Solenoid valves VUVB/valve terminals type 24 VTUB

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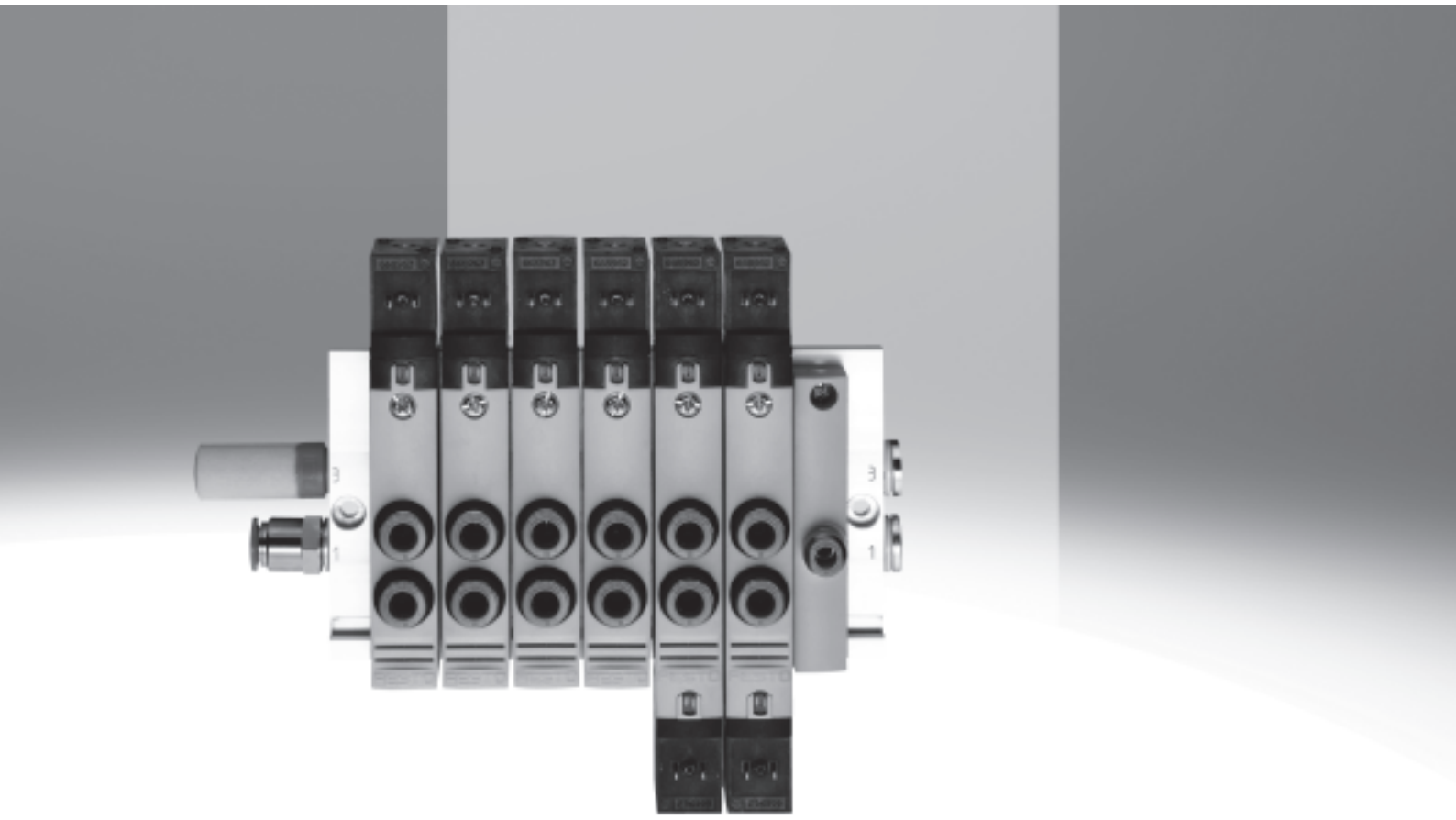
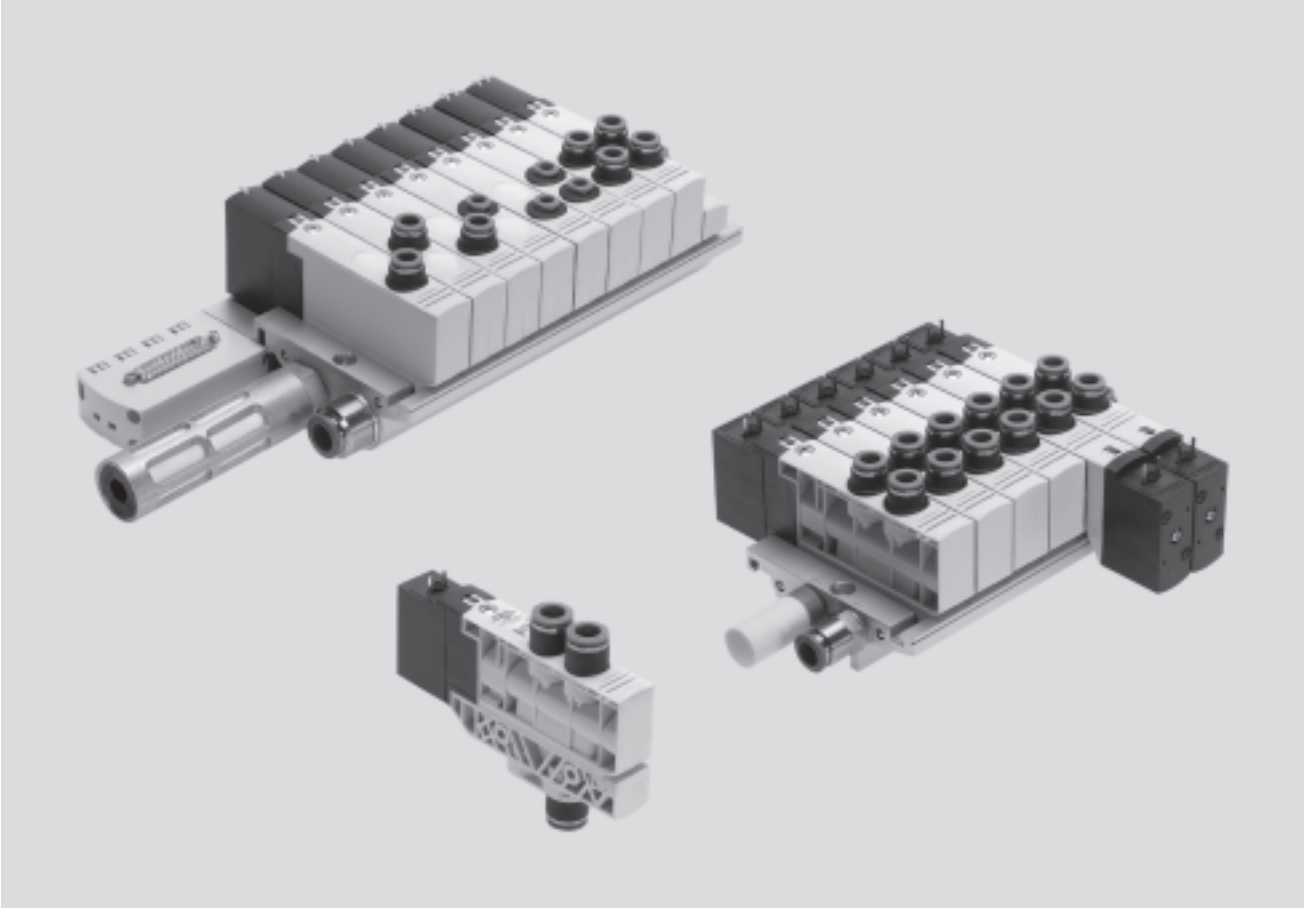


Solenoid valves VUVB/valve terminals type 24 VTUB

Key features



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

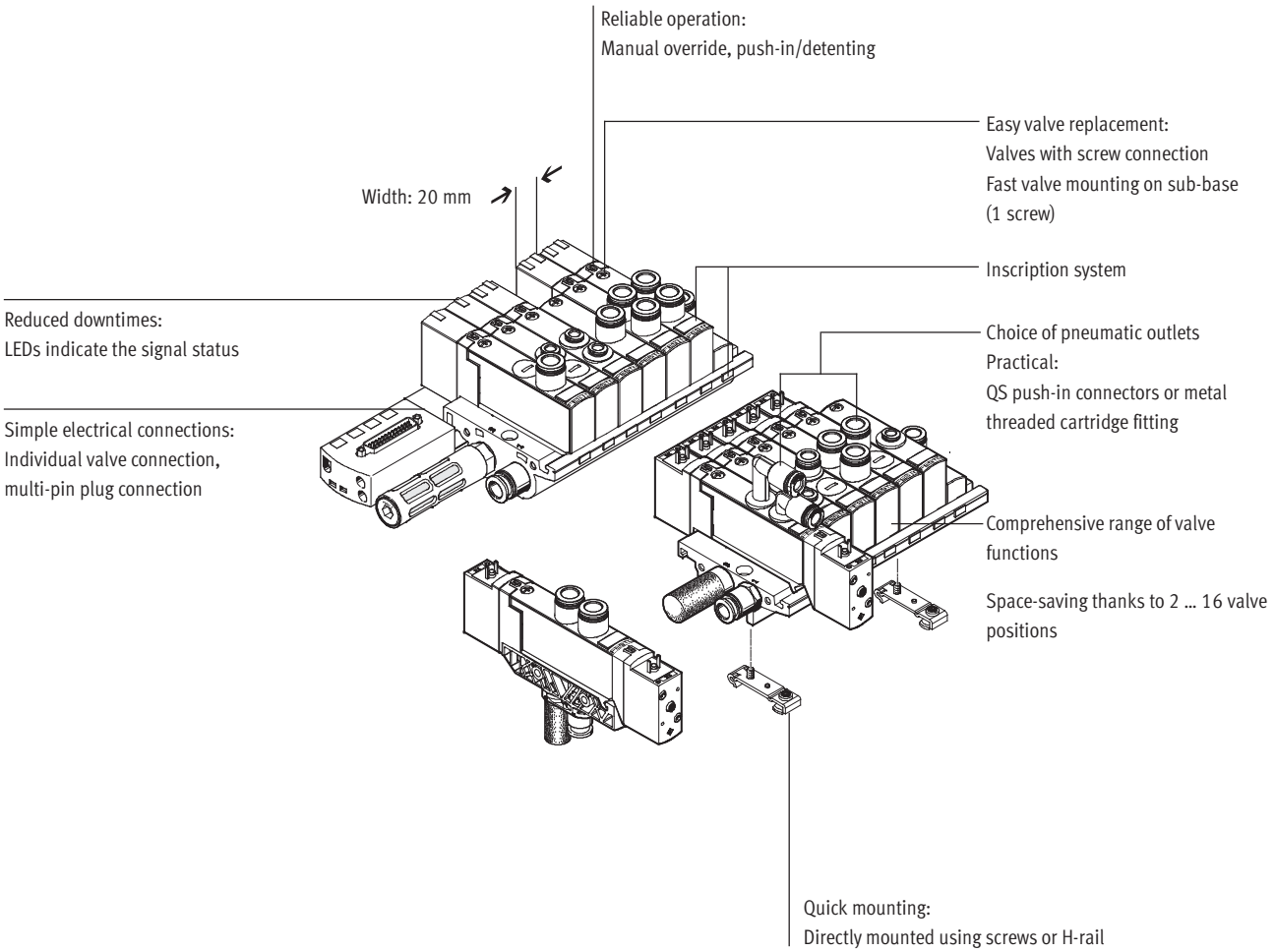
- Ready-to-install unit, already assembled and tested
- Minimised expenditure with regard to ordering, installation and commissioning
- Secure wall mounting or H-rail mounting

Note

There are valve terminals for 4, 6, 8, 10, 12 and 16 valve locations in connection size G½. In the design with 16 valve locations, only single-solenoid valves can be fitted as from the 9th valve location.

Solenoid valves VUVB/valve terminals type 24 VTUB

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/us/cad**

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

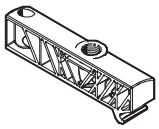
- Individual electrical connection
- Electrical multi-pin connection

➔ Internet: vtub

Solenoid valves VUVB/valve terminals type 24 VTUB

Key features

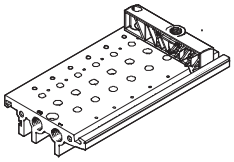
Pilot air supply module



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.

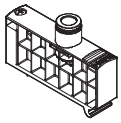
Manifold rail



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

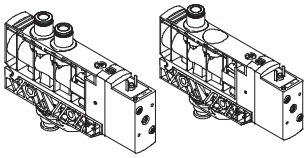
The valve functions 4/2-way single solenoid, 4/2-way double solenoid, 3/2-way normally closed and 3/2-way normally open are available. All semi in-line valves can be supplied with cartridges QSP for tubing diameters 4, 6, 8 and 10. 4/2-way valves are also supplied without cartridges, allowing the user 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

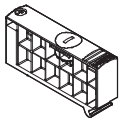
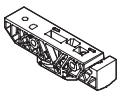


Plate without valve function for reserving valve positions on a valve terminal.

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.

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.

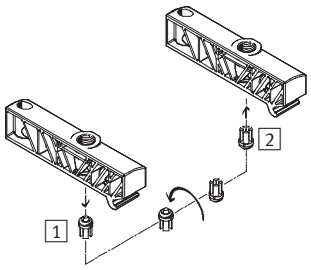
The common lines can be connected
- at the left (code L)
- at the right (code R) or
- at both ends (no code)

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.

