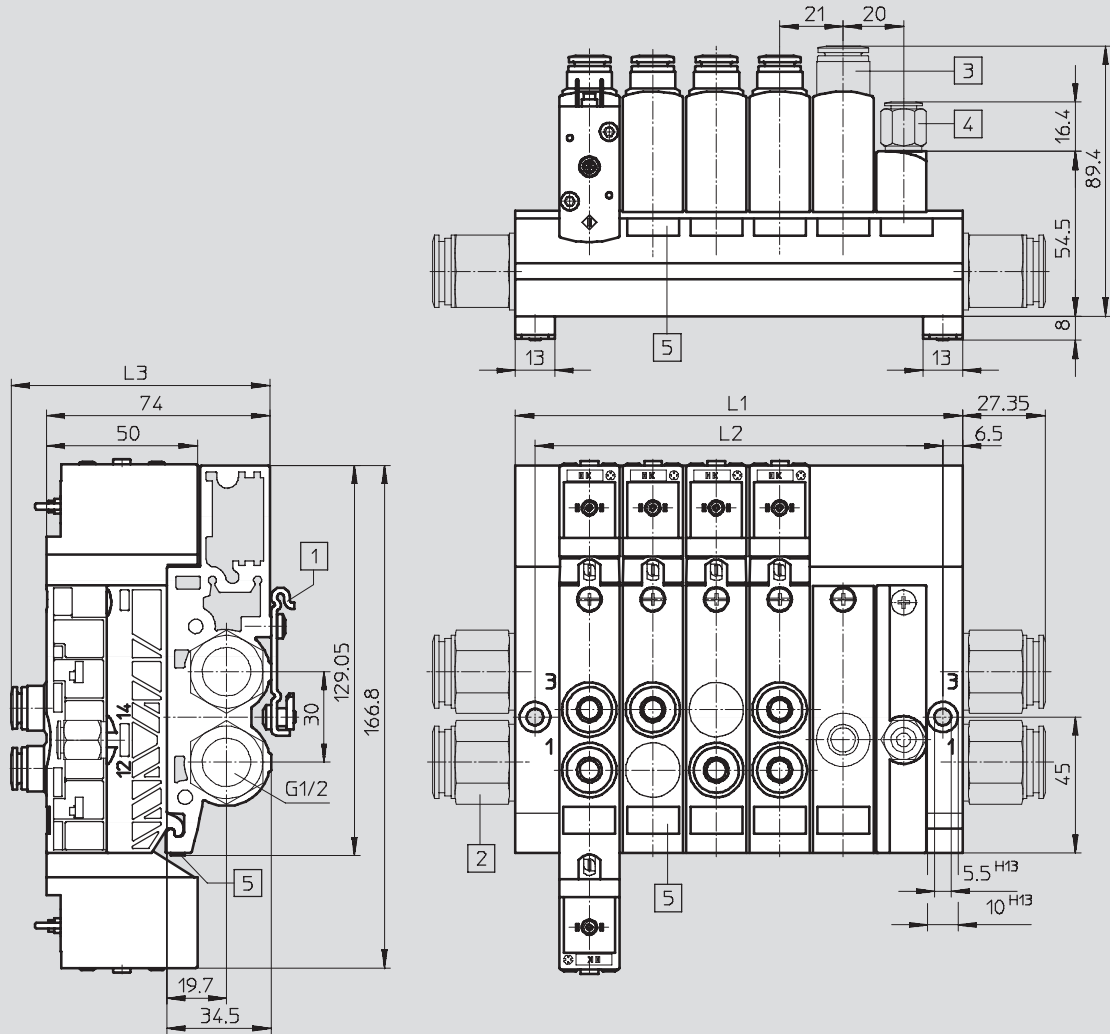
# Solenoid valves VUVB

Technical data – Individual valves and manifold valves

## Dimensions – Manifold assembly

Download CAD data → [www.festo.com](http://www.festo.com)

Manifold rail G1/2



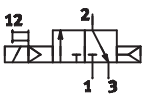
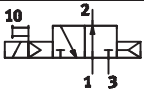
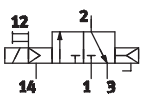
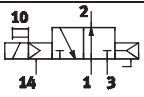
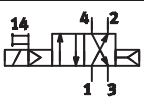
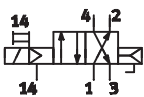
- 1 Attachment for mounting rail NRH-35-2000 (optional)
- 2 Push-in fittings (optional)
- 3 Cartridge fitting (optional, only with pressure zone supply module)
- 4 Push-in fitting (optional, only with S types)
- 5 Inscription label (optional)

Valve positions	L1	L2
2	85	72
3	106	93
4	127	114
5	148	135
6	169	156
7	190	177
8	211	198
9	232	219
10	253	240
11	274	261
12	295	282

Pneumatic connection	L3
QS-4	78.5
QS-6	78.5
QS-8	86
QS-10	89.4

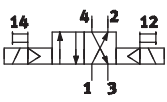
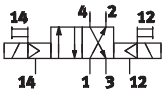
# Solenoid valves VUVB

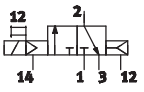
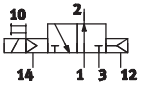
Technical data – Individual valves and manifold valves

Ordering data – In-line valves						
Circuit symbol	Code	Description	Voltage	Pneumatic connection	Part No.	Type
<b>3/2-way valves</b>						
	-	Normally closed Internal pilot air supply Pneumatic spring return	24 V DC	QS-6	537 468	VUVB-L-M32C-AD-Q6-1C1
				QS-8	537 469	VUVB-L-M32C-AD-Q8-1C1
			110 V AC	QS-6	537 538	VUVB-L-M32C-AD-Q6-2AC1
				QS-8	537 539	VUVB-L-M32C-AD-Q8-2AC1
			230 V AC	QS-6	537 546	VUVB-L-M32C-AD-Q6-3AC1
				QS-8	537 547	VUVB-L-M32C-AD-Q8-3AC1
	-	Normally open Internal pilot air supply Pneumatic spring return	24 V DC	QS-6	537 470	VUVB-L-M32U-AD-Q6-1C1
				QS-8	537 471	VUVB-L-M32U-AD-Q8-1C1
			110 V AC	QS-6	537 540	VUVB-L-M32U-AD-Q6-2AC1
				QS-8	537 541	VUVB-L-M32U-AD-Q8-2AC1
			230 V AC	QS-6	537 548	VUVB-L-M32U-AD-Q6-3AC1
				QS-8	537 549	VUVB-L-M32U-AD-Q8-3AC1
	-	Normally closed External pilot air supply Pneumatic spring return	24 V DC	QS-6	537 476	VUVB-L-M32C-AZD-Q6-1C1
				QS-8	537 477	VUVB-L-M32C-AZD-Q8-1C1
			110 V AC	QS-6	537 554	VUVB-L-M32C-AZD-Q6-2AC1
				QS-8	537 555	VUVB-L-M32C-AZD-Q8-2AC1
			230 V AC	QS-6	537 562	VUVB-L-M32C-AZD-Q6-3AC1
				QS-8	537 563	VUVB-L-M32C-AZD-Q8-3AC1
	-	Normally open External pilot air supply Pneumatic spring return	24 V DC	QS-6	537 478	VUVB-L-M32U-AZD-Q6-1C1
				QS-8	537 479	VUVB-L-M32U-AZD-Q8-1C1
			110 V AC	QS-6	537 556	VUVB-L-M32U-AZD-Q6-2AC1
				QS-8	537 557	VUVB-L-M32U-AZD-Q8-2AC1
			230 V AC	QS-6	537 564	VUVB-L-M32U-AZD-Q6-3AC1
				QS-8	537 565	VUVB-L-M32U-AZD-Q8-3AC1
<b>4/2-way valves, single solenoid</b>						
	-	Internal pilot air supply Pneumatic spring return	24 V DC	QS-6	537 472	VUVB-L-M42-AD-Q6-1C1
				QS-8	537 473	VUVB-L-M42-AD-Q8-1C1
			110 V AC	QS-6	537 542	VUVB-L-M42-AD-Q6-2AC1
				QS-8	537 543	VUVB-L-M42-AD-Q8-2AC1
			230 V AC	QS-6	537 550	VUVB-L-M42-AD-Q6-3AC1
				QS-8	537 551	VUVB-L-M42-AD-Q8-3AC1
	-	External pilot air supply Pneumatic spring return	24 V DC	QS-6	537 480	VUVB-L-M42-AZD-Q6-1C1
				QS-8	537 481	VUVB-L-M42-AZD-Q8-1C1
			110 V AC	QS-6	537 558	VUVB-L-M42-AZD-Q6-2AC1
				QS-8	537 559	VUVB-L-M42-AZD-Q8-2AC1
			230 V AC	QS-6	537 566	VUVB-L-M42-AZD-Q6-3AC1
				QS-8	537 567	VUVB-L-M42-AZD-Q8-3AC1

# Solenoid valves VUVB

Technical data – Individual valves and manifold valves

Ordering data – In-line valves						
Circuit symbol	Code	Description	Voltage	Pneumatic connection	Part No.	Type
4/2-way valves, double solenoid						
	-	Internal pilot air supply	24 V DC	QS-6	537 474	VUVB-L-B42-D-Q6-1C1
				QS-8	537 475	VUVB-L-B42-D-Q8-1C1
			110 V AC	QS-6	537 544	VUVB-L-B42-D-Q6-2AC1
				QS-8	537 545	VUVB-L-B42-D-Q8-2AC1
			230 V AC	QS-6	537 552	VUVB-L-B42-D-Q6-3AC1
				QS-8	537 553	VUVB-L-B42-D-Q8-3AC1
	-	External pilot air supply	24 V DC	QS-6	537 482	VUVB-L-B42-ZD-Q6-1C1
				QS-8	537 483	VUVB-L-B42-ZD-Q8-1C1
			110 V AC	QS-6	537 560	VUVB-L-B42-ZD-Q6-2AC1
				QS-8	537 561	VUVB-L-B42-ZD-Q8-2AC1
			230 V AC	QS-6	537 568	VUVB-L-B42-ZD-Q6-3AC1
				QS-8	537 569	VUVB-L-B42-ZD-Q8-3AC1

