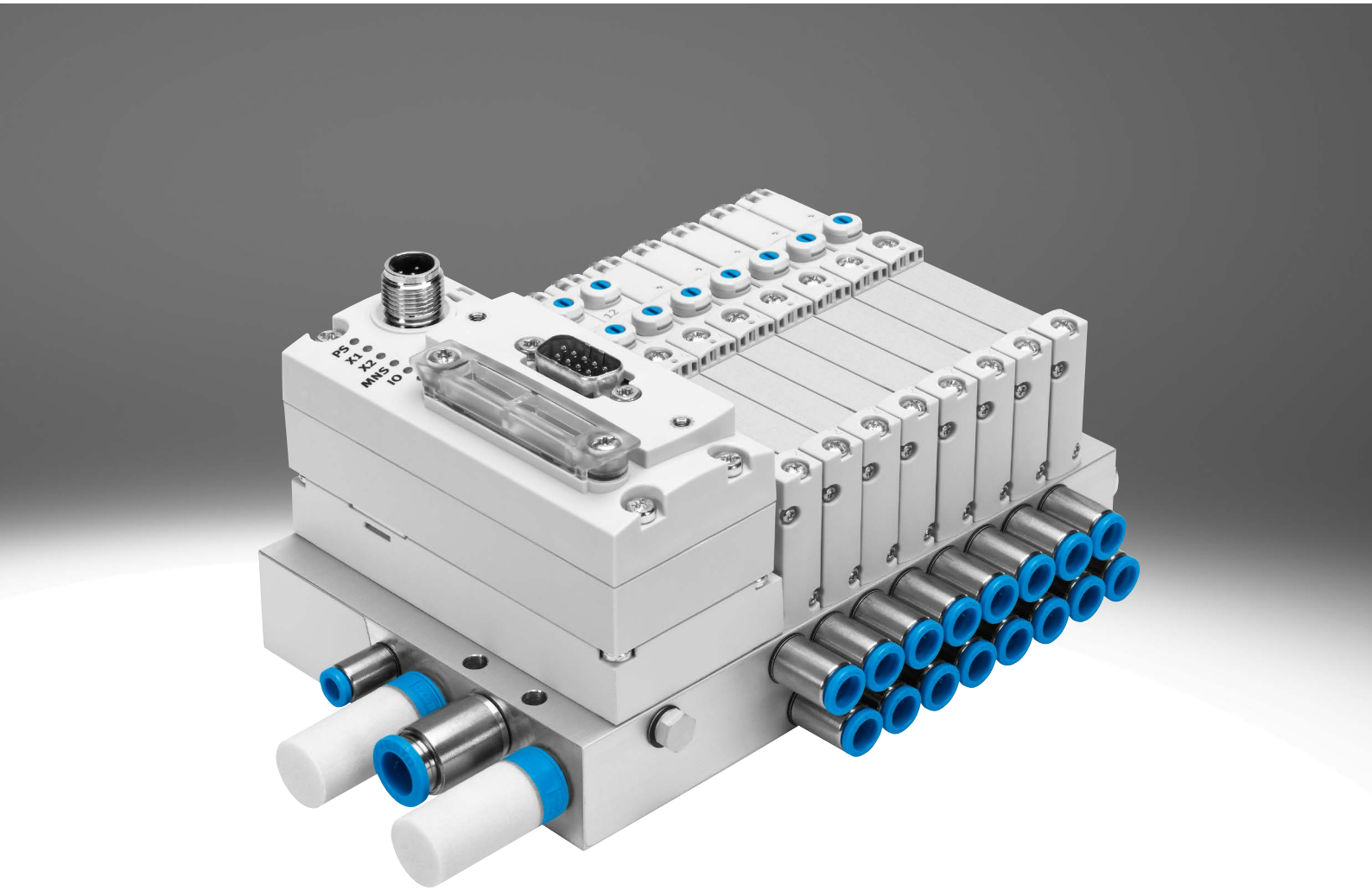
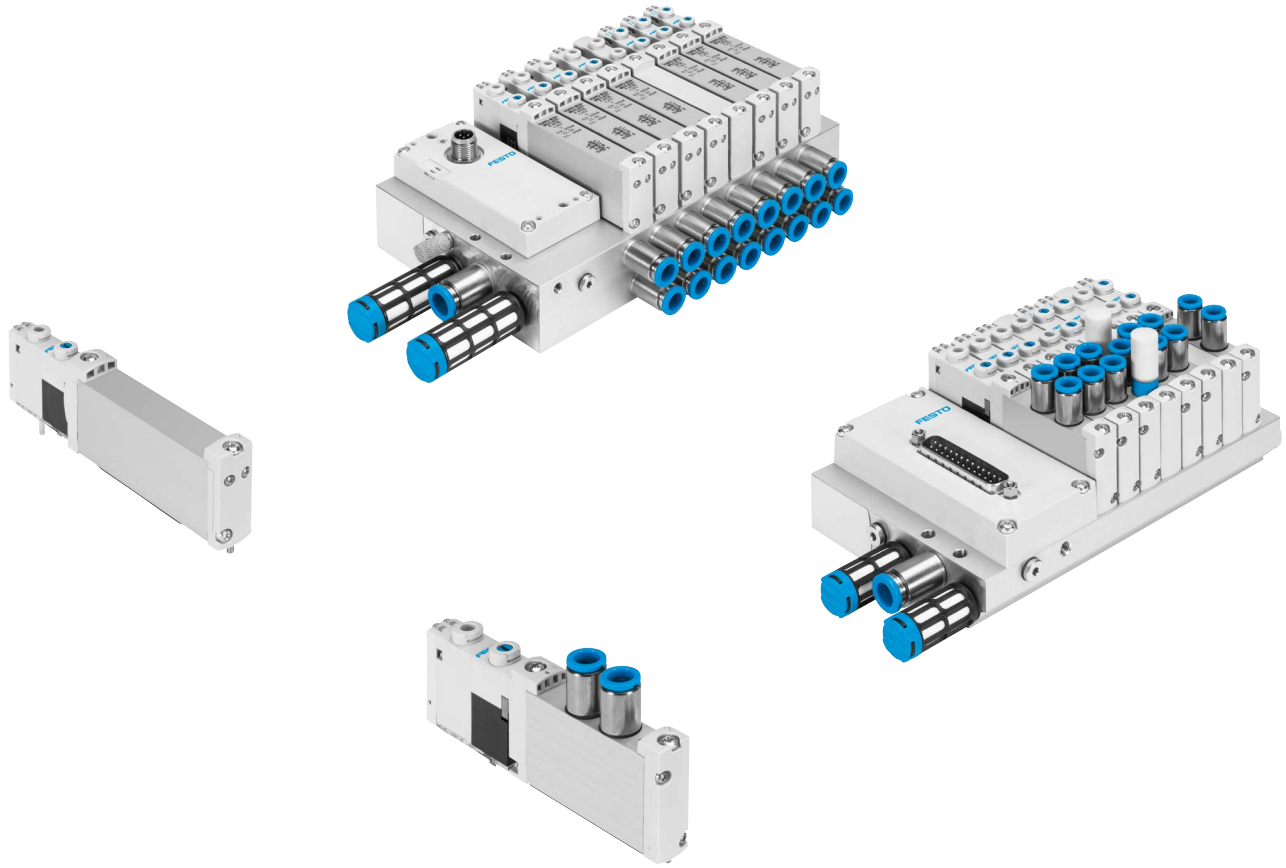
Solenoid valves VUVG/valve terminals VTUG

FESTO



Key features



Innovative

- Festo-specific I-Port interface for bus nodes (CTEU)
- IO-Link® mode for direct connection to a higher-level IO-Link master
- Festo-specific I-Port interface with interlock
- Flexible multi-pin plug connection using Sub-D or ribbon cable
- Reversible piston spool valves, up to 24 valve positions
- Reduced power consumption
- Excellent price/performance ratio

Versatile

- Choice of quick push-in connectors
- Multiple pressure zones possible
- Sub-D variant and fieldbus interface with protection to IP67
- Internal or external pilot air with the same manifold rail possible by using blanking plugs
- Sub-base valves with working ports underneath for installation in control cabinets

Reliable

- Sturdy and durable metal components
  - Valves
  - Manifold rails
- Fast troubleshooting thanks to LED indicator
- Manual override:
  choose from non-detenting, detenting or covered

Easy to install

- Easy to mount thanks to captive screws and seal
- Easy-to-change connection technology
- Label holder for labelling

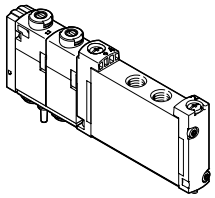
Ordering data – Product options

	Configurable product This product and all its product options can be ordered using the configurator.	The configurator can be found at ➔ **www.festo.com/catalogue/...** Enter the part number or the type.	Part no. 573606	Type VTUG

Key features

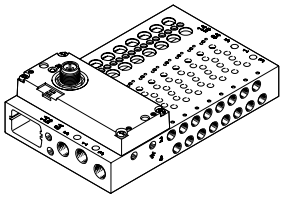
Sub-base and semi in-line valves for valve terminal VTUG

VUVG-S...1T1, semi in-line valve

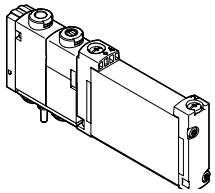


In the case of semi in-line valves, the supply ports (1, 3 and 5) are connected to the valve via pneumatic links (e.g. sub-base). The working ports (2, 4) are on the valve.

Valve terminal VTUG with different electrical connections

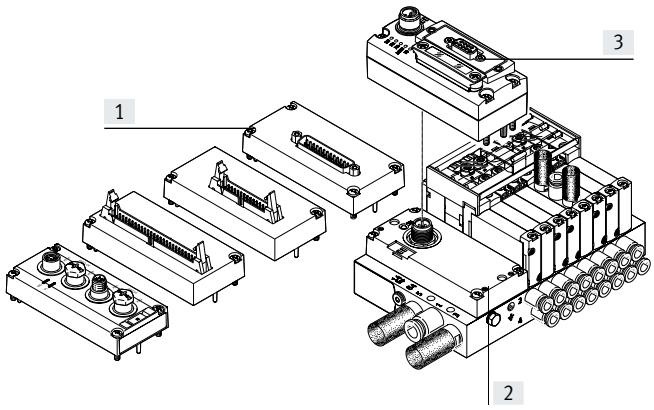


VUVG-B...1T1, sub-base valve



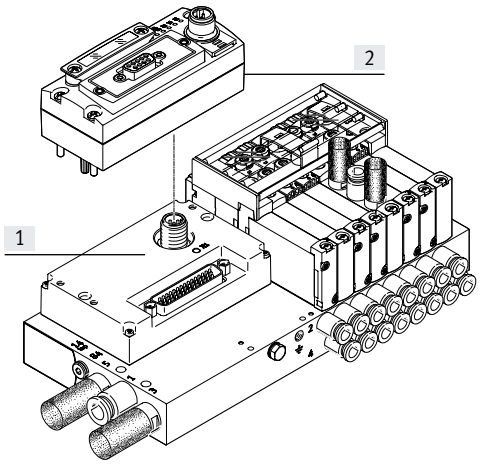
In the case of sub-base valves, the supply ports (1, 3 and 5) and the working ports (2, 4) are connected to the valve via pneumatic links (e.g. sub-base).

Overview – Valve terminal with multi-pin plug connection and fieldbus interface



Different electrical connections:
[1] Ribbon cable or Sub-D
[2] I-Port interface
[3] Bus node CTEU

Overview – Valve terminal with interlock



Different electrical connections:
[1] I-Port interface with interlock
[2] Bus node CTEU

Key features

Equipment options

Valve functions

- 2x 3/2-way, 3/2-way, 5/2-way, 5/3-way valves
- Reversible piston spool valves, up to 24 valve positions

Electrical connection options

- IO-Link® mode for direct connection to a higher-level IO-Link master
- Festo-specific I-Port interface for bus nodes (CTEU)
- Flexible multi-pin plug connection using Sub-D or ribbon cable
- Festo-specific I-Port interface with interlock (for valves of size 10 mm)

Basic valves VUVG

Size

- 10
- 14
- 18

Variants

- Semi-in-line valve
- Sub-base valve

Valve functions

3/2-way valve

- Single solenoid
- Normally open
- Normally closed

2x 3/2-way valve

- Single solenoid
- Normally open
- Normally closed
- 1x normally closed, 1x normally open
- Mechanical spring
- Pneumatic spring

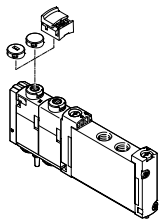
5/2-way valve

- Single solenoid
- Pneumatic/mechanical spring
- Mechanical spring
- Pneumatic spring
- Double solenoid valve

5/3-way valve

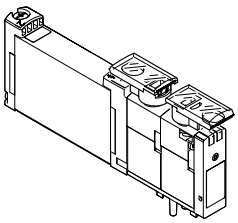
- Mid-position pressurised
- Mid-position exhausted
- Mid-position closed

Cover caps for manual override



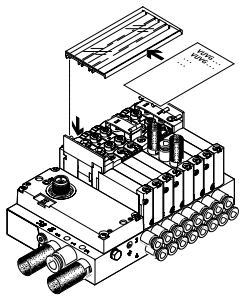
- Closed cover cap, covered manual override
- Slotted cover cap, non-detenting manual override
- Cover cap for detenting actuation without tools

Inscription label holder



Inscription label holders ASLR-D-L1 for identifying the valves and as a covering for the manual override.

Inscription label holder

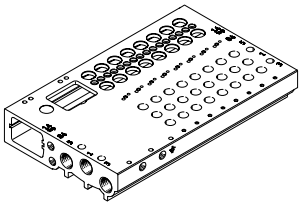


Label holders ASCF-H-L1-... for identifying the valves on the valve terminal VTUG

Key features – Pneumatic components

Manifold rail

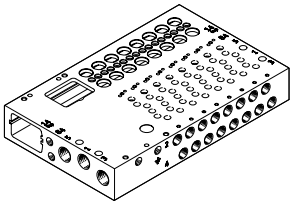
For semi in-line valves



The semi in-line valves are supplied with external pilot air. The pilot air is set via the manifold rail. The scope of delivery of the manifold rail includes a short and a long blanking plug for setting the pilot air.

- For semi in-line valves M5/M7 (size 10), G1/8 (size 14) and G1/4 (size 18)
- For 2x 3/2-way, 5/2-way and 5/3-way valves
- 4 to 24 valve positions with electrical links

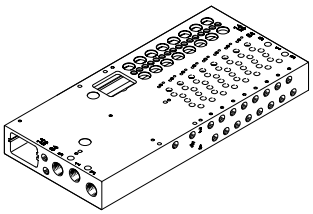
For sub-base valves



The sub-base valves are supplied with external pilot air. The pilot air is set via the manifold rail. The scope of delivery of the manifold rail includes a short and a long blanking plug for setting the pilot air.

- For sub-base valves M5/M7 (size 10), G1/8 (size 14) and G1/4 (size 18)
- For 2x 3/2-, 3/2-, 5/2- and 5/3-way valves
- 4 to 24 valve positions with electrical links

Long version

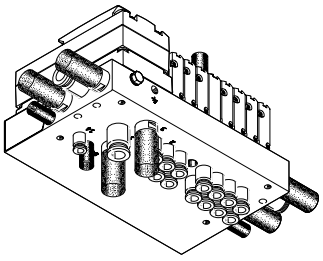


Versions:

- I-Port interface with outlet direction on the side: for semi in-line valves and sub-base valves M5/M7 (size 10), G1/8 (size 14) and G1/4 (size 18)

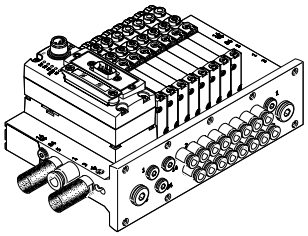
- Interlock: For sub-base and semi in-line valves M5/M7 (size 10)

For control cabinet installation, outlet direction underneath (U)



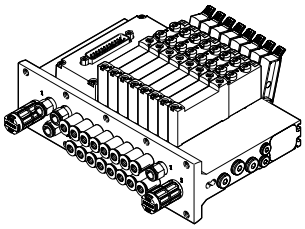
For sub-base valves M7 (size 10), G1/8 (size 14) and G1/4 (size 18).

For control cabinet installation, outlet direction at the front (FD)



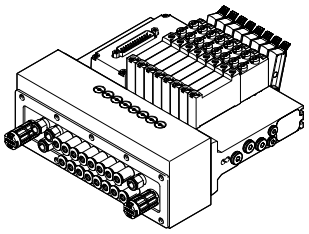
For sub-base valves M7 (size 10) and G1/8 (size 14).

For control cabinet installation, with shut-off function (hot swap)



Shut-off function for duct 1, for sub-base valves M7 (size 10) and G1/8 (size 14):

- Internal pilot air supply only
- Vacuum operation not possible



Shut-off function for ducts 1, 2 and 4, for sub-base valves M7 (size 10) and G1/8 (size 14):

- Internal pilot air supply only
- Vacuum operation not possible

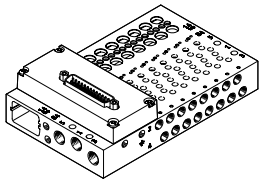
Note

Pressurisation and exhaust on both sides is recommended for an optimised flow rate in cases where multiple valves switch simultaneously.

Key features

Electrical connection

Multi-pin plug connection

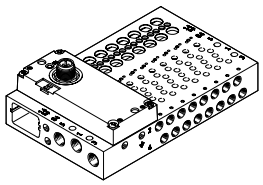


The signals are transmitted from the controller to the valve terminal via a pre-assembled or self-assembled multi-core cable to the multi-pin plug connection.

This substantially reduces installation time compared to individually connected valves. The valve terminal can be equipped with max. 48 solenoid coils.

Versions:
- Sub-D connection
- Ribbon cable

I-Port interface

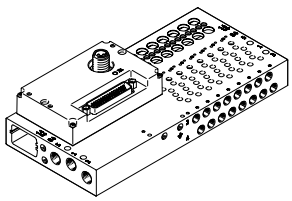


Festo-specific interface as a basis for bus nodes (CTEU) or in IO-Link® mode for direct connection to a higher-order IO-Link master.

Communication and power supply take place via a common M12 interface.

Connection options:
- As I-Port interface for bus nodes (CTEU)
- In IO-Link® mode for direct connection to an IO-Link master

I-Port interface with interlock



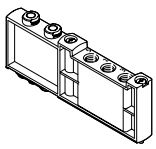
The interlock function enables the first 16 solenoid coils to be individually supplied externally.

This ensures that these valves can be released in a safety-oriented way.

Note

The VTUG variant with multi-pin plug connection and fieldbus interface offers the additional option of electrically actuating the individual valves (a page 25).

Supply plate

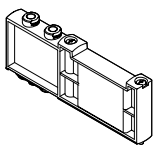


For additional air supply and exhaust via a valve position (ports for duct 1, 3 and 5).

Note

The supply plate VABF-L1-14-P3A4-G18-T1 can only be used with G fittings. R fittings are not permissible.

Cover plate for vacant position



Vacant position cover

Separator for pressure zones

For creating multiple pressure zones in a valve terminal

Key features – Pneumatic components

Creating pressure zones and separating exhaust air

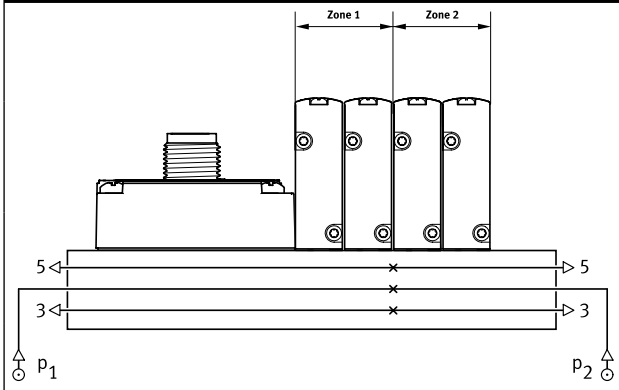
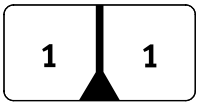
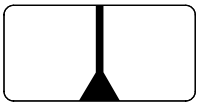
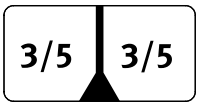
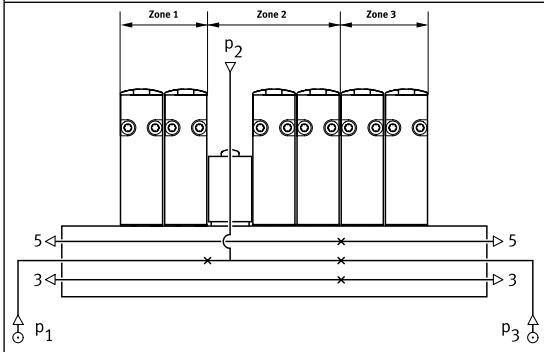
Compressed air is supplied and exhausted via the manifold rail and via supply plates.
The position of the supply plates and duct separations can be freely selected with the VTUG.

A pressure zone is created by separating the internal supply ducts using a separator.

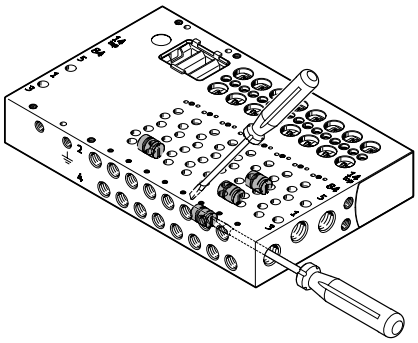
Pressure zone separation can be used for the following ducts:
- Duct 1
- Duct 3
- Duct 5

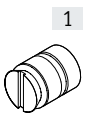
Note
- Use a separator if the exhaust air pressures are high
- Use at least one supply plate/air supply for each pressure zone
- Pressure zone separation is not possible in duct 12/14 (pilot air supply)

Duct separation

	Description
	The pressure zones can be freely configured with the VTUG. The following duct separations are possible: Duct 1 closed  Duct 1, 3, 5 closed  Duct 3, 5 closed 
	The number of pressure zones with the VTUG is limited by the number of valve positions on the manifold rail. Note that each supply plate occupies one valve position.

Separator VABD





[1] Separator VABD

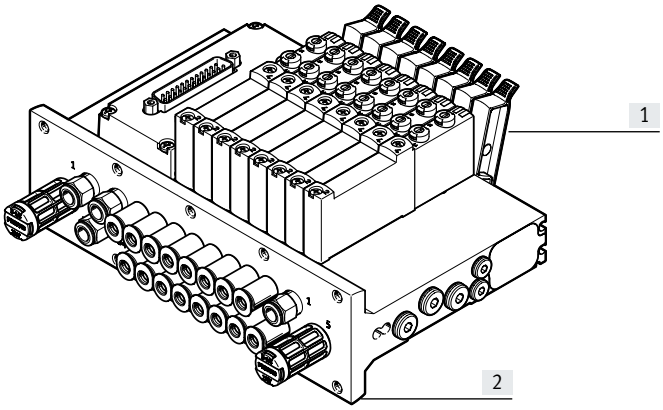
Note

On the VTUG, several pressure zones can be created by mounting separators (VABD). The separators are inserted in the manifold rail using a slotted screwdriver.

Key features – Pneumatic components

Shut-off function (hot swap)

For duct 1

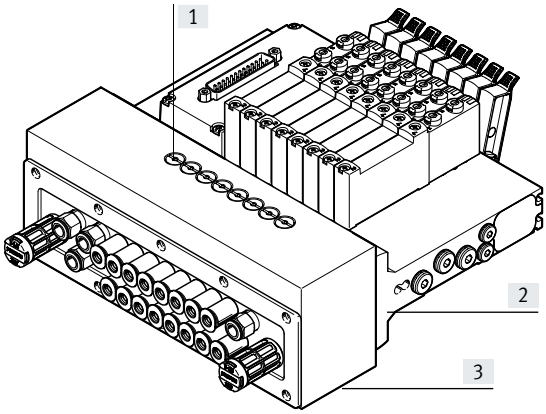


[1] Actuating lever
[2] Manifold rail with shut-off plate

The shut-off plate is located below the manifold block. Actuating the lever:
- Disconnects the valve position from the compressed air supply (duct 1)
- Exhausts the pilot air supply on the valve side (duct 12 and 14)
- Note the user instructions for use in combination with a supply plate

The actuating levers can be individually locked in place, securing them against unwanted actuation.

For duct 1, 2 and 4



[1] Plunger
[2] Manifold rail
[3] Manifold block

To actuate, press in the plunger with a pointed object or screwdriver and then turn clockwise 90° until the stop is reached:
- Connection from the valve position to ports 2 and 4 is blocked
- The components connected at ports 2 and 4 are not exhausted

Pilot air supply

Internal pilot air supply

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

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

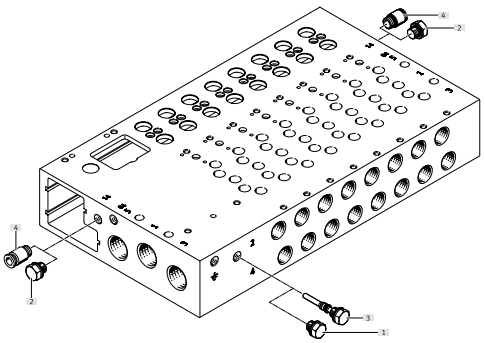
External pilot air supply

External pilot air supply is required for vacuum operation or operating pressures above 8 bar. The port for external pilot air supply (port 12/14) is located on the manifold rail.

Pilot exhaust air

The pilot air is exhausted via duct 82/84 of the manifold rail.

Pilot air supply

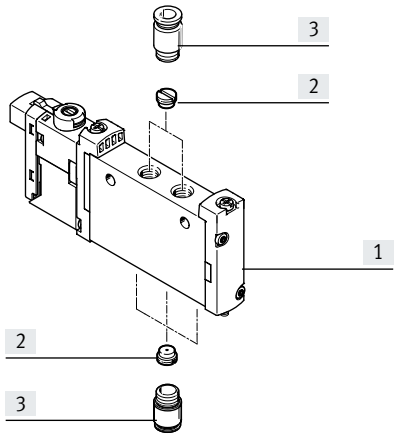


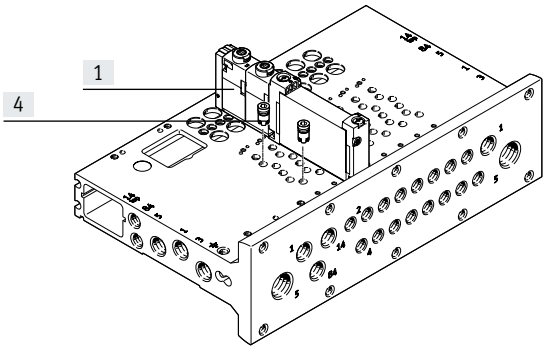
[1] Blanking plug, short, for internal pilot air
[2] Blanking plug for duct 12/14 with internal pilot air
[3] Blanking plug, long, for external pilot air
[4] Push-in fitting for duct 12/14 with external pilot air

The manifold rails have an internal connection between duct 12/14 and duct 1.
By inserting a blanking plug into this connection, it is possible to switch between internal and external pilot air.

Key features – Pneumatic components

Exhaust functions





[1] Valves VUVG
[2] Flow restrictor for M5 thread
[3] Fitting
[4] Fixed flow restrictor, self-tapping/check valve

Flow restrictor for M5 thread

Semi in-line valve, individual electrical connection: flow restrictor can be fitted in port 1, 3, 5 and/or in port 2, 4.

Sub-base valve, individual electrical connection: flow restrictor can be fitted in port 2, 4.

Fixed flow restrictor, self-tapping

The fixed flow restrictor can be used to permanently set the exhaust flow rate in ducts 3 and 5.

The fixed flow restrictors are screwed into ducts 3 and 5 in the manifold rail.

Please see the relevant assembly instructions:
www.festo.com/catalogue/... ➔ Support/Downloads

Check valve

Check valves block the flow towards the valves, thus preventing actuators from switching unexpectedly if back pressure develops in ducts 3 and 5 in the case of a high exhaust capacity. The check valves are screwed into ducts 3 and 5 in the manifold rail.

Please see the relevant assembly instructions:
www.festo.com/catalogue/... ➔ Support/Downloads

Note

- It is not possible to use a check valve and a fixed flow restrictor (in the same duct) at the same time.
- When screwing in again, use the threads already present.

Key features – Pneumatic components

Operation with different pressures

Vacuum operation

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

Vacuum operation is only possible at port 3 and 5, not at port 1.
With external pilot air supply, vacuum can be connected at port 1, 3, 5 of the 5/2-way and 5/3-way valves.

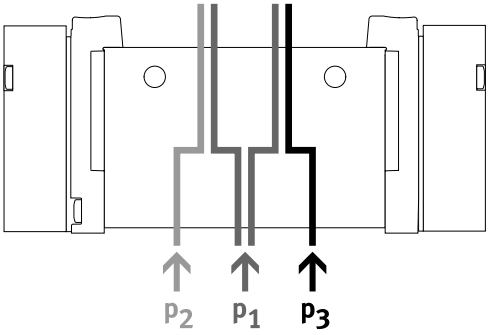
Vacuum operation is not possible when using the shut-off function (hot swap).

Note
Pressure must be present at port 1.

Reverse operation

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

Pressure divider (internal pilot air)

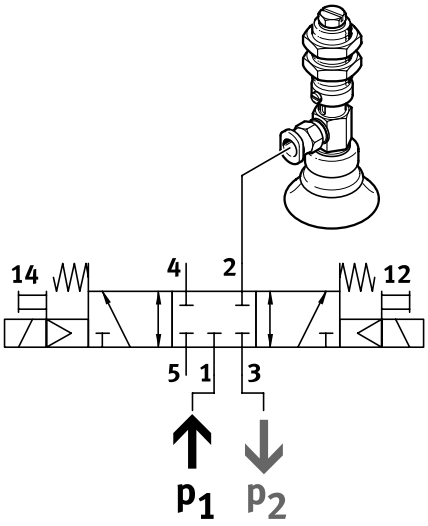


- Two different pressures are required
- Different pressures can be connected at duct 1, 3 and 5

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

Note
- With internal pilot air, keep the pilot pressure in duct 1 to the minimum
- With 2x 3/2-way valves without spring return, keep the pilot pressure in duct 1 to the minimum

Vacuum, ejector pulse and normal position

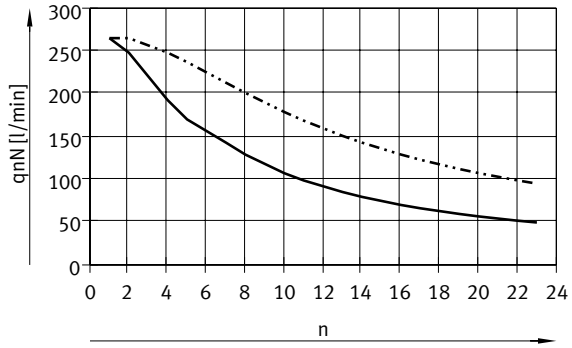


Vacuum, ejector pulse and normal position with internal pilot air can be achieved by connecting vacuum at duct 3 and pressure for the ejector pulse at duct 1.