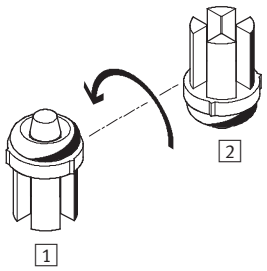
Internal pilot air supply
An internal pilot air supply can be selected if the supply pressure is between 2 and 8 bar. The pilot air is branched from channel 1 in the pressure zone supply module in this case.

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.



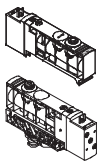
If the selector is installed as shown in position 1, it means that the pilot air supply will be branched internally from channel 1.

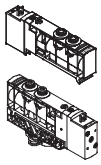
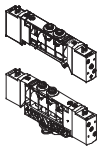
If the selector is turned 180° and installed as shown in position 2, it means that the valve manifold is set to external pilot air supply.



Solenoid valves VUVB/valve terminals type 24 VTUB

Product range overview – Individual valves and manifold valves

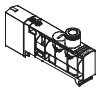
Function	Version	Type	Nominal flow rate [l/min]	Pneumatic connection	Operating voltage [V]	Semi in-line valve	In-line valve	Pilot air supply		→ Page/ Internet
								internal	external	
3/2-way valves	Single solenoid valve for individual connection and valve manifold									
		VUVB-...-M32-...	200	QS-4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

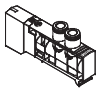
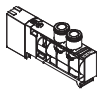
Function	Version	Type	Nominal flow rate [l/min]	Pneumatic connection	Operating voltage [V]	Semi in-line valve	In-line valve	Pilot air supply		→ Page/ Internet
								internal	external	
4/2-way valves	Single solenoid valve for individual connection and valve manifold									
		VUVB-...-M42-...	200	QS-4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

1) Cartridge not included

Solenoid valves VUVB/valve terminals type 24 VTUB

Product range overview – Terminal valves

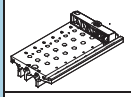
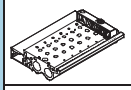
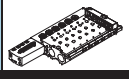
Function	Version	Type	Nominal flow rate [l/min]	Pneumatic connection	Operating voltage [V]	Semi in-line valve	Pilot air supply external	➔ Page/ Internet
3/2-way valves	Single solenoid valve for valve terminal with electrical multi-pin plug connection							
		VUVB-...-M32-...	200	QS-4	24 DC	■	■	36
			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	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	■	■	36
			500	QS-6		■	■	
			800	QS-8		■	■	
			1,000	QS-10		■	■	
			1,000	QX[1)]		■	■	
	Double solenoid valve for valve terminal with electrical multi-pin plug connection							
		VUVB-...-B42-...	200	QS-4	24 DC	■	■	36
			500	QS-6		■	■	
			800	QS-8		■	■	
			1,000	QS-10		■	■	
			1,000	QX[1)]		■	■	

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	internal	external	
Manifold rail	For valve manifold with individual electrical connection																	
		VABM	G¼	■	■	■	■	■	■	■	■	■	■	■	–	■	■	23
		VABM	G½	■	■	■	■	■	■	■	■	■	■	■	■	■	■	24
	For valve terminal with electrical multi-pin plug connection																	
		VABM-...-M1	G½	–	–	■	–	■	–	■	–	■	–	■	■	■	■	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	→ Page/ Internet
Cartridge fitting		QSP...	48

Function	Version	Type	→ Page/ Internet
Adapter		NPFA	49

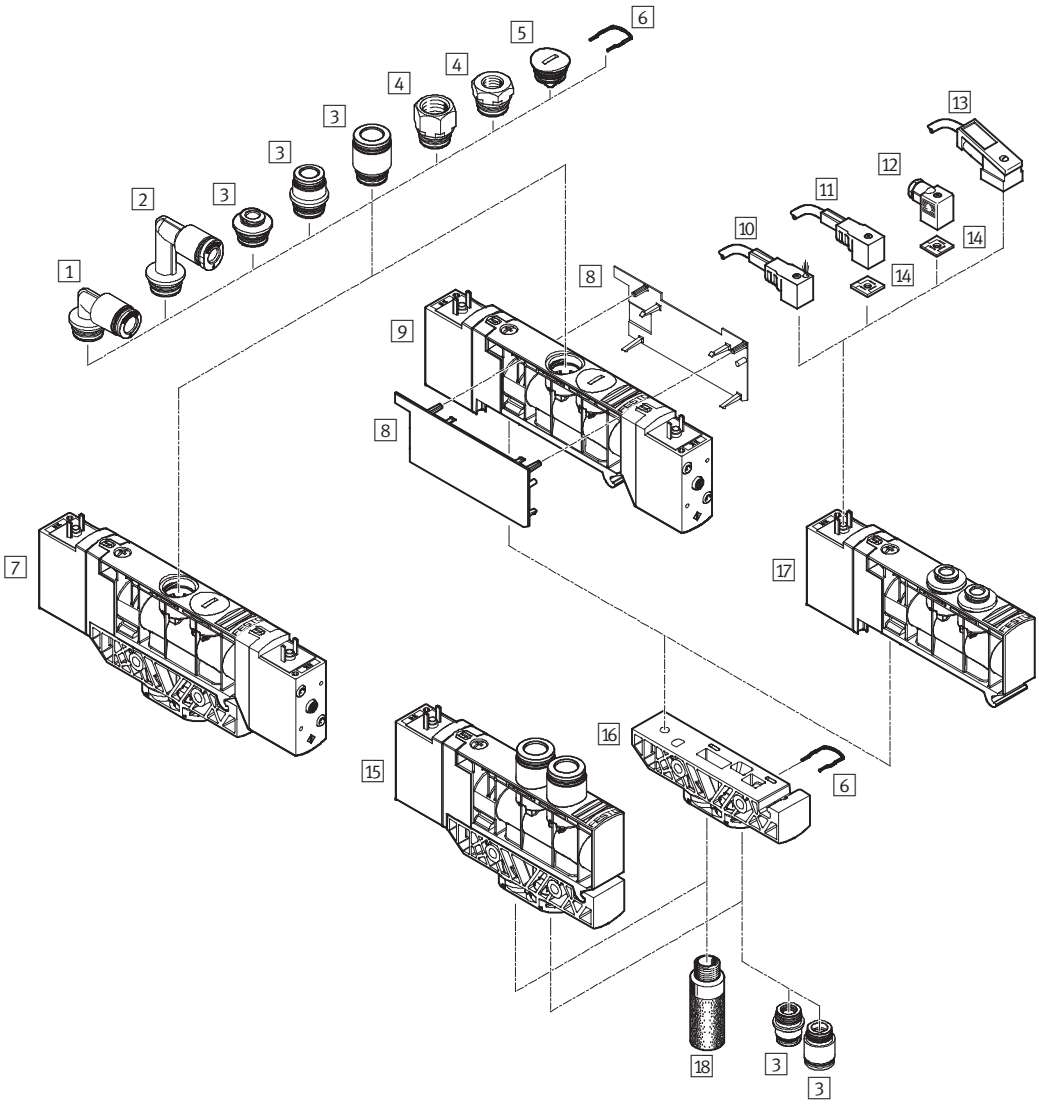
Overview – Solenoid valve VUVB

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.



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

Overview – Solenoid valve VUVB

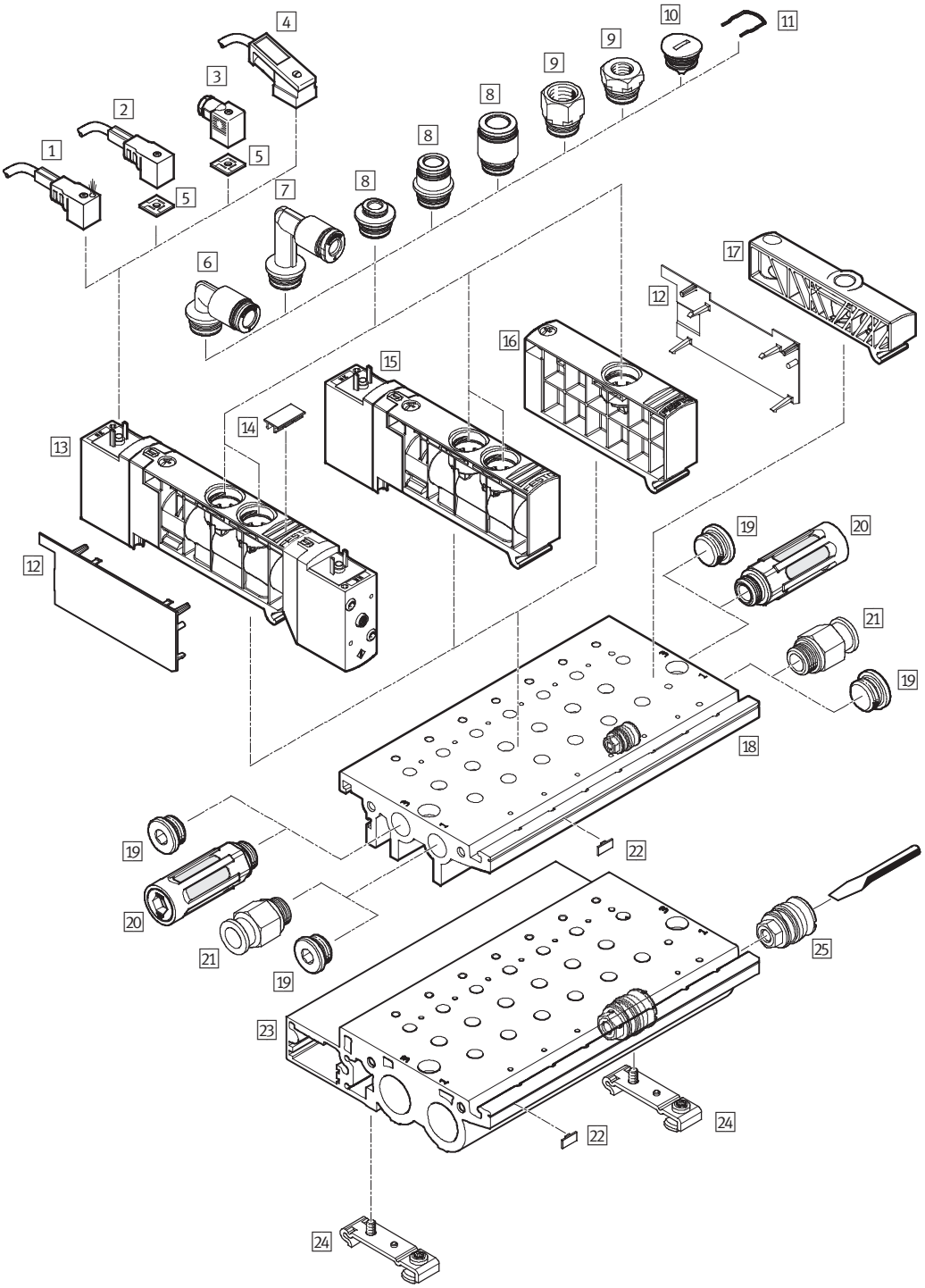
Manifold assembly/valve terminal with individual electrical connections

- "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

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 QSPLL-...	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 G¼, 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 G½, 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

FESTO

VUVB	–	L	–	M32C	–	A	Z	D	–	Q6	–	1	C1

Valve family	
VUVB	Solenoid valve

Constructional design	
L	In-line valve
S	Semi in-line valve

Valve function	
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

Type of reset	
	None (double solenoid)
A	Pneumatic reset

Pilot air supply	
	Internal
Z	External

Manual override facility	
D	Pushing/detenting

Pneumatic connection	
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

Operating voltage	
1	24 V DC
2A	110 V AC
3A	230 V AC
5W	12 V DC/24 V AC

Electrical connection	
C1	Plug socket connection pattern to EN 175301-803, type C

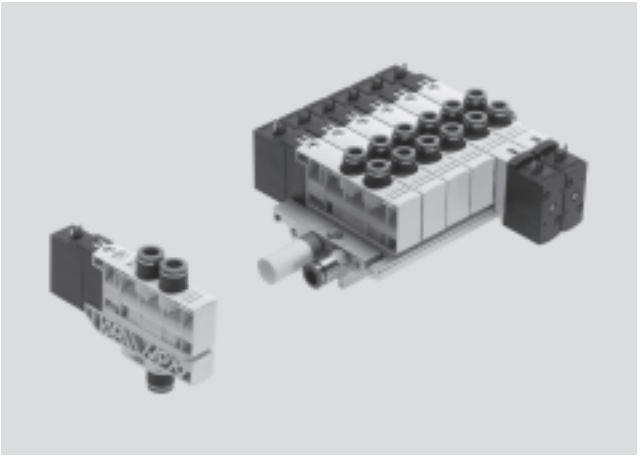
Solenoid valves VUVB

Technical data – Individual valves and manifold valves

Voltage
12, 24 V DC
24, 110, 230 V AC

-L- 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	170	240
	Semi in-line valve	[g]	150	150	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 [1)]
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.

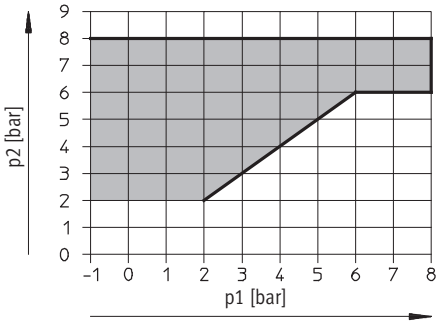
Note

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).