Ordering data – Semi in-line valves for sub-base or manifold rail						
Circuit symbol	Code	Description	Voltage	Pneumatic connection	Part No.	Type
3/2-way valves						
	K	Normally closed Pilot air supply <sup>1)</sup> Pneumatic spring return	24 V DC	QS-4	537 484	VUVB-S-M32C-AZD-Q4-1C1
				QS-6	537 485	VUVB-S-M32C-AZD-Q6-1C1
				QS-8	537 486	VUVB-S-M32C-AZD-Q8-1C1
				QS-10	537 487	VUVB-S-M32C-AZD-Q10-1C1
			110 V AC	QS-4	537 570	VUVB-S-M32C-AZD-Q4-2AC1
				QS-6	537 571	VUVB-S-M32C-AZD-Q6-2AC1
				QS-8	537 572	VUVB-S-M32C-AZD-Q8-2AC1
			230 V AC	QS-10	537 573	VUVB-S-M32C-AZD-Q10-2AC1
				QS-4	537 586	VUVB-S-M32C-AZD-Q4-3AC1
				QS-6	537 587	VUVB-S-M32C-AZD-Q6-3AC1
	N	Normally open Pilot air supply <sup>1)</sup> Pneumatic spring return	24 V DC	QS-4	537 488	VUVB-S-M32U-AZD-Q4-1C1
				QS-6	537 489	VUVB-S-M32U-AZD-Q6-1C1
				QS-8	537 490	VUVB-S-M32U-AZD-Q8-1C1
				QS-10	537 491	VUVB-S-M32U-AZD-Q10-1C1
			110 V AC	QS-4	537 574	VUVB-S-M32U-AZD-Q4-2AC1
				QS-6	537 575	VUVB-S-M32U-AZD-Q6-2AC1
				QS-8	537 576	VUVB-S-M32U-AZD-Q8-2AC1
			230 V AC	QS-10	537 577	VUVB-S-M32U-AZD-Q10-2AC1
				QS-4	537 590	VUVB-S-M32U-AZD-Q4-3AC1
				QS-6	537 591	VUVB-S-M32U-AZD-Q6-3AC1
230 V AC	QS-8	537 592	VUVB-S-M32U-AZD-Q8-3AC1			
	QS-10	537 593	VUVB-S-M32U-AZD-Q10-3AC1			

1) Internal/external depending on the individual sub-base or the installation position of the selector in the pressure zone supply module.

# Solenoid valves VUVB

Technical data – Individual valves and manifold valves

Ordering data – Semi in-line valves for sub-base or manifold rail						
Circuit symbol	Code	Description	Voltage	Pneumatic connection	Part No.	Type
<b>4/2-way valves, single solenoid</b>						
	M	Pilot air supply <sup>1)</sup> Pneumatic spring return	24 V DC	QS-4	537 492	VUVB-S-M42-AZD-Q4-1C1
				QS-6	537 493	VUVB-S-M42-AZD-Q6-1C1
				QS-8	537 494	VUVB-S-M42-AZD-Q8-1C1
				QS-10	537 495	VUVB-S-M42-AZD-Q10-1C1
				without push-in connector	537 534	VUVB-S-M42-AZD-QX-1C1
			110 V AC	QS-4	537 578	VUVB-S-M42-AZD-Q4-2AC1
				QS-6	537 579	VUVB-S-M42-AZD-Q6-2AC1
				QS-8	537 580	VUVB-S-M42-AZD-Q8-2AC1
				QS-10	537 581	VUVB-S-M42-AZD-Q10-2AC1
				without push-in connector	537 632	VUVB-S-M42-AZD-QX-2AC1
			230 V AC	QS-4	537 594	VUVB-S-M42-AZD-Q4-3AC1
				QS-6	537 595	VUVB-S-M42-AZD-Q6-3AC1
				QS-8	537 596	VUVB-S-M42-AZD-Q8-3AC1
				QS-10	537 597	VUVB-S-M42-AZD-Q10-3AC1
				without push-in connector	537 636	VUVB-S-M42-AZD-QX-3AC1
			12 V DC/ 24 V AC	without push-in connector	545 376	VUVB-S-M42-AZD-QX-5WC1
			<b>4/2-way valves, double solenoid</b>			
	J	Pilot air supply <sup>1)</sup>	24 V DC	QS-4	537 496	VUVB-S-B42-ZD-Q4-1C1
				QS-6	537 497	VUVB-S-B42-ZD-Q6-1C1
				QS-8	537 498	VUVB-S-B42-ZD-Q8-1C1
				QS-10	537 499	VUVB-S-B42-ZD-Q10-1C1
				without push-in connector	537 535	VUVB-S-B42-ZD-QX-1C1
			110 V AC	QS-4	537 582	VUVB-S-B42-ZD-Q4-2AC1
				QS-6	537 583	VUVB-S-B42-ZD-Q6-2AC1
				QS-8	537 584	VUVB-S-B42-ZD-Q8-2AC1
				QS-10	537 585	VUVB-S-B42-ZD-Q10-2AC1
				without push-in connector	537 633	VUVB-S-B42-ZD-QX-2AC1
			230 V AC	QS-4	537 598	VUVB-S-B42-ZD-Q4-3AC1
				QS-6	537 599	VUVB-S-B42-ZD-Q6-3AC1
				QS-8	537 600	VUVB-S-B42-ZD-Q8-3AC1
				QS-10	537 601	VUVB-S-B42-ZD-Q10-3AC1
				without push-in connector	537 637	VUVB-S-B42-ZD-QX-3AC1
			12 V DC/ 24 V AC	without push-in connector	545 377	VUVB-S-B42-ZD-QX-5WC1

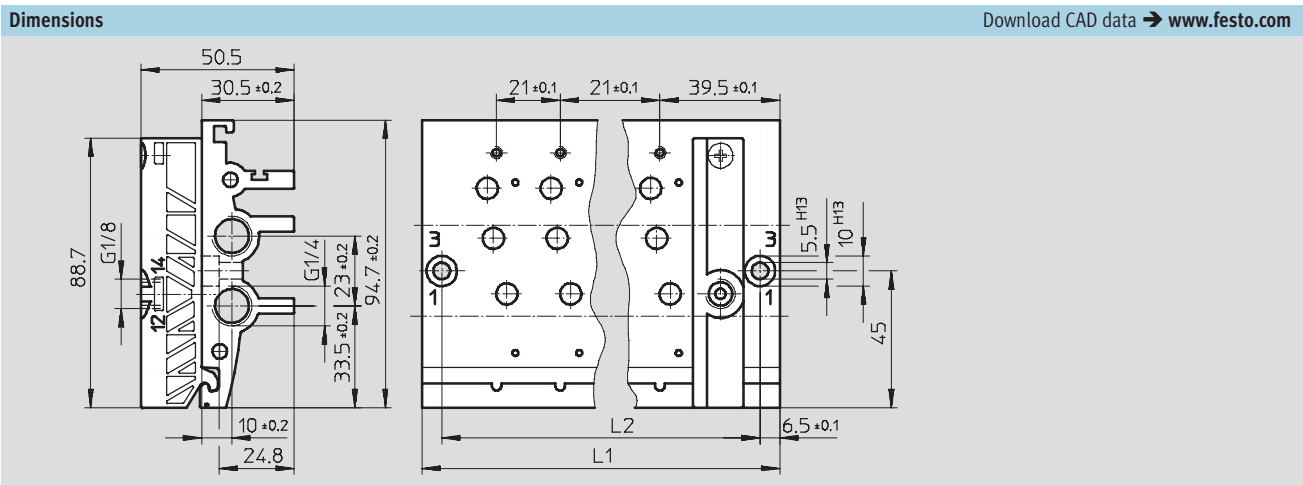
1) Internal/external depending on the individual sub-base or the installation position of the selector in the pressure zone supply module.

# Solenoid valves VUVB

Technical data – Manifold rail

Manifold rail G $\frac{1}{4}$   
VABM

Material:  
Wrought aluminium alloy



Dimensions and ordering data						
Valve positions	L1	L2	Weight [g]	CRC	Part No.	Type
2	85	72	270	2 <sup>1)</sup>	537 500	VABM-B6-E-G14-2
3	106	93	340	2 <sup>1)</sup>	545 815	VABM-B6-E-G14-3
4	127	114	400	2 <sup>1)</sup>	537 501	VABM-B6-E-G14-4
5	148	134	470	2 <sup>1)</sup>	545 816	VABM-B6-E-G14-5
6	169	156	530	2 <sup>1)</sup>	537 502	VABM-B6-E-G14-6
7	190	177	600	2 <sup>1)</sup>	545 817	VABM-B6-E-G14-7
8	211	198	670	2 <sup>1)</sup>	537 503	VABM-B6-E-G14-8
9	232	219	740	2 <sup>1)</sup>	545 818	VABM-B6-E-G14-9
10	253	240	800	2 <sup>1)</sup>	537 504	VABM-B6-E-G14-10
11	274	261	870	2 <sup>1)</sup>	545 819	VABM-B6-E-G14-11
12	295	282	940	2 <sup>1)</sup>	537 505	VABM-B6-E-G14-12

