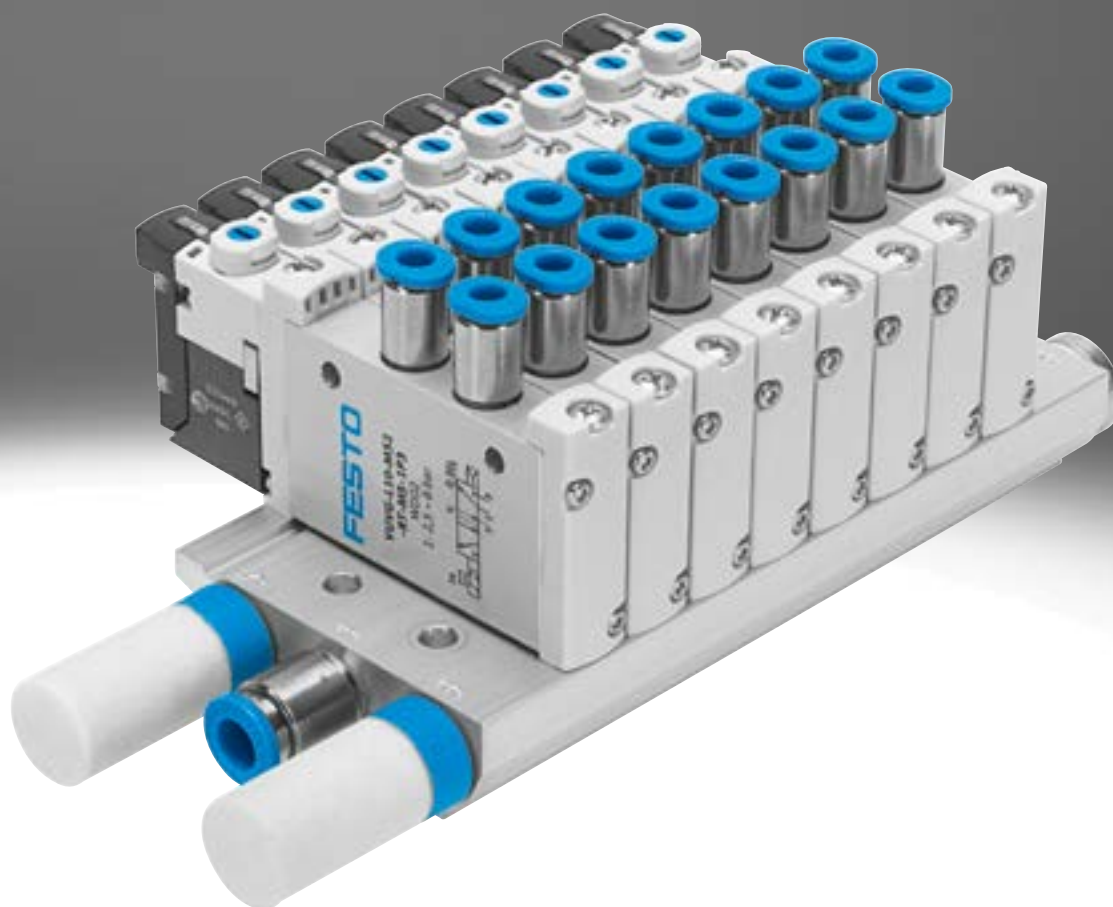
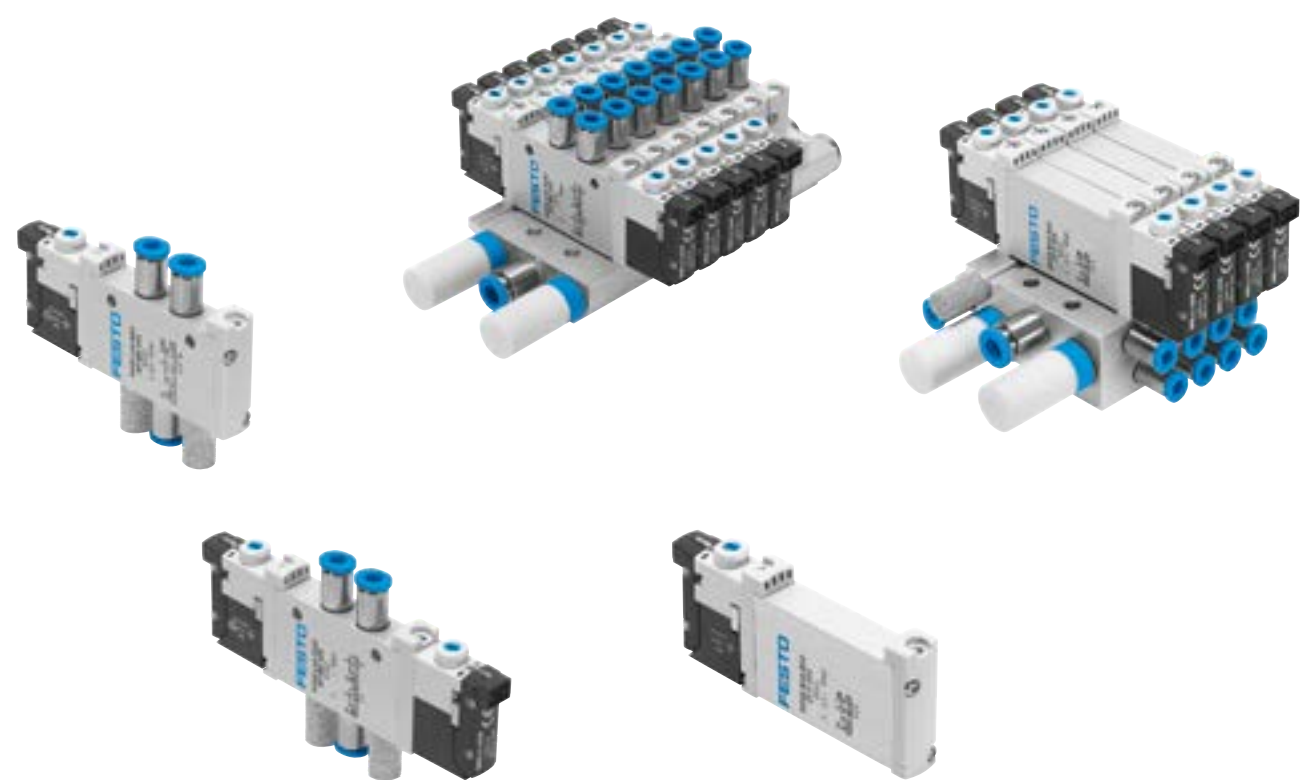


## Solenoid valves VUVG/valve manifold assembly VTUG-S

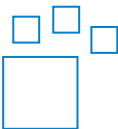
**FESTO**



Key features



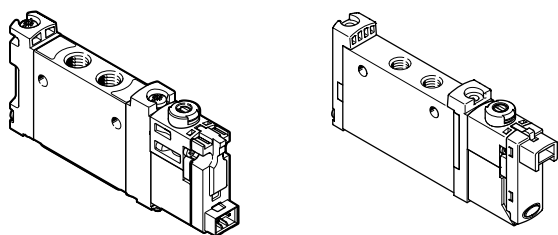
| Innovative                                                                                                                                                                                                                                                                                                                                                                         | Versatile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Reliable                                                                                                                                                                                                                                                                                                                                                                                                                                         | Easy to install                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Can be set to internal or external pilot air supply for manifold assemblies with sub-base valves</li><li>• Maximum pressure 10 bar</li><li>• Design principle:<ul style="list-style-type: none"><li>– Piston spool with sealing ring (VUVG-LK, VUVG-BK)</li><li>– Piston spool with sealing cartridge (VUVG-L, VUVG-B)</li></ul></li></ul> | <ul style="list-style-type: none"><li>• Wide range of valve functions</li><li>• Choice of quick push-in connectors</li><li>• In-line valves</li><li>• Semi in-line valves for manifold assembly</li><li>• M5 and M7 in-line valves can be combined on one manifold rail</li><li>• Valve manifold with pressure zones</li><li>• IP40, IP65</li><li>• Connection technology via:<ul style="list-style-type: none"><li>– Electrical connection box (E-box)</li><li>– Pneumatic interface CNOMO, to ISO 15218</li></ul></li></ul> | <ul style="list-style-type: none"><li>• Sturdy and durable metal components<ul style="list-style-type: none"><li>– Valves</li><li>– Manifold rails</li></ul></li><li>• Fast troubleshooting thanks to 360° LED indicator</li><li>• Reliable servicing thanks to valves that can be replaced quickly and easily</li><li>• Choice of manual override: non-detenting, covered, non-detenting/detenting or detenting (without accessories)</li></ul> | <ul style="list-style-type: none"><li>• Solid wall mounting or DIN rail mounting</li><li>• Easy mounting, captive screws and seal</li><li>• Connection technology easy to change via the E-box</li><li>• Inscription label holder for labelling the valves</li></ul> |

| Ordering data – Product options                                                    |                                                                                 |                                                                                |          |             |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------|-------------|
|  | Configurable product                                                            | The configurator can be found at                                               | Part no. | Type        |
|                                                                                    | This product and all its product options can be ordered using the configurator. | → <a href="http://www.festo.com/catalogue/...">www.festo.com/catalogue/...</a> | 564212   | VUVG        |
|                                                                                    |                                                                                 | Enter the part number or the type.                                             | 575203   | VUVG-...T1  |
|                                                                                    |                                                                                 |                                                                                | 8163285  | VUVG-...F1A |

## Key features – Pneumatic components

### Individual valves and valve manifold assemblies

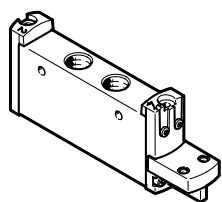
#### In-line valves as individual valve



In-line valves are designed to be used without pneumatic links. All pneumatic connections are on the valve and can be equipped with fittings/tubing. The electrical connection is established via different E-boxes.

If a special seal set is used, in-line valves VUVG can also be mounted on a manifold rail (pneumatic linking) as semi in-line valves.

#### In-line valve VUVG-LK/VUVG-L



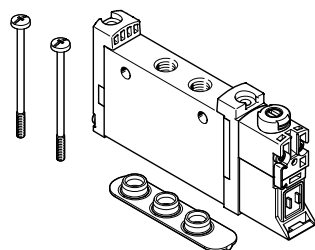
The in-line valve VTUG-L...-P1 to ISO 15218 is a solenoid valve without electrical pilot control.

The basic valve with the CNOMO pneumatic interface to ISO 15218 can be equipped with pilot controls with the following electrical connection:

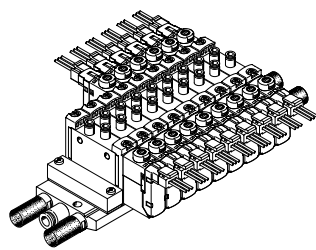
- Connection type C (DIN EN175301-803)
- Connection type C to industry standard
- M12 connection (IEC 61076-2-101)

#### In-line valve VUVG-L to ISO 15218 (CNOMO)

#### Semi in-line valves for manifold assembly



#### Semi in-line valve VUVG-S

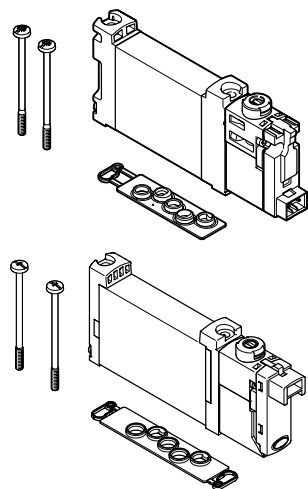


#### Valve manifold assembly VTUG comprising semi in-line valves VUVG-S

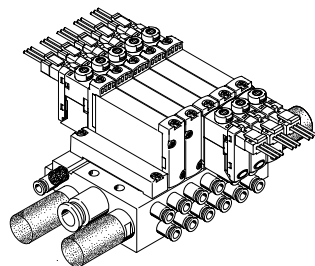
The supply ports (1, 3 and 5) for semi in-line valves are connected to the valve by common pneumatic links (e.g. sub-base).

The working ports (2, 4) are on the valve. The electrical connection is established via different E-boxes.

#### Sub-base valves for manifold assembly



#### Sub-base valve VUVG-BK/VUVG-B



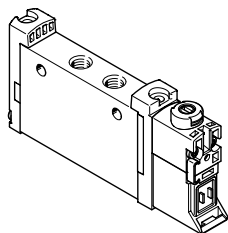
#### Valve manifold assembly VTUG comprising sub-base valves VUVG-BK/VUVG-B

The supply ports (1, 3 and 5) and the working ports (2, 4) of sub-base valves are connected through the sub-base or the

manifold. The electrical connection is established via different E-boxes.

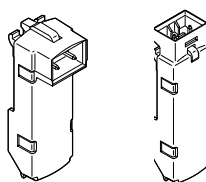
## Key features – Pneumatic components

### Basic valves VUVG



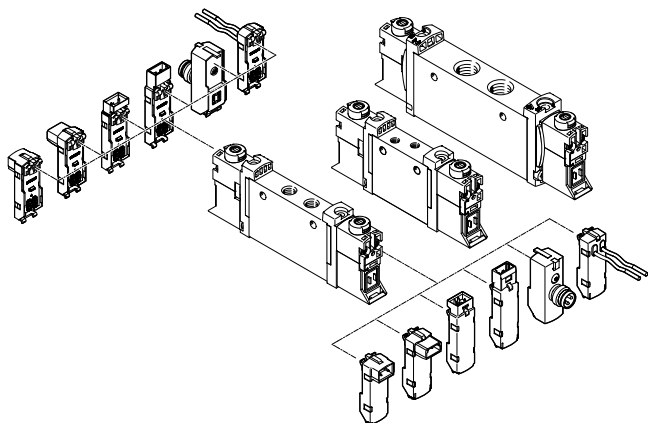
- Size 10, 14 and 18 mm
- In-line valves and semi in-line valves
- Sub-base valves
- 2x 3/2-way, 5/2-way and 5/3-way valves

### E-boxes



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

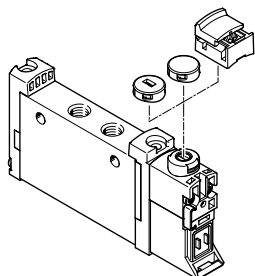
### Combinations of basic valve and E-boxes



#### Note

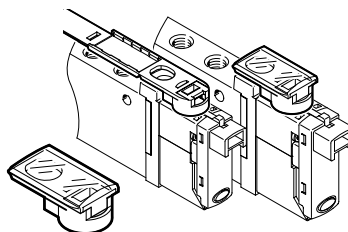
More E-boxes → page 113

### Cover caps for manual override



- Closed cover cap, covered manual override
- Slotted cover cap, non-detenting manual override
- Cover, detenting manual override

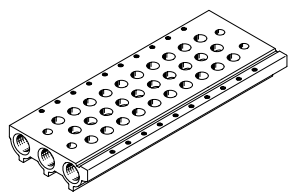
### Inscription label holder



- The inscription label holder is mounted in the same way as a cover cap for manual override
- The inscription label holder folds over to cover the retaining screw and the manual override

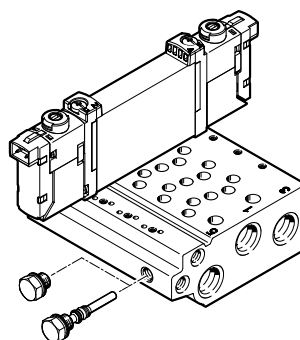
## Key features – Pneumatic components

## Manifold rail for in-line valves

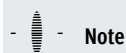


- For in-line valves M3, M5, M7, G1/8 and G1/4
- For 2x 3/2-way, 5/2-way and 5/3-way valves
- 2 to 10 and 12, 14, 16 valve positions

## Manifold rail for sub-base valves



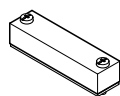
- For sub-base valves 10A, 10, 14 and 18
- Manifold rail with M5, M7, G1/8 and G1/4 working ports
- For 2x 3/2-way, 5/2-way and 5/3-way valves
- 2 to 10, 12, 14 and 16 valve positions
- The sub-base valves are always supplied with external pilot air. The pilot air is set via the manifold rail. A short and a long blanking plug are therefore included in the scope of delivery of the manifold rail.



## Note

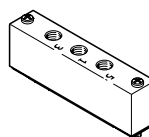
Pressurisation and exhaust at both ends is recommended for an optimised flow rate in cases where multiple valves switch simultaneously.

## Cover plate for vacant position



Vacant position cover

## Supply plate



For additional air supply and exhaust via a valve position

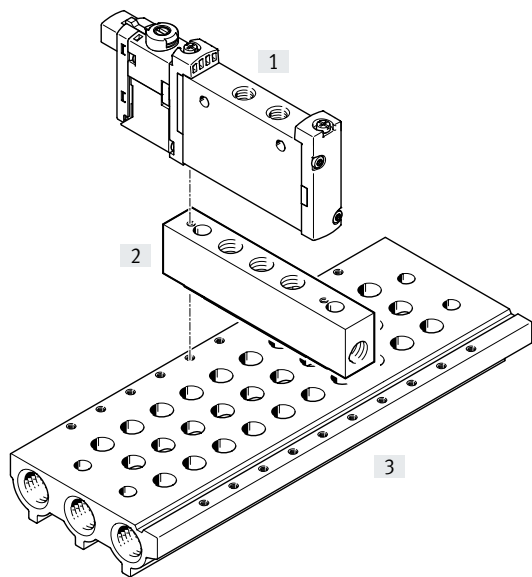
## Separator for pressure zones



For creating multiple pressure zones in a valve manifold assembly

Key features – Pneumatic components

Vertical pressure supply plate  
For in-line valves M5/M7 and G1/8



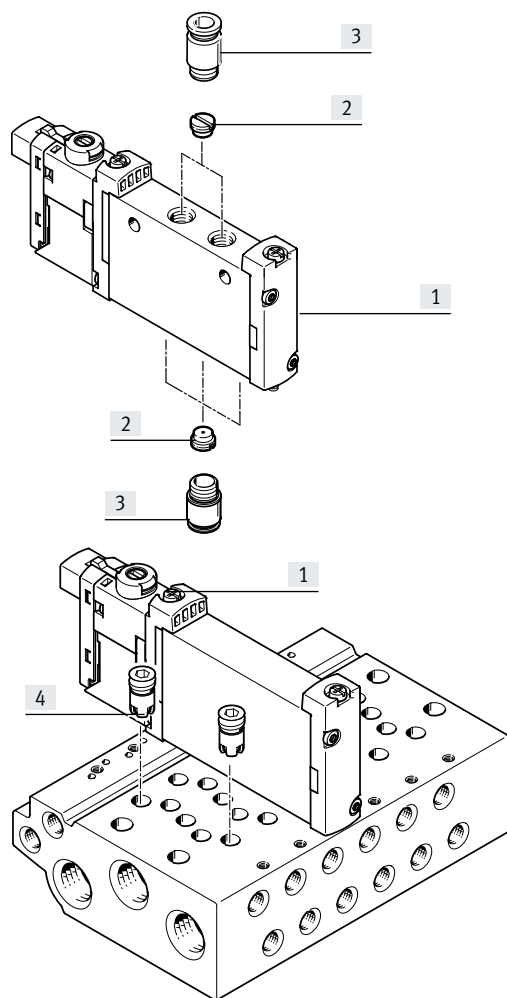
[1] In-line valves VUVG  
[2] Vertical pressure supply plate  
[3] Manifold rail

The vertical pressure supply plate allows the valve mounted on it to be pressurised and exhausted separately. If two vertical pressure supply plates are mounted on top of each other, the valve can be supplied with compressed air and exhausted completely independently of the valve terminal (terminal code CS).

| Code |  | Type        | For in-line valves |      | Description                                                                                                                               |
|------|--|-------------|--------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------|
|      |  |             | M5/M7              | G1/8 |                                                                                                                                           |
| ZU   |  | VABF-L1-P3A | ■                  | ■    | Plate with port 1 for supplying an individual operating pressure or separate exhausting (reverse operation) for a valve position.         |
| ZV   |  | VABF-L1-P7A | ■                  | ■    | Plate with ports 3 and 5 for exhausting the valve or supplying an individual operating pressure (reverse operation) for a valve position. |

## Key features – Pneumatic components

## Exhaust functions



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

## Flow restrictor for M5 thread

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 control valve 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/...](http://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/...](http://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

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 channel separations can be freely selected with the VUVG.

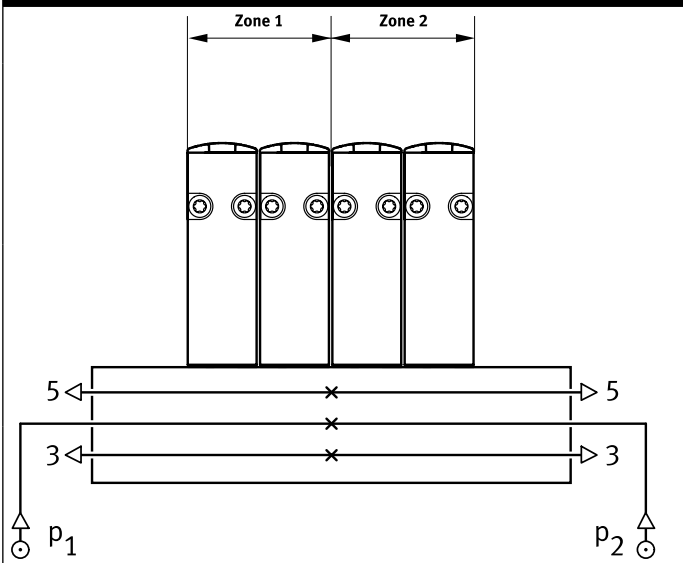
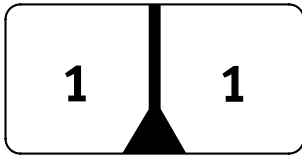
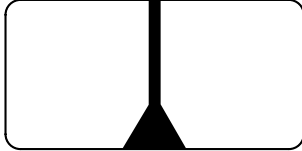
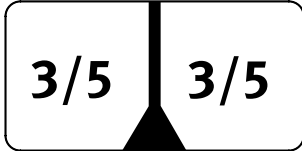
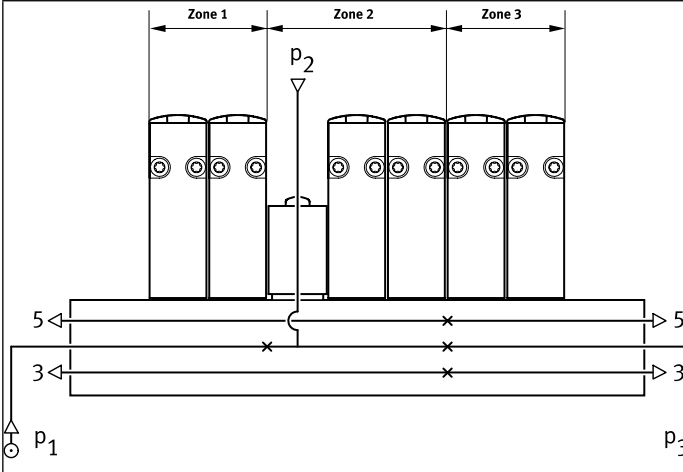
Pressure zones are created by isolating the internal supply ducts between the manifold sub-bases by appropriate duct separation.

Pressure zone separation can be used for the following ducts:

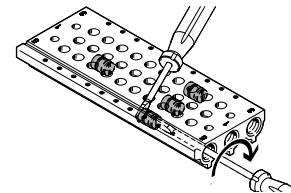
- Duct 1
- Duct 3
- Duct 5

 **Note**

- Use a separator if the exhaust air pressures are high
- Use at least one supply plate/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 VUVG. 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 VUVG is only limited by the number of valve positions on the manifold rail. Note that each supply plate occupies one valve position. |

Separator VABD



 **Note**

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

## Key features – Pneumatic components

**Pilot air supply****Internal pilot air supply**

Internal pilot air supply can be chosen with an operating pressure between 0.15 ... 0.8 MPa, 0.25 ... 0.8 MPa, or 0.3 ... 0.8 MPa (depending on the valve used).

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

**External pilot air supply**

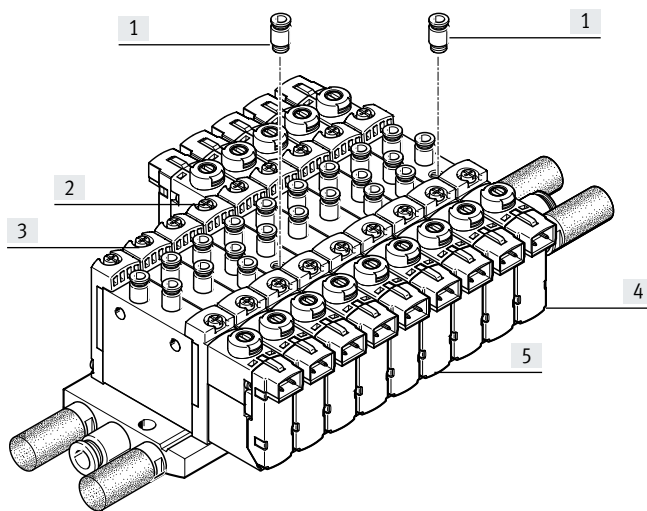
External pilot air supply is required for vacuum operation.

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

**Pilot exhaust air**

With in-line valves, the pilot exhaust air escapes via exhaust holes.

With sub-base valves, the pilot exhaust air is discharged via duct 82/84 of the manifold rail.

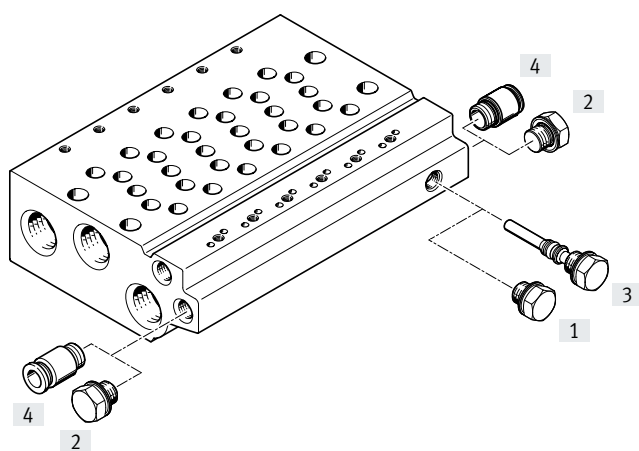
**Pilot air supply with in-line and semi in-line valves**

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

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

 **Note**

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

**Pilot air supply with sub-base valves**

- [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 in duct 12/14 with external pilot air

The manifold rails for sub-base valves 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

### Operation with different pressures

#### Vacuum operation

#### Points to note with 3/2-way valves

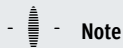
The 3/2-way valves are available in a design with two valves in one valve body and with pneumatic spring return. With these valves, the force for the return movement is obtained from port 1.

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

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

#### Reverse operation

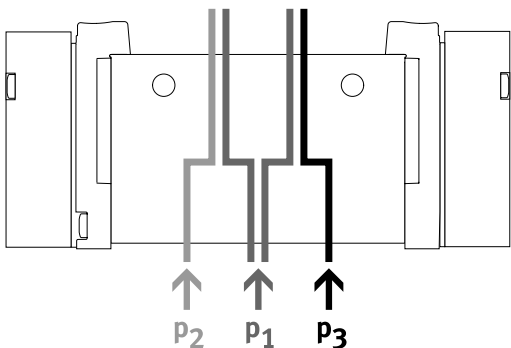
The 3/2-way valves with pneumatic spring are not suitable for reverse operation, since at least the minimum pilot pressure must be available at duct 1.



#### Note

Pressure must be available at port 1.

#### Pressure divider (internal pilot air)



- If two different pressures are required.

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



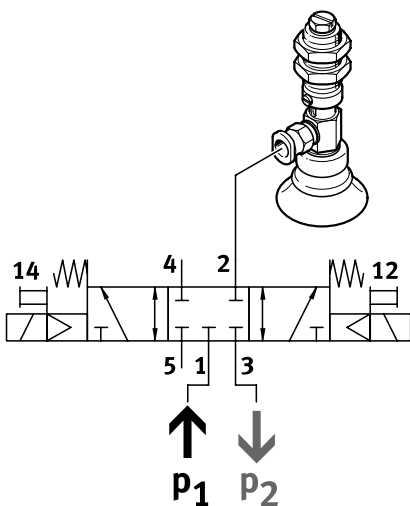
#### Note

- With internal pilot air supply, the minimum pilot pressure must be adhered to in duct 1
- With 2x 3/2-way valves without spring return, the minimum pilot pressure must always be adhered to in duct 1

#### Advantages

Either pressure or vacuum can be connected at ducts 3 and 5 both with external and internal pilot air.

#### Vacuum, ejector pulse and normal position



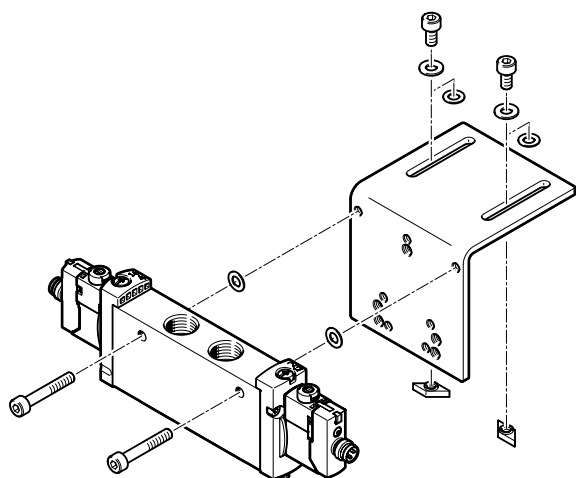
Vacuum, ejector pulse and normal position can be achieved as follows:

- Internal pilot air supply
- Vacuum in duct 3
- Pressure for the ejector pulse in duct 1

## Key features – Mounting

### Mounting – Individual valve VUVG

#### Cylinder mounting

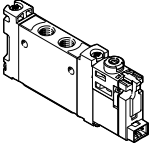
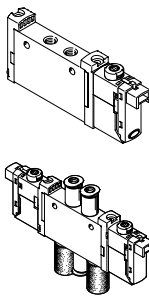
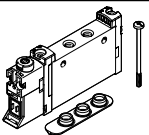
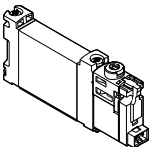
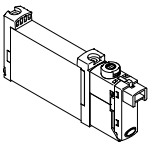


For mounting individual valves directly on a drive.

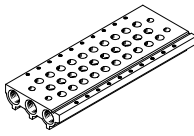
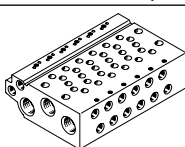
The solenoid valves are provided with two through-holes for attaching to the cylinder mounting DAVM-MW-V1...-V. Mounting is only possible on the side on which the pneumatic connections are located.

The relevant screw set is included when the cylinder mounting DAVM-MW-V1...-V is ordered.

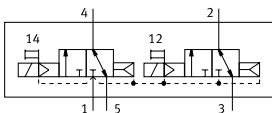
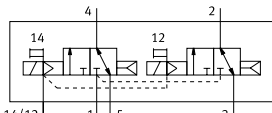
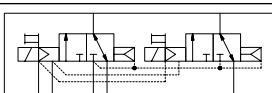
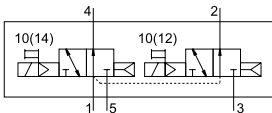
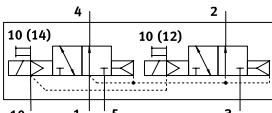
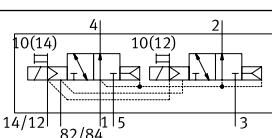
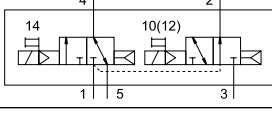
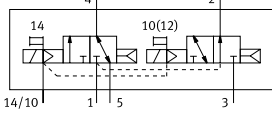
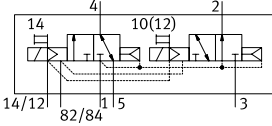
## Product range overview

| Design                                                                             | Working port | Size | Functions and flow rate [l/min] |          |          |          |          |          |           |           |           |           |           |          | → Page/<br>Internet |
|------------------------------------------------------------------------------------|--------------|------|---------------------------------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|----------|---------------------|
|                                                                                    |              |      | T32C                            | T32U     | T32H     | T32C/M   | T32U/M   | T32H/M   | M52       | M52/M     | B52       | P53C      | P53U      | P53E     |                     |
| In-line valve as individual valve, solenoid valve VUVG-LK                          |              |      |                                 |          |          |          |          |          |           |           |           |           |           |          |                     |
|    | M5           | 10   | ■<br>180                        | –        | –        | –        | –        | –        | ■<br>195  | –         | ■<br>195  | –         | –         | –        | 30                  |
|                                                                                    | M7           | 10   | ■<br>280                        | –        | –        | –        | –        | –        | ■<br>340  | –         | ■<br>340  | –         | –         | –        | 34                  |
|                                                                                    | G1/8         | 14   | ■<br>570                        | –        | –        | –        | –        | –        | ■<br>660  | –         | ■<br>660  | –         | –         | –        | 53                  |
| In-line valve as individual valve, solenoid valve VUVG-L                           |              |      |                                 |          |          |          |          |          |           |           |           |           |           |          |                     |
|    | M3           | 10A  | –                               | –        | –        | –        | –        | –        | ■<br>100  | ■<br>80   | ■<br>100  | ■<br>90   | ■<br>90   | ■<br>90  | 24                  |
|                                                                                    | M5           | 10   | ■<br>150                        | ■<br>150 | ■<br>150 | ■<br>135 | ■<br>125 | ■<br>125 | ■<br>220  | ■<br>190  | ■<br>220  | ■<br>210  | ■<br>210  | ■<br>210 | 38                  |
|                                                                                    | M7           | 10   | ■<br>190                        | ■<br>190 | ■<br>190 | ■<br>150 | ■<br>140 | ■<br>140 | ■<br>330  | ■<br>220  | ■<br>380  | ■<br>320  | ■<br>320  | ■<br>320 | 44                  |
|                                                                                    | G1/8         | 14   | ■<br>560                        | ■<br>600 | ■<br>590 | ■<br>550 | ■<br>500 | ■<br>500 | ■<br>780  | ■<br>780  | ■<br>780  | ■<br>650  | ■<br>560  | ■<br>560 | 57                  |
|                                                                                    | G1/4         | 18   | ■<br>880                        | ■<br>970 | ■<br>950 | ■<br>870 | ■<br>990 | ■<br>920 | ■<br>1300 | ■<br>1300 | ■<br>1380 | ■<br>1200 | ■<br>1000 | ■<br>910 | 69                  |
| Semi in-line valve for manifold assembly, solenoid valve VUVG-S                    |              |      |                                 |          |          |          |          |          |           |           |           |           |           |          |                     |
|   | M5           | 10   | ■<br>150                        | ■<br>150 | ■<br>150 | ■<br>135 | ■<br>125 | ■<br>125 | ■<br>220  | ■<br>190  | ■<br>220  | ■<br>210  | ■<br>210  | ■<br>210 | 38                  |
|                                                                                    | M7           | 10   | ■<br>190                        | ■<br>190 | ■<br>190 | ■<br>150 | ■<br>140 | ■<br>140 | ■<br>330  | ■<br>220  | ■<br>380  | ■<br>320  | ■<br>320  | ■<br>320 | 44                  |
|                                                                                    | G1/8         | 14   | ■<br>560                        | ■<br>600 | ■<br>590 | ■<br>550 | ■<br>500 | ■<br>500 | ■<br>780  | ■<br>780  | ■<br>780  | ■<br>650  | ■<br>560  | ■<br>560 | 57                  |
|                                                                                    | G1/4         | 18   | ■<br>880                        | ■<br>970 | ■<br>950 | ■<br>870 | ■<br>990 | ■<br>920 | ■<br>1300 | ■<br>1300 | ■<br>1380 | ■<br>1200 | ■<br>1000 | ■<br>910 | 69                  |
| Sub-base valve, solenoid valve VUVG-BK                                             |              |      |                                 |          |          |          |          |          |           |           |           |           |           |          |                     |
|  | M5           | 10   | ■<br>160                        | –        | –        | –        | –        | –        | ■<br>160  | –         | ■<br>160  | –         | –         | –        | 84                  |
|                                                                                    | M7           | 10   | ■<br>160                        | –        | –        | –        | –        | –        | ■<br>160  | –         | ■<br>160  | –         | –         | –        | 84                  |
|                                                                                    | G1/8         | 14   | ■<br>350                        | –        | –        | –        | –        | –        | ■<br>380  | –         | ■<br>380  | –         | –         | –        | 93                  |
| Sub-base valve, solenoid valve VUVG-B                                              |              |      |                                 |          |          |          |          |          |           |           |           |           |           |          |                     |
|  | M3           | 10A  | –                               | –        | –        | –        | –        | –        | ■<br>100  | ■<br>80   | ■<br>100  | ■<br>90   | ■<br>90   | ■<br>90  | 79                  |
|                                                                                    | M5           | 10   | ■<br>150                        | ■<br>150 | ■<br>150 | ■<br>130 | ■<br>120 | ■<br>120 | ■<br>210  | ■<br>180  | ■<br>210  | ■<br>200  | ■<br>200  | ■<br>200 | 87                  |
|                                                                                    | M7           | 10   | ■<br>160                        | ■<br>160 | ■<br>160 | ■<br>140 | ■<br>130 | ■<br>130 | ■<br>270  | ■<br>230  | ■<br>270  | ■<br>250  | ■<br>250  | ■<br>250 | 87                  |
|                                                                                    | G1/8         | 14   | ■<br>510                        | ■<br>510 | ■<br>510 | ■<br>430 | ■<br>410 | ■<br>410 | ■<br>520  | ■<br>570  | ■<br>570  | ■<br>520  | ■<br>500  | ■<br>460 | 93                  |
|                                                                                    | G1/4         | 18   | ■<br>800                        | ■<br>800 | ■<br>800 | ■<br>800 | ■<br>800 | ■<br>800 | ■<br>1000 | ■<br>1000 | ■<br>1000 | ■<br>950  | ■<br>950  | ■<br>950 | 103                 |

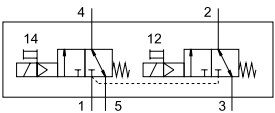
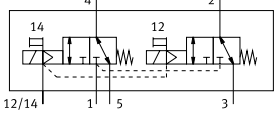
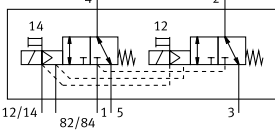
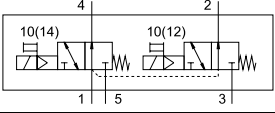
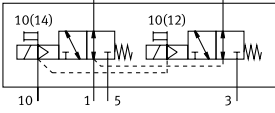
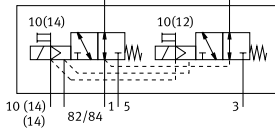
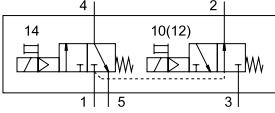
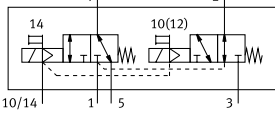
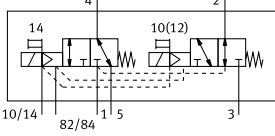
## Product range overview

| Design                                                                            | Size | Description | → Page/<br>Internet |
|-----------------------------------------------------------------------------------|------|-------------|---------------------|
| Manifold rail VABM- ... -S- ... , for in-line valves (manifold assembly)          |      |             |                     |
|  | 10AS | Size M3     | 29, 51,<br>67, 77   |
|                                                                                   | 10S  | Size M5, M7 |                     |
|                                                                                   | 14S  | Size G1/8   |                     |
|                                                                                   | 18S  | Size G1/4   |                     |
| Manifold rail VABM, for sub-base valves (manifold assembly)                       |      |             |                     |
|  | 10AW | Size M3     | 83, 92,<br>102, 109 |
|                                                                                   | 10W  | Size M5     |                     |
|                                                                                   | 10HW | Size M7     |                     |
|                                                                                   | 14W  | Size G1/8   |                     |
|                                                                                   | 18W  | Size G1/4   |                     |

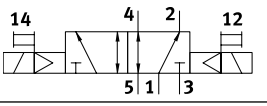
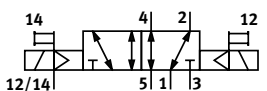
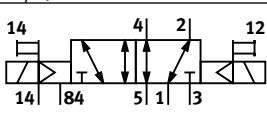
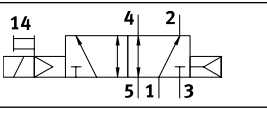
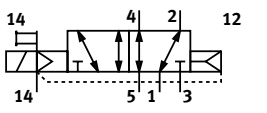
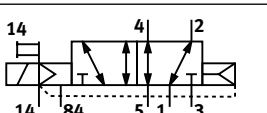
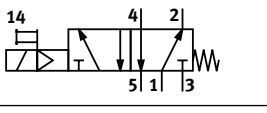
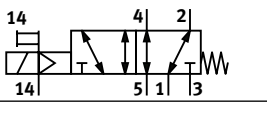
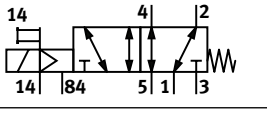
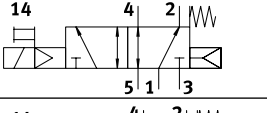
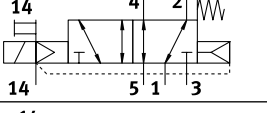
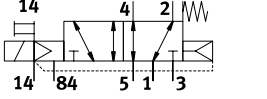
## Overview of valve functions

| Valve                                                                              | Valve code | Description                                 | VUVG-LK, VUVG-BK |      | VUVG-L, VUVG-B |       |      |      |  |  |  |  |
|------------------------------------------------------------------------------------|------------|---------------------------------------------|------------------|------|----------------|-------|------|------|--|--|--|--|
|                                                                                    |            |                                             | Size             |      | Size           |       |      |      |  |  |  |  |
|                                                                                    |            |                                             | M5/M7            | G1/8 | M3             | M5/M7 | G1/8 | G1/4 |  |  |  |  |
| 2x 3/2-way valve, normally closed, pneumatic spring                                |            |                                             |                  |      |                |       |      |      |  |  |  |  |
|    | T32C-A     | In-line valve, pilot air supply<br>Internal | ■                | ■    | –              | ■     | ■    | ■    |  |  |  |  |
|    |            | In-line valve, pilot air supply<br>External | –                | –    | –              | ■     | ■    | –    |  |  |  |  |
|    |            | Sub-base valve, external pilot air supply   | –                | –    | –              | ■     | ■    | ■    |  |  |  |  |
| 2x 3/2-way valve, normally open, pneumatic spring                                  |            |                                             |                  |      |                |       |      |      |  |  |  |  |
|    | T32U-A     | In-line valve, pilot air supply<br>Internal | –                | –    | –              | ■     | ■    | ■    |  |  |  |  |
|   |            | In-line valve, pilot air supply<br>External | –                | –    | –              | ■     | ■    | –    |  |  |  |  |
|  |            | Sub-base valve, external pilot air supply   | –                | –    | –              | ■     | ■    | ■    |  |  |  |  |
| 2x 3/2-way valve, 1x normally open, 1x normally closed, pneumatic spring           |            |                                             |                  |      |                |       |      |      |  |  |  |  |
|  | T32H-A     | In-line valve, pilot air supply<br>Internal | –                | –    | –              | ■     | ■    | ■    |  |  |  |  |
|  |            | In-line valve, pilot air supply<br>External | –                | –    | –              | ■     | ■    | –    |  |  |  |  |
|  |            | Sub-base valve, external pilot air supply   | –                | –    | –              | ■     | ■    | ■    |  |  |  |  |