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)

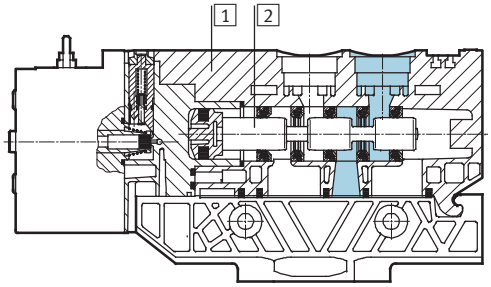
Valve response times [ms]			
Valve function	3/2, single solenoid	4/2, single solenoid	4/2, double solenoid
On	20	20	–
Off	20	20	–
Changeover	–	–	15

Pilot pressure p2 as a function of operating pressure p1

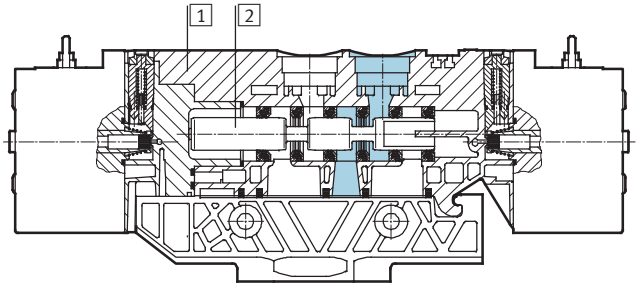


Materials

Sectional view – Single solenoid valve



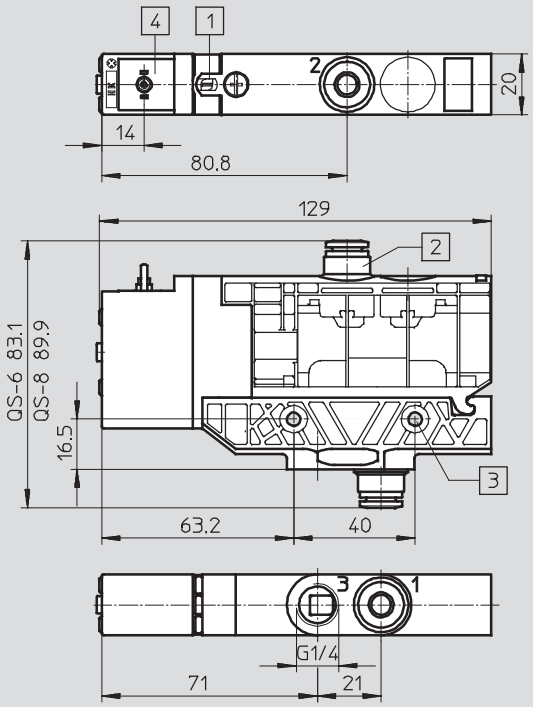
Sectional view – Double solenoid valve



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

Dimensions – 3/2-way and 4/2-way valve, single solenoid Download CAD Data ➔ **www.festo.com/us/cad**

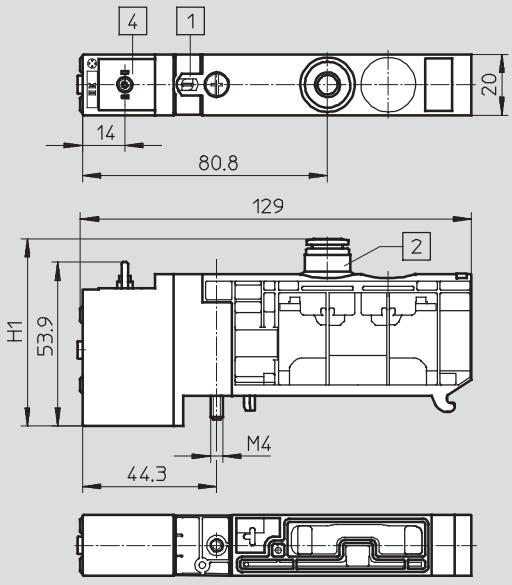
In-line valve



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/us/cad**

Semi in-line valve



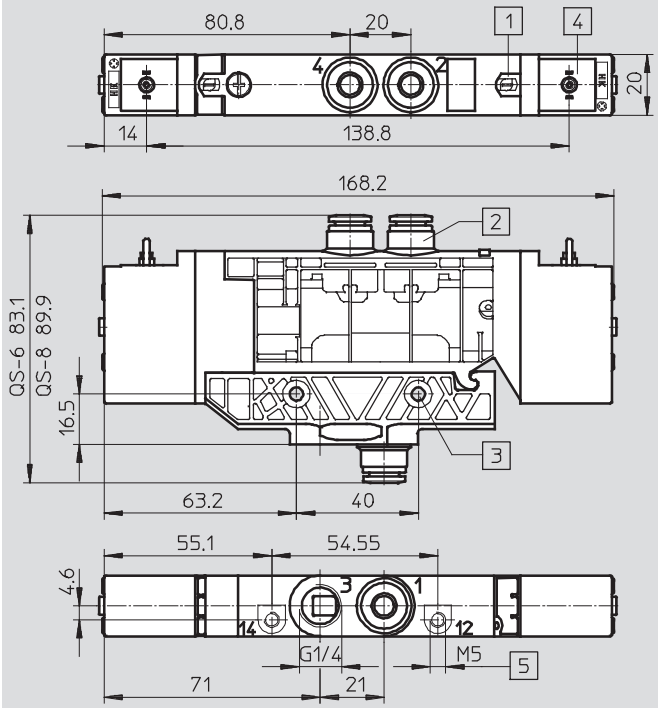
1 Manual override tool
2 Fitting QS
4 Plug socket connection pattern to EN 175301-803, type C

Pneumatic connection	H1
QS-4	57
QS-6	60

Pneumatic connection	H1
QS-8	63
QS-10	65

Dimensions – 4/2-way valve, double solenoid Download CAD Data ➔ **www.festo.com/us/cad**

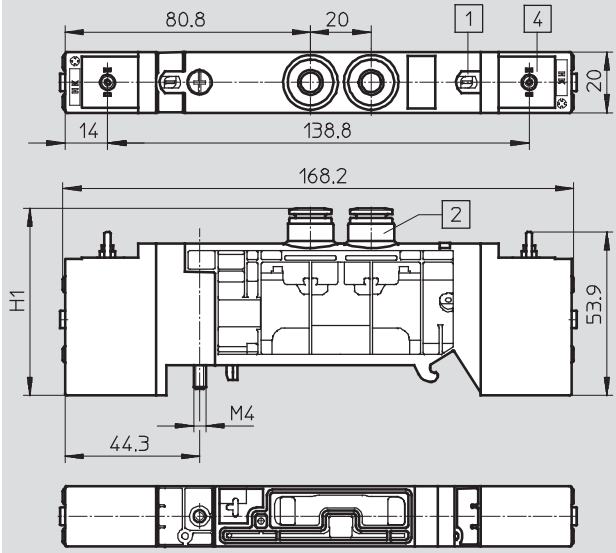
In-line valve



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/us/cad**

Semi in-line valve



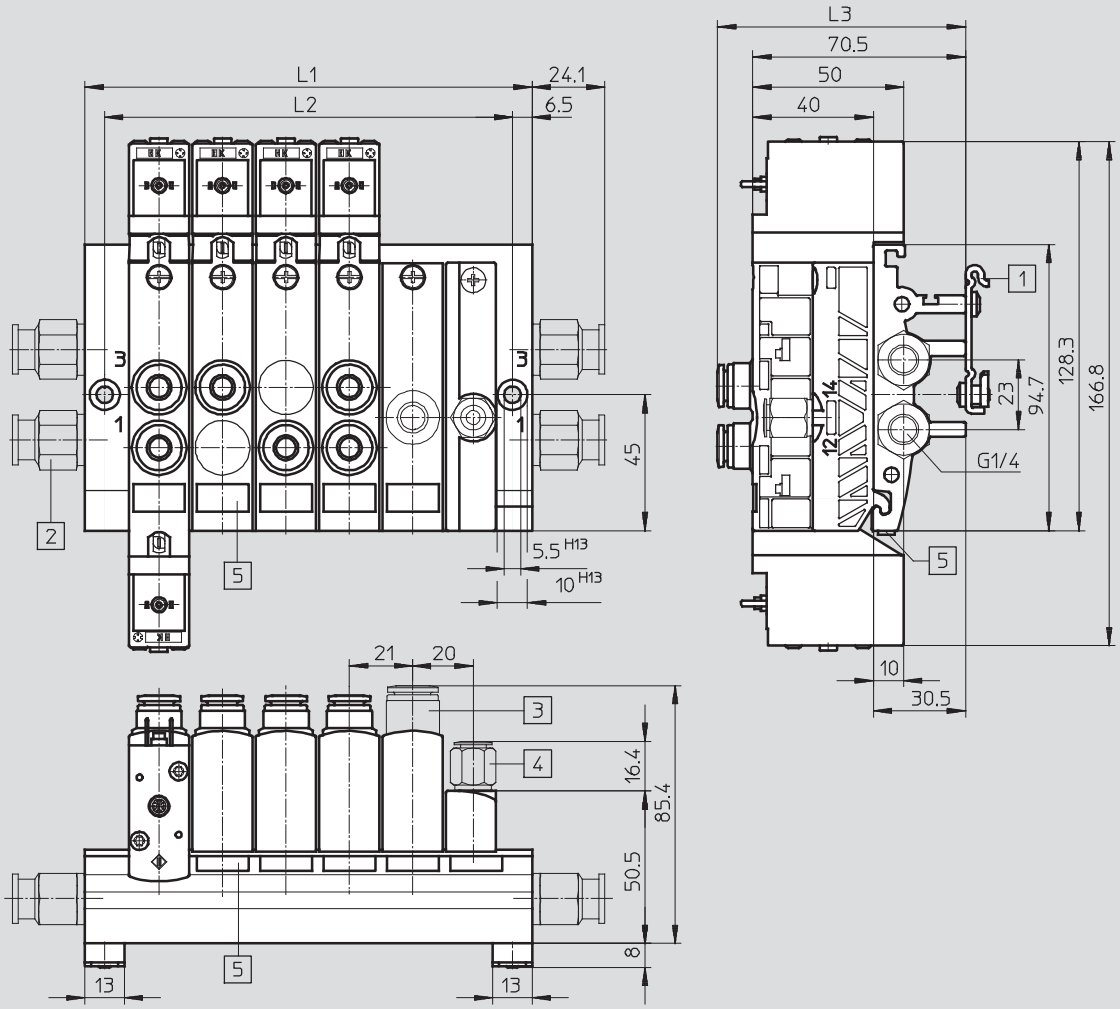
1 Manual override tool
2 Fitting QS
4 Plug socket connection pattern to EN 175301-803, type C

Pneumatic connection	H1
QS-4	57
QS-6	60

Pneumatic connection	H1
QS-8	63
QS-10	65

Dimensions – Manifold assembly Download CAD Data ➔ **www.festo.com/us/cad**

Manifold rail G¼



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)

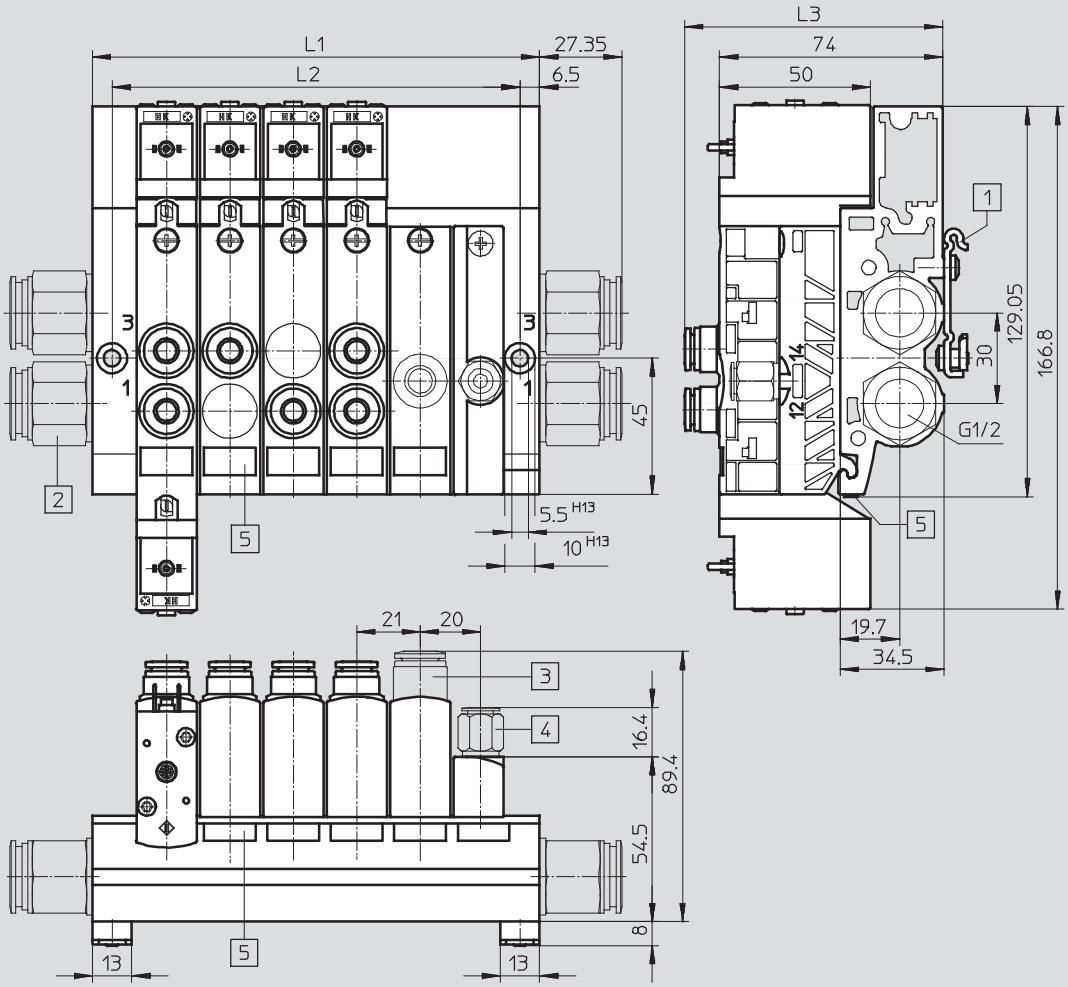
5 Inscription label (optional)