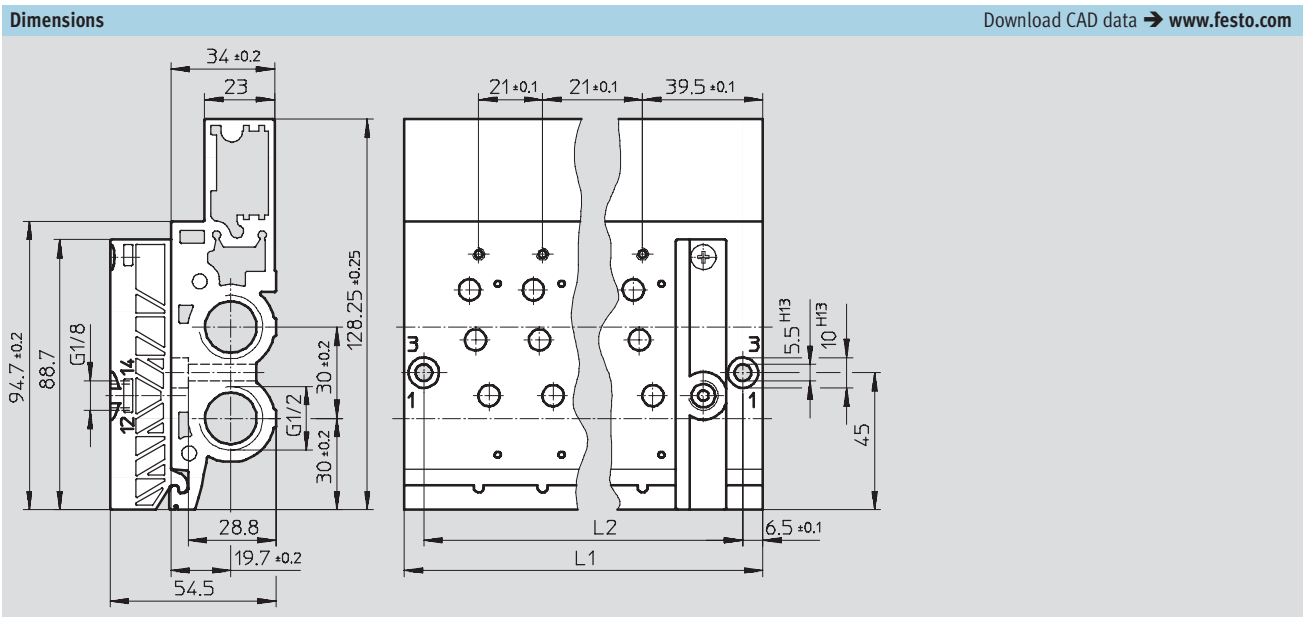
1) Corrosion resistance class 2 to Festo standard 940 070  
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

# Solenoid valves VUVB

Technical data – Manifold rail

## Manifold rail G $\frac{1}{2}$ VABM

Material:  
Wrought aluminium alloy



Dimensions and ordering data						
Valve positions	L1	L2	Weight [g]	CRC	Part No.	Type
2	85	72	460	2 <sup>1)</sup>	537 506	VABM-B6-E-G12-2
3	106	93	580	2 <sup>1)</sup>	545 820	VABM-B6-E-G12-3
4	127	114	690	2 <sup>1)</sup>	537 507	VABM-B6-E-G12-4
5	148	135	820	2 <sup>1)</sup>	545 821	VABM-B6-E-G12-5
6	169	156	915	2 <sup>1)</sup>	537 508	VABM-B6-E-G12-6
7	190	177	1,030	2 <sup>1)</sup>	545 822	VABM-B6-E-G12-7
8	211	198	1,150	2 <sup>1)</sup>	537 509	VABM-B6-E-G12-8
9	232	219	1,270	2 <sup>1)</sup>	545 823	VABM-B6-E-G12-9
10	253	240	1,380	2 <sup>1)</sup>	537 510	VABM-B6-E-G12-10
11	274	261	1,500	2 <sup>1)</sup>	545 824	VABM-B6-E-G12-11
12	295	282	1,620	2 <sup>1)</sup>	537 511	VABM-B6-E-G12-12
16	379	366	2,100	2 <sup>1)</sup>	564 835	VABM-B6-E-G12-16

1) Corrosion resistance class 2 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.

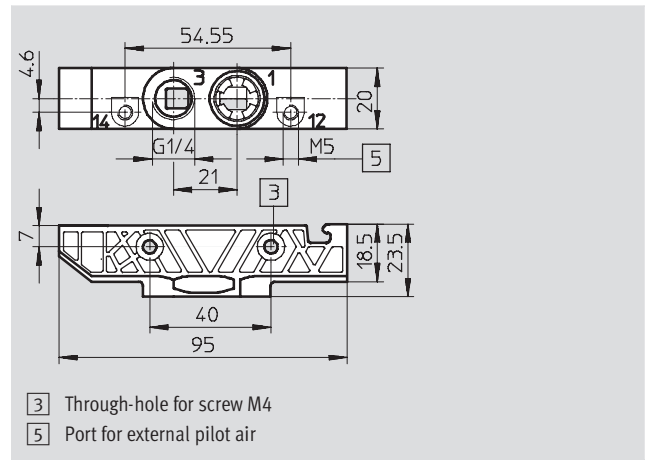


# Solenoid valves VUVB

Technical data – Sub-base

## Sub-base VABS

Material:  
Reinforced polyamide



Ordering data						
Valve positions	Description	Pressure supply connection	Weight [g]	CRC	Part No.	Type
1	Internal pilot air supply	Cartridge	22	2 <sup>1)</sup>	537 518	VABS-B6-PB-Q-B
1	External pilot air supply	Cartridge	22	2 <sup>1)</sup>	537 519	VABS-B6-PB-Q

1) Corrosion resistance class 2 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.

# Valve terminals type 24 VTUB

Peripherals overview

## Overview – Valve terminal type 24 VTUB

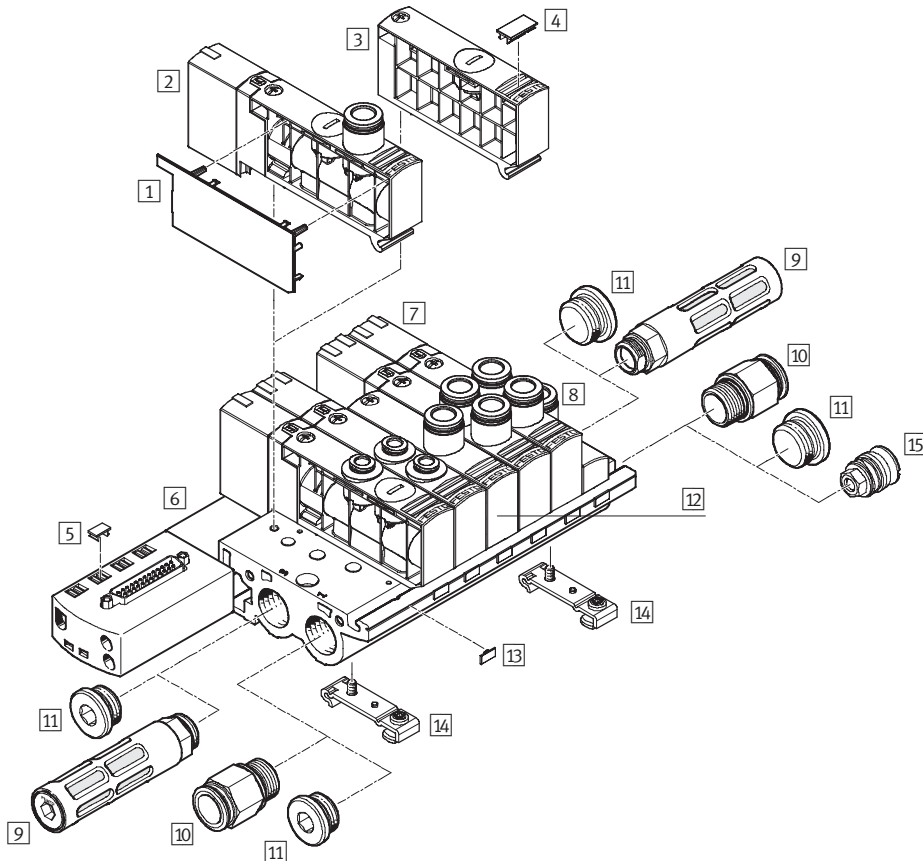
Valve terminal with electrical multi-pin plug connection


- 25-pin Sub-D multi-pin plug connection  
Code: SD

Valve terminals with electrical multi-pin plug connection are available in gradations from 2 to max. 16 valve positions.

Each valve position can either be equipped with a valve or a blanking plate.

A maximum of 24 valve solenoid coils can be actuated via the electrical multi-pin plug connection.



-  - Note  
There are valve terminals for 4, 6, 8, 10, 12 and 16 valve locations in connection size G $\frac{1}{2}$ . In the design with 16 valve locations, only single-solenoid valves can be fitted as from the 9<sup>th</sup> valve location.

# Valve terminals type 24 VTUB

Peripherals overview

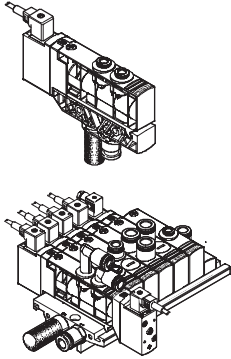
Accessories		
	Brief description	→ Page/Internet
1	Cover plate for valve housing VAMC	46
2	Single solenoid valve VUVB-...-M	36
3	Blanking plate VABB	Blanking plate VABB: for vacant position, with blanking plug 46
4	Inscription label IBS-9x17	For identifying the valves 49
5	Inscription label IBS-6x10	– 49
6	Manifold rail VABM-B6-E-G...-6-M1	With multi-pin plug connection, for connecting max. 16 valves 47
7	Double solenoid valve VUVB-...-B	– 36
8	Pilot air supply module	For pilot air supply (included in the scope of delivery of the manifold rail VABM) –
9	Silencer U, UC	For fitting in exhaust ports 49
10	Push-in fitting QS	For connecting compressed air tubing with standard external diameters 48
11	Blanking plug B	– 49
12	Pressure zone supply module VABF	Pressure zone supply module VABF: with cartridge 46
13	Inscription label MH-BZ-80X	For identifying the manifold rail 49
14	H-rail mounting kit VAME	For mounting on the H-rail NRH-35-2000 49
15	Separator for pressure zones VABD	For mounting in the manifold rail 44

# Valve terminals type 24 VTUB

Key features

FESTO

## Individual connection



Connection is independent of the control technology used. There are two different valve types, in-line valves and semi in-line valves for manifold rails or individual sub-bases.