Key features – Pneumatic components

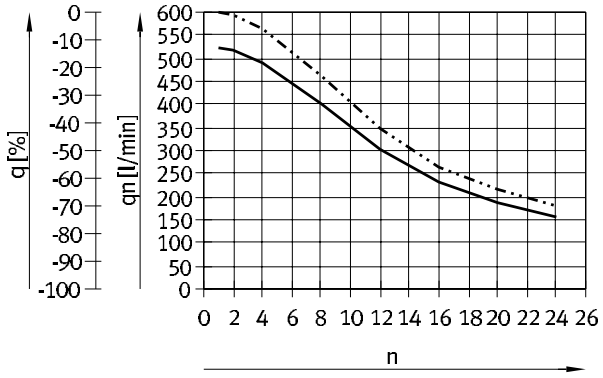
Standard nominal flow rate qnN as a function of the number of switched valves n

Size 10 mm, 5/2-way valves



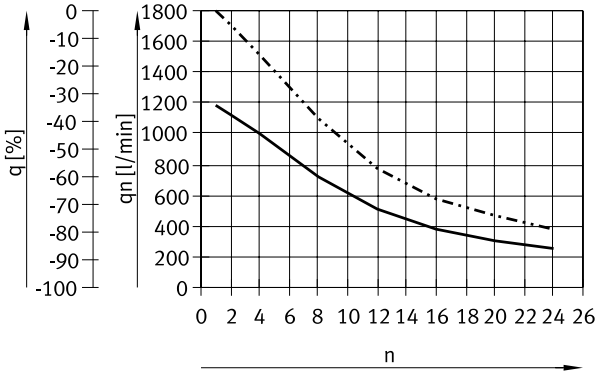
Supply at one end
Supply on both sides

Size 14 mm



Standard flow rate qn per valve
Flow rate loss q

Size 18 mm

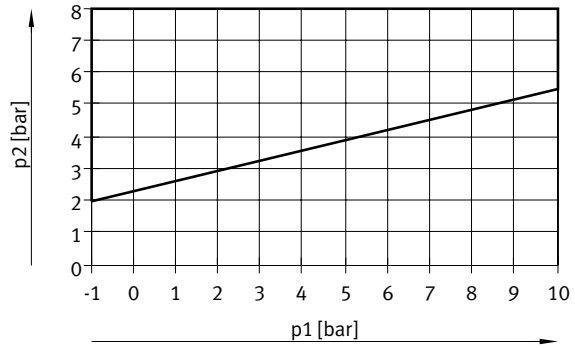


Standard flow rate qn per valve
Flow rate loss q

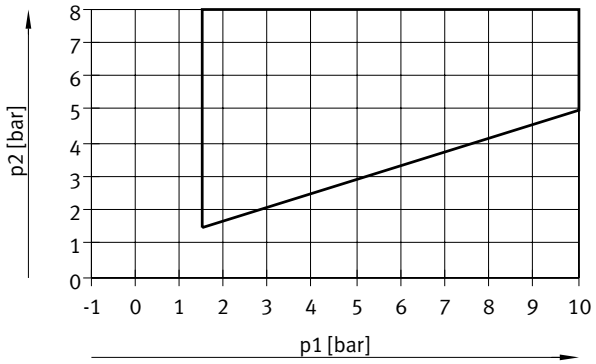
Key features – Pneumatic components

Pilot pressure p2 as a function of operating pressure p1

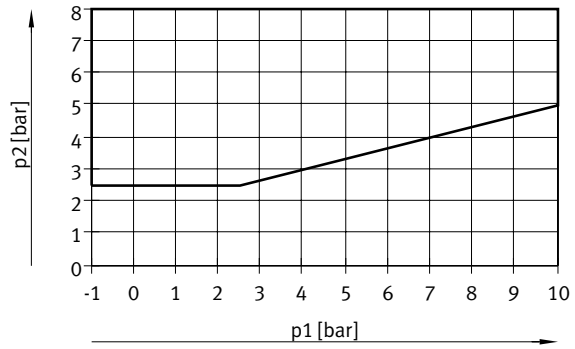
2x 3/2-way valve, mechanical spring return



2x 3/2-way valve, pneumatic spring return



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



Key features – Mounting

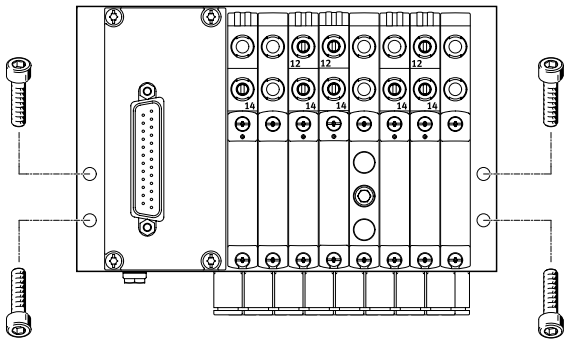
Valve terminal mounting

Sturdy terminal mounting via:
- Four through-holes for wall mounting
- DIN rail mounting
- Mounting bracket

Note

Use the M5 thread provided on the manifold block for earthing the valve terminal.

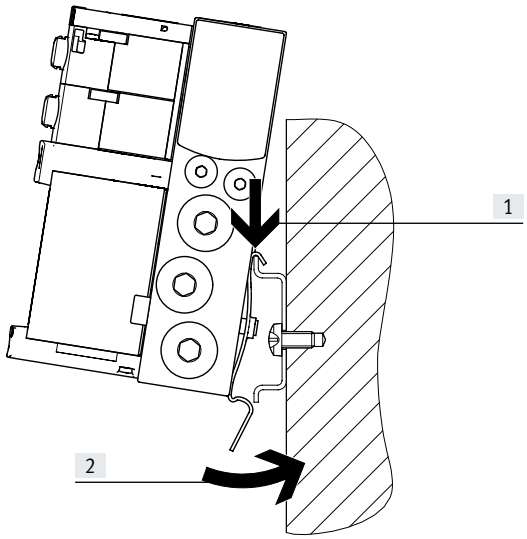
Wall mounting



Screw the valve terminal VTUG onto the mounting surface using four M4 screws.

The mounting holes are on the left and right side of the manifold rail.

DIN rail mounting



Clip the valve terminal VTUG onto the DIN rail (see arrow [1]).

Swivel the valve terminal onto the DIN rail and secure in place with the clamping piece (see arrow [2]).

Attach the manifold rails to a rail to EN 60715-TH35 using the DIN rail mounting VAME-T-M4.
Use the following screws for mounting (to DIN 912):
- Size 10: M4x30
- Size 14: M4x40
- Size 18: M5x50

Note

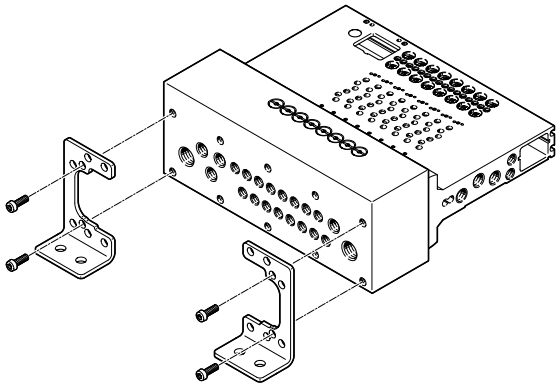
Use of the DIN rail is allowed:
- Manifold rail with outlet on the side or on top.
- DIN rail exclusively for horizontal mounting.
- Vibration/shock loads are not permissible for this type of mounting.

Size 14:
- Use DIN rail type TH35-7.5 for valve terminals with a maximum of 8 valve positions.
- Use DIN rail type TH35-15 for mounting in accordance with the standard and for more than 8 valve positions.

Key features – Mounting

Valve terminal mounting

Mounting with mounting bracket



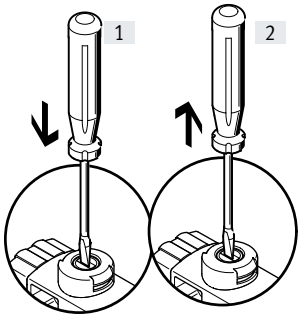
The valve terminal VTUG is screwed to the mounting bracket using four M4x16 screws. This enables the valve terminal to be mounted horizontally on the mounting surface.

The mounting brackets can be combined with the manifold rail for subbase valves, for control cabinet installation with outlet direction at the front.

Key features – Mounting

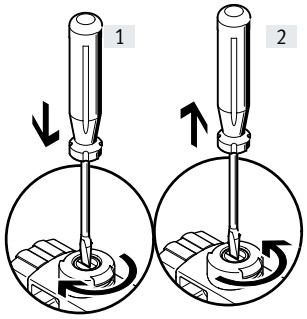
Manual override (MO)

MO with automatic return (non-detenting)



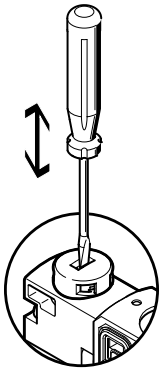
[1] Press in the plunger of the MO with a pointed object or screwdriver.
The pilot valve switches and actuates the main valve.
[2] Remove the pointed object or screwdriver.
The spring force pushes the plunger of the manual override back.
The pilot valve returns to its normal position as does the main single solenoid valve (not the case with double solenoid valve code J).

MO with locking (detenting)



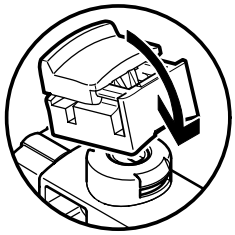
[1] Press in the plunger of the MO with a pointed object or screwdriver until the valve switches and then turn the plunger 90° clockwise until the stop is reached.
The valve remains in the switching position
[2] Turn the plunger 90° anticlockwise until the stop is reached and then remove the pointed object or screwdriver. The spring force pushes the plunger of the manual override back.
The valve returns to its normal position (not with double solenoid valve code J).

MO non-detenting – with coded cover cap



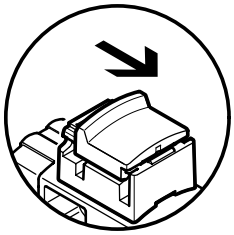
MO is actuated by pushing it with a pointed object or screwdriver and reset by spring force (detenting position prevented by coded cover cap).

MO detenting without tools – mounting



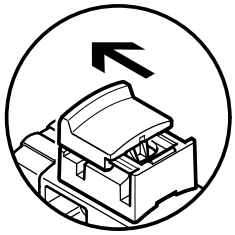
Turn MO to clip it onto the pilot valve. The cap for the MO can then be operated (detenting) without tools.

MO detenting without tools – actuation



Sliding the cap for the MO with latch in the direction of the arrow results in:
- Cap locks into the end position
- The pilot valve switches and actuates the main valve.

MO detenting without tools – actuation

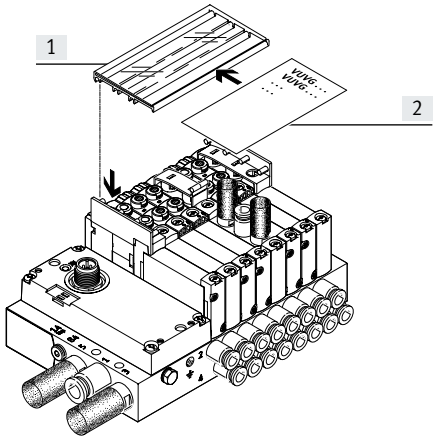


Sliding the cap for the MO with latch in the direction of the arrow results in:
- Cap locks into the end position
- The spring force pushes the plunger of the manual override back.
- The pilot valve returns to its normal position as does the main single solenoid valve (not the case with double solenoid valve code J).

Key features – Mounting

Inscription system

Inscription label holder



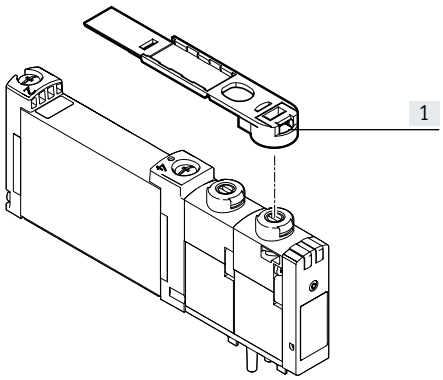
[1] Label holders ASCF-H-L1 (code TT)
[2] Inscription field

Mount the label holders to label the valves. Open the label holder to insert the inscription label and actuate the manual override.
The label holders are available in different sizes depending on the number of valve positions.

Note

Do not engage the manual override before mounting the label holder.
When mounted, the retaining bracket for the label holder covers the manual override of the valves beneath it.
The manual override for the two valves under the retainers of the label holder can then only be operated as non-detenting.

Inscription label holder



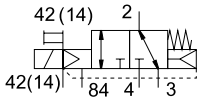
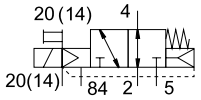
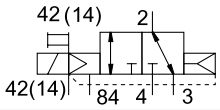
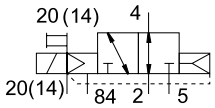
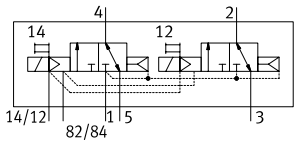
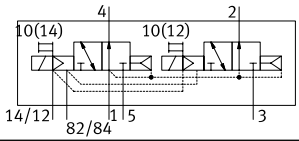
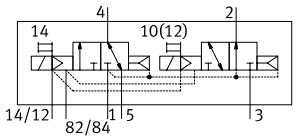
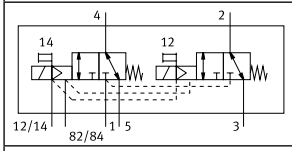
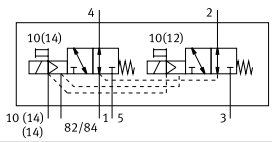
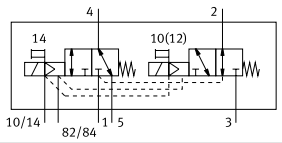
[1] Inscription label holders ASLR-D-L1 (code TV)

Use inscription label holders ASLR-D-L1 (code TV) to label individual valves.
The inscription label holder is placed directly on the manual override.

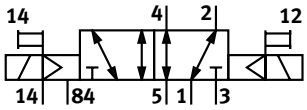
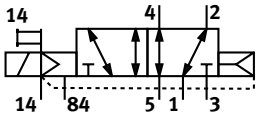
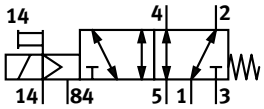
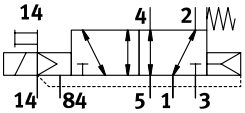
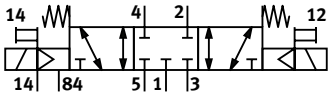
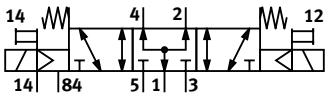
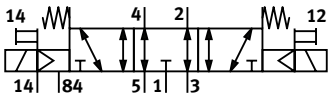
Note

Do not engage the manual override before mounting the inscription label holder.
After the retaining brackets are fitted, the manual override can only be operated as non-detenting.

Overview of valve functions

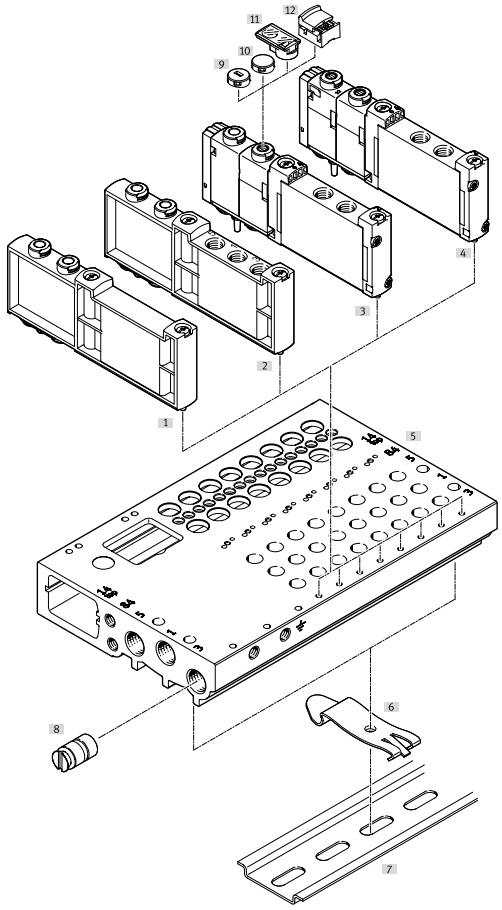
Valve	Valve code	Description	Size		
			M5/M7	G1/8	G1/4
3/2-way valve, pneumatic/mechanical spring					
	M32C-R	Normally closed	■	–	–
	M32U-R	Normally open	■	–	–
3/2-way valve, pneumatic spring					
	M32C-A	Normally closed	–	■	–
	M32U-A	Normally open	–	■	–
2x 3/2-way valve, pneumatic spring					
	T32C-A	Normally closed	■	■	■
	T32U-A	Normally open	■	■	■
	T32H-A	1x normally open, 1x normally closed	■	■	■
2x 3/2-way valve, mechanical spring					
	T32C-M	Normally closed	■	■	■
	T32U-M	Normally open	■	■	■
	T32H-M	1x normally open, 1x normally closed	■	■	■

Overview of valve functions

Valve	Valve code	Description	Size		
			M5/M7	G1/8	G1/4
5/2-way valve, double solenoid					
	B52	External pilot air supply	■	■	■
5/2-way valve, single solenoid					
	M52-A	Pneumatic spring	–	■	–
	M52-M	Mechanical spring	■	■	■
	M52-R	Pneumatic/mechanical spring	■	–	■
5/3-way valve					
	P53C	Mid-position closed	■	■	■
	P53U	Mid-position pressurised	■	■	■
	P53E	Mid-position exhausted	■	■	■

Peripherals overview example – Semi in-line valves

Valve terminal with multi-pin connection

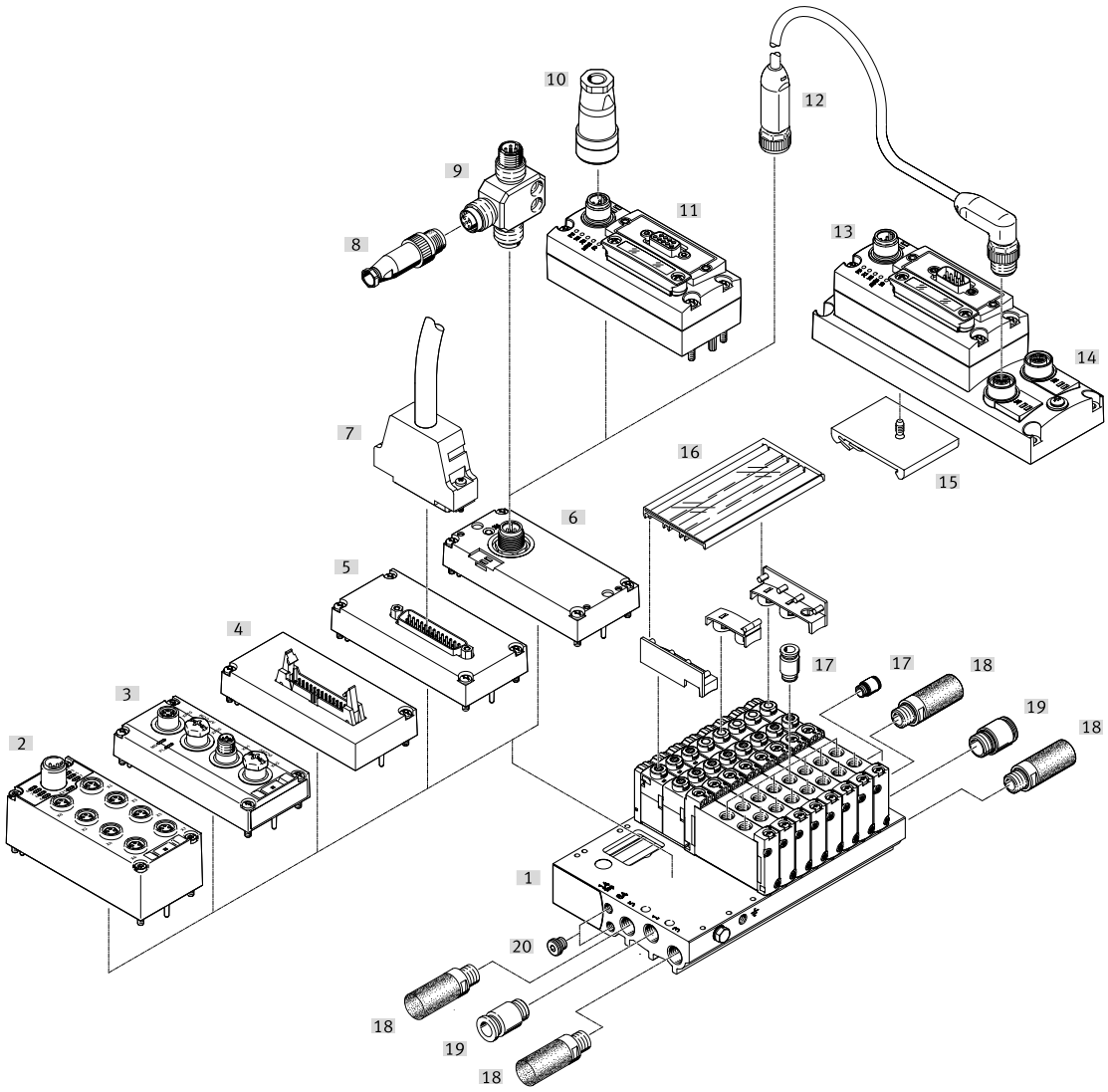


Accessories

		Type	Description	→ Page/Internet
[1]	Cover plate	VABB-L1-...	For covering a vacant position	92
[2]	Supply plate	VABF-L1-...	For air supply at port 1 and ports 3 and 5	92
[3]	Solenoid valve	VUVG-...	Semi in-line valve M5/M7, G1/8	29, 33, 36
[4]	Solenoid valve	VUVG-...	Semi in-line valve G1/4	29, 33, 36
[5]	Manifold rail	VABM-L1-...	For 4 to 10, 12, 16, 20 and 24 valve positions	48
[6]	DIN rail mounting	VAME-T-M4	2 pieces for fitting the valve terminal on a DIN rail	95
[7]	DIN rail	NRH-35-2000	For mounting the valve terminal	95
[8]	Separator	VABD-...	For creating pressure zones	92
[9]	Cover cap	VMPA-HBT-B	Non-detenting, for manual override	93
[10]	Cover cap	VMPA-HBV-B	Covered, for manual override	93
[11]	Inscription label holder	ASLR-D-L1	For inscription label and covering for the retaining screw/manual override	95
[12]	Covering	VAMC-...	Detenting, for manual override	93

Peripherals overview example – Semi in-line valves

Valve terminal with multi-pin plug and I-Port interface

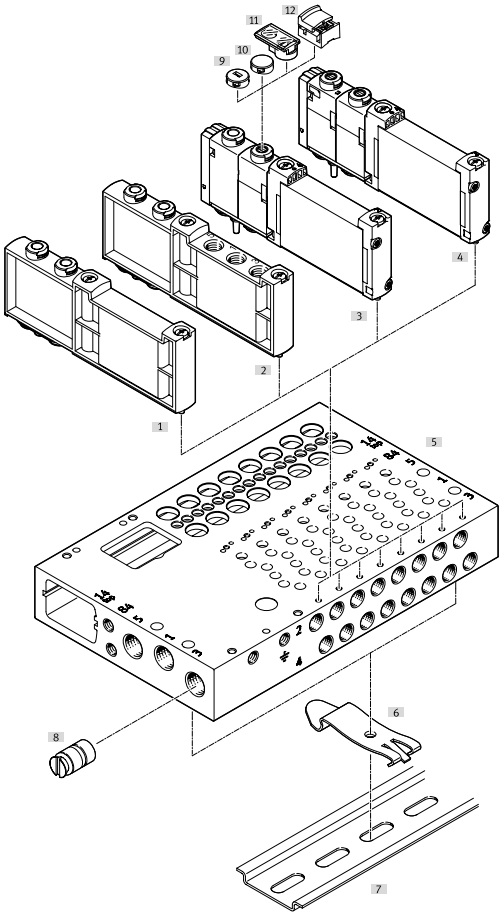


Accessories

		Type	Description	→ Page/Internet
[1]	Manifold rail	VABM-L1-...	For 4 to 10, 12, 16, 20 and 24 valve positions	48
[2]	Electrical interface	VAEM-L1-S-...-LKM8	IO-Link® input module	–
[3]	Electrical interface	VAEM-L1-S-...-AP	AP interface for CPX-AP-I	89
[4]	Electrical interface	VAEM-L1-S-M1-...	Ribbon cable	79
[5]	Electrical interface	VAEM-L1-S-M3-...	Multi-pin plug connection	79
[6]	Electrical interface	VAEM-L1-S-...-PT	I-Port interface/IO-Link®	83
[7]	Connecting cable	NEBV-...	Sub-D cable	79
[8]	Plug	SEA-M12-5GS-PG7	Straight, for T-adapter FB-TA	83
[9]	T-adapter	FB-TA-M12-5POL	For IO-Link® and load voltage supply	83
[10]	Power supply socket	NTSD-.../FBSD-...	Power supply for CTEU bus nodes	90
[11]	CTEU	CTEU-...	Bus node	89
[12]	Connecting cable	NEBU-...	–	nebu
[13]	Electrical connection block	CAPC-F1-E-M12	For connecting a second device with I-Port interface	85
[14]	Connections	–	–	–
[15]	DIN rail mounting	CAFM-F1-H	For electrical connection block CAPC	85
[16]	Inscription label holder	ASCF-H-L1	For identifying valves	95
[17]	Push-in fitting	QS-...	For air supply, port 1	91
[18]	Silencer	U-...	For port 3 and 5	92
[19]	Push-in fitting	QS-...	For port 2 and 4	91
[20]	Blanking plug	B-...	For internal/external pilot air	91

Peripherals overview example – Sub-base valves

Valve terminal with multi-pin connection

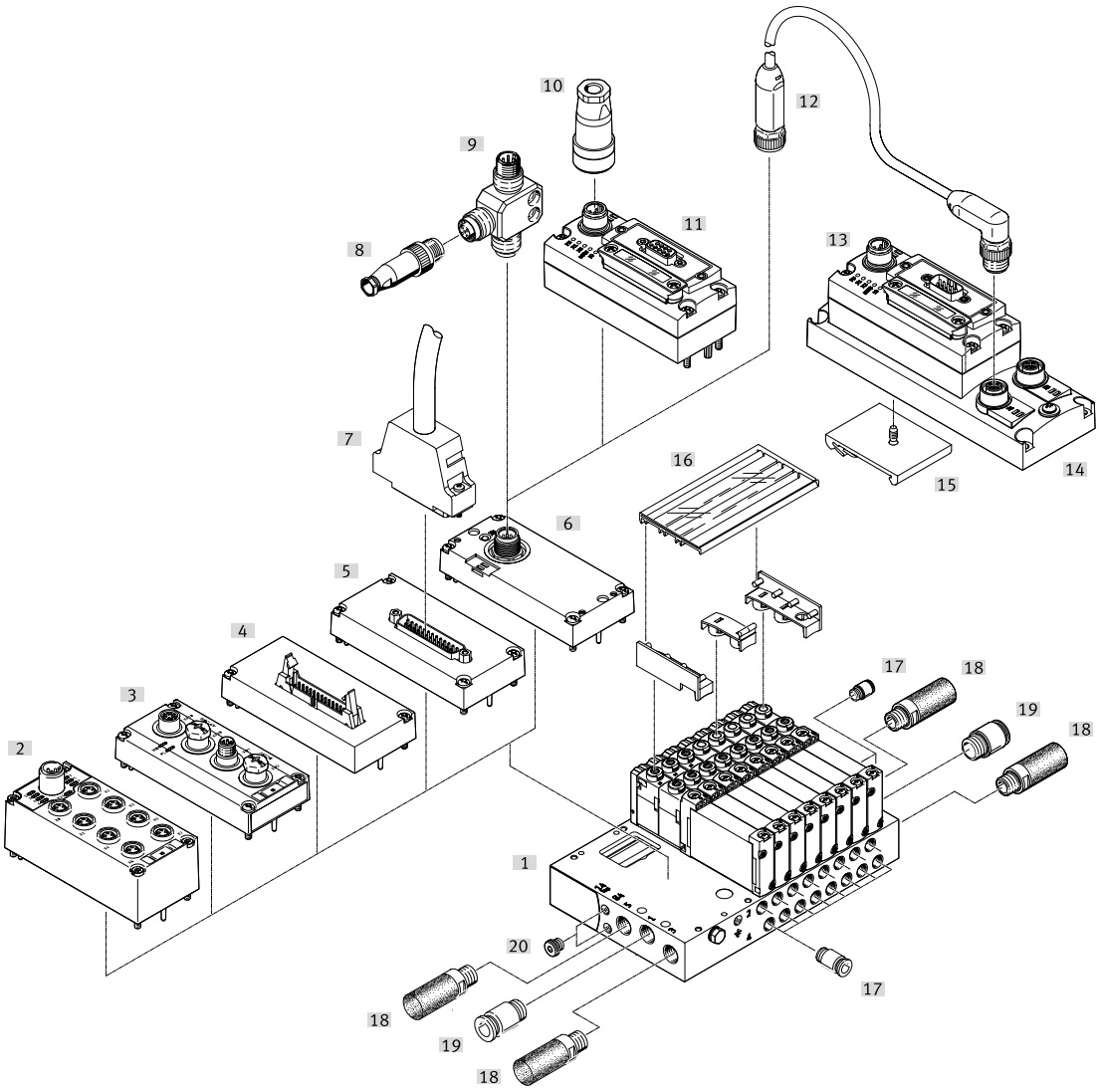


Accessories

		Type	Description	→ Page/Internet
[1]	Cover plate	VABB-L1-...	For covering a vacant position	92
[2]	Supply plate	VABF-L1-...	For air supply at port 1 and ports 3 and 5	92
[3]	Solenoid valve	VUVG- ...	Sub-base valve M5/M7, G1/8	39, 42, 45
[4]	Solenoid valve	VUVG- ...	Sub-base valve G1/4	39, 42, 45
[5]	Manifold rail	VABM-L1-...	For 4 to 10, 12, 16, 20 and 24 valve positions	48
[6]	DIN rail mounting	VAME-T-M4	2 pieces for fitting the valve terminal on a DIN rail	95
[7]	DIN rail	NRH-35-2000	For mounting the valve terminal	95
[8]	Separator	VABD-...	For creating pressure zones	92
[9]	Cover cap	VMPA-HBT-B	Non-detenting, for manual override	93
[10]	Cover cap	VMPA-HBV-B	Covered, for manual override	93
[11]	Inscription label holder	ASLR-D-L1	For inscription label and covering for the retaining screw/manual override	95
[12]	Covering	VAMC...	Detenting, for manual override	93

Peripherals overview example – Sub-base valves

Valve terminal with multi-pin plug and I-Port interface

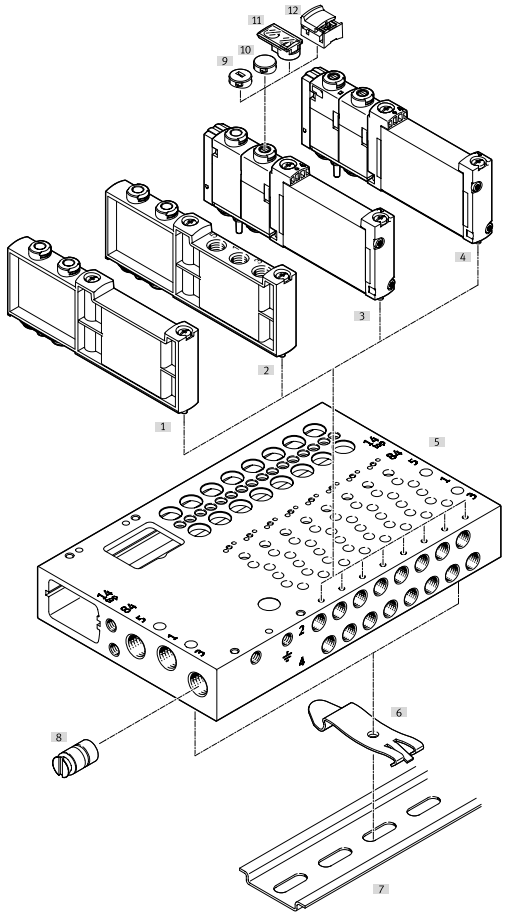


Accessories

		Type	Description	→ Page/Internet
[1]	Manifold rail	VABM-L1-...	For 4 to 10, 12, 16, 20 and 24 valve positions	48
[2]	Electrical interface	VAEM-L1-S-...-LKM8	IO-Link® input module	–
[3]	Electrical interface	VAEM-L1-S-...-AP	AP interface for CPX-AP-I	89
[4]	Electrical interface	VAEM-L1-S-M1-...	Ribbon cable	79
[5]	Electrical interface	VAEM-L1-S-M3-...	Multi-pin plug connection	79
[6]	Electrical interface	VAEM-L1-S-...-PT	I-Port interface/IO-Link®	83
[7]	Connecting cable	NEBV-...	Sub-D cable	79
[8]	Plug	SEA-M12-5GS-PG7	Straight, for T-adapter FB-TA	83
[9]	T-adapter	FB-TA-M12-5POL	For IO-Link® and load voltage supply	83
[10]	Power supply socket	NTSD-.../FBSD-...	Power supply for CTEU bus nodes	90
[11]	CTEU	CTEU-...	Bus node	89
[12]	Connecting cable	NEBU-...	–	nebu
[13]	Electrical connection block	CAPC-F1-E-M12	For connecting a second device with I-Port interface	85
[14]	Connections	–	–	–
[15]	DIN rail mounting	CAFM-F1-H	For electrical connection block CAPC	85
[16]	Inscription label holder	ASCF-H-L1	For identifying valves	95
[17]	Push-in fitting	QS-...	For air supply, port 1	91
[18]	Silencer	U-...	For port 3 and 5	92
[19]	Push-in fitting	QS-...	For port 2 and 4	91
[20]	Blanking plug	B-...	For internal/external pilot air	91