## Overview of valve functions

| Valve                                                                               | Valve code | Description                               | VUVG-LK, VUVG-BK |      | VUVG-L, VUVG-B |       |      |      |
|-------------------------------------------------------------------------------------|------------|-------------------------------------------|------------------|------|----------------|-------|------|------|
|                                                                                     |            |                                           | Size             |      | Size           |       |      |      |
|                                                                                     |            |                                           | M5/M7            | G1/8 | M3             | M5/M7 | G1/8 | G1/4 |
| 2x 3/2-way valve, normally closed, mechanical spring                                |            |                                           |                  |      |                |       |      |      |
|    | T32C-M     | In-line valve, pilot air supply Internal  | —                | —    | —              | ■     | ■    | ■    |
|    |            | In-line valve, pilot air supply External  | —                | —    | —              | ■     | ■    | ■    |
|    |            | Sub-base valve, external pilot air supply | —                | —    | —              | ■     | ■    | ■    |
| 2x 3/2-way valve, normally open, mechanical spring                                  |            |                                           |                  |      |                |       |      |      |
|    | T32U-M     | In-line valve, pilot air supply Internal  | —                | —    | —              | ■     | ■    | ■    |
|   |            | In-line valve, pilot air supply External  | —                | —    | —              | ■     | ■    | ■    |
|  |            | Sub-base valve, external pilot air supply | —                | —    | —              | ■     | ■    | ■    |
| 2x 3/2-way valve, 1x normally open, 1x normally closed, mechanical spring           |            |                                           |                  |      |                |       |      |      |
|  | T32H-M     | In-line valve, pilot air supply Internal  | —                | —    | —              | ■     | ■    | ■    |
|  |            | In-line valve, pilot air supply External  | —                | —    | —              | ■     | ■    | ■    |
|  |            | Sub-base valve, external pilot air supply | —                | —    | —              | ■     | ■    | ■    |

## Overview of valve functions

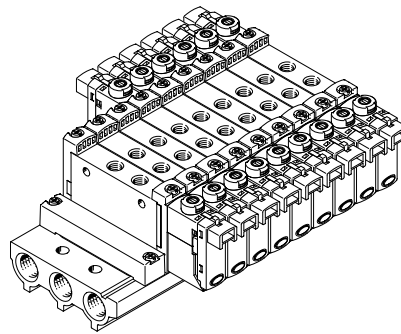
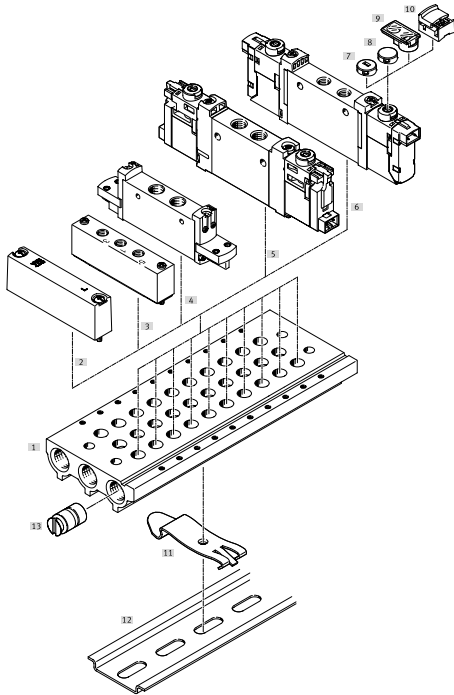
| Valve                                                                              | Valve code | Description                               | VUVG-LK, VUVG-BK |      | VUVG-L, VUVG-B |       |      |      |  |  |  |  |
|------------------------------------------------------------------------------------|------------|-------------------------------------------|------------------|------|----------------|-------|------|------|--|--|--|--|
|                                                                                    |            |                                           | Size             |      | Size           |       |      |      |  |  |  |  |
|                                                                                    |            |                                           | M5/M7            | G1/8 | M3             | M5/M7 | G1/8 | G1/4 |  |  |  |  |
| 5/2-way valve, double solenoid                                                     |            |                                           |                  |      |                |       |      |      |  |  |  |  |
|    | B52        | In-line valve, pilot air supply Internal  | ■                | ■    | ■              | ■     | ■    | ■    |  |  |  |  |
|    |            | In-line valve, pilot air supply External  | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
|    |            | Sub-base valve, external pilot air supply | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
| 5/2-way valve, single solenoid, pneumatic spring                                   |            |                                           |                  |      |                |       |      |      |  |  |  |  |
|    | M52-A      | In-line valve, pilot air supply Internal  | ■                | ■    | –              | –     | ■    | –    |  |  |  |  |
|    |            | In-line valve, pilot air supply External  | –                | –    | –              | –     | ■    | –    |  |  |  |  |
|   |            | Sub-base valve, external pilot air supply | –                | –    | –              | –     | ■    | –    |  |  |  |  |
| 5/2-way valve, single solenoid, mechanical spring                                  |            |                                           |                  |      |                |       |      |      |  |  |  |  |
|  | M52-M      | In-line valve, pilot air supply Internal  | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
|  |            | In-line valve, pilot air supply External  | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
|  |            | Sub-base valve, external pilot air supply | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
| 5/2-way valve, single solenoid, pneumatic/mechanical spring                        |            |                                           |                  |      |                |       |      |      |  |  |  |  |
|  | M52-R      | In-line valve, pilot air supply Internal  | –                | –    | ■              | ■     | –    | ■    |  |  |  |  |
|  |            | In-line valve, pilot air supply External  | –                | –    | ■              | ■     | –    | ■    |  |  |  |  |
|  |            | Sub-base valve, external pilot air supply | –                | –    | ■              | ■     | –    | ■    |  |  |  |  |

## Overview of valve functions

| Valve                                   | Valve code | Description                               | VUVG-LK, VUVG-BK |      | VUVG-L, VUVG-B |       |      |      |  |  |  |  |
|-----------------------------------------|------------|-------------------------------------------|------------------|------|----------------|-------|------|------|--|--|--|--|
|                                         |            |                                           | Size             |      | Size           |       |      |      |  |  |  |  |
|                                         |            |                                           | M5/M7            | G1/8 | M3             | M5/M7 | G1/8 | G1/4 |  |  |  |  |
| 5/3-way valve, mid-position closed      |            |                                           |                  |      |                |       |      |      |  |  |  |  |
|                                         | P53C       | In-line valve, pilot air supply Internal  | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
|                                         |            | In-line valve, pilot air supply External  | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
|                                         |            | Sub-base valve, external pilot air supply | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
| 5/3-way valve, mid-position pressurised |            |                                           |                  |      |                |       |      |      |  |  |  |  |
|                                         | P53U       | In-line valve, pilot air supply Internal  | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
|                                         |            | In-line valve, pilot air supply External  | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
|                                         |            | Sub-base valve, external pilot air supply | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
| 5/3-way valve, mid-position exhausted   |            |                                           |                  |      |                |       |      |      |  |  |  |  |
|                                         | P53E       | In-line valve, pilot air supply Internal  | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
|                                         |            | In-line valve, pilot air supply External  | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |
|                                         |            | Sub-base valve, external pilot air supply | –                | –    | ■              | ■     | ■    | ■    |  |  |  |  |

## Peripherals overview example – In-line valves

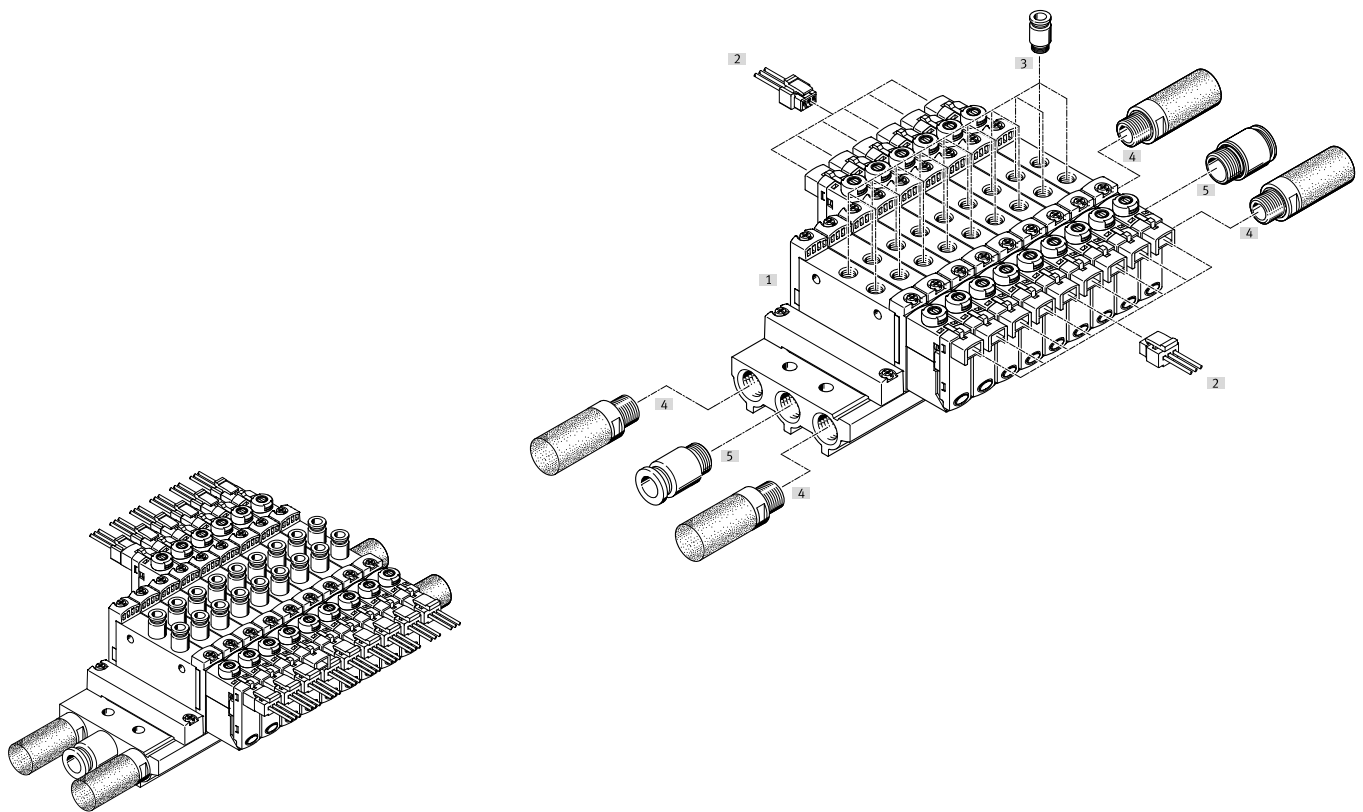
## Manifold assembly



| Manifold assembly and accessories |                           | Type         | Description                                                                    | → Page/Internet |
|-----------------------------------|---------------------------|--------------|--------------------------------------------------------------------------------|-----------------|
| [1]                               | Manifold rail             | VABM-L1-...  | For 2 to 10, 12, 14 and 16 valve positions                                     | 91              |
| [2]                               | Cover plate               | VABB-L1-...  | For covering a vacant position                                                 | 29              |
| [3]                               | Supply plate              | VABF-L1-...  | For air supply at duct 1 and duct 3 and 5                                      | 29              |
| [4]                               | Solenoid valve            | VUVG-...-P1  | In-line valve 2x 3/2-, 5/2- and 5/3-way                                        | 65              |
| [5]                               | Solenoid valve            | VUVG-LK...   | In-line valve 2x 3/2-, 5/2- and 5/3-way                                        | 30              |
| [6]                               | Solenoid valve            | VUVG-L...    | In-line valve 2x 3/2-, 5/2- and 5/3-way                                        | 30              |
| [7]                               | Cover cap (non-detenting) | VMPA-HB...-B | For manual override                                                            | 118             |
| [8]                               | Cover cap (concealed)     | VMPA-HB...-B | For manual override                                                            | 118             |
| [9]                               | Inscription label holder  | ASLR-D       | For labelling the valves, covering the retaining screw and the manual override | 118             |
| [10]                              | Cover cap (detenting)     | VAMC-L1-...  | For manual override                                                            | 118             |
| [11]                              | DIN rail mounting         | VAME-T-M4    | 2 pieces for attaching the valve manifold to the DIN rail                      | 118             |
| [12]                              | DIN rail                  | NRH-35-2000  | For mounting the valve manifold assembly                                       | 118             |
| [13]                              | Separator                 | VABD-...     | For creating pressure zones                                                    | 29              |

## Peripherals overview example – In-line valves

### Manifold assembly

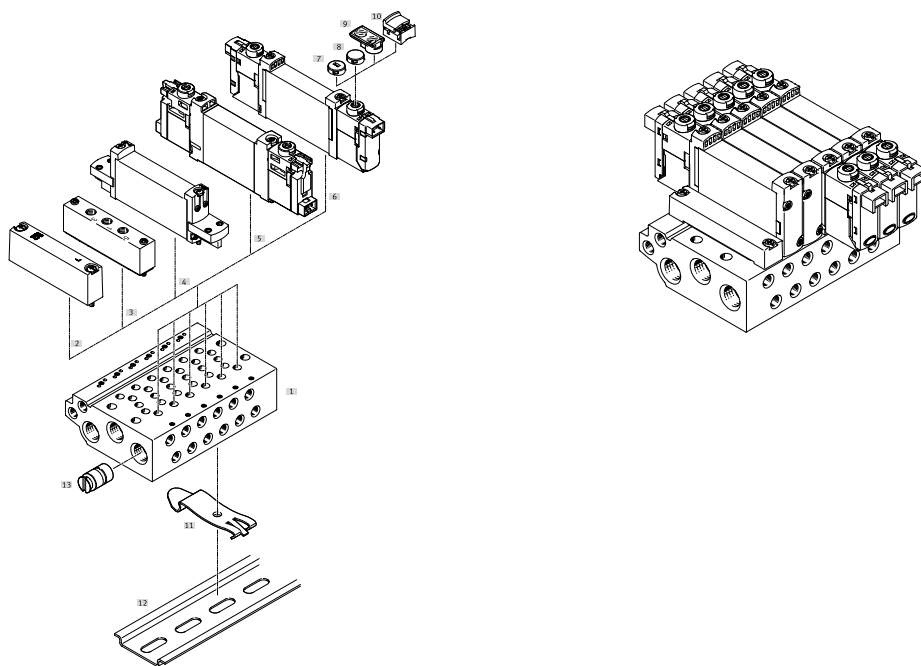


#### Manifold assembly and accessories

|                            | Type              | Description                                | → Page/Internet |
|----------------------------|-------------------|--------------------------------------------|-----------------|
| [1] Manifold rail          | VABM-L1-...       | For 2 to 10, 12, 14 and 16 valve positions | 91              |
| [2] Plug socket with cable | NEBV-H1G2-...-LE2 | For E-box H2 and H3                        | 116             |
| [3] Push-in fitting        | QS...             | Push-in fitting for duct 2 and 4           | 117             |
| [4] Silencer               | U...              | For duct 3 and 5                           | 118             |
| [5] Push-in fitting        | QS...             | Push-in fitting for air supply at duct 1   | 117             |

## Peripherals overview example – Sub-base valves

## Manifold assembly

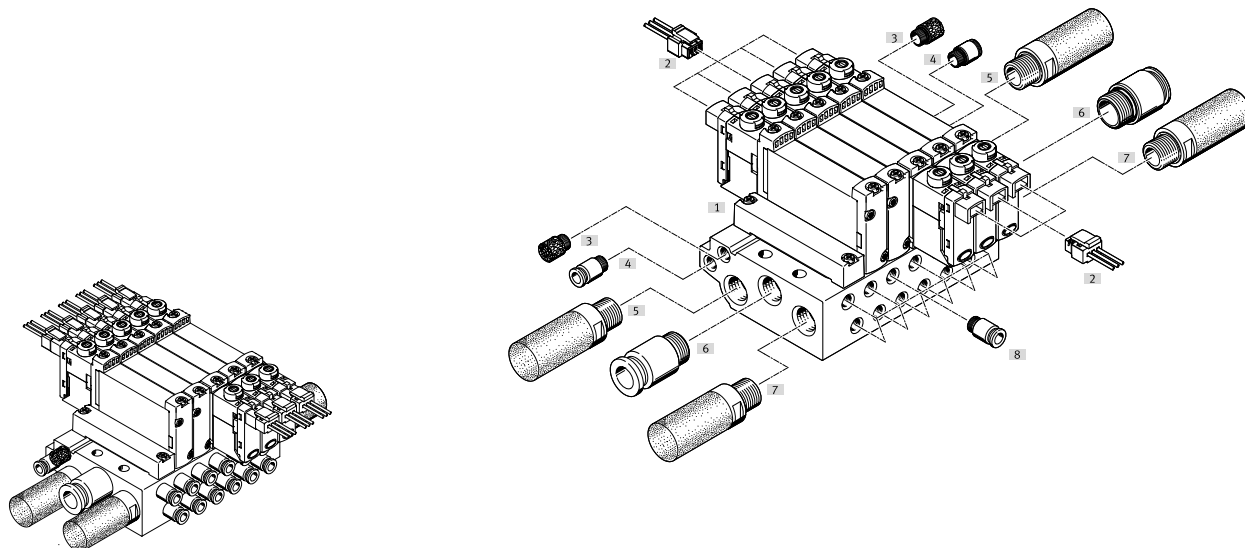


## Manifold assembly and accessories

|                               | Type         | Description                                                                    | → Page/Internet |
|-------------------------------|--------------|--------------------------------------------------------------------------------|-----------------|
| [1] Manifold rail             | VABM-L1-...  | For 2 to 10, 12, 14 and 16 valve positions                                     | 91              |
| [2] Cover plate               | VABB-L1-...  | For covering a vacant position                                                 | 92              |
| [3] Supply plate              | VABF-L1-...  | For air supply at duct 1 and duct 3 and 5                                      | 92              |
| [4] Solenoid valve            | VUVG-...-P1  | Sub-base valve 2x 3/2-way, 5/2-way and 5/3-way                                 | 100             |
| [5] Solenoid valve            | VUVG-BK...   | Sub-base valve 2x 3/2-way, 5/2-way and 5/3-way                                 | 84              |
| [6] Solenoid valve            | VUVG-B...    | Sub-base valve 2x 3/2-way, 5/2-way and 5/3-way                                 | 84              |
| [7] Cover cap (non-detenting) | VMPA-HB...-B | For manual override                                                            | 118             |
| [8] Cover cap (concealed)     | VMPA-HB...-B | For manual override                                                            | 118             |
| [9] Inscription label holder  | ASLR-D       | For labelling the valves, covering the retaining screw and the manual override | 118             |
| [10] Cover cap (detenting)    | VAMC-L1-...  | For manual override                                                            | 118             |
| [11] DIN rail mounting        | VAME-T-M4    | 2 pieces for attaching the valve manifold to the DIN rail                      | 118             |
| [12] DIN rail                 | NRH-35-2000  | For mounting the valve manifold assembly                                       | 118             |
| [13] Separator                | VABD- ...    | For creating pressure zones                                                    | 92              |

## Peripherals overview example – Sub-base valves

### Manifold assembly



| Manifold assembly and accessories |                        | Type                 | Description                                        | → Page/Internet |
|-----------------------------------|------------------------|----------------------|----------------------------------------------------|-----------------|
| [1]                               | Manifold rail          | VABM-L1-...          | For 2 to 10, 12, 14 and 16 valve positions         | 91              |
| [2]                               | Plug socket with cable | NEBV-H1G2-KN-...-LE2 | For E-box H2 and H3                                | 116             |
| [3]                               | Silencer               | U...                 | Silencer for pilot air exhaust at duct 82/84       | 118             |
| [4]                               | Push-in fitting        | QS...                | Push-in fitting for pilot air supply at duct 12/14 | 117             |
| [5]                               | Silencer               | U...                 | For duct 3 and 5                                   | 118             |
| [6]                               | Push-in fitting        | QS...                | Push-in fitting for air supply at duct 1           | 117             |
| [7]                               | Silencer               | U...                 | For duct 3 and 5                                   | 118             |
| [8]                               | Push-in fitting        | QS...                | Push-in fitting for duct 2 and 4                   | 117             |

## Type codes

|      |                |  |
|------|----------------|--|
| 001  | Series         |  |
| VUVG | Solenoid valve |  |

|     |                                |  |
|-----|--------------------------------|--|
| 002 | Directional control valve type |  |
| L   | In-line valve                  |  |
| S   | Semi-inline valve              |  |
| B   | Sub-base valve                 |  |

|     |                                |  |
|-----|--------------------------------|--|
| 003 | Design principle               |  |
|     | Piston spool                   |  |
| K   | Piston spool with sealing ring |  |

|     |                         |  |
|-----|-------------------------|--|
| 004 | Size                    |  |
| 10A | Size 10, deviating flow |  |
| 10  | Size 10                 |  |
| 14  | Size 14                 |  |
| 18  | Size 18                 |  |

|      |                                                       |  |
|------|-------------------------------------------------------|--|
| 005  | Valve function                                        |  |
| T32U | 2x3/2-way valve, normally open                        |  |
| T32C | 2x3/2-way valve, normally closed                      |  |
| T32H | 2x3/2-way valve, 1x normally closed, 1x normally open |  |
| B52  | 5/2-way valve, double solenoid/bistable               |  |
| M52  | 5/2-way valve, single solenoid/monostable             |  |
| P53U | 5/3-way valve, mid-position pressurised               |  |
| P53E | 5/3-way valve, mid-position exhausted                 |  |
| P53C | 5/3-way valve, mid-position closed                    |  |

|     |                                                    |  |
|-----|----------------------------------------------------|--|
| 006 | Reset method for monostable/single solenoid valves |  |
|     | None                                               |  |
| A   | Pneumatic spring                                   |  |
| M   | Mechanical spring                                  |  |
| R   | Mixed, pneumatic/mechanical spring                 |  |

|     |           |  |
|-----|-----------|--|
| 007 | Pilot air |  |
|     | Internal  |  |
| Z   | External  |  |

|     |                                           |  |
|-----|-------------------------------------------|--|
| 008 | Manual override                           |  |
|     | None                                      |  |
| H   | Non-detenting                             |  |
| S   | Covered                                   |  |
| Y   | Detenting                                 |  |
| T   | Non-detenting, detenting with accessories |  |

|       |                                                   |  |
|-------|---------------------------------------------------|--|
| 009   | Pneumatic connection                              |  |
| M3    | M3                                                |  |
| G18   | G1/8                                              |  |
| G14   | G1/4                                              |  |
| M5    | M5                                                |  |
| M7    | M7                                                |  |
| Q4H   | Push-in connector 4 mm, with connecting thread M7 |  |
| Q6H   | Push-in connector 6 mm, with connecting thread M7 |  |
| Q3    | Push-in connector 3 mm                            |  |
| Q4    | Push-in connector 4 mm                            |  |
| Q6    | Push-in connector 6 mm                            |  |
| Q8    | Push-in connector 8 mm                            |  |
| Q10   | Push-in connector 10 mm                           |  |
| T18   | Push-in connector 1/8"                            |  |
| T532  | Push-in connector 5/32"                           |  |
| T316  | Push-in connector 3/16"                           |  |
| T316H | Push-in connector for 3/16", M7                   |  |
| T14   | Push-in connector 1/4"                            |  |
| T14H  | Push-in connector for 1/4", M7                    |  |
| T38   | Push-in connector 3/8"                            |  |
| T516  | Push-in connector 5/16"                           |  |
| T516H | Push-in connector 5/16", M7                       |  |
| F     | Flange/sub-base                                   |  |

|     |              |  |
|-----|--------------|--|
| 010 | Exhaust      |  |
| QN  | With fitting |  |
|     | No fitting   |  |
| U   | Silencer     |  |

|     |                           |  |
|-----|---------------------------|--|
| 011 | Nominal operating voltage |  |
|     | None                      |  |
| 1   | 24 V DC                   |  |
| 1A  | 24 V AC/50-60 Hz          |  |
| 4   | 5 V DC                    |  |
| 5   | 12 V DC                   |  |

|     |                                          |  |
|-----|------------------------------------------|--|
| 012 | Electrical connection                    |  |
|     | None                                     |  |
| P3  | Without electrical sub-base              |  |
| C1  | Plug pattern type C, to EN 175301-803    |  |
| E1  | Individual connection with plug base     |  |
| H2  | Connection pattern H, horizontal plug    |  |
| H3  | Connection pattern H, vertical plug      |  |
| S2  | Connection pattern S, horizontal plug    |  |
| S3  | Connection pattern S, vertical connector |  |
| L1  | Leads 0.5 m                              |  |
| L2  | Leads 1 m                                |  |
| L3  | Leads 2.5 m                              |  |
| L4  | Leads 5 m                                |  |
| K6  | Cable 0.5 m                              |  |
| K7  | Cable 1 m                                |  |
| K8  | Cable 2.5 m                              |  |
| K9  | Cable 5 m                                |  |
| R8  | Individual connector M8, 3-pin           |  |
| R1  | Individual connector M8, 4-pin           |  |
| R3  | Individual plug M12, to EN 61076-2-101   |  |
| P1  | Interface for pilot valve (CNOMO small)  |  |

|     |                                                              |  |
|-----|--------------------------------------------------------------|--|
| 013 | Circuitry                                                    |  |
|     | None                                                         |  |
| R   | Holding current reduction with integrated protective circuit |  |

## Type codes

| 014 | Display |  |
|-----|---------|--|
|     | None    |  |
| L   | LED     |  |

| 015 | Electrical valve accessories                           |  |
|-----|--------------------------------------------------------|--|
|     | None                                                   |  |
| C1  | Connecting cable, 0.5 m                                |  |
| C2  | Connecting cable 1 m                                   |  |
| C3  | Connecting cable 2.5 m                                 |  |
| C4  | Connecting cable, 5 m                                  |  |
| D   | Connector socket type C                                |  |
| D3  | Connecting cable 2.5 m, with plug socket type C        |  |
| D4  | Connecting cable 5 m, with plug socket type C          |  |
| D6  |                                                        |  |
| D7  |                                                        |  |
| D8  |                                                        |  |
| DL3 | Connecting cable 2.5 m, with plug socket type C, LED   |  |
| DL4 | Connecting cable 5 m, with plug socket type C, LED     |  |
| DL5 | Connecting cable 10 m, with plug socket type C, LED    |  |
| E   |                                                        |  |
| E3  | Connecting cable 2.5 m, straight plug socket M12       |  |
| E4  | Connecting cable 5 m, straight plug socket M12         |  |
| E6  | Connecting cable 2.5 m, angled plug socket M12         |  |
| E7  | Connecting cable 5 m, angled plug socket M12           |  |
| EL  |                                                        |  |
| N1  | Connecting cable 2.5 m, straight plug socket M8, 3-pin |  |
| N2  | Connecting cable 5 m, straight plug socket M8, 3-pin   |  |
| N3  | Connecting cable 2.5 m, angled plug socket M8, 3-pin   |  |
| N4  | Connecting cable 5 m, angled plug socket M8, 3-pin     |  |
| N5  | Connecting cable 2.5 m, straight plug socket M8, 4-pin |  |
| N6  | Connecting cable 5 m, straight plug socket M8, 4-pin   |  |
| N7  | Connecting cable 2.5 m, angled plug socket M8, 4-pin   |  |
| N8  | Connecting cable 5 m, angled plug socket M8, 4-pin     |  |
| S1  | Connecting cable, 0.5 m, S-connector                   |  |
| S2  | Connecting cable 1 m, S-connector                      |  |
| S3  | Connecting cable 2.5 m, S-connector                    |  |
| S4  | Connecting cable, 5 m, S-plug                          |  |
| W1  | Connecting cable, flying leads, 0.5 m                  |  |
| W2  | Connecting cable, flying leads, 1 m                    |  |
| W3  | Connecting cable, flying leads, 2.5 m                  |  |
| W4  | Connecting cable, flying leads, 5 m                    |  |
| WS1 | Connecting cable, S-plug with flying leads, 0.5 m      |  |
| WS2 | Connecting cable, S-plug with flying leads, 1 m        |  |
| WS3 | Connecting cable, S-plug with flying leads, 2.5 m      |  |
| WS4 | Connecting cable, S-plug with flying leads, 5 m        |  |

| 016 | Version             |  |
|-----|---------------------|--|
|     | Expanded properties |  |
| S   | Focused properties  |  |

| 017 | Special material properties                                                        |  |
|-----|------------------------------------------------------------------------------------|--|
|     | None                                                                               |  |
| F1A | Recommended for production facilities for the manufacture of lithium-ion batteries |  |

## Datasheet

### Function

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

Circuit diagrams → page 14

-  - Size 10 mm
-  - Flow rate  
80 ... 100 l/min
-  - Voltage  
5, 12 and 24 V DC



| General technical data VUVG-L                            |                                                                        |          |            |                 |                 |                 |
|----------------------------------------------------------|------------------------------------------------------------------------|----------|------------|-----------------|-----------------|-----------------|
| Valve function                                           | M52-R                                                                  | B52      | M52-M      | P53             |                 |                 |
| Normal position                                          | –                                                                      | –        | –          | C <sup>1)</sup> | U <sup>2)</sup> | E <sup>3)</sup> |
| Stable position                                          | Monostable                                                             | Bistable | Monostable | Monostable      |                 |                 |
| Pneumatic spring return                                  | Yes <sup>4)</sup>                                                      | –        | No         | –               |                 |                 |
| Mechanical spring return                                 | Yes <sup>4)</sup>                                                      | –        | Yes        | Yes             |                 |                 |
| Vacuum operation at port 1                               | Only with external pilot air supply                                    |          |            |                 |                 |                 |
| Design                                                   | Piston spool                                                           |          |            |                 |                 |                 |
| Sealing principle                                        | Soft                                                                   |          |            |                 |                 |                 |
| Actuation type                                           | Electrical                                                             |          |            |                 |                 |                 |
| Type of control                                          | Piloted                                                                |          |            |                 |                 |                 |
| Pilot air supply                                         | Internal or external                                                   |          |            |                 |                 |                 |
| Exhaust air function                                     | Can be throttled                                                       |          |            |                 |                 |                 |
| Manual override                                          | Choice of non-detenting, covered, non-detenting/detenting or detenting |          |            |                 |                 |                 |
| Type of mounting                                         | Optionally via through-holes <sup>5)</sup> or on manifold rail         |          |            |                 |                 |                 |
| Mounting position                                        | Any                                                                    |          |            |                 |                 |                 |
| Nominal width                                            | [mm]                                                                   | 2        |            | 1.4             | 2               |                 |
| Standard nominal flow rate                               | [l/min]                                                                | 100      |            | 80              | 90              |                 |
| Flow rate on manifold rail                               | [l/min]                                                                | 100      |            | 80              | 90              |                 |
| Switching time on/off                                    | [ms]                                                                   | 8/15     | –          | 7/21            | 8/25            |                 |
| Switching time changeover                                | [ms]                                                                   | –        | 8          | –               | 14              |                 |
| Size                                                     | [mm]                                                                   | 10       |            |                 |                 |                 |
| Connection                                               | 1, 2, 3, 4, 5, 12/14                                                   | M3       |            |                 |                 |                 |
| Product weight                                           | [g]                                                                    | 38       | 49         | 37              |                 |                 |
| Certification                                            | c UL us - Recognized (OL)                                              |          |            |                 |                 |                 |
|                                                          | RCM                                                                    |          |            |                 |                 |                 |
| CE marking (see declaration of conformity) <sup>6)</sup> | To EU EMC Directive                                                    |          |            |                 |                 |                 |
| Corrosion resistance class CRC <sup>7)</sup>             | 2                                                                      |          |            |                 |                 |                 |

1) C=Normally closed/mid-position closed

2) U=Normally open/mid-position pressurised

3) E=Mid-position exhausted

4) Combined reset method

5) If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers.

6) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/...](http://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](http://www.festo.com/x/topic/crc)

## Datasheet

| Operating and environmental conditions |          |       |                                                       |              |                         |
|----------------------------------------|----------|-------|-------------------------------------------------------|--------------|-------------------------|
| Valve function                         |          |       | M52-R <sup>1)</sup>                                   | B52          | M52-M <sup>2)</sup> P53 |
| Operating medium                       |          |       | Compressed air to ISO 8573-2010 [7:4:4]               |              |                         |
| Operating pressure                     | Internal | [MPa] | 0.25 ... 0.8                                          | 0.15 ... 0.8 | 0.3 ... 0.8             |
|                                        |          | [bar] | 2.5 ... 8                                             | 1.5 ... 8    | 3 ... 8                 |
|                                        | External | [MPa] | −0.09 ... 1                                           |              | −0.09 ... 0.8           |
|                                        |          | [bar] | −0.9 ... 10                                           |              | −0.9 ... 8              |
| Pilot pressure                         |          | [MPa] | 0.25 ... 0.8                                          | 0.15 ... 0.8 | 0.3 ... 0.8             |
|                                        |          | [bar] | 2.5 ... 8                                             | 1.5 ... 8    | 3 ... 8                 |
| Ambient temperature                    |          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |              |                         |
| Temperature of medium                  |          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |              |                         |
| Cleanroom class                        |          |       | ISO class 5                                           |              |                         |

1) Mixed, pneumatic/mechanical spring

2) Mechanical spring

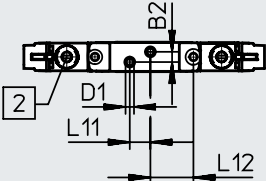
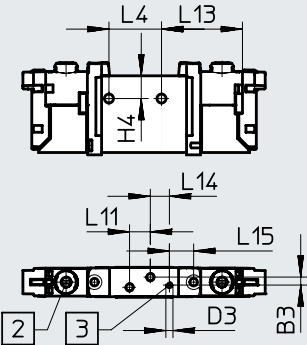
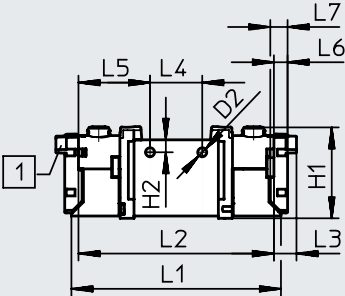
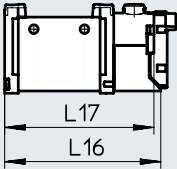
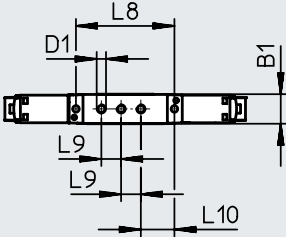
| Electrical data                  |                                                   |
|----------------------------------|---------------------------------------------------|
| Electrical connection            | Via E-box → page 111                              |
| Operating voltage [V DC]         | 5, 12 and 24 ±10%                                 |
| Power [W]                        | 1, reduced to 0.35 with holding current reduction |
| Duty cycle [%]                   | 100                                               |
| Degree of protection to EN 60529 | IP40 (with plug socket), IP65 (with M8)           |

| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364-B1/B2-L       |

Datasheet

Dimensions

5/2- and 5/3-way valves



**Note**  
More dimensions for  
E-boxes  
→ Page 113

[1] Electrical connection for solenoid valve, horizontal

[2] Manual override

[3] Port for external pilot air supply

| Type                | B1   | B2  | B3   | D1 | D2  | D3 | H1   | H2  | L1   | L2   | L3 | L4   | L5   |
|---------------------|------|-----|------|----|-----|----|------|-----|------|------|----|------|------|
| VUVG-L10A-...-M3... | 10.2 | 3.6 | 2.83 | M3 | 3.2 | M3 | 32.5 | 4.4 | 74.3 | 69.3 | 8  | 18.5 | 25.4 |
| VUVG-S10A-...-M3... |      |     |      |    |     |    |      |     |      |      |    |      |      |

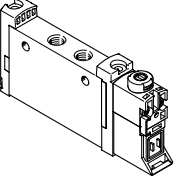
| Type                | L6   | L7   | L8   | L9 | L10  | L11 | L12   | L13  | L14 | L15  | L16   | L17   |
|---------------------|------|------|------|----|------|-----|-------|------|-----|------|-------|-------|
| VUVG-L10A-...-M3... | 4.85 | 6.15 | 34.9 | 7  | 11.9 | 7.3 | 15.25 | 28.5 | 6.7 | 8.54 | 57.06 | 54.56 |
| VUVG-S10A-...-M3... |      |      |      |    |      |     |       |      |     |      |       |       |

26

→Internet: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...)

Subject to change – 2025/07

## Ordering data

| Ordering data                                                                     |                                       | Description                                        | Part no. | Type                     |
|-----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------|----------|--------------------------|
| <b>In-line valve M3, without E-box</b>                                            |                                       |                                                    |          |                          |
|  | <b>5/2-way valve, single solenoid</b> |                                                    |          |                          |
|                                                                                   | Internal pilot air supply             | Pneumatic/mechanical spring return                 | 566437   | VUVG-L10A-M52-RT-M3-1P3  |
|                                                                                   |                                       | Mechanical spring return                           | 574345   | VUVG-L10A-M52-MT-M3-1P3  |
|                                                                                   | External pilot air supply             | Pneumatic/mechanical spring return                 | 566443   | VUVG-L10A-M52-RZT-M3-1P3 |
|                                                                                   |                                       | Mechanical spring return                           | 574346   | VUVG-L10A-M52-MZT-M3-1P3 |
|                                                                                   | <b>5/2-way valve, double solenoid</b> |                                                    |          |                          |
|                                                                                   | Internal pilot air supply             |                                                    | 566438   | VUVG-L10A-B52-T-M3-1P3   |
|                                                                                   | External pilot air supply             |                                                    | 566444   | VUVG-L10A-B52-ZT-M3-1P3  |
|                                                                                   | <b>5/3-way valve</b>                  |                                                    |          |                          |
|                                                                                   | Internal pilot air supply             | Mid-position closed, mechanical spring return      | 566439   | VUVG-L10A-P53C-T-M3-1P3  |
|                                                                                   |                                       | Mid-position exhausted, mechanical spring return   | 566440   | VUVG-L10A-P53E-T-M3-1P3  |
|                                                                                   |                                       | Mid-position pressurised, mechanical spring return | 566441   | VUVG-L10A-P53U-T-M3-1P3  |
|                                                                                   | External pilot air supply             | Mid-position closed, mechanical spring return      | 566445   | VUVG-L10A-P53C-ZT-M3-1P3 |
|                                                                                   |                                       | Mid-position exhausted, mechanical spring return   | 566446   | VUVG-L10A-P53E-ZT-M3-1P3 |
|                                                                                   |                                       | Mid-position pressurised, mechanical spring return | 566447   | VUVG-L10A-P53U-ZT-M3-1P3 |

Manifold assembly

In-line valves for manifold assembly



**Dimensions**

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

**Note**  
More dimensions for E-boxes  
→ Page 113

[1] Ports 1, 3 and 5: M5 (at both ends)  
[2] Ports 2 and 4: M3

[5] Electrical connection for E-boxes and accessories

[6] DIN rail mounting (two M4x16 screws are required for mounting)  
[7] Cover plate

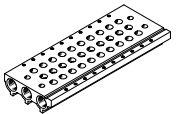
[8] Supply plate, ports 1, 3 and 5: M5  
[9] Valves/cover plate mounting on manifold rail: M2 thread

| Type            | B1   | B2   | B3   | B4   | B5  | B6 | B7   | B8  | B9   | B10  | B11  | D1 |
|-----------------|------|------|------|------|-----|----|------|-----|------|------|------|----|
| VABM-L1-10AS-M5 | 85.3 | 62.6 | 29.7 | 18.7 | 7.7 | 3  | 40.3 | 6.8 | 24.2 | 46.7 | 38.6 | M5 |

| Type            | D2<br>ø | H1   | H2 | H3  | H4   | H5  | H6   | L3 | L5   | L6   | L7   | L8  | L9 |
|-----------------|---------|------|----|-----|------|-----|------|----|------|------|------|-----|----|
| VABM-L1-10AS-M5 | 4.5     | 43.8 | 10 | 5.5 | 16.2 | 6.8 | 20.3 | 7  | 12.5 | 10.3 | 10.5 | 3.5 | 14 |

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

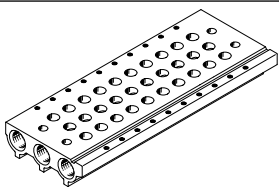
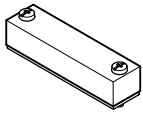
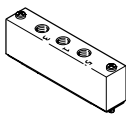
## Ordering data

| Technical data – Manifold rails                                                   |            |                 |                         |                    |             |                                          |          |      |
|-----------------------------------------------------------------------------------|------------|-----------------|-------------------------|--------------------|-------------|------------------------------------------|----------|------|
|                                                                                   | Connection | CRC             | Material <sup>2)</sup>  | Operating pressure |             | Max. tightening torque for mounting [Nm] |          |      |
|                                                                                   | 1, 3, 5    |                 |                         | [MPa]              | [bar]       | Valve                                    | DIN rail | Wall |
|  | M5         | 2 <sup>1)</sup> | Wrought aluminium alloy | –0.09 ... 1        | –0.9 ... 10 | 0.45                                     | 1.5      | 3    |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements that are in direct contact with a normal industrial environment.