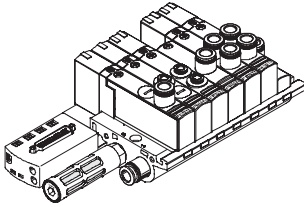
Between 2 ... 32 solenoid coils (divided between 2 ... 16 valve positions) can be selected with individual connection.

Valves can be used on individual sub-bases for actuators further away from the valve terminal.

With an individual electrical connection, the plug is connected directly to the valve. A number of plug sockets/ plug sockets with cable can be selected for the valve terminal and for the individual sub-base:

- KMEB-1-...-LED with signal status display
- KMEB-1-230AC-... can be used up to 230 V AC
- MSSD-EB for self-assembly
- KMEB-2-24-... with signal status display
- Illuminating seal MEB-LD for signal status display

## Multi-pin plug connection



Control signals from the controller to the valve terminal are transmitted via a pre-assembled multi-wire cable, which substantially reduces installation time.

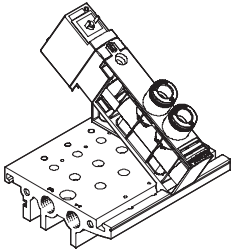
This valve terminal can be fitted with 4 ... 16 valves.

Variants

- Sub-D connection

Double solenoid drive with multi-pin plug connection. The valve is equipped with an LED for displaying the signal status.

## Wide range of pneumatic components



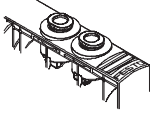
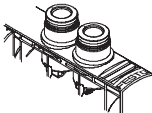
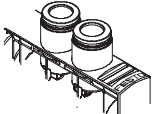
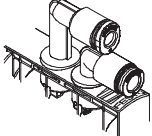
• The use of the same basic valves for both the individual valves and the valve manifold permits fast and flexible conversion and multiple use of parts.

• Flexible construction thanks to assembled and tested units or individual components as modules for individual configurations.

• Flow rates from 200 ... 1,000 l/min depending on the respective application through the selection of appropriate QS connections.

# Valve terminals type 24 VTUB

Key features – Pneumatic components

Connection on the valve		
	Code	Description
Code for valve connection position: T		
	P4	Push-in connector 4 mm Connection position on top, straight
	P6	Push-in connector 6 mm Connection position on top, straight
	P8	Push-in connector 8 mm Connection position on top, straight
	P10	Push-in connector 10 mm Connection position on top, straight
Code for valve connection position: TB, TA, TC		
	P4	Push-in connector 4 mm Connection position on top, angled outlet to the front/rear, front, rear
	P6	Push-in connector 6 mm Connection position on top, angled outlet to the front/rear, front, rear
	P8	Push-in connector 8 mm Connection position on top, angled outlet to the front/rear, front, rear

# Valve terminals type 24 VTUB

Key features – Pneumatic components



## Instructions for using pressure zones

The VTUB valve terminal can be operated with 2 pressure zones, supplied either from the left or from the right.

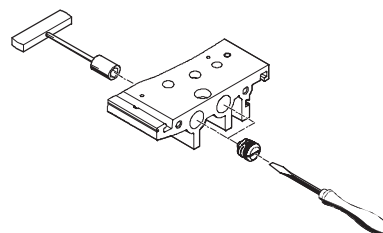
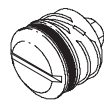
Pressure zones are created by means of separators that can be used in the following ducts:

- Supply duct 1 (code TP) and exhaust duct 3 (code TS) or
- Exhaust duct 3 (code TR)
- Supply duct 1

Duct separation		Code	Description
<p>1 Pressure zone 1 2 Pressure zone 2</p>	TP	Duct 1 closed	
<p>1 Pressure zone 1 2 Pressure zone 2</p>	TS	Duct 1/3 closed	
<p>1 Pressure zone 1 2 Pressure zone 2</p>	TR	Duct 3 closed	

## Separator VABD-B6

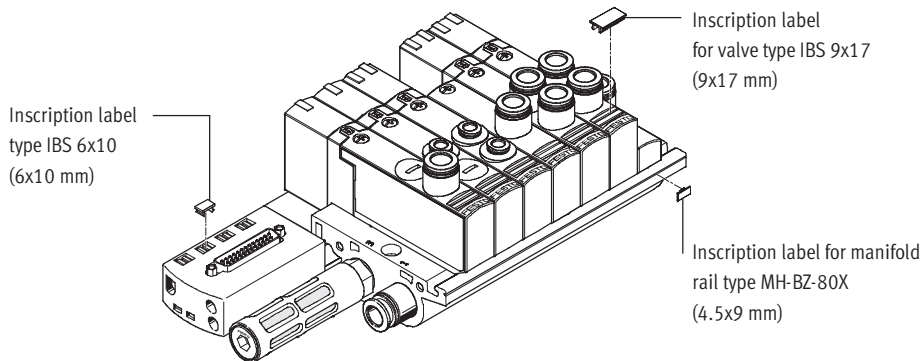
- - Note  
The separator can also be fitted subsequently using a screwdriver/ socket spanner.



# Valve terminals type 24 VTUB

Key features – Display and operation

## Inscription system



Inscription labels can be applied to the valves and manifold rails to identify them.

- Inscription labels for valve type IBS-9x17 Part No. 161 937
- Inscription labels for manifold rail type MH-BZ-80X Part No. 197 259

## Display and operation

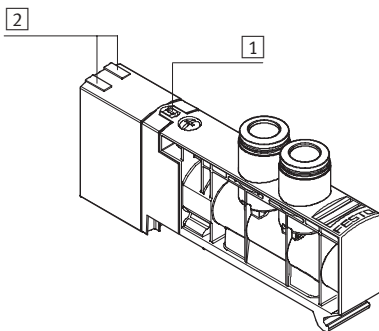
Each solenoid coil can be allocated an LED which indicates its signal status. Suitable plug sockets with cable can be found on page 50. The multi-pin variant has the LED integrated in the valve.

The manual override (MO) allows the valve to be activated without electronic control or power supply.

The valve is activated by pushing the manual override. The set switching status can be secured by rotating the manual override.

 Note

A manually activated valve (manual override) cannot be reset electrically. Conversely, an electrically activated valve cannot be reset using the mechanical manual override.



- 1 Optional manual override (pushing and detenting via turning using a screwdriver)
- 2 LED signal status display per solenoid coil

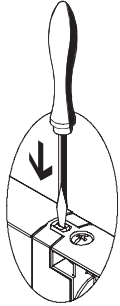
# Valve terminals type 24 VTUB

Key features – Display and operation



## Manual override (MO)

### MO with automatic return (non-detenting)



Press in the stem of the MO with a pin or screwdriver.

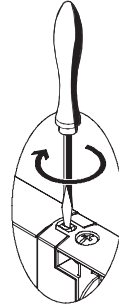
→ Valve is in switching position

Remove the pin or screwdriver.

Spring force pushes the stem of the MO back.

→ Valve returns to normal position.

### MO with detent (turning with detent)<sup>1)</sup>



Press in the stem of the MO using a pin or screwdriver until the valve switches and then turn the stem clockwise by 90° until the stop is reached.

→ Valve remains in switching position

Turn the stem anti-clockwise by 90° until the stop is reached and then remove the pin or screwdriver.

Spring force pushes the stem of the MO back.

→ Valve returns to normal position.

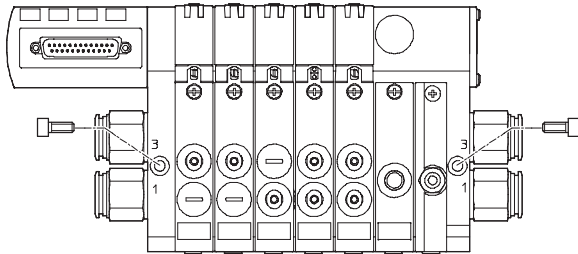
1) Not with double solenoid valve code J for electrical multi-pin plug connection (double solenoid valve)

## Mounting – Valve terminal

Sturdy terminal assembly thanks to:

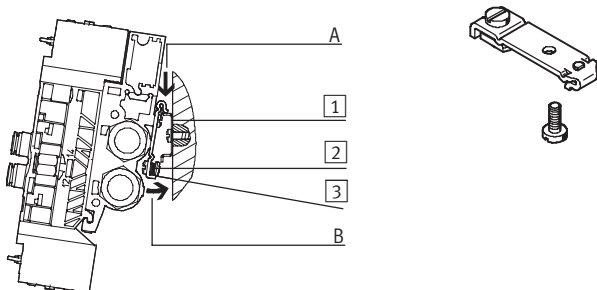
- Two through-holes for wall mounting
- Integrated attachment for H-rail mounting

### Wall mounting



The VTUB valve terminal is screwed onto the mounting surface using two M5 screws.

### H-rail mounting



The VTUB valve terminal is hooked onto the H-rail (see arrow A). The valve terminal VTUB is then swivelled on the H-rail and secured in place with the clamping component (see arrow B).

- 1 H-rail
- 2 Self-tapping M4x8 screw of the H-rail clamping unit
- 3 Clamping component of the H-rail clamping unit

For H-rail mounting of the valve terminal you will need the VAME-B6-T mounting kit. This permits mounting of the valve terminal on a H-rail to EN 60715.