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

Dimensions – Manifold assembly Download CAD Data ➔ **www.festo.com/us/cad**

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)

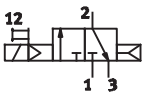
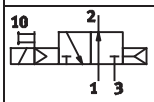
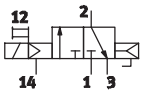
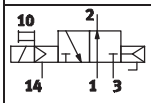
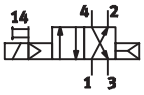
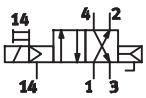
5 Inscription label (optional)

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

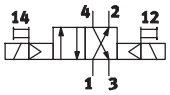
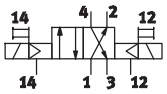
Pneumatic connection	L3
QS-4	78.5
QS-6	78.5
QS-8	86
QS-10	89.4

Solenoid valves VUVB

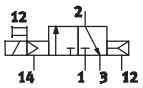
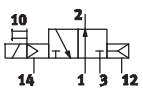
Technical data – Individual valves and manifold valves

Ordering data – In-line valves						
Circuit symbol	Code	Description	Voltage	Pneumatic connection	Part No.	Type
3/2-way valves						
	–	Normally closed Internal pilot air supply Pneumatic spring return	24 V DC	QS-6	**537468**	**VUVB-L-M32C-AD-Q6-1C1**
				QS-8	**537469**	**VUVB-L-M32C-AD-Q8-1C1**
			110 V AC	QS-6	**537538**	**VUVB-L-M32C-AD-Q6-2AC1**
				QS-8	**537539**	**VUVB-L-M32C-AD-Q8-2AC1**
			230 V AC	QS-6	**537546**	**VUVB-L-M32C-AD-Q6-3AC1**
				QS-8	**537547**	**VUVB-L-M32C-AD-Q8-3AC1**
	–	Normally open Internal pilot air supply Pneumatic spring return	24 V DC	QS-6	**537470**	**VUVB-L-M32U-AD-Q6-1C1**
				QS-8	**537471**	**VUVB-L-M32U-AD-Q8-1C1**
			110 V AC	QS-6	**537540**	**VUVB-L-M32U-AD-Q6-2AC1**
				QS-8	**537541**	**VUVB-L-M32U-AD-Q8-2AC1**
			230 V AC	QS-6	**537548**	**VUVB-L-M32U-AD-Q6-3AC1**
				QS-8	**537549**	**VUVB-L-M32U-AD-Q8-3AC1**
	–	Normally closed External pilot air supply Pneumatic spring return	24 V DC	QS-6	**537476**	**VUVB-L-M32C-AZD-Q6-1C1**
				QS-8	**537477**	**VUVB-L-M32C-AZD-Q8-1C1**
			110 V AC	QS-6	**537554**	**VUVB-L-M32C-AZD-Q6-2AC1**
				QS-8	**537555**	**VUVB-L-M32C-AZD-Q8-2AC1**
			230 V AC	QS-6	**537562**	**VUVB-L-M32C-AZD-Q6-3AC1**
				QS-8	**537563**	**VUVB-L-M32C-AZD-Q8-3AC1**
	–	Normally open External pilot air supply Pneumatic spring return	24 V DC	QS-6	**537478**	**VUVB-L-M32U-AZD-Q6-1C1**
				QS-8	**537479**	**VUVB-L-M32U-AZD-Q8-1C1**
			110 V AC	QS-6	**537556**	**VUVB-L-M32U-AZD-Q6-2AC1**
				QS-8	**537557**	**VUVB-L-M32U-AZD-Q8-2AC1**
			230 V AC	QS-6	**537564**	**VUVB-L-M32U-AZD-Q6-3AC1**
				QS-8	**537565**	**VUVB-L-M32U-AZD-Q8-3AC1**
4/2-way valves, single solenoid						
	–	Internal pilot air supply Pneumatic spring return	24 V DC	QS-6	**537472**	**VUVB-L-M42-AD-Q6-1C1**
				QS-8	**537473**	**VUVB-L-M42-AD-Q8-1C1**
			110 V AC	QS-6	**537542**	**VUVB-L-M42-AD-Q6-2AC1**
				QS-8	**537543**	**VUVB-L-M42-AD-Q8-2AC1**
			230 V AC	QS-6	**537550**	**VUVB-L-M42-AD-Q6-3AC1**
				QS-8	**537551**	**VUVB-L-M42-AD-Q8-3AC1**
	–	External pilot air supply Pneumatic spring return	24 V DC	QS-6	**537480**	**VUVB-L-M42-AZD-Q6-1C1**
				QS-8	**537481**	**VUVB-L-M42-AZD-Q8-1C1**
			110 V AC	QS-6	**537558**	**VUVB-L-M42-AZD-Q6-2AC1**
				QS-8	**537559**	**VUVB-L-M42-AZD-Q8-2AC1**
			230 V AC	QS-6	**537566**	**VUVB-L-M42-AZD-Q6-3AC1**
				QS-8	**537567**	**VUVB-L-M42-AZD-Q8-3AC1**

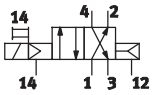
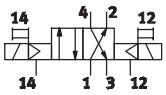
Ordering data – In-line valves

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	**537474**	**VUVB-L-B42-D-Q6-1C1**
				QS-8	**537475**	**VUVB-L-B42-D-Q8-1C1**
			110 V AC	QS-6	**537544**	**VUVB-L-B42-D-Q6-2AC1**
				QS-8	**537545**	**VUVB-L-B42-D-Q8-2AC1**
			230 V AC	QS-6	**537552**	**VUVB-L-B42-D-Q6-3AC1**
				QS-8	**537553**	**VUVB-L-B42-D-Q8-3AC1**
	–	External pilot air supply	24 V DC	QS-6	**537482**	**VUVB-L-B42-ZD-Q6-1C1**
				QS-8	**537483**	**VUVB-L-B42-ZD-Q8-1C1**
			110 V AC	QS-6	**537560**	**VUVB-L-B42-ZD-Q6-2AC1**
				QS-8	**537561**	**VUVB-L-B42-ZD-Q8-2AC1**
			230 V AC	QS-6	**537568**	**VUVB-L-B42-ZD-Q6-3AC1**
				QS-8	**537569**	**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[1)] Pneumatic spring return	24 V DC	QS-4	**537484**	**VUVB-S-M32C-AZD-Q4-1C1**
				QS-6	**537485**	**VUVB-S-M32C-AZD-Q6-1C1**
				QS-8	**537486**	**VUVB-S-M32C-AZD-Q8-1C1**
				QS-10	**537487**	**VUVB-S-M32C-AZD-Q10-1C1**
			110 V AC	QS-4	**537570**	**VUVB-S-M32C-AZD-Q4-2AC1**
				QS-6	**537571**	**VUVB-S-M32C-AZD-Q6-2AC1**
				QS-8	**537572**	**VUVB-S-M32C-AZD-Q8-2AC1**
				QS-10	**537573**	**VUVB-S-M32C-AZD-Q10-2AC1**
			230 V AC	QS-4	**537586**	**VUVB-S-M32C-AZD-Q4-3AC1**
				QS-6	**537587**	**VUVB-S-M32C-AZD-Q6-3AC1**
				QS-8	**537588**	**VUVB-S-M32C-AZD-Q8-3AC1**
				QS-10	**537589**	**VUVB-S-M32C-AZD-Q10-3AC1**
	N	Normally open Pilot air supply[1)] Pneumatic spring return	24 V DC	QS-4	**537488**	**VUVB-S-M32U-AZD-Q4-1C1**
				QS-6	**537489**	**VUVB-S-M32U-AZD-Q6-1C1**
				QS-8	**537490**	**VUVB-S-M32U-AZD-Q8-1C1**
				QS-10	**537491**	**VUVB-S-M32U-AZD-Q10-1C1**
			110 V AC	QS-4	**537574**	**VUVB-S-M32U-AZD-Q4-2AC1**
				QS-6	**537575**	**VUVB-S-M32U-AZD-Q6-2AC1**
				QS-8	**537576**	**VUVB-S-M32U-AZD-Q8-2AC1**
				QS-10	**537577**	**VUVB-S-M32U-AZD-Q10-2AC1**
			230 V AC	QS-4	**537590**	**VUVB-S-M32U-AZD-Q4-3AC1**
				QS-6	**537591**	**VUVB-S-M32U-AZD-Q6-3AC1**
				QS-8	**537592**	**VUVB-S-M32U-AZD-Q8-3AC1**
				QS-10	**537593**	**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.

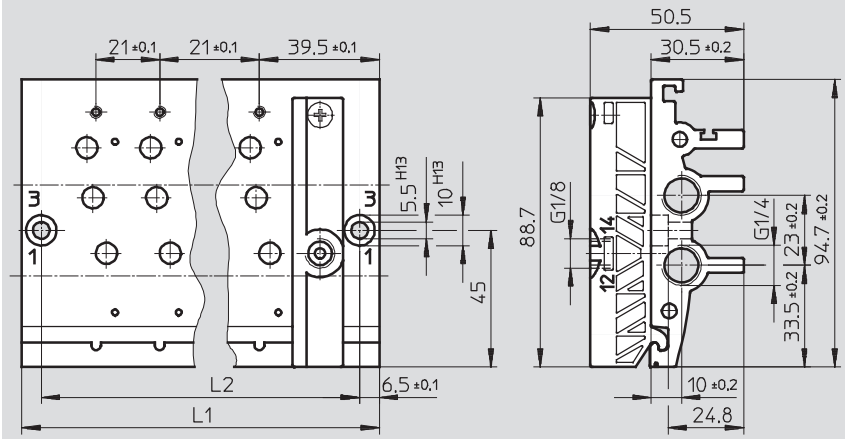
Ordering data – Semi in-line valves for sub-base or manifold rail						
Circuit symbol	Code	Description	Voltage	Pneumatic connection	Part No.	Type
4/2-way valves, single solenoid						
	M	Pilot air supply[1)] Pneumatic spring return	24 V DC	QS-4	**537492**	**VUVB-S-M42-AZD-Q4-1C1**
				QS-6	**537493**	**VUVB-S-M42-AZD-Q6-1C1**
				QS-8	**537494**	**VUVB-S-M42-AZD-Q8-1C1**
				QS-10	**537495**	**VUVB-S-M42-AZD-Q10-1C1**
				without push-in connector	**537534**	**VUVB-S-M42-AZD-QX-1C1**
			110 V AC	QS-4	**537578**	**VUVB-S-M42-AZD-Q4-2AC1**
				QS-6	**537579**	**VUVB-S-M42-AZD-Q6-2AC1**
				QS-8	**537580**	**VUVB-S-M42-AZD-Q8-2AC1**
				QS-10	**537581**	**VUVB-S-M42-AZD-Q10-2AC1**
				without push-in connector	**537632**	**VUVB-S-M42-AZD-QX-2AC1**
			230 V AC	QS-4	**537594**	**VUVB-S-M42-AZD-Q4-3AC1**
				QS-6	**537595**	**VUVB-S-M42-AZD-Q6-3AC1**
				QS-8	**537596**	**VUVB-S-M42-AZD-Q8-3AC1**
				QS-10	**537597**	**VUVB-S-M42-AZD-Q10-3AC1**
				without push-in connector	**537636**	**VUVB-S-M42-AZD-QX-3AC1**
			12 V DC/ 24 V AC	without push-in connector	**545376**	**VUVB-S-M42-AZD-QX-5WC1**
4/2-way valves, double solenoid						
	J	Pilot air supply[1)]	24 V DC	QS-4	**537496**	**VUVB-S-B42-ZD-Q4-1C1**
				QS-6	**537497**	**VUVB-S-B42-ZD-Q6-1C1**
				QS-8	**537498**	**VUVB-S-B42-ZD-Q8-1C1**
				QS-10	**537499**	**VUVB-S-B42-ZD-Q10-1C1**
				without push-in connector	**537535**	**VUVB-S-B42-ZD-QX-1C1**
			110 V AC	QS-4	**537582**	**VUVB-S-B42-ZD-Q4-2AC1**
				QS-6	**537583**	**VUVB-S-B42-ZD-Q6-2AC1**
				QS-8	**537584**	**VUVB-S-B42-ZD-Q8-2AC1**
				QS-10	**537585**	**VUVB-S-B42-ZD-Q10-2AC1**
				without push-in connector	**537633**	**VUVB-S-B42-ZD-QX-2AC1**
			230 V AC	QS-4	**537598**	**VUVB-S-B42-ZD-Q4-3AC1**
				QS-6	**537599**	**VUVB-S-B42-ZD-Q6-3AC1**
				QS-8	**537600**	**VUVB-S-B42-ZD-Q8-3AC1**
				QS-10	**537601**	**VUVB-S-B42-ZD-Q10-3AC1**
				without push-in connector	**537637**	**VUVB-S-B42-ZD-QX-3AC1**
			12 V DC/ 24 V AC	without push-in connector	**545377**	**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.