Peripherals overview example – Sub-base valves

Valve terminal with multi-pin connection

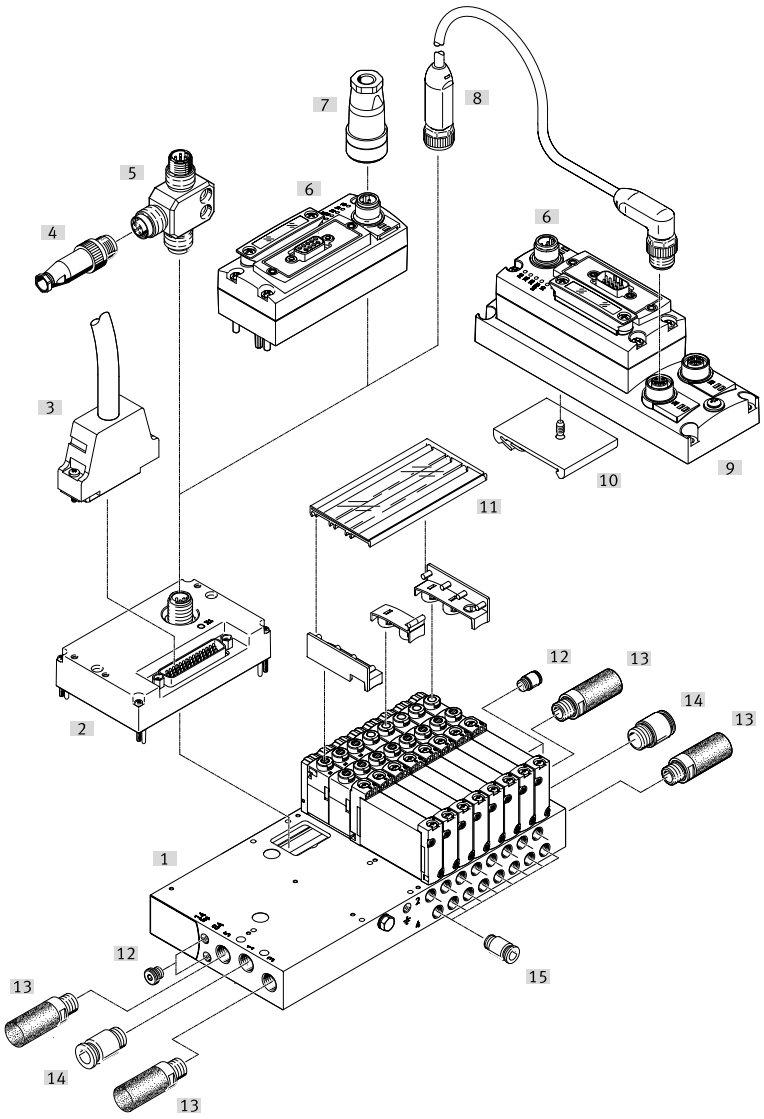


Accessories

		Type	Description	→ Page/Internet
[1]	Cover plate	VABB-L1-...	For covering a vacant position	92
[2]	Supply plate	VABF-L1-...	For air supply at port 1 and ports 3 and 5	92
[3]	Solenoid valve	VUVG-...	Sub-base valve M5/M7, G1/8	39, 42, 45
[4]	Solenoid valve	VUVG-...	Sub-base valve G1/4	39, 42, 45
[5]	Manifold rail	VABM-L1-...	For 4 to 10, 12, 16, 20 and 24 valve positions	48
[6]	DIN rail mounting	VAME-T-M4	2 pieces for fitting the valve terminal on a DIN rail	95
[7]	DIN rail	NRH-35-2000	For mounting the valve terminal	95
[8]	Separator	VABD-...	For creating pressure zones	92
[9]	Cover cap	VMPA-HBT-B	Non-detenting, for manual override	93
[10]	Cover cap	VMPA-HBV-B	Covered, for manual override	93
[11]	Inscription label holder	ASLR-D-L1	For inscription label and covering for the retaining screw/manual override	95
[12]	Covering	VAMC-...	Detenting, for manual override	93

Peripherals overview example – Sub-base valves

I-Port interface with interlock



Accessories

		Type	Description	→ Page/Internet
[1]	Manifold rail	VABM-L1-...	For 4 to 10, 12, 16, 20 and 24 valve positions	48
[2]	Electrical interface	VAEM-L1-S-24-...	I-Port interface with interlock	86
[3]	Connecting cable	NEBV-...	Sub-D cable	79
[4]	Plug	SEA-M12-5GS-PG7	Straight, for T-adapter FB-TA	83
[5]	T-adapter	FB-TA-M12-5POL	For IO-Link® and load voltage supply	83
[6]	CTEU	CTEU-...	Bus node	89
[7]	Power supply socket	NTSD-.../FBSD-...	Power supply for CTEU bus nodes	90
[8]	Connecting cable	NEBU-...	–	nebu
[9]	Electrical connection block	CAPC-F1-E-M12	For connecting a second device with I-Port interface	85
[10]	DIN rail mounting	CAFM-F1-H	For electrical connection block CAPC	85
[11]	Inscription label holder	ASCF-H-L1	For identifying valves	95
[12]	Blanking plug	B-...	For internal/external pilot air	91
[13]	Silencer	U-...	For port 3 and 5	92
[14]	Push-in fitting	QS-...	For air supply, port 1	91
[15]	Push-in fitting	QS-...	For port 2 and 4	91

Peripherals overview example – Sub-base valves

Valve terminal with multi-pin plug/fieldbus connection and individually electrically actuated valves

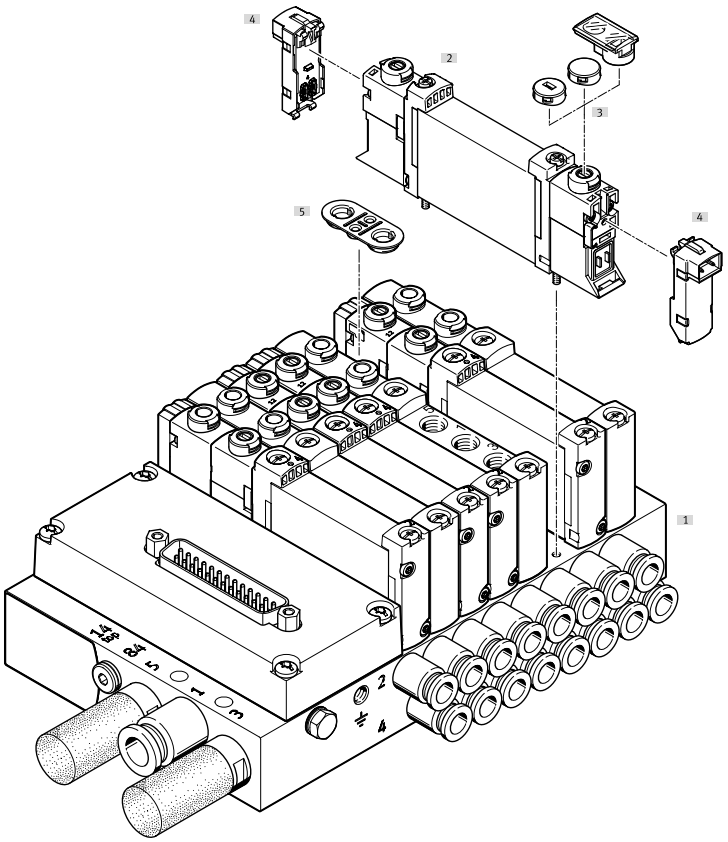
In applications with specific emergency off requirements, it may be necessary to switch one or more valves separately from the valve terminal controller.

Valves VUVG (aVUVG) with an individual electrical connection are therefore mounted on the valve terminal.

Valves with an individual electrical connection require a special seal when mounted within a valve terminal.

They are therefore ordered/fitted as follows:

- Together with the valve terminal using the valve terminal configurator
- Individually/to replace a cover plate in a vacant position at a later date



Accessories

		Type	Description	→ Page/Internet
[1]	Manifold rail	VABM-L1-10	For 2 to 10, 12 and 16 valve positions	48
[2]	Solenoid valve	VUVG	Sub-base valve	29
[3]	Cover cap	VMPA	For manual override	93
[4]	E-box	VAVE	For individual connection	vave
[5]	Seal	–	Included in the scope of delivery of the cover plate for a vacant position	92

Type codes

001	Series	
VTUG	Valve terminal	

002	Size	
10	Size 10	
14	Size 14	
18	Size 18	

003	Valve control	
M	Multi-pin	
V	Interface for fieldbus module	

004	Multi-pin plug connection type	
	None	
RC	Ribbon cable	
SD	Sub-D plug	

005	Circuitry	
R	Holding current reduction with integrated protective circuit	

006	Bus protocol/activation	
	None	
AP	CPX-AP interface	
LK	IO-Link®	
PT	I-Port interface	

007	Outlet direction of electrical components	
	Top	
L	Left	

008	Input channels	
	None	
8E	8 input channels	
16E	16 input channels	
24E	24 input channels	

009	Output ducts	
	None	
2A	2 output channels	

010	Switching input/output	
	None	
P	PNP	

011	Degree of protection, electrical system	
	Standard	
S8	IP67	

012	Valve type	
B	Sub-base valve	
S	Semi-inline valve	

013	Nominal operating voltage	
1	24 V DC	

014	Manual override	
	None	
H	Non-detenting	
S	Covered	
T	Non-detenting, detenting with accessories	
Y	Detenting	

015	Pilot air	
	Internal	
Z	External	

016	Additional function	
	None	
L	Interlock	

017	Number of pins	
	None	
25	25-pin	
26	26-pin	
44	44-pin	
50	50-pin	

018	Pin allocation	
	Standard	
V20	For 12 double solenoid/bistable or 24 single solenoid/monostable valves	
V21	For 18 double solenoid/bistable and 6 single solenoid/monostable valves	
V22	For 10 double solenoid/bistable valves	
V23	For 8 double solenoid/bistable and 4 single solenoid/monostable valves	
V24	For 4 double solenoid/bistable and 12 single solenoid/monostable valves	
V25	For 20 single solenoid/monostable valves	
V26	For 24 double solenoid/bistable valves	

019	Material of fittings	
	Standard	
B2	Brass, nickel-plated	
V1	Stainless steel	

020	Compressed air supply connection	
Q6	Push-in connector 6 mm	
Q8	Push-in connector 8 mm	
Q10	Push-in connector 10 mm	
Q12	Push-in connector 12 mm	
Q16	Push-in connector 16 mm	
G18	G1/8	
G14	G1/4	
G38	G3/8	
T14	Push-in connector 1/4”	
T516	Push-in connector 5/16”	
T38	Push-in connector 3/8”	
T12	Push-in connector 1/2”	

021	Compressed air supply connection position	
	Both sides	
B	Underneath	
L	Left	
R	Right	
FD	Front, both sides, for control cabinet	
FDL	Front, left, for control cabinet	
FDR	Front, right, for control cabinet	

022	Compressed air supply connection type	
	Straight	
A	Elbow fitting	

Type codes

023	Exhaust connection	
DQ	Push-in fitting	
DT	Thread	
U	Silencer	
UC	Silencer	

024	Exhaust connection position	
	Both sides	
B	Underneath	
L	Left	
R	Right	
FD	Front, both sides, for control cabinet	
FDL	Front, left, for control cabinet	
FDR	Front, right, for control cabinet	

025	Valve connection	
C	Blanking plug	
G18	G1/8	
G14	G1/4	
M5	M5	
M7	M7	
Q3	Push-in connector 3 mm	
Q4	Push-in connector 4 mm	
QH4	Push-in connector 4 mm, with connecting thread M7	
Q6	Push-in connector 6 mm	
QH6	Push-in connector 6 mm, with connecting thread M7	
Q8	Push-in connector 8 mm	
Q10	Push-in connector 10 mm	
T14	Push-in connector 1/4”	
T18	Push-in connector 1/8”	
T316	Push-in connector 3/16”	
T38	Push-in connector 3/8”	
T516	Push-in connector 5/16”	
T532	Push-in connector 5/32”	
TH14	Push-in connector 1/4”, M7	
TH316	Push-in connector 3/16”, M7	

026	Push-in connection type	
S	Screwed	

027	Valve connection position	
	Front, straight outlet	
FA	Angled outlet front, top	
FB	Angled outlet front, top/underneath	
FC	Angled outlet at front, underneath	
FD	Front, straight outlet, for control cabinet	
U	Underneath, straight outlet	

028	Flow control function, connections 3 and 5	
	None	
FE	Fixed flow restrictor nominal size 0.5 mm	
FF	Fixed flow restrictor nominal size 0.6 mm	
FG	Fixed flow restrictor nominal size 0.7 mm	
FH	Fixed flow restrictor nominal size 0.85 mm	
FJ	Fixed flow restrictor nominal size 1 mm	
FK	Fixed flow restrictor nominal size 1.05 mm	
FL	Fixed flow restrictor, nominal size 1.15 mm	
FM	Fixed flow restrictor nominal size 1.2 mm	
FN	Fixed flow restrictor nominal size 1.4 mm	
FP	Fixed flow restrictor nominal size 1.55 mm	
FQ	Fixed flow restrictor, nominal size 1.6 mm	
FR	Fixed flow restrictor nominal size 1.8 mm	
ZS	Exhaust air	

029	Shut-off function	
	None	
SH	With hot swap for supply air ports	
WH	With hot swap for supply air ports and working ports	

030	Position function	
A	5/2 or 4/2-way valve, single solenoid/monostable, mechanical spring	
B	5/3- or 4/3-way valve, mid-position pressurised	
E	5/3 or 4/3-way valve, mid-position exhausted	
G	5/3 or 4/3-way valve, mid-position closed	
H	2x3/2-way valve, 1x normally closed, 1x normally open, pneumatic spring	
J	4/2 or 5/2-way double pilot valve	
K	2x3/2-way valve, normally closed	
L	Vacant position	
M	4/2 or 5/2-way valve, single solenoid/monostable, pneumatic spring	
N	2x3/2-way valve, normally open	
P	5/2-way valve, single solenoid/monostable, pneumatic/mechanical spring	
S	Additional power supply	
SD	Additional supply, exhaust, blanking plug	
SW	Additional supply, exhaust, push-in fitting	
VH	2x3/2-way valve, 1x normally closed, 1x normally open, mechanical spring	
VK	2x3/2-way valve, normally closed, mechanical spring	
VN	2x3/2-way valve, normally open, mechanical spring	
VW	1x3/2-way valve, normally open, external compressed air supply	
VX	1x3/2-way valve, normally closed, external compressed air supply	

Type codes

031	Working port	
	As selected	
T14	Push-in connector 1/4”	
TH14	Push-in connector 1/4”, M7	
T18	Push-in connector 1/8”	
T316	Push-in connector 3/16”	
TH316	Push-in connector 3/16”, M7	
T516	Push-in connector 5/16”	
T532	Push-in connector 5/32”	
T38	Push-in connector 3/8”	
QG14	G1/4	
QG18	G1/8	
CC	Blanking plug	
Q3	Push-in connector 3 mm	
Q4	Push-in connector 4 mm	
QH4	Push-in connector 4 mm, with connecting thread M7	
Q6	Push-in connector 6 mm	
QH6	Push-in connector 6 mm, with connecting thread M7	
Q8	Push-in connector 8 mm	
Q10	Push-in connector 10 mm	
QM5	M5	
QM7	M7	

032	Working port, duct 4	
	As selected	
XCC	Blanking plug	
XQG18	G1/8	
XQM5	M5	
XQ2	Push-in connector 2 mm	
XQM7	M7	
XQ3	Push-in connector 3 mm	
XQ4	Push-in connector 4 mm	
XQH4	Push-in connector 4 mm, with connecting thread M7	
XQ6	Push-in connector 6 mm	
XQH6	Push-in connector 6 mm, with connecting thread M7	
XQ8	Push-in connector 8 mm	
XT14	Push-in connector 1/4”	
XT18	Push-in connector 1/8”	
XT316	Push-in connector 3/16”	
XT516	Push-in connector 5/16”	
XT532	Push-in connector 5/32”	
XTH14	Push-in connector 1/4”, M7	
XTH316	Push-in connector 3/16”, M7	

033	Working port position	
	As selected	
FA	Angled outlet at top	
FB	Angled outlet at top/underneath	
FC	Angled outlet underneath	

034	Duct separation at valve level	
	None	
TP	Separator, duct 1	
TR	Separator duct 3, 5	
TS	Separator duct 1, 3, 5	

035	Electrical connection	
	As selected	
XH1	Individual connection, connection pattern H, horizontal connector	
XH3	Individual connection, connection pattern H, vertical plug	
XR1	Individual connection M8, 3-pin	
XX	Individual connection for vacant position	

036	Flow control function, connection 3	
	None	
FE	Nominal size 0.5 mm	
FF	Nominal size 0.6 mm	
FG	Nominal size 0.7 mm	
FH	Nominal size 0.85 mm	
FJ	Nominal size 1 mm	
FK	Nominal size 1.05 mm	
FL	nominal size 1.15 mm	
FM	Nominal size 1.2 mm	
FN	nominal size 1.4 mm	
FP	Nominal size 1.55 mm	
FQ	Nominal size 1.6 mm	
FR	Nominal size 1.8 mm	
ZS	Exhaust air	

037	Flow control function, connection 5	
	None	
XFE	Nominal size 0.5 mm	
XFF	Nominal size 0.6 mm	
XFG	Nominal size 0.7 mm	
XFH	Nominal size 0.85 mm	
XFJ	Nominal size 1 mm	
XFK	Nominal size 1.05 mm	
XFL	nominal size 1.15 mm	
XFM	Nominal size 1.2 mm	
XFN	nominal size 1.4 mm	
XFP	Nominal size 1.55 mm	
XFQ	Nominal size 1.6 mm	
XFR	Nominal size 1.8 mm	
XZS	Exhaust air	

038	Certification	
	None	

039	Mounting accessories	
	None	
A	Mounting bracket for regulator knob	
H	H-rail mounting	

040	Accessories for IO-Link®	
	None	
XM	T-adapter, M12, 5-pin, for IO-Link® and load supply	

041	Accessories for IO-Link®, separate load supply	
	None	
XN	Straight plug, M12, 5-pin	

Datasheet – Semi in-line valves M5/M7

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

Circuit diagrams ➔ Page 17

- Size 10 mm
- Flow rate
  130 ... 330 l/min
- Voltage
  24 V DC

General technical data													
Valve function			T32-A			T32-M			M52-R	B52	M52-M	P53		
Normal position			C[1]	U[2]	H[4]	C[1]	U[2]	H[4]	–	–	–	C[1]	U[2]	E[3]
Stable position			Monostable							Bistable	Monostable			
Pneumatic spring return			Yes			No			Yes5)	–	No	–		
Mechanical spring return			No			Yes			Yes5)	–	Yes	Yes		
Vacuum operation at port 1			No			With external pilot air								
Design			Piston spool											
Sealing principle			Soft											
Actuation type			Electrical											
Type of control			Piloted											
Pilot air supply			External											
Exhaust air function			Can be throttled											
Manual override			Choice of non-detenting, covered, non-detenting/detenting or detenting											
Type of mounting			On manifold rail											
Mounting position			Any											
Overlap			Positive overlap											Indeterminate overlap
Signal status indication			LED											
Flow rate on manifold rail M5		[l/min]	150			130			230			210		
Flow rate on manifold rail M7		[l/min]	160			140			330		290	280		
Size		[mm]	10											
Connection	1, 3, 5, 12/14, 82/84		On manifold rail											
	2, 4		M5 (VUVG-S10-...-M5)											
			M7 (VUVG-S10-...-M7)											
Product weight		[g]	59						53	60	53	58		
Certification			c UL us - Recognized (OL)											
			RCM											
CE marking (see declaration of conformity)[6]			To EU EMC Directive											
Corrosion resistance class CRC7)			2											

1) C=Normally closed/mid-position closed
2) U=Normally open/mid-position pressurised
3) E=Mid-position exhausted
4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open
5) Combined reset method
6) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/... ➔ Support/Downloads.
   If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.
7) More information www.festo.com/x/topic/crc

Datasheet – Semi in-line valves M5/M7

Operating and environmental conditions								
Valve function			T32-A[1]	T32-M[2]	M52-R[3]	B52	M52-M[2]	P53
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]					
Operating pressure	Internal pilot air supply	[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8	1.5 ... 8	3 ... 8	3 ... 8
	External pilot air supply	[MPa]	0.15 ... 1	–0.09 ... 1	–	–0.09 ... 1	–0.09 ... 0.8	–0.09 ... 1
		[bar]	1.5 ... 10	–0.9 ... 10			–0.9 ... 8	–0.9 ... 10
Pilot pressure4)		[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8	1.5 ... 8	3 ... 8	3 ... 8
Ambient temperature		[°C]	–5 ... +60					
Temperature of medium		[°C]	–5 ... +60					
LABS (PWIS) conformity			VDMA24364-B1/B2-L					

1) Pneumatic spring
2) Mechanical spring
3) Mixed, pneumatic/mechanical spring
4) See graphs on page 12

Electrical data			
Electrical connection			Via E-box
Operating voltage		[V DC]	24 ±10%
Power		[W]	1/0.4 (after 25 ms)
Duty cycle		[%]	100
Max. switching frequency		[Hz]	3
Degree of protection to EN 605291)	Individual valve		IP65, IP67
	Valve terminal VTUG		IP40, IP67/IP65

1) Depending on the configuration selected

Safety data		
Max. positive test pulse with logic 0	[µs]	1600
Max. negative test pulse with logic 1	[µs]	3000
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Vibration resistant		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6

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

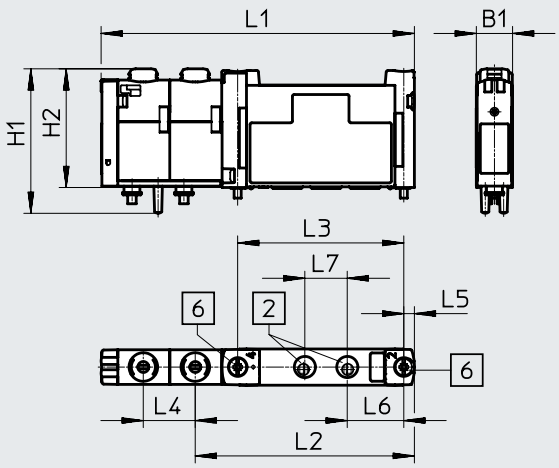
Valve switching times							
Valve function		T32-A[1]	T32-M[2]	M52-R[3]	B52	M52-M[2]	P53
Switching time on	[ms]	8	10	9	–	12	12
Switching time off	[ms]	20	20	21	–	30	38
Switching time changeover	[ms]	–	–	–	9	–	16

1) Pneumatic spring
2) Mechanical spring
3) Mixed, pneumatic/mechanical spring

Datasheet – Semi in-line valves M5/M7

Dimensions Download CAD data ➔ www.festo.com

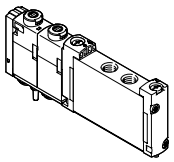
Semi in-line valves M5/M7



[2] Ports 2 and 4: M7/M5
[6] Retaining screw

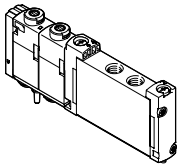
Type	B1	H1	H2	L1	L2	L3	L4	L5	L6	L7
VUVG-S10-...-M5-1T1L	10.3	40.7	33.6	88.6	62	47	14.7	3	16	12
VUVG-S10-...-M7-1T1L										

Ordering data

	Description		Part no.	Type
Semi in-line valve M5				
	**2x 3/2-way valve**			
	External pilot air supply	Normally closed, pneumatic spring return	**573386**	**VUVG-S10-T32C-AZT-M5-1T1L**
		Normally open, pneumatic spring return	**573387**	**VUVG-S10-T32U-AZT-M5-1T1L**
		1x normally open, 1x normally closed, pneumatic spring return	**573388**	**VUVG-S10-T32H-AZT-M5-1T1L**
		Normally closed, mechanical spring return	**573389**	**VUVG-S10-T32C-MZT-M5-1T1L**
		Normally open, mechanical spring return	**573390**	**VUVG-S10-T32U-MZT-M5-1T1L**
		1x normally open, 1x normally closed, mechanical spring return	**573391**	**VUVG-S10-T32H-MZT-M5-1T1L**
	5/2-way valve, single solenoid			
	External pilot air supply	Mechanical spring return	**573393**	**VUVG-S10-M52-MZT-M5-1T1L**
		Pneumatic/mechanical spring return	**573392**	**VUVG-S10-M52-RZT-M5-1T1L**
	5/2-way valve, double solenoid			
	External pilot air supply		**573394**	**VUVG-S10-B52-ZT-M5-1T1L**
	5/3-way valve			
	External pilot air supply	Mid-position closed, mechanical spring return	**573395**	**VUVG-S10-P53C-ZT-M5-1T1L**
		Mid-position pressurised, mechanical spring return	**573397**	**VUVG-S10-P53U-ZT-M5-1T1L**
		Mid-position exhausted, mechanical spring return	**573396**	**VUVG-S10-P53E-ZT-M5-1T1L**

Ordering data

Ordering data

	Description		Part no.	Type
Semi in-line valve M7				
	**2x 3/2-way valve**			
	External pilot air supply	Normally closed, pneumatic spring return	**573398**	**VUVG-S10-T32C-AZT-M7-1T1L**
		Normally open, pneumatic spring return	**573399**	**VUVG-S10-T32U-AZT-M7-1T1L**
		1x normally open, 1x normally closed, pneumatic spring return	**573400**	**VUVG-S10-T32H-AZT-M7-1T1L**
		Normally closed, mechanical spring return	**573401**	**VUVG-S10-T32C-MZT-M7-1T1L**
		Normally open, mechanical spring return	**573402**	**VUVG-S10-T32U-MZT-M7-1T1L**
		1x normally open, 1x normally closed, mechanical spring return	**573403**	**VUVG-S10-T32H-MZT-M7-1T1L**
	5/2-way valve, single solenoid			
	External pilot air supply	Mechanical spring return	**573405**	**VUVG-S10-M52-MZT-M7-1T1L**
		Pneumatic/mechanical spring return	**573404**	**VUVG-S10-M52-RZT-M7-1T1L**
	5/2-way valve, double solenoid			
	External pilot air supply		**573406**	**VUVG-S10-B52-ZT-M7-1T1L**
	5/3-way valve			
	External pilot air supply	Mid-position closed, mechanical spring return	**573407**	**VUVG-S10-P53C-ZT-M7-1T1L**
		Mid-position pressurised, mechanical spring return	**573409**	**VUVG-S10-P53U-ZT-M7-1T1L**
		Mid-position exhausted, mechanical spring return	**573408**	**VUVG-S10-P53E-ZT-M7-1T1L**

Datasheet – Semi in-line valves G1/8

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

Circuit diagrams ➔ Page 17

Size 14 mm

Flow rate
520 ... 630 l/min

Voltage
24 V DC

General technical data													
Valve function			T32-A			T32-M			M52-A	B52	M52-M	P53		
Normal position			C[1]	U[2]	H[4]	C[1]	U[2]	H[4]	–	–	–	C[1]	U[2]	E[3]
Stable position			Monostable							Bistable	Monostable			
Pneumatic spring return			Yes			No			Yes	–	No	–		
Mechanical spring return			No			Yes			No	–	Yes	Yes		
Vacuum operation at port 1			No			With external pilot air								
Design			Piston spool											
Sealing principle			Soft											
Actuation type			Electrical											
Type of control			Piloted											
Pilot air supply			External											
Exhaust air function			Can be throttled											
Manual override			Choice of non-detenting, covered, non-detenting/detenting or detenting											
Type of mounting			On manifold rail											
Mounting position			Any											
Overlap			Positive overlap											
Signal status indication			LED											
Flow rate on manifold rail G1/8		[l/min]	610			520			620	630	620	590		
Size		[mm]	14											
Connection	1, 3, 5, 12/14, 82/84		On manifold rail											
	2, 4		G1/8											
Product weight		[g]	102			100			91	98	89	95		
Certification			c UL us - Recognized (OL)											
			RCM											
CE marking (see declaration of conformity)[5]			To EU EMC Directive											
Corrosion resistance class CRC6)			2											

1) C=Normally closed/mid-position closed
2) U=Normally open/mid-position pressurised
3) E=Mid-position exhausted
4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open
5) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/... ➔ Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.
6) More information www.festo.com/x/topic/crc

Datasheet – Semi in-line valves G1/8

Operating and environmental conditions								
Valve function			T32-A[1]	T32-M[2]	M52-A[1]	B52	M52-M[2]	P53
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]					
Operating pressure	Internal pilot air supply	[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8	1.5 ... 8	3 ... 8	3 ... 8
	External pilot air supply	[MPa]	0.15 ... 1	–0.09 ... 1			–0.09 ... 0.8	–0.09 ... 1
		[bar]	1.5 ... 10	–0.9 ... 10			–0.9 ... 8	–0.9 ... 10
Pilot pressure3)		[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8	1.5 ... 8	3 ... 8	3 ... 8
Ambient temperature		[°C]	–5 ... +60					
Temperature of medium		[°C]	–5 ... +60					
LABS (PWIS) conformity			VDMA24364-B1/B2-L					

1) Pneumatic spring
2) Mechanical spring
3) See graphs on page 12

Electrical data			
Electrical connection			Via E-box
Operating voltage		[V DC]	24 ±10%
Power		[W]	1/0.4 (after 25 ms)
Duty cycle		[%]	100
Max. switching frequency		[Hz]	3
Degree of protection to EN 605291)	Individual valve		IP65, IP67
	Valve terminal VTUG		IP40, IP67/IP65

1) Depending on the configuration selected

Safety data		
Max. positive test pulse with logic 0	[µs]	1600
Max. negative test pulse with logic 1	[µs]	3000
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Vibration resistant		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6

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

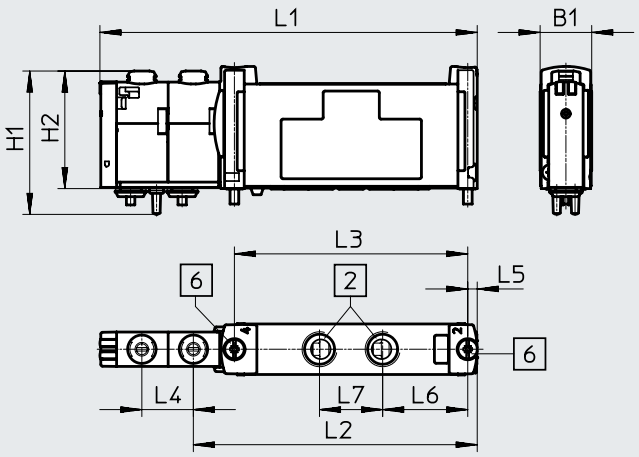
Valve switching times							
Valve function		T32-A[1]	T32-M[2]	M52-A[1]	B52	M 52-M[2]	P53
Switching time on	[ms]	10	13	13	–	10	15
Switching time off	[ms]	29	21	26	–	38	42
Switching time changeover	[ms]	–	–	–	9	–	25

1) Pneumatic spring
2) Mechanical spring

Datasheet – Semi in-line valves G1/8

Dimensions Download CAD data ➔ www.festo.com

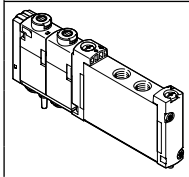
Semi in-line valves G1/8



[2] Ports 2 and 4: G1/8
[6] Retaining screw

Type	B1	H1	H2	L1	L2	L3	L4	L5	L6	L7
VUVG-S14-...-G18-1T1L	14.7	40.9	33.5	107.6	81	66.5	14.7	2.8	24.3	18

Ordering data

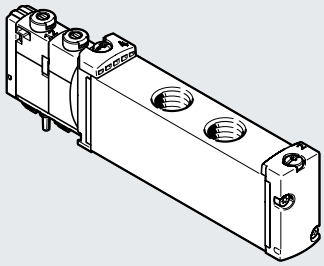
	Description		Part no.	Type
Semi in-line valve G1/8				
	**2x 3/2-way valve**			
	External pilot air supply	Normally closed, pneumatic spring return	**573464**	**VUVG-S14-T32C-AZT-G18-1T1L**
		Normally open, pneumatic spring return	**573465**	**VUVG-S14-T32U-AZT-G18-1T1L**
		1x normally open, 1x normally closed, pneumatic spring return	**573466**	**VUVG-S14-T32H-AZT-G18-1T1L**
		Normally closed, mechanical spring return	**573467**	**VUVG-S14-T32C-MZT-G18-1T1L**
		Normally open, mechanical spring return	**573468**	**VUVG-S14-T32U-MZT-G18-1T1L**
		1x normally open, 1x normally closed, mechanical spring return	**573469**	**VUVG-S14-T32H-MZT-G18-1T1L**
	5/2-way valve, single solenoid			
	External pilot air supply	Pneumatic spring return	**573470**	**VUVG-S14-M52-AZT-G18-1T1L**
		Mechanical spring return	**573471**	**VUVG-S14-M52-MZT-G18-1T1L**
	5/2-way valve, double solenoid			
	External pilot air supply		**573472**	**VUVG-S14-B52-ZT-G18-1T1L**
	5/3-way valve			
	External pilot air supply	Mid-position closed, mechanical spring return	**573473**	**VUVG-S14-P53C-ZT-G18-1T1L**
		Mid-position pressurised, mechanical spring return	**573475**	**VUVG-S14-P53U-ZT-G18-1T1L**
		Mid-position exhausted, mechanical spring return	**573474**	**VUVG-S14-P53E-ZT-G18-1T1**

Datasheet – Semi in-line valves G1/4

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

Circuit diagrams ➔ Page 17

- Size 18 mm
- Flow rate
  900 ... 1200 l/min
- Voltage
  24 V DC



General technical data

Valve function			T32-A			T32-M			M52-R	B52	M52-M	P53		
Normal position			C[1]	U[2]	H[4]	C[1]	U[2]	H[4]	–	–	–	C[1]	U[2]	E[3]
Stable position			Monostable							Bistable	Monostable			
Pneumatic spring return			Yes			No			Yes5)	–	No	–		
Mechanical spring return			No			Yes			Yes5)	–	Yes	Yes		
Vacuum operation at port 1			No			With external pilot air								
Design			Piston spool											
Sealing principle			Soft											
Actuation type			Electrical											
Type of control			Piloted											
Pilot air supply			External											
Exhaust air function			Can be throttled											
Manual override			Choice of non-detenting, covered, non-detenting/detenting or detenting											
Type of mounting			On manifold rail											
Mounting position			Any											
Overlap			Positive overlap						Indeterminate overlap	Positive overlap	Indeterminate overlap	Positive overlap	Indeterminate overlap	
Signal status indication			LED											
Flow rate on manifold rail G1/8		[l/min]	950			900			1150	1200	1150	1000		
Size		[mm]	18											
Connection	1, 3, 5, 12/14, 82/84		On manifold rail											
	2, 4		G1/4											
Product weight		[g]	145			147			138	145	138	140		
Certification			c UL us - Recognized (OL)											
			RCM											
CE marking (see declaration of conformity)[6]			To EU EMC Directive											
Corrosion resistance class CRC7)			2											

1) C=Normally closed/mid-position closed
2) U=Normally open/mid-position pressurised
3) E=Mid-position exhausted
4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open
5) Combined reset method
6) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/... ➔ Support/Downloads.
   If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.
7) More information www.festo.com/x/topic/crc