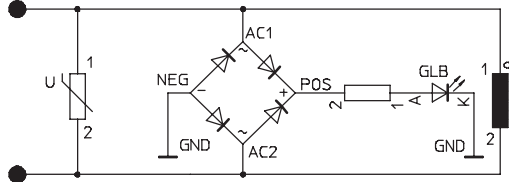
# Valve terminals type 24 VTUB

Key features – Electrical components/instructions for use

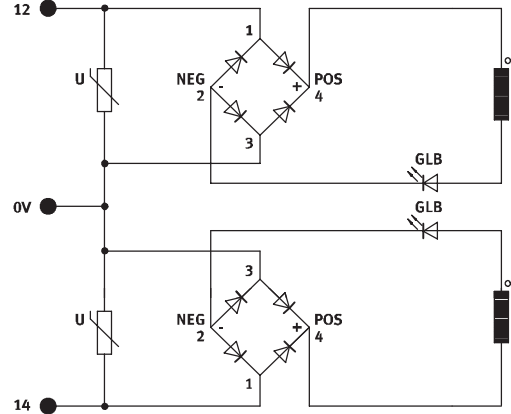


## Protective circuit for plug-in valves for valve terminal Multi-pin

24 V DC version for single solenoid valves



24 V DC version for double solenoid valves



## Pin allocation – Sub-D plug

	Connecting cable, 25-wire			Connecting cable, 15-wire		
	Pin	Address/coil	Core colour <sup>1)</sup>	Pin	Address/coil	Core colour <sup>1)</sup>
	1	0	WH	1	0	WH
	2	1	BN	2	1	BN
	3	2	GN	3	2	GN
	4	3	YE	4	3	YE
	5	4	GY	5	4	GY
	6	5	PK	6	5	PK
	7	6	BU	7	6	BU
	8	7	RD	8	7	RD
	9	8	BK	9	8	BK
	10	9	VT	10	9	VT
	11	10	GY PK	11	10	GY PK
	12	11	RD BU	12	11	RD BU
	13	12	GN WH	13	-	-
	14	13	BN GN	14	-	-
	15	14	YE WH	15	-	-
	16	15	BN YE	16	-	-
	17	16	GY WH	17	-	-
	18	17	BN GY	18	-	-
	19	18	WH PK	19	-	-
	20	19	BN PK	20	-	-
	21	20	BU WH	21	-	-
	22	21	BN BU	22	-	-
	23	22	RD WH	23	-	RD WH
	24	23	BN RD	24	-	BN RD
	25	0 V	BK WH	25	0 V	BK WH

- - Note  
The drawing shows the view onto the pins of the Sub-D plug.

1) To IEC 757

# Valve terminals type 24 VTUB

Key features – Electrical components/instructions for use

FESTO

## Equipment

Operate your equipment with unlubricated compressed air if possible. Festo valves and cylinders are designed for operation under normal use without any additional lubrication, yet still have a long service life. The quality of compressed air downstream from the compressor must correspond to that of unlubricated compressed air. If possible, do not operate all of your equipment with lubricated compressed air. The lubricators should, where possible, always be installed directly upstream of the actuator used.

Incorrect additional oil and too high an oil content in the compressed air reduce the service life of the valve terminal.  
Use Festo special oil OFSW-32 or the alternatives listed in the Festo catalogue (as specified in DIN 51524 HLP32; basic oil viscosity 32 CST at 40 °C).

### Bio-oils

When using bio-oils (oils which are based upon synthetic or native ester, e.g. rapeseed oil methyl ester), the maximum residual oil content of 0.1 mg/m<sup>3</sup> must not be exceeded (see ISO 8573-1 Class 2).

### Mineral oils

When using mineral oils (e.g. HLP oils to DIN 51524, parts 1 through 3) or similar oils based on poly-alpha-olefins (PAO), the maximum residual oil content of 5 mg/m<sup>3</sup> must not be exceeded (see ISO 8573-1 Class 4). A higher residual oil content irrespective of the compressor oil cannot be permitted, as the basic lubricant would be flushed out over time.

# Valve terminals type 24 VTUB




Type codes – Terminal valves

		VUVB	-	S	-	M32C	-	A	Z	D	-	Q4	-	1	T1	L
<b>Valve family</b>																
VUVB	Solenoid valve															
<b>Constructional design</b>																
S	Semi in-line valve															
<b>Valve function</b>																
M32C	3/2-way valve, normally closed															
M32U	3/2-way valve, normally open															
M42	4/2-way valve, single solenoid															
B42	4/2-way valve, double solenoid															
<b>Type of reset</b>																
	None (double solenoid)															
A	Pneumatic reset															
<b>Pilot air supply</b>																
	Internal															
Z	External															
<b>Manual override facility</b>																
D	Pushing/detenting															
<b>Pneumatic connection</b>																
Q4	For tubing O.D. 4 mm															
Q6	For tubing O.D. 6 mm															
Q8	For tubing O.D. 8 mm															
Q10	For tubing O.D. 10 mm															
X	Without push-in connector															
<b>Operating voltage</b>																
1	24 V DC															
<b>Electrical connection</b>																
T1	Plug-in, connection for multi-pin plug															
<b>Signal status display</b>																
L	LED															

# Valve terminals type 24 VTUB

Technical data – Terminal valves

FESTO

-  Voltage  
24 V DC
-  Pressure  
-0.9 ... +8 bar
-  Temperature range  
-5 ... +50 °C



General technical data				
Valve function		3/2, single solenoid	4/2, single solenoid	4/2, double solenoid
Constructional design		Piston spool valve		
Sealing principle		Soft		
Type of actuation		Electrical		
Type of reset		Pneumatic spring		-
Type of control		Piloted		
Pilot air supply		Internal or external		
Direction of flow		Non-reversible		
Exhaust function		No flow control		
Manual override facility		Non-detenting, detenting		Non-detenting
Type of mounting		Via through-holes		
Installation position		Any		
Width	[mm]	20		
Nominal size	[mm]	7		
Pneumatic connections				
Supply connection	1	G $\frac{1}{2}$ (sub-base)		
Exhaust connection	3	G $\frac{1}{2}$ (sub-base)		
Working lines	2/4	QS-4, QS-6, QS-8, QS-10		
External pilot air connection	12/14	M5 (sub-base)		
Standard nominal flow rate	qnN	[l/min]	200 (QS-4), 500 (QS-6), 800 (QS-8), 1,000 (QS-10)	

Operating and environmental conditions				
Operating medium		Dried and filtered compressed air, lubricated or unlubricated, grade of filtration 40 µm, vacuum		
Operating pressure	[bar]	-0.9 ... +8		
Operating pressure for valve terminal with internal pilot air supply	[bar]	2 ... +8		
Pilot pressure	[bar]	2 ... 8		
Ambient temperature	[°C]	-5 ... +50		
Temperature of medium	[°C]	-5 ... +50		
Storage temperature <sup>1)</sup>	[°C]	-20 ... +40		
Note on materials		Conforms to RoHS		

1) Long-term storage

-  - Note

For vacuum operation valves require a filter. This is to avoid that foreign matter is drawn into the valve (e.g. when using a suction cup).

# Valve terminals type 24 VTUB

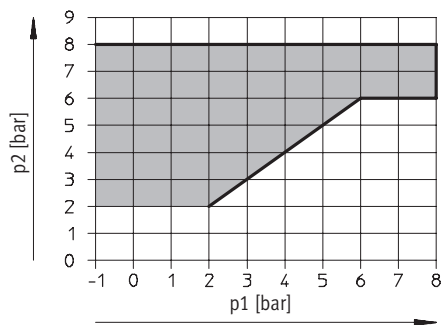
Technical data – Terminal valves

FESTO

Electrical data				
Valve function		3/2, single solenoid	4/2, single solenoid	4/2, double solenoid
Electrical connection		Socket for multi-pin plug		
Nominal operating voltage	[V DC]	24		
Permissible voltage fluctuations		±10%		
Electrical power consumption	[W]	1.5	1.5	3.3 (following a current reduction 0.1)
Protection class to EN 60529		IP65		

Valve response times [ms]				
Valve function		3/2, single solenoid	4/2, single solenoid	4/2, double solenoid
On		20	20	–
Off		20	20	–
Changeover		–	–	20

### Pilot pressure p2 as a function of operating pressure p1

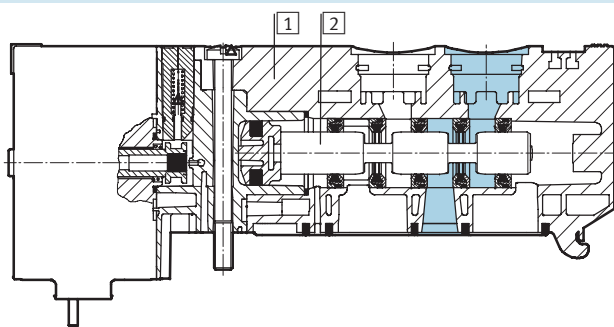


### Materials – Valves

Sectional view

Single solenoid

Double solenoid



1	Housing	Reinforced polyamide
2	Piston spool	Wrought aluminium alloy
–	Seals	Nitrile rubber, hydrogenated nitrile rubber, fluorocarbon rubber

### Materials

Manifold rail with multi-pin plug	Wrought aluminium alloy
Pressure zone supply module	Reinforced polyamide
Blanking plate for vacant position	Reinforced polyamide

# Valve terminals type 24 VTUB

Technical data – Terminal valves

Product weight	
Approx. weights	[g]
Manifold rail with multi-pin plug	
• 4 valve positions	690
• 6 valve positions	915
• 8 valve positions	1,150
• 10 valve positions	1,380
• 12 valve positions	1,620
• 16 valve positions	2100
Pressure zone supply module	30
Valves	
• Single solenoid (code K, N, M)	150
• Double solenoid (code J)	220
Blanking plate for vacant position	25

**Dimensions – 3/2-way and 4/2-way valve, single solenoid** Download CAD data → [www.festo.com](http://www.festo.com)

For electrical multi-pin plug

1 Manual override facility  
 2 Fitting QS  
 3 LED display  
 4 Plug for electrical linking

Pneumatic connection	H1
QS-4	57
QS-6	60

Pneumatic connection	H1
QS-8	63
QS-10	65

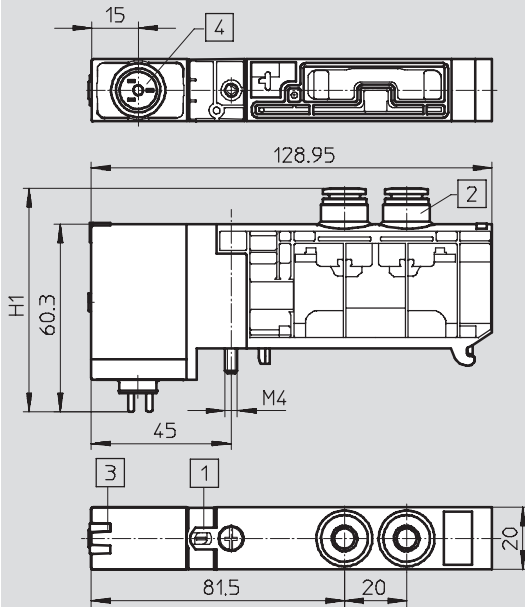
# Valve terminals type 24 VTUB

Technical data – Terminal valves

## Dimensions – 4/2-way valve, double solenoid

Download CAD data → [www.festo.com](http://www.festo.com)