2) Information on materials: RoHS-compliant.

| Ordering data – Manifold rail                                                           |                                                                |                                                            |                     |                    |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|---------------------|--------------------|
|                                                                                         | Description                                                    | Part no.                                                   | Type                |                    |
| Manifold rail for in-line valves (manifold assembly)                                    |                                                                |                                                            |                     |                    |
|        | For size M3                                                    | 2 valve positions                                          | 566522              | VABM-L1-10AS-M5-2  |
|                                                                                         |                                                                | 3 valve positions                                          | 566523              | VABM-L1-10AS-M5-3  |
|                                                                                         |                                                                | 4 valve positions                                          | 566524              | VABM-L1-10AS-M5-4  |
|                                                                                         |                                                                | 5 valve positions                                          | 566525              | VABM-L1-10AS-M5-5  |
|                                                                                         |                                                                | 6 valve positions                                          | 566526              | VABM-L1-10AS-M5-6  |
|                                                                                         |                                                                | 7 valve positions                                          | 566527              | VABM-L1-10AS-M5-7  |
|                                                                                         |                                                                | 8 valve positions                                          | 566528              | VABM-L1-10AS-M5-8  |
|                                                                                         |                                                                | 9 valve positions                                          | 566529              | VABM-L1-10AS-M5-9  |
|                                                                                         |                                                                | 10 valve positions                                         | 566530              | VABM-L1-10AS-M5-10 |
|                                                                                         |                                                                | 12 valve positions                                         | 566531              | VABM-L1-10AS-M5-12 |
|                                                                                         |                                                                | 14 valve positions                                         | 566532              | VABM-L1-10AS-M5-14 |
|                                                                                         |                                                                | 16 valve positions                                         | 566533              | VABM-L1-10AS-M5-16 |
| Cover plate <span style="float: right;">Datasheets → Internet: vabb</span>              |                                                                |                                                            |                     |                    |
|      | For valve position on manifold rail, including screws and seal | 569986                                                     | VABB-L1-10A         |                    |
| Separator <span style="float: right;">Datasheets → Internet: vabd</span>                |                                                                |                                                            |                     |                    |
|      | For creating pressure zones                                    | 570872                                                     | VABD-4.2-B          |                    |
| Supply plate <span style="float: right;">Datasheets → Internet: vabf</span>             |                                                                |                                                            |                     |                    |
|      | For valve position on manifold rail, including screws and seal | 569990                                                     | VABF-L1-10A-P3A4-M5 |                    |
| Seals for in-line valves <span style="float: right;">Datasheets → Internet: vabd</span> |                                                                |                                                            |                     |                    |
|      | For in-line valves M3                                          | Delivery quantity: 10 sets (each with 2 screws and 1 seal) | 566670              | VABD-L1-10AX-S-M3  |

## Datasheet

### Function

2x 3/2C

5/2-way, single solenoid

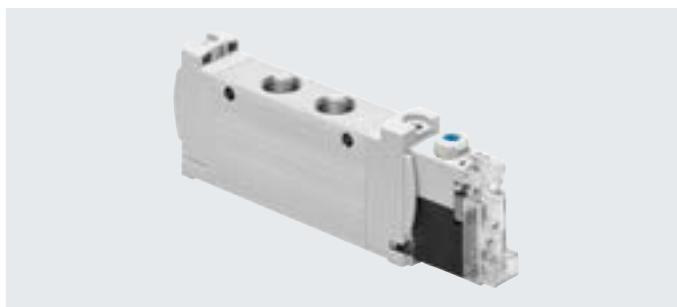
5/2-way, double solenoid valve

Circuit diagrams → page 14

-  - Size 10 mm

-  - Flow rate  
180 ... 195 l/min

-  - Voltage  
24 V DC



### General technical data VUVG-LK

| Valve function                               | T32-A                                                          | M52-A | B52      |
|----------------------------------------------|----------------------------------------------------------------|-------|----------|
| Normal position                              | C <sup>1)</sup>                                                | –     | –        |
| Stable position                              | Monostable                                                     |       | Bistable |
| Pneumatic spring return                      | Yes                                                            | Yes   | –        |
| Design                                       | Piston spool                                                   |       |          |
| Sealing principle                            | Soft                                                           |       |          |
| Actuation type                               | Electrical                                                     |       |          |
| Type of control                              | Piloted                                                        |       |          |
| Pilot air supply                             | Internal                                                       |       |          |
| Exhaust air function                         | Can be throttled                                               |       |          |
| Manual override                              | Detenting, non-detenting                                       |       |          |
| Type of mounting                             | Optionally via through-holes <sup>2)</sup> or on manifold rail |       |          |
| Mounting position                            | Any                                                            |       |          |
| Standard nominal flow rate                   | [l/min]                                                        | 180   | 195      |
| Switching time on/off                        | [ms]                                                           | 12/14 | 14/17    |
| Switching time changeover                    | [ms]                                                           | –     | 7/8      |
| Size                                         | [mm]                                                           | 10    |          |
| Connection                                   | 2, 4                                                           | M5    |          |
| Product weight                               | [g]                                                            | 55    | 57       |
| Corrosion resistance class CRC <sup>3)</sup> | 0                                                              |       |          |
| Certificate-issuing authority                | UL MH19482                                                     |       |          |
| Certification                                | c UL us - Recognized (OL)                                      |       |          |

1) C = Normally closed

2) If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers

3) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

### Safety characteristics

|                                       |                                                                                  |      |
|---------------------------------------|----------------------------------------------------------------------------------|------|
| 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 1 to FN 942017-5 and EN 60068-2-27                |      |
| Vibration resistant                   | Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6 |      |

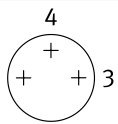
## Datasheet

| Operating and environmental conditions |       |                                                                                            |                           |
|----------------------------------------|-------|--------------------------------------------------------------------------------------------|---------------------------|
| Valve function                         |       | T32-A <sup>1)</sup>                                                                        | M52-A <sup>1)</sup> B52   |
| Operating medium                       |       | Compressed air to ISO 8573-2010 [7:4:4]                                                    |                           |
| Note on the operating/pilot medium     |       | Lubricated operation possible (in which case lubricated operation will always be required) |                           |
| Operating pressure                     | [MPa] | 0.15 ... 0.7                                                                               | 0.25 ... 0.7 0.15 ... 0.7 |
|                                        | [bar] | 1.5 ... 7                                                                                  | 2.5 ... 7 1.5 ... 7       |
| Ambient temperature                    | [°C]  | -5 ... +50                                                                                 |                           |
| Temperature of medium                  | [°C]  | -5 ... +50                                                                                 |                           |

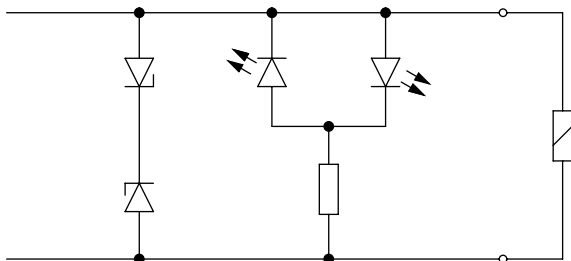
1) Pneumatic spring

| Electrical data                  |                                         |
|----------------------------------|-----------------------------------------|
| Electrical connection            | Via E-box → page 113                    |
| Operating voltage                | [V DC] 24 ±10%                          |
| Power                            | [W] 0.7                                 |
| Duty cycle                       | [%] 100                                 |
| Degree of protection to EN 60529 | IP40 (with plug socket), IP65 (with M8) |
| Signal status indication         | LED                                     |
| Maximum switching frequency      | [Hz] 2                                  |

| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364 zone III      |

| Pin assignment for E-box                                                            |     |          |                                                      |
|-------------------------------------------------------------------------------------|-----|----------|------------------------------------------------------|
|                                                                                     | Pin |          | Description                                          |
| Rectangular plug, connection pattern H                                              |     |          |                                                      |
|  | 1   | + or –   | Protective circuit without holding current reduction |
|                                                                                     | 2   | + or –   |                                                      |
| Round plug, M8, 3-pin                                                               |     |          |                                                      |
|  | 1   | Not used | Protective circuit without holding current reduction |
|                                                                                     | 3   | + or –   |                                                      |
|                                                                                     | 4   | + or –   |                                                      |

### Protective circuit without holding current reduction



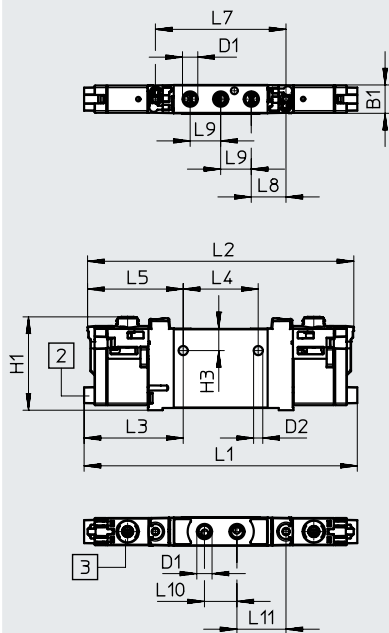
The solenoid coils have a protective circuit to arrest sparks and protect against polarity reversal.

Datasheet

Dimensions

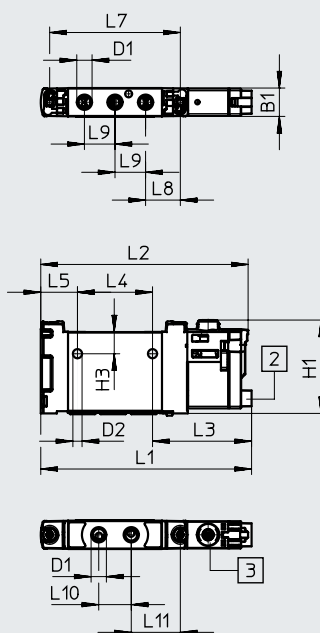
Download CAD data → [www.festo.com](http://www.festo.com)

2x 3/2-way, 5/2-way valve, double solenoid



[2] Horizontal electrical connection

5/2-way valve, single solenoid



[3] Manual override

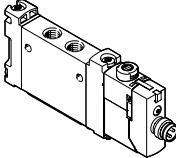
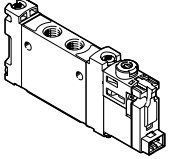
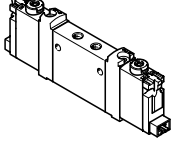
-  - **Note**  
More dimensions for  
E-boxes  
→ Page 113

| Type                     | B1   | D1 | D2  | H1   | H3  | L1   | L2   | L3   |
|--------------------------|------|----|-----|------|-----|------|------|------|
| VUVG-LK10-T32C-...-M5... | 10.2 | M5 | 3.3 | 33.6 | 7.8 | 98.3 | 95.8 | 35.7 |
| VUVG-LK10-B52-...-M5...  |      |    |     |      |     | 75.9 | 74.6 |      |
| VUVG-LK10-M52-...-M5...  |      |    |     |      |     |      |      |      |

| Type                     | L4 | L5   | L7 | L8   | L9 | L10  | L11  |
|--------------------------|----|------|----|------|----|------|------|
| VUVG-LK10-T32C-...-M5... | 27 | 34.4 | 47 | 12.5 | 11 | 11.7 | 17.7 |
| VUVG-LK10-B52-...-M5...  |    |      |    |      |    |      |      |
| VUVG-LK10-M52-...-M5...  |    | 13.2 |    |      |    |      |      |

## Ordering data

## ★ Core Range

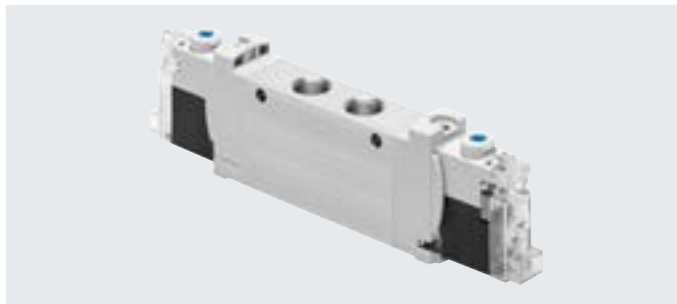
| Ordering data                                                                      |                                       | Description                              | Part no. | Type                          |
|------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------|----------|-------------------------------|
| <b>In-line valve M5, with E-box R8</b>                                             |                                       |                                          |          |                               |
|   | <b>2x 3/2-way valve</b>               |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Normally closed, pneumatic spring return | 8042542  | VUVG-LK10-T32C-AT-M5-1R8L-S   |
|                                                                                    | <b>5/2-way valve, single solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Pneumatic spring return                  | 8042543  | VUVG-LK10-M52-AT-M5-1R8L-S    |
|                                                                                    | <b>5/2-way valve, double solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             |                                          | 8042544  | VUVG-LK10-B52-T-M5-1R8L-S     |
| <b>In-line valve M5, with E-box H2</b>                                             |                                       |                                          |          |                               |
|   | <b>2x 3/2-way valve</b>               |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Normally closed, pneumatic spring return | 8042538  | VUVG-LK10-T32C-AT-M5-1H2L-S   |
|                                                                                    | <b>5/2-way valve, single solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Pneumatic spring return                  | 8042539  | VUVG-LK10-M52-AT-M5-1H2L-S    |
|                                                                                    | <b>5/2-way valve, double solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             |                                          | 8042540  | VUVG-LK10-B52-T-M5-1H2L-S     |
| <b>In-line valve M5, for battery manufacturing</b>                                 |                                       |                                          |          |                               |
|  | <b>2x 3/2-way valve</b>               |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Normally closed, pneumatic spring return | 8173199  | VUVG-LK10-T32C-AT-M5-1H2L-F1A |
|                                                                                    | <b>5/2-way valve, single solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Pneumatic spring return                  | 8173200  | VUVG-LK10-M52-AT-M5-1H2L-F1A  |
|                                                                                    | <b>5/2-way valve, double solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             |                                          | 8173201  | VUVG-LK10-B52-T-M5-1H2L-F1A   |

## Datasheet

Function  
2x 3/2C  
5/2-way, single solenoid  
5/2-way, double solenoid valve

Circuit diagrams → page 14

-  - Size 10 mm
-  - Flow rate  
280 ... 340 l/min
-  - Voltage  
24 V DC



| General technical data VUVG-LK               |                                                                |       |          |
|----------------------------------------------|----------------------------------------------------------------|-------|----------|
| Valve function                               | T32-A                                                          | M52-A | B52      |
| Normal position                              | C <sup>1)</sup>                                                | –     | –        |
| Stable position                              | Monostable                                                     |       | Bistable |
| Pneumatic spring return                      | Yes                                                            | Yes   | –        |
| Design                                       | Piston spool                                                   |       |          |
| Sealing principle                            | Soft                                                           |       |          |
| Actuation type                               | Electrical                                                     |       |          |
| Type of control                              | Piloted                                                        |       |          |
| Pilot air supply                             | Internal                                                       |       |          |
| Exhaust air function                         | Can be throttled                                               |       |          |
| Manual override                              | Detenting, non-detenting                                       |       |          |
| Type of mounting                             | Optionally via through-holes <sup>2)</sup> or on manifold rail |       |          |
| Mounting position                            | Any                                                            |       |          |
| Standard nominal flow rate                   | [l/min]                                                        | 280   | 340      |
| Switching time on/off                        | [ms]                                                           | 12/14 | 14/17    |
| Switching time changeover                    | [ms]                                                           | –     | 7        |
| Size                                         | [mm]                                                           | 10    |          |
| Connection                                   | 2, 4                                                           | M7    |          |
| Product weight                               | [g]                                                            | 55    | 45       |
| Corrosion resistance class CRC <sup>3)</sup> | 0                                                              |       |          |
| Certificate-issuing authority                | UL MH19482                                                     |       |          |
| Certification                                | c UL us - Recognized (OL)                                      |       |          |

1) C = Normally closed

2) If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers

3) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

| Safety characteristics                |                                                                                  |
|---------------------------------------|----------------------------------------------------------------------------------|
| 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 1 to FN 942017-5 and EN 60068-2-27                |
| Vibration resistant                   | Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6 |

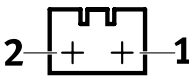
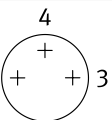
## Datasheet

| Operating and environmental conditions |       |                                                                                            |                           |
|----------------------------------------|-------|--------------------------------------------------------------------------------------------|---------------------------|
| Valve function                         |       | T32-A <sup>1)</sup>                                                                        | M52-A <sup>1)</sup> B52   |
| Operating medium                       |       | Compressed air to ISO 8573-2010 [7:4:4]                                                    |                           |
| Note on the operating/pilot medium     |       | Lubricated operation possible (in which case lubricated operation will always be required) |                           |
| Operating pressure                     | [MPa] | 0.15 ... 0.7                                                                               | 0.25 ... 0.7 0.15 ... 0.7 |
|                                        | [bar] | 1.5 ... 7                                                                                  | 2.5 ... 7 1.5 ... 7       |
| Ambient temperature                    | [°C]  | -5 ... +50                                                                                 |                           |
| Temperature of medium                  | [°C]  | -5 ... +50                                                                                 |                           |

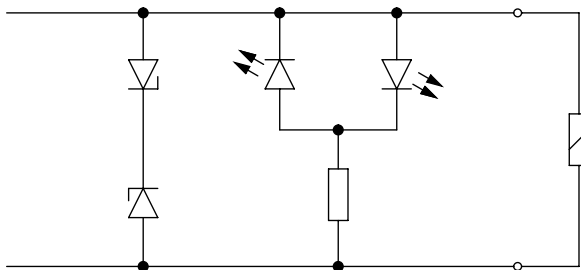
1) Pneumatic spring

| Electrical data                  |                                         |
|----------------------------------|-----------------------------------------|
| Electrical connection            | Via E-box → page 111                    |
| Operating voltage                | [V DC] 24 ±10%                          |
| Power                            | [W] 0.7                                 |
| Duty cycle                       | [%] 100                                 |
| Degree of protection to EN 60529 | IP40 (with plug socket), IP65 (with M8) |
| Signal status indication         | LED                                     |
| Maximum switching frequency      | [Hz] 2                                  |

| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364 zone III      |

| Pin assignment for E-box                                                            |     |          |                                                      |
|-------------------------------------------------------------------------------------|-----|----------|------------------------------------------------------|
|                                                                                     | Pin |          | Description                                          |
| Rectangular plug, connection pattern H                                              |     |          |                                                      |
|  | 1   | + or –   | Protective circuit without holding current reduction |
|                                                                                     | 2   | + or –   |                                                      |
| Round plug, M8, 3-pin                                                               |     |          |                                                      |
|  | 1   | Not used | Protective circuit without holding current reduction |
|                                                                                     | 3   | + or –   |                                                      |
|                                                                                     | 4   | + or –   |                                                      |

### Protective circuit without holding current reduction



The solenoid coils have a protective circuit to arrest sparks and protect against polarity reversal.

Datasheet

**Dimensions**

2x 3/2-way, 5/2-way valve, double solenoid

[2] Horizontal electrical connection

5/2-way valve, single solenoid

[3] Manual override

**Note**

More dimensions for E-boxes  
→ Page 113

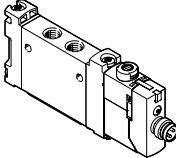
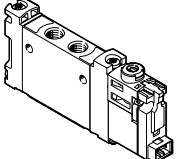
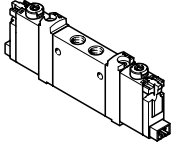
Download CAD data → [www.festo.com](http://www.festo.com)

| Type                     | B1   | D1 | D2  | H1   | H3  | L1   | L2   | L3   |
|--------------------------|------|----|-----|------|-----|------|------|------|
| VUVG-LK10-T32C-...-M7... | 10.2 | M7 | 3.3 | 33.6 | 7.8 | 98.3 | 95.8 | 35.7 |
| VUVG-LK10-B52-...-M7...  |      |    |     |      |     | 75.9 | 74.6 | 35.7 |
| VUVG-LK10-M52-...-M7...  |      |    |     |      |     |      |      |      |

| Type                     | L4 | L5   | L7 | L8   | L9 | L10  | L11  |  |  |  |  |  |
|--------------------------|----|------|----|------|----|------|------|--|--|--|--|--|
| VUVG-LK10-T32C-...-M7... | 27 | 34.4 | 47 | 12.5 | 11 | 11.7 | 17.7 |  |  |  |  |  |
| VUVG-LK10-B52-...-M7...  |    | 13.2 |    |      |    |      |      |  |  |  |  |  |
| VUVG-LK10-M52-...-M7...  |    |      |    |      |    |      |      |  |  |  |  |  |

## Ordering data

## ★ Core Range

| Ordering data                                                                      |                                       | Description                              | Part no. | Type                          |
|------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------|----------|-------------------------------|
| <b>In-line valve M7, with E-box R8</b>                                             |                                       |                                          |          |                               |
|   | <b>2x 3/2-way valve</b>               |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Normally closed, pneumatic spring return | 8042550  | VUVG-LK10-T32C-AT-M7-1R8L-S   |
|                                                                                    | <b>5/2-way valve, single solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Pneumatic spring return                  | 8042551  | VUVG-LK10-M52-AT-M7-1R8L-S    |
|                                                                                    | <b>5/2-way valve, double solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             |                                          | 8042552  | VUVG-LK10-B52-T-M7-1R8L-S     |
| <b>In-line valve M7, with E-box H2</b>                                             |                                       |                                          |          |                               |
|   | <b>2x 3/2-way valve</b>               |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Normally closed, pneumatic spring return | 8042546  | VUVG-LK10-T32C-AT-M7-1H2L-S   |
|                                                                                    | <b>5/2-way valve, single solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Pneumatic spring return                  | 8042547  | VUVG-LK10-M52-AT-M7-1H2L-S    |
|                                                                                    | <b>5/2-way valve, double solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             |                                          | 8042548  | VUVG-LK10-B52-T-M7-1H2L-S     |
| <b>In-line valve M7, for battery manufacturing</b>                                 |                                       |                                          |          |                               |
|  | <b>2x 3/2-way valve</b>               |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Normally closed, pneumatic spring return | 8173202  | VUVG-LK10-T32C-AT-M7-1H2L-F1A |
|                                                                                    | <b>5/2-way valve, single solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             | Pneumatic spring return                  | 8173203  | VUVG-LK10-M52-AT-M7-1H2L-F1A  |
|                                                                                    | <b>5/2-way valve, double solenoid</b> |                                          |          |                               |
|                                                                                    | Internal pilot air supply             |                                          | 8173204  | VUVG-LK10-B52-T-M7-1H2L-F1A   |

## Datasheet

## Function

2x 3/2C, 2x 3/2U, 2x 3/2H

5/2-way, single solenoid

5/2-way, double solenoid valve

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

Circuit diagrams → page 14



Size 10 mm

Flow rate  
125 ... 220 l/minVoltage  
5, 12 and 24 V DC

## General technical data VUVG-L M5

| Valve function                                           | T32-A                                                                  |                 |                 | T32-M                               |                 |                 | M52-R             | B52             | M52-M      | P53             |                 |                 |
|----------------------------------------------------------|------------------------------------------------------------------------|-----------------|-----------------|-------------------------------------|-----------------|-----------------|-------------------|-----------------|------------|-----------------|-----------------|-----------------|
| Normal position                                          | C <sup>1)</sup>                                                        | U <sup>2)</sup> | H <sup>4)</sup> | C <sup>1)</sup>                     | U <sup>2)</sup> | H <sup>4)</sup> | –                 | –               | –          | C <sup>1)</sup> | U <sup>2)</sup> | E <sup>3)</sup> |
| Stable position                                          | Monostable                                                             |                 |                 |                                     |                 |                 |                   | Double solenoid | Monostable | Monostable      |                 |                 |
| Pneumatic spring return                                  | Yes                                                                    |                 |                 | No                                  |                 |                 | Yes <sup>5)</sup> | –               | No         | –               |                 |                 |
| Mechanical spring return                                 | No                                                                     |                 |                 | Yes                                 |                 |                 | Yes <sup>5)</sup> | –               | Yes        | Yes             |                 |                 |
| Vacuum operation at port 1                               | No                                                                     |                 |                 | Only with external pilot air supply |                 |                 |                   |                 |            |                 |                 |                 |
| Design                                                   | Piston spool                                                           |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Sealing principle                                        | Soft                                                                   |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Actuation type                                           | Electrical                                                             |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Type of control                                          | Piloted                                                                |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Pilot air supply                                         | Internal or external                                                   |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Exhaust air function                                     | Can be throttled                                                       |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Manual override                                          | Choice of non-detenting, covered, non-detenting/detenting or detenting |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Type of mounting                                         | Optionally via through-holes <sup>6)</sup> or on manifold rail         |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Mounting position                                        | Any                                                                    |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Nominal width                                            | [mm]                                                                   | 2.7             |                 | 1.9                                 |                 | 1.8             |                   | 3.2             |            | 2.2             |                 | 3.2             |
| Standard nominal flow rate                               | [l/min]                                                                | 150             |                 | 135                                 |                 | 135             |                   | 220             |            | 220             |                 | 210             |
| Flow rate on manifold rail                               | [l/min]                                                                | 150             |                 | 135                                 |                 | 125             |                   | 220             |            | 190             |                 | 210             |
| Switching time on/off                                    | [ms]                                                                   | 6/15            |                 | 8/11                                |                 |                 | 8/17              |                 | –          | 8/24            |                 | 11/30           |
| Switching time changeover                                | [ms]                                                                   | –               |                 |                                     |                 |                 |                   | 9               |            | –               |                 | 14              |
| Size                                                     | [mm]                                                                   | 10              |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Connection                                               | 1, 2, 3, 4, 5                                                          | M5              |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
|                                                          | 12/14                                                                  | M3              |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Product weight                                           | [g]                                                                    | 55              |                 | 54                                  |                 |                 | 45                | 55              | 44         | 55              |                 |                 |
| Certificate-issuing authority                            | VUVG-...-F1A                                                           |                 | UL MH19482      |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Certification                                            | c UL us - Recognized (OL)                                              |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
|                                                          | RCM                                                                    |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| CE marking (see declaration of conformity) <sup>7)</sup> | To EU EMC Directive                                                    |                 |                 |                                     |                 |                 |                   |                 |            |                 |                 |                 |
| Corrosion resistance class CRC <sup>8)</sup>             | 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) If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers.

7) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/...](http://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.

8) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

## Datasheet

| Operating and environmental conditions |          |       | T32-A <sup>1)</sup>                                   | T32-M <sup>3)</sup> | M52-R <sup>2)</sup> | B52          | M52-M <sup>3)</sup> | P53         |
|----------------------------------------|----------|-------|-------------------------------------------------------|---------------------|---------------------|--------------|---------------------|-------------|
| Valve function                         |          |       | Compressed air to ISO 8573-2010 [7:4:4]               |                     |                     |              |                     |             |
| Operating pressure                     | Internal | [MPa] | 0.15 ... 0.8                                          | 0.25 ... 0.8        | 0.25 ... 0.8        | 0.15 ... 0.8 | 0.3 ... 0.8         | 0.3 ... 0.8 |
|                                        |          | [bar] | 1.5 ... 8                                             | 2.5 ... 8           | 2.5 ... 8           | 1.5 ... 8    | 3 ... 8             | 3 ... 8     |
|                                        | External | [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 pressure                         |          | [MPa] | 0.15 ... 0.8                                          | 0.2 ... 0.8         | 0.25 ... 0.8        | 0.15 ... 0.8 | 0.3 ... 0.8         |             |
|                                        |          | [bar] | 1.5 ... 8                                             | 2 ... 8             | 2.5 ... 8           | 1.5 ... 8    | 3 ... 8             |             |
| Ambient temperature                    |          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |                     |                     |              |                     |             |
| Temperature of medium                  |          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |                     |                     |              |                     |             |
| Cleanroom class                        |          |       | ISO class 5                                           |                     |                     |              |                     |             |

1) Pneumatic spring

2) Mixed, pneumatic/mechanical spring

3) Mechanical spring

| Electrical data                  |        |                                                   |
|----------------------------------|--------|---------------------------------------------------|
| Electrical connection            |        | Via E-box → page 111                              |
| Operating voltage                | [V DC] | 5, 12 and 24 ±10%                                 |
| Power                            | [W]    | 1, reduced to 0.35 with holding current reduction |
| Duty cycle                       | [%]    | 100                                               |
| Degree of protection to EN 60529 |        | IP40 (with plug socket), IP65 (with M8)           |

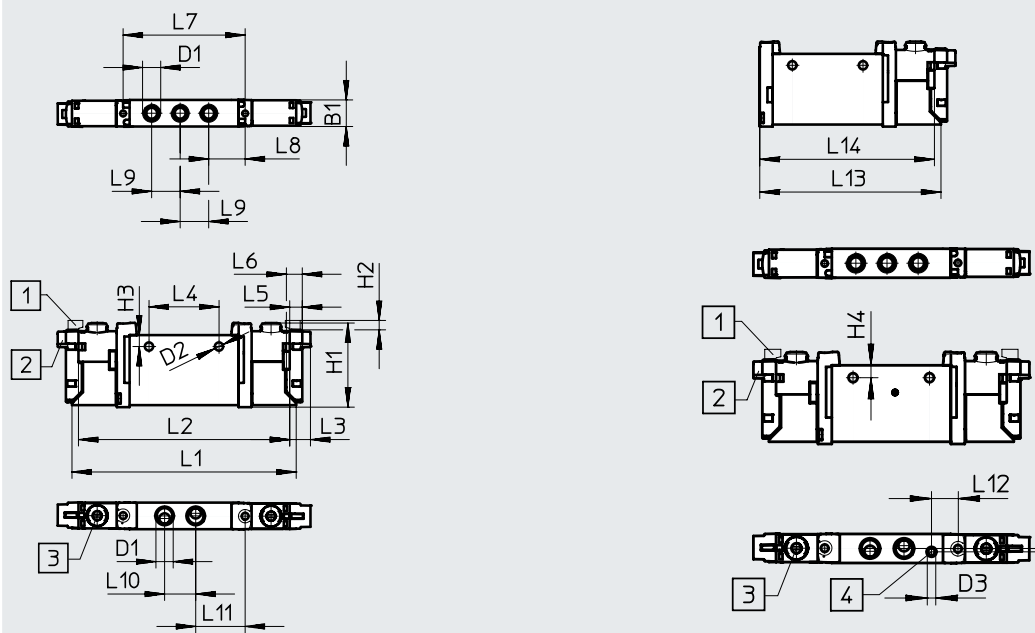
| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364-B1/B2-L       |

Datasheet

Dimensions

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

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



 **Note**  
More dimensions for  
E-boxes  
→ Page 113

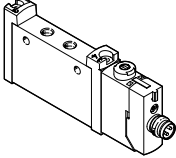
[1] Vertical electrical connection      [2] Horizontal electrical connection      [3] Manual override      [4] Port for external pilot air supply

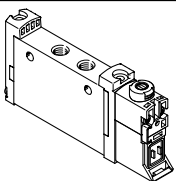
| Type                 | B1   | B2 | D1 | D2  | D3 | H1   | H2  | H3  | L1   | L2   | L3 | L4 |
|----------------------|------|----|----|-----|----|------|-----|-----|------|------|----|----|
| VUVG-L-10 -...-M5... | 10.2 | –  | M5 | 3.2 | M3 | 32.5 | 3.6 | 4.4 | 86.5 | 81.5 | 8  | 27 |
| VUVG-S-10 -...-M5... |      |    |    |     |    |      |     |     |      |      |    |    |

| Type                 | L5   | L6   | L7 | L8 | L9 | L10 | L11 | L12 | L13  | L14  |
|----------------------|------|------|----|----|----|-----|-----|-----|------|------|
| VUVG-L-10 -...-M5... | 4.85 | 6.15 | 47 | 14 | 11 | 12  | 19  | –   | 69.2 | 66.7 |
| VUVG-S-10 -...-M5... |      |      |    |    |    |     |     |     |      |      |

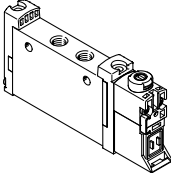
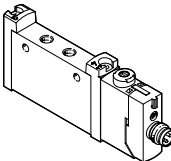
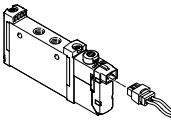
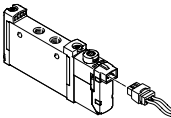
## Ordering data

## ★ Core Range

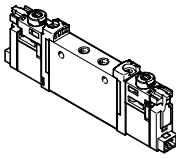
| Ordering data                                                                     | Description               | Part no.                                      | Type                           |
|-----------------------------------------------------------------------------------|---------------------------|-----------------------------------------------|--------------------------------|
| <b>In-line valve M5, with E-box R8</b>                                            |                           |                                               |                                |
|  | <b>5/3-way valve</b>      |                                               |                                |
|                                                                                   | Internal pilot air supply | Mid-position closed, mechanical spring return | 577346 VUVG-L10-P53C-T-M5-1R8L |

| Ordering data                                                                     | Description                           | Part no.                                                       | Type                            |
|-----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|---------------------------------|
| <b>In-line valve M5, without E-box</b>                                            |                                       |                                                                |                                 |
|  | <b>2x 3/2-way valve</b>               |                                                                |                                 |
|                                                                                   | Internal pilot air supply             | Normally closed, pneumatic spring return                       | 566454 VUVG-L10-T32C-AT-M5-1P3  |
|                                                                                   |                                       | Normally open, pneumatic spring return                         | 566455 VUVG-L10-T32U-AT-M5-1P3  |
|                                                                                   |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 566456 VUVG-L10-T32H-AT-M5-1P3  |
|                                                                                   |                                       | Normally closed, mechanical spring return                      | 574348 VUVG-L10-T32C-MT-M5-1P3  |
|                                                                                   |                                       | Normally open, mechanical spring return                        | 574349 VUVG-L10-T32U-MT-M5-1P3  |
|                                                                                   |                                       | 1x normally open, 1x normally closed, mechanical spring return | 574350 VUVG-L10-T32H-MT-M5-1P3  |
|                                                                                   | External pilot air supply             | Normally closed, pneumatic spring return                       | 566463 VUVG-L10-T32C-AZT-M5-1P3 |
|                                                                                   |                                       | Normally open, pneumatic spring return                         | 566464 VUVG-L10-T32U-AZT-M5-1P3 |
|                                                                                   |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 566465 VUVG-L10-T32H-AZT-M5-1P3 |
|                                                                                   |                                       | Normally closed, mechanical spring return                      | 574352 VUVG-L10-T32C-MZT-M5-1P3 |
|                                                                                   |                                       | Normally open, mechanical spring return                        | 574353 VUVG-L10-T32U-MZT-M5-1P3 |
|                                                                                   |                                       | 1x normally open, 1x normally closed, mechanical spring return | 574354 VUVG-L10-T32H-MZT-M5-1P3 |
|                                                                                   | <b>5/2-way valve, single solenoid</b> |                                                                |                                 |
|                                                                                   | Internal pilot air supply             | Pneumatic/mechanical spring return                             | 566457 VUVG-L10-M52-RT-M5-1P3   |
|                                                                                   |                                       | Mechanical spring return                                       | 574351 VUVG-L10-M52-MT-M5-1P3   |
|                                                                                   | External pilot air supply             | Pneumatic/mechanical spring return                             | 566466 VUVG-L10-M52-RZT-M5-1P3  |
|                                                                                   |                                       | Mechanical spring return                                       | 574355 VUVG-L10-M52-MZT-M5-1P3  |

## Ordering data

| Ordering data                                                                      |                                | Description                                                    | Part no.                | Type                       |
|------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------|-------------------------|----------------------------|
| In-line valve M5, without E-box                                                    |                                |                                                                |                         |                            |
|    | 5/2-way valve, double solenoid |                                                                |                         |                            |
|                                                                                    | Internal pilot air supply      |                                                                | 566458                  | VUVG-L10-B52-T-M5-1P3      |
|                                                                                    | External pilot air supply      |                                                                | 566467                  | VUVG-L10-B52-ZT-M5-1P3     |
|                                                                                    | 5/3-way valve                  |                                                                |                         |                            |
|                                                                                    | Internal pilot air supply      | Mid-position closed, mechanical spring return                  | 566459                  | VUVG-L10-P53C-T-M5-1P3     |
|                                                                                    |                                | Mid-position exhausted, mechanical spring return               | 566460                  | VUVG-L10-P53E-T-M5-1P3     |
|                                                                                    |                                | Mid-position pressurised, mechanical spring return             | 566461                  | VUVG-L10-P53U-T-M5-1P3     |
|                                                                                    | External pilot air supply      | Mid-position closed, mechanical spring return                  | 566468                  | VUVG-L10-P53C-ZT-M5-1P3    |
|                                                                                    |                                | Mid-position exhausted, mechanical spring return               | 566469                  | VUVG-L10-P53E-ZT-M5-1P3    |
| Mid-position pressurised, mechanical spring return                                 |                                | 566470                                                         | VUVG-L10-P53U-ZT-M5-1P3 |                            |
| In-line valve M5, with E-box R8                                                    |                                |                                                                |                         |                            |
|    | 2x 3/2-way valve               |                                                                |                         |                            |
|                                                                                    | Internal pilot air supply      | Normally closed, pneumatic spring return                       | 577347                  | VUVG-L10-T32C-AT-M5-1R8L   |
|                                                                                    |                                | Normally open, pneumatic spring return                         | 8031466                 | VUVG-L10-T32U-AT-M5-1R8L   |
|                                                                                    |                                | 1x normally open, 1x normally closed, pneumatic spring return  | 8031467                 | VUVG-L10-T32H-AT-M5-1R8L   |
|                                                                                    |                                | Normally closed, mechanical spring return                      | 8031468                 | VUVG-L10-T32C-MT-M5-1R8L   |
|                                                                                    |                                | Normally open, mechanical spring return                        | 8031469                 | VUVG-L10-T32U-MT-M5-1R8L   |
|                                                                                    |                                | 1x normally open, 1x normally closed, mechanical spring return | 8031470                 | VUVG-L10-T32H-MT-M5-1R8L   |
|                                                                                    | 5/2-way valve, single solenoid |                                                                |                         |                            |
|                                                                                    | Internal pilot air supply      | Pneumatic/mechanical spring return                             | 572634                  | VUVG-L10-M52-RT-M5-1R8L    |
|                                                                                    |                                | Mechanical spring return                                       | 8031472                 | VUVG-L10-M52-MT-M5-1R8L    |
|                                                                                    | 5/2-way valve, double solenoid |                                                                |                         |                            |
|                                                                                    | Internal pilot air supply      |                                                                | 576664                  | VUVG-L10-B52-T-M5-1R8L     |
|                                                                                    | 5/3-way valve                  |                                                                |                         |                            |
|                                                                                    | Internal pilot air supply      | Mid-position exhausted, mechanical spring return               | 8031475                 | VUVG-L10-P53E-T-M5-1R8L    |
|                                                                                    |                                | Mid-position pressurised, mechanical spring return             | 8031476                 | VUVG-L10-P53U-T-M5-1R8L    |
| In-line valve M5, with E-box H2                                                    |                                |                                                                |                         |                            |
|  | 5/2-way valve, single solenoid |                                                                |                         |                            |
|                                                                                    | Internal pilot air supply      | Pneumatic/mechanical spring return                             | 577316                  | VUVG-L10-M52-RT-M5-1H2L-W1 |
|                                                                                    |                                | Mechanical spring return                                       | 578162                  | VUVG-L10-M52-MT-M5-1H2L-W1 |
|                                                                                    | 5/2-way valve, double solenoid |                                                                |                         |                            |
|                                                                                    | Internal pilot air supply      |                                                                | 577317                  | VUVG-L10-B52-T-M5-1H2L-W1  |
| Semi in-line valve M5, with E-box H2                                               |                                |                                                                |                         |                            |
|  | 5/2-way valve, single solenoid |                                                                |                         |                            |
|                                                                                    | Internal pilot air supply      | Pneumatic/mechanical spring return                             | 577324                  | VUVG-S10-M52-RT-M5-1H2L-W1 |