Datasheet – Semi in-line valves G1/4

Operating and environmental conditions								
Valve function			T32-A[1]	T32-M[2]	M52-R[3]	B52	M52-M[2]	P53
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]					
Pilot medium			Compressed air to ISO 8573-1:2010 [7:4:4]					
Note on the operating/pilot medium			Lubricated operation possible (in which case lubricated operation will always be required)					
Operating pressure	Internal pilot air supply	[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8		0.3 ... 0.8	
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8		3 ... 8	
	External pilot air supply	[MPa]	0.15 ... 1	–0.09 ... 1			–0.09 ... 0.8	–0.09 ... 1
		[bar]	1.5 ... 10	–0.9 ... 10			–0.9 ... 8	–0.9 ... 10
Pilot pressure4)		[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8		0.3 ... 0.8	
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8		3 ... 8	
Ambient temperature		[°C]	–5 ... +60					
Temperature of medium		[°C]	–5 ... +60					
LABS (PWIS) conformity			VDMA24364-B1/B2-L					

1) Pneumatic spring
2) Mechanical spring
3) Mixed, pneumatic/mechanical spring
4) See graphs on page 12

Electrical data			
Electrical connection			Via E-box
Operating voltage		[V DC]	24 ±10%
Power		[W]	1
Duty cycle		[%]	100
Max. switching frequency		[Hz]	3
Degree of protection to EN 605291)	Individual valve		IP65, IP67
	Valve terminal VTUG		IP40, IP67/IP65

1) Depending on the configuration selected

Safety data		
Max. positive test pulse with logic 0	[µs]	1600
Max. negative test pulse with logic 1	[µs]	3000
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Vibration resistant		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6

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

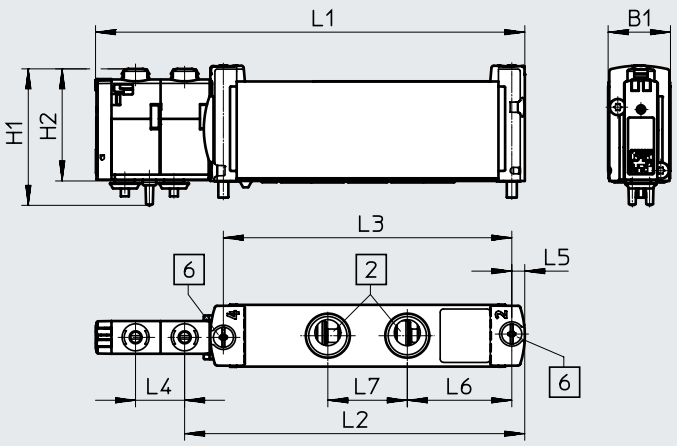
Valve switching times							
Valve function		T32-A[1]	T32-M[2]	M52-R[3]	B52	M52-M[2]	P53
Switching time on	[ms]	15	25	20	–	13	20
Switching time off	[ms]	37	33	35	–	50	68
Switching time changeover	[ms]	–	–	–	15	–	35

1) Pneumatic spring
2) Mechanical spring
3) Mixed, pneumatic/mechanical spring

Datasheet – Semi in-line valves G1/4

Dimensions Download CAD data ➔ www.festo.com

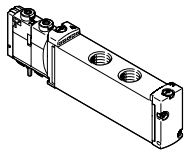
Semi in-line valve G1/4



[2] Ports 2 and 4: G1/4
[6] Retaining screw

Type	B1	H1	H2	L1	L2	L3	L4	L5	L6	L7
VUVG-S18-...-G14-1T1L	18.7	40.9	33.6	128.6	101.9	86.4	14.7	3.9	31.3	23.8

Ordering data

	Description		Part no.	Type
Semi in-line valve G1/4				
	**2x 3/2-way valve**			
	External pilot air supply	Normally closed	**8004873**	**VUVG-S18-T32C-AZT-G14-1T1L**
		Normally open, pneumatic spring return	**8004874**	**VUVG-S18-T32U-AZT-G14-1T1L**
		1x normally open, 1x normally closed, pneumatic spring return	**8004875**	**VUVG-S18-T32H-AZT-G14-1T1L**
		Normally closed, mechanical spring return	**8004876**	**VUVG-S18-T32C-MZT-G14-1T1L**
		Normally open, mechanical spring return	**8004877**	**VUVG-S18-T32U-MZT-G14-1T1L**
		1x normally open, 1x normally closed, mechanical spring return	**8004878**	**VUVG-S18-T32H-MZT-G14-1T1L**
	5/2-way valve, single solenoid			
	External pilot air supply	Pneumatic/mechanical spring return	**8004879**	**VUVG-S18-M52-RZT-G14-1T1L**
		Mechanical spring return	**8004880**	**VUVG-S18-M52-MZT-G14-1T1L**
	5/2-way valve, double solenoid			
	External pilot air supply		**8004881**	**VUVG-S18-B52-ZT-G14-1T1L**
	5/3-way valve			
	External pilot air supply	Mid-position closed	**8004882**	**VUVG-S18-P53C-ZT-G14-1T1L**
		Mid-position pressurised	**8004883**	**VUVG-S18-P53E-ZT-G14-1T1L**
		Mid-position exhausted	**8004884**	**VUVG-S18-P53U-ZT-G14-1T1L**

Datasheet – Sub-base valve M5/M7

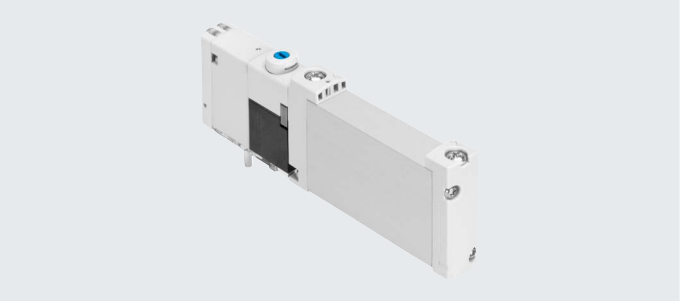
Function
3/2C, 3/2U
2x 3/2C, 2x 3/2U, 2x 3/2H
5/2-way, single solenoid
5/2-way, double solenoid
5/3C, 5/3U, 5/3E

Size 10 mm

Flow rate
130 ... 300 l/min

Voltage
24 V DC

Circuit diagrams ➔ Page 17



General technical data

Valve function		T32-A			T32-M			M32-R		M52-R	B52	M52-M	P53		
Normal position		C[1]	U[2]	H[4]	C[1]	U[2]	H[4]	C[1]	U[2]	–	–	–	C[1]	U[2]	E[3]
Stable position		Monostable									Bistable	Monostable			
Pneumatic spring return		Yes			No			No		Yes5)	–	No	–		
Mechanical spring return		No			Yes			Yes		Yes5)	–	Yes	Yes		
Vacuum operation at port 1		No			With external pilot air										
Design		Piston spool													
Sealing principle		Soft													
Actuation type		Electrical													
Type of control		Piloted													
Pilot air supply		External													
Exhaust air function		Can be throttled													
Manual override		Choice of non-detenting, covered, non-detenting/detenting or detenting													
Type of mounting		On manifold rail													
Mounting position		Any													
Overlap		Positive overlap													Indeterminate overlap
Signal status indication		LED													
Standard nominal flow rate M5/M7	[l/min]	160			140			140		300		260	260		
Flow rate on manifold rail M5, front	[l/min]	150			130			130		220		220	200		
Flow rate on manifold rail M7, front	[l/min]	160			140			140		270		240	250		
Flow rate on manifold rail M7, underneath	[l/min]	160			140			140		300		260	260		
Size	[mm]	10													
Connection	1, 3, 5, 12/14, 82/84	On manifold rail													
	2, 4	On manifold rail													
Product weight	[g]	59						53			60	53	58		
Certification		c UL us - Recognized (OL)													
		RCM													
CE marking (see declaration of conformity)[6]		To EU EMC Directive													
Corrosion resistance class CRC7)		2													

1) C=Normally closed/mid-position closed
2) U=Normally open/mid-position pressurised
3) E=Mid-position exhausted
4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open
5) Combined reset method
6) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/... ➔ Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.
7) More information www.festo.com/x/topic/crc

Datasheet – Sub-base valve M5/M7

Operating and environmental conditions

Valve function			T32-A[1]	T32-M[2]	M32-R[3]	M52-R[3]	B52	M52-M[2]	P53
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]						
Operating pressure	Internal pilot air supply	[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8			0.3 ... 0.8	
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8			3 ... 8	
	External pilot air supply	[MPa]	0.15 ... 1	–0.09 ... 1				–0.09 ... 0.8	–0.09 ... 1
		[bar]	1.5 ... 10	–0.9 ... 10				–0.9 ... 8	–0.9 ... 10
Pilot pressure4)		[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8			0.3 ... 0.8	
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8			3 ... 8	
Ambient temperature		[°C]	–5 ... +60						
Temperature of medium		[°C]	–5 ... +60						
LABS (PWIS) conformity	Valve terminal VTUG-...		VDMA24364-B1/B2-L						

1) Pneumatic spring
2) Mechanical spring
3) Mixed, pneumatic/mechanical spring
4) See graphs on page 12

Electrical data

Electrical connection			Via E-box
Operating voltage		[V DC]	24 ±10%
Power consumption per valve solenoid		[W]	1/0.4 (after 25 ms)
Duty cycle		[%]	100
Max. switching frequency		[Hz]	3
Degree of protection to EN 605291)	Individual valve		IP65, IP67
	Valve terminal VTUG (all variants)		IP40, IP67/IP65, NEMA 4X
	Valve terminal VTUG (for control cabinet installation)		IP69K

1) Depending on the configuration selected

Safety data

Max. positive test pulse with logic 0	[µs]	1600
Max. negative test pulse with logic 1	[µs]	3000
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Vibration resistant		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6

Information on materials

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

Valve switching times

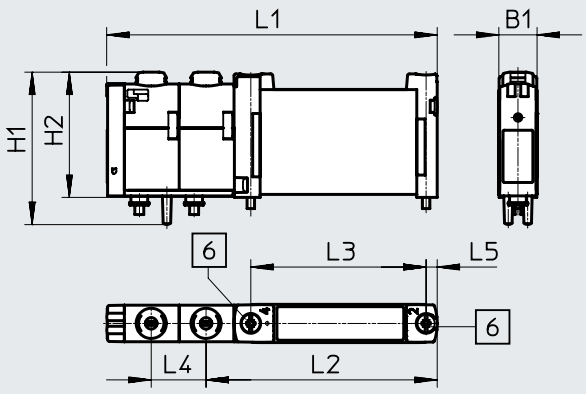
Valve function		T32-A[1]	T32-M[2]	M32-R[3]	M52-R[3]	B52	M52-M[2]	P53
Switching time on	[ms]	8	10	9	9	–	12	12
Switching time off	[ms]	20	20	17	21	–	30	38
Switching time changeover	[ms]	–	–	–	–	9	–	16

1) Pneumatic spring
2) Mechanical spring
3) Mixed, pneumatic/mechanical spring

Datasheet – Sub-base valve M5/M7

Dimensions Download CAD data ➔ www.festo.com

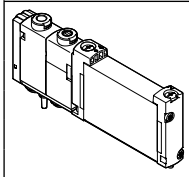
Sub-base valve M5/M7



[6] Retaining screw

Type	B1	H1	H2	L1	L2	L3	L4	L5
VUVG-B10-...-F-1T1L	10.3	40.7	33	88.6	62	47	14.7	3

Ordering data

	Description		Part no.	Type
Sub-base valve M5/M7				
	**3/2-way valve**			
	External pilot air supply	Normally closed, mechanical spring return	**8028231**	**VUVG-B10Z-M32C-RZT-F-1T1L**
		Normally open, mechanical spring return	**8028232**	**VUVG-B10Z-M32U-RZT-F-1T1L**
	2x 3/2-way valve			
	External pilot air supply	Normally closed, pneumatic spring return	**573410**	**VUVG-B10-T32C-AZT-F-1T1L**
		Normally open, pneumatic spring return	**573411**	**VUVG-B10-T32U-AZT-F-1T1L**
		1x normally open, 1x normally closed, pneumatic spring return	**573412**	**VUVG-B10-T32H-AZT-F-1T1L**
		Normally closed, mechanical spring return	**573413**	**VUVG-B10-T32C-MZT-F-1T1L**
		Normally open, mechanical spring return	**573414**	**VUVG-B10-T32U-MZT-F-1T1L**
		1x normally open, 1x normally closed, mechanical spring return	**573415**	**VUVG-B10-T32H-MZT-F-1T1L**
	5/2-way valve, single solenoid			
	External pilot air supply	Mechanical spring return	**573417**	**VUVG-B10-M52-MZT-F-1T1L**
		Pneumatic/mechanical spring return	**573416**	**VUVG-B10-M52-RZT-F-1T1L**
	5/2-way valve, double solenoid			
	External pilot air supply		**573418**	**VUVG-B10-B52-ZT-F-1T1L**
	5/3-way valve			
	External pilot air supply	Mid-position closed, mechanical spring return	**573419**	**VUVG-B10-P53C-ZT-F-1T1L**
		Mid-position pressurised, mechanical spring return	**573421**	**VUVG-B10-P53U-ZT-F-1T1L**
		Mid-position exhausted, mechanical spring return	**573420**	**VUVG-B10-P53E-ZT-F-1T1L**

Datasheet – Sub-base valve G1/8

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

Size 14 mm

Flow rate
350 ... 560 l/min

Voltage
24 V DC

Circuit diagrams ➔ Page 17

General technical data

Valve function		T32-A			T32-M			M32-A		M52-A	B52	M52-M	P53		
Normal position		C[1]	U[2]	H[4]	C[1]	U[2]	H[4]	C[1]	U[2]	–	–	–	C[1]	U[2]	E[3]
Stable position		Monostable									Bistable	Monostable			
Pneumatic spring return		Yes			No			Yes		Yes	–	No	–		
Mechanical spring return		No			Yes			No		No	–	Yes	Yes		
Vacuum operation at port 1		No			With external pilot air										
Design		Piston spool													
Sealing principle		Soft													
Actuation type		Electrical													
Type of control		Piloted													
Pilot air supply		External													
Exhaust air function		Can be throttled													
Manual override		Choice of non-detenting, covered, non-detenting/detenting or detenting													
Type of mounting		On manifold rail													
Overlap		Positive overlap													
Mounting position		Any													
Signal status indication		LED													
Standard nominal flow rate G1/8	[l/min]	530			470			350		550	560	550	510		
Flow rate on manifold rail G1/8, front	[l/min]	490			440			320		500	510	500	470		
Flow rate on manifold rail G1/8, underneath	[l/min]	530			470			350		550	560	550	510		
Size	[mm]	14													
Connection	1, 3, 5, 12/14, 82/84	On manifold rail													
	2, 4	On manifold rail													
Product weight	[g]	102			100			91			98	89	95		
Certification		c UL us - Recognized (OL)													
		RCM													
CE marking (see declaration of conformity)[5]		To EU EMC Directive													
Corrosion resistance class CRC6)		2													

1) C=Normally closed/mid-position closed
2) U=Normally open/mid-position pressurised
3) E=Mid-position exhausted
4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open
5) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/... ➔ Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.
6) More information www.festo.com/x/topic/crc

Datasheet – Sub-base valve G1/8

Operating and environmental conditions									
Valve function			T32-A[1]	T32-M[2]	M32-A[1]	M52-A[1]	B52	M52-M[2]	P53
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]						
Operating pressure	Internal pilot air supply	[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8			0.3 ... 0.8	
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8			3 ... 8	
	External pilot air supply	[MPa]	0.15 ... 1	–0.09 ... 1				–0.09 ... 0.8	–0.09 ... 1
		[bar]	1.5 ... 10	–0.9 ... 10				–0.9 ... 8	–0.9 ... 10
Pilot pressure3)		[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8			0.3 ... 0.8	
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8			3 ... 8	
Ambient temperature		[°C]	–5 ... +60						
Temperature of medium		[°C]	–5 ... +60						
LABS (PWIS) conformity	Valve terminal VTUG-...		VDMA24364-B1/B2-L						

1) Pneumatic spring
2) Mechanical spring
3) See graphs on page 12

Electrical data			
Electrical connection			Via E-box
Operating voltage		[V DC]	24 ±10%
Power		[W]	1/0.4 (after 25 ms)
Duty cycle		[%]	100
Max. switching frequency		[Hz]	3
Degree of protection to EN 605291)	Individual valve		IP67/IP65
	Valve terminal VTUG (all variants)		IP40, IP67/IP65, NEMA 4X
	Valve terminal VTUG (for control cabinet installation)		IP69K

1) Depending on the configuration selected

Safety data		
Max. positive test pulse with logic 0	[µs]	1600
Max. negative test pulse with logic 1	[µs]	3000
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Vibration resistant		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6

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

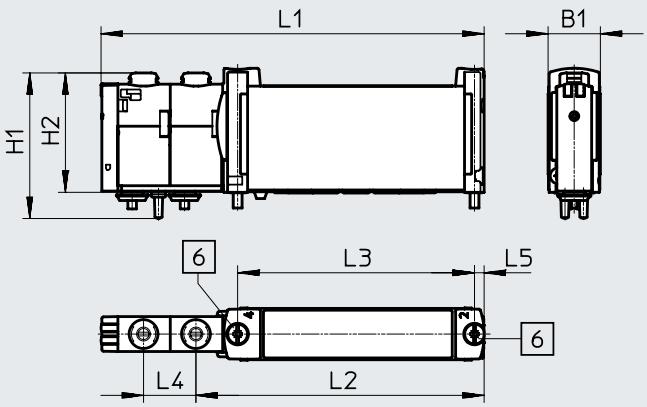
Valve switching times								
Valve function		T32-A[1]	T32-M[2]	M32-A[1]	M52-A[1]	B52	M52-M[2]	P53
Switching time on	[ms]	10	13	13	13	–	10	15
Switching time off	[ms]	29	21	20	26	–	38	42
Switching time changeover	[ms]	–	–	–	–	9	–	25

1) Pneumatic spring
2) Mechanical spring

Datasheet – Sub-base valve G1/8

Dimensions Download CAD data ➔ www.festo.com

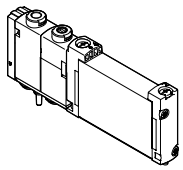
Sub-base valve G1/8



[6] Retaining screw

Type	B1	H1	H2	L1	L2	L3	L4	L5
VUVG-B14-...-F-1T1L	14.7	40.9	33.5	107.6	81	66.5	15.1	2.8

Ordering data

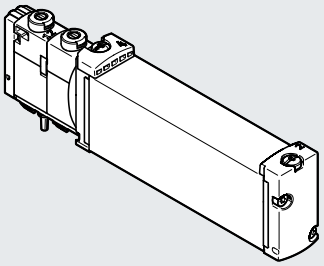
	Description		Part no.	Type
Sub-base valve G1/8				
	**3/2-way valve**			
	External pilot air supply	Normally closed, pneumatic spring return	**8028235**	**VUVG-B14Z-M32C-AZT-F-1T1L**
		Normally open, pneumatic spring return	**8028236**	**VUVG-B14Z-M32U-AZT-F-1T1L**
	2x 3/2-way valve			
	External pilot air supply	Normally closed, pneumatic spring return	**573476**	**VUVG-B14-T32C-AZT-F-1T1L**
		Normally open, pneumatic spring return	**573477**	**VUVG-B14-T32U-AZT-F-1T1L**
		1x normally open, 1x normally closed, pneumatic spring return	**573478**	**VUVG-B14-T32H-AZT-F-1T1L**
		Normally closed, mechanical spring return	**573479**	**VUVG-B14-T32C-MZT-F-1T1L**
		Normally open, mechanical spring return	**573480**	**VUVG-B14-T32U-MZT-F-1T1L**
		1x normally open, 1x normally closed, mechanical spring return	**573481**	**VUVG-B14-T32H-MZT-F-1T1L**
	5/2-way valve, single solenoid			
	External pilot air supply	Pneumatic spring return	**573482**	**VUVG-B14-M52-AZT-F-1T1L**
		Mechanical spring return	**573483**	**VUVG-B14-M52-MZT-F-1T1L**
	5/2-way valve, double solenoid			
	External pilot air supply		**573484**	**VUVG-B14-B52-ZT-F-1T1L**
	5/3-way valve			
	External pilot air supply	Mid-position closed, mechanical spring return	**573485**	**VUVG-B14-P53C-ZT-F-1T1L**
		Mid-position pressurised, mechanical spring return	**573487**	**VUVG-B14-P53U-ZT-F-1T1L**
		Mid-position exhausted, mechanical spring return	**573486**	**VUVG-B14-P53E-ZT-F-1T1L**

Datasheet – Sub-base valve G1/4

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

Circuit diagrams ➔ Page 17

- Size 18 mm
- Flow rate 800 ... 1000 l/min
- Voltage 24 V DC



General technical data

Valve function			T32-A			T32-M			M52-R	B52	M52-M	P53		
Normal position			C[1]	U[2]	H[4]	C[1]	U[2]	H[4]	–	–	–	C[1]	U[2]	E[3]
Stable position			Monostable							Bistable	Monostable			
Pneumatic spring return			Yes			No			Yes5)	–	No	–		
Mechanical spring return			No			Yes			Yes5)	–	Yes	Yes		
Vacuum operation at port 1			No			With external pilot air								
Design			Piston spool											
Sealing principle			Soft											
Actuation type			Electrical											
Type of control			Piloted											
Pilot air supply			External											
Exhaust air function			Can be throttled											
Manual override			Choice of non-detenting, covered, non-detenting/detenting or detenting											
Type of mounting			On manifold rail											
Mounting position			Any											
Overlap			Positive overlap						Indeterminate overlap	Positive overlap	Indeterminate overlap	Positive overlap	Indeterminate overlap	
Signal status indication			LED											
Flow rate on manifold rail G1/4, front		[l/min]	800			800			950	1000	950	900		
Size		[mm]	18											
Connection	1, 3, 5, 12/14, 82/84		On manifold rail											
	2, 4		On manifold rail											
Product weight		[g]	145			147			138	145	138	140		
Certification			c UL us - Recognized (OL)											
			RCM											
CE marking (see declaration of conformity)			To EU EMC Directive[6])											
Corrosion resistance class CRC7)			2											

1) C=Normally closed/mid-position closed
2) U=Normally open/mid-position pressurised
3) E=Mid-position exhausted
4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open
5) Combined reset method
6) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/... ➔ Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.
7) More information www.festo.com/x/topic/crc

Datasheet – Sub-base valve G1/4

Operating and environmental conditions

Valve function			T32-A[1]	T32-M[2]	M52-R[3]	B52	M52-M[2]	P53
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]					
Pilot medium			Compressed air to ISO 8573-1:2010 [7:4:4]					
Note on the operating/pilot medium			Lubricated operation possible (in which case lubricated operation will always be required)					
Operating pressure	Internal pilot air supply	[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8		0.3 ... 0.8	
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8		3 ... 8	
	External pilot air supply	[MPa]	0.15 ... 1	–0.09 ... 1			–0.09 ... 0.8	–0.09 ... 1
		[bar]	1.5 ... 10	–0.9 ... 10			–0.9 ... 8	–0.9 ... 10
Pilot pressure4)		[MPa]	0.15 ... 0.8	0.2 ... 0.8	0.15 ... 0.8		0.3 ... 0.8	
		[bar]	1.5 ... 8	2 ... 8	1.5 ... 8		3 ... 8	
Ambient temperature		[°C]	–5 ... +60					
Temperature of medium		[°C]	–5 ... +60					
LABS (PWIS) conformity			VDMA24364-B1/B2-L					

1) Pneumatic spring
2) Mechanical spring
3) Mixed, pneumatic/mechanical spring
4) See graphs on page 12

Electrical data

Electrical connection			Via E-box
Operating voltage		[V DC]	24 ±10%
Power		[W]	1
Duty cycle		[%]	100
Max. switching frequency		[Hz]	3
Degree of protection to EN 605291)	Individual valve		IP65, IP67
	Valve terminal VTUG (all variants)		IP40, IP67/IP65, NEMA 4X
	Valve terminal VTUG (for control cabinet installation)		IP69K

1) Depending on the configuration selected

Safety data

Max. positive test pulse with logic 0	[µs]	1600
Max. negative test pulse with logic 1	[µs]	3000
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Vibration resistant		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6

Information on materials

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

Valve switching times

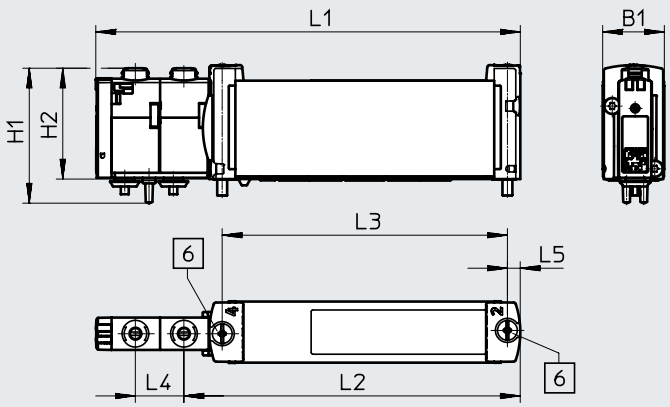
Valve function		T32-A[1]	T32-M[2]	M52-R[3]	B52	M52-M[2]	P53
Switching time on	[ms]	15	25	20	–	13	20
Switching time off	[ms]	37	33	35	–	50	68
Switching time changeover	[ms]	–	–	–	15	–	35

1) Pneumatic spring
2) Mechanical spring
3) Mixed, pneumatic/mechanical spring

Datasheet – Sub-base valve G1/4

Dimensions Download CAD data ➔ www.festo.com

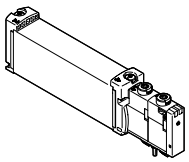
Sub-base valve G1/4



[6] Retaining screw

Type	B1	H1	H2	L1	L2	L3	L4	L5
VUVG-B18-...-F-1T1L	18.7	40.9	33.6	128.6	101.9	86.4	14.7	3.9

Ordering data

	Description		Part no.	Type
Sub-base valve G1/4				
	**2x 3/2-way valve**			
	External pilot air supply	Normally closed, pneumatic spring return	**8004885**	**VUVG-B18-T32C-AZT-F-1T1L**
		Normally open, pneumatic spring return	**8004886**	**VUVG-B18-T32U-AZT-F-1T1L**
		1x normally open, 1x normally closed, pneumatic spring return	**8004887**	**VUVG-B18-T32H-AZT-F-1T1L**
		Normally closed, mechanical spring return	**8004888**	**VUVG-B18-T32C-MZT-F-1T1L**
		Normally open, mechanical spring return	**8004889**	**VUVG-B18-T32U-MZT-F-1T1L**
		1x normally open, 1x normally closed, mechanical spring return	**8004890**	**VUVG-B18-T32H-MZT-F-1T1L**
	5/2-way valve, single solenoid			
	External pilot air supply	Pneumatic/mechanical spring return	**8004891**	**VUVG-B18-M52-RZT-F-1T1L**
		Mechanical spring return	**8004892**	**VUVG-B18-M52-MZT-F-1T1L**
	5/2-way valve, double solenoid			
	External pilot air supply		**8004893**	**VUVG-B18-B52-ZT-F-1T1L**
	5/3-way valve			
	External pilot air supply	Mid-position closed, mechanical spring return	**8004894**	**VUVG-B18-P53C-ZT-F-1T1L**
		Mid-position exhausted, mechanical spring return	**8004895**	**VUVG-B18-P53E-ZT-F-1T1L**
		Mid-position pressurised, mechanical spring return	**8004896**	**VUVG-B18-P53U-ZT-F-1T1L**

Datasheet – Manifold rail VABM

General technical data					
Manifold rail			Size 10	Size: 14	Size 18
Short type code			VABM		
Grid dimension		[mm]	10.5	16	19
Mounting position			Any		
Connection type			Semi in-line/sub-base		
Max. no. of valve positions			24		
Connection	12/14		M5	M5	G1/8
	82/84		M5	M5	G1/8
	2, 4		M5 (VABM-L1-10W-...-GR)	G1/8	G1/4
			M7 (VABM-L1-10HW-...-GR)		
	1, 3, 5		G1/8	G1/4	G3/8
Storage temperature		[°C]	–20 ... 60		
Certification			c UL us - Recognized (OL)		
CE marking (see declaration of conformity)[1]			To EU EMC Directive		
Corrosion resistance class CRC2)			2		
LABS (PWIS) conformity			VDMA24364-B1/B2-L		

1) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/... ➔ Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.
2) More information www.festo.com/x/topic/crc

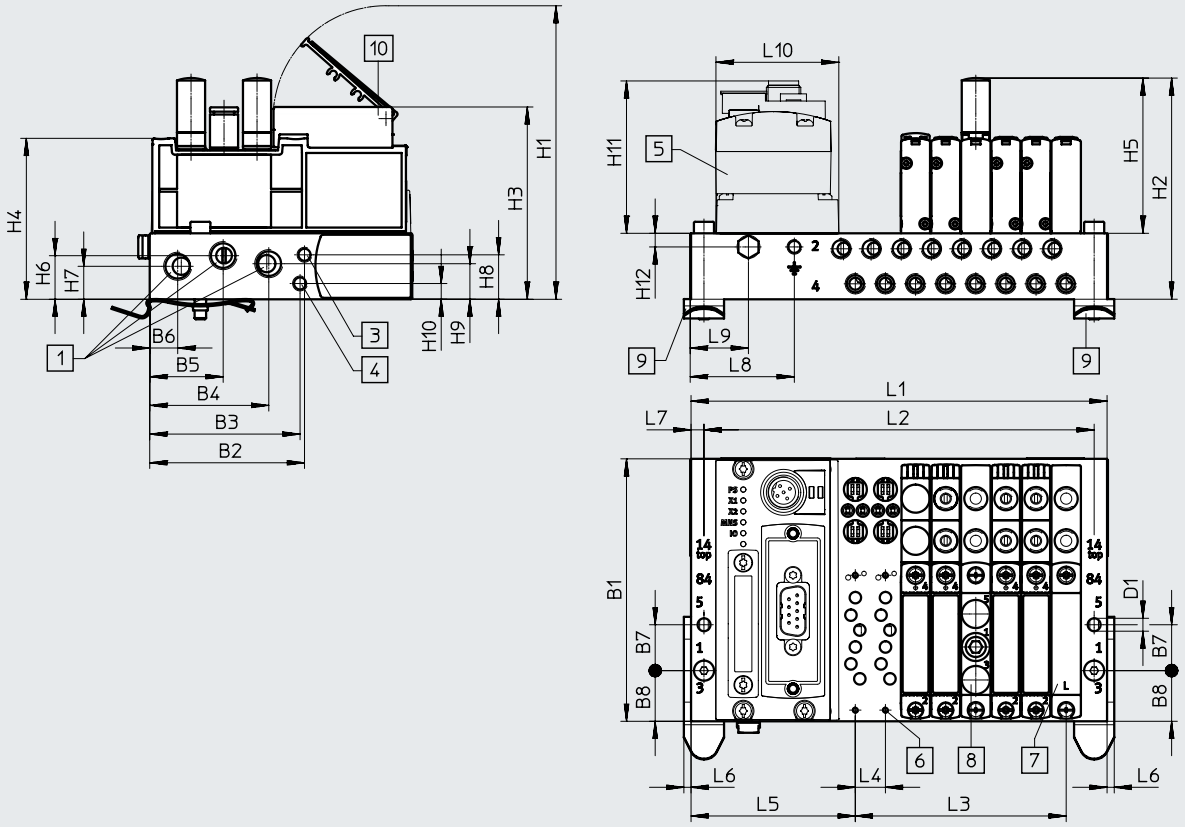
Weight [g]											
valve positions	4	5	6	7	8	9	10	12	16	20	24
VABM-L1-10G-G18-...	329	363	397	431	465	499	533	601	737	873	1009
VABM-L1-10HW-G18-...	388	426	464	502	540	578	616	692	844	996	1148
VABM-L1-14G-G14-...	879	990	1101	1212	1323	1434	1545	1767	2211	2655	3099
VABM-L1-14W-G14-...	839	940	1041	1142	1243	1344	1445	1647	2051	2455	2859
VABM-L1-18G-G38-...	1461	1661	1861	2061	2261	2461	2661	3061	3861	4661	5461
VABM-L1-18W-G38-...	1369	1546	1723	1900	2077	2254	2431	2785	3493	4201	4909

Materials	
Manifold rail	Wrought aluminium alloy
Note on materials	RoHS-compliant

Datasheet – Manifold rail VABM

Dimensions – Example of valve terminal with I-Port interface Download CAD data ➔ www.festo.com

Outlet direction of electrical components on top



[1] Ports 1, 3 and 5: size 10: G1/8 (on both sides), size 14: G1/4 (on both sides), size 18: G3/8 (on both sides)

[3] Ports 12/14: sizes 10 and 14: M5 (on both sides), size 18: G1/8 (on both sides)

[4] Ports 82/84: sizes 10 and 14: M5 (on both sides), size 18: G1/8 (on both sides)

[5] CTEU-CANopen

[6] Valves/cover plates/supply plates – mounting on manifold block: size 10: M2, size 14: M2.5, size 18: M3

[7] Cover plate

[8] Supply plate, ports 1, 3 and 5: size 10: M7, size 14: G1/8, size 18: G1/4

[9] DIN rail mounting

[10] Label holder

Type	No. of valve positions	Size 10																
		B1	B2	B3	B4	B5	B6	B7	B8	D1 ø	H1	H2	H3	H4	H5	H6	H7	H8
VABM	4-24	91.5	54	52.4	41.5	25.6	9.8	16	17.7	4.5	102.3	77.1	67	56.1	54.1	15.2	11.5	15.5