For electrical multi-pin plug



- 1 Manual override facility
- 2 Fitting QS
- 3 LED display
- 4 Plug for electrical linking

Pneumatic connection	H1
QS-4	57
QS-6	60

Pneumatic connection	H1
QS-8	63
QS-10	65

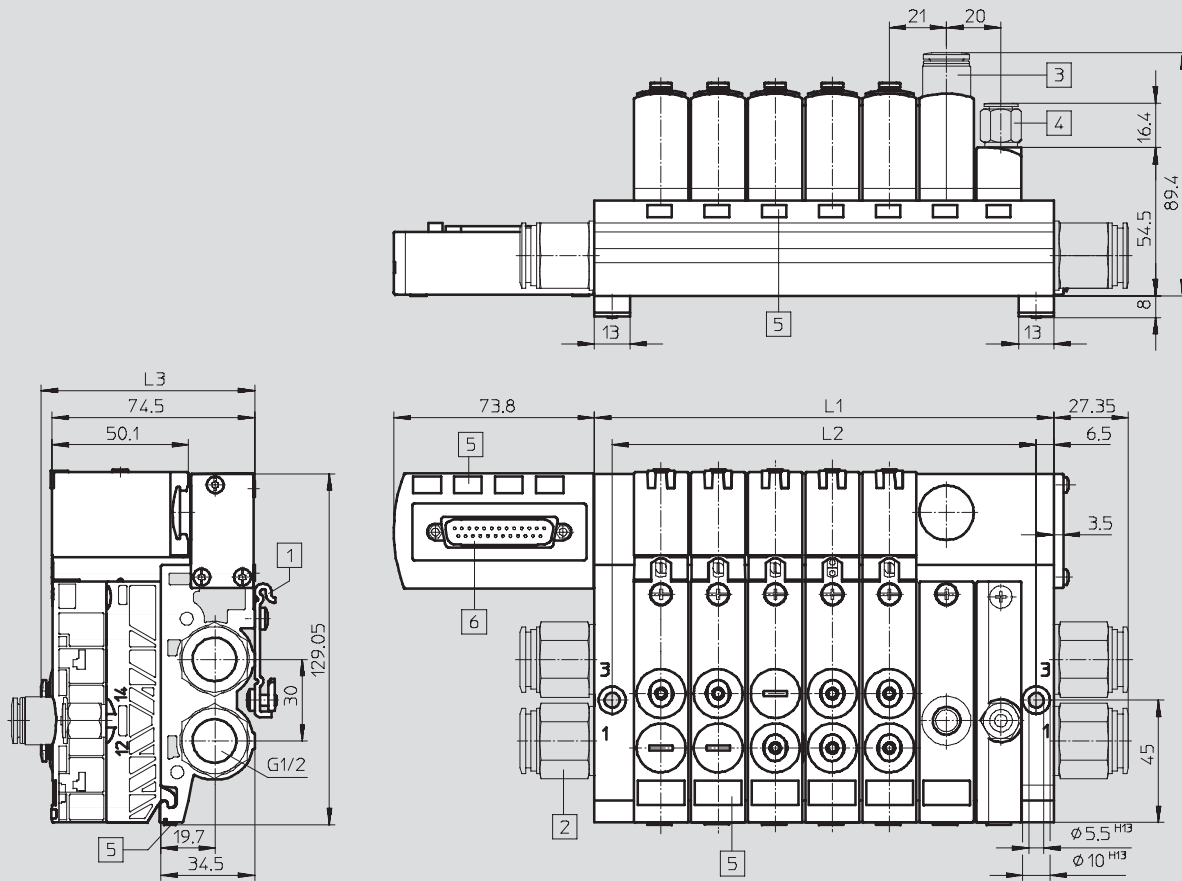
# Valve terminals type 24 VTUB

Technical data – Terminal valves

## Dimensions – Valve terminal

Download CAD data → [www.festo.com](http://www.festo.com)

With electrical multi-pin plug



- 1 Attachment VAME-B6-T (optional) for mounting rail
- 2 Push-in fittings (optional)
- 3 Push-in fittings (optional, only with pressure zone supply module; cover plate only with blanking plug)
- 4 Push-in fitting (optional, only with S types)
- 5 Inscription label (optional)
- 6 Sub-D plug

Valve positions	L1	L2
4	127	114
6	169	156
8	211	198
10	253	240
12	295	282
16	379	366

Pneumatic connection	L3
QS-4	78.5
QS-6	78.5
QS-8	86
QS-10	89.4



# Valve terminals type 24 VTUB

Technical data – Terminal valves

FESTO

Ordering data – Valves for valve terminal						
Circuit symbol	Code	Description	Voltage	Pneumatic connection	Part No.	Type
<b>3/2-way valves</b>						
	K	Normally closed Pilot air supply <sup>1)</sup> Pneumatic spring return	24 V DC	QS-4	537 602	VUVB-S-M32C-AZD-Q4-1T1L
				QS-6	537 603	VUVB-S-M32C-AZD-Q6-1T1L
				QS-8	537 604	VUVB-S-M32C-AZD-Q8-1T1L
				QS-10	537 605	VUVB-S-M32C-AZD-Q10-1T1L
	N	Normally open Pilot air supply <sup>1)</sup> Pneumatic spring return	24 V DC	QS-4	537 606	VUVB-S-M32U-AZD-Q4-1T1L
				QS-6	537 607	VUVB-S-M32U-AZD-Q6-1T1L
				QS-8	537 608	VUVB-S-M32U-AZD-Q8-1T1L
				QS-10	537 609	VUVB-S-M32U-AZD-Q10-1T1L
<b>4/2-way valves, single solenoid</b>						
	M	Pilot air supply <sup>1)</sup> Pneumatic spring return	24 V DC	QS-4	537 610	VUVB-S-M42-AZD-Q4-1T1L
				QS-6	537 611	VUVB-S-M42-AZD-Q6-1T1L
				QS-8	537 612	VUVB-S-M42-AZD-Q8-1T1L
				QS-10	537 613	VUVB-S-M42-AZD-Q10-1T1L
				without push-in connector	537 640	VUVB-S-M42-AZD-QX-1T1L
<b>4/2-way valves, double solenoid</b>						
	J	Pilot air supply <sup>1)</sup>	24 V DC	QS-4	537 614	VUVB-S-B42-ZD-Q4-1T1L
				QS-6	537 615	VUVB-S-B42-ZD-Q6-1T1L
				QS-8	537 616	VUVB-S-B42-ZD-Q8-1T1L
				QS-10	537 617	VUVB-S-B42-ZD-Q10-1T1L
				without push-in connector	537 641	VUVB-S-B42-ZD-QX-1T1L

1) Internal/external depending on the installation position of the selector in the pressure zone supply module.

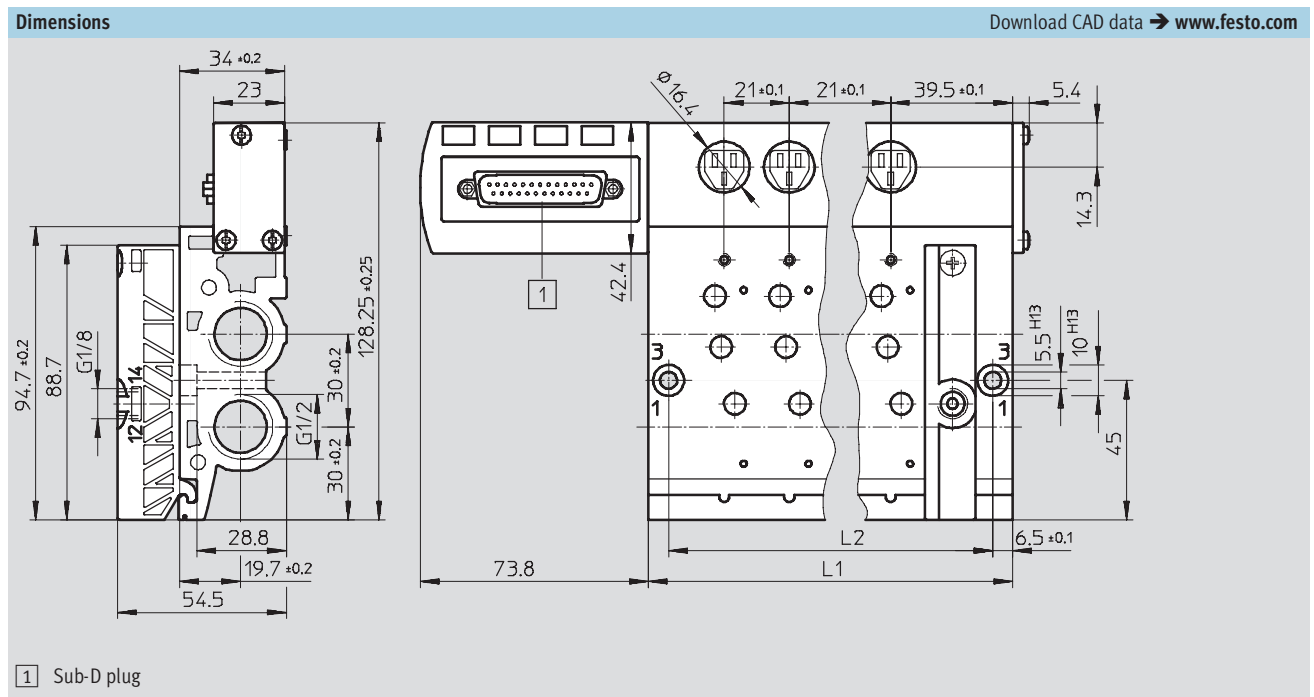
# Valve terminals type 24 VTUB

Technical data – Manifold rail



Manifold rail with electrical multi-pin plug VABM-...-M1

Material:  
Wrought aluminium alloy



Dimensions and ordering data						
Valve positions	L1	L2	Weight [g]	CRC	Part No.	Type
4	127	114	690	2 <sup>1)</sup>	537 618	VABM-B6-E-G12-4-M1
6	169	156	915	2 <sup>1)</sup>	537 619	VABM-B6-E-G12-6-M1
8	211	198	1,150	2 <sup>1)</sup>	537 620	VABM-B6-E-G12-8-M1
10	253	240	1,380	2 <sup>1)</sup>	537 621	VABM-B6-E-G12-10-M1
12	295	282	1,620	2 <sup>1)</sup>	537 622	VABM-B6-E-G12-12-M1
16	379	366	2,100	2 <sup>1)</sup>	550 186	VABM-B6-E-G12-16-M1