Manifold rail G¼
VABM

Material:
Wrought aluminium alloy

Dimensions Download CAD Data ➔ **www.festo.com/us/cad**



Dimensions and ordering data

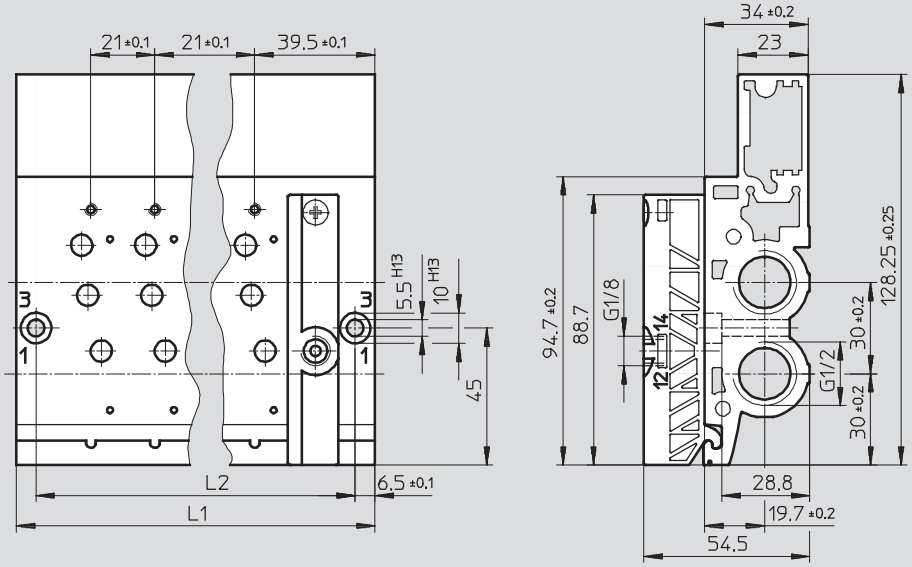
Valve positions	L1	L2	Weight [g]	CRC	Part No.	Type
2	85	72	270	2 [1)]	**537500**	**VABM-B6-E-G14-2**
3	106	93	340	2 [1)]	**545815**	**VABM-B6-E-G14-3**
4	127	114	400	2 [1)]	**537501**	**VABM-B6-E-G14-4**
5	148	134	470	2 [1)]	**545816**	**VABM-B6-E-G14-5**
6	169	156	530	2 [1)]	**537502**	**VABM-B6-E-G14-6**
7	190	177	600	2 [1)]	**545817**	**VABM-B6-E-G14-7**
8	211	198	670	2 [1)]	**537503**	**VABM-B6-E-G14-8**
9	232	219	740	2 [1)]	**545818**	**VABM-B6-E-G14-9**
10	253	240	800	2 [1)]	**537504**	**VABM-B6-E-G14-10**
11	274	261	870	2 [1)]	**545819**	**VABM-B6-E-G14-11**
12	295	282	940	2 [1)]	**537505**	**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.

Manifold rail G½
VABM

Material:
Wrought aluminium alloy

Dimensions Download CAD Data ➔ **www.festo.com/us/cad**



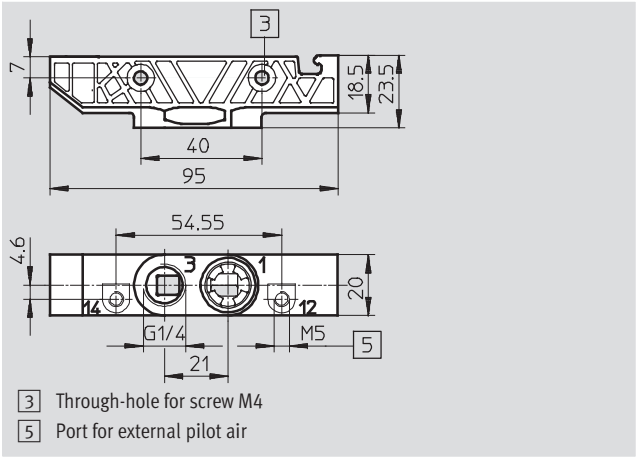
Dimensions and ordering data

Valve positions	L1	L2	Weight [g]	CRC	Part No.	Type
2	85	72	460	2[1)]	**537506**	**VABM-B6-E-G12-2**
3	106	93	580	2[1)]	**545820**	**VABM-B6-E-G12-3**
4	127	114	690	2[1)]	**537507**	**VABM-B6-E-G12-4**
5	148	135	820	2[1)]	**545821**	**VABM-B6-E-G12-5**
6	169	156	915	2[1)]	**537508**	**VABM-B6-E-G12-6**
7	190	177	1,030	2[1)]	**545822**	**VABM-B6-E-G12-7**
8	211	198	1,150	2[1)]	**537509**	**VABM-B6-E-G12-8**
9	232	219	1,270	2[1)]	**545823**	**VABM-B6-E-G12-9**
10	253	240	1,380	2[1)]	**537510**	**VABM-B6-E-G12-10**
11	274	261	1,500	2[1)]	**545824**	**VABM-B6-E-G12-11**
12	295	282	1,620	2[1)]	**537511**	**VABM-B6-E-G12-12**
16	379	366	2,100	2[1)]	**564835**	**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.

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[1)]	**537518**	**VABS-B6-PB-Q-B**
1	External pilot air supply	Cartridge	22	2[1)]	**537519**	**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.

Overview – Valve terminal type 24 VTUB

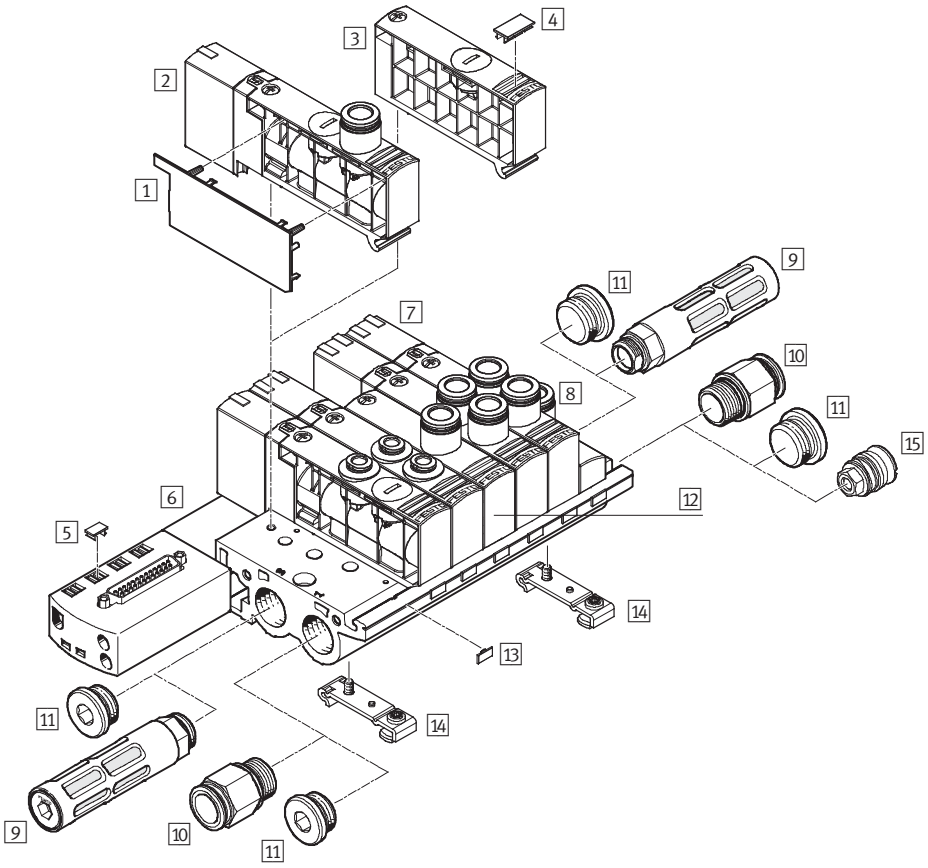
Valve terminal with electrical multi-pin plug connection

- 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 G½. In the design with 16 valve locations, only single-solenoid valves can be fitted as from the 9th valve location.

Valve terminals type 24 VTUB

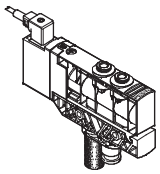
Peripherals overview

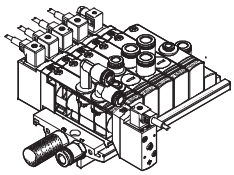
Accessories			
		Brief description	➔ Page/Internet
1	Cover plate for valve housing VAMC	–	46
2	Single solenoid valve VUVB-...-M	–	36
3	Blanking plate VABB	Blanking plate VABB: for vacant position, with blanking plug	46
4	Inscription label IBS-9x17	For identifying the valves	49
5	Inscription label IBS-6x10	–	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

Individual connection



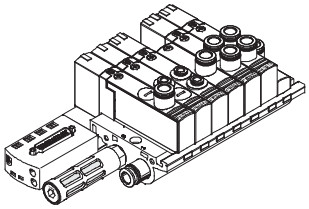


Connection is independent of the control technology used.
There are two different valve types, in-line valves and semi in-line valves for manifold rails or individual sub-bases.
Between 2 ... 32 solenoid coils (divided between 2 ... 16 valve positions) can be selected with individual connection.

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



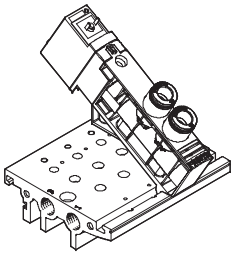
Control signals from the controller to the valve terminal are transmitted via a pre-assembled multi-wire cable, which substantially reduces installation time.

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.

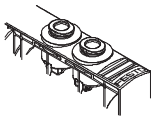
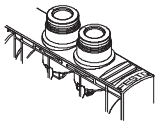
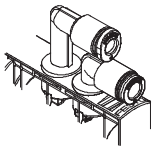
Wide range of pneumatic components



- 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.

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

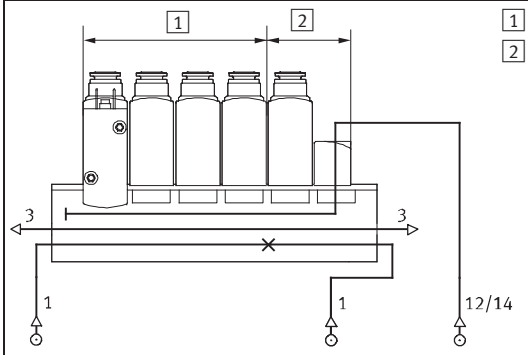
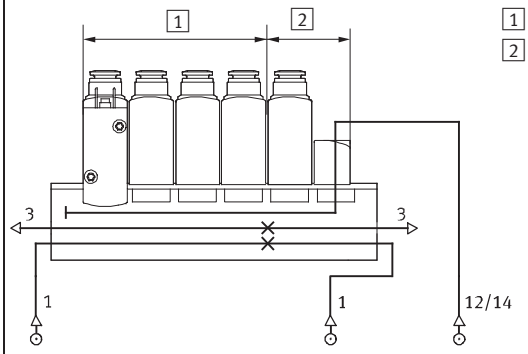
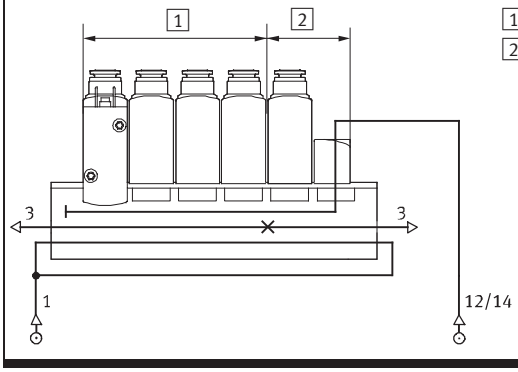
Instructions for using pressure zones

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

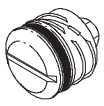
Duct separation

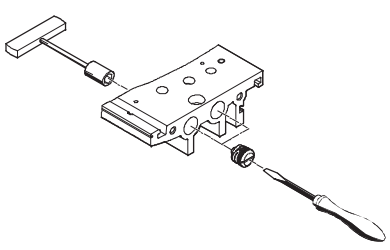
	Code	Description
	TP	Duct 1 closed
	TS	Duct 1/3 closed
	TR	Duct 3 closed

Separator VABD-B6

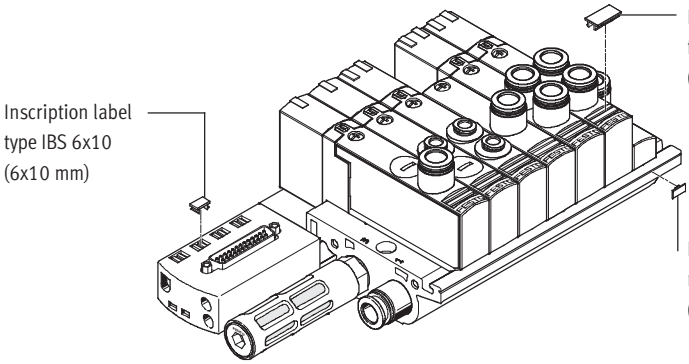
Note

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





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

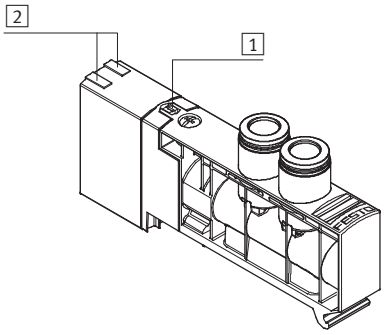
Each solenoid coil can be allocated an LED which indicates its signal status. Suitable plug sockets with cable can be found on page 50. The multi-pin variant has the LED integrated in the valve.