## Ordering data

| Ordering data                                                                     | Description                           | Part no.                                                       | Type                                  |
|-----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|---------------------------------------|
| <b>In-line valve M5, for battery manufacturing</b>                                |                                       |                                                                |                                       |
|  | <b>2x 3/2-way valve</b>               |                                                                |                                       |
|                                                                                   | Internal pilot air supply             | Normally closed, mechanical spring return                      | 8164322 VUVG-L10-T32C-MT-M5-1H2L-F1A  |
|                                                                                   |                                       | Normally open, pneumatic spring return                         | 8164323 VUVG-L10-T32U-AT-M5-1H2L-F1A  |
|                                                                                   |                                       | Normally open, mechanical spring return                        | 8164324 VUVG-L10-T32U-MT-M5-1H2L-F1A  |
|                                                                                   |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 8164325 VUVG-L10-T32H-AT-M5-1H2L-F1A  |
|                                                                                   |                                       | 1x normally open, 1x normally closed, mechanical spring return | 8164326 VUVG-L10-T32H-MT-M5-1H2L-F1A  |
|                                                                                   | External pilot air supply             | Normally closed, pneumatic spring return                       | 8164331 VUVG-L10-T32C-AZT-M5-1H2L-F1A |
|                                                                                   |                                       | Normally closed, mechanical spring return                      | 8164332 VUVG-L10-T32C-MZT-M5-1H2L-F1A |
|                                                                                   |                                       | Normally open, pneumatic spring return                         | 8164333 VUVG-L10-T32U-AZT-M5-1H2L-F1A |
|                                                                                   |                                       | Normally open, mechanical spring return                        | 8164334 VUVG-L10-T32U-MZT-M5-1H2L-F1A |
|                                                                                   |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 8164335 VUVG-L10-T32H-AZT-M5-1H2L-F1A |
|                                                                                   |                                       | 1x normally open, 1x normally closed, mechanical spring return | 8164336 VUVG-L10-T32H-MZT-M5-1H2L-F1A |
|                                                                                   | <b>5/2-way valve, single solenoid</b> |                                                                |                                       |
|                                                                                   | Internal pilot air supply             | Mechanical spring return                                       | 8164327 VUVG-L10-M52-MT-M5-1H2L-F1A   |
|                                                                                   | External pilot air supply             | Pneumatic/mechanical spring return                             | 8164337 VUVG-L10-M52-RZT-M5-1H2L-F1A  |
|                                                                                   |                                       | Mechanical spring return                                       | 8164338 VUVG-L10-M52-MZT-M5-1H2L-F1A  |
|                                                                                   | <b>5/2-way valve, double solenoid</b> |                                                                |                                       |
|                                                                                   | External pilot air supply             |                                                                | 8164339 VUVG-L10-B52-ZT-M5-1H2L-F1A   |
|                                                                                   | <b>5/3-way valve</b>                  |                                                                |                                       |
|                                                                                   | Internal pilot air supply             | Mid-position closed                                            | 8164328 VUVG-L10-P53C-T-M5-1H2L-F1A   |
|                                                                                   |                                       | Mid-position exhausted                                         | 8164329 VUVG-L10-P53E-T-M5-1H2L-F1A   |
|                                                                                   |                                       | Mid-position pressurised                                       | 8164330 VUVG-L10-P53U-T-M5-1H2L-F1A   |
|                                                                                   | External pilot air supply             | Mid-position closed                                            | 8164340 VUVG-L10-P53C-ZT-M5-1H2L-F1A  |
|                                                                                   |                                       | Mid-position exhausted                                         | 8164341 VUVG-L10-P53E-ZT-M5-1H2L-F1A  |
|                                                                                   |                                       | Mid-position pressurised                                       | 8164342 VUVG-L10-P53U-ZT-M5-1H2L-F1A  |

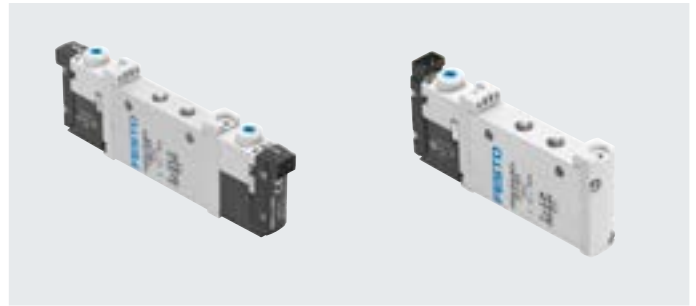
## Datasheet

### Function

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

Circuit diagrams → page 14

-  - Size 10 mm
-  - Flow rate  
130 ... 380 l/min
-  - Voltage  
5, 12 and 24 V DC



### General technical data VUVG-L M7

| Valve function                                           | T32-A                                                                  |                 |                 | T32-M                               |                 |                 | M52-R             |     | B52      | M52-M      |                 | P53             |                 |
|----------------------------------------------------------|------------------------------------------------------------------------|-----------------|-----------------|-------------------------------------|-----------------|-----------------|-------------------|-----|----------|------------|-----------------|-----------------|-----------------|
| Normal position                                          | C <sup>1)</sup>                                                        | U <sup>2)</sup> | H <sup>4)</sup> | C <sup>1)</sup>                     | U <sup>2)</sup> | H <sup>4)</sup> | –                 |     | –        | –          | C <sup>1)</sup> | U <sup>2)</sup> | E <sup>3)</sup> |
| Stable position                                          | Monostable                                                             |                 |                 |                                     |                 |                 |                   |     | Bistable | Monostable | Monostable      |                 |                 |
| Pneumatic spring return                                  | Yes                                                                    |                 |                 | No                                  |                 |                 | Yes <sup>5)</sup> |     | –        | No         | –               |                 |                 |
| Mechanical spring return                                 | No                                                                     |                 |                 | Yes                                 |                 |                 | Yes <sup>5)</sup> |     | –        | Yes        | Yes             |                 |                 |
| Vacuum operation at port 1                               | No                                                                     |                 |                 | Only with external pilot air supply |                 |                 |                   |     |          |            |                 |                 |                 |
| Design                                                   | Piston spool                                                           |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Sealing principle                                        | Soft                                                                   |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Actuation type                                           | Electrical                                                             |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Type of control                                          | Piloted                                                                |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Pilot air supply                                         | Internal or external                                                   |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Exhaust air function                                     | Can be throttled                                                       |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Manual override                                          | Choice of non-detenting, covered, non-detenting/detenting or detenting |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Type of mounting                                         | Optionally via through-holes <sup>6)</sup> or on manifold rail         |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Mounting position                                        | Any                                                                    |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Nominal width                                            | [mm]                                                                   | 2.7             |                 | 2.0                                 | 1.9             | 1.9             | 4.0               |     | 2.8      |            | 3.5             |                 |                 |
| Standard nominal flow rate                               | [l/min]                                                                | 190             |                 | 155                                 | 155             | 155             | 330               | 380 | 320      |            | 320             |                 |                 |
| Flow rate on manifold rail                               | [l/min]                                                                | 170             |                 | 140                                 | 130             | 130             | 320               | 340 | 290      |            | 300             |                 |                 |
| Switching time on/off                                    | [ms]                                                                   | 6/15            |                 | 8/11                                |                 |                 | 7/17              |     | –        |            | 8/24            |                 | 11/30           |
| Switching time changeover                                | [ms]                                                                   | –               |                 |                                     |                 |                 |                   |     | 9        |            |                 |                 | 14              |
| Size                                                     | [mm]                                                                   | 10              |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Connection                                               | 1, 2, 3, 4, 5                                                          | M7              |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
|                                                          | 12/14                                                                  | M3              |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Product weight                                           | [g]                                                                    | 55              |                 | 54                                  |                 |                 | 45                | 55  | 44       |            | 55              |                 |                 |
| Certificate-issuing authority                            | VUVG-...-F1A                                                           | UL MH19482      |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Certification                                            | c UL us - Recognized (OL)                                              |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
|                                                          | RCM                                                                    |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| CE marking (see declaration of conformity) <sup>7)</sup> | To EU EMC Directive                                                    |                 |                 |                                     |                 |                 |                   |     |          |            |                 |                 |                 |
| Corrosion resistance class CRC <sup>8)</sup>             | 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) If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers.

7) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/...](http://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.

8) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

## Datasheet

| Operating and environmental conditions |          |       |                                                       |                     |                     |              |                     |             |
|----------------------------------------|----------|-------|-------------------------------------------------------|---------------------|---------------------|--------------|---------------------|-------------|
| Valve function                         |          |       | T32-A <sup>1)</sup>                                   | T32-M <sup>3)</sup> | M52-R <sup>2)</sup> | B52          | M52-M <sup>3)</sup> | P53         |
| Operating medium                       |          |       | Compressed air to ISO 8573-2010 [7:4:4]               |                     |                     |              |                     |             |
| Operating pressure                     | Internal | [MPa] | 0.15 ... 0.8                                          | 0.25 ... 0.8        | 0.25 ... 0.8        | 0.15 ... 0.8 | 0.3 ... 0.8         |             |
|                                        |          | [bar] | 1.5 ... 8                                             | 2.5 ... 8           | 2.5 ... 8           | 1.5 ... 8    | 3 ... 8             |             |
|                                        | External | [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 pressure                         |          | [MPa] | 0.15 ... 0.8                                          | 0.2 ... 0.8         | 0.25 ... 0.8        | 0.15 ... 0.8 | 0.3 ... 0.8         | 0.3 ... 0.8 |
|                                        |          | [bar] | 1.5 ... 8                                             | 2 ... 8             | 2.5 ... 8           | 1.5 ... 8    | 3 ... 8             | 3 ... 8     |
| Ambient temperature                    |          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |                     |                     |              |                     |             |
| Temperature of medium                  |          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |                     |                     |              |                     |             |
| Cleanroom class                        |          |       | ISO class 5                                           |                     |                     |              |                     |             |

1) Pneumatic spring

2) Mixed, pneumatic/mechanical spring

3) Mechanical spring

| Electrical data                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| Electrical connection            | Via E-box → page 111                                  |
| Operating voltage                | [V DC] 5, 12, 24 ±10%                                 |
| Power                            | [W] 1, reduced to 0.35 with holding current reduction |
| Duty cycle                       | [%] 100                                               |
| Degree of protection to EN 60529 | IP40 (with plug socket), IP65 (with M8)               |

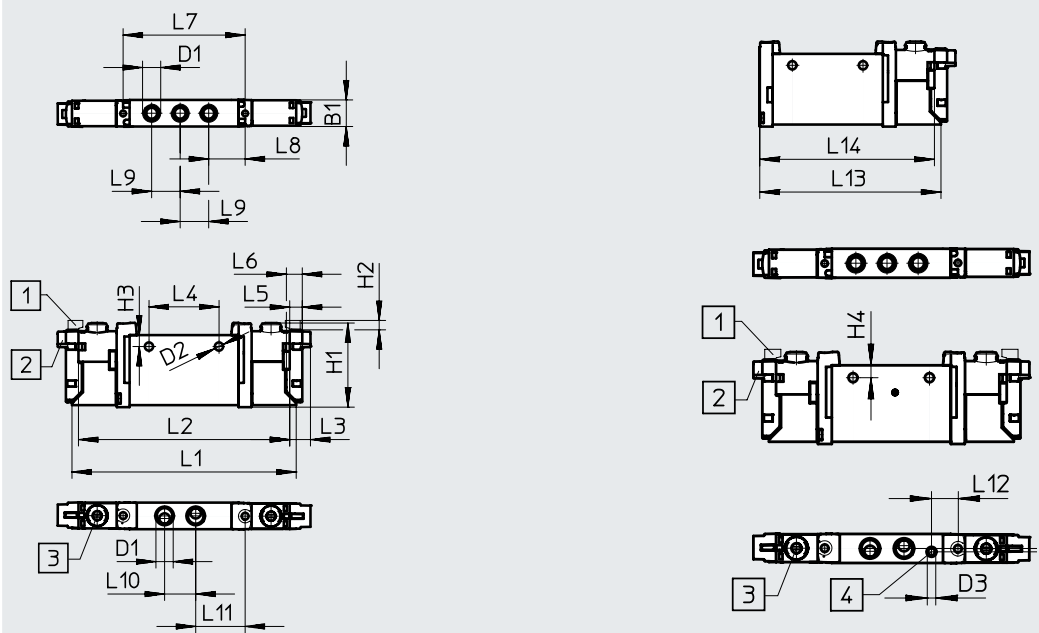
| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364-B1/B2-L       |

Datasheet

Dimensions

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

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



 **Note**  
More dimensions for  
E-boxes  
→ Page 113

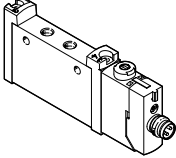
[1] Vertical electrical connection      [2] Horizontal electrical connection      [3] Manual override      [4] Port for external pilot air supply

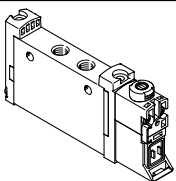
| Type                | B1   | B2 | D1 | D2  | D3 | H1   | H2  | H3  | L1   | L2   | L3 | L4 |
|---------------------|------|----|----|-----|----|------|-----|-----|------|------|----|----|
| VUVG-L-10 ....M7... | 10.2 | –  | M7 | 3.2 | M3 | 32.5 | 3.6 | 4.4 | 86.5 | 81.5 | 8  | 27 |
| VUVG-S-10 ....M7... |      |    |    |     |    |      |     |     |      |      |    |    |

| Type                | L5   | L6   | L7 | L8 | L9 | L10 | L11 | L12 | L13  | L14  |
|---------------------|------|------|----|----|----|-----|-----|-----|------|------|
| VUVG-L-10 ....M7... | 4.85 | 6.15 | 47 | 14 | 11 | 12  | 19  | –   | 69.2 | 66.7 |
| VUVG-S-10 ....M7... |      |      |    |    |    |     |     |     |      |      |

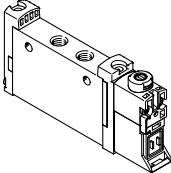
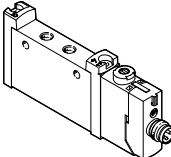
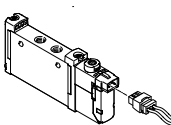
## Ordering data

## ★ Core Range

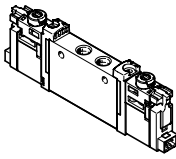
| Ordering data                                                                     | Description               | Part no.                                      | Type                                  |
|-----------------------------------------------------------------------------------|---------------------------|-----------------------------------------------|---------------------------------------|
| <b>In-line valve M7, with E-box R8</b>                                            |                           |                                               |                                       |
|  | <b>5/3-way valve</b>      |                                               |                                       |
|                                                                                   | Internal pilot air supply | Mid-position closed, mechanical spring return | <b>574223</b> VUVG-L10-P53C-T-M7-1R8L |

| Ordering data                                                                     | Description               | Part no.                                                       | Type                                   |
|-----------------------------------------------------------------------------------|---------------------------|----------------------------------------------------------------|----------------------------------------|
| <b>In-line valve M7, without E-box</b>                                            |                           |                                                                |                                        |
|  | <b>2x 3/2-way valve</b>   |                                                                |                                        |
|                                                                                   | Internal pilot air supply | Normally closed, pneumatic spring return                       | <b>566471</b> VUVG-L10-T32C-AT-M7-1P3  |
|                                                                                   |                           | Normally open, pneumatic spring return                         | <b>566472</b> VUVG-L10-T32U-AT-M7-1P3  |
|                                                                                   |                           | 1x normally open, 1x normally closed, pneumatic spring return  | <b>566473</b> VUVG-L10-T32H-AT-M7-1P3  |
|                                                                                   |                           | Normally closed, mechanical spring return                      | <b>574356</b> VUVG-L10-T32C-MT-M7-1P3  |
|                                                                                   |                           | Normally open, mechanical spring return                        | <b>574357</b> VUVG-L10-T32U-MT-M7-1P3  |
|                                                                                   |                           | 1x normally open, 1x normally closed, mechanical spring return | <b>574358</b> VUVG-L10-T32H-MT-M7-1P3  |
|                                                                                   | External pilot air supply | Normally closed, pneumatic spring return                       | <b>566479</b> VUVG-L10-T32C-AZT-M7-1P3 |
|                                                                                   |                           | Normally open, pneumatic spring return                         | <b>566480</b> VUVG-L10-T32U-AZT-M7-1P3 |
|                                                                                   |                           | 1x normally open, 1x normally closed, pneumatic spring return  | <b>566481</b> VUVG-L10-T32H-AZT-M7-1P3 |
|                                                                                   |                           | Normally closed, mechanical spring return                      | <b>574360</b> VUVG-L10-T32C-MZT-M7-1P3 |
|                                                                                   |                           | Normally open, mechanical spring return                        | <b>574361</b> VUVG-L10-T32U-MZT-M7-1P3 |
|                                                                                   |                           | Normally closed, mechanical spring return                      | <b>574362</b> VUVG-L10-T32H-MZT-M7-1P3 |

## Ordering data

| Ordering data                                                                      |                                | Description                                                    | Part no.               | Type                       |
|------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------|------------------------|----------------------------|
| In-line valve M7, without E-box                                                    |                                |                                                                |                        |                            |
|    | 5/2-way valve, single solenoid |                                                                |                        |                            |
|                                                                                    | Internal pilot air supply      | Mechanical spring return                                       | 574359                 | VUVG-L10-M52-MT-M7-1P3     |
|                                                                                    |                                | Pneumatic/mechanical spring return                             | 566474                 | VUVG-L10-M52-RT-M7-1P3     |
|                                                                                    | External pilot air supply      | Mechanical spring return                                       | 574363                 | VUVG-L10-M52-MZT-M7-1P3    |
|                                                                                    |                                | Pneumatic/mechanical spring return                             | 566482                 | VUVG-L10-M52-RZT-M7-1P3    |
|                                                                                    | 5/2-way valve, double solenoid |                                                                |                        |                            |
|                                                                                    | Internal pilot air supply      |                                                                | 566475                 | VUVG-L10-B52-T-M7-1P3      |
|                                                                                    | External pilot air supply      |                                                                | 566483                 | VUVG-L10-B52-ZT-M7-1P3     |
|                                                                                    | 5/3-way valve                  |                                                                |                        |                            |
|                                                                                    | Internal pilot air supply      | Mid-position closed, mechanical spring return                  | 566476                 | VUVG-L10-P53C-T-M7-1P3     |
| Mid-position exhausted, mechanical spring return                                   |                                | 566477                                                         | VUVG-L10-P53E-T-M7-1P3 |                            |
| Mid-position pressurised, mechanical spring return                                 |                                | 566478                                                         | VUVG-L10-P53U-T-M7-1P3 |                            |
| External pilot air supply                                                          |                                | Mid-position closed, mechanical spring return                  | 566484                 | VUVG-L10-P53C-ZT-M7-1P3    |
|                                                                                    |                                | Mid-position exhausted, mechanical spring return               | 566485                 | VUVG-L10-P53E-ZT-M7-1P3    |
|                                                                                    |                                | Mid-position pressurised, mechanical spring return             | 566486                 | VUVG-L10-P53U-ZT-M7-1P3    |
| In-line valve M7, with E-box R8                                                    |                                |                                                                |                        |                            |
|   | 2x 3/2-way valve               |                                                                |                        |                            |
|                                                                                    | Internal pilot air supply      | Normally closed, pneumatic spring return                       | 574218                 | VUVG-L10-T32C-AT-M7-1R8L   |
|                                                                                    |                                | Normally open, pneumatic spring return                         | 574219                 | VUVG-L10-T32U-AT-M7-1R8L   |
|                                                                                    |                                | 1x normally open, 1x normally closed, pneumatic spring return  | 574220                 | VUVG-L10-T32H-AT-M7-1R8L   |
|                                                                                    |                                | Normally closed, mechanical spring return                      | 8031480                | VUVG-L10-T32C-MT-M7-1R8L   |
|                                                                                    |                                | Normally open, mechanical spring return                        | 8031481                | VUVG-L10-T32U-MT-M7-1R8L   |
|                                                                                    |                                | 1x normally open, 1x normally closed, mechanical spring return | 8031482                | VUVG-L10-T32H-MT-M7-1R8L   |
|                                                                                    | 5/2-way valve, single solenoid |                                                                |                        |                            |
|                                                                                    | Internal pilot air supply      | Pneumatic/mechanical spring return                             | 574221                 | VUVG-L10-M52-RT-M7-1R8L    |
|                                                                                    |                                | Mechanical spring return                                       | 8031485                | VUVG-L10-M52-MT-M7-1R8L    |
|                                                                                    | 5/2-way valve, double solenoid |                                                                |                        |                            |
|                                                                                    | Internal pilot air supply      |                                                                | 574222                 | VUVG-L10-B52-T-M7-1R8L     |
|                                                                                    | 5/3-way valve                  |                                                                |                        |                            |
|                                                                                    | Internal pilot air supply      | Mid-position exhausted, mechanical spring return               | 574225                 | VUVG-L10-P53E-T-M7-1R8L    |
|                                                                                    |                                | Mid-position pressurised, mechanical spring return             | 574224                 | VUVG-L10-P53U-T-M7-1R8L    |
| In-line valve M7, with E-box H2                                                    |                                |                                                                |                        |                            |
|  | 5/2-way valve, single solenoid |                                                                |                        |                            |
|                                                                                    | Internal pilot air supply      | Pneumatic/mechanical spring return                             | 577333                 | VUVG-L10-M52-RT-M7-1H2L-W1 |
|                                                                                    |                                | Mechanical spring return                                       | 578163                 | VUVG-L10-M52-MT-M7-1H2L-W1 |
|                                                                                    | 5/2-way valve, double solenoid |                                                                |                        |                            |
|                                                                                    | Internal pilot air supply      |                                                                | 577332                 | VUVG-L10-B52-T-M7-1H2L-W1  |

## Ordering data

| Ordering data                                                                     | Description                           | Part no.                                                       | Type                                  |
|-----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|---------------------------------------|
| <b>In-line valve M7, for battery manufacturing</b>                                |                                       |                                                                |                                       |
|  | <b>2x 3/2-way valve</b>               |                                                                |                                       |
|                                                                                   | Internal pilot air supply             | Normally closed, mechanical spring return                      | 8164343 VUVG-L10-T32C-MT-M7-1H2L-F1A  |
|                                                                                   |                                       | Normally open, pneumatic spring return                         | 8164344 VUVG-L10-T32U-AT-M7-1H2L-F1A  |
|                                                                                   |                                       | Normally open, mechanical spring return                        | 8164345 VUVG-L10-T32U-MT-M7-1H2L-F1A  |
|                                                                                   |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 8154346 VUVG-L10-T32H-AT-M7-1H2L-F1A  |
|                                                                                   |                                       | 1x normally open, 1x normally closed, mechanical spring return | 8164347 VUVG-L10-T32H-MT-M7-1H2L-F1A  |
|                                                                                   | External pilot air supply             | Normally closed, pneumatic spring return                       | 8164352 VUVG-L10-T32C-AZT-M7-1H2L-F1A |
|                                                                                   |                                       | Normally closed, mechanical spring return                      | 8164353 VUVG-L10-T32C-MZT-M7-1H2L-F1A |
|                                                                                   |                                       | Normally open, pneumatic spring return                         | 8164354 VUVG-L10-T32U-AZT-M7-1H2L-F1A |
|                                                                                   |                                       | Normally open, mechanical spring return                        | 8164355 VUVG-L10-T32U-MZT-M7-1H2L-F1A |
|                                                                                   |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 8164356 VUVG-L10-T32H-AZT-M7-1H2L-F1A |
|                                                                                   |                                       | 1x normally open, 1x normally closed, mechanical spring return | 8164357 VUVG-L10-T32H-MZT-M7-1H2L-F1A |
|                                                                                   | <b>5/2-way valve, single solenoid</b> |                                                                |                                       |
|                                                                                   | Internal pilot air supply             | Mechanical spring return                                       | 8164348 VUVG-L10-M52-MT-M7-1H2L-F1A   |
|                                                                                   | External pilot air supply             | Pneumatic/mechanical spring return                             | 8164358 VUVG-L10-M52-RZT-M7-1H2L-F1A  |
|                                                                                   |                                       | Mechanical spring return                                       | 8164359 VUVG-L10-M52-MZT-M7-1H2L-F1A  |
|                                                                                   | <b>5/2-way valve, double solenoid</b> |                                                                |                                       |
|                                                                                   | External pilot air supply             |                                                                | 8164360 VUVG-L10-B52-ZT-M7-1H2L-F1A   |
|                                                                                   | <b>5/3-way valve</b>                  |                                                                |                                       |
|                                                                                   | Internal pilot air supply             | Mid-position closed                                            | 8164349 VUVG-L10-P53C-T-M7-1H2L-F1A   |
|                                                                                   |                                       | Mid-position exhausted                                         | 8164350 VUVG-L10-P53E-T-M7-1H2L-F1A   |
|                                                                                   |                                       | Mid-position pressurised                                       | 8164351 VUVG-L10-P53U-T-M7-1H2L-F1A   |
|                                                                                   | External pilot air supply             | Mid-position closed                                            | 8164361 VUVG-L10-P53C-ZT-M7-1H2L-F1A  |
|                                                                                   |                                       | Mid-position exhausted                                         | 8164362 VUVG-L10-P53E-ZT-M7-1H2L-F1A  |
|                                                                                   |                                       | Mid-position pressurised                                       | 8164363 VUVG-L10-P53U-ZT-M7-1H2L-F1A  |

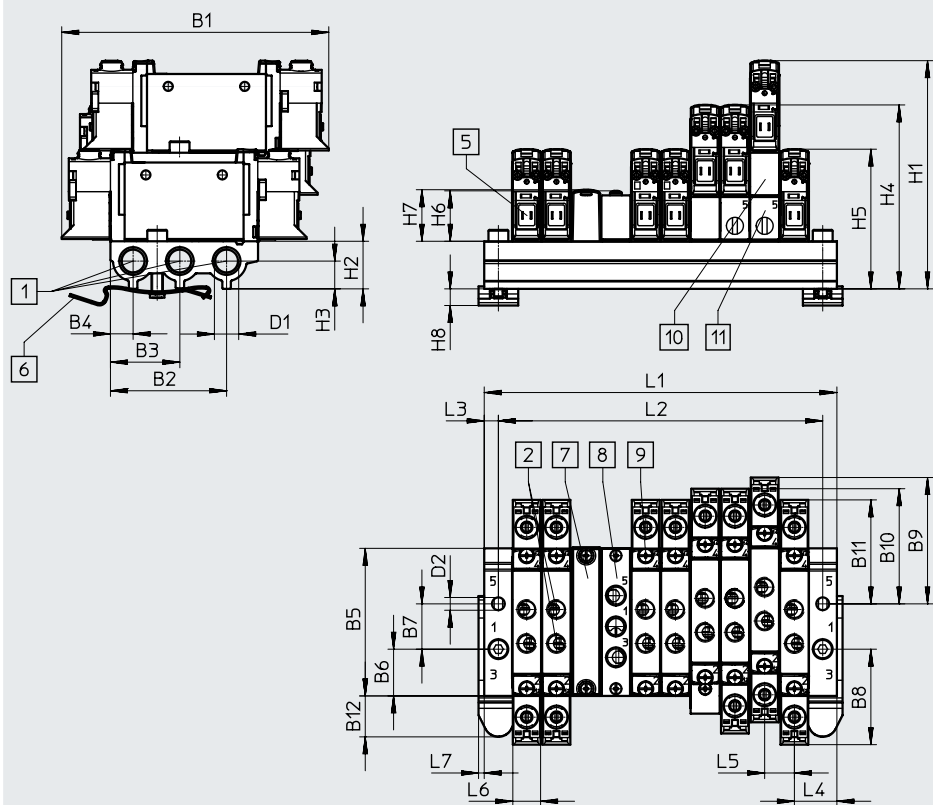
Manifold assembly

In-line valves for manifold assembly



Dimensions

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



 **Note**  
More dimensions for  
E-boxes  
→ Page 113

- [1] Ports 1, 3 and 5: G1/8

[2] Ports 1, 2, 3, 4 and 5 on the valve: M7 or M5

[5] Electrical connection for E-boxes and accessories
- [6] DIN rail mounting (two M4x20 screws are required for mounting)

[7] Cover plate
- [8] Supply plate

[9] Valves/cover plate mounting on manifold rail: M2 thread
- [10] Vertical pressure supply plate

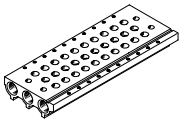
[11] Vertical pressure exhaust plate

| Type             | B1   | B2 | B3   | B4 | B5   | B6   | B7 | B8   | B9   | B10  | B11  | B12  | D1   | D2  |
|------------------|------|----|------|----|------|------|----|------|------|------|------|------|------|-----|
| VABML-L1-10S-G18 | 94.3 | 41 | 24.5 | 8  | 52.1 | 16.5 | 16 | 33.7 | 44.6 | 40.7 | 36.7 | 14.4 | G1/8 | 4.5 |

| Type             | D5 | H1   | H2   | H3  | H4   | H5   | H6   | H7 | H8  | L3 | L4 | L5   | L6   | L7 |
|------------------|----|------|------|-----|------|------|------|----|-----|----|----|------|------|----|
| VABML-L1-10S-G18 | 8  | 80.6 | 16.8 | 9.8 | 64.9 | 49.3 | 17.8 | 18 | 5.9 | 5  | 15 | 10.5 | 10.3 | 2  |

| Valve positions | 2    | 3  | 4    | 5   | 6    | 7   | 8     | 9   | 10    | 12    | 14    | 16    | 22    |
|-----------------|------|----|------|-----|------|-----|-------|-----|-------|-------|-------|-------|-------|
| L1              | 40.5 | 51 | 61.5 | 72  | 82.5 | 93  | 103.5 | 114 | 124.5 | 145.5 | 166.5 | 187.5 | 250.5 |
| L2              | 30.5 | 41 | 51.5 | 62  | 72.5 | 83  | 93.5  | 104 | 114.5 | 135.5 | 156.5 | 177.5 | 240.5 |
| VABM weight [g] | 63   | 78 | 93   | 108 | 123  | 138 | 153   | 168 | 183   | 213   | 243   | 273   | 363   |

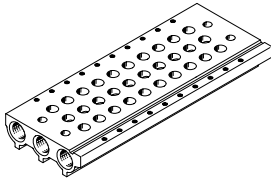
## Ordering data

| Technical data – Manifold rails                                                   |            |                 |                         |                    |           |                                          |          |      |
|-----------------------------------------------------------------------------------|------------|-----------------|-------------------------|--------------------|-----------|------------------------------------------|----------|------|
|                                                                                   | Connection | CRC             | Material <sup>2)</sup>  | Operating pressure |           | Max. tightening torque for mounting [Nm] |          |      |
|                                                                                   | 1, 3, 5    |                 |                         | [MPa]              | [bar]     | Valve                                    | DIN rail | Wall |
|  | G1/8       | 2 <sup>1)</sup> | Wrought aluminium alloy | 0.15 ... 0.8       | 1.5 ... 8 | 0.45                                     | 1.5      | 3    |

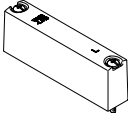
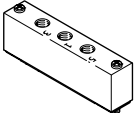
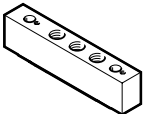
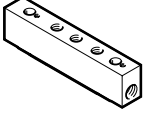
1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements that are in direct contact with a normal industrial environment.

2) Information on materials: RoHS-compliant.

| Ordering data – Manifold rail                                                     |                |                    |          |                    |
|-----------------------------------------------------------------------------------|----------------|--------------------|----------|--------------------|
|                                                                                   | Description    |                    | Part no. | Type               |
| Manifold rail for in-line valve (manifold assembly)                               |                |                    |          |                    |
|  | For size M5/M7 | 2 valve positions  | 566558   | VABM-L1-10S-G18-2  |
|                                                                                   |                | 3 valve positions  | 566559   | VABM-L1-10S-G18-3  |
|                                                                                   |                | 4 valve positions  | 566560   | VABM-L1-10S-G18-4  |
|                                                                                   |                | 5 valve positions  | 566561   | VABM-L1-10S-G18-5  |
|                                                                                   |                | 6 valve positions  | 566562   | VABM-L1-10S-G18-6  |
|                                                                                   |                | 7 valve positions  | 566563   | VABM-L1-10S-G18-7  |
|                                                                                   |                | 8 valve positions  | 566564   | VABM-L1-10S-G18-8  |
|                                                                                   |                | 9 valve positions  | 566565   | VABM-L1-10S-G18-9  |
|                                                                                   |                | 10 valve positions | 566566   | VABM-L1-10S-G18-10 |
|                                                                                   |                | 12 valve positions | 566567   | VABM-L1-10S-G18-12 |
|                                                                                   |                | 14 valve positions | 566568   | VABM-L1-10S-G18-14 |
|                                                                                   |                | 16 valve positions | 566569   | VABM-L1-10S-G18-16 |

## Ordering data

| Ordering data – Accessories                                                        |                                                                                    | Description                                                | Part no.                           | Type                   |                       |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------|------------------------|-----------------------|
| Cover plate                                                                        |                                                                                    |                                                            |                                    |                        |                       |
|    | For valve position on manifold rail, including screws and seal                     | –                                                          | 566462                             | VABB-L1-10-S           |                       |
|                                                                                    |                                                                                    | Suitable for battery manufacturing                         | 8168538                            | VABB-L1-10-F1A         |                       |
| Separator                                                                          |                                                                                    |                                                            |                                    |                        |                       |
|    | For creating pressure zones                                                        |                                                            | 569995                             | VABD-8-B               |                       |
| Supply plate                                                                       |                                                                                    |                                                            |                                    |                        |                       |
|    | For valve position (in-line valves M5) on manifold rail, including screws and seal | –                                                          | 569991                             | VABF-L1-10-P3A4-M5     |                       |
|                                                                                    |                                                                                    | Suitable for battery manufacturing                         | 8163542                            | VABF-L1-10-P3A4-M5-F1A |                       |
|                                                                                    | For valve position (in-line valves M7) on manifold rail, including screws and seal | –                                                          | 569992                             | VABF-L1-10-P3A4-M7     |                       |
|                                                                                    |                                                                                    | Suitable for battery manufacturing                         | 8163543                            | VABF-L1-10-P3A4-M7-F1A |                       |
| Seals                                                                              |                                                                                    |                                                            |                                    |                        |                       |
|  | In-line valves VUVG-LK                                                             |                                                            |                                    |                        |                       |
|                                                                                    | For in-line valves M5                                                              | Delivery quantity: 10 sets (each with 2 screws and 1 seal) | –                                  | 8043718                | VABD-L1-10XK-S-M5-S   |
|                                                                                    |                                                                                    |                                                            | Suitable for battery manufacturing | 8168885                | VABD-L1-10XK-S-M5-F1A |
|                                                                                    | For in-line valves M7                                                              |                                                            | –                                  | 8043719                | VABD-L1-10XK-S-M7-S   |
|                                                                                    |                                                                                    |                                                            | Suitable for battery manufacturing | 8168884                | VABD-L1-10XK-S-M7-F1A |
|                                                                                    | In-line valves VUVG-L                                                              |                                                            |                                    |                        |                       |
|                                                                                    | For in-line valves M5                                                              | Delivery quantity: 10 sets (each with 2 screws and 1 seal) | –                                  | 566672                 | VABD-L1-10X-S-M5      |
|                                                                                    |                                                                                    |                                                            | Suitable for battery manufacturing | 8168587                | VABD-L1-10X-S-M5-F1A  |
|                                                                                    | For in-line valves M7                                                              |                                                            | –                                  | 566673                 | VABD-L1-10X-S-M7      |
|                                                                                    |                                                                                    | Suitable for battery manufacturing                         | 8168588                            | VABD-L1-10X-S-M7-F1A   |                       |
| Vertical pressure supply plate                                                     |                                                                                    |                                                            |                                    |                        |                       |
|  | Pneumatic connection 1: M7                                                         | Terminal code CP                                           | 574592                             | VABF-L1-P3A3-M7        |                       |
| Vertical pressure exhaust plate                                                    |                                                                                    |                                                            |                                    |                        |                       |
|  | Pneumatic connection 3, 5: M7                                                      | Terminal code CR                                           | 574594                             | VABF-L1-P7A13-M7       |                       |

## Datasheet

### Function

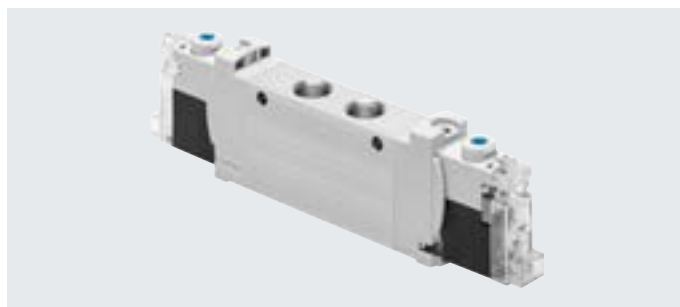
2x 3/2C

5/2-way, single solenoid

5/2-way, double solenoid valve

Circuit diagrams → page 14

-  - Size 14 mm
-  - Flow rate  
570 ... 660 l/min
-  - Voltage  
24 V DC



### General technical data VUVG-LK

| Valve function                               | T32-A                                                          | M52-A | B52      |
|----------------------------------------------|----------------------------------------------------------------|-------|----------|
| Normal position                              | C <sup>1)</sup>                                                | –     | –        |
| Stable position                              | Monostable                                                     |       | Bistable |
| Pneumatic spring return                      | Yes                                                            | Yes   | –        |
| Design                                       | Piston spool                                                   |       |          |
| Sealing principle                            | Soft                                                           |       |          |
| Actuation type                               | Electrical                                                     |       |          |
| Type of control                              | Piloted                                                        |       |          |
| Pilot air supply                             | Internal                                                       |       |          |
| Exhaust air function                         | Can be throttled                                               |       |          |
| Manual override                              | Non-detenting, detenting                                       |       |          |
| Type of mounting                             | Optionally via through-holes <sup>2)</sup> or on manifold rail |       |          |
| Mounting position                            | Any                                                            |       |          |
| Standard nominal flow rate                   | [l/min]                                                        | 570   | 660      |
| Switching time on/off                        | [ms]                                                           | 13/20 | 14/24    |
| Switching time changeover                    | [ms]                                                           | –     | 8        |
| Size                                         | [mm]                                                           | 14    |          |
| Connection                                   | 2, 4                                                           | G1/8  |          |
| Product weight                               | [g]                                                            | 75    | 85       |
| Corrosion resistance class CRC <sup>3)</sup> | 0                                                              |       |          |
| Certificate-issuing authority                | UL MH19482                                                     |       |          |
| Certification                                | c UL us - Recognized (OL)                                      |       |          |

1) C = Normally closed

2) If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers

3) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

### Safety characteristics

|                                       |                                                                                  |      |
|---------------------------------------|----------------------------------------------------------------------------------|------|
| 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 1 to FN 942017-5 and EN 60068-2-27                |      |
| Vibration resistant                   | Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6 |      |

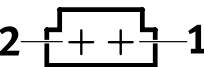
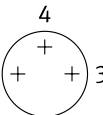
Datasheet

| Operating and environmental conditions |       |                                                                                            |                           |
|----------------------------------------|-------|--------------------------------------------------------------------------------------------|---------------------------|
| Valve function                         |       | T32-A <sup>1)</sup>                                                                        | M52-A <sup>1)</sup> B52   |
| Operating medium                       |       | Compressed air to ISO 8573-2010 [7:4:4]                                                    |                           |
| Note on the operating/pilot medium     |       | Lubricated operation possible (in which case lubricated operation will always be required) |                           |
| Operating pressure                     | [MPa] | 0.15 ... 0.7                                                                               | 0.25 ... 0.7 0.15 ... 0.7 |
|                                        | [bar] | 1.5 ... 7                                                                                  | 2.5 ... 7 1.5 ... 7       |
| Ambient temperature                    | [°C]  | -5 ... +50                                                                                 |                           |
| Temperature of medium                  | [°C]  | -5 ... +50                                                                                 |                           |

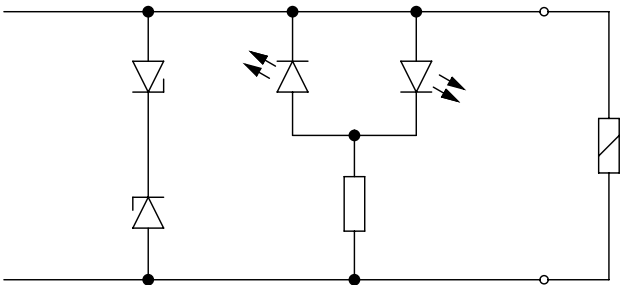
1) Pneumatic spring

| Electrical data                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| Electrical connection            | Via E-box → page 111                                  |
| Operating voltage                | [V DC] 5, 12, 24 ±10%                                 |
| Power                            | [W] 1, reduced to 0.35 with holding current reduction |
| Duty cycle                       | [%] 100                                               |
| Degree of protection to EN 60529 | IP40 (with plug socket), IP65 (with M8)               |

| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364 zone III      |

| Pin assignment for E-box                                                            |   | Pin      | Description                                          |
|-------------------------------------------------------------------------------------|---|----------|------------------------------------------------------|
| Rectangular plug, connection pattern H                                              |   |          |                                                      |
|   | 1 | + or –   | Protective circuit without holding current reduction |
|                                                                                     | 2 | + or –   |                                                      |
| Round plug, M8, 3-pin                                                               |   |          |                                                      |
|  | 1 | Not used | Protective circuit without holding current reduction |
|                                                                                     | 3 | + or –   |                                                      |
|                                                                                     | 4 | + or –   |                                                      |

Protective circuit without holding current reduction



The solenoid coils have a protective circuit to arrest sparks and protect against polarity reversal.