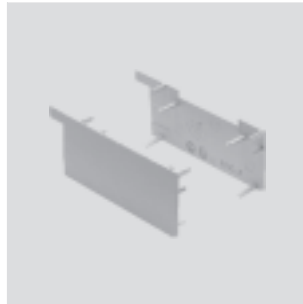
1) Corrosion resistance class 2 to Festo standard 940 070  
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

# Solenoid valves VUVB/valve terminals type 24 VTUB

Accessories

## Cover plate for valve housing VAMC

Material:  
Polyamide

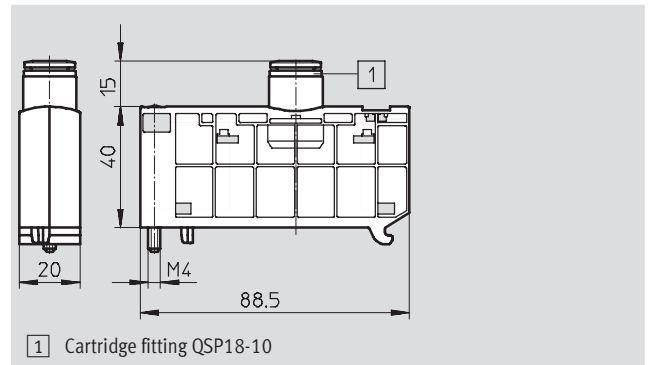


Ordering data		
CRC	Part No.	Type
2 <sup>1)</sup>	537 512	VAMC-B6-C

1) Corrosion resistance class 2 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.

## Pressure zone supply module VABF

Material:  
Reinforced polyamide



Ordering data			
		CRC	Part No. Type
For individual electrical connection	With cartridge fitting QSP18-10	2 <sup>1)</sup>	537 517 VABF-B6-P1A5-Q10
For multi-pin plug connection	With cartridge fitting QSP18-10 and cover cap for multi-pin plug connection	2 <sup>1)</sup>	537 624 VABF-B6-P1A9-Q10

1) Corrosion resistance class 2 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.

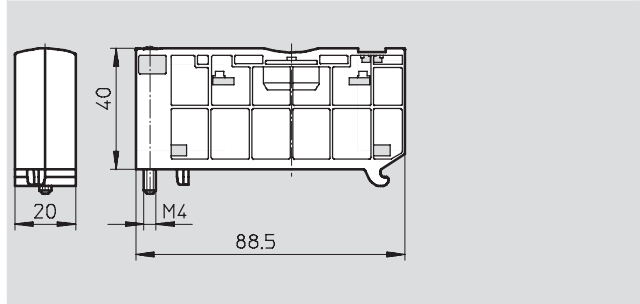
# Solenoid valves VUVB/valve terminals type 24 VTUB

FESTO

Accessories

## Blanking plate VABB

Material:  
Reinforced polyamide



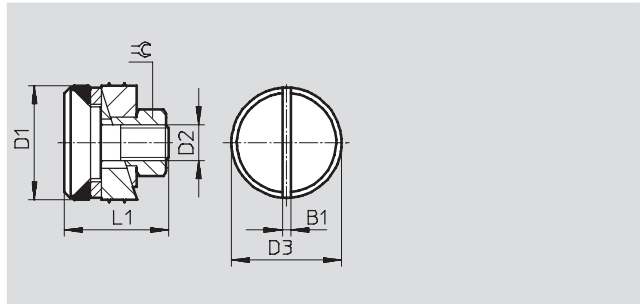
Ordering data		CRC	Part No.	Type
For individual electrical connection	–	2 <sup>1)</sup>	537 513	VABB-B6-E
For multi-pin plug connection	With cover plate for multi-pin plug connection	2 <sup>1)</sup>	537 623	VABB-B6-ET

1) Corrosion resistance class 2 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.

## Separator for pressure zones VABD

VABD

Material:  
Steel



Dimensions and ordering data									
Manifold rail	B1	D1 ∅	D2 ∅	D3 ∅	L1	≈	CRC	Part No.	Type
G <sup>1</sup> / <sub>4</sub>	1.6	11.7	M4	11.3	13.9	7	2 <sup>1)</sup>	537 515	VABD-B6-14-P-C
G <sup>1</sup> / <sub>2</sub>	1.4	19	M6	18.3	17.3	10	2 <sup>1)</sup>	537 516	VABD-B6-12-P-C

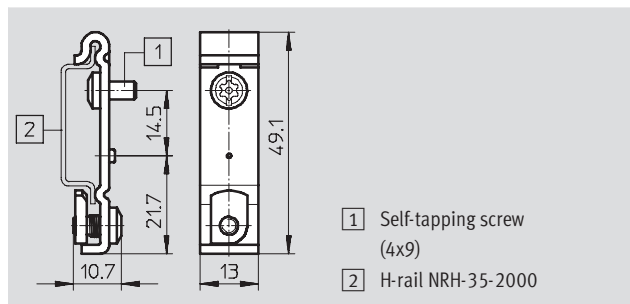
1) Corrosion resistance class 2 to Festo standard 940 070  
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

# Solenoid valves VUVB/valve terminals type 24 VTUB

Accessories

## H-rail mounting kit VAME

Material:  
Steel



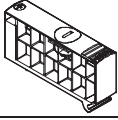
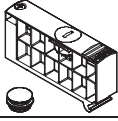
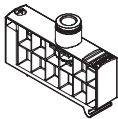
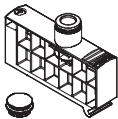
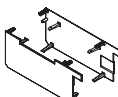
Ordering data	
CRC	Part No. Type
2 <sup>1)</sup>	537 514 VAME-B6-T

1) Corrosion resistance class 2 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 VUVB/valve terminals type 24 VTUB

FESTO

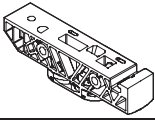
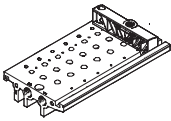
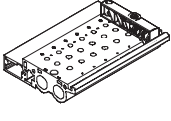
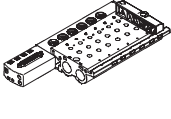

Accessories

Ordering data						
	Code	Valve function	Voltage	Pneumatic connection	Part No.	Type
Blanking plate for vacant position						
	L	For individual electrical connection	–	–	537 513	VABB-B6-E
	L	For multi-pin plug connection with cover cap for electrical multi-pin plug connection	–	–	537 623	VABB-B6-ET
Pressure zone supply module						
	S	Additional supply for individual electrical connection	–	QS-10	537 517	VABF-B6-P1A5-Q10
	S	Additional supply for multi-pin plug connection with cover cap	–	QS-10	537 624	VABF-B6-P1A9-Q10
	–	Variable plate from which either a sub-base is produced through combination with a blanking plug or a pressure zone supply module is produced through combination with a cartridge		–	537 532	VABF-B6-P1A5-Q
Cover plate for valve housing						
	C	Valve design with cover	–	–	537 512	VAMC-B6-C

# Solenoid valves VUVB/valve terminals type 24 VTUB

FESTO



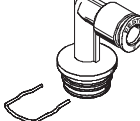


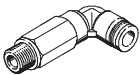
Accessories

Ordering data						
	Code	Description	Valve positions	Pressure supply connection	Part No.	Type
<b>Sub-base for individual valve</b>						
	-	Internal pilot air supply	1	Cartridge	537 518	VABS-B6-PB-Q-B
	-	External pilot air supply	1	Cartridge	537 519	VABS-B6-PB-Q
<b>Manifold rail for individual electrical connection</b>						
	-		2	G1/4	537 500	VABM-B6-E-G14-2
			3		545 815	VABM-B6-E-G14-3
			4		537 501	VABM-B6-E-G14-4
			5		545 816	VABM-B6-E-G14-5
			6		537 502	VABM-B6-E-G14-6
			7		545 817	VABM-B6-E-G14-7
			8		537 503	VABM-B6-E-G14-8
			9		545 818	VABM-B6-E-G14-9
			10		537 504	VABM-B6-E-G14-10
			11		545 819	VABM-B6-E-G14-11
			12		537 505	VABM-B6-E-G14-12
					-	
3	545 820	VABM-B6-E-G12-3				
4	537 507	VABM-B6-E-G12-4				
5	545 821	VABM-B6-E-G12-5				
6	537 508	VABM-B6-E-G12-6				
7	545 822	VABM-B6-E-G12-7				
8	537 509	VABM-B6-E-G12-8				
9	545 823	VABM-B6-E-G12-9				
10	537 510	VABM-B6-E-G12-10				
11	545 824	VABM-B6-E-G12-11				
12	537 511	VABM-B6-E-G12-12				
16	564 835	VABM-B6-E-G12-16				
<b>Manifold rail for valve terminal with multi-pin plug connection</b>						
	-		4	G1/2	537 618	VABM-B6-E-G12-4-M1
			6		537 619	VABM-B6-E-G12-6-M1
			8		537 620	VABM-B6-E-G12-8-M1
			10		537 621	VABM-B6-E-G12-10-M1
			12		537 622	VABM-B6-E-G12-12-M1
			16		550 186	VABM-B6-E-G12-16-M1
<b>Separator</b>						
	TP, TS,	For duct separation	-	G1/4	537 515	VABD-B6-14-P-C
	TR		-	G1/2	537 516	VABD-B6-12-P-C