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

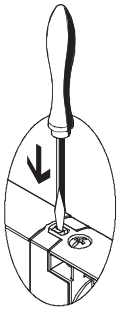
A manually activated valve (manual override) cannot be reset electrically. Conversely, an electrically activated valve cannot be reset using the mechanical manual override.



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

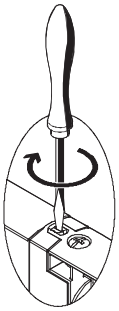
Manual override (MO)

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)[1)]



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.

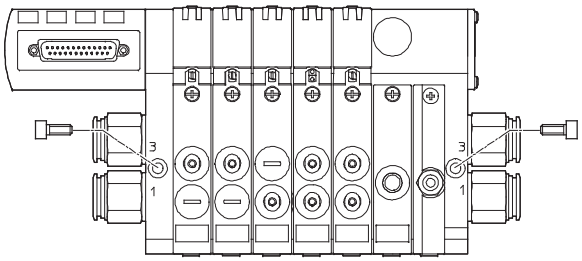
1) Not with double solenoid valve code J for electrical multi-pin plug connection (double solenoid valve)

Mounting – Valve terminal

Sturdy terminal assembly thanks to:

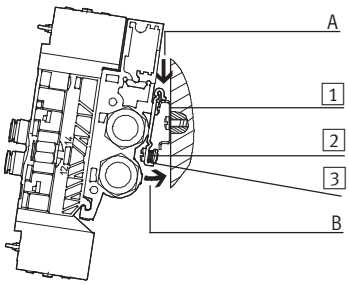
- Two through-holes for wall mounting
- Integrated attachment for H-rail mounting

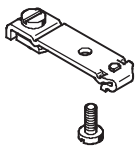
Wall mounting



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

H-rail mounting





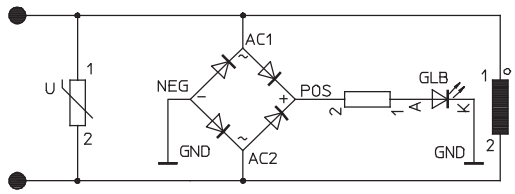
The VTUB valve terminal is hooked onto the H-rail (see arrow A).
The valve terminal VTUB is then swivelled on the H-rail and secured in place with the clamping component (see arrow B).

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

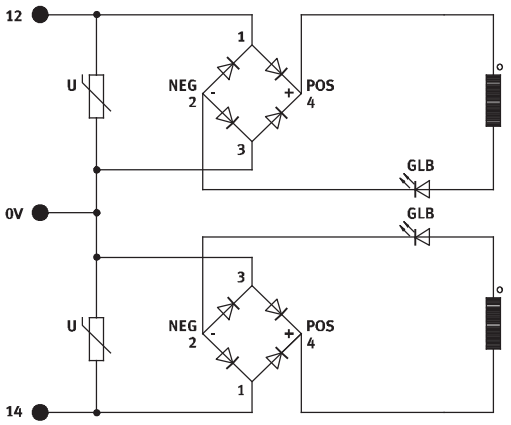
For H-rail mounting of the valve terminal you will need the VAME-B6-T mounting kit. This permits mounting of the valve terminal on a H-rail to EN 60715.

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

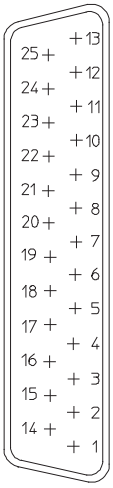
24 V DC version for single solenoid valves



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[1)]	Pin	Address/coil	Core colour[1)]
	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	WH YE

Note

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

1) To IEC 757

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).

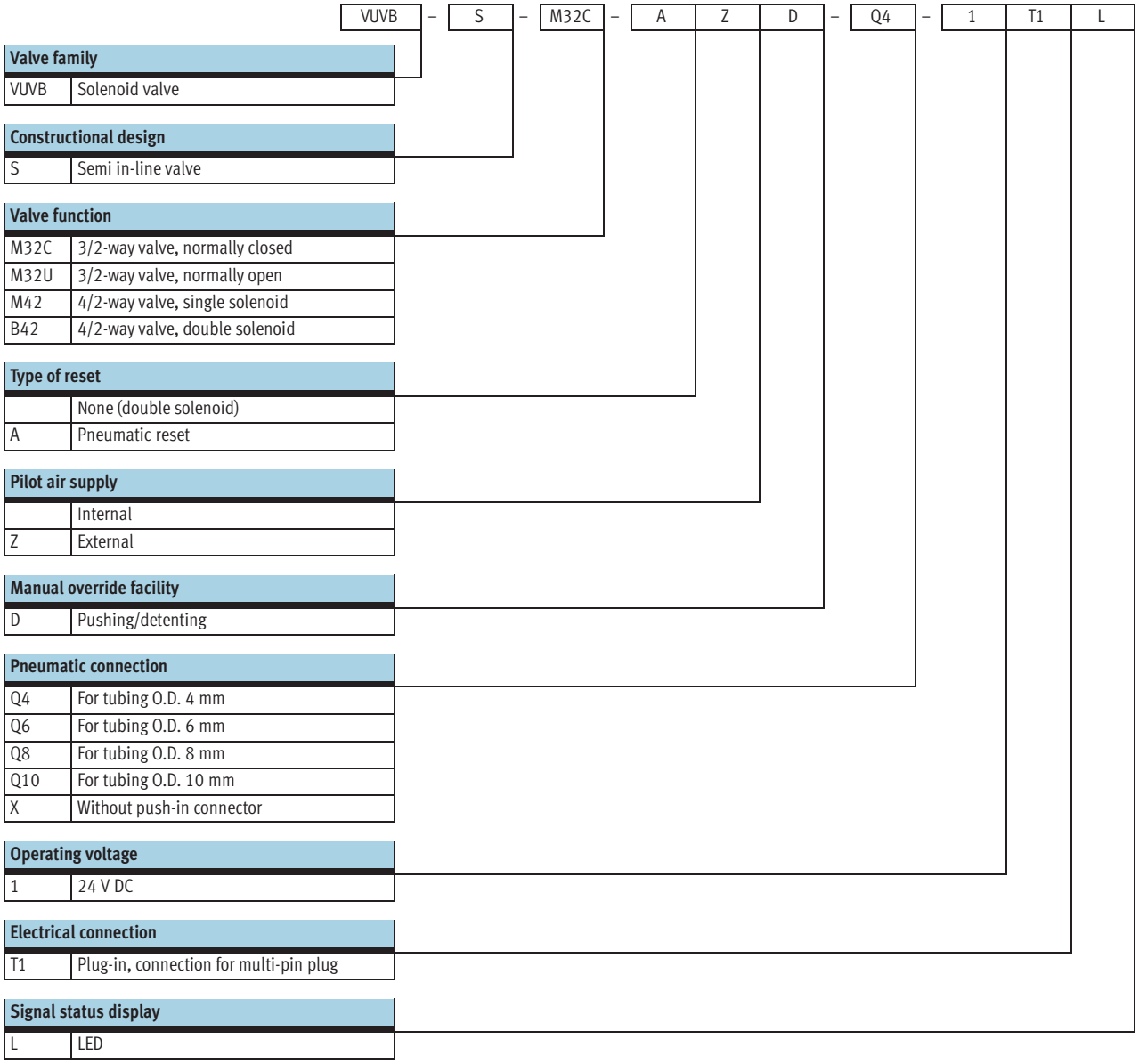
Bio-oils
When using bio-oils (oils which are based upon synthetic or native ester, e.g. rapeseed oil methyl ester), the maximum residual oil content of 0.1 mg/m^3 must not be exceeded (see ISO 8573-1 Class 2).

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^3 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

FESTO



Valve family	
VUVB	Solenoid valve

Constructional design	
S	Semi in-line valve

Valve function	
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

Type of reset	
	None (double solenoid)
A	Pneumatic reset

Pilot air supply	
	Internal
Z	External

Manual override facility	
D	Pushing/detenting

Pneumatic connection	
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

Operating voltage	
1	24 V DC

Electrical connection	
T1	Plug-in, connection for multi-pin plug

Signal status display	
L	LED

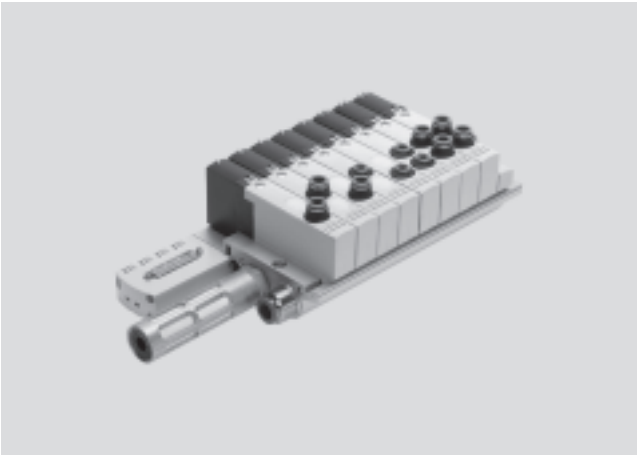
Valve terminals type 24 VTUB

Technical data – Terminal valves

Voltage
24 V DC

-L- 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	G½ (sub-base)		
Exhaust connection		3	G½ (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[1)]	[°C]	–20 ... +40
Note on materials		Conforms to RoHS

1) Long-term storage

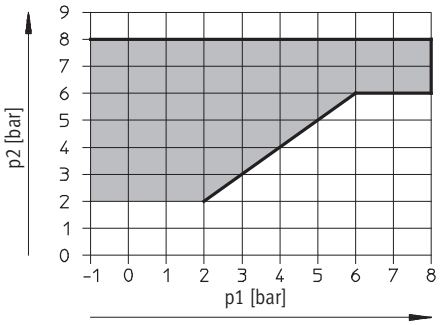
Note

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).

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		

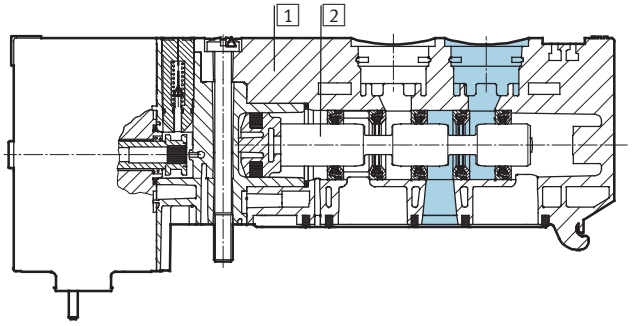
Valve response times [ms]			
Valve function	3/2, single solenoid	4/2, single solenoid	4/2, double solenoid
On	20	20	–
Off	20	20	–
Changeover	–	–	20

Pilot pressure p2 as a function of operating pressure p1



Materials – Valves

Sectional view



Single solenoid

Double solenoid

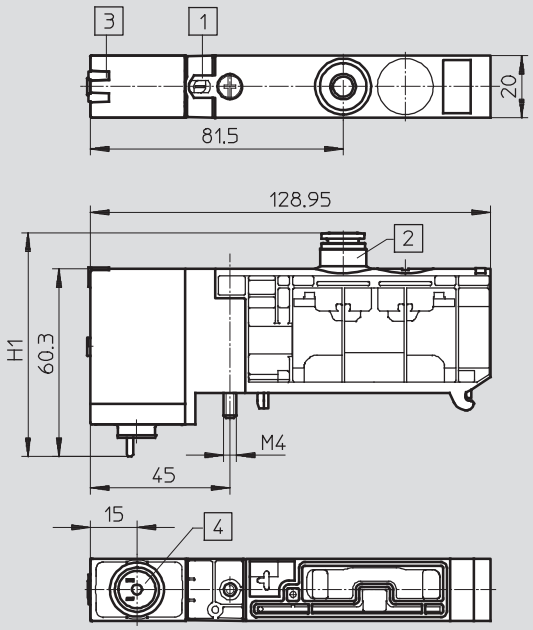
1	Housing	Reinforced polyamide
2	Piston spool	Wrought aluminium alloy
–	Seals	Nitrile rubber, hydrogenated nitrile rubber, fluorocarbon rubber