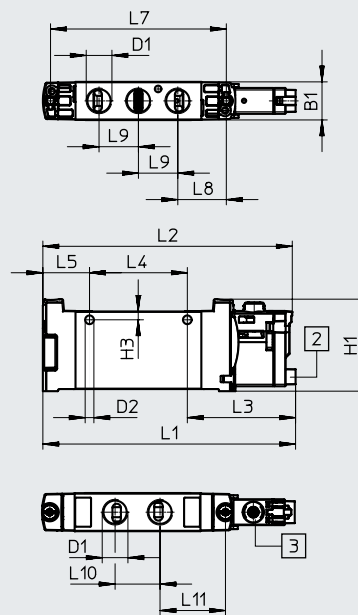
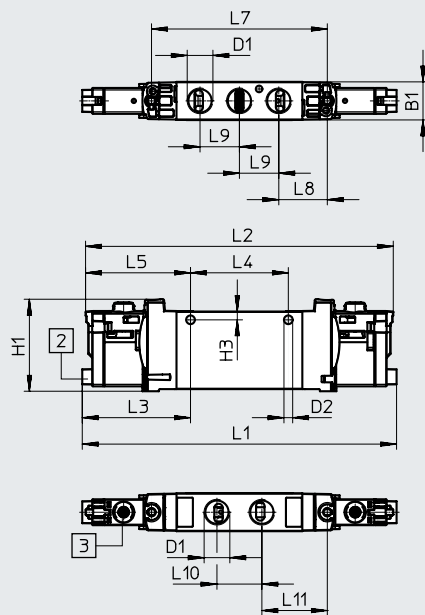
# Datasheet

## Dimensions

2x 3/2-way, 5/2-way valve, double solenoid

5/2-way valve, single solenoid

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



 **Note**  
More dimensions for  
E-boxes  
→ Page 113

[2] Horizontal electrical connection

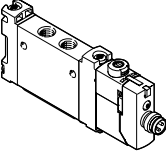
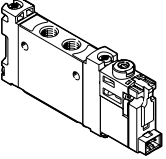
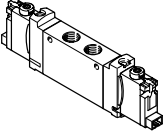
[3] Manual override

| Type                     | B1   | D1   | D2  | H1   | H3  | L1    | L2    | L3 | L4 | L5   |  |  |
|--------------------------|------|------|-----|------|-----|-------|-------|----|----|------|--|--|
| VUVG-LK14-T32C...-G18... | 14.4 | G1/8 | 3.3 | 34.8 | 3.2 | 118.9 | 116.4 | 41 | 37 | 39.7 |  |  |
| VUVG-LK14-B52...-G18...  |      |      |     |      |     | 95.6  | 94.4  |    |    | 17.7 |  |  |
| VUVG-LK14-M52...-G18...  |      |      |     |      |     |       |       |    |    |      |  |  |

| Type                     | L7   | L8   | L9   | L10 | L11  |
|--------------------------|------|------|------|-----|------|
| VUVG-LK14-T32C...-G18... | 66.5 | 18.4 | 14.9 | 17  | 24.8 |
| VUVG-LK14-B52...-G18...  |      |      |      |     |      |
| VUVG-LK14-M52...-G18...  |      |      |      |     |      |

## Ordering data

## ★ Core Range

| Ordering data                                                                     |                                       | Description                              | Part no. | Type                           |
|-----------------------------------------------------------------------------------|---------------------------------------|------------------------------------------|----------|--------------------------------|
| <b>In-line valve G1/8, with E-box R8</b>                                          |                                       |                                          |          |                                |
|   | <b>2x 3/2-way valve</b>               |                                          |          |                                |
|                                                                                   | Internal pilot air supply             | Normally closed, pneumatic spring return | 8042566  | VUVG-LK14-T32C-AT-G18-1R8L-S   |
|                                                                                   | <b>5/2-way valve, single solenoid</b> |                                          |          |                                |
|                                                                                   | Internal pilot air supply             | Pneumatic spring return                  | 8042567  | VUVG-LK14-M52-AT-G18-1R8L-S    |
|                                                                                   | <b>5/2-way valve, double solenoid</b> |                                          |          |                                |
|                                                                                   | Internal pilot air supply             |                                          | 8042568  | VUVG-LK14-B52-T-G18-1R8L-S     |
| <b>In-line valve G1/8, with E-box H2</b>                                          |                                       |                                          |          |                                |
|   | <b>2x 3/2-way valve</b>               |                                          |          |                                |
|                                                                                   | Internal pilot air supply             | Normally closed, pneumatic spring return | 8042562  | VUVG-LK14-T32C-AT-G18-1H2L-S   |
|                                                                                   | <b>5/2-way valve, single solenoid</b> |                                          |          |                                |
|                                                                                   | Internal pilot air supply             | Pneumatic spring return                  | 8042563  | VUVG-LK14-M52-AT-G18-1H2L-S    |
|                                                                                   | <b>5/2-way valve, double solenoid</b> |                                          |          |                                |
|                                                                                   | Internal pilot air supply             |                                          | 8042564  | VUVG-LK14-B52-T-G18-1H2L-S     |
| <b>In-line valve G1/8, for battery manufacturing</b>                              |                                       |                                          |          |                                |
|  | <b>2x 3/2-way valve</b>               |                                          |          |                                |
|                                                                                   | Internal pilot air supply             | Normally closed, pneumatic spring return | 8173205  | VUVG-LK14-T32C-AT-G18-1H2L-F1A |
|                                                                                   | <b>5/2-way valve, single solenoid</b> |                                          |          |                                |
|                                                                                   | Internal pilot air supply             | Pneumatic spring return                  | 8173206  | VUVG-LK14-M52-AT-G18-1H2L-F1A  |
|                                                                                   | <b>5/2-way valve, double solenoid</b> |                                          |          |                                |
|                                                                                   | Internal pilot air supply             |                                          | 8173207  | VUVG-LK14-B52-T-G18-1H2L-F1A   |

## Datasheet

### Function

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

Circuit diagrams → page 14

-  - Size 14 mm
-  - Flow rate  
480 ... 780 l/min
-  - Voltage VUVG-...  
5, 12 and 24 V DC  
24, 110 and 230 V AC
-  - Voltage VUVG-...-P1  
12 and 24 V DC  
24, 110 and 230 V AC



| General technical data VUVG-L      |  |                 |                           |                                                                        |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
|------------------------------------|--|-----------------|---------------------------|------------------------------------------------------------------------|-----------------|-----------------|-------------------------------------|-----------------|-----------------|-------|----------|-------|-----------------|-----------------|-----------------|
| Valve function                     |  |                 |                           | T32-A                                                                  |                 |                 | T32-M                               |                 |                 | M52-A | B52      | M52-M | P53             |                 |                 |
| Normal position                    |  |                 |                           | C <sup>1)</sup>                                                        | U <sup>2)</sup> | H <sup>4)</sup> | C <sup>1)</sup>                     | U <sup>2)</sup> | H <sup>4)</sup> | –     | –        | –     | C <sup>1)</sup> | U <sup>2)</sup> | E <sup>3)</sup> |
| Stable position                    |  |                 |                           | Monostable                                                             |                 |                 |                                     |                 |                 |       | Bistable |       | Monostable      |                 |                 |
| Pneumatic spring return            |  |                 |                           | Yes                                                                    |                 |                 | No                                  |                 |                 | Yes   | –        | No    | –               |                 |                 |
| Mechanical spring return           |  |                 |                           | No                                                                     |                 |                 | Yes                                 |                 |                 | No    | –        | Yes   | Yes             |                 |                 |
| Vacuum operation at port 1         |  |                 |                           | No                                                                     |                 |                 | Only with external pilot air supply |                 |                 |       |          |       |                 |                 |                 |
| Size [mm]                          |  |                 |                           | 14                                                                     |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Design                             |  |                 |                           | Piston spool                                                           |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Sealing principle                  |  |                 |                           | Soft                                                                   |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Actuation type                     |  |                 |                           | Electrical                                                             |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Type of control                    |  |                 |                           | Piloted                                                                |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Pilot air supply                   |  |                 |                           | Internal or external                                                   |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Exhaust air function               |  |                 |                           | Can be throttled                                                       |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Manual override                    |  | VUVG-...        |                           | Choice of non-detenting, covered, non-detenting/detenting or detenting |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
|                                    |  | VUVG-...-P1     |                           | Non-detenting, non-detenting/detenting                                 |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Type of mounting                   |  |                 |                           | Optionally via through-holes <sup>5)</sup> or on manifold rail         |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Mounting position                  |  |                 |                           | Any                                                                    |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Nominal width [mm]                 |  |                 |                           | 4.6                                                                    |                 |                 | 4.3                                 |                 |                 | 5.6   | 5.6      | 5.6   | 5.6             |                 |                 |
| Standard nominal flow rate [l/min] |  |                 |                           | 560                                                                    | 600             | 590             | 550                                 | 500             | 500             | 780   | 780      | 780   | 650             | 560             |                 |
| Flow rate on manifold rail [l/min] |  |                 |                           | 560                                                                    | 580             |                 | 520                                 | 480             | 480             | 680   | 700      | 700   | 620             | 560             |                 |
| Switching time                     |  |                 |                           |                                                                        |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| VUVG-...                           |  | On/off [ms]     | 9/25                      |                                                                        |                 |                 | 12/18                               |                 |                 | 14/22 | –        | 13/40 | 12/40           |                 |                 |
|                                    |  | Changeover [ms] | –                         |                                                                        |                 |                 | –                                   |                 |                 | 8     | –        | 20    |                 |                 |                 |
| VUVG-...-P1                        |  | On/off          | 11/18                     |                                                                        |                 |                 | 14/13                               |                 |                 | 16/16 | –        | 12/26 | 14/24           |                 |                 |
|                                    |  | Changeover      | –                         |                                                                        |                 |                 | –                                   |                 |                 | –     | 12       | –     | 19              |                 |                 |
| Pneumatic connection               |  | 1, 2, 3, 4, 5   | G1/8                      |                                                                        |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
|                                    |  | 12/14           | M5                        |                                                                        |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Certificate-issuing authority      |  | VUVG-...-P1     | UL MH19482                |                                                                        |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
| Certification                      |  | VUVG-...        | RCM                       |                                                                        |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
|                                    |  | VUVG-...        | c UL us - Recognized (OL) |                                                                        |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |
|                                    |  | VUVG-...-P1     |                           |                                                                        |                 |                 |                                     |                 |                 |       |          |       |                 |                 |                 |

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) If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers.

## Datasheet

| General technical data VUVG-L                            |                 |                             |       |       |     |       |     |
|----------------------------------------------------------|-----------------|-----------------------------|-------|-------|-----|-------|-----|
| Valve function                                           |                 | T32-A                       | T32-M | M52-A | B52 | M52-M | P53 |
| Product weight                                           | VUVG-... [g]    | 89                          | 80    | 78    | 89  | 70    | 89  |
|                                                          | VUVG-...-P1 [g] | 65                          | 56    | 66    | 65  | 58    | 65  |
| Certification for VUVG-...                               |                 | c UL us - Recognized (OL)   |       |       |     |       |     |
|                                                          |                 | RCM                         |       |       |     |       |     |
| CE marking (see declaration of conformity) <sup>1)</sup> |                 |                             |       |       |     |       |     |
| VUVG-...                                                 |                 | To EU EMC Directive         |       |       |     |       |     |
| VUVG-...-P1                                              |                 | To EU Low Voltage Directive |       |       |     |       |     |
| Corrosion resistance class CRC <sup>2)</sup>             |                 | 2                           |       |       |     |       |     |
| Certificate-issuing authority                            | VUVG-...-F1A    | UL MH19482                  |       |       |     |       |     |

1) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/...](http://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](http://www.festo.com/x/topic/crc)

| Operating and environmental conditions |                   |       |                                                       |                     |                     |               |                         |
|----------------------------------------|-------------------|-------|-------------------------------------------------------|---------------------|---------------------|---------------|-------------------------|
| Valve function                         |                   |       | T32-A <sup>1)</sup>                                   | T32-M <sup>2)</sup> | M52-A <sup>1)</sup> | B52           | M52-M <sup>2)</sup> P53 |
| Operating medium                       |                   |       | Compressed air to ISO 8573-2010 [7:4:4]               |                     |                     |               |                         |
| Operating pressure                     | Internal          | [MPa] | 0.15 ... 0.8                                          | 0.3 ... 0.8         | 0.25 ... 0.8        | 0.15 ... 0.8  | 0.3 ... 0.8             |
|                                        |                   | [bar] | 1.5 ... 8                                             | 3 ... 8             | 2.5 ... 8           | 1.5 ... 8     | 3 ... 8                 |
|                                        | External VUVG-... | [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 pressure <sup>3)</sup>           | Internal          | [MPa] | 0.15 ... 0.8                                          | 0.35 ... 0.8        | 0.25 ... 0.8        | 0.15 ... 0.8  | 0.3 ... 0.8             |
|                                        |                   | [bar] | 1.5 ... 8                                             | 3.5 ... 8           | 2.5 ... 8           | 1.5 ... 8     | 3 ... 8                 |
|                                        | External VUVG-... | [MPa] | 0.15 ... 0.8                                          | 0.3 ... 0.8         | 0.25 ... 0.8        | 0.15 ... 0.8  | 0.3 ... 0.8             |
|                                        |                   | [bar] | 1.5 ... 8                                             | 3 ... 8             | 2.5 ... 8           | 1.5 ... 8     | 3 ... 8                 |
|                                        | VUVG-...-F1A      | [MPa] | 0.15 ... 0.8                                          | 0.2 ... 0.8         | 0.25 ... 0.8        | 0.15 ... 0.8  | 0.3 ... 0.8             |
|                                        |                   | [bar] | 1.5 ... 8                                             | 2 ... 8             | 2.5 ... 8           | 1.5 ... 8     | 3 ... 8                 |
| Ambient temperature                    | VUVG-...          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |                     |                     |               |                         |
|                                        | VUVG-...-P1       |       | −5 ... +50 for mounting on manifold rail, −5 ... +60  |                     |                     |               |                         |
| Temperature of medium                  | VUVG-...          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |                     |                     |               |                         |
|                                        | VUVG-...-P1       |       | −5 ... +50, for mounting on manifold rail, −5 ... +60 |                     |                     |               |                         |
| Cleanroom class                        |                   |       | ISO class 5                                           |                     |                     |               |                         |

1) Pneumatic spring

2) Mechanical spring

3) Minimum pilot pressure 50% of operating pressure

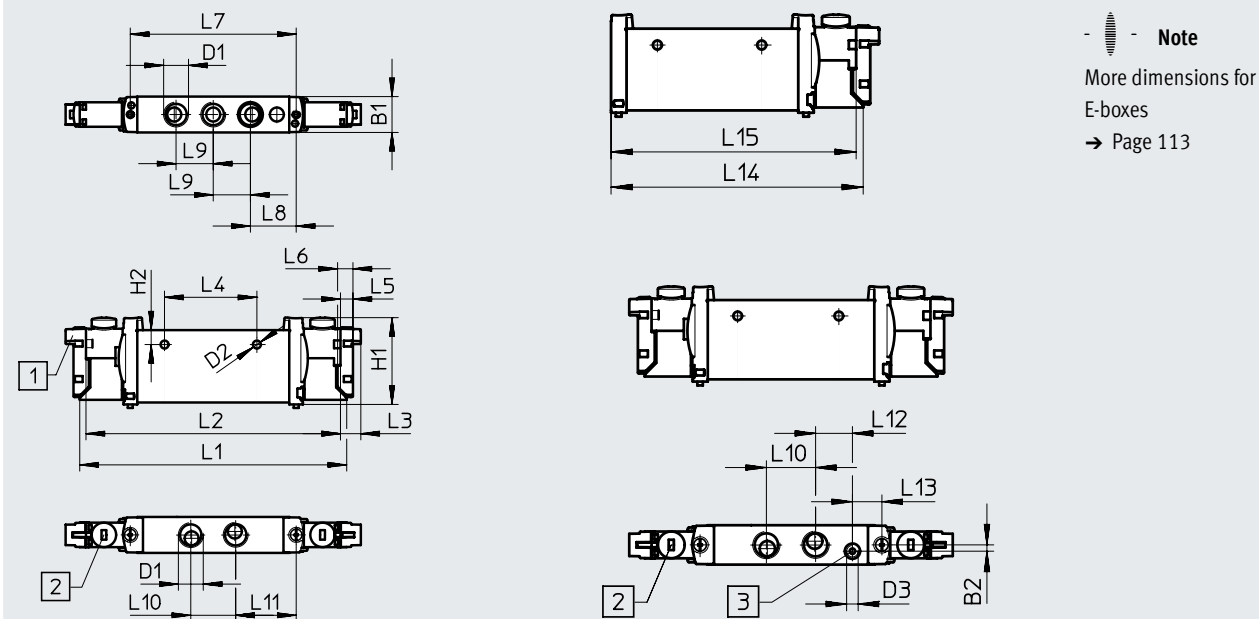
## Datasheet

| Electrical data                       |             |        |                                                                                  |
|---------------------------------------|-------------|--------|----------------------------------------------------------------------------------|
| Electrical connection                 | VUVG-...    |        | Via E-box → page 111                                                             |
|                                       | VUVG-...-P1 |        | Via electric pilot valve                                                         |
| Pilot interface                       | VUVG-...-P1 |        | To ISO 15218                                                                     |
| Operating voltage                     | VUVG-...    | [V DC] | 5, 12 and 24 ±10%                                                                |
|                                       | VUVG-...-P1 | [V DC] | 12 and 24 ±10%                                                                   |
|                                       |             | [V AC] | 24, 110 and 230 ±10%                                                             |
| Power                                 | VUVG-...    | [W]    | 1, reduced to 0.35 with holding current reduction                                |
|                                       | VUVG-...-P1 | [W]    | 1.3                                                                              |
| Duty cycle                            |             | [%]    | 100                                                                              |
| Degree of protection to EN 60529      | VUVG-...    |        | IP40 (with plug socket), IP65 (with M8)                                          |
|                                       | VUVG-...-P1 |        | IP65, with electric pilot valve and plug socket                                  |
| Safety characteristics                |             |        |                                                                                  |
| Max. positive test pulse with logic 0 |             | [μs]   | 700                                                                              |
| Max. negative test pulse with logic 1 |             | [μs]   | 900                                                                              |
| 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                                                                   |
| LABS (PWIS) conformity                |             |        | VDMA24364-B1/B2-L                                                                |

Datasheet

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

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



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

| Type                 | B1   | B2  | D1   | D2<br>Ø | D3 | H1   | H2  | L1  | L2  | L3 | L4 |
|----------------------|------|-----|------|---------|----|------|-----|-----|-----|----|----|
| VUVG-L14 ....-G18... | 14.4 | 2.3 | G1/8 | 3.2     | M5 | 34.8 | 5.8 | 107 | 102 | 8  | 37 |
| VUVG-S14 ....-G18... |      |     |      |         |    |      |     |     |     |    |    |

| Type                 | L5   | L6  | L7   | L8    | L9   | L10 | L11  | L12  | L13  | L14  | L15 |
|----------------------|------|-----|------|-------|------|-----|------|------|------|------|-----|
| VUVG-L14 ....-G18... | 4.85 | 6.2 | 66.5 | 18.35 | 14.9 | 18  | 24.3 | 13.5 | 10.8 | 89.4 | 87  |
| VUVG-S14 ....-G18... |      |     |      |       |      |     |      |      |      |      |     |

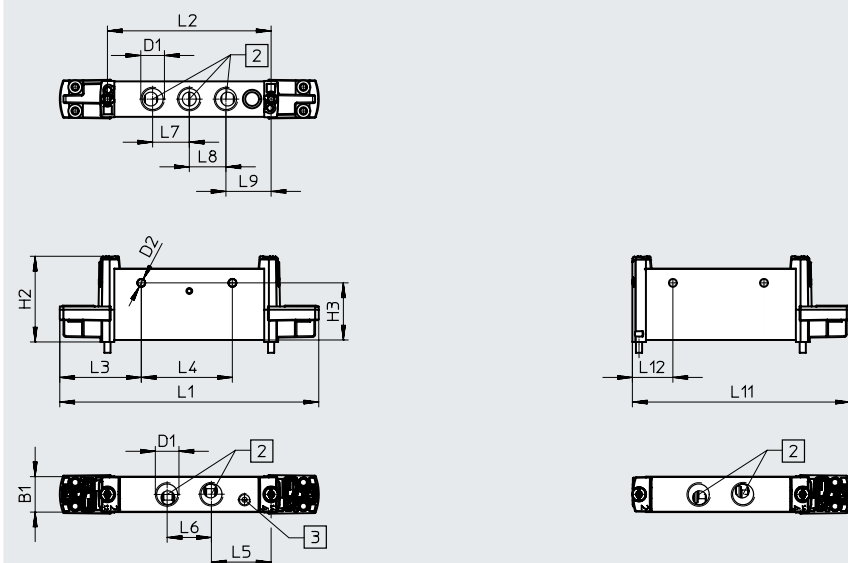
## Datasheet

## Dimensions VUVG-...-P1

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

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

5/2-way valve, single solenoid



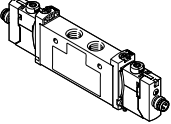
[2] Ports 1...5

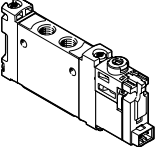
[3] Port for external pilot air supply

| Type             | B1   | D1   | D2<br>Ø | H2   | H3   | L1    | L2   | L3   | L4 | L5   | L6 | L7   | L8   | L9   | L11  | L12  |
|------------------|------|------|---------|------|------|-------|------|------|----|------|----|------|------|------|------|------|
| VUVG-L14 -...-P1 | 14.4 | G1/8 | 3.2     | 34.8 | 23.2 | 105.2 | 66.5 | 33.1 | 37 | 24.3 | 18 | 14.9 | 14.9 | 18.4 | 88.6 | 16.5 |

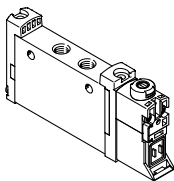
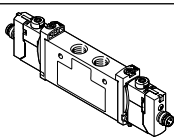
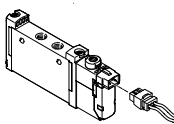
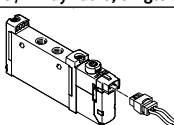
## Ordering data

## ★ Core Range

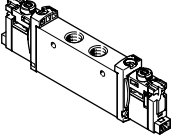
| Ordering data                                                                    |                           | Description                                   | Part no.      | Type                            |
|----------------------------------------------------------------------------------|---------------------------|-----------------------------------------------|---------------|---------------------------------|
| <b>In-line valve G1/8, with E-box R8</b>                                         |                           |                                               |               |                                 |
|  | <b>5/3-way valve</b>      |                                               |               |                                 |
|                                                                                  | Internal pilot air supply | Mid-position closed, mechanical spring return | <b>574231</b> | <b>VUVG-L14-P53C-T-G18-1R8L</b> |

| Ordering data                                                                    |                                       | Description                                                    | Part no.      | Type                             |
|----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|---------------|----------------------------------|
| <b>In-line valve G1/8, without E-box</b>                                         |                                       |                                                                |               |                                  |
|  | <b>2x 3/2-way valve</b>               |                                                                |               |                                  |
|                                                                                  | Internal pilot air supply             | Normally closed, pneumatic spring return                       | <b>566496</b> | <b>VUVG-L14-T32-AT-G18-1P3</b>   |
|                                                                                  |                                       | Normally open, pneumatic spring return                         | <b>566497</b> | <b>VUVG-L14-32U-AT-G18-1P3</b>   |
|                                                                                  |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | <b>566498</b> | <b>VUVG-L14-T32H-AT-G18-1P3</b>  |
|                                                                                  |                                       | Normally closed, mechanical spring return                      | <b>574368</b> | <b>VUVG-L14-T32C-MT-G18-1P3</b>  |
|                                                                                  |                                       | Normally open, mechanical spring return                        | <b>574369</b> | <b>VUVG-L14-T32U-MT-G18-1P3</b>  |
|                                                                                  |                                       | 1x normally open, 1x normally closed, mechanical spring return | <b>574370</b> | <b>VUVG-L14-T32H-MT-G18-1P3</b>  |
|                                                                                  | External pilot air supply             | Normally closed, pneumatic spring return                       | <b>566505</b> | <b>VUVG-L14-T32C-AZT-G18-1P3</b> |
|                                                                                  |                                       | Normally open, pneumatic spring return                         | <b>566506</b> | <b>VUVG-L14-T32U-AZT-G18-1P3</b> |
|                                                                                  |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | <b>566507</b> | <b>VUVG-L14-T32H-AZT-G18-1P3</b> |
|                                                                                  |                                       | Normally closed, mechanical spring return                      | <b>574372</b> | <b>VUVG-L14-T32C-MZT-G18-1P3</b> |
|                                                                                  |                                       | Normally open, mechanical spring return                        | <b>574373</b> | <b>VUVG-L14-T32U-MZT-G18-1P3</b> |
|                                                                                  |                                       | Normally closed, mechanical spring return                      | <b>574374</b> | <b>VUVG-L14-T32H-MZT-G18-1P3</b> |
|                                                                                  | <b>5/2-way valve, single solenoid</b> |                                                                |               |                                  |
|                                                                                  | Internal pilot air supply             | Pneumatic spring return                                        | <b>566499</b> | <b>VUVG-L14-M52-AT-G18-1P3</b>   |
|                                                                                  |                                       | Mechanical spring return                                       | <b>574371</b> | <b>VUVG-L14-M52-MT-G18-1P3</b>   |
|                                                                                  | External pilot air supply             | Pneumatic spring return                                        | <b>566508</b> | <b>VUVG-L14-M52-AZT-G18-1P3</b>  |
|                                                                                  |                                       | Mechanical spring return                                       | <b>574375</b> | <b>VUVG-L14-M52-MZT-G18-1P3</b>  |
|                                                                                  | <b>5/2-way valve, double solenoid</b> |                                                                |               |                                  |
|                                                                                  | Internal pilot air supply             |                                                                | <b>566500</b> | <b>VUVG-L14-B52-T-G18-1P3</b>    |
|                                                                                  | External pilot air supply             |                                                                | <b>566509</b> | <b>VUVG-L14-B52-ZT-G18-1P3</b>   |

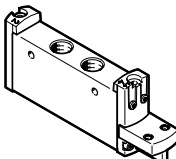
## Ordering data

| Ordering data                                                                       |                                | Description                                                    | Part no.                   | Type                         |
|-------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------|----------------------------|------------------------------|
| In-line valve G1/8, without E-box                                                   |                                |                                                                |                            |                              |
|    | 5/3-way valve                  |                                                                |                            |                              |
|                                                                                     | Internal pilot air supply      | Mid-position closed, mechanical spring return                  | 566501                     | VUVG-L14-P53C-T-G18-1P3      |
|                                                                                     |                                | Mid-position exhausted, mechanical spring return               | 566502                     | VUVG-L14-P53E-T-G18-1P3      |
|                                                                                     |                                | Mid-position pressurised, mechanical spring return             | 566503                     | VUVG-L14-P53U-T-G18-1P3      |
|                                                                                     | External pilot air supply      | Mid-position closed, mechanical spring return                  | 566510                     | VUVG-L14-P53C-ZT-G18-1P3     |
|                                                                                     |                                | Mid-position exhausted, mechanical spring return               | 566511                     | VUVG-L14-P53E-ZT-G18-1P3     |
| Mid-position pressurised, mechanical spring return                                  |                                | 566512                                                         | VUVG-L14-P53U-ZT-G18-1P3   |                              |
| In-line valve G1/8, with E-box R8                                                   |                                |                                                                |                            |                              |
|    | 2x 3/2-way valve               |                                                                |                            |                              |
|                                                                                     | Internal pilot air supply      | Normally closed, pneumatic spring return                       | 574226                     | VUVG-L14-T32C-AT-G18-1R8L    |
|                                                                                     |                                | Normally open, pneumatic spring return                         | 574227                     | VUVG-L14-T32U-AT-G18-1R8L    |
|                                                                                     |                                | 1x normally open, 1x normally closed, pneumatic spring return  | 574228                     | VUVG-L14-T32H-AT-G18-1R8L    |
|                                                                                     |                                | Normally closed, mechanical spring return                      | 8031504                    | VUVG-L14-T32C-MT-G18-1R8L    |
|                                                                                     |                                | Normally open, mechanical spring return                        | 8031505                    | VUVG-L14-T32U-MT-G18-1R8L    |
|                                                                                     |                                | 1x normally open, 1x normally closed, mechanical spring return | 8031506                    | VUVG-L14-T32H-MT-G18-1R8L    |
|                                                                                     | 5/2-way valve, single solenoid |                                                                |                            |                              |
|                                                                                     | Internal pilot air supply      | Pneumatic spring return                                        | 574229                     | VUVG-L14-M52-AT-G18-1R8L     |
|                                                                                     |                                | Mechanical spring return                                       | 8031508                    | VUVG-L14-M52-MT-G18-1R8L     |
|                                                                                     | 5/2-way valve, double solenoid |                                                                |                            |                              |
|                                                                                     | Internal pilot air supply      |                                                                | 574230                     | VUVG-L14-B52-T-G18-1R8L      |
|                                                                                     | 5/3-way valve                  |                                                                |                            |                              |
|                                                                                     | Internal pilot air supply      | Mid-position exhausted, mechanical spring return               | 574233                     | VUVG-L14-P53E-T-G18-1R8L     |
|                                                                                     |                                | Mid-position pressurised, mechanical spring return             | 574232                     | VUVG-L14-P53U-T-G18-1R8L     |
| In-line valve G1/8, with E-box H2                                                   |                                |                                                                |                            |                              |
|  | 2x 3/2-way valve               |                                                                |                            |                              |
|                                                                                     | Internal pilot air supply      | Normally closed, pneumatic spring return                       | 577321                     | VUVG-L14-T32C-AT-G18-1H2L-W1 |
|                                                                                     | 5/2-way valve, single solenoid |                                                                |                            |                              |
|                                                                                     | Internal pilot air supply      | Pneumatic spring return                                        | 576256                     | VUVG-L14-M52-AT-G18-1H2L-W1  |
|                                                                                     |                                | Mechanical spring return                                       | 578164                     | VUVG-L14-M52-MT-G18-1H2L-W1  |
|                                                                                     | 5/2-way valve, double solenoid |                                                                |                            |                              |
| Internal pilot air supply                                                           |                                | 577319                                                         | VUVG-L14-B52-T-G18-1H2L-W1 |                              |
| Semi in-line valve G1/8, with E-box H2                                              |                                |                                                                |                            |                              |
| 5/2-way valve, single solenoid                                                      |                                |                                                                |                            |                              |
|  | Internal pilot air supply      | Pneumatic spring return                                        | 577325                     | VUVG-S14-M52-AT-G18-1H2L-W1  |

## Ordering data

| Ordering data                                                                    | Description                           | Part no.                                                       | Type                                   |
|----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|----------------------------------------|
| <b>In-line valve G1/8, for battery manufacturing</b>                             |                                       |                                                                |                                        |
|  | <b>2x 3/2-way valve</b>               |                                                                |                                        |
|                                                                                  | Internal pilot air supply             | Normally closed, mechanical spring return                      | 8164552 VUVG-L14-T32C-MT-G18-1H2L-F1A  |
|                                                                                  |                                       | Normally open, pneumatic spring return                         | 8164553 VUVG-L14-T32U-AT-G18-1H2L-F1A  |
|                                                                                  |                                       | Normally open, mechanical spring return                        | 8164554 VUVG-L14-T32U-MT-G18-1H2L-F1A  |
|                                                                                  |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 8164555 VUVG-L14-T32H-AT-G18-1H2L-F1A  |
|                                                                                  |                                       | 1x normally open, 1x normally closed, mechanical spring return | 8164556 VUVG-L14-T32H-MT-G18-1H2L-F1A  |
|                                                                                  | External pilot air supply             | Normally closed, pneumatic spring return                       | 8164561 VUVG-L14-T32C-AZT-G18-1H2L-F1A |
|                                                                                  |                                       | Normally closed, mechanical spring return                      | 8164562 VUVG-L14-T32C-MZT-G18-1H2L-F1A |
|                                                                                  |                                       | Normally open, pneumatic spring return                         | 8164563 VUVG-L14-T32U-AZT-G18-1H2L-F1A |
|                                                                                  |                                       | Normally open, mechanical spring return                        | 8164564 VUVG-L14-T32U-MZT-G18-1H2L-F1A |
|                                                                                  |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 8164565 VUVG-L14-T32H-AZT-G18-1H2L-F1A |
|                                                                                  |                                       | 1x normally open, 1x normally closed, mechanical spring return | 8164566 VUVG-L14-T32H-MZT-G18-1H2L-F1A |
|                                                                                  | <b>5/2-way valve, single solenoid</b> |                                                                |                                        |
|                                                                                  | Internal pilot air supply             | Mechanical spring return                                       | 8164557 VUVG-L14-M52-MT-G18-1H2L-F1A   |
|                                                                                  | External pilot air supply             | Pneumatic spring return                                        | 8164567 VUVG-L14-M52-AZT-G18-1H2L-F1A  |
|                                                                                  |                                       | Mechanical spring return                                       | 8164568 VUVG-L14-M52-MZT-G18-1H2L-F1A  |
|                                                                                  | <b>5/2-way valve, double solenoid</b> |                                                                |                                        |
|                                                                                  | External pilot air supply             |                                                                | 8164569 VUVG-L14-B52-ZT-G18-1H2L-F1A   |
|                                                                                  | <b>5/3-way valve</b>                  |                                                                |                                        |
|                                                                                  | Internal pilot air supply             | Mid-position closed                                            | 8164558 VUVG-L14-P53C-T-G18-1H2L-F1A   |
|                                                                                  |                                       | Mid-position exhausted                                         | 8164559 VUVG-L14-P53E-T-G18-1H2L-F1A   |
|                                                                                  |                                       | Mid-position pressurised                                       | 8164560 VUVG-L14-P53U-T-G18-1H2L-F1A   |
|                                                                                  | External pilot air supply             | Mid-position closed                                            | 8164570 VUVG-L14-P53C-ZT-G18-1H2L-F1A  |
|                                                                                  |                                       | Mid-position exhausted                                         | 8164571 VUVG-L14-P53E-ZT-G18-1H2L-F1A  |
|                                                                                  |                                       | Mid-position pressurised                                       | 8164572 VUVG-L14-P53U-ZT-G18-1H2L-F1A  |

## Ordering data

| Ordering data                                                                     | Description                           | Part no.                                                       | Type                           |
|-----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|--------------------------------|
| <b>In-line valve G1/8, to ISO 15218</b>                                           |                                       |                                                                |                                |
|  | <b>2x 3/2-way valve</b>               |                                                                |                                |
|                                                                                   | Internal pilot air supply             | Normally closed, pneumatic spring return                       | 8033523 VUVG-L14-T32C-A-G18-P1 |
|                                                                                   |                                       | Normally open, pneumatic spring return                         | 8033524 VUVG-L14-T32U-A-G18-P1 |
|                                                                                   |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 8033525 VUVG-L14-T32H-A-G18-P1 |
|                                                                                   |                                       | Normally closed, mechanical spring return                      | 8033526 VUVG-L14-T32C-M-G18-P1 |
|                                                                                   |                                       | Normally open, mechanical spring return                        | 8033527 VUVG-L14-T32U-M-G18-P1 |
|                                                                                   |                                       | 1x normally open, 1x normally closed, mechanical spring return | 8033528 VUVG-L14-T32H-M-G18-P1 |
|                                                                                   | <b>5/2-way valve, single solenoid</b> |                                                                |                                |
|                                                                                   | Internal pilot air supply             | Pneumatic spring return                                        | 8033529 VUVG-L14-M52-A-G18-P1  |
|                                                                                   |                                       | Mechanical spring return                                       | 8033530 VUVG-L14-M52-M-G18-P1  |
|                                                                                   | <b>5/2-way valve, double solenoid</b> |                                                                |                                |
|                                                                                   | Internal pilot air supply             | –                                                              | 8033531 VUVG-L14-B52-G18-P1    |
|                                                                                   | <b>5/3-way valve</b>                  |                                                                |                                |
|                                                                                   | Internal pilot air supply             | Mid-position closed, mechanical spring return                  | 8033532 VUVG-L14-P53C-G18-P1   |
|                                                                                   |                                       | Mid-position exhausted, mechanical spring return               | 8033533 VUVG-L14-P53E-G18-P1   |
|                                                                                   |                                       | Mid-position pressurised, mechanical spring return             | 8033534 VUVG-L14-P53U-G18-P1   |

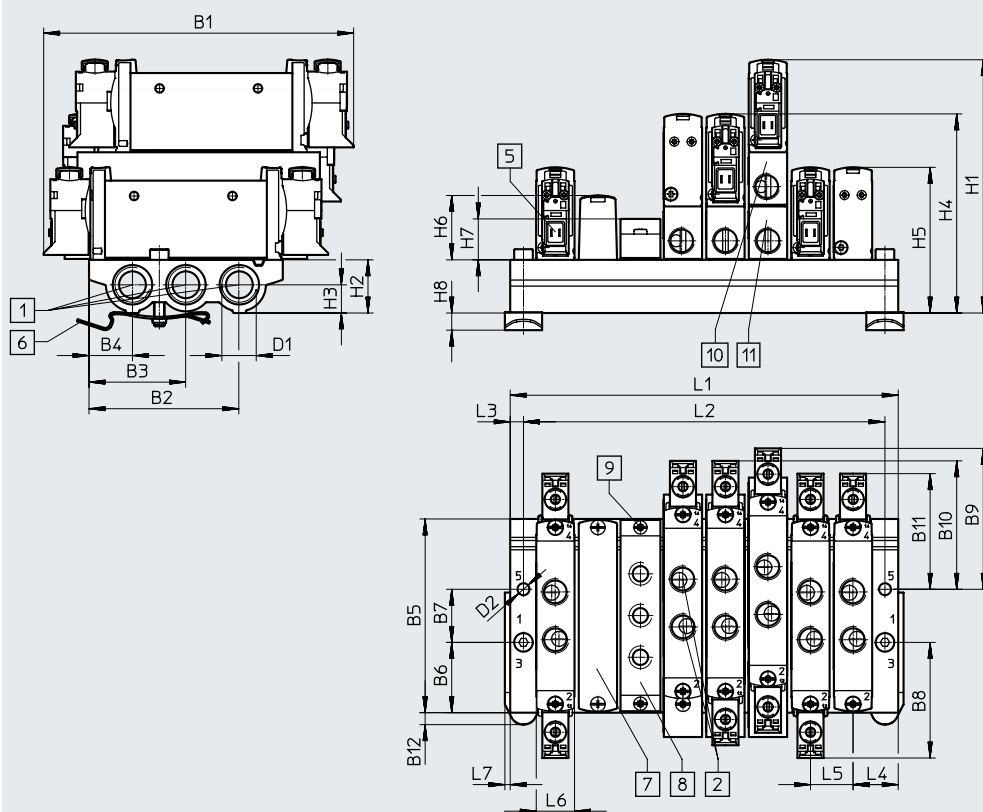
## Manifold assembly

In-line valves for  
manifold assembly



### Dimensions

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



 **Note**

More dimensions for  
E-boxes

→ Page 113

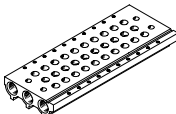
- |                                                       |                                                                    |                                                               |                                      |
|-------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------|
| [1] Ports 1, 3 and 5: G1/4 (at both ends)             | [6] DIN rail mounting (two M4x25 screws are required for mounting) | [8] Supply plate, ports 1, 3 and 5: G1/8                      | [10] Vertical pressure supply plate  |
| [2] Ports 1, 2, 3, 4 and 5 on the valve: G1/8         | [7] Cover plate                                                    | [9] Valves/cover plate mounting on manifold rail: M2.5 thread | [11] Vertical pressure exhaust plate |
| [5] Electrical connection for E-boxes and accessories |                                                                    |                                                               |                                      |

| Type            | B1    | B2   | B3   | B4   | B5   | B6   | B7 | B8   | B9   | B10  | B11  | B12 | D1   | D2  |
|-----------------|-------|------|------|------|------|------|----|------|------|------|------|-----|------|-----|
| VABM-L1-14S-G14 | 116.6 | 56.6 | 36.5 | 16.4 | 72.9 | 26.5 | 20 | 43.5 | 53.1 | 48.3 | 43.5 | 4.5 | G1/4 | 4.5 |

| Type            | H1   | H2 | H3   | H4   | H5   | H6   | H7   | H8  | L3 | L4 | L5 | L6   | L7 |
|-----------------|------|----|------|------|------|------|------|-----|----|----|----|------|----|
| VABM-L1-14S-G14 | 95.3 | 20 | 10.6 | 74.9 | 54.8 | 23.9 | 15.4 | 6.5 | 5  | 17 | 16 | 14.5 | 2  |

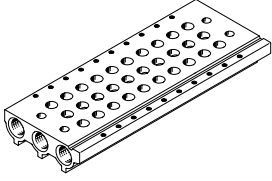
| Valve positions | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 12  | 14  | 16  | 22  |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L1              | 50  | 66  | 82  | 98  | 114 | 130 | 146 | 162 | 178 | 210 | 242 | 274 | 306 |
| L2              | 40  | 56  | 72  | 88  | 104 | 120 | 136 | 152 | 168 | 200 | 232 | 264 | 296 |
| VABM weight [g] | 118 | 159 | 200 | 241 | 282 | 323 | 364 | 405 | 446 | 528 | 610 | 692 | 938 |

## Ordering data

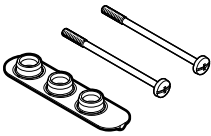
| Technical data – Manifold rails                                                   |            |                 |                         |                    |           |                                          |          |      |
|-----------------------------------------------------------------------------------|------------|-----------------|-------------------------|--------------------|-----------|------------------------------------------|----------|------|
|                                                                                   | Connection | CRC             | Material <sup>2)</sup>  | Operating pressure |           | Max. tightening torque for mounting [Nm] |          |      |
|                                                                                   | 1, 3, 5    |                 |                         | [MPa]              | [bar]     | Valve                                    | DIN rail | Wall |
|  | G1/4       | 2 <sup>1)</sup> | Wrought aluminium alloy | 0.15 ... 0.8       | 1.5 ... 8 | 0.65                                     | 1.5      | 3    |

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) Information on materials: RoHS-compliant.

| Ordering data – Manifold rail                                                     |               |                    |          |                    |
|-----------------------------------------------------------------------------------|---------------|--------------------|----------|--------------------|
|                                                                                   |               | Description        | Part no. | Type               |
| <b>Manifold rail for in-line valves (manifold assembly)</b>                       |               |                    |          |                    |
|  | For size G1/8 | 2 valve positions  | 566618   | VABM-L1-14S-G14-2  |
|                                                                                   |               | 3 valve positions  | 566619   | VABM-L1-14S-G14-3  |
|                                                                                   |               | 4 valve positions  | 566620   | VABM-L1-14S-G14-4  |
|                                                                                   |               | 5 valve positions  | 566621   | VABM-L1-14S-G14-5  |
|                                                                                   |               | 6 valve positions  | 566622   | VABM-L1-14S-G14-6  |
|                                                                                   |               | 7 valve positions  | 566623   | VABM-L1-14S-G14-7  |
|                                                                                   |               | 8 valve positions  | 566624   | VABM-L1-14S-G14-8  |
|                                                                                   |               | 9 valve positions  | 566625   | VABM-L1-14S-G14-9  |
|                                                                                   |               | 10 valve positions | 566626   | VABM-L1-14S-G14-10 |
|                                                                                   |               | 12 valve positions | 566627   | VABM-L1-14S-G14-12 |
|                                                                                   |               | 14 valve positions | 566628   | VABM-L1-14S-G14-14 |
|                                                                                   |               | 16 valve positions | 566629   | VABM-L1-14S-G14-16 |