# Solenoid valves VUVB/valve terminals type 24 VTUB

FESTO

Accessories








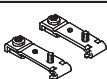
Ordering data							
	Code	Description	Tubing O.D.	Packaging unit	Part No.	Type	
<b>Cartridge fitting with push-in connector</b>							
	-	Straight	4 mm	10 pieces	130 839	QSP18-4	
	-	Connection Ø 18 mm	6 mm	10 pieces	130 840	QSP18-6	
	-		8 mm	10 pieces	130 841	QSP18-8	
	-		10 mm	10 pieces	130 842	QSP18-10	
	-	L-shape	4 mm	10 pieces	130 843	QSPL18-4	
	-	Connection Ø 18 mm	6 mm	10 pieces	130 844	QSPL18-6	
	-		8 mm	10 pieces	130 845	QSPL18-8	
	-	L-shape, long	4 mm	10 pieces	130 846	QSPLL18-4	
	-	Connection Ø 18 mm	6 mm	10 pieces	130 847	QSPLL18-6	
	-		8 mm	10 pieces	130 848	QSPLL18-8	
<b>Push-in fitting</b> <span style="float: right;">Technical data → Internet: quick star</span>							
	-	With sealing ring	6 mm	10 pieces	186 096	QS-G <sup>1</sup> / <sub>8</sub> -6	
	-	Connection G <sup>1</sup> / <sub>8</sub>	8 mm	10 pieces	186 098	QS-G <sup>1</sup> / <sub>8</sub> -8	
	-		6 mm	10 pieces	186 097	QS-G <sup>1</sup> / <sub>4</sub> -6	
	-	Connection G <sup>1</sup> / <sub>4</sub>	8 mm	10 pieces	186 099	QS-G <sup>1</sup> / <sub>4</sub> -8	
	-		10 mm	10 pieces	186 101	QS-G <sup>1</sup> / <sub>4</sub> -10	
	-		12 mm	10 pieces	186 350	QS-G <sup>1</sup> / <sub>4</sub> -12	
	-	With sealing ring	Connection G <sup>1</sup> / <sub>2</sub>	12 mm	1 piece	186 104	QS-G <sup>1</sup> / <sub>2</sub> -12
	-			16 mm	1 piece	186 105	QS-G <sup>1</sup> / <sub>2</sub> -16
	-	Connection R <sup>1</sup> / <sub>4</sub>	6 mm	10 pieces	153 003	QS- <sup>1</sup> / <sub>4</sub> -6	
	-		8 mm	10 pieces	153 005	QS- <sup>1</sup> / <sub>4</sub> -8	
	-		10 mm	10 pieces	153 007	QS- <sup>1</sup> / <sub>4</sub> -10	
	-		12 mm	10 pieces	164 980	QS- <sup>1</sup> / <sub>4</sub> -12	
	-	Connection R <sup>1</sup> / <sub>2</sub>	10 mm	1 piece	190 646	QS- <sup>1</sup> / <sub>2</sub> -10	
	-		12 mm	1 piece	153 010	QS- <sup>1</sup> / <sub>2</sub> -12	
	-		16 mm	1 piece	153 011	QS- <sup>1</sup> / <sub>2</sub> -16	
<b>Push-in L-fitting</b> <span style="float: right;">Technical data → Internet: quick star</span>							
	-	With sealing ring	6 mm	10 pieces	186 117	QSL-G <sup>1</sup> / <sub>8</sub> -6	
	-	Connection G <sup>1</sup> / <sub>8</sub>	8 mm	10 pieces	186 119	QSL-G <sup>1</sup> / <sub>8</sub> -8	
	-		6 mm	10 pieces	186 118	QSL-G <sup>1</sup> / <sub>4</sub> -6	
	-	Connection G <sup>1</sup> / <sub>4</sub>	8 mm	10 pieces	186 120	QSL-G <sup>1</sup> / <sub>4</sub> -8	
	-		10 mm	10 pieces	186 122	QSL-G <sup>1</sup> / <sub>4</sub> -10	
	-		12 mm	10 pieces	186 351	QSL-G <sup>1</sup> / <sub>4</sub> -12	
	-	With sealing ring	Connection G <sup>1</sup> / <sub>2</sub>	12 mm	1 piece	186 125	QSL-G <sup>1</sup> / <sub>2</sub> -12
	-			16 mm	1 piece	186 126	QSL-G <sup>1</sup> / <sub>2</sub> -16
<b>Push-in L-fitting, long</b> <span style="float: right;">Technical data → Internet: quick star</span>							
	-	With sealing ring	6 mm	10 pieces	186 129	QSLL-G <sup>1</sup> / <sub>4</sub> -6	
	-	Connection G <sup>1</sup> / <sub>4</sub>	8 mm	10 pieces	186 131	QSLL-G <sup>1</sup> / <sub>4</sub> -8	
	-		10 mm	10 pieces	186 133	QSLL-G <sup>1</sup> / <sub>4</sub> -10	
	-		12 mm	1 piece	186 136	QSLL-G <sup>1</sup> / <sub>2</sub> -12	
	-	Connection G <sup>1</sup> / <sub>2</sub>	16 mm	1 piece	190 665	QSLL-G <sup>1</sup> / <sub>2</sub> -16	



# Solenoid valves VUVB/valve terminals type 24 VTUB

FESTO



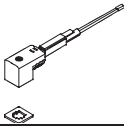

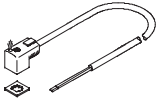
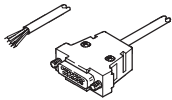
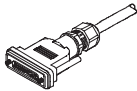

Accessories

Ordering data					
	Code	Description	Packaging unit	Part No.	Type
<b>Blanking plug</b>					
	-	Connection Ø 18 mm	10 pieces	537 533	QSPC18
	-	For thread G1/4	10 pieces	3 569	B-1/4
	-	For thread G1/2	10 pieces	3 571	B-1/2
<b>Adapter</b>					
	-	For thread G1/8	10 pieces	545 921	NPFA-A-P18-G18-F
	-	For thread G1/4	10 pieces	545 922	NPFA-A-P18-G14-F
<b>Silencer</b>				Technical data → Internet: u	
	-	For thread G1/4	1 piece	165 004	UC-1/4
	-	For thread G1/4	1 piece	2 316	U-1/4
	-	For thread G1/4	1 piece	6 842	U-1/4-B
	-	For thread G1/2	1 piece	6 844	U-1/2-B
<b>Inscription label</b>					
	-	Scope of delivery 24 labels in frame		161 937	IBS-9x17
	-	Scope of delivery 80 labels in frame		197 259	MH-BZ-80X
	-	Scope of delivery 64 labels in frame		18 576	IBS-6x10
<b>H-rail mounting kit</b>					
	H	Attachment of the manifold rails to H-rails to EN 60715-TH35	-	1 piece	537 514 VAME-B6-T

# Solenoid valves VUVB/valve terminals type 24 VTUB

FESTO

Accessories

Ordering data						
	Code	Description	Voltage [V]	Cable length [m]	Part No.	Type
Plug socket						Technical data → Internet: mssd-eb
	-	With screw terminals, for self-assembly	Up to 250 AC	-	151 687	MSSD-EB
	C		Up to 250 AC	-	539 712	MSSD-EB-M12
	-	With insulation displacement technology, for self-assembly	Up to 250 AC	-	192 745	MSSD-EB-S-M14
Plug socket with cable for individual electrical connection						Technical data → Internet: kmeb
	-	Switching status display with LED Polyvinyl chloride	24 DC	2.5	151 688	KMEB-1-24-2,5-LED
			24 DC	5	151 689	KMEB-1-24-5-LED
		Polyvinyl chloride	Up to 240 AC	2.5	151 690	KMEB-1-230AC-2,5
			Up to 240 AC	5	151 691	KMEB-1-230AC-5
	C1	Switching status display with LED Polyurethane	24 DC	2.5	174 844	KMEB-2-24-2,5-LED
	C2	Switching status display with LED Polyurethane	24 DC	5	174 845	KMEB-2-24-5-LED
	C1	Polyurethane	Up to 230 AC	2.5	174 846	KMEB-2-230AC-2,5
	C2	Polyurethane	Up to 230 AC	5	174 847	KMEB-2-230AC-5
	-	Switching status display with LED Polyvinyl chloride	24 DC	2.5	547 268	KMEB-3-24-2,5-LED
			24 DC	5	547 269	KMEB-3-24-5-LED
		Polyvinyl chloride	24 DC	2.5	547 270	KMEB-3-24-2,5
			24 DC	5	547 271	KMEB-3-24-5
Connecting cable for multi-pin plug to IP40						
	-	Sub-D, 25-pin, up to 20 coils Polyurethane	24 DC	2.5	530 046	KMP6-25P-20-2,5
			24 DC	5	530 047	KMP6-25P-20-5
			24 DC	10	530 048	KMP6-25P-20-10
	-	Sub-D, 25-pin, up to 12 coils Polyurethane	24 DC	2.5	530 049	KMP6-25P-12-2,5
			24 DC	5	530 050	KMP6-25P-12-5
			24 DC	10	530 051	KMP6-25P-12-10
Connecting cable for multi-pin plug to IP65						
	M1	Sub-D, 25-pin, up to 12 coils	24 DC	2.5	538 222	NEBV-S1G25-K-2,5-N-LE15
	M2		24 DC	5	538 223	NEBV-S1G25-K-5-N-LE15
	M3		24 DC	10	538 224	NEBV-S1G25-K-10-N-LE15
	M1	Sub-D, 25-pin, up to 24 coils	24 DC	2.5	538 225	NEBV-S1G25-K-2,5-N-LE25
	M2		24 DC	5	538 226	NEBV-S1G25-K-5-N-LE25
	M3		24 DC	10	538 227	NEBV-S1G25-K-10-N-LE25
Illuminating seal						
	-	For indicating the signal status	12 ... 24 DC	-	151 717	MEB-LD-12-24DC
	-		Up to 230 AC	-	151 718	MEB-LD-230AC