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

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/us/cad**

For electrical multi-pin plug



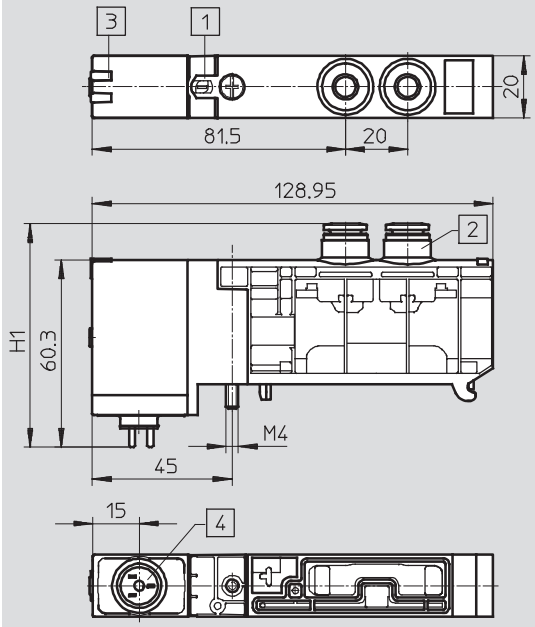
1 Manual override facility
2 Fitting QS
3 LED display
4 Plug for electrical linking

Pneumatic connection	H1
QS-4	57
QS-6	60

Pneumatic connection	H1
QS-8	63
QS-10	65

Dimensions – 4/2-way valve, double solenoid Download CAD Data ➔ **www.festo.com/us/cad**

For electrical multi-pin plug



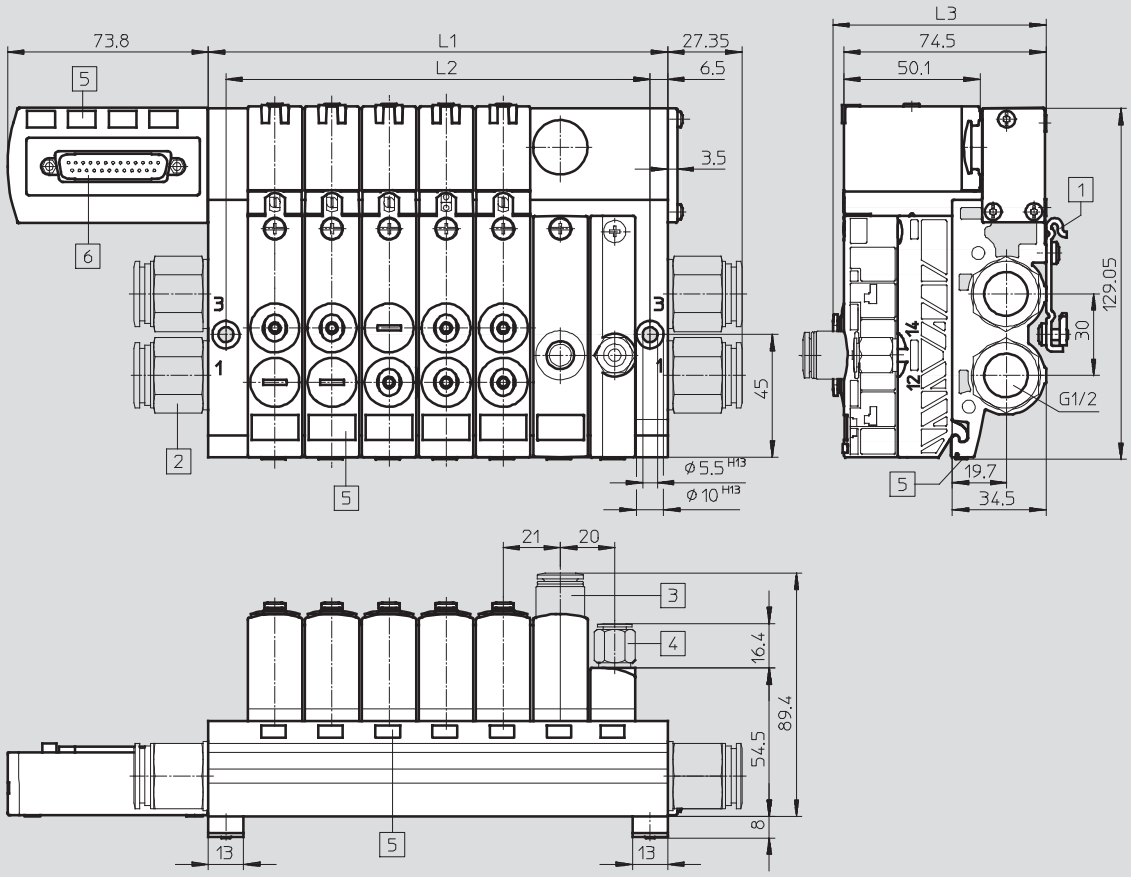
1 Manual override facility
2 Fitting QS
3 LED display
4 Plug for electrical linking

Pneumatic connection	H1
QS-4	57
QS-6	60

Pneumatic connection	H1
QS-8	63
QS-10	65

Dimensions – Valve terminal Download CAD Data ➔ **www.festo.com/us/cad**

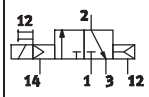
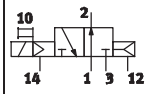
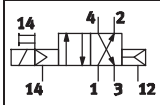
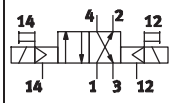
With electrical multi-pin plug



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

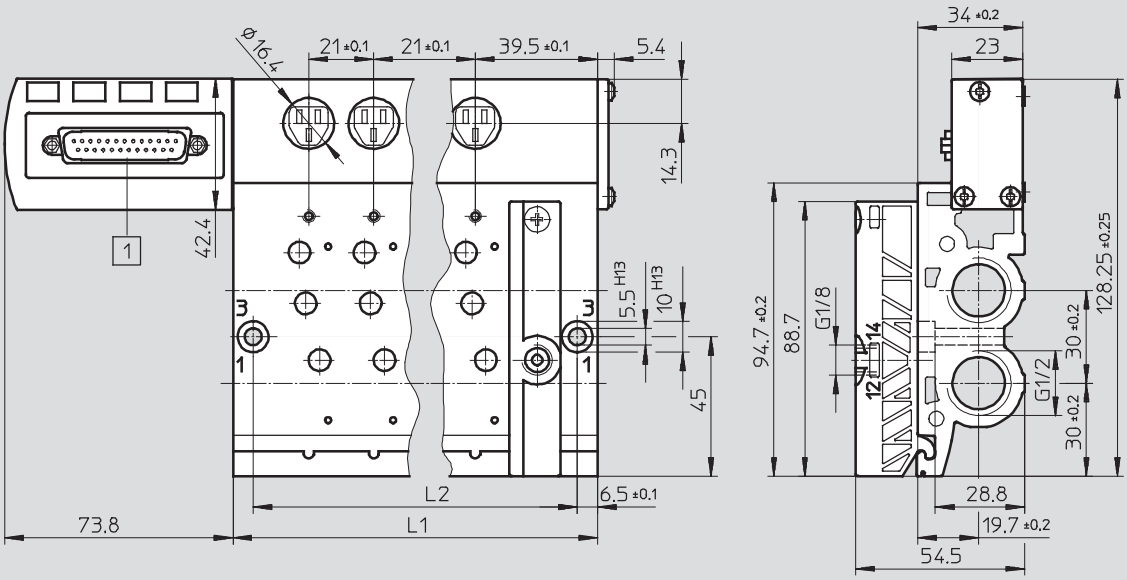
Ordering data – Valves for valve terminal						
Circuit symbol	Code	Description	Voltage	Pneumatic connection	Part No.	Type
3/2-way valves						
	K	Normally closed Pilot air supply[1)] Pneumatic spring return	24 V DC	QS-4	**537602**	**VUVB-S-M32C-AZD-Q4-1T1L**
				QS-6	**537603**	**VUVB-S-M32C-AZD-Q6-1T1L**
				QS-8	**537604**	**VUVB-S-M32C-AZD-Q8-1T1L**
				QS-10	**537605**	**VUVB-S-M32C-AZD-Q10-1T1L**
	N	Normally open Pilot air supply[1)] Pneumatic spring return	24 V DC	QS-4	**537606**	**VUVB-S-M32U-AZD-Q4-1T1L**
				QS-6	**537607**	**VUVB-S-M32U-AZD-Q6-1T1L**
				QS-8	**537608**	**VUVB-S-M32U-AZD-Q8-1T1L**
				QS-10	**537609**	**VUVB-S-M32U-AZD-Q10-1T1L**
4/2-way valves, single solenoid						
	M	Pilot air supply[1)] Pneumatic spring return	24 V DC	QS-4	**537610**	**VUVB-S-M42-AZD-Q4-1T1L**
				QS-6	**537611**	**VUVB-S-M42-AZD-Q6-1T1L**
				QS-8	**537612**	**VUVB-S-M42-AZD-Q8-1T1L**
				QS-10	**537613**	**VUVB-S-M42-AZD-Q10-1T1L**
				without push-in connector	**537640**	**VUVB-S-M42-AZD-QX-1T1L**
4/2-way valves, double solenoid						
	J	Pilot air supply[1)]	24 V DC	QS-4	**537614**	**VUVB-S-B42-ZD-Q4-1T1L**
				QS-6	**537615**	**VUVB-S-B42-ZD-Q6-1T1L**
				QS-8	**537616**	**VUVB-S-B42-ZD-Q8-1T1L**
				QS-10	**537617**	**VUVB-S-B42-ZD-Q10-1T1L**
				without push-in connector	**537641**	**VUVB-S-B42-ZD-QX-1T1L**

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

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

Material:
Wrought aluminium alloy

Dimensions Download CAD Data ➔ **www.festo.com/us/cad**



1 Sub-D plug

Dimensions and ordering data

Valve positions	L1	L2	Weight [g]	CRC	Part No.	Type
4	127	114	690	2[1)]	**537618**	**VABM-B6-E-G12-4-M1**
6	169	156	915	2[1)]	**537619**	**VABM-B6-E-G12-6-M1**
8	211	198	1,150	2[1)]	**537620**	**VABM-B6-E-G12-8-M1**
10	253	240	1,380	2[1)]	**537621**	**VABM-B6-E-G12-10-M1**
12	295	282	1,620	2[1)]	**537622**	**VABM-B6-E-G12-12-M1**
16	379	366	2,100	2[1)]	**550186**	**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.

Cover plate for valve housing VAMC

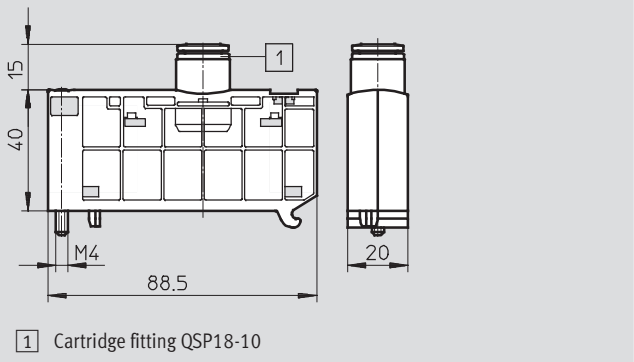
Material:
Polyamide

Ordering data		
CRC	Part No.	Type
2[1)]	**537512**	**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



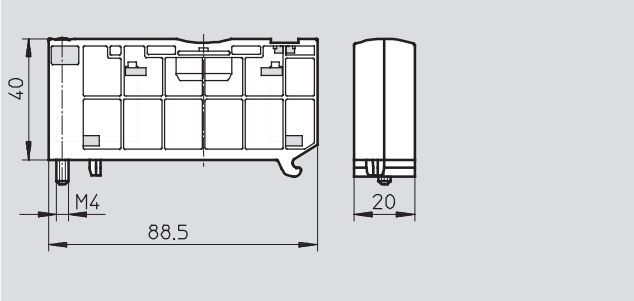
1 Cartridge fitting QSP18-10

Ordering data				
		CRC	Part No.	Type
For individual electrical connection	With cartridge fitting QSP18-10	2[1)]	**537517**	**VABF-B6-P1A5-Q10**
For multi-pin plug connection	With cartridge fitting QSP18-10 and cover cap for multi-pin plug connection	2[1)]	**537624**	**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.

Blanking plate VABB

Material:
Reinforced polyamide

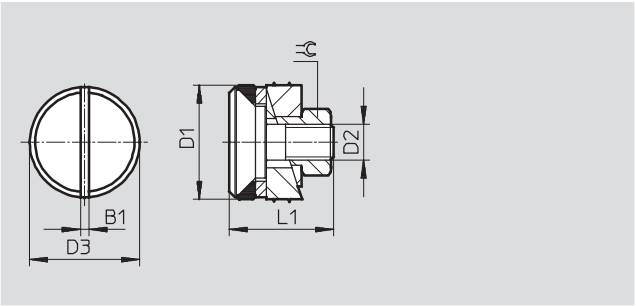


Ordering data				
		CRC	Part No.	Type
For individual electrical connection	–	2[1]	**537513**	**VABB-B6-E**
For multi-pin plug connection	With cover plate for multi-pin plug connection	2[1]	**537623**	**VABB-B6-ET**

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

Material:
Steel

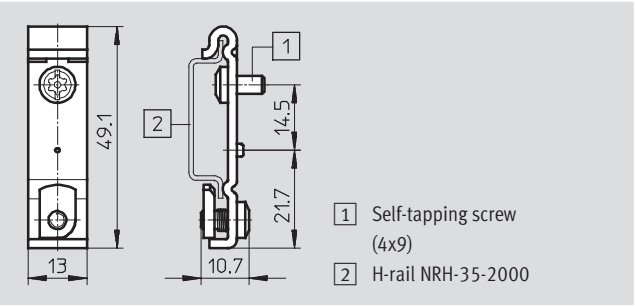


Dimensions and ordering data									
Manifold rail	B1	D1 ∅	D2 ∅	D3 ∅	L1	⬡	CRC	Part No.	Type
G¼	1.6	11.7	M4	11.3	13.9	7	2[1]	**537515**	**VABD-B6-14-P-C**
G½	1.4	19	M6	18.3	17.3	10	2[1]	**537516**	**VABD-B6-12-P-C**

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.