## Ordering data

| Ordering data – Accessories                                                      |                                         |                                         |                                    |                       |                        |
|----------------------------------------------------------------------------------|-----------------------------------------|-----------------------------------------|------------------------------------|-----------------------|------------------------|
| Description                                                                      |                                         | Part no.                                | Type                               |                       |                        |
| Cover plate                                                                      |                                         |                                         |                                    |                       |                        |
| For valve position on manifold rail, including screws and seal                   |                                         | 569989                                  | VABB-L1-14                         |                       |                        |
| Separator                                                                        |                                         |                                         |                                    |                       |                        |
| For creating pressure zones                                                      |                                         | 569996                                  | VABD-10-B                          |                       |                        |
| Supply plate                                                                     |                                         |                                         |                                    |                       |                        |
| For valve position on manifold rail, including screws and seal                   |                                         | 569993                                  | VABF-L1-14-P3A4-G18                |                       |                        |
| Seals for in-line valves                                                         |                                         |                                         |                                    |                       |                        |
|  | In-line valves VUVG-LK                  |                                         |                                    |                       |                        |
|                                                                                  | For G1/8 in-line valves                 | Delivery quantity:                      | –                                  | 8043720               | VABD-L1-14XK-S-G18-S   |
|                                                                                  |                                         | 10 sets (each with 2 screws and 1 seal) | Suitable for battery manufacturing | 8168886               | VABD-L1-14XK-S-G18-F1A |
|                                                                                  | In-line valves VUVG-L                   |                                         |                                    |                       |                        |
| For G1/8 in-line valves                                                          | Delivery quantity:                      | –                                       | 566675                             | VABD-L1-14X-S-G18     |                        |
|                                                                                  | 10 sets (each with 2 screws and 1 seal) | Suitable for battery manufacturing      | 8168589                            | VABD-L1-14X-S-G18-F1A |                        |
| Vertical pressure supply plate                                                   |                                         |                                         |                                    |                       |                        |
| Pneumatic connection 1: G1/8                                                     |                                         | Terminal code CP                        | 574593                             | VABF-L1-P3A3-G18      |                        |
| Vertical pressure exhaust plate                                                  |                                         |                                         |                                    |                       |                        |
| Pneumatic connection 3, 5: G1/8                                                  |                                         | Terminal code CR                        | 574595                             | VABF-L1-P7A13-G18     |                        |

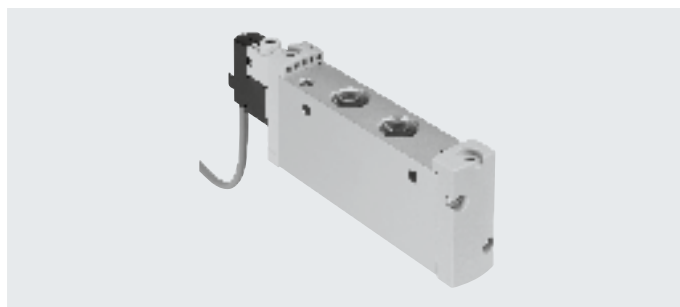
## Datasheet

### Function

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

Circuit diagrams → page 14

-  - Size 18 mm
-  - Flow rate  
780 ... 1380 l/min
-  - Voltage  
5, 12 and 24 V DC  
24, 110 and 230 V AC
-  - Voltage VUVG-...-P1  
12 and 24 V DC  
24, 110 and 230 V AC



| General technical data VUVG-L                            |                 |                                                                        |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
|----------------------------------------------------------|-----------------|------------------------------------------------------------------------|----------------------------------------------------------------|-----------------|-----------------|-------------------------------------|-----------------|-----------------|-------------------|----------|-------|-----------------|-----------------|-----------------|
| Valve function                                           |                 |                                                                        | T32-A                                                          |                 |                 | T32-M                               |                 |                 | M52-R             | B52      | M52-M | P53             |                 |                 |
| Normal position                                          |                 |                                                                        | C <sup>1)</sup>                                                | U <sup>2)</sup> | H <sup>4)</sup> | C <sup>1)</sup>                     | U <sup>2)</sup> | H <sup>4)</sup> | –                 | –        | –     | C <sup>1)</sup> | U <sup>2)</sup> | E <sup>3)</sup> |
| Stable position                                          |                 |                                                                        | Monostable                                                     |                 |                 |                                     |                 |                 |                   | Bistable |       | Monostable      |                 |                 |
| Pneumatic spring return                                  |                 |                                                                        | Yes                                                            |                 |                 | No                                  |                 |                 | Yes <sup>5)</sup> | –        | No    | –               |                 |                 |
| Mechanical spring return                                 |                 |                                                                        | No                                                             |                 |                 | Yes                                 |                 |                 | Yes <sup>5)</sup> | –        | Yes   | Yes             |                 |                 |
| Vacuum operation at port 1                               |                 |                                                                        | No                                                             |                 |                 | Only with external pilot air supply |                 |                 |                   |          |       |                 |                 |                 |
| Size [mm]                                                |                 |                                                                        | 18                                                             |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Design                                                   |                 |                                                                        | Piston spool                                                   |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Sealing principle                                        |                 |                                                                        | Soft                                                           |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Actuation type                                           |                 |                                                                        | Electrical                                                     |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Type of control                                          |                 |                                                                        | Piloted                                                        |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Pilot air supply                                         |                 |                                                                        | Internal/external                                              |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Exhaust air function                                     |                 |                                                                        | Can be throttled                                               |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Manual override                                          | VUVG-...        | Choice of non-detenting, covered, non-detenting/detenting or detenting |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
|                                                          | VUVG-...-P1     | Non-detenting, non-detenting/detenting                                 |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Type of mounting                                         |                 |                                                                        | Optionally via through-holes <sup>6)</sup> or on manifold rail |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Mounting position                                        |                 |                                                                        | Any                                                            |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Nominal width [mm]                                       |                 |                                                                        | 5.7                                                            |                 |                 |                                     |                 |                 | 6.9               | 7.3      | 6.9   | 6.5             | 6.3             |                 |
| Standard nominal flow rate [l/min]                       |                 |                                                                        | 880                                                            | 970             | 950             | 870                                 | 990             | 920             | 1150              | 1380     | 1300  | 1200            | 1000            | 910             |
| Flow rate on manifold rail                               |                 |                                                                        | 780                                                            | 980             | 820             | 780                                 | 960             | 820             | 1300              | 1370     | 1300  | 1180            | 1220            | 1050            |
| Switching time                                           |                 |                                                                        |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| VUVG-...                                                 | On/off [ms]     | 13/27                                                                  |                                                                |                 |                 | 15/22                               |                 |                 | 15/31             | –        | 10/45 | 15/48           |                 |                 |
|                                                          | Changeover [ms] | –                                                                      |                                                                |                 |                 | –                                   |                 |                 | –                 | 11       | –     | 29              |                 |                 |
| VUVG-...P1                                               | On/off [ms]     | 13/18                                                                  |                                                                |                 |                 | 16/15                               |                 |                 | 16/22             | –        | 14/26 | 15/32           |                 |                 |
|                                                          | Changeover [ms] | –                                                                      |                                                                |                 |                 | –                                   |                 |                 | –                 | 12       | –     | 21              |                 |                 |
| Pneumatic connection                                     | 1, 2, 3, 4, 5   | G1/4                                                                   |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
|                                                          | 12/14           | M5                                                                     |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Product weight                                           | VUVG-... [g]    | 164                                                                    |                                                                |                 |                 | 164                                 |                 |                 | 154               | 164      | 154   | 160             |                 |                 |
|                                                          | VUVG-...-P1 [g] | 140                                                                    |                                                                |                 |                 | 140                                 |                 |                 | 142               | 140      | 142   | 136             |                 |                 |
| Certificate-issuing authority                            | VUVG-...-P1     | UL MH19482                                                             |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Certification                                            | VUVG-...        | RCM                                                                    |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
|                                                          | VUVG-...        | c UL us - Recognized (OL)                                              |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
|                                                          | VUVG-...-P1     |                                                                        |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| CE marking (see declaration of conformity) <sup>7)</sup> |                 |                                                                        |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| VUVG-...                                                 |                 | To EU EMC Directive                                                    |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| VUVG-...-P1                                              |                 | To EU Low Voltage Directive                                            |                                                                |                 |                 |                                     |                 |                 |                   |          |       |                 |                 |                 |
| Corrosion resistance class CRC <sup>8)</sup>             |                 | 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) If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers.

7) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/...](http://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.

8) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

## Datasheet

| Operating and environmental conditions |                   |       |                                                                                            |                     |                     |              |                          |
|----------------------------------------|-------------------|-------|--------------------------------------------------------------------------------------------|---------------------|---------------------|--------------|--------------------------|
| Valve function                         |                   |       | T32-A <sup>1)</sup>                                                                        | T32-M <sup>3)</sup> | M52-R <sup>2)</sup> | B52          | M52-M <sup>3)</sup> P53  |
| Operating medium                       |                   |       | Compressed air to ISO 8573-2010 [7:4:4]                                                    |                     |                     |              |                          |
| Note on the operating/pilot medium     |                   |       | Lubricated operation possible (in which case lubricated operation will always be required) |                     |                     |              |                          |
| Operating pressure                     | Internal          | [MPa] | 0.15 ... 0.8                                                                               | 0.3 ... 0.8         | 0.25 ... 0.8        | 0.15 ... 0.8 | 0.3 ... 0.8              |
|                                        |                   | [bar] | 1.5 ... 8                                                                                  | 3 ... 8             | 2.5 ... 8           | 1.5 ... 8    | 3 ... 8                  |
|                                        | External VUVG-... | [MPa] | 0.15 ... 1                                                                                 | -0.09 ... 1         |                     |              |                          |
|                                        |                   | [bar] | 1.5 ... 10                                                                                 | -0.9 ... 10         |                     |              |                          |
| Pilot pressure <sup>4)</sup>           |                   |       | [MPa]                                                                                      | 0.15 ... 0.8        | 0.2 ... 0.8         | 0.25 ... 0.8 | 0.15 ... 0.8 0.3 ... 0.8 |
|                                        |                   |       | [bar]                                                                                      | 1.5 ... 8           | 2 ... 8             | 2.5 ... 8    | 1.5 ... 8 3 ... 8        |
| Ambient temperature                    | VUVG-...          | [°C]  | -5 ... +50, with holding current reduction -5 ... +60                                      |                     |                     |              |                          |
|                                        | VUVG-...-P1       | [°C]  | -5 ... +50 for mounting on manifold rail, -5 ... +60                                       |                     |                     |              |                          |
| Temperature of medium                  | VUVG-...          | [°C]  | -5 ... +50, with holding current reduction -5 ... +60                                      |                     |                     |              |                          |
|                                        | VUVG-...-P1       | [°C]  | -5 ... +50 for mounting on manifold rail, -5 ... +60                                       |                     |                     |              |                          |
| Cleanroom class                        |                   |       | ISO class 5                                                                                |                     |                     |              |                          |

1) Pneumatic spring

2) Mixed, pneumatic/mechanical spring

3) Mechanical spring

4) Minimum pilot pressure 50% of operating pressure

| Electrical data                  |             |                                                 |                                                   |
|----------------------------------|-------------|-------------------------------------------------|---------------------------------------------------|
| Electrical connection            | VUVG-...    | Via E-box → page 111                            |                                                   |
|                                  | VUVG-...-P1 | Via electric pilot valve                        |                                                   |
| Pilot interface                  | VUVG-...-P1 | To ISO 15218                                    |                                                   |
| Operating voltage                | VUVG-...    | [V DC]                                          | 5, 12 and 24 ±10%                                 |
|                                  | VUVG-...-P1 | [V DC]                                          | 12 and 24 ±10%                                    |
|                                  |             | [V AC]                                          | 24, 110 and 230 ±10%                              |
| Power                            | VUVG-...    | [W]                                             | 1, reduced to 0.35 with holding current reduction |
|                                  | VUVG-...-P1 | [W]                                             | 1.3                                               |
| Duty cycle                       |             | [%]                                             | 100                                               |
| Degree of protection to EN 60529 |             |                                                 |                                                   |
|                                  | VUVG-...    | IP40 (with plug socket), IP65 (with M8)         |                                                   |
|                                  | VUVG-...-P1 | IP65, with electric pilot valve and plug socket |                                                   |

| Safety characteristics                |                                                                                  |     |
|---------------------------------------|----------------------------------------------------------------------------------|-----|
| Max. positive test pulse with logic 0 | [µs]                                                                             | 700 |
| Max. negative test pulse with logic 1 | [µs]                                                                             | 900 |
| 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 |     |

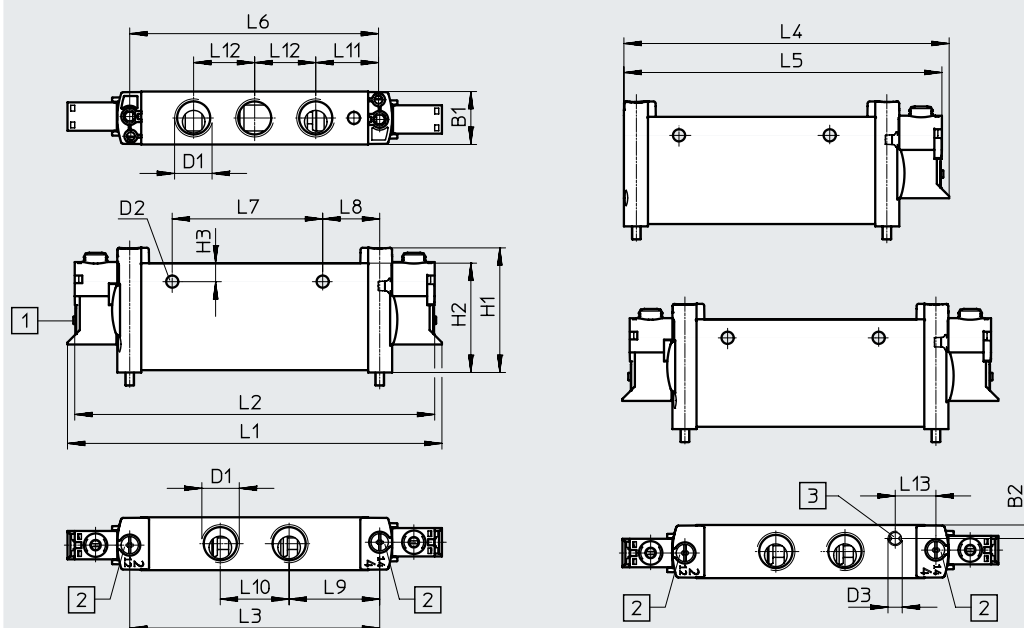
| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364-B1/B2-L       |

## Datasheet

## Dimensions VUVG-...

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

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



**Note**  
More dimensions for  
E-boxes  
→ Page 113

[1] Electrical connection without  
E-box

[2] Retaining screw

[3] Port for external pilot air supply

| Type         | B1   | B2  | D1   | D2<br>Ø | D3 | H1   | H2   | H3  | L1    | L2    | L3   |
|--------------|------|-----|------|---------|----|------|------|-----|-------|-------|------|
| VUVG-L18-... | 18.3 | 4.5 | G1/4 | 4.2     | M5 | 43.1 | 37.8 | 6.4 | 129.4 | 124.4 | 86.4 |
| VUVG-S18-... |      |     |      |         |    |      |      |     |       |       |      |

| Type         | L4    | L5    | L6 | L7 | L8   | L9   | L10  | L11  | L12  | L13 |
|--------------|-------|-------|----|----|------|------|------|------|------|-----|
| VUVG-L18-... | 112.2 | 109.7 | 86 | 52 | 19.7 | 31.3 | 23.8 | 21.7 | 21.1 | 14  |
| VUVG-S18-... |       |       |    |    |      |      |      |      |      |     |

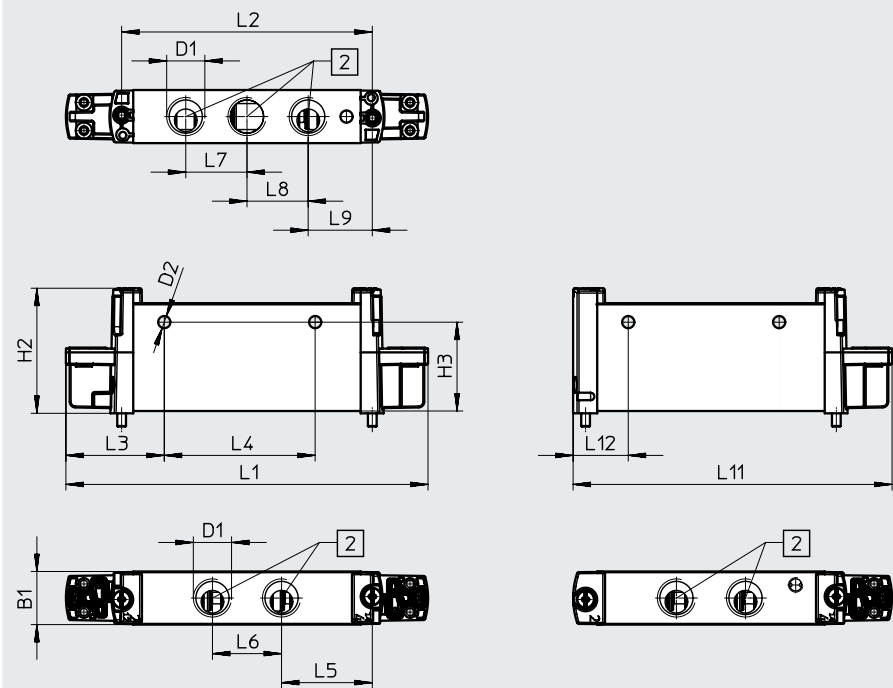
Datasheet

Dimensions VUVG-...-P1

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

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

5/2-way valve, single solenoid



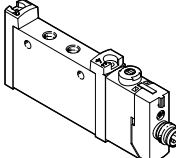
[2] Ports 1... 5

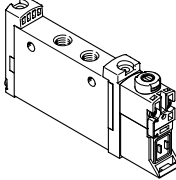
| Type            | B1   | D1   | D2    | H2   | H3   | L1    | L2   | L3   |
|-----------------|------|------|-------|------|------|-------|------|------|
| VUVG-L18-...-P1 | 18.3 | G1/4 | ∅ 4.2 | 43.1 | 30.6 | 124.8 | 86.4 | 33.9 |

| Type            | L4 | L5   | L6   | L7   | L8   | L9   | L11   | L12 |
|-----------------|----|------|------|------|------|------|-------|-----|
| VUVG-L18-...-P1 | 52 | 31.3 | 23.8 | 21.1 | 21.1 | 22.1 | 109.9 | 19  |

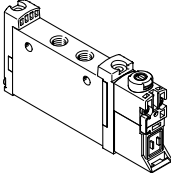
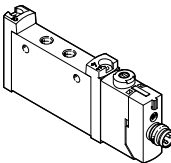
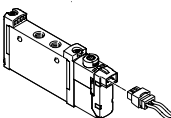
## Ordering data

## ★ Core Range

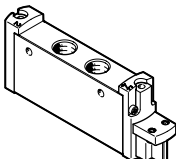
| Ordering data                                                                     |                                       | Description                                   | Part no. | Type                      |
|-----------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------|----------|---------------------------|
| <b>In-line valve G1/4, with E-box R8</b>                                          |                                       |                                               |          |                           |
|  | <b>2x 3/2-way valve</b>               |                                               |          |                           |
|                                                                                   | Internal pilot air supply             | Normally closed, pneumatic spring return      | 8031525  | VUVG-L18-T32C-AT-G14-1R8L |
|                                                                                   | <b>5/2-way valve, single solenoid</b> |                                               |          |                           |
|                                                                                   | Internal pilot air supply             | Pneumatic/mechanical spring return            | 8031531  | VUVG-L18-M52-RT-G14-1R8L  |
|                                                                                   |                                       | Mechanical spring return                      | 8031532  | VUVG-L18-M52-MT-G14-1R8L  |
|                                                                                   | <b>5/3-way valve</b>                  |                                               |          |                           |
|                                                                                   | Internal pilot air supply             | Mid-position closed, mechanical spring return | 8031534  | VUVG-L18-P53C-T-G14-1R8L  |

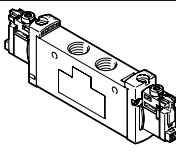
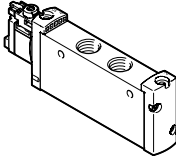
| Ordering data                                                                     |                                       | Description                                                    | Part no. | Type                      |
|-----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|----------|---------------------------|
| <b>In-line valve G1/4, without E-box</b>                                          |                                       |                                                                |          |                           |
|  | <b>2x 3/2-way valve</b>               |                                                                |          |                           |
|                                                                                   | Internal pilot air supply             | Normally closed, pneumatic spring return                       | 574422   | VUVG-L18-T32C-AT-G14-1P3  |
|                                                                                   |                                       | Normally open, pneumatic spring return                         | 574423   | VUVG-L18-T32U-AT-G14-1P3  |
|                                                                                   |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 574424   | VUVG-L18-T32H-AT-G14-1P3  |
|                                                                                   |                                       | Normally closed, mechanical spring return                      | 574425   | VUVG-L18-T32C-MT-G14-1P3  |
|                                                                                   |                                       | Normally open, mechanical spring return                        | 574426   | VUVG-L18-T32U-MT-G14-1P3  |
|                                                                                   |                                       | 1x normally open, 1x normally closed, mechanical spring return | 574427   | VUVG-L18-T32H-MT-G14-1P3  |
|                                                                                   | External pilot air supply             | Normally closed, mechanical spring return                      | 574434   | VUVG-L18-T32C-MZT-G14-1P3 |
|                                                                                   |                                       | Normally open, mechanical spring return                        | 574435   | VUVG-L18-T32U-MZT-G14-1P3 |
|                                                                                   |                                       | 1x normally open, 1x normally closed, mechanical spring return | 574436   | VUVG-L18-T32H-MZT-G14-1P3 |
|                                                                                   | <b>5/2-way valve, single solenoid</b> |                                                                |          |                           |
|                                                                                   | Internal pilot air supply             | Pneumatic/mechanical spring return                             | 574428   | VUVG-L18-M52-RT-G14-1P3   |
|                                                                                   |                                       | Mechanical spring return                                       | 574429   | VUVG-L18-M52-MT-G14-1P3   |
|                                                                                   | External pilot air supply             | Mechanical spring return                                       | 574438   | VUVG-L18-M52-MZT-G14-1P3  |
|                                                                                   |                                       | Pneumatic/mechanical spring return                             | 574437   | VUVG-L18-M52-RZT-G14-1P3  |
|                                                                                   | <b>5/2-way valve, double solenoid</b> |                                                                |          |                           |
|                                                                                   | Internal pilot air supply             |                                                                | 574430   | VUVG-L18-B52-T-G14-1P3    |
|                                                                                   | External pilot air supply             |                                                                | 574439   | VUVG-L18-B52-ZT-G14-1P3   |

## Ordering data

| Ordering data                                                                      |                                | Description                                                    | Part no. | Type                        |
|------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------|----------|-----------------------------|
| In-line valve G1/4, without E-box                                                  |                                |                                                                |          |                             |
|    | 5/3-way valve                  |                                                                |          |                             |
|                                                                                    | Internal pilot air supply      | Mid-position closed, mechanical spring return                  | 574431   | VUVG-L18-P53C-T-G14-1P3     |
|                                                                                    |                                | Mid-position exhausted, mechanical spring return               | 574432   | VUVG-L18-P53E-T-G14-1P3     |
|                                                                                    |                                | Mid-position pressurised, mechanical spring return             | 574433   | VUVG-L18-P53U-T-G14-1P3     |
|                                                                                    | External pilot air supply      | Mid-position closed, mechanical spring return                  | 574440   | VUVG-L18-P53C-ZT-G14-1P3    |
|                                                                                    |                                | Mid-position exhausted, mechanical spring return               | 574441   | VUVG-L18-P53E-ZT-G14-1P3    |
|                                                                                    |                                | Mid-position pressurised, mechanical spring return             | 574442   | VUVG-L18-P53U-ZT-G14-1P3    |
| In-line valve G1/4, with E-box R8                                                  |                                |                                                                |          |                             |
|    | 2x 3/2-way valve               |                                                                |          |                             |
|                                                                                    | Internal pilot air supply      | Normally open, pneumatic spring return                         | 8031526  | VUVG-L18-T32U-AT-G14-1R8L   |
|                                                                                    |                                | 1x normally open, 1x normally closed, pneumatic spring return  | 8031527  | VUVG-L18-T32H-AT-G14-1R8L   |
|                                                                                    |                                | Normally closed, mechanical spring return                      | 8031528  | VUVG-L18-T32C-MT-G14-1R8L   |
|                                                                                    |                                | Normally open, mechanical spring return                        | 8031529  | VUVG-L18-T32U-MT-G14-1R8L   |
|                                                                                    |                                | 1x normally open, 1x normally closed, mechanical spring return | 8031530  | VUVG-L18-T32H-MT-G14-1R8L   |
|                                                                                    | 5/2-way valve, double solenoid |                                                                |          |                             |
|                                                                                    | Internal pilot air supply      |                                                                | 8031533  | VUVG-L18-B52-T-G14-1R8L     |
|                                                                                    | 5/3-way valve                  |                                                                |          |                             |
|                                                                                    | Internal pilot air supply      | Mid-position exhausted, mechanical spring return               | 8031535  | VUVG-L18-P53E-T-G14-1R8L    |
|                                                                                    |                                | Mid-position pressurised, mechanical spring return             | 8031536  | VUVG-L18-P53U-T-G14-1R8L    |
| In-line valve G1/4, with E-box H2                                                  |                                |                                                                |          |                             |
|  | 5/2-way valve, single solenoid |                                                                |          |                             |
|                                                                                    | Internal pilot air supply      | Pneumatic/mechanical spring return                             | 578823   | VUVG-L18-M52-RT-G14-1H2L-W1 |

## Ordering data

| Ordering data                                                                     |                                       | Description                                                    | Part no. | Type                   |
|-----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|----------|------------------------|
| <b>In-line valve G1/4, to ISO 15218</b>                                           |                                       |                                                                |          |                        |
|  | <b>2x 3/2-way valve</b>               |                                                                |          |                        |
|                                                                                   | Internal pilot air supply             | Normally closed, pneumatic spring return                       | 8033547  | VUVG-L18-T32C-A-G14-P1 |
|                                                                                   |                                       | Normally open, pneumatic spring return                         | 8033548  | VUVG-L18-T32U-A-G14-P1 |
|                                                                                   |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 8033549  | VUVG-L18-T32H-A-G14-P1 |
|                                                                                   |                                       | Normally closed, mechanical spring return                      | 8033550  | VUVG-L18-T32C-M-G14-P1 |
|                                                                                   |                                       | Normally open, mechanical spring return                        | 8033551  | VUVG-L18-T32U-M-G14-P1 |
|                                                                                   |                                       | 1x normally open, 1x normally closed, mechanical spring return | 8033552  | VUVG-L18-T32H-M-G14-P1 |
|                                                                                   | <b>5/2-way valve, single solenoid</b> |                                                                |          |                        |
|                                                                                   | Internal pilot air supply             | Pneumatic/mechanical spring return                             | 8033553  | VUVG-L18-M52-R-G14-P1  |
|                                                                                   |                                       | Mechanical spring return                                       | 8033554  | VUVG-L18-M52-M-G14-P1  |
|                                                                                   | <b>5/2-way valve, double solenoid</b> |                                                                |          |                        |
|                                                                                   | Internal pilot air supply             |                                                                | 8033555  | VUVG-L18-B52-G14-P1    |
|                                                                                   | <b>5/3-way valve</b>                  |                                                                |          |                        |
|                                                                                   | Internal pilot air supply             | Mid-position closed, mechanical spring return                  | 8033556  | VUVG-L18-P53C-G14-P1   |
|                                                                                   |                                       | Mid-position exhausted, mechanical spring return               | 8033557  | VUVG-L18-P53E-G14-P1   |
|                                                                                   |                                       | Mid-position pressurised, mechanical spring return             | 8033558  | VUVG-L18-P53U-G14-P1   |

| Ordering data                                                                       |                                       | Description                                                    | Part no. | Type                           |
|-------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|----------|--------------------------------|
| <b>In-line valve G1/4, for battery manufacturing</b>                                |                                       |                                                                |          |                                |
|  | <b>2x 3/2-way valve</b>               |                                                                |          |                                |
|                                                                                     | Internal pilot air supply             | Normally closed, pneumatic spring return                       | 8172829  | VUVG-L18-T32C-AT-G14-1H2L-F1A  |
|                                                                                     |                                       | Normally closed, mechanical spring return                      | 8172830  | VUVG-L18-T32C-MT-G14-1H2L-F1A  |
|                                                                                     |                                       | Normally open, pneumatic spring return                         | 8172831  | VUVG-L18-T32U-AT-G14-1H2L-F1A  |
|                                                                                     |                                       | Normally closed, mechanical spring return                      | 8172832  | VUVG-L18-T32U-MT-G14-1H2L-F1A  |
|                                                                                     |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 8172833  | VUVG-L18-T32H-AT-G14-1H2L-F1A  |
|                                                                                     |                                       | 1x normally open, 1x normally closed, mechanical spring return | 8172834  | VUVG-L18-T32H-MT-G14-1H2L-F1A  |
|                                                                                     | External pilot air supply             | Normally closed, mechanical spring return                      | 8172841  | VUVG-L18-T32C-MZT-G14-1H2L-F1A |
|                                                                                     |                                       | Normally open, pneumatic spring return                         | 8172842  | VUVG-L18-T32U-MZT-G14-1H2L-F1A |
|                                                                                     |                                       | 1x normally open, 1x normally closed, mechanical spring return | 8172843  | VUVG-L18-T32H-MZT-G14-1H2L-F1A |
|  | <b>5/2-way valve, single solenoid</b> |                                                                |          |                                |
|                                                                                     | Internal pilot air supply             | Pneumatic/mechanical spring return                             | 8172835  | VUVG-L18-M52-RT-G14-1H2L-F1A   |
|                                                                                     |                                       | Mechanical spring return                                       | 8172836  | VUVG-L18-M52-MT-G14-1H2L-F1A   |
|                                                                                     | External pilot air supply             | Pneumatic/mechanical spring return                             | 8172844  | VUVG-L18-M52-RZT-G14-1H2L-F1A  |
|                                                                                     |                                       | Mechanical spring return                                       | 8172845  | VUVG-L18-M52-MZT-G14-1H2L-F1A  |
|                                                                                     | <b>5/2-way valve, double solenoid</b> |                                                                |          |                                |
|                                                                                     | Internal pilot air supply             |                                                                | 8172837  | VUVG-L18-B52-T-G14-1H2L-F1A    |
|                                                                                     | External pilot air supply             |                                                                | 8172846  | VUVG-L18-B52-ZT-G14-1H2L-F1A   |
|                                                                                     | <b>5/3-way valve</b>                  |                                                                |          |                                |
|                                                                                     | Internal pilot air supply             | Mid-position closed                                            | 8172838  | VUVG-L18-P53C-T-G14-1H2L-F1A   |
|                                                                                     |                                       | Mid-position exhausted                                         | 8172839  | VUVG-L18-P53E-T-G14-1H2L-F1A   |
|                                                                                     |                                       | Mid-position pressurised                                       | 8172840  | VUVG-L18-P53U-T-G14-1H2L-F1A   |
|                                                                                     | External pilot air supply             | Mid-position closed                                            | 8172847  | VUVG-L18-P53C-ZT-G14-1H2L-F1A  |
|                                                                                     |                                       | Mid-position exhausted                                         | 8172848  | VUVG-L18-P53E-ZT-G14-1H2L-F1A  |
|                                                                                     |                                       | Mid-position pressurised                                       | 8172849  | VUVG-L18-P53U-ZT-G14-1H2L-F1A  |

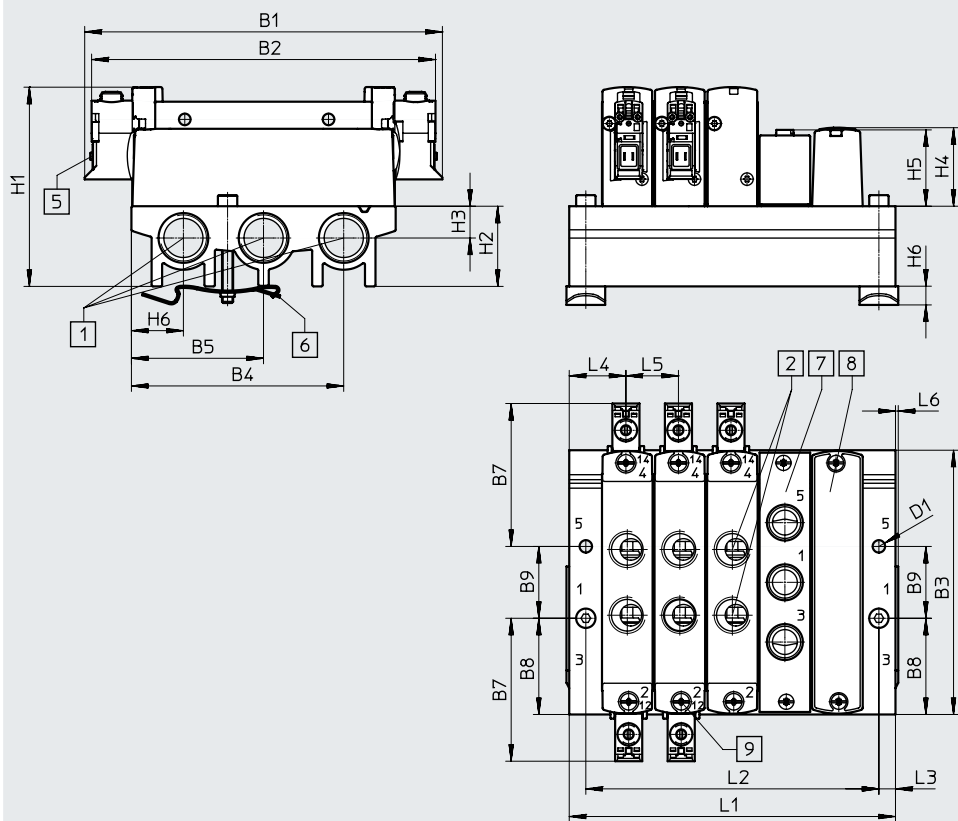
Manifold assembly

In-line valves for  
Manifold assembly



Dimensions

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



 **Note**  
More dimensions for  
E-boxes  
→ Page 113

- [1] Ports 1, 3 and 5: G3/8 (at both ends)

[2] Ports 2 and 4: G1/4

[5] Electrical connection for E-boxes and accessories
- [6] DIN rail mounting (two M4x35 screws are required for mounting)
- [7] Cover plate

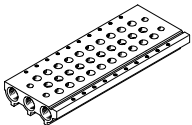
[8] Supply plate, ports 1, 3 and 5: G1/4
- [9] Valves/cover plate mounting on manifold rail: M3 thread

| Type            | B1    | B2    | B3   | B4   | B5   | B6   | B7   | B8   | B9 | D1  |
|-----------------|-------|-------|------|------|------|------|------|------|----|-----|
| VABM-L1-18S-G38 | 129.4 | 124.4 | 95.6 | 76.8 | 47.8 | 18.8 | 51.7 | 34.8 | 26 | 4.5 |

| Type            | H1   | H2 | H3   | H4   | H5   | H6  | L3 | L4   | L5 | L6 |
|-----------------|------|----|------|------|------|-----|----|------|----|----|
| VABM-L1-18S-G38 | 72.1 | 29 | 11.5 | 28.4 | 27.6 | 6.5 | 6  | 20.5 | 19 | 1  |

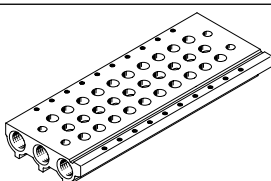
| Valve positions | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 12  | 14  | 16  |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L1              | 61  | 80  | 99  | 118 | 137 | 156 | 175 | 194 | 213 | 251 | 289 | 327 |
| L2              | 49  | 68  | 87  | 106 | 125 | 144 | 163 | 182 | 201 | 239 | 277 | 315 |
| VABM weight [g] | 118 | 159 | 200 | 241 | 282 | 323 | 364 | 405 | 446 | 528 | 610 | 692 |

## Ordering data

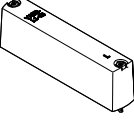
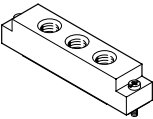
| Technical data – Manifold rails                                                   |            |                 |                         |                    |             |                                          |          |      |
|-----------------------------------------------------------------------------------|------------|-----------------|-------------------------|--------------------|-------------|------------------------------------------|----------|------|
|                                                                                   | Connection | CRC             | Material <sup>2)</sup>  | Operating pressure |             | Max. tightening torque for mounting [Nm] |          |      |
|                                                                                   | 1, 3, 5    |                 |                         | [MPa]              | [bar]       | Valve                                    | DIN rail | Wall |
|  | G3/8       | 2 <sup>1)</sup> | Wrought aluminium alloy | –0.09 ... 1        | –0.9 ... 10 | 1.18                                     | 1.5      | 3    |

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) Information on materials: RoHS-compliant.

| Ordering data – Manifold rail                                                     |               |                    |        |                    |
|-----------------------------------------------------------------------------------|---------------|--------------------|--------|--------------------|
| Description                                                                       |               | Part no.           | Type   |                    |
| Manifold rail for in-line valve                                                   |               |                    |        |                    |
|  | For size G1/4 | 2 valve positions  | 574455 | VABM-L1-18S-G38-2  |
|                                                                                   |               | 3 valve positions  | 574456 | VABM-L1-18S-G38-3  |
|                                                                                   |               | 4 valve positions  | 574457 | VABM-L1-18S-G38-4  |
|                                                                                   |               | 5 valve positions  | 574458 | VABM-L1-18S-G38-5  |
|                                                                                   |               | 6 valve positions  | 574459 | VABM-L1-18S-G38-6  |
|                                                                                   |               | 7 valve positions  | 574460 | VABM-L1-18S-G38-7  |
|                                                                                   |               | 8 valve positions  | 574461 | VABM-L1-18S-G38-8  |
|                                                                                   |               | 9 valve positions  | 574462 | VABM-L1-18S-G38-9  |
|                                                                                   |               | 10 valve positions | 574463 | VABM-L1-18S-G38-10 |
|                                                                                   |               | 12 valve positions | 574464 | VABM-L1-18S-G38-12 |
|                                                                                   |               | 14 valve positions | 574465 | VABM-L1-18S-G38-14 |
|                                                                                   |               | 16 valve positions | 574466 | VABM-L1-18S-G38-16 |

## Ordering data

| Ordering data – Accessories                                                        |                                                                                                    | Description                                                | Part no. | Type                        |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------|-----------------------------|
| <b>Cover plate</b>                                                                 |                                                                                                    |                                                            |          | Datasheets → Internet: vabb |
|    | For valve position on manifold rail, including screws and seal                                     |                                                            | 574482   | VABB-L1-18                  |
|                                                                                    | For valve position on manifold rail, including screws and seal, suitable for battery manufacturing |                                                            | 8172852  | VABB-L1-18-F1A              |
| <b>Separator</b>                                                                   |                                                                                                    |                                                            |          | Datasheets → Internet: vabd |
|    | For creating pressure zones                                                                        |                                                            | 574483   | VABD-14-B                   |
|                                                                                    | For creating pressure zones, suitable for battery manufacturing                                    |                                                            | 8168590  | VABD-14-B-F1A               |
| <b>Supply plate</b>                                                                |                                                                                                    |                                                            |          | Datasheets → Internet: vabf |
|   | For valve position on manifold rail, including screws and seal                                     |                                                            | 574481   | VABF-L1-18-P3A4-G14         |
|                                                                                    | For valve position on manifold rail, including screws and seal, suitable for battery manufacturing |                                                            | 8172851  | VABF-L1-18-P3A4-G14-F1A     |
| <b>Seals for in-line valves</b>                                                    |                                                                                                    |                                                            |          | Datasheets → Internet: vabd |
|  | For G1/4 in-line valves                                                                            | Delivery quantity: 10 sets (each with 2 screws and 1 seal) | 574479   | VABD-L1-18X-S-G14           |
|                                                                                    | For G1/4 in-line valves, suitable for battery manufacturing                                        | Delivery quantity: 10 sets (each with 2 screws and 1 seal) | 8172850  | VABD-L1-18X-S-G14-F1A       |

 **Note**

Connect supply plate at port 1 with compressed air.  
Reverse operation (pressure at port 3, 5) is not permissible.