Type	No. of valve positions	Size 10									
		H9	H10	H11	H12	L4	L5	L6	L7	L8	L9	L10
VABM	4-24	12.4	5.5	54.8	4.8	10.5	57.3	2.5	4.5	36	20	42.5

Type	No. of valve positions	Size 14																
		B1	B2	B3	B4	B5	B6	B7	B8	D1 ø	H1	H2	H3	H4	H5	H6	H7	H8
VABM	4-24	110	70	59.3	56.5	36.5	16	20	26.5	4.5	113.1	95.1	77.7	68.6	61.3	18.7	15.7	28.7

Datasheet – Manifold rail VABM

Type	No. of valve positions	Size 14										
		H9	H10	H11	H12	L4	L5	L6	L7	L8	L9	L10
VABM	4-24	13.2	23.7	54.8	5.1	16	60.6	2	5	10	25.5	42.5

Type	No. of valve positions	Size 18															
		B1	B2	B3	B4	B5	B6	B7	B8	D1 ⌀	H1	H2	H3	H4	H5	H6	H7	H8
VABM	4-24	131	90.5	77.3	72.3	47.5	21.5	26	34	5.5	121.5	95.2	–	77.4	52.7	23.6	18.7	35.1

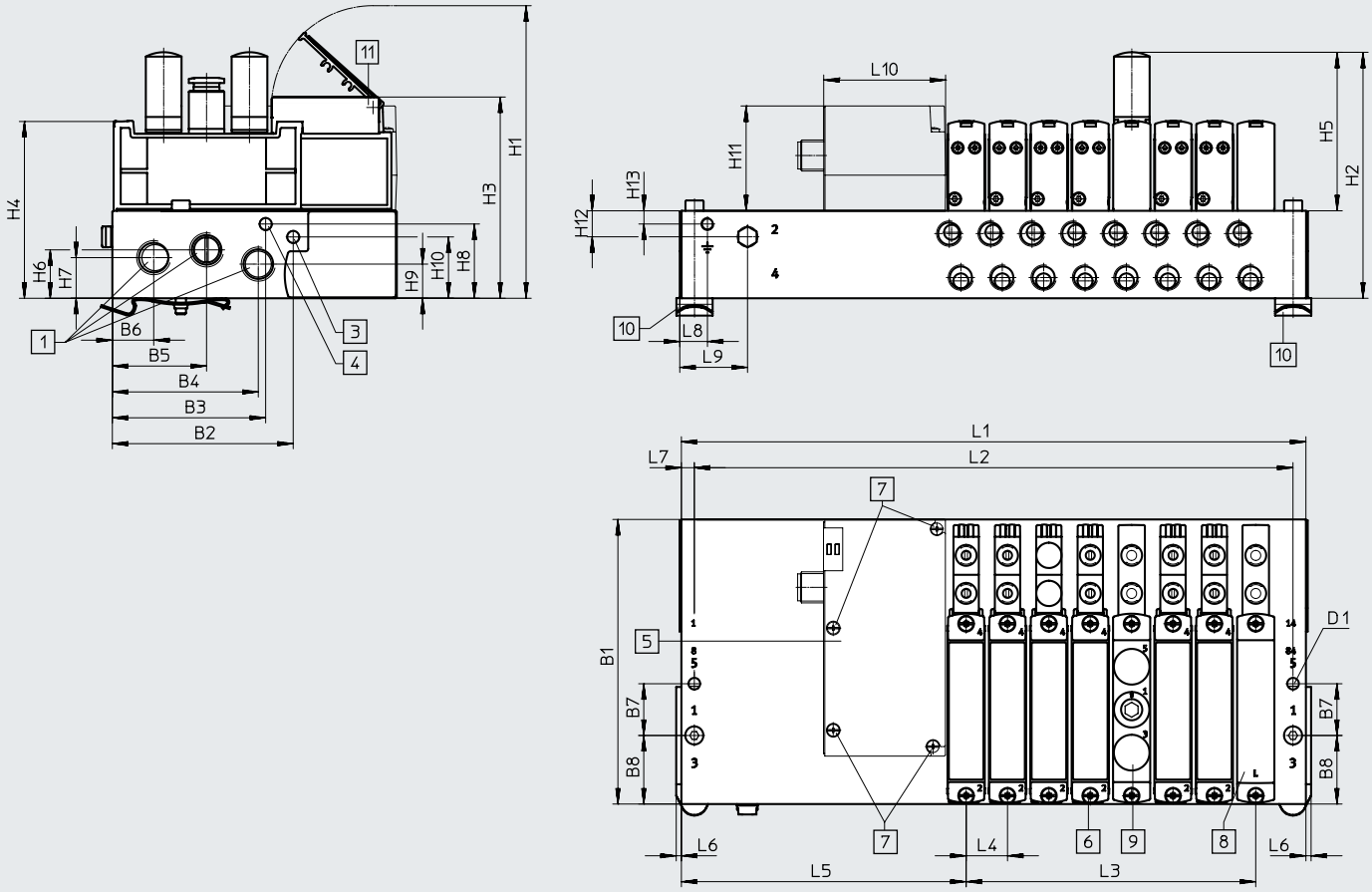
Type	No. of valve positions	Size 18									
		H9	H10	H11	H12	L4	L5	L6	L7	L8	L9	L10
VABM	4-24	14.5	27	54.8	13.8	19	63.5	2	5	10	27	42.5

Type	No. of valve positions	Size 10			Size: 14			Size 18		
		L1	L2	L3	L1	L2	L3	L1	L2	L3
VABM	4	103	94	31.5	128	118	48	139.5	129.5	57
	5	113.5	104.5	42	144	134	64	158.5	148.5	76
	6	124	115	52.5	160	150	80	177.5	167.5	95
	7	134.5	125.5	63	176	166	96	196.5	186.5	114
	8	145	136	73.5	192	182	112	215.5	205.5	133
	9	155.5	146.5	84	208	198	128	234.5	224.5	152
	10	166	157	94.5	224	214	144	253.5	243.5	171
	12	187	178	115.5	256	246	176	291.5	281.5	209
	16	229	220	157.5	320	310	240	367.5	357.5	285
	20	271	262	199.5	384	374	304	443.5	433.5	361
	24	313	304	241.5	448	438	368	519.5	509.5	437

Datasheet – Manifold rail VABM

Dimensions – Example of valve terminal with I-Port interface Download CAD data ➔ www.festo.com

Outlet direction of electrical components to the left



[1] Ports 1, 3 and 5: size 10: G1/8 (on both sides), size 14: G1/4 (on both sides), size 18: G3/8 (on both sides)
[3] Ports 12/14: sizes 10 and 14: M5 (on both sides), size 18: G1/8 (on both sides)
[4] Ports 82/84: sizes 10 and 14: M5 (on both sides), size 18: G1/8 (on both sides)
[5] Electrical connection I-Port interface/IO-Link®
[6] Valves/cover plates/supply plates – mounting on manifold block: size 10: M2, size 14: M2.5, size 18: M3
[7] Electrical interface
[8] Cover plate
[9] Supply plate, ports 1, 3 and 5: size 10: M7, size 14: G1/8, size 18: G1/4
[10] DIN rail mounting
[11] Label holder

Type	No. of valve positions	Size 10																
		B1	B2	B3	B4	B5	B6	B7	B8	D1ø	H1	H2	H3	H4	H5	H6	H7	H8
VABM	4-24	91.5	54	52.4	41.5	25.6	9.8	16	17.7	4.5	102.3	77.1	67	56.1	54.1	15.2	11.5	15.5

Type	No. of valve positions	Size 10											
		H9	H10	H11	H12	H13	L4	L5	L6	L7	L8	L9	L10
VABM	4-24	12.4	5.5	40.8	10.1	5.1	10.5	106.8	2.5	4.5	36	75	47.1

Type	No. of valve positions	Size 14																
		B1	B2	B3	B4	B5	B6	B7	B8	D1 ø	H1	H2	H3	H4	H5	H6	H7	H8
VABM	4-24	110	70	59.3	56.5	36.5	16	20	26.5	4.5	113.1	95.1	77.7	68.6	61.3	18.7	15.7	28.7

Type	No. of valve positions	Size 14											
		H9	H10	H11	H12	H13	L4	L5	L6	L7	L8	L9	L10
VABM	4-24	13.2	23.7	40.8	10.1	5.1	16	110.1	2	5	10	75	47.1

Datasheet – Manifold rail VABM

Type	No. of valve positions	Size 18															
		B1	B2	B3	B4	B5	B6	B7	B8	D1ø	H1	H2	H3	H4	H5	H6	H7	H8
VABM	4-24	131	90.5	77.3	72.3	47.5	21.5	26	34	5.5	121.5	95.2	–	77.4	52.7	23.6	18.7	35.1

Type	No. of valve positions	Size 18											
		H9	H10	H11	H12	H13	L4	L5	L6	L7	L8	L9	L10
VABM	4-24	14.5	27	40.8	13.8	10	19	105	2	5	10	27	47.1

Type	No. of valve positions	Size 10			Size: 14			Size 18		
		L1	L2	L3	L1	L2	L3	L1	L2	L3
VABM	4	152.5	143.5	31.5	177.5	167.5	48	181	171	57
	5	163	154	42	193.5	183.5	64	200	190	76
	6	173.5	164.5	52.5	209.5	199.5	80	219	209	95
	7	184	175	63	225.5	215.5	96	238	228	114
	8	194.5	185.5	73.5	241.5	231.5	112	257	247	133
	9	205	196	84	257.5	247.5	128	276	266	152
	10	215.5	206.5	94.5	273.5	263.5	144	295	285	171
	12	236.5	227.5	115.5	305.5	295.5	176	333	323	209
	16	278.5	269.5	157.5	369.5	359.5	240	409	399	285
	20	321	311.5	199.5	433.5	423.5	304	485	475	361
	24	362.5	353.5	241.5	497.5	487.5	368	561	551	437

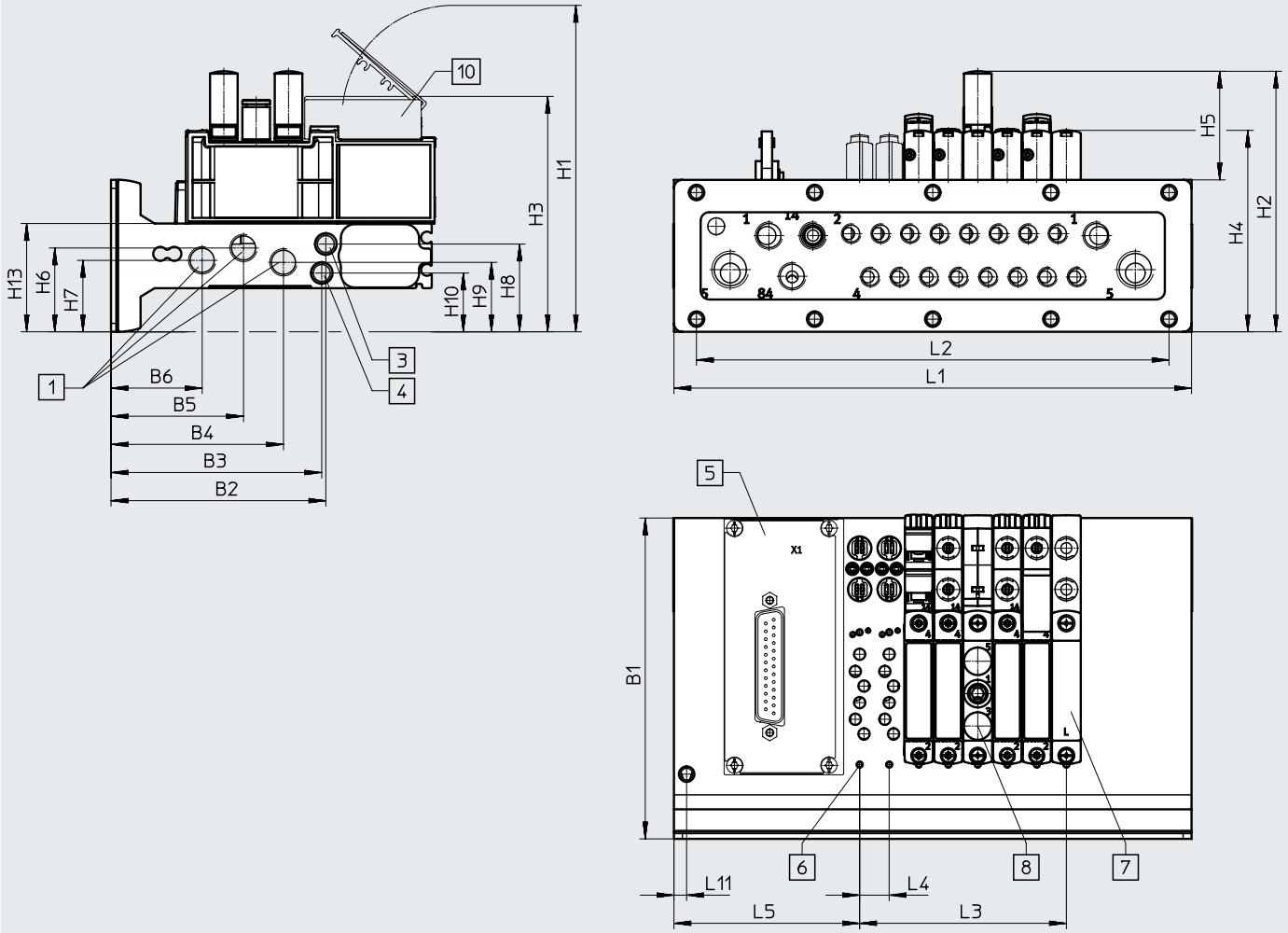
Note

The dimensions for size 10 are the same as the dimensions for the manifold rail with interlock.

Datasheet – Manifold rail VABM

Dimensions – Example of control cabinet installation for valve terminal Download CAD data ➔ www.festo.com

Outlet direction of electrical components on top



[1] Ports 1, 3 and 5: size 10: G1/8, G1/4, size 14: G3/8, G1/4
[3] Ports 12/14: size 10: M5 (at both ends), size 14: M7 (at both ends)
[4] Ports 82/84: size 10: M5 (on both sides), size 14: M7 (on both sides)
[5] Electrical connection
[6] Valves/cover plates/supply plates – mounting on manifold block: M2
[7] Cover plate
[8] Supply plate, ports 1, 3 and 5: M7
[10] Label holder

Type	No. of valve positions	Size 10									
		B1	B2	B3	B4	B5	B6	H1	H2	H3	H4
VABM	4-24	114	76.4	74.9	61.3	47.1	32.4	116	92.6	84	71.6

Type	No. of valve positions	Size 10									
		H5	H6	H7	H8	H9	H10	H13	L4	L5	L11
VABM	4-24	38.6	29.8	25.4	31.2	24.7	20.9	38.5	10.5	66	4.5

Type	No. of valve positions	Size 14									
		B1	B2	B3	B4	B5	B6	H1	H2	H3	H4
VABM	4-24	132	93	80.8	76.5	55.5	36.1	111.3	101.7	77.6	85.1

Type	No. of valve positions	Size 14									
		H5	H6	H7	H8	H9	H10	H13	L4	L5	L11
VABM	4-24	34.9	35.2	30.3	39.3	30.3	45	50.3	16	72.6	4.5

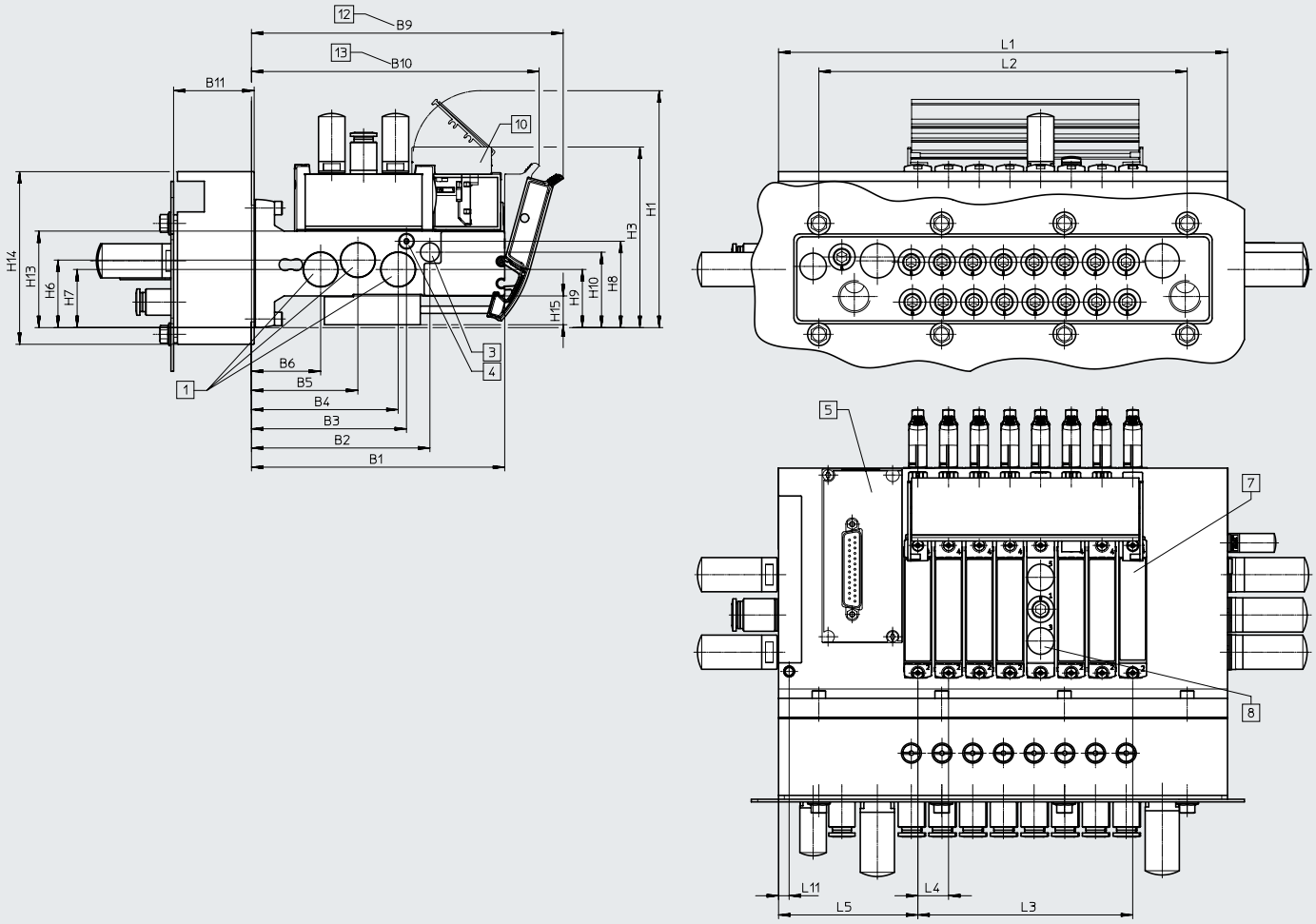
Datasheet – Manifold rail VABM

Number of valve positions	L1	L2	L3
VABM-L1-10HWS1-G18-4-GR	116.2	84	31.5
VABM-L1-10HWS1-G18-8-GR	158.2	126	73.5
VABM-L1-10HWS2-G18-8-GR	184	168	73.5
VABM-L1-10HWS2-G18-12-GR	226	210	115.5
VABM-L1-10HWS2-G18-16-GR	268	252	157.5
VABM-L1-10HWS2-G18-24-GR	352	336	241.5
VABM-L1-10HWS2-H-G18-8-GR	184	168	73.5
VABM-L1-10HWS2-H-G18-12-GR	226	210	115.5
VABM-L1-10HWS2-H-G18-16-GR	268	252	157.5
VABM-L1-10HWS2-H-G18-24-GR	352	336	241.5
VABM-L1-14HWS1-G14-4-GR	135	64	48
VABM-L1-14HWS1-G14-8-GR	199	128	112
VABM-L1-14HWS2-G14-8-GR	234	192	112
VABM-L1-14HWS2-G14-12-GR	298	256	176
VABM-L1-14HWS2-G14-16-GR	362	320	240
VABM-L1-14HWS2-G14-24-GR	490	448	368
VABM-L1-14HWS2-H-G14-8-GR	234	192	112
VABM-L1-14HWS2-H-G14-12-GR	298	256	176
VABM-L1-14HWS2-H-G14-16-GR	362	320	240
VABM-L1-14HWS2-H-G14-24-GR	490	448	368

Datasheet – Manifold rail VABM

Dimensions – Example of control cabinet installation for valve terminal Download CAD data ➔ www.festo.com

Outlet direction of electrical components on top, with shut-off function (hot swap)



[1] Ports 1, 3 and 5: size 10: G1/8, G1/4, size 14: G3/8, G1/4
[3] Ports 12/14: size 10: M5 (at both ends), size 14: M7 (at both ends)
[4] Ports 82/84: size 10: M5 (on both sides), size 14: M7 (on both sides)
[5] Electrical connection
[7] Cover plate
[8] Supply plate, ports 1, 3 and 5: M7
[10] Label holder
[12] VTUG 10: with seal and stainless-steel plate
VTUG 14: with seal and stainless-steel plate, hot swap 1 and 2/4
[13] With seal and stainless-steel plate

Type	No. of valve positions	Size 10										
		B1	B2	B3	B4	B5	B6	B9	B10	B11	H1	H3
VABM	4-24	114	76.4	74.9	61.3	47.1	32.4	142	132	–	114	82

Type	No. of valve positions	Size 10										
		H6	H7	H8	H9	H10	H13	H14	H15	L4	L5	L11
VABM	4-24	29.8	25.4	20.9	24.7	31.2	38.5	–	15	10.5	66	5.5

Type	No. of valve positions	Size 14										
		B1	B2	B3	B4	B5	B6	B9	B10	B11	H1	H3
VABM	4-24	132	93	80.8	76.5	55.5	36.1	163	150.4	42	123.5	93.9

Type	No. of valve positions	Size 14										
		H6	H7	H8	H9	H10	H13	H14	H15	L4	L5	L11
VABM	4-24	35.2	30.3	45	30.3	39.3	50.3	90	15	16	72.6	5.5

Datasheet – Manifold rail VABM

Number of valve positions	L1	L2	L3
VABM-L1-10HWS1-G18-4-GR	116.2	84	31.5
VABM-L1-10HWS1-G18-8-GR	158.2	126	73.5
VABM-L1-10HWS2-G18-8-GR	184	168	73.5
VABM-L1-10HWS2-G18-12-GR	226	210	115.5
VABM-L1-10HWS2-G18-16-GR	268	252	157.5
VABM-L1-10HWS2-G18-24-GR	352	336	241.5
VABM-L1-10HWS2-H-G18-8-GR	184	168	73.5
VABM-L1-10HWS2-H-G18-12-GR	226	210	115.5
VABM-L1-10HWS2-H-G18-16-GR	268	252	157.5
VABM-L1-10HWS2-H-G18-24-GR	352	336	241.5
VABM-L1-14HWS1-G14-4-GR	135	64	48
VABM-L1-14HWS1-G14-8-GR	199	128	112
VABM-L1-14HWS2-G14-8-GR	234	192	112
VABM-L1-14HWS2-G14-12-GR	298	256	176
VABM-L1-14HWS2-G14-16-GR	362	320	240
VABM-L1-14HWS2-G14-24-GR	490	448	368
VABM-L1-14HWS2-H-G14-8-GR	234	192	112
VABM-L1-14HWS2-H-G14-12-GR	298	256	176
VABM-L1-14HWS2-H-G14-16-GR	362	320	240
VABM-L1-14HWS2-H-G14-24-GR	490	448	368

Datasheet – Manifold rail VABM

Dimensions – Manifold rail outlet direction at the front

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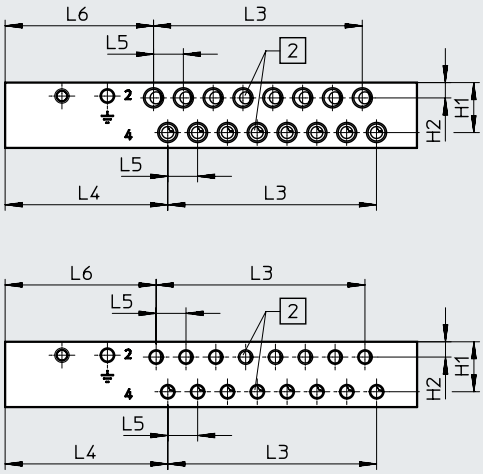
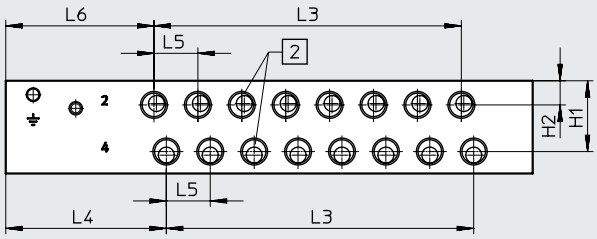
Size 10, I-Port interface on top



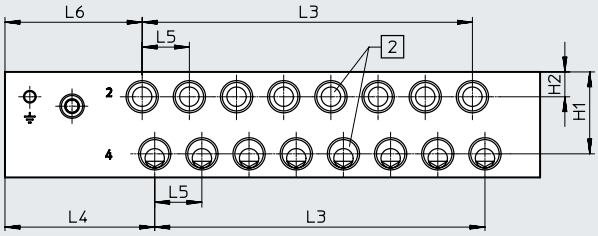
[2] Port 2 and 4

Size 14, I-Port interface on top



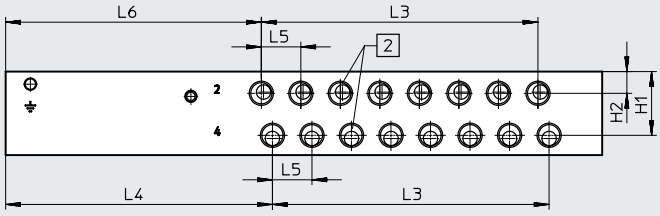
[2] Port 2 and 4

Size 18, I-Port interface on top



[2] Port 2 and 4

Sizes 10, 14, 18, I-Port interface on the side



[2] Port 2 and 4

Size	Port 2 and 4	Manifold rail with I-Port interface on top				
		H1	H2	L4	L5	L6
10	M7 thread	17.6	5.4	57.3	10.5	52.3
	M5 thread					53.2
14	Thread G1/8	25.8	8.8	58.5	16	54
18	G1/4 thread	33	10	60.3	19	55.3

Size	Port 2 and 4	Manifold rail with I-Port interface on the side				
		H1	H2	L4	L5	L6
10	M7 thread	17.6	5.4	106.8	10.5	101.8
	M5 thread					102.7
14	Thread G1/8	25.8	8.8	108	16	103.5
18	G1/4 thread	33	10	101.8	19	96.8

Datasheet – Manifold rail VABM

Type	Number of valve positions	Size 10	Size: 14	Size 18
		L3	L3	L3
VABM	4	31.5	48	57
	5	42	64	76
	6	52.5	80	95
	7	63	96	114
	8	73.5	112	133
	9	84	128	152
	10	94.5	144	171
	12	115.5	176	209
	16	157.5	240	285
	20	199.5	304	361
	24	241.5	368	437

Datasheet – Manifold rail VABM

Dimensions – Manifold rail outlet direction underneath

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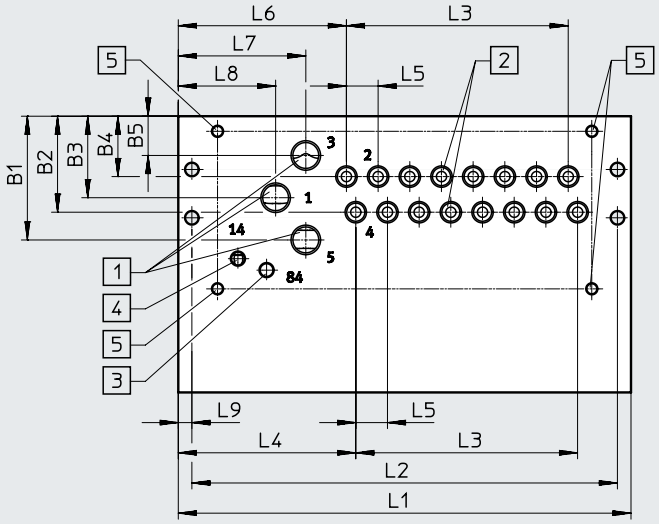
Control cabinet installation



Note

Dimensions of the manifold rail I-Port interface on the side for control cabinet installation

➔ Page 60

[1] Ports 1, 3 and 5: size 10: G1/8, size 14: G1/4, size 18: G3/8

[2] Ports 2 and 4: size 10: M5/M7, size 14: G1/8, size 18: G1/4

[3] Ports 82/84: sizes 10 and 14: M5, size 18: G1/8

[4] Ports 12/14: sizes 10 and 14: M5, size 18: G1/8

[5] Mounting holes, outlet direction underneath: M4x8

Type	Manifold rail with I-Port interface on top, size 10										
	B1	B2	B3	B4	B5	L4	L5	L6	L7	L8	L9
VABM	41	31.8	27	20	13	58.8	10.5	55.7	42.3	32.3	4.5

Type	Manifold rail with I-Port interface on top, size 14										
	B1	B2	B3	B4	B5	L4	L5	L6	L7	L8	L9
VABM	53.5	45.1	35.2	27.8	17	58.5	16	58.5	43	33	5

Type	Manifold rail with I-Port interface on top, size 18										
	B1	B2	B3	B4	B5	L4	L5	L6	L7	L8	L9
VABM	75	59.5	48.5	35.7	22	60.3	19	60.3	40	40	5

Type	No. of valve positions	Size 10			Size: 14			Size 18		
		L1 +5	L2 +5	L3	L1	L2	L3	L1	L2	L3
VABM	4	103	94	31.5	128	118	48	139.5	129.5	57
	5	113.5	104.5	42	144	134	64	158.5	148.5	76
	6	124	115	52.5	160	150	80	177.5	167.5	95
	7	134.5	125.5	63	176	166	96	196.5	186.5	114
	8	145	136	73.5	192	182	112	215.5	205.5	133
	9	155.5	146.5	84	208	198	128	234.5	224.5	152
	10	166	157	94.5	224	214	144	253.5	243.5	171
	12	187	178	115.5	256	246	176	291.5	281.5	209
	16	229	220	157.5	320	310	240	367.5	357.5	285
	20	271	262	199.5	384	374	304	443.5	433.5	361
	24	313	304	241.5	448	438	368	519.5	509.5	437

Datasheet – Manifold rail VABM

Type	Manifold rail with I-Port interface, size 10										
	B1	B2	B3	B4	B5	L4	L5	L6	L7	L8	L9
VABM	41	31.8	27	20	13	108.3	10.5	105.2	91.8	81.8	4.5

Type	Manifold rail with I-Port interface, size 14										
	B1	B2	B3	B4	B5	L4	L5	L6	L7	L8	L9
VABM	53.5	45.1	35.2	27.8	17	108	16	108	92.5	82.5	5

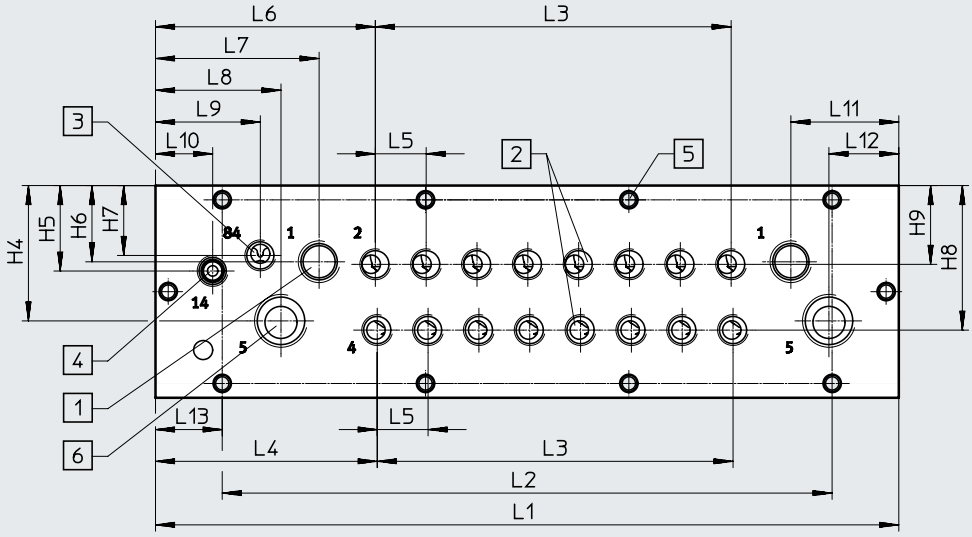
Type	Manifold rail with I-Port interface, size 18										
	B1	B2	B3	B4	B5	L4	L5	L6	L7	L8	L9
VABM	75	59.5	48.5	35.7	22	101.8	19	101.8	81.5	81.5	5

Type	No. of valve positions	Manifold rail with I-Port interface Size 10			Manifold rail with I-Port interface Size 14			Manifold rail with I-Port interface Size 18		
		L1 +5	L2 +5	L3	L1	L2	L3	L1	L2	L3
VABM	4	152.5	143.5	31.5	177.5	167.5	48	181	171	57
	5	163	154	42	193.5	183.5	64	200	190	76
	6	173.5	164.5	52.5	209.5	199.5	80	219	209	95
	7	184	175	63	225.5	215.5	96	238	228	114
	8	194.5	185.5	73.5	241.5	231.5	112	257	247	133
	9	205	196	84	257.5	247.5	128	276	266	152
	10	215.5	206.5	94.5	273.5	263.5	144	295	285	171
	12	236.5	227.5	115.5	305.5	295.5	176	333	323	209
	16	278.5	269.5	157.5	369.5	359.5	240	409	399	285
	20	320.5	311.5	199.5	433.5	423.5	304	485	475	361
	24	362.5	353.5	241.5	497.5	487.5	368	561	551	437