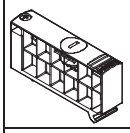
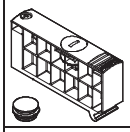
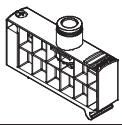
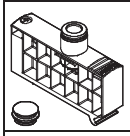
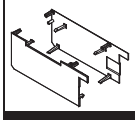
H-rail mounting kit VAME

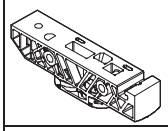
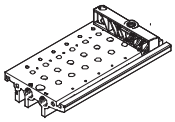
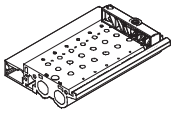
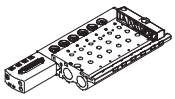
Material:
Steel

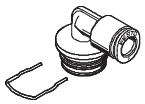
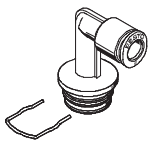
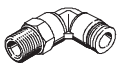
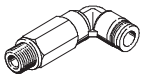


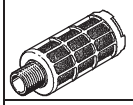
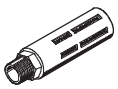
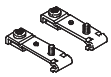
Ordering data		
CRC	Part No.	Type
2[1)]	**537514**	**VAME-B6-T**

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.

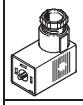
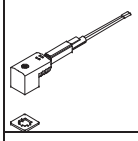
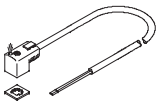
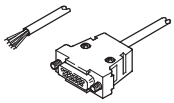
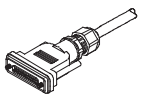
Ordering data						
	Code	Valve function	Voltage	Pneumatic connection	Part No.	Type
Blanking plate for vacant position						
	L	For individual electrical connection	–	–	**537513**	**VABB-B6-E**
	L	For multi-pin plug connection with cover cap for electrical multi-pin plug connection	–	–	**537623**	**VABB-B6-ET**
Pressure zone supply module						
	S	Additional supply for individual electrical connection	–	QS-10	**537517**	**VABF-B6-P1A5-Q10**
	S	Additional supply for multi-pin plug connection with cover cap	–	QS-10	**537624**	**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		–	**537532**	**VABF-B6-P1A5-Q**
Cover plate for valve housing						
	C	Valve design with cover	–	–	**537512**	**VAMC-B6-C**

Ordering data						
	Code	Description	Valve positions	Pressure supply connection	Part No.	Type
Sub-base for individual valve						
	–	Internal pilot air supply	1	Cartridge	**537518**	**VABS-B6-PB-Q-B**
	–	External pilot air supply	1	Cartridge	**537519**	**VABS-B6-PB-Q**
Manifold rail for individual electrical connection						
	–		2	G¼	**537500**	**VABM-B6-E-G14-2**
			3		**545815**	**VABM-B6-E-G14-3**
			4		**537501**	**VABM-B6-E-G14-4**
			5		**545816**	**VABM-B6-E-G14-5**
			6		**537502**	**VABM-B6-E-G14-6**
			7		**545817**	**VABM-B6-E-G14-7**
			8		**537503**	**VABM-B6-E-G14-8**
			9		**545818**	**VABM-B6-E-G14-9**
			10		**537504**	**VABM-B6-E-G14-10**
			11		**545819**	**VABM-B6-E-G14-11**
			12		**537505**	**VABM-B6-E-G14-12**
	–		2	G½	**537506**	**VABM-B6-E-G12-2**
			3		**545820**	**VABM-B6-E-G12-3**
			4		**537507**	**VABM-B6-E-G12-4**
			5		**545821**	**VABM-B6-E-G12-5**
			6		**537508**	**VABM-B6-E-G12-6**
			7		**545822**	**VABM-B6-E-G12-7**
			8		**537509**	**VABM-B6-E-G12-8**
			9		**545823**	**VABM-B6-E-G12-9**
			10		**537510**	**VABM-B6-E-G12-10**
			11		**545824**	**VABM-B6-E-G12-11**
			12		**537511**	**VABM-B6-E-G12-12**
			16		**564835**	**VABM-B6-E-G12-16**
Manifold rail for valve terminal with multi-pin plug connection						
	–		4	G½	**537618**	**VABM-B6-E-G12-4-M1**
			6		**537619**	**VABM-B6-E-G12-6-M1**
			8		**537620**	**VABM-B6-E-G12-8-M1**
			10		**537621**	**VABM-B6-E-G12-10-M1**
			12		**537622**	**VABM-B6-E-G12-12-M1**
			16		**550186**	**VABM-B6-E-G12-16-M1**
Separator						
	TP, TS, TR	For duct separation	–	G¼	**537515**	**VABD-B6-14-P-C**
			–	G½	**537516**	**VABD-B6-12-P-C**

Ordering data						
	Code	Description	Tubing O.D.	Packaging unit	Part No.	Type
Cartridge fitting with push-in connector						
	–	Straight Connection ∅ 18 mm	4 mm	10 pieces	**130839**	**QSP18-4**
	–		6 mm	10 pieces	**130840**	**QSP18-6**
	–		8 mm	10 pieces	**130841**	**QSP18-8**
	–		10 mm	10 pieces	**130842**	**QSP18-10**
	–	L-shape Connection ∅ 18 mm	4 mm	10 pieces	**130843**	**QSPL18-4**
	–		6 mm	10 pieces	**130844**	**QSPL18-6**
	–		8 mm	10 pieces	**130845**	**QSPL18-8**
	–		10 mm	10 pieces	**132639**	**QSPLK18-10**
	–		⅜"	10 pieces	**132641**	**QSPLK18-3/8-U**
	–	L-shape, long Connection ∅ 18 mm	4 mm	10 pieces	**130846**	**QSPLL18-4**
	–		6 mm	10 pieces	**130847**	**QSPLL18-6**
	–		8 mm	10 pieces	**130848**	**QSPLL18-8**
	–		10 mm	10 pieces	**132640**	**QSPLLK18-10**
	–		⅜"	10 pieces	**132642**	**QSPLLK18-3/8-U**
Push-in fitting					Technical data ➔ Internet: quick star	
	–	With sealing ring Connection G⅛	6 mm	10 pieces	**186096**	**QS-G⅛-6**
	–		8 mm	10 pieces	**186098**	**QS-G⅛-8**
	–	With sealing ring Connection G¼	6 mm	10 pieces	**186097**	**QS-G¼-6**
	–		8 mm	10 pieces	**186099**	**QS-G¼-8**
	–		10 mm	10 pieces	**186101**	**QS-G¼-10**
	–		12 mm	10 pieces	**186350**	**QS-G¼-12**
	–	With sealing ring Connection G½	12 mm	1 piece	**186104**	**QS-G½-12**
	–		16 mm	1 piece	**186105**	**QS-G½-16**
	–	Connection R¼	6 mm	10 pieces	**153003**	**QS-¼-6**
	–		8 mm	10 pieces	**153005**	**QS-¼-8**
	–		10 mm	10 pieces	**153007**	**QS-¼-10**
	–		12 mm	10 pieces	**164980**	**QS-¼-12**
	–	Connection R½	10 mm	1 piece	**190646**	**QS-½-10**
	–		12 mm	1 piece	**153010**	**QS-½-12**
	–		16 mm	1 piece	**153011**	**QS-½-16**
Push-in L-fitting					Technical data ➔ Internet: quick star	
	–	With sealing ring Connection G⅛	6 mm	10 pieces	**186117**	**QSL-G⅛-6**
	–		8 mm	10 pieces	**186119**	**QSL-G⅛-8**
	–	With sealing ring Connection G¼	6 mm	10 pieces	**186118**	**QSL-G¼-6**
	–		8 mm	10 pieces	**186120**	**QSL-G¼-8**
	–		10 mm	10 pieces	**186122**	**QSL-G¼-10**
	–		12 mm	10 pieces	**186351**	**QSL-G¼-12**
	–	With sealing ring Connection G½	12 mm	1 piece	**186125**	**QSL-G½-12**
	–		16 mm	1 piece	**186126**	**QSL-G½-16**
Push-in L-fitting, long					Technical data ➔ Internet: quick star	
	–	With sealing ring Connection G¼	6 mm	10 pieces	**186129**	**QSLL-G¼-6**
	–		8 mm	10 pieces	**186131**	**QSLL-G¼-8**
	–		10 mm	10 pieces	**186133**	**QSLL-G¼-10**
	–	With sealing ring Connection G½	12 mm	1 piece	**186136**	**QSLL-G½-12**
	–		16 mm	1 piece	**190665**	**QSLL-G½-16**

Ordering data						
	Code	Description		Packaging unit	Part No.	Type
Blanking plug						
	–	Connection ∅ 18 mm		10 pieces	**537533**	**QSPC18**
	–	For thread G¼		10 pieces	**3569**	**B-¼**
	–	For thread G½		10 pieces	**3571**	**B-½**
Adapter						
	–	For thread G⅛		10 pieces	**545921**	**NPFA-A-P18-G18-F**
	–	For thread G¼		10 pieces	**545922**	**NPFA-A-P18-G14-F**
Silencer						Technical data ➔ Internet: u
	–	For thread G¼		1 piece	**165004**	**UC-¼**
	–	For thread G¼		1 piece	**2316**	**U-¼**
	–	For thread G¼		1 piece	**6842**	**U-¼-B**
	–	For thread G½		1 piece	**6844**	**U-½-B**
Inscription label						
	–	Scope of delivery 24 labels in frame			**161937**	**IBS-9x17**
	–	Scope of delivery 80 labels in frame			**197259**	**MH-BZ-80X**
	–	Scope of delivery 64 labels in frame			**18576**	**IBS-6x10**
H-rail mounting kit						
	H	Attachment of the manifold rails to H-rails to EN 60715-TH35	–	1 piece	**537514**	**VAME-B6-T**

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	–	**151687**	**MSSD-EB**
	C		Up to 250 AC	–	**539712**	**MSSD-EB-M12**
	–	With insulation displacement technology, for self-assembly	Up to 250 AC	–	**192745**	**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	**151688**	**KMEB-1-24-2,5-LED**
			24 DC	5	**151689**	**KMEB-1-24-5-LED**
		Polyvinyl chloride	Up to 240 AC	2.5	**151690**	**KMEB-1-230AC-2,5**
			Up to 240 AC	5	**151691**	**KMEB-1-230AC-5**
	C1	Switching status display with LED Polyurethane	24 DC	2.5	**174844**	**KMEB-2-24-2,5-LED**
	C2	Switching status display with LED Polyurethane	24 DC	5	**174845**	**KMEB-2-24-5-LED**
	C1	Polyurethane	Up to 230 AC	2.5	**174846**	**KMEB-2-230AC-2,5**
	C2		Up to 230 AC	5	**174847**	**KMEB-2-230AC-5**
	–	Switching status display with LED Polyvinyl chloride	24 DC	2.5	**547268**	**KMEB-3-24-2,5-LED**
			24 DC	5	**547269**	**KMEB-3-24-5-LED**
		Polyvinyl chloride	24 DC	2.5	**547270**	**KMEB-3-24-2,5**
			24 DC	5	**547271**	**KMEB-3-24-5**
Connecting cable for multi-pin plug to IP40						
	–	Sub-D, 25-pin, up to 20 coils Polyvinyl chloride	24 DC	2.5	**530046**	**KMP6-25P-20-2,5**
	–		24 DC	5	**530047**	**KMP6-25P-20-5**
	–		24 DC	10	**530048**	**KMP6-25P-20-10**
	–	Sub-D, 25-pin, up to 12 coils Polyvinyl chloride	24 DC	2.5	**530049**	**KMP6-25P-12-2,5**
	–		24 DC	5	**530050**	**KMP6-25P-12-5**
	–		24 DC	10	**530051**	**KMP6-25P-12-10**
Connecting cable for multi-pin plug to IP65						
	M1	Sub-D, 25-pin, up to 12 coils Polyvinyl chloride	24 DC	2.5	**538222**	**NEBV-S1G25-K-2,5-N-LE15**
	M2		24 DC	5	**538223**	**NEBV-S1G25-K-5-N-LE15**
	M3		24 DC	10	**538224**	**NEBV-S1G25-K-10-N-LE15**
	M1	Sub-D, 25-pin, up to 24 coils Polyvinyl chloride	24 DC	2.5	**538225**	**NEBV-S1G25-K-2,5-N-LE25**
	M2		24 DC	5	**538226**	**NEBV-S1G25-K-5-N-LE25**
	M3		24 DC	10	**538227**	**NEBV-S1G25-K-10-N-LE25**
Illuminating seal						
	–	For indicating the signal status	12 ... 24 DC	–	**151717**	**MEB-LD-12-24DC**
	–		Up to 230 AC	–	**151718**	**MEB-LD-230AC**

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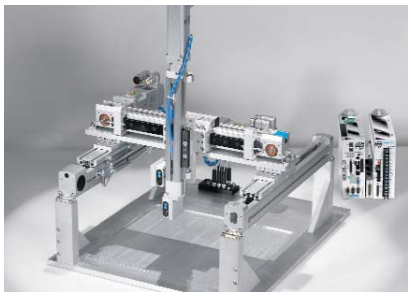

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