## Datasheet

### Function

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

Circuit diagrams → page 14

-  - Size 10 mm
-  - Flow rate  
80 ... 100 l/min
-  - Voltage  
5, 12 and 24 V DC



### General technical data VUVG-B

| Valve function                                           | M52-R                                                                  | B52                 | M52-M      | P53                                             |
|----------------------------------------------------------|------------------------------------------------------------------------|---------------------|------------|-------------------------------------------------|
| Normal position                                          | –                                                                      | –                   | –          | C <sup>1)</sup> U <sup>2)</sup> E <sup>3)</sup> |
| Stable position                                          | Monostable                                                             | Bistable            | Monostable | Monostable                                      |
| Pneumatic spring return                                  | Yes <sup>4)</sup>                                                      | –                   | No         | –                                               |
| Mechanical spring return                                 | Yes <sup>4)</sup>                                                      | –                   | Yes        | Yes                                             |
| Vacuum operation at port 1                               | Only with external pilot air supply                                    |                     |            |                                                 |
| Design                                                   | Piston spool                                                           |                     |            |                                                 |
| Sealing principle                                        | Soft                                                                   |                     |            |                                                 |
| Actuation type                                           | Electrical                                                             |                     |            |                                                 |
| Type of control                                          | Piloted                                                                |                     |            |                                                 |
| Pilot air supply                                         | External, internal; can be selected via sub-base                       |                     |            |                                                 |
| 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                                                                    |                     |            |                                                 |
| Nominal width [mm]                                       | 2                                                                      |                     | 1.4        | 2                                               |
| Standard nominal flow rate [l/min]                       | 100                                                                    |                     | 80         | 90                                              |
| Flow rate on manifold rail M3 [l/min]                    | 100                                                                    |                     | 80         | 90                                              |
| Switching time on/off [ms]                               | 7/15                                                                   | –                   | 7/21       | 8/25                                            |
| Switching time changeover [ms]                           | –                                                                      | 8                   | –          | 14                                              |
| Size [mm]                                                | 10                                                                     |                     |            |                                                 |
| Connection                                               | 1, 3, 5                                                                | M7 in manifold rail |            |                                                 |
|                                                          | 2, 4                                                                   | M5 in manifold rail |            |                                                 |
|                                                          | 12/14, 82/84                                                           | M5 in manifold rail |            |                                                 |
| Product weight [g]                                       | 38                                                                     | 49                  | 37         | 49                                              |
| Certification                                            | c UL us - Recognized (OL)                                              |                     |            |                                                 |
|                                                          | RCM                                                                    |                     |            |                                                 |
| CE marking (see declaration of conformity) <sup>5)</sup> | To EU EMC Directive                                                    |                     |            |                                                 |
| Corrosion resistance class CRC <sup>6)</sup>             | 2                                                                      |                     |            |                                                 |

1) C=Normally closed/mid-position closed

2) U=Normally open/mid-position pressurised

3) E=Mid-position exhausted

4) Combined reset method

5) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/...](http://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](http://www.festo.com/x/topic/crc)

## Datasheet

| Operating and environmental conditions |          |       |                                                       |              |                         |
|----------------------------------------|----------|-------|-------------------------------------------------------|--------------|-------------------------|
| Valve function                         |          |       | M52-R <sup>1)</sup>                                   | B52          | M52-M <sup>2)</sup> P53 |
| Operating medium                       |          |       | Compressed air to ISO 8573-2010 [7:4:4]               |              |                         |
| Operating pressure                     | Internal | [MPa] | 0.25 ... 0.8                                          | 0.15 ... 0.8 | 0.3 ... 0.8             |
|                                        |          | [bar] | 2.5 ... 8                                             | 1.5 ... 8    | 3 ... 8                 |
|                                        | External | [MPa] | −0.09 ... 1                                           |              | −0.09 ... 1             |
|                                        |          | [bar] | −0.9 ... 10                                           |              | −0.9 ... 10             |
| Pilot pressure                         |          | [MPa] | 0.25 ... 0.8                                          | 0.15 ... 0.8 | 0.3 ... 0.8             |
|                                        |          | [bar] | 2.5 ... 8                                             | 1.5 ... 8    | 3 ... 8                 |
| Ambient temperature                    |          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |              |                         |
| Temperature of medium                  |          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |              |                         |
| Cleanroom class                        |          |       | ISO class 5                                           |              |                         |

1) Mixed, pneumatic/mechanical spring

2) Mechanical spring

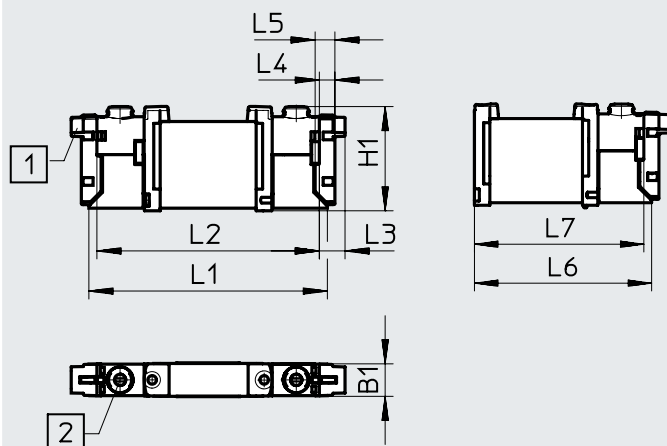
| Electrical data                  |        |                                                   |
|----------------------------------|--------|---------------------------------------------------|
| Electrical connection            |        | Via E-box → page 111                              |
| Operating voltage                | [V DC] | 5, 12 and 24 ±10%                                 |
| Power                            | [W]    | 1, reduced to 0.35 with holding current reduction |
| Duty cycle                       | [%]    | 100                                               |
| Degree of protection to EN 60529 |        | IP40 (with plug socket), IP65 (with M8)           |

| Information on materials |  |                         |
|--------------------------|--|-------------------------|
| Housing                  |  | Wrought aluminium alloy |
| Seals                    |  | HNBR, NBR               |
| Note on materials        |  | RoHS-compliant          |
| LABS (PWIS) conformity   |  | VDMA24364-B1/B2-L       |

## Dimensions

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

5/2- and 5/3-way valves

**Note**

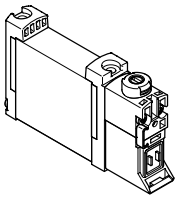
More dimensions for  
E-boxes  
→ Page 113

[1] Vertical electrical connection

[2] Manual override

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

## Ordering data

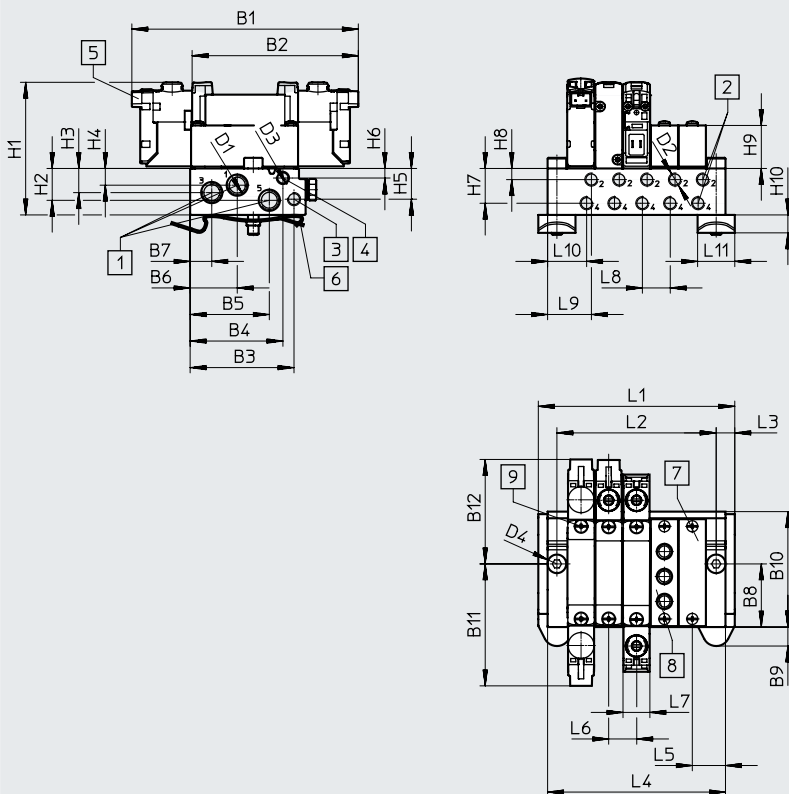
| Ordering data                                                                     |                                       | Description                                        | Part no. | Type                    |
|-----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------|----------|-------------------------|
| <b>Sub-base valve M3, without E-box</b>                                           |                                       |                                                    |          |                         |
|  | <b>5/2-way valve, single solenoid</b> |                                                    |          |                         |
|                                                                                   | External pilot air supply             | Pneumatic/mechanical spring return                 | 566448   | VUVG-B10A-M52-RZT-F-1P3 |
|                                                                                   |                                       | Mechanical spring return                           | 574347   | VUVG-B10A-M52-MZT-F-1P3 |
|                                                                                   | <b>5/2-way valve, double solenoid</b> |                                                    |          |                         |
|                                                                                   | External pilot air supply             |                                                    | 566449   | VUVG-B10A-B52-ZT-F-1P3  |
|                                                                                   | <b>5/3-way valve</b>                  |                                                    |          |                         |
|                                                                                   | External pilot air supply             | Mid-position closed, mechanical spring return      | 566450   | VUVG-B10A-P53C-ZT-F-1P3 |
|                                                                                   |                                       | Mid-position exhausted, mechanical spring return   | 566451   | VUVG-B10A-P53E-ZT-F-1P3 |
|                                                                                   |                                       | Mid-position pressurised, mechanical spring return | 566452   | VUVG-B10A-P53U-ZT-F-1P3 |

## Manifold assembly

Sub-base valve for  
Manifold assembly  
Connection M5



## Dimensions

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

-  - **Note**

More dimensions for  
E-boxes

→ Page 113

- |                                         |                                                       |                                                                    |                                                             |
|-----------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------|
| [1] Ports 1, 3 and 5: M7 (at both ends) | [5] Electrical connection for E-boxes and accessories | [6] DIN rail mounting (two M4x25 screws are required for mounting) | [8] Supply plate, ports 1, 3 and 5: M5                      |
| [2] Ports 2, 4: M5                      |                                                       | [7] Cover plate                                                    | [9] Valves/cover plate mounting on manifold rail: M2 thread |
| [3] Ports 12, 14: M5                    |                                                       |                                                                    |                                                             |
| [4] Ports 82, 84: M5                    |                                                       |                                                                    |                                                             |

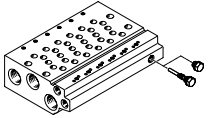
| Type            | B1   | B2   | B3   | B4 | B5   | B6   | B7  | B8 | B9  | B10  | B11  | B12  |
|-----------------|------|------|------|----|------|------|-----|----|-----|------|------|------|
| VABM-L1-10AW-M7 | 84.9 | 62.4 | 39.1 | 35 | 29.8 | 17.8 | 8.2 | 24 | 7.2 | 43.5 | 45.8 | 39.2 |

| Type            | D1 | D2 | D3 | D4    | D5  | H1   | H2 | H3  | H4  | H5   | H6  |
|-----------------|----|----|----|-------|-----|------|----|-----|-----|------|-----|
| VABM-L1-10AW-M7 | M7 | M5 | M5 | Ø 4.5 | Ø 4 | 53.1 | 12 | 9.1 | 6.3 | 11.6 | 3.6 |

| Type            | H7   | H8  | H9   | H10 | H15 | L3  | L5   | L6   | L7   | L8   | L9 | L10  | L11 |
|-----------------|------|-----|------|-----|-----|-----|------|------|------|------|----|------|-----|
| VABM-L1-10AW-M7 | 13.1 | 4.2 | 16.2 | 6.8 | 1.9 | 7.5 | 12.5 | 10.5 | 10.2 | 10.5 | 17 | 15.2 | 14  |

| Valve positions | 2    | 3  | 4    | 5   | 6    | 7   | 8     | 9   | 10    | 12    | 14    | 16    |
|-----------------|------|----|------|-----|------|-----|-------|-----|-------|-------|-------|-------|
| L1              | 43.5 | 54 | 64.5 | 75  | 85.5 | 97  | 107.5 | 117 | 127.5 | 148.5 | 169.5 | 190.5 |
| L2              | 28.5 | 39 | 49.5 | 60  | 70.5 | 81  | 91.5  | 102 | 112.5 | 133.5 | 154.5 | 175.5 |
| L4              | 36.5 | 47 | 57.5 | 68  | 78.5 | 89  | 99.5  | 110 | 120.5 | 141.5 | 162.5 | 183.5 |
| VABM weight [g] | 60   | 78 | 96   | 114 | 132  | 150 | 168   | 186 | 204   | 240   | 276   | 312   |

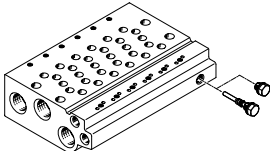
## Ordering data

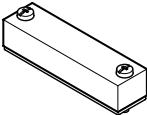
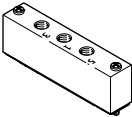
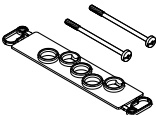
| Technical data – Manifold rails <sup>1)</sup>                                     |            |         |              |                 |                         |                    |             |                                          |          |      |
|-----------------------------------------------------------------------------------|------------|---------|--------------|-----------------|-------------------------|--------------------|-------------|------------------------------------------|----------|------|
|                                                                                   | Connection |         |              | CRC             | Material <sup>3)</sup>  | Operating pressure |             | Max. tightening torque for mounting [Nm] |          |      |
|                                                                                   | 2, 4       | 1, 3, 5 | 12/14, 82/84 |                 |                         | [MPa]              | [bar]       | Valve                                    | DIN rail | Wall |
|  | M5         | M7      | M5           | 2 <sup>2)</sup> | Wrought aluminium alloy | –0.09 ... 1        | –0.9 ... 10 | 0.45                                     | 1.5      | 1.5  |

1) Blanking plugs are included with the manifold rail.

2) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

3) Information on materials: RoHS-compliant.

| Ordering data – Manifold rails                                                    |                    |                    |        |                    |
|-----------------------------------------------------------------------------------|--------------------|--------------------|--------|--------------------|
| Description                                                                       |                    | Part no.           | Type   |                    |
| Manifold rail for sub-base valve M3                                               |                    |                    |        |                    |
|  | For size B10A (M3) | 2 valve positions  | 566546 | VABM-L1-10AW-M7-2  |
|                                                                                   |                    | 3 valve positions  | 566547 | VABM-L1-10AW-M7-3  |
|                                                                                   |                    | 4 valve positions  | 566548 | VABM-L1-10AW-M7-4  |
|                                                                                   |                    | 5 valve positions  | 566549 | VABM-L1-10AW-M7-5  |
|                                                                                   |                    | 6 valve positions  | 566550 | VABM-L1-10AW-M7-6  |
|                                                                                   |                    | 7 valve positions  | 566551 | VABM-L1-10AW-M7-7  |
|                                                                                   |                    | 8 valve positions  | 566552 | VABM-L1-10AW-M7-8  |
|                                                                                   |                    | 9 valve positions  | 566553 | VABM-L1-10AW-M7-9  |
|                                                                                   |                    | 10 valve positions | 566554 | VABM-L1-10AW-M7-10 |
|                                                                                   |                    | 12 valve positions | 566555 | VABM-L1-10AW-M7-12 |
|                                                                                   |                    | 14 valve positions | 566556 | VABM-L1-10AW-M7-14 |
|                                                                                   |                    | 16 valve positions | 566557 | VABM-L1-10AW-M7-16 |

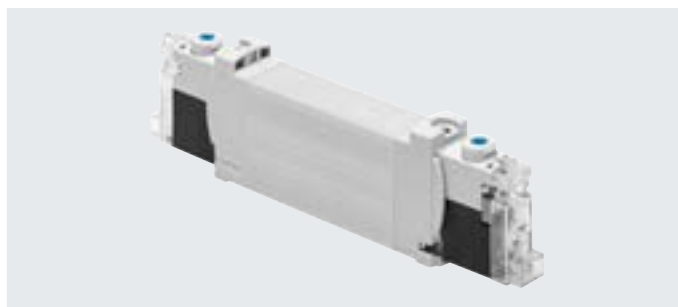
| Ordering data – Accessories                                                         |                                                                |                                                            |                     |                   |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|---------------------|-------------------|
| Description                                                                         |                                                                | Part no.                                                   | Type                |                   |
| Cover plate <span>Datasheets → Internet: vabb</span>                                |                                                                |                                                            |                     |                   |
|  | For valve position on manifold rail, including screws and seal | 569986                                                     | VABB-L1-10A         |                   |
| Separator <span>Datasheets → Internet: vabd</span>                                  |                                                                |                                                            |                     |                   |
|  | For creating pressure zones                                    | 570872                                                     | VABD-4.2-B          |                   |
| Supply plate <span>Datasheets → Internet: vabf</span>                               |                                                                |                                                            |                     |                   |
|  | For valve position on manifold rail, including screws and seal | 569990                                                     | VABF-L1-10A-P3A4-M5 |                   |
| Seals <span>Datasheets → Internet: vabd</span>                                      |                                                                |                                                            |                     |                   |
|  | For sub-base valve M3                                          | Delivery quantity: 10 sets (each with 2 screws and 1 seal) | 566671              | VABD-L1-10AB-S-M3 |

## Datasheet

Function  
2x 3/2C  
5/2-way, single solenoid  
5/2-way, double solenoid valve

Circuit diagrams → page 14

-  - Size 10 mm
-  - Flow rate  
160 l/min
-  - Voltage  
24 V DC



| General technical data VUVG-BK               |                           |                        |          |
|----------------------------------------------|---------------------------|------------------------|----------|
| Valve function                               | T32-A                     | M52-A                  | B52      |
| Normal position                              | C <sup>1)</sup>           | –                      | –        |
| Stable position                              | Monostable                |                        | Bistable |
| Pneumatic spring return                      | Yes                       | Yes                    | –        |
| Design                                       | Piston spool              |                        |          |
| Sealing principle                            | Soft                      |                        |          |
| Actuation type                               | Electrical                |                        |          |
| Type of control                              | Piloted                   |                        |          |
| Pilot air supply                             | Internal                  |                        |          |
| Exhaust air function                         | Can be throttled          |                        |          |
| Manual override                              | Non-detenting, detenting  |                        |          |
| Type of mounting                             | On manifold rail          |                        |          |
| Mounting position                            | Any                       |                        |          |
| Standard nominal flow rate                   | [l/min]                   | 160                    | 160      |
| Switching time on/off                        | [ms]                      | 12/14                  | –        |
| Switching time changeover                    | [ms]                      | –                      | 8        |
| Size                                         | [mm]                      | 10                     |          |
| Connection                                   | 2, 4                      | M5/M7 in manifold rail |          |
| Product weight                               | [g]                       | 55                     | 57       |
| Corrosion resistance class CRC <sup>2)</sup> | 0                         |                        |          |
| Certificate-issuing authority                | UL MH19482                |                        |          |
| Certification                                | c UL us - Recognized (OL) |                        |          |

1) C = Normally closed

2) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

| Safety characteristics                |                                                                                  |      |
|---------------------------------------|----------------------------------------------------------------------------------|------|
| 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 1 to FN 942017-5 and EN 60068-2-27                |      |
| Vibration resistant                   | Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6 |      |

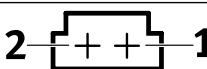
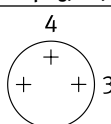
## Datasheet

| Operating and environmental conditions |       |                                                                                            |                           |
|----------------------------------------|-------|--------------------------------------------------------------------------------------------|---------------------------|
| Valve function                         |       | T32-A <sup>1)</sup>                                                                        | M52-A <sup>1)</sup> B52   |
| Operating medium                       |       | Compressed air to ISO 8573-2010 [7:4:4]                                                    |                           |
| Note on the operating/pilot medium     |       | Lubricated operation possible (in which case lubricated operation will always be required) |                           |
| Operating pressure                     | [MPa] | 0.15 ... 0.7                                                                               | 0.25 ... 0.7 0.15 ... 0.7 |
|                                        | [bar] | 1.5 ... 7                                                                                  | 2.5 ... 7 1.5 ... 7       |
| Ambient temperature                    | [°C]  | -5 ... +50                                                                                 |                           |
| Temperature of medium                  | [°C]  | -5 ... +50                                                                                 |                           |

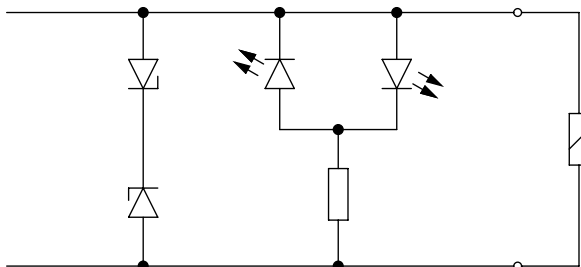
1) Pneumatic spring

| Electrical data                  |                                         |
|----------------------------------|-----------------------------------------|
| Electrical connection            | Via E-box → page 111                    |
| Operating voltage                | [V DC] 24 ±10%                          |
| Nominal operating voltage        | [V DC] 22                               |
| Power                            | [W] 0.7                                 |
| Duty cycle                       | [%] 100                                 |
| Degree of protection to EN 60529 | IP40 (with plug socket), IP65 (with M8) |
| Signal status indication         | LED                                     |
| Maximum switching frequency      | [Hz] 2                                  |

| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364 zone III      |

| Pin assignment for E-box                                                            |     |          |                                                      |
|-------------------------------------------------------------------------------------|-----|----------|------------------------------------------------------|
|                                                                                     | Pin |          | Description                                          |
| Rectangular plug, connection pattern H                                              |     |          |                                                      |
|  | 1   | + or –   | Protective circuit without holding current reduction |
|                                                                                     | 2   | + or –   |                                                      |
| Round plug, M8, 3-pin                                                               |     |          |                                                      |
|  | 1   | Not used | Protective circuit without holding current reduction |
|                                                                                     | 3   | + or –   |                                                      |
|                                                                                     | 4   | + or –   |                                                      |

### Protective circuit without holding current reduction



The solenoid coils have a protective circuit to arrest sparks and protect against polarity reversal.

Datasheet

Dimensions

2x 3/2-way, 5/2-way valve, double solenoid

5/2-way valve, single solenoid

Note

More dimensions for E-boxes  
→ Page 113

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

| Type               | B1   | H1   | L1   | L2   | L7 |
|--------------------|------|------|------|------|----|
| VUVG-BK10-T32C-... | 10.2 | 33.6 | 98.3 | 95.8 | 47 |
| VUVG-BK10-B52-...  |      |      |      |      |    |
| VUVG-BK10-M52-...  |      |      | 75.9 | 74.6 |    |

Ordering data

★ Core Range

| Ordering data                       |                                     | Description                              | Part no. | Type                       |
|-------------------------------------|-------------------------------------|------------------------------------------|----------|----------------------------|
| Sub-base valve M5/M7, with E-box R8 |                                     |                                          |          |                            |
|                                     | 2x 3/2-way valve                    |                                          |          |                            |
|                                     | Internal pilot air supply           | Normally closed, pneumatic spring return | 8042558  | VUVG-BK10-T32C-AT-F-1R8L-S |
|                                     | 5/2-way valve, single solenoid      |                                          |          |                            |
|                                     | Internal pilot air supply           | Pneumatic spring return                  | 8042559  | VUVG-BK10-M52-AT-F-1R8L-S  |
|                                     | 5/2-way valve, double solenoid      |                                          |          |                            |
|                                     | Internal pilot air supply           |                                          | 8042560  | VUVG-BK10-B52-T-F-1R8L-S   |
|                                     | Sub-base valve M5/M7, with E-box H2 |                                          |          |                            |
|                                     | 2x 3/2-way valve                    |                                          |          |                            |
|                                     | Internal pilot air supply           | Normally closed, pneumatic spring return | 8042554  | VUVG-BK10-T32C-AT-F-1H2L-S |
|                                     | 5/2-way valve, single solenoid      |                                          |          |                            |
|                                     | Internal pilot air supply           | Pneumatic spring return                  | 8042555  | VUVG-BK10-M52-AT-F-1H2L-S  |
|                                     | 5/2-way valve, double solenoid      |                                          |          |                            |
|                                     | Internal pilot air supply           |                                          | 8042556  | VUVG-BK10-B52-T-F-1H2L-S   |

## Datasheet

### Function

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

Circuit diagrams → page 14

-  - Size 10 mm
-  - Flow rate  
120 ... 330 l/min
-  - Voltage  
5, 12 and 24 V DC



### General technical data VUVG-B

| Valve function                                           | T32-A                                                                  |                           |                 | T32-M                               |                 |                 | M52-R             | B52      | M52-M      | P53             |                 |                 |
|----------------------------------------------------------|------------------------------------------------------------------------|---------------------------|-----------------|-------------------------------------|-----------------|-----------------|-------------------|----------|------------|-----------------|-----------------|-----------------|
| Normal position                                          | C <sup>1)</sup>                                                        | U <sup>2)</sup>           | H <sup>4)</sup> | C <sup>1)</sup>                     | U <sup>2)</sup> | H <sup>4)</sup> | –                 | –        | –          | C <sup>1)</sup> | U <sup>2)</sup> | E <sup>3)</sup> |
| Stable position                                          | Monostable                                                             |                           |                 |                                     |                 |                 |                   | Bistable | Monostable | Monostable      |                 |                 |
| Pneumatic spring return                                  | Yes                                                                    |                           |                 | No                                  |                 |                 | Yes <sup>5)</sup> | –        | No         | –               |                 |                 |
| Mechanical spring return                                 | No                                                                     |                           |                 | Yes                                 |                 |                 | Yes <sup>5)</sup> | –        | Yes        | Yes             |                 |                 |
| Vacuum operation at port 1                               | No                                                                     |                           |                 | Only with external pilot air supply |                 |                 |                   |          |            |                 |                 |                 |
| Design                                                   | Piston spool                                                           |                           |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Sealing principle                                        | Soft                                                                   |                           |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Actuation type                                           | Electrical                                                             |                           |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Type of control                                          | Piloted                                                                |                           |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Pilot air supply                                         | External, internal; can be selected via sub-base                       |                           |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| 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                                                                    |                           |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Nominal width                                            | [mm]                                                                   | 2.7                       |                 | 1.8                                 | 1.7             |                 | 4                 |          | 2.3        | 3.5             |                 |                 |
| Standard nominal flow rate                               | [l/min]                                                                | 170                       |                 | 150                                 | 140             | 140             | 330               |          | 285        | 300             |                 |                 |
| Flow rate on manifold rail M5                            | [l/min]                                                                | 150                       |                 | 130                                 | 120             | 120             | 210               |          | 180        | 200             |                 |                 |
| Flow rate on manifold rail M7                            | [l/min]                                                                | 160                       |                 | 140                                 | 130             | 130             | 270               |          | 230        | 250             |                 |                 |
| Switching time on/off                                    | [ms]                                                                   | 6/15                      |                 | 8/11                                |                 |                 | 7/17              | –        | 8/24       | 11/30           |                 |                 |
| Switching time changeover                                | [ms]                                                                   | –                         |                 |                                     |                 |                 |                   | 8        | 14         |                 |                 |                 |
| Size                                                     | [mm]                                                                   | 10                        |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Connection                                               | 1, 3, 5                                                                | G1/8 in manifold rail     |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
|                                                          | 2, 4                                                                   | M5 or M7 in manifold rail |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
|                                                          | 12/14, 82/84                                                           | M5 in manifold rail       |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Product weight                                           | [g]                                                                    | 55                        |                 | 54                                  |                 |                 | 45                | 55       | 44         | 55              |                 |                 |
| Certification                                            | c UL us - Recognized (OL)                                              |                           |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
|                                                          | RCM                                                                    |                           |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| CE marking (see declaration of conformity) <sup>6)</sup> | To EU EMC Directive                                                    |                           |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Corrosion resistance class CRC <sup>7)</sup>             | 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 EC declaration of conformity at: [www.festo.com/catalogue/...](http://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](http://www.festo.com/x/topic/crc)

## Datasheet

| Operating and environmental conditions |          |       | T32-A <sup>1)</sup>                                   | T32-M <sup>3)</sup> | M52-R <sup>2)</sup> | B52          | M52-M <sup>3)</sup> | P53         |
|----------------------------------------|----------|-------|-------------------------------------------------------|---------------------|---------------------|--------------|---------------------|-------------|
| Valve function                         |          |       | Compressed air to ISO 8573-2010 [7:4:4]               |                     |                     |              |                     |             |
| Operating pressure                     | Internal | [MPa] | 0.15 ... 0.8                                          | 0.25 ... 0.8        | 0.25 ... 0.8        | 0.15 ... 0.8 | 0.3 ... 0.8         |             |
|                                        |          | [bar] | 1.5 ... 8                                             | 2.5 ... 8           | 2.5 ... 8           | 1.5 ... 8    | 3 ... 8             |             |
|                                        | External | [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 pressure                         |          | [MPa] | 0.15 ... 0.8                                          | 0.2 ... 0.8         | 0.25 ... 0.8        | 0.15 ... 0.8 | 0.3 ... 0.8         |             |
|                                        |          | [bar] | 1.5 ... 8                                             | 2 ... 8             | 2.5 ... 8           | 1.5 ... 8    | 3 ... 8             |             |
| Ambient temperature                    |          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |                     |                     |              |                     |             |
| Temperature of medium                  |          | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |                     |                     |              |                     |             |
| Cleanroom class                        |          |       | ISO class 5                                           |                     |                     |              |                     |             |

1) Pneumatic spring

2) Mixed, pneumatic/mechanical spring

3) Mechanical spring

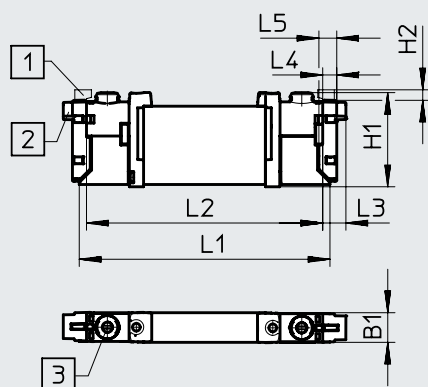
| Electrical data                  |        |                                                   |
|----------------------------------|--------|---------------------------------------------------|
| Electrical connection            |        | Via E-box → page 111                              |
| Operating voltage                | [V DC] | 5, 12 and 24 ±10%                                 |
| Power                            | [W]    | 1, reduced to 0.35 with holding current reduction |
| Duty cycle                       | [%]    | 100                                               |
| Degree of protection to EN 60529 |        | IP40 (with plug socket), IP65 (with M8)           |

| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364-B1/B2-L       |

## Dimensions

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

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

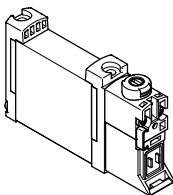
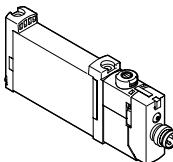


-  - **Note**  
More dimensions for  
E-boxes  
→ Page 113

[1] Vertical electrical connection      [2] Horizontal electrical connection      [3] Manual override

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

## Ordering data

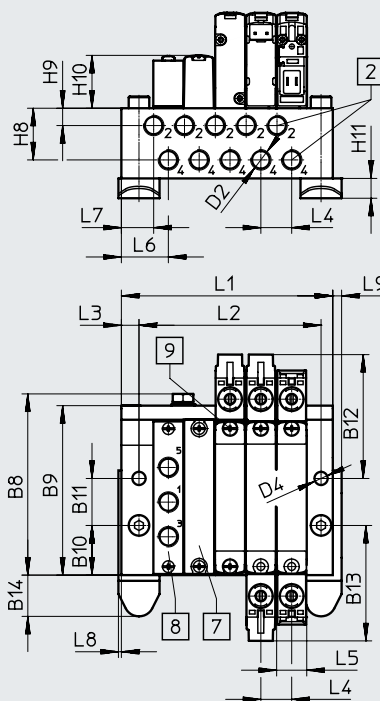
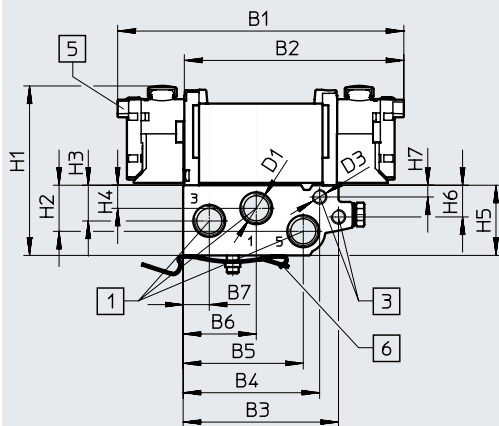
| Ordering data                                                                      |                                | Description                                                    | Part no. | Type                     |
|------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------|----------|--------------------------|
| Sub-base valve M5/M7, without E-box                                                |                                |                                                                |          |                          |
|   | 2x 3/2-way valve               |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Normally closed, pneumatic spring return                       | 566487   | VUVG-B10-T32C-AZT-F-1P3  |
|                                                                                    |                                | Normally open, pneumatic spring return                         | 566488   | VUVG-B10-T32U-AZT-F-1P3  |
|                                                                                    |                                | 1x normally open, 1x normally closed, pneumatic spring return  | 566489   | VUVG-B10-T32H-AZT-F-1P3  |
|                                                                                    |                                | Normally closed, mechanical spring return                      | 574364   | VUVG-B10-T32C-MZT-F-1P3  |
|                                                                                    |                                | Normally open, mechanical spring return                        | 574365   | VUVG-B10-T32U-MZT-F-1P3  |
|                                                                                    |                                | 1x normally open, 1x normally closed, mechanical spring return | 574366   | VUVG-B10-T32H-MZT-F-1P3  |
|                                                                                    | 5/2-way valve, single solenoid |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Pneumatic/mechanical spring return                             | 566490   | VUVG-B10-M52-RZT-F-1P3   |
|                                                                                    |                                | Mechanical spring return                                       | 574367   | VUVG-B10-M52-MZT-F-1P3   |
|                                                                                    | 5/2-way valve, double solenoid |                                                                |          |                          |
|                                                                                    | External pilot air supply      |                                                                | 566491   | VUVG-B10-B52-ZT-F-1P3    |
|                                                                                    | 5/3-way valve                  |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Mid-position closed, mechanical spring return                  | 566492   | VUVG-B10-P53C-ZT-F-1P3   |
|                                                                                    |                                | Mid-position exhausted, mechanical spring return               | 566493   | VUVG-B10-P53E-ZT-F-1P3   |
|                                                                                    |                                | Mid-position pressurised, mechanical spring return             | 566494   | VUVG-B10-P53U-ZT-F-1P3   |
| Sub-base valve M5/M7, with E-box R8                                                |                                |                                                                |          |                          |
|  | 2x 3/2-way valve               |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Normally closed, pneumatic spring return                       | 574234   | VUVG-B10-T32C-AZT-F-1R8L |
|                                                                                    |                                | Normally open, pneumatic spring return                         | 574235   | VUVG-B10-T32U-AZT-F-1R8L |
|                                                                                    |                                | 1x normally open, 1x normally closed, pneumatic spring return  | 574236   | VUVG-B10-T32H-AZT-F-1R8L |
|                                                                                    |                                | Normally closed, mechanical spring return                      | 8031492  | VUVG-B10-T32C-MZT-F-1R8L |
|                                                                                    |                                | Normally open, mechanical spring return                        | 8031493  | VUVG-B10-T32U-MZT-F-1R8L |
|                                                                                    |                                | 1x normally open, 1x normally closed, mechanical spring return | 8031494  | VUVG-B10-T32H-MZT-F-1R8L |
|                                                                                    | 5/2-way valve, single solenoid |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Pneumatic/mechanical spring return                             | 574237   | VUVG-B10-M52-RZT-F-1R8L  |
|                                                                                    |                                | Mechanical spring return                                       | 578157   | VUVG-B10-M52-MZT-F-1R8L  |
|                                                                                    | 5/2-way valve, double solenoid |                                                                |          |                          |
|                                                                                    | External pilot air supply      |                                                                | 574238   | VUVG-B10-B52-ZT-F-1R8L   |
|                                                                                    | 5/3-way valve                  |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Mid-position closed, mechanical spring return                  | 574239   | VUVG-B10-P53C-ZT-F-1R8L  |
|                                                                                    |                                | Mid-position exhausted, mechanical spring return               | 574241   | VUVG-B10-P53E-ZT-F-1R8L  |
|                                                                                    |                                | Mid-position pressurised, mechanical spring return             | 574240   | VUVG-B10-P53U-ZT-F-1R8L  |

## Manifold assembly

Sub-base valve for  
Manifold assembly  
M5 or M7 connection



## Dimensions

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

-  - **Note**

More dimensions for  
E-boxes

→ Page 113

[1] Ports 1, 3 and 5: G1/8 (at both ends)

[2] Ports 2, 4:  
M7 or M5

[3] Ports 12, 14: M5

[5] Electrical connection for E-boxes  
and accessories

[6] DIN rail mounting (two M4x30  
screws are required for mount-  
ing)

[7] Cover plate

[8] Supply plate,  
ports 1, 3 and 5:  
either M5 or M7

[9] Valves/cover plate mounting on  
manifold rail: M2 thread

| Type               | B1   | B2   | B3   | B4   | B5   | B6   | B7  | B8   | B9   | B10  | B11 | B12  |
|--------------------|------|------|------|------|------|------|-----|------|------|------|-----|------|
| VABM-L1 10-...-G18 | 97.5 | 74.8 | 52.9 | 46.5 | 40.9 | 24.9 | 8.9 | 61.7 | 57.7 | 16.9 | 16  | 42.2 |

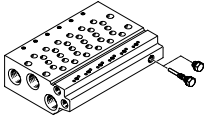
| Type               | B13  | B14  | D1   | D2    | D3 | D4  | D5 | H1   | H2   | H3   | H4  |
|--------------------|------|------|------|-------|----|-----|----|------|------|------|-----|
| VABM-L1 10-...-G18 | 39.3 | 14.1 | G1/8 | M5/M7 | M5 | 4.5 | Ø6 | 56.4 | 15.7 | 12.2 | 7.9 |

| Type               | H5   | H6   | H7 | H8   | H9  | H10 | H11 | L3 | L4   | L5   | L6 | L7   | L8 | L9 |
|--------------------|------|------|----|------|-----|-----|-----|----|------|------|----|------|----|----|
| VABM-L1 10-...-G18 | 23.9 | 10.8 | 4  | 17.6 | 5.9 | 18  | 6.8 | 6  | 10.5 | 10.3 | 16 | 11.9 | 1  | 3  |

| Valve positions | 2    | 3   | 4    | 5   | 6    | 7   | 8     | 9   | 10    | 12    | 14    | 16    | 22    |
|-----------------|------|-----|------|-----|------|-----|-------|-----|-------|-------|-------|-------|-------|
| L1              | 40.5 | 51  | 61.5 | 72  | 82.5 | 93  | 103.5 | 114 | 124.5 | 145.5 | 166.5 | 187.5 | 250.5 |
| L2              | 30.5 | 41  | 51.5 | 62  | 72.5 | 83  | 93.5  | 104 | 114.5 | 135.5 | 156.5 | 177.5 | 240.5 |
| VABM weight [g] | 107  | 135 | 163  | 191 | 219  | 247 | 275   | 303 | 331   | 387   | 415   | 471   | 499   |

## Manifold assembly

Technical data – Manifold rails<sup>1)</sup>

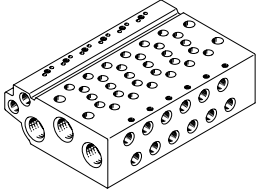
|                                                                                   | Connection  |         |                 | CRC             | Material <sup>3)</sup>       | Operating pressure |             | Max. tightening torque for mounting [Nm] |          |      |
|-----------------------------------------------------------------------------------|-------------|---------|-----------------|-----------------|------------------------------|--------------------|-------------|------------------------------------------|----------|------|
|                                                                                   | 2, 4        | 1, 3, 5 | 12/14,<br>82/84 |                 |                              | [MPa]              | [bar]       | Valve                                    | DIN rail | Wall |
|  | M5 or<br>M7 | G1/8    | M5              | 2 <sup>2)</sup> | Wrought alu-<br>minium alloy | −0.09 ... 1        | −0.9 ... 10 | 0.45                                     | 1.5      | 3    |

1) Blanking plugs are included with the manifold rail.

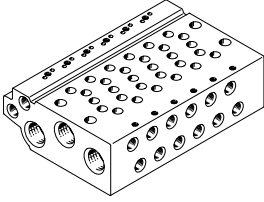
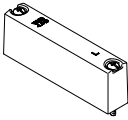
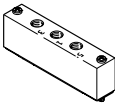
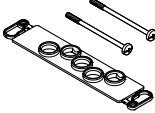
2) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

3) Information on materials: RoHS-compliant.