Datasheet – Manifold rail VABM

Dimensions – Manifold rail outlet direction at the front Download CAD data ➔ www.festo.com

Control cabinet installation/control cabinet installation with shut-off function (hot swap)



[1] Ports 1, 3 and 5: size 10: G1/8, size 14: G1/4
[2] Ports 2 and 4: size 10: M5/M7, size 14: G1/8
[3] Port 82/84: sizes 10 and 14: G1/8
[4] Port 12/14: sizes 10 and 14: G1/8
[5] Mounting holes, outlet direction underneath: M5
[6] Ports 3/5: size 10: G1/4, size 14: G3/8

Type	Size 10															
	B1	B2	B3	B4	B5	B6	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13
VABM-L1-10HWS1	111.5	73.9	72.4	58.8	44.6	29.9	69.8	10.5	63	33.8	20	42	49.4	33.8	20	16.1
VABM-L1-10HWS2																8

Type	Size 10								
	H1	H2	H3	H4	H5	H6	H7	H8	H9
VABM-L1-10HWS1	54	15.5	23	31.9	19.8	19.8	34.3	34.5	19.1
VABM-L1-10HWS2									

Type	Size 14															
	B1	B2	B3	B4	B5	B6	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13
VABM-L1-14HWS1	130	91	78.8	74.5	53.5	34.1	69.8	16	96.2	51.5	39.5	33	18	34	22	35.5
VABM-L1-14HWS2																21

Type	Size 14								
	H1	H2	H3	H4	H5	H6	H7	H8	H9
VABM-L1-14HWS1	66.8	16.5	33.8	42.6	26.9	24	22	45.5	24.8
VABM-L1-14HWS2									

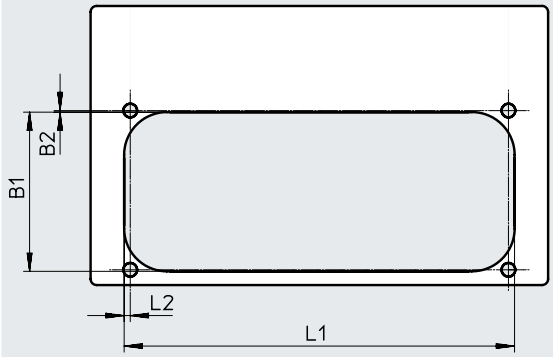
Datasheet – Manifold rail VABM

Number of valve positions	L1	L2	L3	L13
VABM-L1-10HWS1-G18-4-GR	116.2	84	31.5	16.1
VABM-L1-10HWS1-G18-8-GR	158.2	126	73.5	16.1
VABM-L1-10HWS2-G18-8-GR	184	168	73.5	8
VABM-L1-10HWS2-G18-12-GR	226	210	115.5	8
VABM-L1-10HWS2-G18-16-GR	268	252	157.5	8
VABM-L1-10HWS2-G18-24-GR	352	336	241.5	8
VABM-L1-10HWS2-H-G18-8-GR	184	168	73.5	8
VABM-L1-10HWS2-H-G18-8-GR	226	210	115.5	8
VABM-L1-10HWS2-H-G18-8-GR	268	252	157.5	8
VABM-L1-10HWS2-H-G18-8-GR	352	336	241.5	8
VABM-L1-14HWS1-G14-4-GR	135	64	48	35.5
VABM-L1-14HWS1-G14-8-GR	199	128	112	35.5
VABM-L1-14HWS2-G14-8-GR	234	192	112	21
VABM-L1-14HWS2-G14-12-GR	298	256	176	21
VABM-L1-14HWS2-G14-16-GR	362	320	240	21
VABM-L1-14HWS2-G14-24-GR	490	448	368	21
VABM-L1-14HWS2-H-G14-8-GR	234	192	112	21
VABM-L1-14HWS2-H-G14-12-GR	298	256	176	21
VABM-L1-14HWS2-H-G14-16-GR	362	320	240	21
VABM-L1-14HWS2-H-G14-24-GR	490	448	368	21

Datasheet – Manifold rail VABM

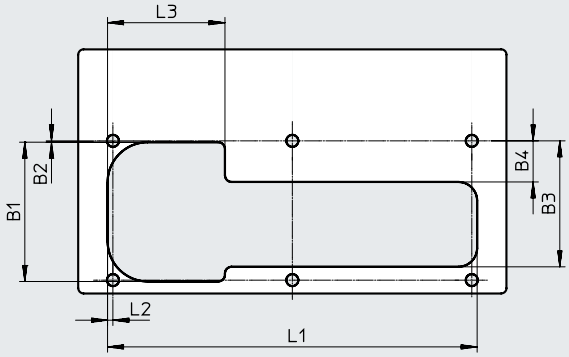
Dimensions – Recess for control cabinet installation, outlet direction underneath, size 10

Up to 8 valves



Type	B1	B2	L1	L2
VABM-L1-10...G18-4	52.7	0.5	86	2
VABM-L1-10...G18-5			96.5	
VABM-L1-10...G18-6			107	
VABM-L1-10...G18-7			117.5	
VABM-L1-10...G18-8			128	

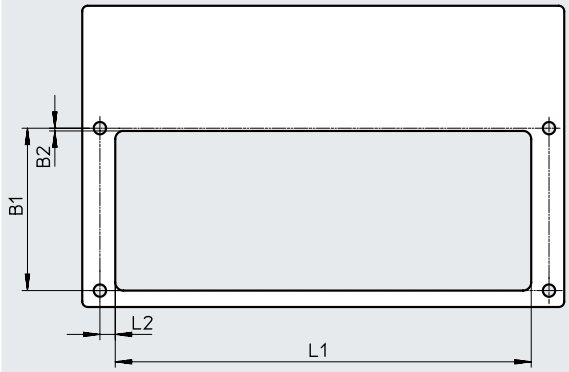
9 or more valves



Type	B1	B2	B3	B4	L1	L2	L3
VABM-L1-10...G18-9	52.7	0.5	47.2	15.4	138.5	2	44
VABM-L1-10...G18-10					149		
VABM-L1-10...G18-12					170		
VABM-L1-10...G18-16					212		
VABM-L1-10...G18-20					254		
VABM-L1-10...G18-24					296		

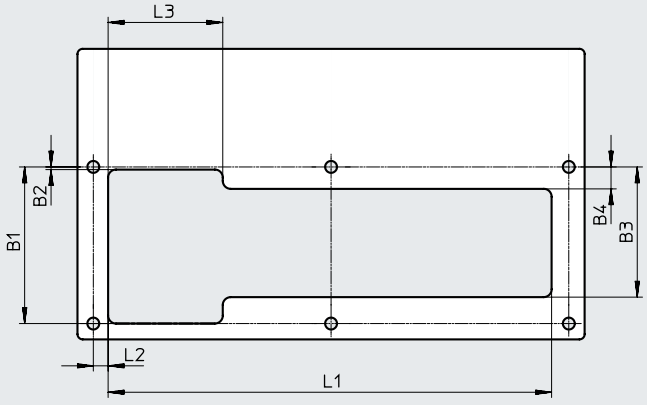
Dimensions – Recess for control cabinet installation, outlet direction underneath, size 14

Up to 7 valves



Type	B1	B2	L1	L2
VABM-L1-14...G14-4	59.3	1	103.9	5.6
VABM-L1-14...G14-5			119.9	
VABM-L1-14...G14-6			135.9	
VABM-L1-14...G14-7			151.9	

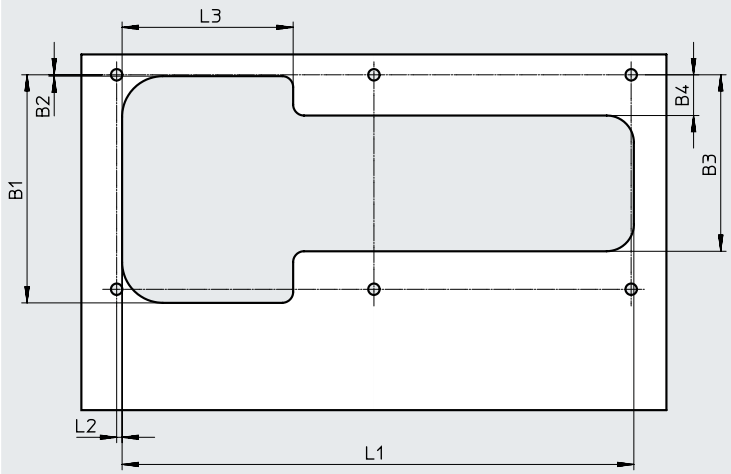
8 or more valves



Type	B1	B2	B3	B4	L1	L2	L3
VABM-L1-14...G14-8	59.3	1	49.3	8.3	167.9	5.6	43.4
VABM-L1-14...G14-9					183.9		
VABM-L1-14...G14-10					199.9		
VABM-L1-14...G14-12					231.9		
VABM-L1-14...G14-16					295.9		
VABM-L1-14...G14-20					359.9		
VABM-L1-14...G14-24					423.9		

Datasheet – Manifold rail VABM

Dimensions – Recess for control cabinet installation, outlet direction underneath, size 18

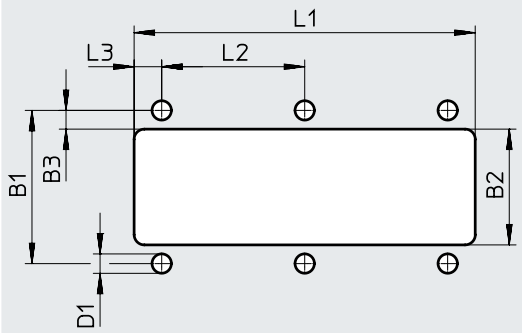


Type	B1	B2	B3	B4	L1	L2	L3
VABM-L1-18...G38-4	83.5	0.5	65	15	112.5	2	63
VABM-L1-18...G38-5					131.5		
VABM-L1-18...G38-6					150.5		
VABM-L1-18...G38-7					169.5		
VABM-L1-18...G38-8					188.5		
VABM-L1-18...G38-9					207.5		
VABM-L1-18...G38-10					226.5		
VABM-L1-18...G38-12					264.5		
VABM-L1-18...G38-16					340.5		
VABM-L1-18...G38-20					416.5		
VABM-L1-18...G38-24					492.5		

Datasheet – Manifold rail VABM

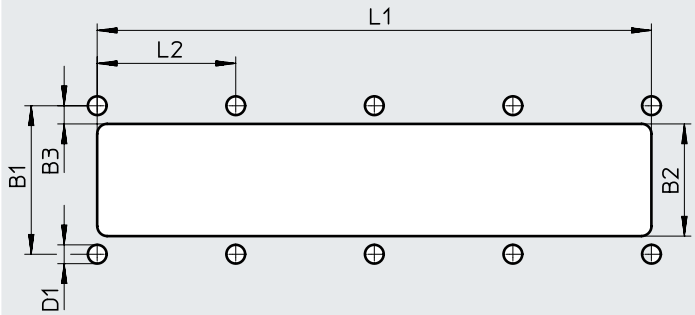
Dimensions – Recess for control cabinet installation, outlet direction at the front, size 10

Single supply, up to 8 valves



Type	B1	B2	B3	D1	L1	L2	L3
VABM-L1-10HWS1-G18-4-GR	45	34	5.5	5.7	100.2	42	8.1
VABM-L1-10HWS1-G18-8-GR					143.2		

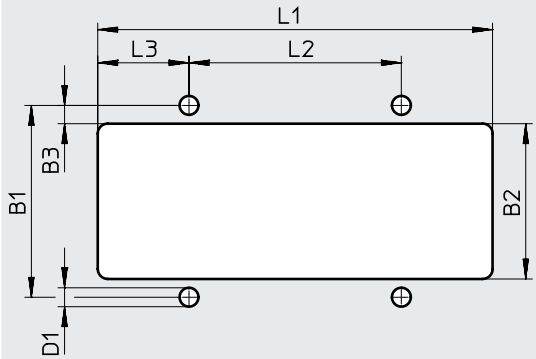
Double supply, 8 or more valves



Type	B1	B2	B3	D1	L1	L2
VABM-L1-10HWS2-...G18-8-GR	45	34	5.5	5.7	168	42
VABM-L1-10HWS2-...G18-12-GR					210	
VABM-L1-10HWS2-...G18-16-GR					252	
VABM-L1-10HWS2-...G18-24-GR					336	

Dimensions – Recess for control cabinet installation, outlet direction at the front, size 14

Single supply, up to 8 valves

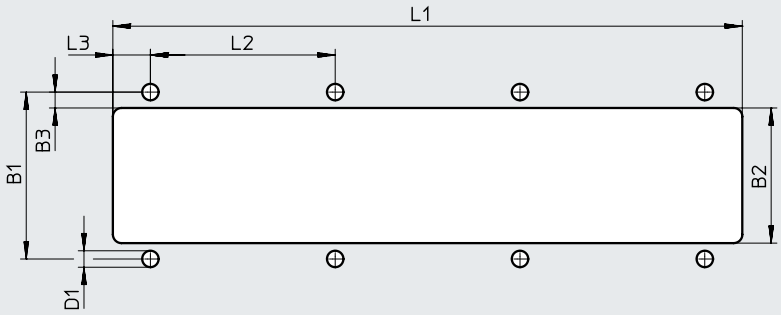


Type	B1	B2	B3	D1	L1	L2	L3
VABM-L1-14HWS1-G14-4-GR	57.8	46.8	5.5	5.7	119	64	27.5
VABM-L1-14HWS1-G14-8-GR					183		

Datasheet – Manifold rail VABM

Dimensions – Recess for control cabinet installation, outlet direction at the front, size 14

Double supply, 8 or more valves



Type	B1	B2	B3	D1	L1	L2	L3
VABM-L1-14HWS2-G14-...-8-GR	57.8	46.8	5.5	5.7	218	64	13
VABM-L1-14HWS2-G14-...-12-GR					282		
VABM-L1-14HWS2-G14-...-16-GR					346		
VABM-L1-14HWS2-G14-...-24-GR					474		

Dimensions – Mounting holes for control cabinet installation, size 10

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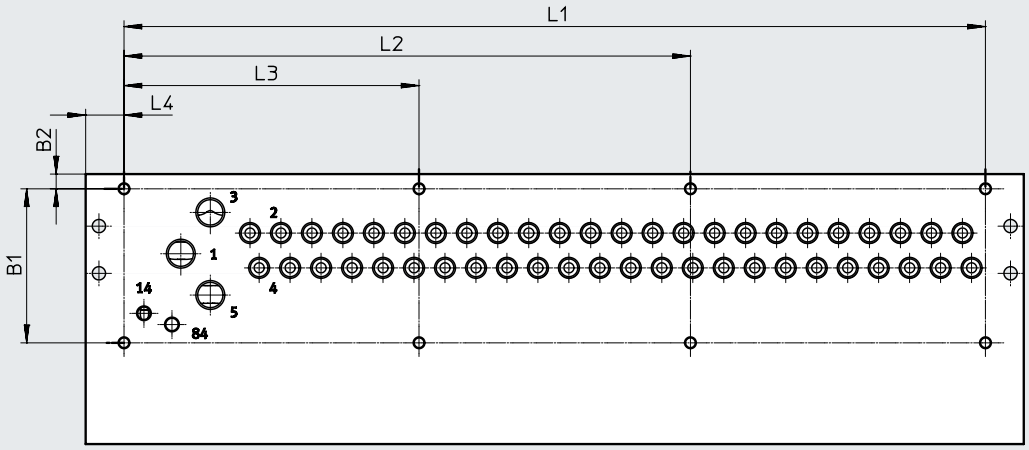
Outlet direction underneath

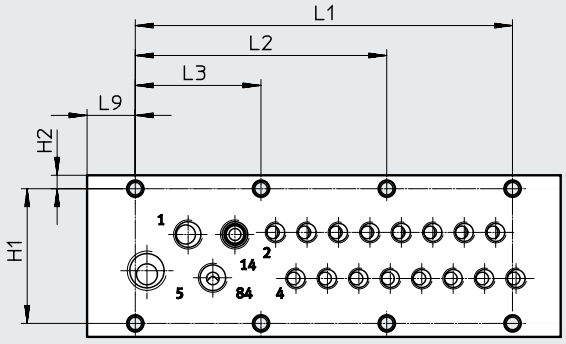


Type		Outlet direction of electrical components on top						I-Port interface on the side
		B1	B2	L1	L2	L3	L4	L4
VABM-L1-10...-G18-4	Up to 8 valves	52.2	5	82	–	–	13	62.5
VABM-L1-10...-G18-5				92.5	–	–		
VABM-L1-10...-G18-6				103	–	–		
VABM-L1-10...-G18-7				113.5	–	–		
VABM-L1-10...-G18-8				124	–	–		
VABM-L1-10...-G18-9	Up to 20 valves	52.2	5	134.5	–	67.25	13	62.5
VABM-L1-10...-G18-10				145	–	72.5		
VABM-L1-10...-G18-12				166	–	83		
VABM-L1-10...-G18-16				208	–	104		
VABM-L1-10...-G18-20				250	–	125		
VABM-L1-10...-G18-24	24 valves	52.2	5	292	192	100	13	62.5

Datasheet – Manifold rail VABM

Dimensions – Mounting holes for control cabinet installation, size 10 Download CAD data ➔ www.festo.com

Outlet direction at the front

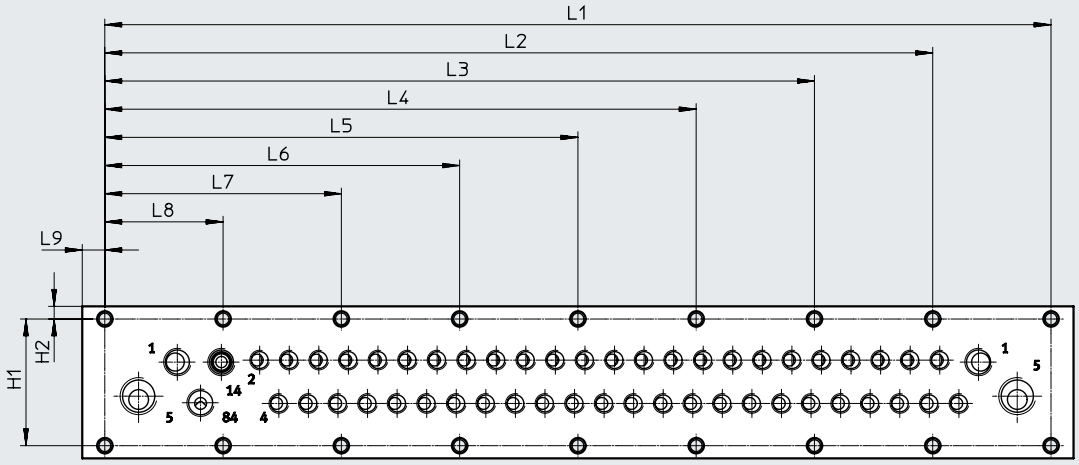


Type	H1	H2	L1	L2	L3	L9
VABM-L1-10HWS1-G18-4-GR	45	4.5	84	–	42	16.1
VABM-L1-10HWS1-G18-8-GR	45	4.5	126	84	42	16.1

Type	No. of valve positions	No. of mounting holes
VABM-L1-10HWS1-G18-4-GR	4	3
VABM-L1-10HWS1-G18-8-GR	8	4

Dimensions – Mounting holes for control cabinet installation, size 10 Download CAD data ➔ www.festo.com

Outlet direction at the front



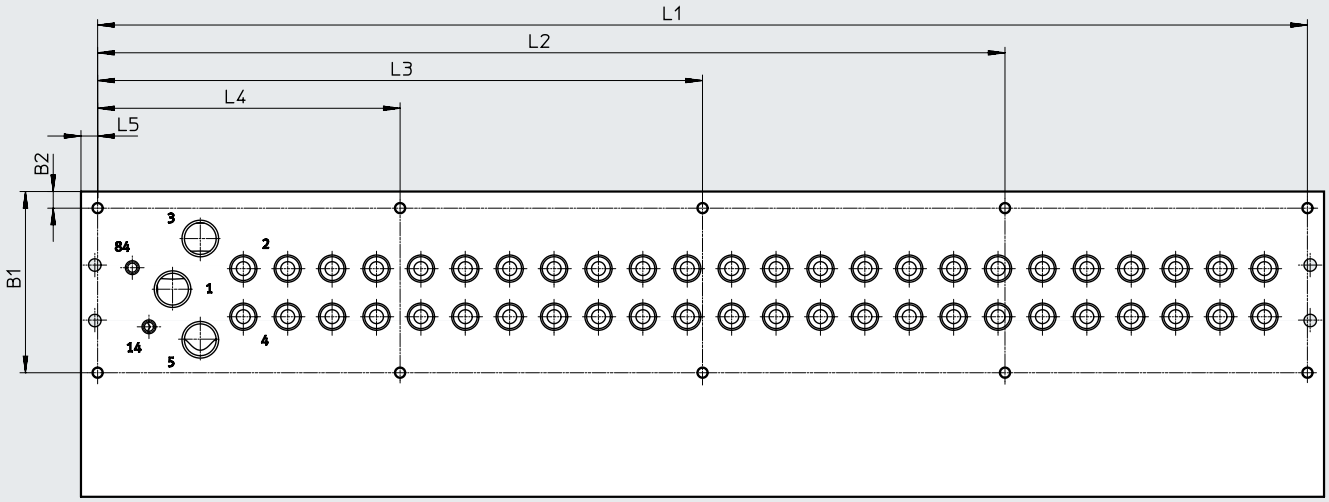
Type	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
VABM-L1-10HWS2-...-8-GR	45	4.5	168	–	–	–	–	126	84	42	8
VABM-L1-10HWS2-...-12-GR	45	4.5	210	–	–	–	168	126	84	42	8
VABM-L1-10HWS2-...-16-GR	45	4.5	252	–	–	210	168	126	84	42	8
VABM-L1-10HWS2-...-24-GR	45	4.5	336	294	252	210	168	126	84	42	8

Type	No. of valve positions	No. of mounting holes
VABM-L1-10HWS2-...-8-GR	8	5
VABM-L1-10HWS2-...-12-GR	12	6
VABM-L1-10HWS2-...-16-GR	16	7
VABM-L1-10HWS2-...-24-GR	24	9

Datasheet – Manifold rail VABM

Dimensions – Mounting holes for control cabinet installation, size 14 Download CAD data ➔ www.festo.com

Outlet direction underneath

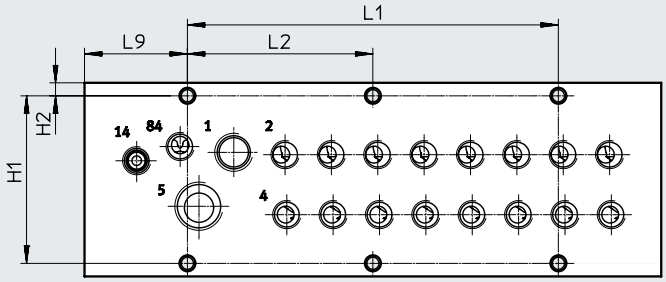


Type		Outlet direction of electrical components on top							I-Port interface on the side
		B1	B2	L1	L2	L3	L4	L5	L4
VABM-L1-14...-G14-4	Up to 8 valves	59.3	6	116	–	–	–	6	55.5
VABM-L1-14...-G14-5				132	–	–	–		
VABM-L1-14...-G14-6				148	–	–	–		
VABM-L1-14...-G14-7				164	–	–	–		
VABM-L1-14...-G14-8	8 to 10 valves	59.3	6	180	–	–	90	6	55.5
VABM-L1-14...-G14-9				196	–	–	98		
VABM-L1-14...-G14-10				212	–	–	106		
VABM-L1-14...-G14-12	12 valves and 16 valves	59.3	6	244	–	162	82	6	55.5
VABM-L1-14...-G14-16				308	–	204	104		
VABM-L1-14...-G14-20	20 valves and 24 valves	59.3	6	372	279	186	93	6	55.5
VABM-L1-14...-G14-24				436	327	218	109		

Datasheet – Manifold rail VABM

Dimensions – Mounting holes for control cabinet installation, size 14 Download CAD data ➔ www.festo.com

Outlet direction at the front

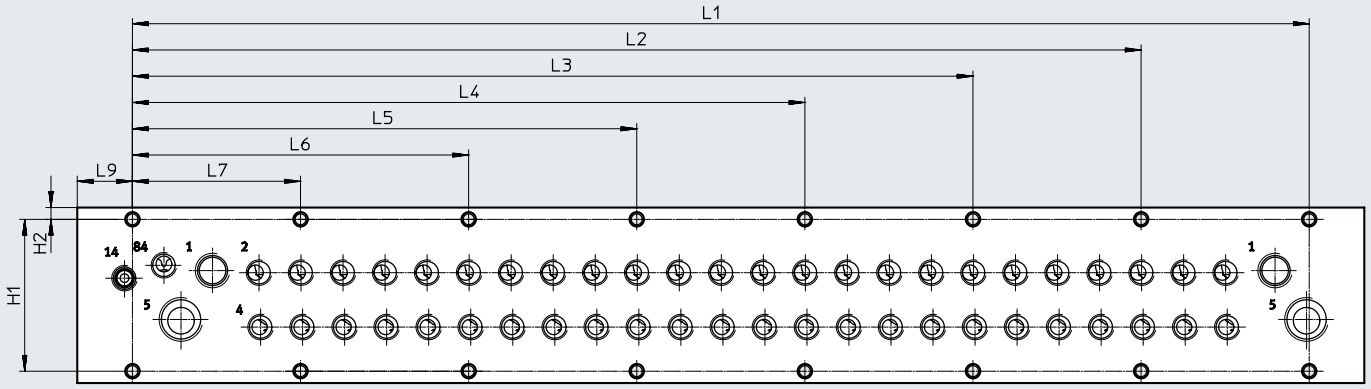


Type	H1	H2	L1	L2	L9
VABM-L1-14HWS1-G14-4-GR	57.8	4.5	64	–	35.5
VABM-L1-14HWS1-G14-8-GR	57.8	4.5	128	64	35.5

Type	No. of valve positions	No. of mounting holes
VABM-L1-14HWS1-G14-4-GR	4	2
VABM-L1-14HWS1-G14-8-GR	8	3

Dimensions – Mounting holes for control cabinet installation, size 14 Download CAD data ➔ www.festo.com

Outlet direction at the front



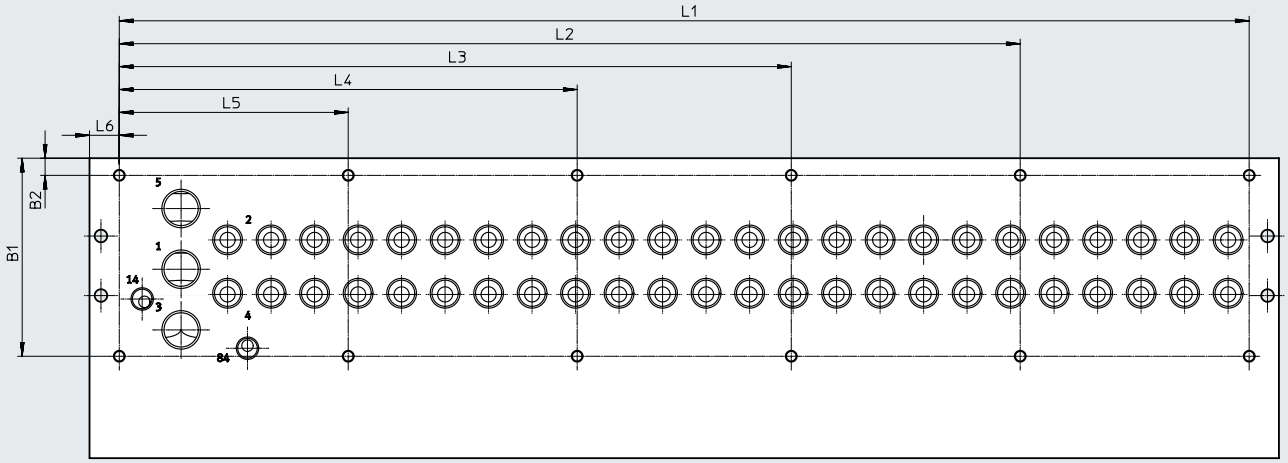
Type	H1	H2	L1	L2	L3	L4	L5	L6	L7	L9
VABM-L1-14HWS2-...-8-GR	57.8	4.5	192	–	–	–	–	128	64	21
VABM-L1-14HWS2-...-12-GR	57.8	4.5	256	–	–	–	192	128	64	21
VABM-L1-14HWS2-...-16-GR	57.8	4.5	320	–	–	256	192	128	64	21
VABM-L1-14HWS2-...-24-GR	57.8	4.5	448	384	320	256	192	128	64	21

Type	No. of valve positions	No. of mounting holes
VABM-L1-14HWS2-...-8-GR	8	4
VABM-L1-14HWS2-...-12-GR	12	5
VABM-L1-14HWS2-...-16-GR	16	6
VABM-L1-14HWS2-...-24-GR	24	8

Datasheet – Manifold rail VABM

Dimensions – Mounting holes for control cabinet installation, size 18 Download CAD data ➔ www.festo.com

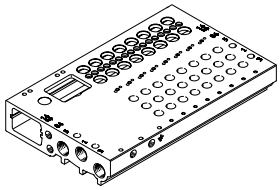
Outlet direction underneath



Type		Outlet direction of electrical components							I-Port interface on the side
		B1	B2	L1	L2	L3	L4	L5	L4
VABM-L1-18...-G38-4	4 valves and 5 valves	86.5	7.5	113.5	–	–	–	–	54.5
VABM-L1-18...-G38-5				132.5	–	–	–	–	
VABM-L1-18...-G38-6	6 to 10 valves	86.5	7.5	151.5	–	–	–	75.8	54.5
VABM-L1-18...-G38-7				170.5	–	–	–	85.3	
VABM-L1-18...-G38-8				189.5	–	–	–	94.8	
VABM-L1-18...-G38-9				208.5	–	–	–	104.3	
VABM-L1-18...-G38-10				227.5	–	–	–	113.8	
VABM-L1-18...-G38-12	12 valves	86.5	7.5	265.5	–	–	165.5	100	54.5
VABM-L1-18...-G38-16	For 16 to 20 valves	86.5	7.5	341.5	–	–	170.8	100	54.5
VABM-L1-18...-G38-20				417.5	–	317.5	208.8	100	
VABM-L1-18...-G38-24	24 valves	86.5	7.5	493.5	393.5	293.5	200	100	54.5

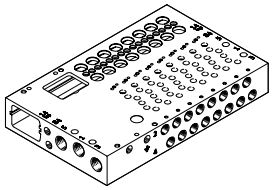
Ordering data

Ordering data

	Description		Part no.	Type
Manifold rail for semi in-line valve				
	**Size 10 mm**			
	Ports 2, 4 on the valve	4 valve positions	**573423**	**VABM-L1-10G-G18-4-GR**
		5 valve positions	**573424**	**VABM-L1-10G-G18-5-GR**
		6 valve positions	**573425**	**VABM-L1-10G-G18-6-GR**
		7 valve positions	**573426**	**VABM-L1-10G-G18-7-GR**
		8 valve positions	**573427**	**VABM-L1-10G-G18-8-GR**
		9 valve positions	**573428**	**VABM-L1-10G-G18-9-GR**
		10 valve positions	**573429**	**VABM-L1-10G-G18-10-GR**
		12 valve positions	**573430**	**VABM-L1-10G-G18-12-GR**
		16 valve positions	**573431**	**VABM-L1-10G-G18-16-GR**
		20 valve positions	**573432**	**VABM-L1-10G-G18-20-GR**
		24 valve positions	**573433**	**VABM-L1-10G-G18-24-GR**
		8 double solenoid + 8 single solenoid valves	**573927**	**VABM-L1-10G-G18-16-M-GR**
		4 double + 16 single solenoid valves	**573928**	**VABM-L1-10G-G18-20-M-GR**
		24 single solenoid valves	**573929**	**VABM-L1-10G-G18-24-M-GR**
	Size 14 mm			
	Ports 2, 4 on the valve	4 valve positions	**573489**	**VABM-L1-14G-G14-4-GR**
		5 valve positions	**573490**	**VABM-L1-14G-G14-5-GR**
		6 valve positions	**573491**	**VABM-L1-14G-G14-6-GR**
		7 valve positions	**573492**	**VABM-L1-14G-G14-7-GR**
		8 valve positions	**573493**	**VABM-L1-14G-G14-8-GR**
		9 valve positions	**573494**	**VABM-L1-14G-G14-9-GR**
		10 valve positions	**573495**	**VABM-L1-14G-G14-10-GR**
		12 valve positions	**573496**	**VABM-L1-14G-G14-12-GR**
		16 valve positions	**573497**	**VABM-L1-14G-G14-16-GR**
		20 valve positions	**573498**	**VABM-L1-14G-G14-20-GR**
		24 valve positions	**573499**	**VABM-L1-14G-G14-24-GR**
		8 double solenoid + 8 single solenoid valves	**573933**	**VABM-L1-14G-G14-16-M-GR**
		4 double + 16 single solenoid valves	**573934**	**VABM-L1-14G-G14-20-M-GR**
		24 single solenoid valves	**573935**	**VABM-L1-14G-G14-24-M-GR**
	Size 18 mm			
	Ports 2, 4 on the valve	4 valve positions	**8004899**	**VABM-L1-18G-G38-4-G**
		5 valve positions	**8004900**	**VABM-L1-18G-G38-5-G**
		6 valve positions	**8004901**	**VABM-L1-18G-G38-6-G**
		7 valve positions	**8004902**	**VABM-L1-18G-G38-7-G**
		8 valve positions	**8004903**	**VABM-L1-18G-G38-8-G**
		9 valve positions	**8004904**	**VABM-L1-18G-G38-9-G**
		10 valve positions	**8004905**	**VABM-L1-18G-G38-10-G**
		12 valve positions	**8004906**	**VABM-L1-18G-G38-12-G**
		16 valve positions	**8004907**	**VABM-L1-18G-G38-16-G**
		20 valve positions	**8004908**	**VABM-L1-18G-G38-20-G**
		24 valve positions	**8004909**	**VABM-L1-18G-G38-24-G**
		8 double solenoid + 8 single solenoid valves	**8004910**	**VABM-L1-18G-G38-16-M-G**
		4 double + 16 single solenoid valves	**8004911**	**VABM-L1-18G-G38-20-M-G**
		24 single solenoid valves	**8004912**	**VABM-L1-18G-G38-24-M-G**

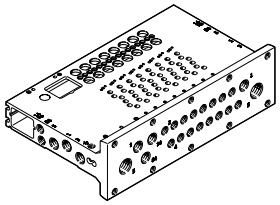
Ordering data

Ordering data

	Description		Part no.	Type
Manifold rail for sub-base valve				
	**Size 10 mm**			
	Ports 2, 4 at the front	4 valve positions	**573434**	**VABM-L1-10HW-G18-4-GR**
		5 valve positions	**573435**	**VABM-L1-10HW-G18-5-GR**
		6 valve positions	**573436**	**VABM-L1-10HW-G18-6-GR**
		7 valve positions	**573437**	**VABM-L1-10HW-G18-7-GR**
		8 valve positions	**573438**	**VABM-L1-10HW-G18-8-GR**
		9 valve positions	**573439**	**VABM-L1-10HW-G18-9-GR**
		10 valve positions	**573440**	**VABM-L1-10HW-G18-10-GR**
		12 valve positions	**573441**	**VABM-L1-10HW-G18-12-GR**
		16 valve positions	**573442**	**VABM-L1-10HW-G18-16-GR**
		20 valve positions	**573443**	**VABM-L1-10HW-G18-20-GR**
		24 valve positions	**573444**	**VABM-L1-10HW-G18-24-GR**
		8 double solenoid + 8 single solenoid valves	**573930**	**VABM-L1-10HW-G18-16-M-GR**
		4 double + 16 single solenoid valves	**573931**	**VABM-L1-10HW-G18-20-M-GR**
		24 single solenoid valves	**573932**	**VABM-L1-10HW-G18-24-M-GR**
	Size 14 mm			
	Ports 2, 4 at the front	4 valve positions	**573500**	**VABM-L1-14W-G14-4-GR**
		5 valve positions	**573501**	**VABM-L1-14W-G14-5-GR**
		6 valve positions	**573502**	**VABM-L1-14W-G14-6-GR**
		7 valve positions	**573503**	**VABM-L1-14W-G14-7-GR**
		8 valve positions	**573504**	**VABM-L1-14W-G14-8-GR**
		9 valve positions	**573505**	**VABM-L1-14W-G14-9-GR**
		10 valve positions	**573506**	**VABM-L1-14W-G14-10-GR**
		12 valve positions	**573507**	**VABM-L1-14W-G14-12-GR**
		16 valve positions	**573508**	**VABM-L1-14W-G14-16-GR**
		20 valve positions	**573509**	**VABM-L1-14W-G14-20-GR**
		24 valve positions	**573510**	**VABM-L1-14W-G14-24-GR**
		8 double solenoid + 8 single solenoid valves	**573936**	**VABM-L1-14W-G14-16-M-GR**
		4 double + 16 single solenoid valves	**573937**	**VABM-L1-14W-G14-20-M-GR**
		24 single solenoid valves	**573938**	**VABM-L1-14W-G14-24-M-GR**
	Size 18 mm			
	Ports 2, 4 at the front	4 valve positions	**8004913**	**VABM-L1-18W-G38-4-G**
		5 valve positions	**8004914**	**VABM-L1-18W-G38-5-G**
		6 valve positions	**8004915**	**VABM-L1-18W-G38-6-G**
		7 valve positions	**8004916**	**VABM-L1-18W-G38-7-G**
		8 valve positions	**8004917**	**VABM-L1-18W-G38-8-G**
		9 valve positions	**8004918**	**VABM-L1-18W-G38-9-G**
		10 valve positions	**8004919**	**VABM-L1-18W-G38-10-G**
		12 valve positions	**8004920**	**VABM-L1-18W-G38-12-G**
		16 valve positions	**8004921**	**VABM-L1-18W-G38-16-G**
		20 valve positions	**8004922**	**VABM-L1-18W-G38-20-G**
		24 valve positions	**8004923**	**VABM-L1-18W-G38-24-G**
		8 double solenoid + 8 single solenoid valves	**8004924**	**VABM-L1-18W-G38-16-M-G**
		4 double + 16 single solenoid valves	**8004925**	**VABM-L1-18W-G38-20-M-G**
		24 single solenoid valves	**8004926**	**VABM-L1-18W-G38-24-M-G**

Ordering data

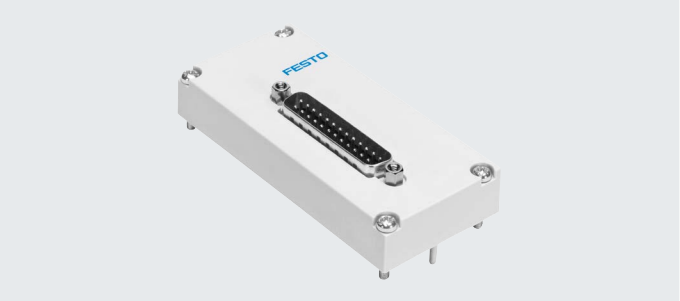
Ordering data

	Description		Part no.	Type
Manifold rail for sub-base valve, for control cabinet installation, outlet direction at the front				
	**Size 10 mm**			
	Ports 2, 4 at the front, single supply	4 valve positions	**8058335**	**VABM-L1-10HWS1-G18-4-GR**
		8 valve positions	**8058336**	**VABM-L1-10HWS1-G18-8-GR**
	Ports 2, 4 at the front, double supply	8 valve positions	**8058338**	**VABM-L1-10HWS2-G18-8-GR**
		12 valve positions	**8058339**	**VABM-L1-10HWS2-G18-12-GR**
		16 valve positions	**8058340**	**VABM-L1-10HWS2-G18-16-GR**
		24 valve positions	**8058341**	**VABM-L1-10HWS2-G18-24-GR**
	Size 14 mm			
	Ports 2, 4 at the front, single supply	4 valve positions	**8058342**	**VABM-L1-14HWS1-G14-4-GR**
		8 valve positions	**8058343**	**VABM-L1-14HWS1-G14-8-GR**
	Ports 2, 4 at the front, double supply	8 valve positions	**8058344**	**VABM-L1-14HWS2-G14-8-GR**
		12 valve positions	**8058345**	**VABM-L1-14HWS2-G14-12-GR**
		16 valve positions	**8058346**	**VABM-L1-14HWS2-G14-16-GR**
		24 valve positions	**8058347**	**VABM-L1-14HWS2-G14-24-GR**

Datasheet – Multi-pin plug connection

The following multi-pin plug connections are available for the valve terminal VTUG:

- Sub-D (25-pin)
- Sub-D (44-pin)
- Ribbon cable (26-pin)
- Ribbon cable (50-pin)



Electrical multi-pin

Each pin on the multi-pin plug can actuate exactly one solenoid coil.

If the maximum configurable number of valve positions is 24, this means that 48 valve functions can be addressed. The valves can be switched using positive or negative logic (positive switching or negative switching).

Mixed operation is generally not possible; however, an exception is made for the V22 ... V25 variants with 25-pin Sub-D. With these variants, a specific range of valve positions (e.g. Com 16...19) is supplied with common voltage.

This allows these ranges to be switched with positive or negative logic and valve groups to be switched off independently of the other ranges. Mixed operation within a range is not permitted.

Note

A double solenoid valve occupies one valve position and two pins on the multi-pin plug. This means that the number of double solenoid valves per manifold rail is limited. (Pin allocation a Page 75)

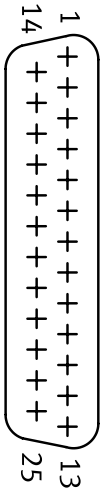
General technical data					
Type		VAEM-L1-S-M1-25	VAEM-L1-S-M1-44	VAEM-L1-S-M3-26	VAEM-L1-S-M3-50
Number of pins		25-pin	44-pin	26-pin	50-pin
Electrical connection		Sub-D plug		Ribbon cable plug	
Max. number of valve positions		24		24	
Degree of protection to EN 60529		IP67		IP40	
Material		PA		PA	
Note on materials		RoHS-compliant		RoHS-compliant	
Certification		c UL us - Recognized (OL)			
CE marking (see declaration of conformity)[1)]		To EU EMC Directive			
Corrosion resistance class CRC2)		2			
LABS (PWIS) conformity		VDMA24364-B1/B2-L			
Weight	[g]	53		45	48

1) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/... ➔ Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

2) More information www.festo.com/x/topic/crc

Datasheet – Multi-pin plug connection

Pin allocation – Sub-D plug, 25-pin



Pin	Wire colour[1]	M1-25 (V20)								M1-25V1 (V22)	
		12x double solenoid		8x double solenoid 8x single solenoid		4x double solenoid 16x single solenoid		24x single solenoid			
1	WH	VP0	14	VP0	14	VP0	14	VP0	14	VP0	14
2	BN	VP0	12	VP0	12	VP0	12	VP23	14	VP0	12
3	GN	VP1	14	VP1	14	VP1	14	VP1	14	VP1	14
4	YE	VP1	12	VP1	12	VP1	12	VP22	14	VP1	12
5	GY	VP2	14	VP2	14	VP2	14	VP2	14	VP2	14
6	PK	VP2	12	VP2	12	VP2	12	VP21	14	VP2	12
7	BU	VP3	14	VP3	14	VP3	14	VP3	14	VP3	14
8	RD	VP3	12	VP3	12	VP3	12	VP20	14	VP3	12
9	BK	VP4	14	VP4	14	VP4	14	VP4	14	VP4	14
10	VT	VP4	12	VP4	12	VP19	14	VP19	14	VP4	12
11	GY PK	VP5	14	VP5	14	VP5	14	VP5	14	VP5	14
12	RD BU	VP5	12	VP5	12	VP18	14	VP18	14	VP5	12
13	GN WH	VP6	14	VP6	14	VP6	14	VP6	14	VP6	14
14	BN GN	VP6	12	VP6	12	VP17	14	VP17	14	VP6	12
15	YE WH	VP7	14	VP7	14	VP7	14	VP7	14	VP7	14
16	BN YE	VP7	12	VP7	12	VP16	14	VP16	14	VP7	12
17	GY WH	VP8	14	VP8	14	VP8	14	VP8	14	VP8	14
18	BN GY	VP8	12	VP15	14	VP15	14	VP15	14	VP8	12
19	WH PK	VP9	14	VP9	14	VP9	14	VP9	14	VP9	14
20	BN PK	VP9	12	VP14	14	VP14	14	VP14	14	VP9	12
21	BU WH	VP10	14	VP10	14	VP10	14	VP10	14	Com 16...19	
22	BN BU	VP10	12	VP13	14	VP13	14	VP13	14	Com 12...15	
23	RD WH	VP11	14	VP11	14	VP11	14	VP11	14	Com 8...11	
24	BN RD	VP11	12	VP12	14	VP12	14	VP12	14	Com 4...7	
25	BK WH	Com		Com		Com	Com	Com		Com 0...3	

1) According to IEC 60757

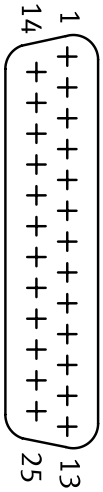
VP Valve position

Note

A grey field means that a double solenoid valve can be used. Only single solenoid valves can be used for fields with a white background.

Datasheet – Multi-pin plug connection

Pin allocation – Sub-D plug, 25-pin



Pin	Wire colour[1]	M1-25V2 (V23)		M1-25V3 (V24)		M1-25V4 (V25)	
1	WH	VP0	14	VP0	14	VP0	14
2	BN	VP0	12	VP0	12	VP1	14
3	GN	VP1	14	VP1	14	VP2	14
4	YE	VP1	12	VP1	12	VP3	14
5	GY	VP2	14	VP2	14	VP4	14
6	PK	VP2	12	VP2	12	VP5	14
7	BU	VP3	14	VP3	14	VP6	14
8	RD	VP3	12	VP3	12	VP7	14
9	BK	VP4	14	VP4	14	VP8	14
10	VT	VP4	12	VP5	14	VP9	14
11	GY PK	VP5	14	VP6	14	VP10	14
12	RD BU	VP5	12	VP7	14	VP11	14
13	GN WH	VP6	14	VP8	14	VP12	14
14	BN GN	VP6	12	VP9	14	VP13	14
15	YE WH	VP7	14	VP10	14	VP14	14
16	BN YE	VP7	12	VP11	14	VP15	14
17	GY WH	VP8	14	VP12	14	VP16	14
18	BN GY	VP9	14	VP13	14	VP17	14
19	WH PK	VP10	14	VP14	14	VP18	14
20	BN PK	VP11	14	VP15	14	VP19	14
21	BU WH	Com 16...19		Com 16...19		Com 16...19	
22	BN BU	Com 12...15		Com 12...15		Com 12...15	
23	RD WH	Com 8...11		Com 8...11		Com 8...11	
24	BN RD	Com 4...7		Com 4...7		Com 4...7	
25	BK WH	Com 0...3		Com 0...3		Com 0...3	
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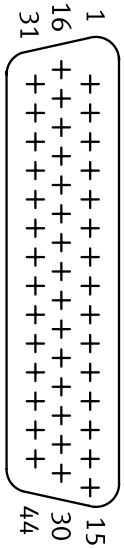
Pin assignment – Sub-D plug, 44-pin



Pin	Wire colour[1]	M1-44 (V21)	
		18x double solenoid, 6x single solenoid	
1	WH	VP0	14
2	BN	VP0	12
3	GN	VP1	14
4	YE	VP1	12
5	GY	VP2	14
6	PK	VP2	12
7	BU	VP3	14
8	RD	VP3	12
9	BK	VP4	14
10	VT	VP4	12
11	GY PK	VP5	14
12	RD BU	VP5	12
13	GN WH	VP6	14
14	BN GN	VP6	12
15	YE WH	VP7	14
16	BN YE	VP7	12
17	GY WH	VP8	14
18	BN GY	VP8	12
19	WH PK	VP9	14
20	BN PK	VP9	12
21	BU WH	VP10	14
22	BN BU	VP10	12
23	RD WH	VP11	14
24	BN RD	VP11	12
25	BK WH	VP12	14
26	BK BN	VP12	12
27	GN GY	VP13	14
28	YE GY	VP13	12
29	GN PK	VP14	14
30	YE PK	VP14	12
31	GN BU	VP15	14
32	YE BU	VP15	12
33	RD GN	VP16	14
34	RD YE	VP16	12
35	BK GN	VP17	14
36	BK YE	VP17	12
37	BU GY	VP18	14
38	BU PK	VP19	14
39	RD GY	VP20	14
40	RD PK	VP21	14
41	BK GY	VP22	14
42	BK PK	VP23	14
43	BK BU	com	
44	BK RD		

1) According to IEC 60757

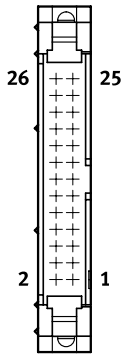
VP Valve position

Note

A grey field means that a double solenoid valve can be used. Only single solenoid valves can be used for fields with a white background.

Datasheet – Multi-pin plug connection

Pin assignment – Ribbon cable, 26-pin



Pin	M3-26 (V20)							
	12x double solenoid		8x double solenoid 8x single solenoid		4x double solenoid 16x single solenoid		24x single solenoid	
1	VP0	14	VP0	14	VP0	14	VP0	14
2	VP0	12	VP0	12	VP0	12	VP23	14
3	VP1	14	VP1	14	VP1	14	VP1	14
4	VP1	12	VP1	12	VP1	12	VP22	14
5	VP2	14	VP2	14	VP2	14	VP2	14
6	VP2	12	VP2	12	VP2	12	VP21	14
7	VP3	14	VP3	14	VP3	14	VP3	14
8	VP3	12	VP3	12	VP3	12	VP20	14
9	VP4	14	VP4	14	VP4	14	VP4	14
10	VP4	12	VP4	12	VP19	14	VP19	14
11	VP5	14	VP5	14	VP5	14	VP5	14
12	VP5	12	VP5	12	VP18	14	VP18	14
13	VP6	14	VP6	14	VP6	14	VP6	14
14	VP6	12	VP6	12	VP17	14	VP17	14
15	VP7	14	VP7	14	VP7	14	VP7	14
16	VP7	12	VP7	12	VP16	14	VP16	14
17	VP8	14	VP8	14	VP8	14	VP8	14
18	VP8	12	VP15	14	VP15	14	VP15	14
19	VP9	14	VP9	14	VP9	14	VP9	14
20	VP9	12	VP14	14	VP14	14	VP14	14
21	VP10	14	VP10	14	VP10	14	VP10	14
22	VP10	12	VP13	14	VP13	14	VP13	14
23	VP11	14	VP11	14	VP11	14	VP11	14
24	VP11	12	VP12	14	VP12	14	VP12	14
25	Com		Com		Com	Com	Com	
26	Com		Com		Com		Com	
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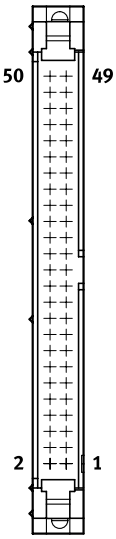
Pin assignment – Ribbon cable, 50-pin



Pin	M3-50 (V26)	
1	VP0	14
2	VP0	12
3	VP1	14
4	VP1	12
5	VP2	14
6	VP2	12
7	VP3	14
8	VP3	12
9	VP4	14
10	VP4	12
11	VP5	14
12	VP5	12
13	VP6	14
14	VP6	12
15	VP7	14
16	VP7	12
17	VP8	14
18	VP8	12
19	VP9	14
20	VP9	12
21	VP10	14
22	VP10	12
23	VP11	14
24	VP11	12
25	VP12	14
26	VP12	12
27	VP13	14
28	VP13	12
29	VP14	14
30	VP14	12
31	VP15	14
32	VP15	12
33	VP16	14
34	VP16	12
35	VP17	14
36	VP17	12
37	VP18	14
38	VP18	12
39	VP19	14
40	VP19	12
41	VP20	14
42	VP20	12
43	VP21	14
44	VP21	12
45	VP22	14
46	VP22	12
47	VP23	14
48	VP23	12
49	Com	
50		

Note

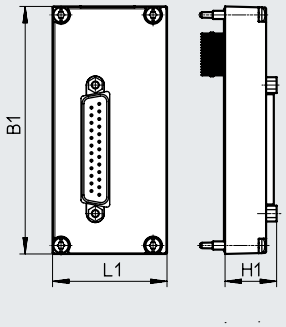
A grey field means that a double solenoid valve can be used.
Only single solenoid valves can be used for fields with a white background.

VP Valve position

Datasheet – Multi-pin plug connection

Dimensions Download CAD data ➔ www.festo.com

Multi-pin plug connection, Sub-D



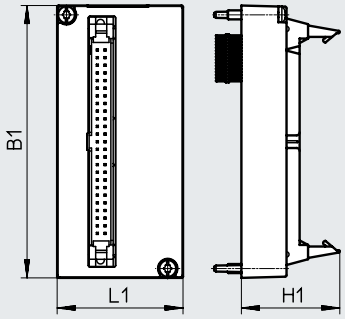
Note

Dimensions of the manifold rail with electrical connection (➔ Page 49)

Type	B1	L1	H1
VAEM-L1-S-M1-...	90.5	41.9	18.9

Dimensions Download CAD data ➔ www.festo.com

Multi-pin plug connection, ribbon cable



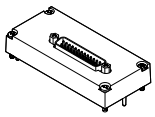
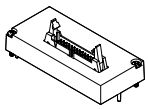
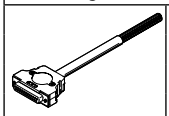
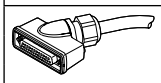
Note

Dimensions of the manifold rail with electrical connection (➔ Page 49)

Type	B1	L1	H1
VAEM-L1-S-M3-...	90.5	41.9	32.7

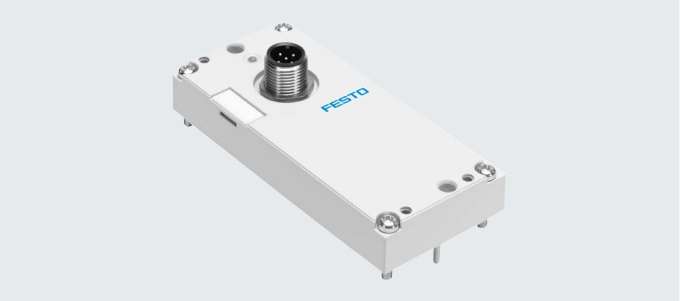
Accessories – Multi-pin plug connection

Ordering data

	Description			Part no.	Type
Electrical interface, Sub-D					
	25-pin		For variant M1-25 (V20)	**573445**	**VAEM-L1-S-M1-25**
			For variant M1-25V1 (V22)	**573447**	**VAEM-L1-S-M1-25V1**
			For variant M1-25V2 (V23)	**573448**	**VAEM-L1-S-M1-25V2**
			For variant M1-25V3 (V24)	**573449**	**VAEM-L1-S-M1-25V3**
			For variant M1-25V4 (V25)	**573450**	**VAEM-L1-S-M1-25V4**
	44-pin		For variant M1-44 (V21)	**573446**	**VAEM-L1-S-M1-44**
Electrical interface, ribbon cable plug					
	26-pin		For variant M3-26 (V20)	**573452**	**VAEM-L1-S-M3-26**
	50-pin		For variant M3-50 (V26)	**573451**	**VAEM-L1-S-M3-50**
Connecting cable for multi-pin plug					
	Sub-D socket, straight	• 25-pin, up to 24 coils, IP40 • Open cable end, 25-core	2.5 m	**575417**	**NEBV-S1G25-K-2.5-N-LE25-S6**
			5 m	**575418**	**NEBV-S1G25-K-5-N-LE25-S6**
			10 m	**575419**	**NEBV-S1G25-K-10-N-LE25-S6**
		• 44-pin, up to 42 coils, IP40 • Open cable end, 44-core	2.5 m	**575113**	**NEBV-S1G44-K-2.5-N-LE44-S6**
			5 m	**575114**	**NEBV-S1G44-K-5-N-LE44-S6**
			10 m	**575115**	**NEBV-S1G44-K-10-N-LE44-S6**
	Sub-D socket, angled	• 25-pin, up to 24 coils, IP65 • Open cable end, 25-core	2.5 m	**575423**	**NEBV-S1WA25-K-2.5-N-LE25-S9**
			5 m	**575424**	**NEBV-S1WA25-K-5-N-LE25-S9**
			10 m	**575425**	**NEBV-S1WA25-K-10-N-LE25-S9**
		• 44-pin, up to 42 coils, IP65 • Open cable end, 44-core	2.5 m	**575420**	**NEBV-S1WA44-K-2.5-N-LE44-S9**
			5 m	**575421**	**NEBV-S1WA44-K-5-N-LE44-S9**
			10 m	**575422**	**NEBV-S1WA44-K-10-N-LE44-S9**

Datasheet I-Port interface/IO-Link®

Festo-specific, standardised interface for direct connection to the fieldbus by mounting the bus node CTEU or to an IO-Link master via a cable (in IO-Link® mode).



I-Port interface/IO-Link®

Versions:
- I-Port interface for bus nodes (CTEU)
- IO-Link® mode for direct connection to a higher-level IO-Link master

The following protocols are supported in connection with the associated CTEU bus node:
- CANopen
- DeviceNet®
- PROFIBUS
- CC-LINK®
- EtherCAT®
- AS-Interface
- PROFINET
- EtherNet/IP
- VARAN
- Festo installation system CPI

The electrical supply/transmission of communication takes place via an M12 plug.

The valve terminal can be equipped with 4 ... 24 (double solenoid) valves.

General technical data			
Types of communication			IO-Link®
Electrical connection			• Plug M12, 5-pin • A-coded • Metal thread for shielding
Baud rates	COM3	[kbps]	230.4
	COM2	[kbps]	38.4
Intrinsic current consumption, logic supply PS		[mA]	30
Intrinsic current consumption, valve supply PL		[mA]	30
Max. number of solenoid coils	VAEM-L1-S-8-PT		16
	VAEM-L1-S-16-PT		32
	VAEM-L1-S-24-PT		48
Max. number of valve positions	VAEM-L1-S-8-PT		8
	VAEM-L1-S-16-PT		16
	VAEM-L1-S-24-PT		24
Ambient temperature		[°C]	–5 ... +50
Product weight	Outlet on top	[g]	49
	Outlet on the side	[g]	100
Degree of protection to EN 60529			IP67
Certification			c UL us - Recognized (OL)
CE marking (see declaration of conformity)[1)]			To EU EMC Directive
Corrosion resistance class CRC2)			2
LABS (PWIS) conformity			VDMA24364-B1/B2-L

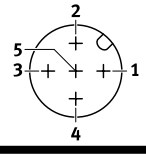
1) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/... ➔ Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.
2) More information www.festo.com/x/topic/crc

Datasheet – I-Port interface/IO-Link®

Status LED X1

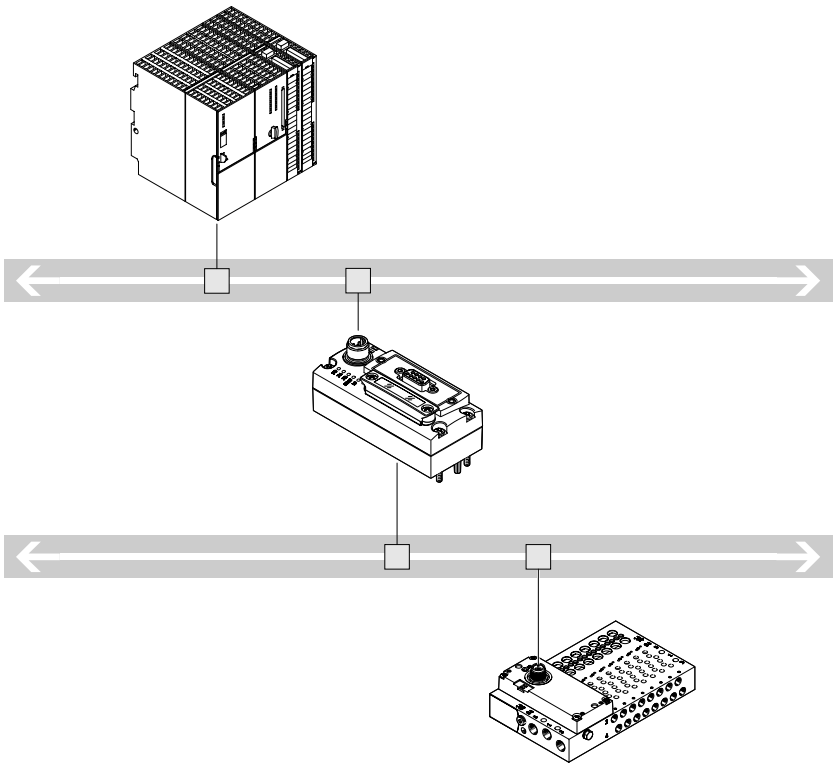
	Meaning (up to Rev. 07)	Meaning (from Rev. 08)
Illuminated green	Normal operating status	Data communication faulty
Flashes green	Data communication faulty	Normal operating status
Flashes alternately between red/green	24 V load voltage supply faulty	-
Flashes red	Device error	
Illuminated red	24 V load voltage supply and data communication faulty	24 V load voltage supply faulty. Data communication may be faulty
Off	No 24 V operating voltage supply or undervoltage	

Pin assignment – I-Port interface/IO-Link®



Pin	Assignment	Description
1	$24V_{EL/SEN}$	Operating voltage supply (electronics, sensors/inputs)
2	$24V_{VAL/OUT}$	Load voltage supply (valves/outputs)
3	$0V_{EL/SEN}$	Operating voltage supply (electronics, sensors/inputs)
4	C/Q	Data communication
5	$0V_{VAL/OUT}$	Load voltage supply (valves/outputs)

System overview – IO-Link®

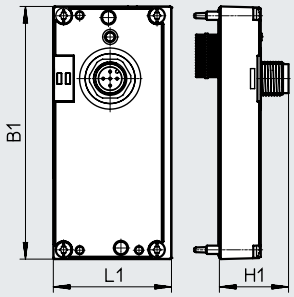


- Communication with the higher-order controller via fieldbus
- Use a fieldbus node CTEU compatible with the fieldbus protocol
- Up to 64 inputs/outputs (solenoid coils), depending on the valve terminal
- No preprocessing

Datasheet – I-Port interface/IO-Link®

Dimensions Download CAD data ➔ www.festo.com

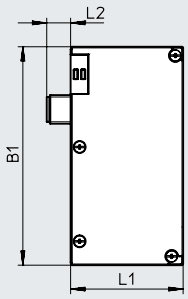
I-Port interface, outlet on top



Note

Dimensions of the manifold rail with electrical connection
➔ Page 49

I-Port interface, outlet on side

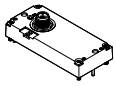
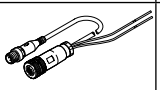
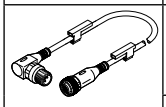


Note

Dimensions of the manifold rail with electrical onnection
➔ Page 49

Type	Outlet on top			Outlet on the side		
	B1	L1	H1	B1	L1	L2
VAEM-L1-S-...	91	42.5	25	91.5	47.1	10

Datasheet – I-Port interface/IO-Link®

Ordering data	Description		Part no.	Type
Electrical interface for I-Port interface/IO-Link®, outlet on top				
	Actuation of up to 8 double solenoid valve positions		**573384**	**VAEM-L1-S-8-PT**
	Actuation of up to 16 double solenoid valve positions		**573939**	**VAEM-L1-S-16-PT**
	Actuation of up to 24 double solenoid valve positions		**573940**	**VAEM-L1-S-24-PT**
Electrical interface for I-Port interface/IO-Link®, outlet on the side				
	Actuation of up to 8 double solenoid valve positions		**574207**	**VAEM-L1-S-8-PTL**
	Actuation of up to 16 double solenoid valve positions		**574208**	**VAEM-L1-S-16-PTL**
	Actuation of up to 24 double solenoid valve positions		**574209**	**VAEM-L1-S-24-PTL**
Connection technology for IO-Link®				
	T-adapter M12, 5-pin, for T-adapter FB-TA		**171175**	**FB-TA-M12-5POL**
	Straight plug, M12, 5-pin, for IO-Link® and load supply		**8162296**	**NECB-S-M12G5-C2**
	Y-distributor with cable on controller side, M12x1 A-coded, for IO-Link®	Cable length 1 m	**8091516**	**NEDU-L1R2-M12G5-M12LE-1R**
	M12x1 A-coded, for IO-Link®, straight cable outlet	Cable length 0.5 m	**8000208**	**NEBU-M12G5-K-0.5-M12G4**
	M12x1 A-coded, for IO-Link®, straight cable outlet	Cable length 5 m	**574321**	**NEBU-M12G5-E-5-Q8N-M12G5**
	M12x1 A-coded, for IO-Link®, straight cable outlet	Cable length 7.5 m	**574322**	**NEBU-M12G5-E-7.5-Q8N-M12G5**
	M12x1 A-coded, for IO-Link®, straight cable outlet	Cable length 0.5 m	**8003617**	**NEBU-M12G5-K-0.5-M12W5**
	M12x1 A-coded, for IO-Link®, straight cable outlet	Cable length 2 m	**8003618**	**NEBU-M12G5-K-2-M12W5**
	M12x1 A-coded, for IO-Link®, angled cable outlet	Cable length 0.5 m	**570733**	**NEBU-M12W5-K-0.5-M12W5**
	M12x1 A-coded, for IO-Link®, angled cable outlet	Cable length 2 m	**570734**	**NEBU-M12W5-K-2-M12W5**
Inscription label for I-Port interface/IO-Link®				
	Frame with 40 labels		**565306**	**ASLR-C-E4**

Datasheet – CAPC

Function
With the electrical connection block CAPC, the bus nodes CTEU can be installed decentrally on a valve terminal or input modules with I-Port interface.

Area of application
- M12 connection technology (two interfaces)
- Enables the installation of valve terminals or other devices over a distance of 20 metres
- With the accessory CAFM, the connection block can be installed on a DIN rail

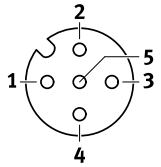
General technical data		
Type		CAPC-F1-E-M12
Dimensions W x L x H	[mm]	50 x 148 x 28
Fieldbus interface		2x M12 socket, 5-pin
Operating voltage range	[V DC]	18 ... 30
Max. power supply	[A]	2
Nominal operating voltage	[V DC]	24
Product weight	[g]	85
Cable length	[m]	20

Materials	
Housing	Reinforced PA
Note on materials	RoHS-compliant

Operating and environmental conditions		
Degree of protection to EN 60529		IP65, IP67
Ambient temperature	[°C]	–5 ... +50
Storage temperature	[°C]	–20 ... +70
Corrosion resistance class CRC[1)]		2
CE marking (see declaration of conformity)[2)]		To EU EMC Directive
LABS (PWIS) conformity		VDMA24364-B2-L

1) More information www.festo.com/x/topic/crc
2) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/... ➔ Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Pin assignment – Power supply/IO-Link® interfaces

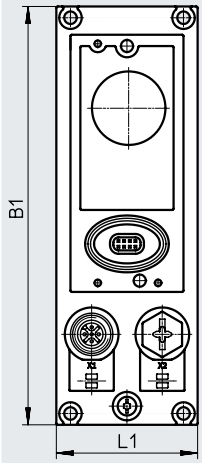


Pin	Assignment	Description
1	$24V_{EL/SEN}$	Operating voltage supply (electronics, sensors/inputs)
2	$24V_{VAL/OUT}$	Load voltage supply (valves/outputs)
3	$0V_{EL/SEN}$	Operating voltage supply (electronics, sensors/inputs)
4	C/Q	Data communication
5	$0V_{VAL/OUT}$	Load voltage supply (valves/outputs)
	Housing, FE	Functional earth

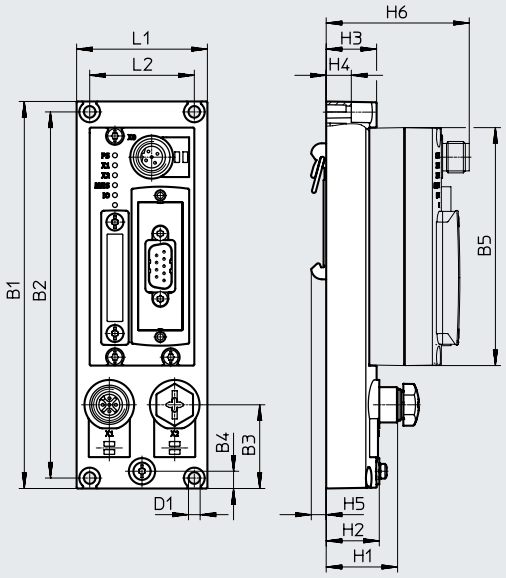
Datasheet – CAPC

Dimensions Download CAD data ➔ www.festo.com

CAPC

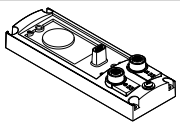
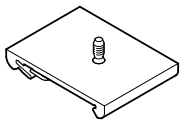


CAPC with mounted bus node CTEU-CO

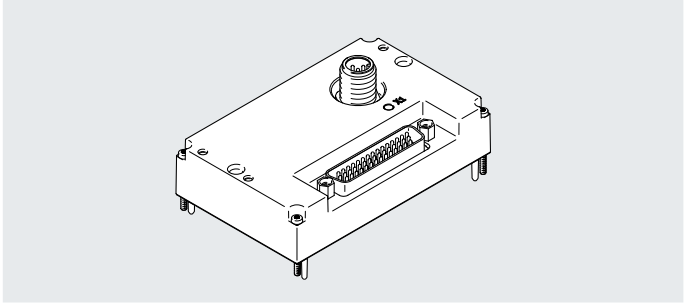


Type	B1	B2	B3	B4	B5	D1⌀	H1	H2	H3	H4	H5	H6	L1	L2
CAPC	148	140	32	6.6	91	4.4	27.3	20.3	19.3	9.6	5.7	54.8	50	40

Ordering data

		Part no.	Type
Electrical connection block			
	For connecting a second device with I-Port interface	**570042**	**CAPC-F1-E-M12**
DIN rail mounting			
	For electrical connection block CAPC	**570043**	**CAFM-F1-H**

Datasheet – Interlock



Interlock

The interlock function enables the first 16 solenoid coils to be individually supplied externally.

This ensures that these valves can be released in a safety-oriented way.

The interlock interface is established via external contacts for a single-pin connection or via safety output terminals for a double-pin connection.

General technical data			
Types of communication			I-Port/IO-Link®
Number of valve positions			4...24
Max. number of solenoid coils			48
Number of interlock solenoid coils			16
Number of inputs for voltage feedback			18 (16x interlock + 2 group supply)
Mounting position			Any
Nominal flow rate		[l/min]	330
Product weight		[g]	80
Residual ripple		[V_{SS}]	4
Baud rate	COM3	[kbps]	230.4
	COM2	[kbps]	38.4
IO-Link®	Protocol		V1.0
	Connection technology		M12, A-coded
	Port type		Type B
	Number of ports		1
	Process data width OUT		6 bytes
	Process data IN		4 bytes
	Minimum cycle time		11.5 ms (2.3 ms per frame = 2 bytes of user data)
Corrosion resistance class CRC1)			2

1) More information www.festo.com/x/topic/crc

Datasheet – Interlock

Interlock interface

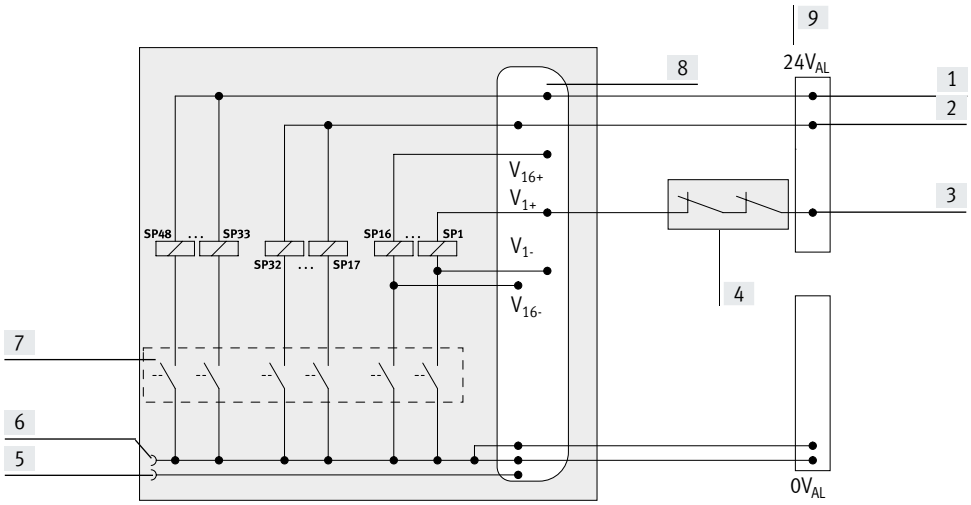
Single-pin interlock interface

- The interlock interface is established via external positive switching contacts or single-pin switching safety terminals
- 16 solenoid coils can be actuated via the interlock (Vn+)
- Solenoid coils that do not need to be actuated by the interlock can be supplied directly with 24 V via pins 1 ... 3
- Application of the respective input voltage is reported via the fieldbus as a process image

Double-pin interlock interface

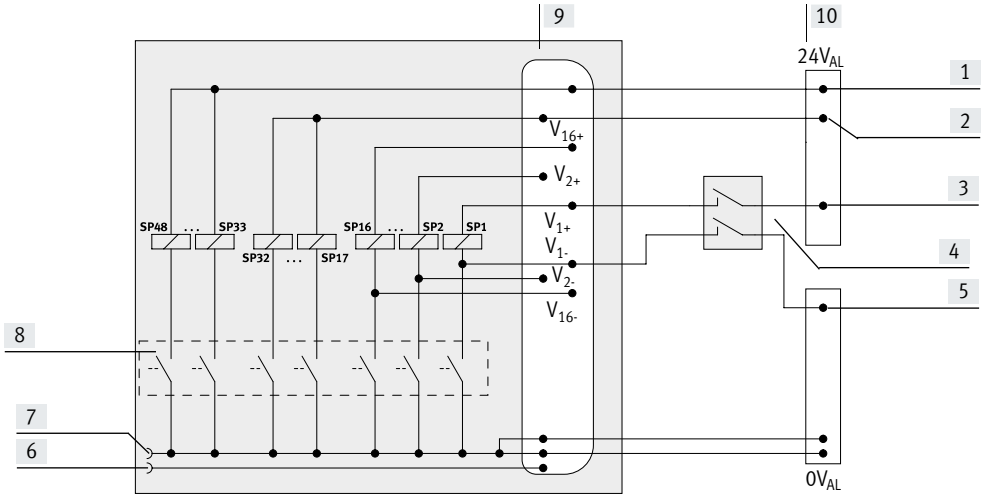
- The interlock interface is established via external positive-negative switching safety terminals
- The solenoid coils of the interlock valves are actuated via the corresponding pins in the sub-D plug (pins 7 ... 38)
- The solenoid coils that do not need to be actuated by the interlock can be supplied directly with 24 V (e.g. from pins 1 ... 3)
- Any difference in potential between Vn– and 0 VVAL/OUT must be below 5 V

Sample circuit diagram for a single-pin interlock interface



[1] Power supply V+; solenoid coil 33 ... 48 (no interlock)
[2] Power supply V+; solenoid coil 17 ... 32 (no interlock)
[3] Actuation Vn+ (via interlock)
[4] Interlock contacts of the output terminal
[5] I-Port connection pin 2, 24 VVAL/OUT (PL), load voltage supply
[6] I-Port connection pin 5, 0 VVAL/OUT (PL), load voltage supply
[7] Driver, actuated via fieldbus/I-Port
[8] Interlock Sub-D connection
[9] Power supply (interlock)

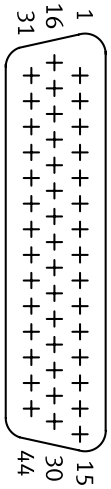
Sample circuit diagram for a double-pin interlock interface



[1] Power supply V+; solenoid coil 33 ... 48 (no interlock)
[2] Power supply V+; solenoid coil 17 ... 32 (no interlock)
[3] Actuation Vn+ (via interlock)
[4] Interlock contacts of the output terminal
[5] Actuation Vn– (via interlock)
[6] I-Port connection pin 2, 24 VVAL/OUT (PL), load voltage supply
[7] I-Port connection pin 5, 0 VVAL/OUT (PL), load voltage supply
[8] Driver, actuated via fieldbus/I-Port
[9] Interlock Sub-D connection
[10] Power supply (interlock)

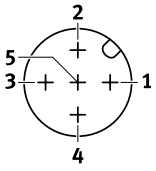
Datasheet – Interlock

Pin assignment – Interlock



Pin	Coil	Signal	Pin	Coil	Signal	Pin	Coil	Signal
1	–	24 $V_{VAL/OUT}$	16	5	V5-	31	13	V13+
2	–	24 $V_{VAL/OUT}$	17	6	V6+	32	13	V13-
3	–	24 $V_{VAL/OUT}$	18	6	V6-	33	14	V14+
4	1 ... 48	0 $V_{VAL/OUT}$	19	7	V7+	34	14	V14-
5	1 ... 48	0 $V_{VAL/OUT}$	20	7	V7-	35	15	V15+
6	1 ... 48	0 $V_{VAL/OUT}$	21	8	V8+	36	15	V15-
7	1	V1+	22	8	V8-	37	16	V16+
8	1	V1-	23	9	V9+	38	16	V16-
9	2	V2+	24	9	V9-	39	17 ... 32	V17 ... 32+
10	2	V2-	25	10	V10+	40	33 ... 48	V33 ... 48+
11	3	V3+	26	10	V10-	41	1 ... 48	0 $V_{VAL/OUT}$
12	3	V3-	27	11	V11+	42	1 ... 48	0 $V_{VAL/OUT}$
13	4	V4+	28	11	V11-	43	1 ... 48	0 $V_{VAL/OUT}$
14	4	V4-	29	12	V12+	44	–	n.c.
15	5	V5+	30	12	V12-	Housing		FE

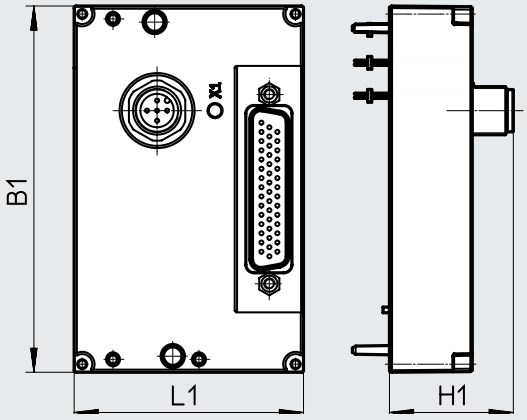
Pin assignment – I-Port interface/IO-Link®



Pin	Assignment	Description
1	$24V_{EL/SEN}$	Operating voltage supply (electronics, sensors/inputs)
2	$24V_{VAL/OUT}$	Load voltage supply (valves/outputs)
3	$0V_{EL/SEN}$	Operating voltage supply (electronics, sensors/inputs)
4	C/Q	Data communication
5	$0V_{VAL/OUT}$	Load voltage supply (valves/outputs)
Housing, FE		Functional earth

Dimensions Download CAD data ➔ www.festo.com

I-Port interface with interlock, outlet on top



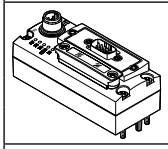
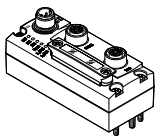
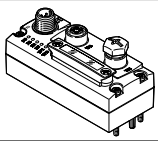
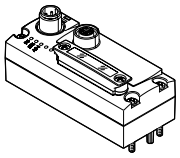
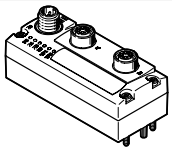
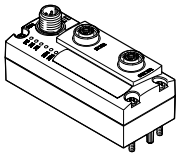
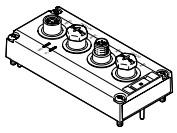
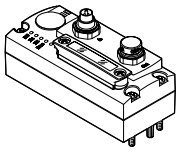
Note

Dimensions of the manifold rail with electrical connection
➔ Page 49

Type	Outlet on top		
	B1	L1	H1
VAEM-L1-S-24-PTK	91	57	30.8

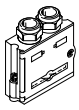
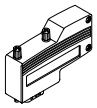
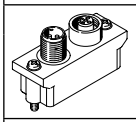
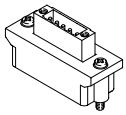
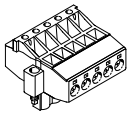
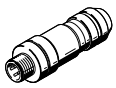
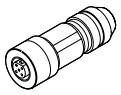
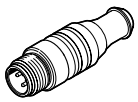
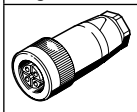
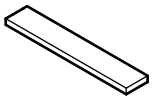
Accessories – Valve terminal

Ordering data – CTEU

	Description		Part no.	Type
Bus node				
	CANopen bus node		**570038**	**CTEU-CO**
	CC-Link® bus node		**1544198**	**CTEU-CC**
	PROFIBUS bus node		**570040**	**CTEU-PB**
	DeviceNet® bus node		**570039**	**CTEU-DN**
	EtherCAT® bus node		**572556**	**CTEU-EC**
	EtherNet/IP bus node		**2798071**	**CTEU-EP**
	AS-Interface bus node		**572555**	**CTEU-AS**
	PROFINET RT bus node		**2201471**	**CTEU-PN**
	VARAN bus node		**8087559**	**CTEU-VN**
Electrical interface				
	For direct integration of the valve terminal into the decentralised IO system CPX-API	12 valve positions	**8081922**	**VAEM-L1-S-12-AP**
		24 valve positions	**8081923**	**VAEM-L1-S-24-AP**
	For direct integration of the valve terminal into the decentralised CPI installation system from Festo		**2149714**	**CTEU-CP**

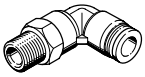
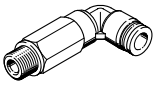
Accessories – Valve terminal

Ordering data – CTEU

	Description		Part no.	Type
Bus connection				
	Sub-D plug, straight	For CANopen	**532219**	**FBS-SUB-9-BU-2x5POL-B**
		For CC-LINK®	**532220**	**FBS-SUB-9-GS-2x4POL-B**
		For PROFIBUS	**532216**	**FBS-SUB-9-GS-DP-B**
	Sub-D plug, angled, 9-pin	For CANopen	**533783**	**FBS-SUB-9-WS-CO-K**
		For PROFIBUS	**533780**	**FBS-SUB-9-WS-PB-K**
	M12x1, 5-pin	A-coded, for CANopen	**525632**	**FBA-2-M12-5POL**
		B-coded, for PROFIBUS	**533118**	**FBA-2-M12-5POL-RK**
	For 5-pin terminal strip for CANopen		**525634**	**FBA-1-SL-5POL**
	Terminal strip, 5-pin, for DeviceNet®/CANopen		**525635**	**FBSD-KL-2x5POL**
	Plug, straight, M12x1	5-pin, for CANopen	**8162296**	**NECB-S-M12G5-C2**
		4-pin, D-coded for EtherCAT®	**543109**	**NECU-M-S-D12G4-C2-ET**
		5-pin, compatible with FBA-2-M12-5POL-RK for PROFIBUS	**1066354**	**NECU-M-S-B12G5-C2-PB**
	Straight socket, M12x1, 5-pin, for assembling a connecting cable compatible with FBA-2-M12-5POL-RK for PROFIBUS		**1067905**	**NECU-M-B12G5-C2-PB**
	Terminating resistor, M12, B-coded for PROFIBUS		**1072128**	**CACR-S-B12G5-220-PB**
Plug socket				
	For power supply, M12x1, 5-pin, B-coded for CANopen/DeviceNet®		**538999**	**NTSD-GD-9-M12-5POL-RK**
	For power supply, M12x1, 5-pin for CC-LINK®, PROFIBUS, EtherCAT®		**8162291**	**NECB-M12G5-C2**
	For bypassing the interlock function		**1589339**	**NEFF-S1G44LB**
Inscription labels				
	For bus node		**565306**	**ASLR-C-E4**

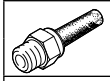
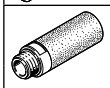
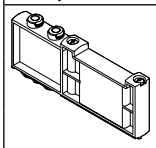
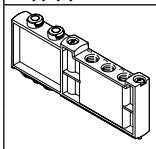
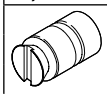
Accessories – Valve terminal

Ordering data

	Description			Part no.	Type	PU[1]
Push-in fitting, straight						Datasheets → Internet: qsm
	M5 thread	For tubing Ø 3 mm	–	**153313**	**QSM-M5-3-I**	**10**
			Round releasing ring	**133003**	**QSM-M5-3-I-R**	**10**
		For tubing Ø 4 mm	–	**153315**	**QSM-M5-4-I**	**10**
	M5 thread	For tubing Ø 4 mm	Round releasing ring	**133004**	**QSM-M5-4-I-R**	**10**
		For tubing Ø 6 mm	Round releasing ring	**133005**	**QSM-M5-6-I-R**	**10**
	M7 thread	For tubing Ø 4 mm	–	**153319**	**QSM-M7-4-I**	**10**
		For tubing Ø 6 mm	Round releasing ring	**133007**	**QSM-M7-6-I-R**	**10**
	G1/8 thread	For tubing Ø 4 mm	–	**186106**	**QS-G1/8-4-I**	**10**
		For tubing Ø 6 mm	–	**186107**	**QS-G1/8-6-I**	**10**
		For tubing Ø 8 mm	–	**186109**	**QS-G1/8-8-I**	**10**
	R1/8 thread	For tubing Ø 10 mm	–	**190647**	**QS-1/8-10-I**	**10**
	R1/4 thread	For tubing Ø 8 mm	–	**132280**	**QS-B-1/4-8-I**	**1**
			–	**153016**	**QS-1/4-8-I**	**10**
		For tubing Ø 10 mm	–	**132842**	**QS-B-1/4-10-I**	**1**
			–	**153018**	**QS-1/4-10-I**	**10**
		For tubing Ø 12 mm	–	**190649**	**QS-1/4-12-I**	**10**
	3/8 thread	For tubing Ø 8 mm	–	**130681**	**QS-3/8-8-50**	**50**
		For tubing Ø 10 mm	–	**130682**	**QS-3/8-10-50**	**50**
		For tubing Ø 12 mm	–	**130683**	**QS-3/8-12-20**	**20**
		For tubing Ø 16 mm	–	**164957**	**QS-3/8-16**	**1**
Push-in fitting, angled						Datasheets → Internet: qsl
	M5 thread	For tubing Ø 3 mm	–	**153331**	**QSML-M5-3**	**10**
		For tubing Ø 4 mm	–	**153333**	**QSML-M5-4**	**10**
	M7 thread	For tubing Ø 4 mm	–	**186352**	**QSML-M7-4**	**10**
	G1/8 thread	For tubing Ø 6 mm	–	**186117**	**QSL-G1/8-6**	**10**
		For tubing Ø 8 mm	–	**186119**	**QSL-G1/8-8**	**10**
	R1/8 thread	For tubing Ø 10 mm	–	**190658**	**QSL-1/8-10**	**10**
		For tubing Ø 6 mm	–	**130765**	**QSML-1/8-6-100**	**100**
	R1/4 thread	For tubing Ø 8 mm	–	**132220**	**QSL-B-1/4-8**	**1**
		For tubing Ø 8 mm	–	**130732**	**QSL-1/4-8-50**	**50**
		For tubing Ø 10 mm	–	**132817**	**QSL-B-1/4-10**	**1**
		For tubing Ø 10 mm	–	**130733**	**QSL-1/4-10-50**	**50**
		For tubing Ø 12 mm	–	**130734**	**QSL-1/4-12-20**	**20**
Push-in fitting, long, angled						Datasheets → Internet: qsll
	M5 thread	For tubing Ø 3 mm	–	**130838**	**QSMLL-M5-3**	**10**
		For tubing Ø 4 mm	–	**153339**	**QSMLL-M5-4**	**10**
	M7 thread	For tubing Ø 4 mm	–	**186354**	**QSMLL-M7-4**	**10**
	G1/8 thread	For tubing Ø 6 mm	–	**186128**	**QSLL-G1/8-6**	**10**
		For tubing Ø 8 mm	–	**186130**	**QSLL-G1/8-8**	**10**
Blanking plug						Datasheets → Internet: b
	For M5 thread			**174308**	**B-M5-B**	**10**
	For M7 thread			**174309**	**B-M7**	**10**
	For G1/8 thread			**3568**	**B-1/8**	**10**
	For G1/4 thread			**3569**	**B-1/4**	**10**
	For G1/8 thread			**196720**	**CDVI5.0-B-G1/8**	**1**
	For G3/8 thread			**196712**	**CDVI5.0-B-G3/8**	**1**
	For G1/4 thread			**8035644**	**CDVI5.0-B-G1/4**	**1**

1) Packaging unit.

Accessories – Valve terminal

Ordering data					
	Description		Part no.	Type	PU[1]
Silencer				Datasheets → Internet: amte	
	For M3 thread		**1231120**	**AMTE-M-LH-M3**	**20**
	For M5 thread		**1205858**	**AMTE-M-LH-M5**	**20**
	For M7 thread		**161418**	**UC-M7**	**1**
	For G1/8 thread	High flow rate	**2307**	**U-1/8**	**1**
		Lower flow rate	**161419**	**UC-1/8**	**1**
	For G1/4 thread	High flow rate	**2316**	**U-1/4**	**1**
			534223	**U-1/4-20**	**20**
		Lower flow rate	**165004**	**UC-1/4**	**1**
			534220	**UC-1/4-20**	**20**
Cover plate					
	Vacant position width 10 mm	–	**573422**	**VABB-L1-10-T**	**1**
	Vacant position width 14 mm	–	**573488**	**VABB-L1-14-T**	**1**
	Vacant position width 18 mm	–	**8004897**	**VABB-L1-18-T**	**1**
Supply plate					
	Supply ports 1, 3, 5, width 10 mm	–	**573924**	**VABF-L1-10-P3A4-M7-T1**	**1**
	Supply ports 1, 3, 5, width 14 mm	–	**573925**	**VABF-L1-14-P3A4-G18-T1**	**1**
	Supply ports 1, 3, 5, width 18 mm	–	**8004898**	**VABF-L1-18-P3A4-G14-T1**	**1**
Separator					
	For manifold rail, size 10, M5/M7	For sub-base valves	**569994**	**VABD-6-B**	**1**
		For semi in-line valves	**569995**	**VABD-8-B**	**1**
	For all manifold rails, size 14		**569996**	**VABD-10-B**	**1**
	For all manifold rails, size 18		**569997**	**VABD-12-B**	**1**

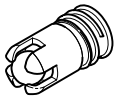
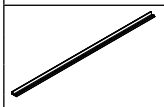
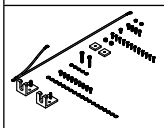
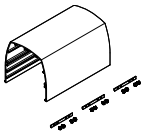
1) Packaging unit.

Accessories – Valve terminal

Ordering data	Description	Part no.	Type	PU[1]
Cover cap for manual override				
	Concealed	**540898**	**VMPA-HBV-B**	**10**
	Non-detenting	**540897**	**VMPA-HBT-B**	**10**
	Detenting (without accessories)	**8002234**	**VAMC-L1-CD**	**10**
Inscription label holder			Datasheets → Internet: aslr	
	Holder for an inscription label and covering for the retaining screw and manual override	**570818**	**ASLR-D-L12**	**10**
Screw set			Datasheets → Internet: vamer	
		**8092501**	**VAME-S-M5-16-R1-P10**	**1**

1) Packaging unit.

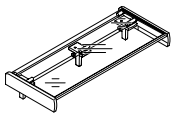
Accessories – Valve terminal

Ordering data	Description			Part no.	Type	PU[1]
Check valve						
	For manifold rails VABM-L1-10...	For blocking the flow in the event of back pressure in duct 3 and 5	Only suitable for sub-base valves	**8047364**	**VABF-L1-10H-H2**	**10**
	For manifold rails VABM-L1-14...			**8047365**	**VABF-L1-14-H2**	**10**
Flow restrictor						
	For manifold rails VABM-L1-10...	For setting the flow rate during pressurisation and exhausting (for M5 threaded connection)	Nominal width: 0.5 mm	**8025709**	**VFFG-T-M5-5**	**10**
			Nominal width: 0.6 mm	**8025710**	**VFFG-T-M5-6**	**10**
			Nominal width: 0.7 mm	**8025711**	**VFFG-T-M5-7**	**10**
			Nominal width: 0.85 mm	**8025712**	**VFFG-T-M5-8**	**10**
			Nominal width: 1.05 mm	**8025713**	**VFFG-T-M5-10**	**10**
			Nominal width: 1.2 mm	**8025714**	**VFFG-T-M5-12**	**10**
			Nominal width: 1.55 mm	**8025715**	**VFFG-T-M5-15**	**10**
		For setting the flow rate during pressurisation and exhausting (for Ø 4 mm)	Nominal width: 0.5 mm	**8047346**	**VFFG-T-F4-5**	**10**
			Nominal width: 0.6 mm	**8047347**	**VFFG-T-F4-6**	**10**
			Nominal width: 0.7 mm	**8047348**	**VFFG-T-F4-7**	**10**
			Nominal width: 0.85 mm	**8047349**	**VFFG-T-F4-8**	**10**
			Nominal width: 1.05 mm	**8047350**	**VFFG-T-F4-10**	**10**
			Nominal width: 1.2 mm	**8047351**	**VFFG-T-F4-12**	**10**
			Nominal width: 1.55 mm	**8047352**	**VFFG-T-F4-15**	**10**
	For manifold rails VABM-L1-14...	For setting the flow rate during pressurisation and exhausting (for Ø 5.8 mm)	Nominal width: 0.7 mm	**8047353**	**VFFG-T-F6-7**	**10**
			Nominal width: 0.85 mm	**8047354**	**VFFG-T-F6-8**	**10**
			Nominal width: 1.05 mm	**8047355**	**VFFG-T-F6-10**	**10**
			Nominal width: 1.15 mm	**8047356**	**VFFG-T-F6-11**	**10**
			Nominal width: 1.4 mm	**8047357**	**VFFG-T-F6-14**	**10**
			Nominal width: 1.6 mm	**8047358**	**VFFG-T-F6-16**	**10**
			Nominal width: 1.8 mm	**8047359**	**VFFG-T-F6-18**	**10**
Flow restrictor set						
	For manifold rails VABM-L1-10...	Two of each size, for M5 threaded connection		**8025716**	**VFFG-T-M5-A-V1**	**14**
		Two of each size, for Ø 4 mm		**8062200**	**VFFG-T-F4-A-V1**	**14**
	For manifold rails VABM-L1-14...	Two of each size, for Ø 5.8 mm		**8062201**	**VFFG-T-F6-A-V1**	**14**
Hood					Datasheets → Internet: cafm/cafcr	
	Mounting rail for attaching the hood		196 mm	**3307385**	**CAFM-X1-R-200**	**1**
			296 mm	**3307386**	**CAFM-X1-R-300**	**1**
			396 mm	**3307387**	**CAFM-X1-R-400**	**1**
			496 mm	**3307388**	**CAFM-X1-R-500**	**1**
			596 mm	**3307389**	**CAFM-X1-R-600**	**1**
	Mounting kit for VTUG hood			**572257**	**CAFC-X1-BE**	**1**
	Hood section for VTUG terminal including mounting attachments for connecting several hood sections in series	VTUG-10-4 sections	200 mm	**8127858**	**CAFC-X1-GAL-200-Z**	**1**
		VTUG-10-8/12-14-4 sections	300 mm	**8127859**	**CAFC-X1-GAL-300-Z**	**1**
		VTUG-10-16/24-14-8/12-sections	400 mm	**8127860**	**CAFC-X1-GAL-400-Z**	**1**
		VTUG-14-16 sections	600 mm	**8127861**	**CAFC-X1-GAL-600-Z**	**1**
		VTUG-14-24 sections		**8127862**	**CAFC-X1-GAL-600-Z**	**1**
	Kit for any hood section for terminal VTUG			–	**CAFC-...** → Internet: cafc	

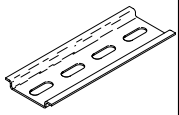
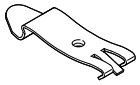
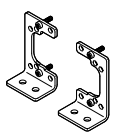
1) Packaging unit.

Accessories – Valve terminal

Ordering data

	Description		Part no.	Type
Label holder for valve terminal				
	Size 10	For 4 valve positions	**573453**	**ASCF-H-L1-10-4V**
		For 5 valve positions	**573454**	**ASCF-H-L1-10-5V**
		For 6 valve positions	**573455**	**ASCF-H-L1-10-6V**
		For 7 valve positions	**573456**	**ASCF-H-L1-10-7V**
		For 8 valve positions	**573457**	**ASCF-H-L1-10-8V**
		For 9 valve positions	**573458**	**ASCF-H-L1-10-9V**
		For 10 valve positions	**573459**	**ASCF-H-L1-10-10V**
		For 12 valve positions	**573460**	**ASCF-H-L1-10-12V**
		For 16 valve positions	**573461**	**ASCF-H-L1-10-16V**
		For 20 valve positions	**573462**	**ASCF-H-L1-10-20V**
		For 24 valve positions	**573463**	**ASCF-H-L1-10-24V**
	Size 14	For 4 valve positions	**573511**	**ASCF-H-L1-14-4V**
		For 5 valve positions	**573512**	**ASCF-H-L1-14-5V**
		For 6 valve positions	**573513**	**ASCF-H-L1-14-6V**
		For 7 valve positions	**573514**	**ASCF-H-L1-14-7V**
		For 8 valve positions	**573515**	**ASCF-H-L1-14-8V**
		For 9 valve positions	**573516**	**ASCF-H-L1-14-9V**
		For 10 valve positions	**573518**	**ASCF-H-L1-14-10V**
		For 12 valve positions	**573519**	**ASCF-H-L1-14-12V**
		For 16 valve positions	**573520**	**ASCF-H-L1-14-16V**
		For 20 valve positions	**573521**	**ASCF-H-L1-14-20V**
		For 24 valve positions	**573522**	**ASCF-H-L1-14-24V**
	Size 18	For 4 valve positions	**8004928**	**ASCF-H-L1-18-4V**
		For 5 valve positions	**8004929**	**ASCF-H-L1-18-5V**
		For 6 valve positions	**8004930**	**ASCF-H-L1-18-6V**
		For 7 valve positions	**8004931**	**ASCF-H-L1-18-7V**
		For 8 valve positions	**8004932**	**ASCF-H-L1-18-8V**
		For 9 valve positions	**8004933**	**ASCF-H-L1-18-9V**
		For 10 valve positions	**8004934**	**ASCF-H-L1-18-10V**
		For 12 valve positions	**8004935**	**ASCF-H-L1-18-12V**
		For 16 valve positions	**8004936**	**ASCF-H-L1-18-16V**
		For 20 valve positions	**8004937**	**ASCF-H-L1-18-20V**
		For 24 valve positions	**8004938**	**ASCF-H-L1-18-24V**

Ordering data

	Description		Part no.	Type
DIN rail				Datasheets → Internet: nrh
	To EN 60715, 35 x 7.5 (WxH)	Length: 2 m	**35430**	**NRH-35-2000**
DIN rail mounting				Datasheets → Internet: vame
	Use the following screws for mounting: Size 10: DIN 912: M4x30 Size 14: DIN 912: M4x40 Size 18: DIN 912: M5 x 50	–	**569998**	**VAME-T-M4**
Mounting bracket				Datasheets → Internet: vame
	Mounting bracket, right and left, with screw set for sub-base valve (control cabinet installation). Mounting is possible only with VTUG in size 10 and 14.		**8154010**	**VAME-L1-Q**