## Ordering data – Manifold rails

|                                                                                   | Description       | Part no.           | Type                      |
|-----------------------------------------------------------------------------------|-------------------|--------------------|---------------------------|
| <b>Manifold rail for sub-base valve M5/M7</b>                                     |                   |                    |                           |
|  | For size B10 (M5) | 2 valve positions  | 566582 VABM-L1-10W-G18-2  |
|                                                                                   |                   | 3 valve positions  | 566583 VABM-L1-10W-G18-3  |
|                                                                                   |                   | 4 valve positions  | 566584 VABM-L1-10W-G18-4  |
|                                                                                   |                   | 5 valve positions  | 566585 VABM-L1-10W-G18-5  |
|                                                                                   |                   | 6 valve positions  | 566586 VABM-L1-10W-G18-6  |
|                                                                                   |                   | 7 valve positions  | 566587 VABM-L1-10W-G18-7  |
|                                                                                   |                   | 8 valve positions  | 566588 VABM-L1-10W-G18-8  |
|                                                                                   |                   | 9 valve positions  | 566589 VABM-L1-10W-G18-9  |
|                                                                                   |                   | 10 valve positions | 566590 VABM-L1-10W-G18-10 |
|                                                                                   |                   | 12 valve positions | 566591 VABM-L1-10W-G18-12 |
|                                                                                   |                   | 14 valve positions | 566592 VABM-L1-10W-G18-14 |
|                                                                                   |                   | 16 valve positions | 566593 VABM-L1-10W-G18-16 |

## Manifold assembly

| Ordering data – Accessories                                                        |                                                                                     | Description               | Part no.                                                   | Type                        |                             |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------|-----------------------------|-----------------------------|
| Manifold rail for sub-base valve M5/M7                                             |                                                                                     |                           |                                                            |                             |                             |
|    | For size B10 (M7)                                                                   | 2 valve positions         | 566606                                                     | VABM-L1-10HW-G18-2          |                             |
|                                                                                    |                                                                                     | 3 valve positions         | 566607                                                     | VABM-L1-10HW-G18-3          |                             |
|                                                                                    |                                                                                     | 4 valve positions         | 566608                                                     | VABM-L1-10HW-G18-4          |                             |
|                                                                                    |                                                                                     | 5 valve positions         | 566609                                                     | VABM-L1-10HW-G18-5          |                             |
|                                                                                    |                                                                                     | 6 valve positions         | 566610                                                     | VABM-L1-10HW-G18-6          |                             |
|                                                                                    |                                                                                     | 7 valve positions         | 566611                                                     | VABM-L1-10HW-G18-7          |                             |
|                                                                                    |                                                                                     | 8 valve positions         | 566612                                                     | VABM-L1-10HW-G18-8          |                             |
|                                                                                    |                                                                                     | 9 valve positions         | 566613                                                     | VABM-L1-10HW-G18-9          |                             |
|                                                                                    |                                                                                     | 10 valve positions        | 566614                                                     | VABM-L1-10HW-G18-10         |                             |
|                                                                                    |                                                                                     | 12 valve positions        | 566615                                                     | VABM-L1-10HW-G18-12         |                             |
|                                                                                    |                                                                                     | 14 valve positions        | 566616                                                     | VABM-L1-10HW-G18-14         |                             |
|                                                                                    |                                                                                     | 16 valve positions        | 566617                                                     | VABM-L1-10HW-G18-16         |                             |
| Cover plate                                                                        |                                                                                     |                           |                                                            |                             |                             |
|    | For valve position on manifold rail, including screws and seal                      | 566495                    | VABB-L1-10-W                                               | Datasheets → Internet: vabb |                             |
| Separator                                                                          |                                                                                     |                           |                                                            |                             |                             |
|   | For creating pressure zones                                                         | 569994                    | VABD-6-B                                                   | Datasheets → Internet: vabd |                             |
| Supply plate                                                                       |                                                                                     |                           |                                                            |                             |                             |
|  | For valve position (sub-base valves M5) on manifold rail, including screws and seal | 569991                    | VABF-L1-10-P3A4-M5                                         | Datasheets → Internet: vabf |                             |
|                                                                                    | For valve position (sub-base valves M7) on manifold rail, including screws and seal | 569992                    | VABF-L1-10-P3A4-M7                                         |                             |                             |
| Seals                                                                              |                                                                                     |                           |                                                            |                             |                             |
|  | Only suitable for VUVG-B10                                                          | For sub-base valves M5/M7 | Delivery quantity: 10 sets (each with 2 screws and 1 seal) | 566674 VABD-L1-10B-S-M7     | Datasheets → Internet: vabd |

## Datasheet

### Function

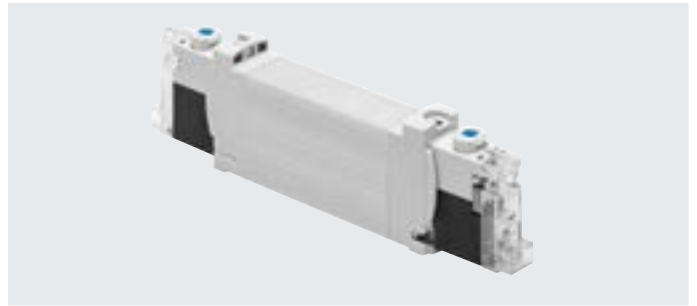
2x 3/2C

5/2-way, single solenoid

5/2-way, double solenoid valve

Circuit diagrams → page 14

-  - Size 14 mm
-  - Flow rate  
350 ... 380 l/min
-  - Voltage  
24 V DC



### General technical data VUVG-BK

| Valve function                               | T32-A                     | M52-A                 | B52      |
|----------------------------------------------|---------------------------|-----------------------|----------|
| Normal position                              | C <sup>1)</sup>           | –                     | –        |
| Stable position                              | Monostable                |                       | Bistable |
| Pneumatic spring return                      | Yes                       | Yes                   | –        |
| Design                                       | Piston spool              |                       |          |
| Sealing principle                            | Soft                      |                       |          |
| Actuation type                               | Electrical                |                       |          |
| Type of control                              | Piloted                   |                       |          |
| Pilot air supply                             | Internal                  |                       |          |
| Exhaust air function                         | Can be throttled          |                       |          |
| Manual override                              | Non-detenting, detenting  |                       |          |
| Type of mounting                             | On manifold rail          |                       |          |
| Mounting position                            | Any                       |                       |          |
| Standard nominal flow rate                   | [l/min]                   | 350                   | 380      |
| Switching time on/off                        | [ms]                      | 13/20                 | –        |
| Switching time changeover                    | [ms]                      | –                     | 8        |
| Size                                         | [mm]                      | 14                    |          |
| Connection                                   | 2, 4                      | G1/8 in manifold rail |          |
| Product weight                               | [g]                       | 75                    | 85       |
| Corrosion resistance class CRC <sup>2)</sup> | 0                         |                       |          |
| Certificate-issuing authority                | UL MH19482                |                       |          |
| Certification                                | c UL us - Recognized (OL) |                       |          |

1) C = Normally closed

2) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

### Safety characteristics

|                                       |                                                                                  |      |
|---------------------------------------|----------------------------------------------------------------------------------|------|
| 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 1 to FN 942017-5 and EN 60068-2-27                |      |
| Vibration resistant                   | Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6 |      |

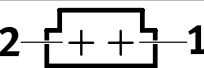
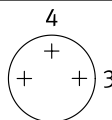
Datasheet

| Operating and environmental conditions |       |                                                                                            |                           |
|----------------------------------------|-------|--------------------------------------------------------------------------------------------|---------------------------|
| Valve function                         |       | T32-A <sup>1)</sup>                                                                        | M52-A <sup>1)</sup> B52   |
| Operating medium                       |       | Compressed air to ISO 8573-2010 [7:4:4]                                                    |                           |
| Note on the operating/pilot medium     |       | Lubricated operation possible (in which case lubricated operation will always be required) |                           |
| Operating pressure                     | [MPa] | 0.15 ... 0.7                                                                               | 0.25 ... 0.7 0.15 ... 0.7 |
|                                        | [bar] | 1.5 ... 7                                                                                  | 2.5 ... 7 1.5 ... 7       |
| Ambient temperature                    | [°C]  | -5 ... +50                                                                                 |                           |
| Temperature of medium                  | [°C]  | -5 ... +50                                                                                 |                           |

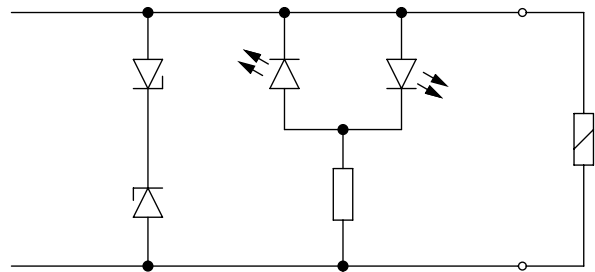
1) Pneumatic spring

| Electrical data                  |                                         |
|----------------------------------|-----------------------------------------|
| Electrical connection            | Via E-box → page 111                    |
| Operating voltage                | [V DC] 24 ±10%                          |
| Nominal operating voltage        | [V DC] 22                               |
| Power                            | [W] 0.7                                 |
| Duty cycle                       | [%] 100                                 |
| Degree of protection to EN 60529 | IP40 (with plug socket), IP65 (with M8) |
| Signal status indication         | LED                                     |
| Maximum switching frequency      | [Hz] 2                                  |

| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364 zone III      |

| Pin assignment for E-box                                                            |   | Pin      | Description                                          |
|-------------------------------------------------------------------------------------|---|----------|------------------------------------------------------|
| Rectangular plug, connection pattern H                                              |   |          |                                                      |
|   | 1 | + or –   | Protective circuit without holding current reduction |
|                                                                                     | 2 | + or –   |                                                      |
| Round plug, M8, 3-pin                                                               |   |          |                                                      |
|  | 1 | Not used | Protective circuit without holding current reduction |
|                                                                                     | 3 | + or –   |                                                      |
|                                                                                     | 4 | + or –   |                                                      |

Protective circuit without holding current reduction

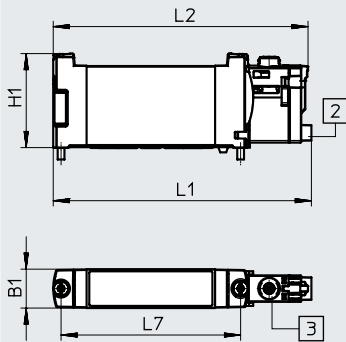


The solenoid coils have a protective circuit to arrest sparks and protect against polarity reversal.

## Datasheet

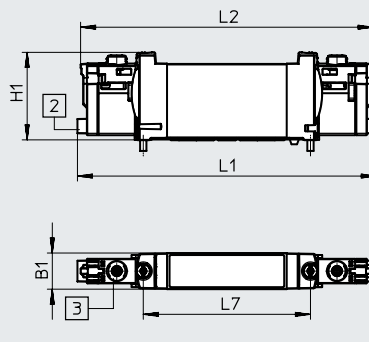
### Dimensions

2x 3/2-way, 5/2-way valve, single solenoid



[2] Horizontal electrical connection

5/2-way valve, double-solenoid



[3] Manual override

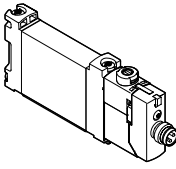
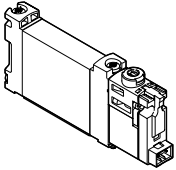
Download CAD data → [www.festo.com](http://www.festo.com)

 **Note**  
More dimensions for  
E-boxes  
→ Page 113

| Type               | B1   | H1   | L1    | L2    | L7   |
|--------------------|------|------|-------|-------|------|
| VUVG-BK14-T32C-... | 14.4 | 34.8 | 118.9 | 116.4 | 66.5 |
| VUVG-BK14-B52-...  |      |      | 95.6  | 94.4  |      |
| VUVG-BK14-M52-...  |      |      |       |       |      |

## Ordering data

### ★ Core Range

| Ordering data                                                                       |                                       | Description                              | Part no. | Type                       |
|-------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------|----------|----------------------------|
| <b>Sub-base valve G1/8, with E-box R8</b>                                           |                                       |                                          |          |                            |
|  | <b>2x 3/2-way valve</b>               |                                          |          |                            |
|                                                                                     | Internal pilot air supply             | Normally closed, pneumatic spring return | 8042574  | VUVG-BK14-T32C-AT-F-1R8L-S |
|                                                                                     | <b>5/2-way valve, single solenoid</b> |                                          |          |                            |
|                                                                                     | Internal pilot air supply             | Pneumatic spring return                  | 8042575  | VUVG-BK14-M52-AT-F-1R8L-S  |
|                                                                                     | <b>5/2-way valve, double solenoid</b> |                                          |          |                            |
|                                                                                     | Internal pilot air supply             |                                          | 8042576  | VUVG-BK14-B52-T-F-1R8L-S   |
| <b>Sub-base valve G1/8, with E-box H2</b>                                           |                                       |                                          |          |                            |
|  | <b>2x 3/2-way valve</b>               |                                          |          |                            |
|                                                                                     | Internal pilot air supply             | Normally closed, pneumatic spring return | 8042570  | VUVG-BK14-T32C-AT-F-1H2L-S |
|                                                                                     | <b>5/2-way valve, single solenoid</b> |                                          |          |                            |
|                                                                                     | Internal pilot air supply             | Pneumatic spring return                  | 8042571  | VUVG-BK14-M52-AT-F-1H2L-S  |
|                                                                                     | <b>5/2-way valve, double solenoid</b> |                                          |          |                            |
|                                                                                     | Internal pilot air supply             |                                          | 8042572  | VUVG-BK14-B52-T-F-1H2L-S   |

## Datasheet

## Function

2x 3/2C, 2x 3/2U, 2x 3/2H

5/2-way, single solenoid

5/2-way, double solenoid valve

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

-  - Size 14 mm-  - Flow rate  
410 ... 680 l/min-  - Voltage  
5, 12 and 24 V DC  
24, 110 and 230 V AC-  - Voltage VUVG-...-P1  
12 and 24 V DC  
24, 110 and 230 V AC

Circuit diagrams → page 14

## General technical data VUVG-B

| Valve function                                           |                 |  | T32-A                                                                  |                 |                 | T32-M                               |                 |                 | M52-A |     | B52      |    | M52-M           |                 | P53             |  |  |
|----------------------------------------------------------|-----------------|--|------------------------------------------------------------------------|-----------------|-----------------|-------------------------------------|-----------------|-----------------|-------|-----|----------|----|-----------------|-----------------|-----------------|--|--|
| Normal position                                          |                 |  | C <sup>1)</sup>                                                        | U <sup>2)</sup> | H <sup>4)</sup> | C <sup>1)</sup>                     | U <sup>2)</sup> | H <sup>4)</sup> | –     | –   | –        | –  | C <sup>1)</sup> | U <sup>2)</sup> | E <sup>3)</sup> |  |  |
| Stable position                                          |                 |  | Monostable                                                             |                 |                 |                                     |                 |                 |       |     | Bistable |    | Monostable      |                 | Monostable      |  |  |
| Pneumatic spring return                                  |                 |  | Yes                                                                    |                 |                 | No                                  |                 |                 | Yes   |     | –        |    | No              |                 | –               |  |  |
| Mechanical spring return                                 |                 |  | No                                                                     |                 |                 | Yes                                 |                 |                 | No    |     | –        |    | Yes             |                 | Yes             |  |  |
| Vacuum operation at port 1                               |                 |  | No                                                                     |                 |                 | Only with external pilot air supply |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Size [mm]                                                |                 |  | 14                                                                     |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Design                                                   |                 |  | Piston spool                                                           |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Sealing principle                                        |                 |  | Soft                                                                   |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Actuation type                                           |                 |  | Electrical                                                             |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Type of control                                          |                 |  | Piloted                                                                |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Pilot air supply                                         |                 |  | External, internal; can be selected via sub-base                       |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Exhaust air function                                     |                 |  | Can be throttled                                                       |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Manual override                                          | VUVG-...        |  | Choice of non-detenting, covered, non-detenting/detenting or detenting |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
|                                                          | VUVG-...-P1     |  | Non-detenting, non-detenting/detenting                                 |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Type of mounting                                         |                 |  | On manifold rail                                                       |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Mounting position                                        |                 |  | Any                                                                    |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Nominal width [mm]                                       |                 |  | 4.6                                                                    |                 |                 | 4.3                                 |                 |                 | 5.6   |     |          |    |                 |                 |                 |  |  |
| Standard nominal flow rate [l/min]                       |                 |  | 600                                                                    | 580             |                 | 470                                 | 450             |                 | 630   | 680 | 630      |    | 600             | 580             | 580             |  |  |
| Flow rate on manifold rail G1/8 [l/min]                  |                 |  | 510                                                                    |                 |                 | 430                                 | 410             |                 | 520   | 570 |          |    | 520             | 500             | 460             |  |  |
| Switching time                                           |                 |  |                                                                        |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| VUVG-...                                                 | On/off [ms]     |  | 9/25                                                                   |                 |                 | 12/18                               |                 |                 | 14/22 | –   | 13/40    |    | 12/40           |                 |                 |  |  |
|                                                          | Changeover [ms] |  | –                                                                      |                 |                 |                                     |                 |                 |       | 8   |          |    | 20              |                 |                 |  |  |
| VUVG-...-P1                                              | On/off [ms]     |  | 11/18                                                                  |                 |                 | 14/13                               |                 |                 | 16/16 | –   | 12/26    |    | 14/24           |                 |                 |  |  |
|                                                          | Changeover [ms] |  | –                                                                      |                 |                 | –                                   |                 |                 | –     | 12  | –        |    | 19              |                 |                 |  |  |
| Pneumatic connection                                     | 1, 3, 5         |  | G1/4 in manifold rail                                                  |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
|                                                          | 2, 4            |  | G1/8 in manifold rail                                                  |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
|                                                          | 12/14, 82/84    |  | M5 in manifold rail                                                    |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Product weight                                           | VUVG-... [g]    |  | 89                                                                     |                 |                 | 80                                  |                 |                 | 78    | 89  | 70       | 89 |                 |                 |                 |  |  |
|                                                          | VUVG-...-P1 [g] |  | 65                                                                     |                 |                 | 56                                  |                 |                 | 66    | 65  | 58       | 65 |                 |                 |                 |  |  |
| Certificate-issuing authority                            | VUVG-...-P1     |  | UL MH19482                                                             |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Certification                                            | VUVG-...        |  | RCM                                                                    |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
|                                                          | VUVG-...        |  | c UL us - Recognized (OL)                                              |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
|                                                          | VUVG-...-P1     |  |                                                                        |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| CE marking (see declaration of conformity) <sup>5)</sup> |                 |  | To EU EMC Directive                                                    |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
|                                                          |                 |  | To EU Low Voltage Directive                                            |                 |                 |                                     |                 |                 |       |     |          |    |                 |                 |                 |  |  |
| Corrosion resistance class CRC <sup>6)</sup>             |                 |  | 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 EC declaration of conformity at: [www.festo.com/catalogue/...](http://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](http://www.festo.com/x/topic/crc)

## Datasheet

| Operating and environmental conditions |                   |       |                                                                                            |                     |                     |              |                         |
|----------------------------------------|-------------------|-------|--------------------------------------------------------------------------------------------|---------------------|---------------------|--------------|-------------------------|
| Valve function                         |                   |       | T32-A <sup>1)</sup>                                                                        | T32-M <sup>2)</sup> | M52-A <sup>1)</sup> | B52          | M52-M <sup>2)</sup> P53 |
| Operating medium                       |                   |       | Compressed air to ISO 8573-2010 [7:4:4]                                                    |                     |                     |              |                         |
| Note on the operating/pilot medium     |                   |       | Lubricated operation possible (in which case lubricated operation will always be required) |                     |                     |              |                         |
| Operating pressure                     | Internal VUVG-... | [MPa] | 0.15 ... 0.8                                                                               | 0.35 ... 0.8        | 0.25 ... 0.8        | 0.15 ... 0.8 | 0.3 ... 0.8             |
|                                        |                   | [bar] | 1.5 ... 8                                                                                  | 3.5 ... 8           | 2.5 ... 8           | 1.5 ... 8    | 3 ... 8                 |
|                                        | External          | [MPa] | 0.15 ... 1                                                                                 | -0.09 ... 1         |                     |              | -0.09 ... 0.8           |
|                                        |                   | [bar] | 1.5 ... 10                                                                                 | -0.9 ... 10         |                     |              | -0.9 ... 8              |
| Pilot pressure <sup>3)</sup>           |                   | [MPa] | 0.15 ... 0.8                                                                               | 0.3 ... 0.8         | 0.25 ... 0.8        | 0.15 ... 0.8 | 0.3 ... 0.8             |
|                                        |                   | [bar] | 1.5 ... 8                                                                                  | 3 ... 8             | 2.5 ... 8           | 1.5 ... 8    | 3 ... 8                 |
| Ambient temperature                    | VUVG-...          | [°C]  | -5 ... +50, with holding current reduction -5 ... +60                                      |                     |                     |              |                         |
|                                        | VUVG-...-P1       | [°C]  | -5 ... +50 for mounting on manifold rail -5 ... +60                                        |                     |                     |              |                         |
| Temperature of medium                  | VUVG-...          | [°C]  | -5 ... +50, with holding current reduction -5 ... +60                                      |                     |                     |              |                         |
|                                        | VUVG-...-P1       | [°C]  | -5 ... +50 for mounting on manifold rail -5 ... +60                                        |                     |                     |              |                         |
| Cleanroom class                        |                   |       | ISO class 5                                                                                |                     |                     |              |                         |

1) Pneumatic spring

2) Mechanical spring

3) Minimum pilot pressure 50% of operating pressure

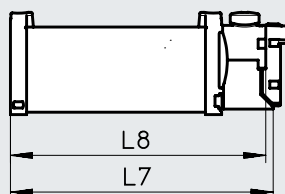
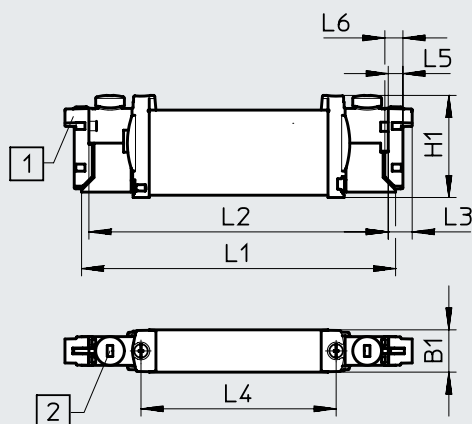
| Electrical data                  |             |        |                                                   |
|----------------------------------|-------------|--------|---------------------------------------------------|
| Electrical connection            | VUVG-...    |        | Via E-box → page 111                              |
|                                  | VUVG-...-P1 |        | Via electric pilot valve                          |
| Pilot interface                  | VUVG-...-P1 |        | To ISO 15218                                      |
| Operating voltage                | VUVG-...    | [V DC] | 5, 12 and 24 ±10%                                 |
|                                  | VUVG-...-P1 | [V DC] | 12 and 24 ±10%                                    |
|                                  |             | [V AC] | 24, 110 and 230 ±10%                              |
| Power                            | VUVG-...    | [W]    | 1, reduced to 0.35 with holding current reduction |
|                                  | VUVG-...-P1 | [W]    | 1.3                                               |
| Duty cycle                       |             | [%]    | 100                                               |
| Degree of protection to EN 60529 |             |        |                                                   |
|                                  | VUVG-...    |        | IP40 (with plug socket), IP65 (with M8)           |
|                                  | VUVG-...-P1 |        | IP65, with electric pilot valve and plug socket   |

| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364-B1/B2-L       |

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

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

5/2-way valve, single solenoid



-  - **Note**

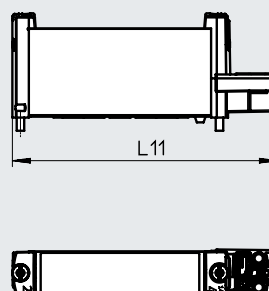
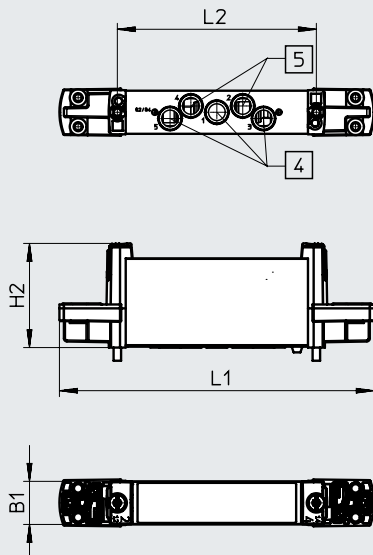
More dimensions for  
E-boxes  
→ Page 113

[1] Horizontal electrical connection      [2] Manual override

| Type              | B1 | H1   | L1  | L2  | L3 | L4   | L5  | L6  | L7   | L8 |
|-------------------|----|------|-----|-----|----|------|-----|-----|------|----|
| VUVG-B14 -...F... | 14 | 34.8 | 107 | 102 | 8  | 66.5 | 4.9 | 6.2 | 89.5 | 87 |

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

5/2-way valve, single solenoid

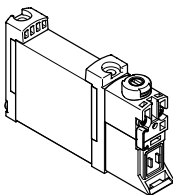
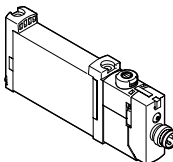


[4] Ports 1, 3 and 5

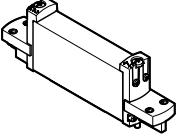
[5] Ports 2 and 4

| Type            | B1   | H2   | L1    | L2   | L11  |
|-----------------|------|------|-------|------|------|
| VUVG-B14-...-P1 | 14.4 | 34.8 | 105.2 | 66.5 | 88.6 |

## Ordering data

| Ordering data                                                                      |                                | Description                                                    | Part no. | Type                     |
|------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------|----------|--------------------------|
| Sub-base valve G1/8, without E-box                                                 |                                |                                                                |          |                          |
|   | 2x 3/2-way valve               |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Normally closed, pneumatic spring return                       | 566513   | VUVG-B14-T32C-AZT-F-1P3  |
|                                                                                    |                                | Normally open, pneumatic spring return                         | 566514   | VUVG-B14-T32U-AZT-F-1P3  |
|                                                                                    |                                | 1x normally open, 1x normally closed, pneumatic spring return  | 566515   | VUVG-B14-T32H-AZT-F-1P3  |
|                                                                                    |                                | Normally closed, mechanical spring return                      | 574376   | VUVG-B14-T32C-MZT-F-1P3  |
|                                                                                    |                                | Normally open, mechanical spring return                        | 574377   | VUVG-B14-T32U-MZT-F-1P3  |
|                                                                                    |                                | 1x normally open, 1x normally closed, mechanical spring return | 574378   | VUVG-B14-T32H-MZT-F-1P3  |
|                                                                                    | 5/2-way valve, single solenoid |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Pneumatic spring return                                        | 566516   | VUVG-B14-M52-AZT-F-1P3   |
|                                                                                    |                                | Mechanical spring return                                       | 574379   | VUVG-B14-M52-MZT-F-1P3   |
|                                                                                    | 5/2-way valve, double solenoid |                                                                |          |                          |
|                                                                                    | External pilot air supply      |                                                                | 566517   | VUVG-B14-B52-ZT-F-1P3    |
|                                                                                    | 5/3-way valve                  |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Mid-position closed, mechanical spring return                  | 566518   | VUVG-B14-P53C-ZT-F-1P3   |
|                                                                                    |                                | Mid-position exhausted, mechanical spring return               | 566519   | VUVG-B14-P53E-ZT-F-1P3   |
|                                                                                    |                                | Mid-position pressurised, mechanical spring return             | 566520   | VUVG-B14-P53U-ZT-F-1P3   |
| Sub-base valve G1/8, with E-box R8                                                 |                                |                                                                |          |                          |
|  | 2x 3/2-way valve               |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Normally closed, pneumatic spring return                       | 574242   | VUVG-B14-T32C-AZT-F-1R8L |
|                                                                                    |                                | Normally open, pneumatic spring return                         | 574243   | VUVG-B14-T32U-AZT-F-1R8L |
|                                                                                    |                                | 1x normally open, 1x normally closed, pneumatic spring return  | 574244   | VUVG-B14-T32H-AZT-F-1R8L |
|                                                                                    |                                | Normally closed, mechanical spring return                      | 578248   | VUVG-B14-T32C-MZT-F-1R8L |
|                                                                                    |                                | Normally open, mechanical spring return                        | 8031517  | VUVG-B14-T32U-MZT-F-1R8L |
|                                                                                    |                                | 1x normally open, 1x normally closed, mechanical spring return | 8031518  | VUVG-B14-T32H-MZT-F-1R8L |
|                                                                                    | 5/2-way valve, single solenoid |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Pneumatic spring return                                        | 574245   | VUVG-B14-M52-AZT-F-1R8L  |
|                                                                                    |                                | Mechanical spring return                                       | 578158   | VUVG-B14-M52-MZT-F-1R8L  |
|                                                                                    | 5/2-way valve, double solenoid |                                                                |          |                          |
|                                                                                    | External pilot air supply      |                                                                | 574246   | VUVG-B14-B52-ZT-F-1R8L   |
|                                                                                    | 5/3-way valve                  |                                                                |          |                          |
|                                                                                    | External pilot air supply      | Mid-position closed, mechanical spring return                  | 574247   | VUVG-B14-P53C-ZT-F-1R8L  |
|                                                                                    |                                | Mid-position exhausted, mechanical spring return               | 574249   | VUVG-B14-P53E-ZT-F-1R8L  |
|                                                                                    |                                | Mid-position pressurised, mechanical spring return             | 574248   | VUVG-B14-P53U-ZT-F-1R8L  |

## Ordering data

| Ordering data                                                                    | Description                           | Part no.                                                       | Type                          |
|----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|-------------------------------|
| <b>Sub-base valve G1/8, to ISO 15218</b>                                         |                                       |                                                                |                               |
|  | <b>2x 3/2-way valve</b>               |                                                                |                               |
|                                                                                  | External pilot air supply             | Normally closed, pneumatic spring return                       | 8033535 VUVG-B14-T32C-AZ-F-P1 |
|                                                                                  |                                       | Normally open, pneumatic spring return                         | 8033536 VUVG-B14-T32U-AZ-F-P1 |
|                                                                                  |                                       | 1x normally open, 1x normally closed, pneumatic spring return  | 8033537 VUVG-B14-T32H-AZ-F-P1 |
|                                                                                  |                                       | Normally closed, mechanical spring return                      | 8033538 VUVG-B14-T32C-MZ-F-P1 |
|                                                                                  |                                       | Normally open, mechanical spring return                        | 8033539 VUVG-B14-T32U-MZ-F-P1 |
|                                                                                  |                                       | 1x normally open, 1x normally closed, mechanical spring return | 8033540 VUVG-B14-T32H-MZ-F-P1 |
|                                                                                  | <b>5/2-way valve, single solenoid</b> |                                                                |                               |
|                                                                                  | External pilot air supply             | Pneumatic spring return                                        | 8033541 VUVG-B14-M52-AZ-F-P1  |
|                                                                                  |                                       | Mechanical spring return                                       | 8033542 VUVG-B14-M52-MZ-F-P1  |
|                                                                                  | <b>5/2-way valve, double solenoid</b> |                                                                |                               |
|                                                                                  | External pilot air supply             | 8033543                                                        | VUVG-B14-B52-Z-F-P1           |
|                                                                                  | <b>5/3-way valve</b>                  |                                                                |                               |
|                                                                                  | External pilot air supply             | Mid-position closed, mechanical spring return                  | 8033544 VUVG-B14-P53C-Z-F-P1  |
|                                                                                  |                                       | Mid-position exhausted, mechanical spring return               | 8033545 VUVG-B14-P53E-Z-F-P1  |
|                                                                                  |                                       | Mid-position pressurised, mechanical spring return             | 8033546 VUVG-B14-P53U-Z-F-P1  |

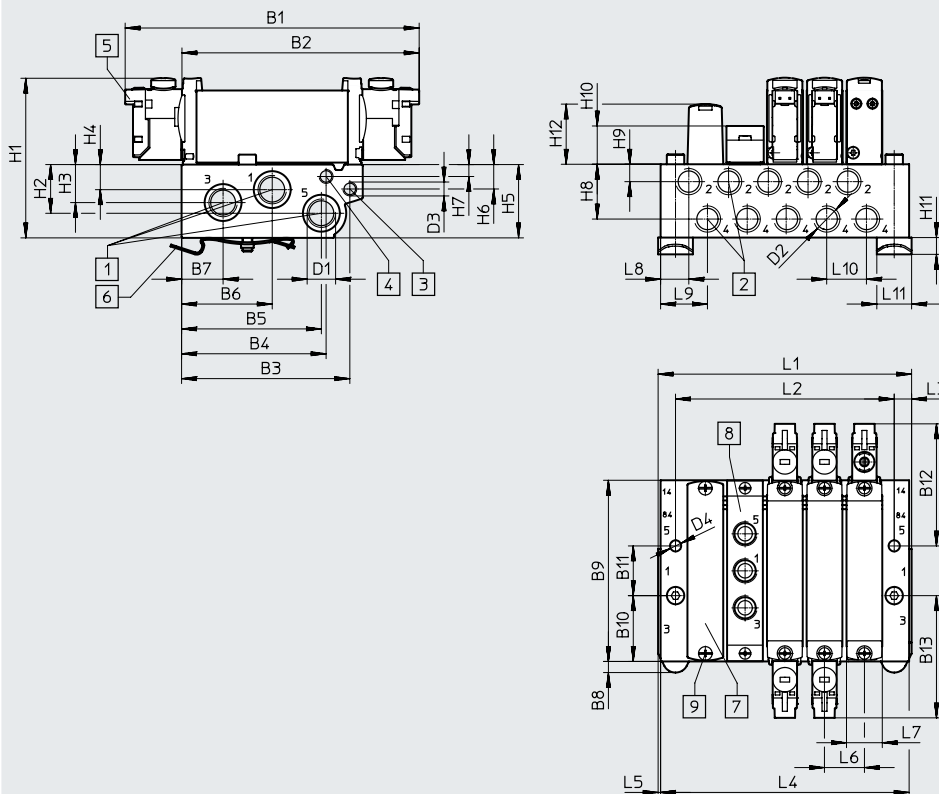
## Manifold assembly

Sub-base valve for  
Manifold assembly  
Connection G1/8



### Dimensions

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



- - **Note**

More dimensions for  
E-boxes

→ Page 113

- |                                           |                                                       |                                                                    |                                                               |
|-------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------|
| [1] Ports 1, 3 and 5: G1/4 (at both ends) | [5] Electrical connection for E-boxes and accessories | [6] DIN rail mounting (two M4x35 screws are required for mounting) | [8] Supply plate: ports 1, 3 and 5: G1/8                      |
| [2] Ports 2, 4: G1/8                      |                                                       | [7] Cover plate                                                    | [9] Valves/cover plate mounting on manifold rail: M2.5 thread |
| [3] Ports 12, 14: M5                      |                                                       |                                                                    |                                                               |
| [4] Ports 82, 84: M5                      |                                                       |                                                                    |                                                               |

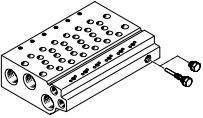
| Type            | B1    | B2   | B3   | B4   | B5   | B6   | B7   | B8  | B9   | B10  | B11 | B12  |
|-----------------|-------|------|------|------|------|------|------|-----|------|------|-----|------|
| VABM-L1-14W-G14 | 118.3 | 95.1 | 67.7 | 58.2 | 56.3 | 36.6 | 16.7 | 4.5 | 72.9 | 26.5 | 20  | 49.1 |

| Type            | B13  | D1   | D2   | D3 | D4    | H1   | H2   | H3   | H4   | H5   |
|-----------------|------|------|------|----|-------|------|------|------|------|------|
| VABM-L1-14W-G14 | 49.1 | G1/4 | G1/8 | M5 | Ø 4.5 | 64.3 | 19.6 | 15.3 | 10.1 | 29.5 |

| Type            | H6  | H7  | H8   | H9 | H10  | H11 | H12  | L3 | L5 | L6 | L7   | L8   | L9   | L10 | L11 |
|-----------------|-----|-----|------|----|------|-----|------|----|----|----|------|------|------|-----|-----|
| VABM-L1-14W-G14 | 9.8 | 4.8 | 22.1 | 7  | 15.4 | 6.8 | 23.9 | 6  | 1  | 16 | 14.4 | 11.3 | 18.5 | 16  | 14  |

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

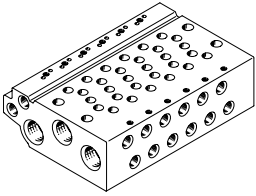
## Ordering data

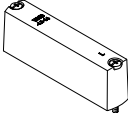
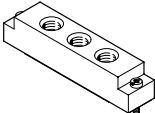
| Technical data – Manifold rails <sup>1)</sup>                                    |            |         |              |                 |                         |                    |             |                                          |          |      |
|----------------------------------------------------------------------------------|------------|---------|--------------|-----------------|-------------------------|--------------------|-------------|------------------------------------------|----------|------|
|                                                                                  | Connection |         |              | CRC             | Material <sup>3)</sup>  | Operating pressure |             | Max. tightening torque for mounting [Nm] |          |      |
|                                                                                  | 2, 4       | 1, 3, 5 | 12/14, 82/84 |                 |                         | [MPa]              | [bar]       | Valve                                    | DIN rail | Wall |
|  | G1/8       | G1/4    | M5           | 2 <sup>2)</sup> | Wrought aluminium alloy | –0.09 ... 1        | –0.9 ... 10 | 0.65                                     | 1.5      | 3    |

1) Blanking plugs are included with the manifold rail.

2) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

3) Information on materials: RoHS-compliant.

| Ordering data – Manifold rail                                                    |                     |                    |          |                    |
|----------------------------------------------------------------------------------|---------------------|--------------------|----------|--------------------|
|                                                                                  | Description         |                    | Part no. | Type               |
| Manifold rail for sub-base valve G1/8                                            |                     |                    |          |                    |
|  | For size B14 (G1/8) | 2 valve positions  | 566642   | VABM-L1-14W-G14-2  |
|                                                                                  |                     | 3 valve positions  | 566643   | VABM-L1-14W-G14-3  |
|                                                                                  |                     | 4 valve positions  | 566644   | VABM-L1-14W-G14-4  |
|                                                                                  |                     | 5 valve positions  | 566645   | VABM-L1-14W-G14-5  |
|                                                                                  |                     | 6 valve positions  | 566646   | VABM-L1-14W-G14-6  |
|                                                                                  |                     | 7 valve positions  | 566647   | VABM-L1-14W-G14-7  |
|                                                                                  |                     | 8 valve positions  | 566648   | VABM-L1-14W-G14-8  |
|                                                                                  |                     | 9 valve positions  | 566649   | VABM-L1-14W-G14-9  |
|                                                                                  |                     | 10 valve positions | 566650   | VABM-L1-14W-G14-10 |
|                                                                                  |                     | 12 valve positions | 566651   | VABM-L1-14W-G14-12 |
|                                                                                  |                     | 14 valve positions | 566652   | VABM-L1-14W-G14-14 |
|                                                                                  |                     | 16 valve positions | 566653   | VABM-L1-14W-G14-16 |

| Ordering data – Accessories                                                        |                                                                |                                                            |         |                         |
|------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|---------|-------------------------|
|                                                                                    | Description                                                    | Part no.                                                   | Type    |                         |
| Cover plate <span style="float: right;">Datasheets → Internet: vabb</span>         |                                                                |                                                            |         |                         |
|  | For valve position on manifold rail, including screws and seal | –                                                          | 569989  | VABB-L1-14              |
|                                                                                    |                                                                | Suitable for battery manufacturing                         | 8168539 | VABB-L1-14-F1A          |
| Separator <span style="float: right;">Datasheets → Internet: vabd</span>           |                                                                |                                                            |         |                         |
|  | For creating pressure zones                                    |                                                            | 569996  | VABD-10-B               |
| Supply plate <span style="float: right;">Datasheets → Internet: vabf</span>        |                                                                |                                                            |         |                         |
|  | For valve position on manifold rail, including screws and seal | –                                                          | 569993  | VABF-L1-14-P3A4-G18     |
|                                                                                    |                                                                | Suitable for battery manufacturing                         | 8163544 | VABF-L1-14-P3A4-G18-F1A |
| Seals <span style="float: right;">Datasheets → Internet: vabd</span>               |                                                                |                                                            |         |                         |
|  | For sub-base valves G1/8                                       | Delivery quantity: 10 sets (each with 2 screws and 1 seal) | 566676  | VABD-L1-14B-S-G18       |

## Datasheet

### Function

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

Circuit diagrams → page 14

-  - Size 18 mm
-  - Flow rate  
800 ... 1150 l/min
-  - Voltage  
5, 12 and 24 V DC
-  - Voltage VUVG-...-P1  
12 and 24 V DC  
24, 110 and 230 V AC



| General technical data VUVG-B                            |              |         |                                                                        |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
|----------------------------------------------------------|--------------|---------|------------------------------------------------------------------------|-----------------|-----------------|-------------------------------------|-----------------|-----------------|-------------------|----------|------------|-----------------|-----------------|-----------------|
| Valve function                                           |              |         | T32-A                                                                  |                 |                 | T32-M                               |                 |                 | M52-R             | B52      | M52-M      | P53             |                 |                 |
| Normal position                                          |              |         | C <sup>1)</sup>                                                        | U <sup>2)</sup> | H <sup>4)</sup> | C <sup>1)</sup>                     | U <sup>2)</sup> | H <sup>4)</sup> | –                 | –        | –          | C <sup>1)</sup> | U <sup>2)</sup> | E <sup>3)</sup> |
| Stable position                                          |              |         | Monostable                                                             |                 |                 |                                     |                 |                 |                   | Bistable | Monostable | Monostable      |                 |                 |
| Pneumatic spring return                                  |              |         | Yes                                                                    |                 |                 | No                                  |                 |                 | Yes <sup>5)</sup> | –        | No         | –               |                 |                 |
| Mechanical spring return                                 |              |         | No                                                                     |                 |                 | Yes                                 |                 |                 | Yes <sup>5)</sup> | –        | Yes        | Yes             |                 |                 |
| Vacuum operation at port 1                               |              |         | No                                                                     |                 |                 | Only with external pilot air supply |                 |                 |                   |          |            |                 |                 |                 |
| Design                                                   |              |         | Piston spool                                                           |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Sealing principle                                        |              |         | Soft                                                                   |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Actuation type                                           |              |         | Electrical                                                             |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Type of control                                          |              |         | Piloted                                                                |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Pilot air supply                                         |              |         | External, internal; can be selected via sub-base                       |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Exhaust air function                                     |              |         | Can be throttled                                                       |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Manual override                                          | VUVG-...     |         | Choice of non-detenting, covered, non-detenting/detenting or detenting |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
|                                                          | VUVG-...-P1  |         | –                                                                      |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Type of mounting                                         |              |         | On manifold rail                                                       |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Mounting position                                        |              |         | Any                                                                    |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Nominal width                                            |              | [mm]    | 5.7                                                                    |                 |                 |                                     |                 |                 | 6.9               | 7.3      | 6.9        | 6.5             |                 |                 |
| Standard nominal flow rate                               |              | [l/min] | 900                                                                    |                 |                 |                                     |                 |                 | 1150              |          |            |                 | 1080            |                 |
| Flow rate on manifold rail                               |              |         | 800                                                                    |                 |                 |                                     |                 |                 | 1000              |          |            |                 | 950             |                 |
| Switching time                                           |              |         |                                                                        |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| VUVG-...                                                 | On/off       | [ms]    | 13/27                                                                  |                 |                 | 15/22                               |                 |                 | 15/31             | –        | 10/45      | 15/48           |                 |                 |
|                                                          | Changeover   | [ms]    | –                                                                      |                 |                 |                                     |                 |                 | 11                |          |            |                 | 29              |                 |
| VUVG-...-P1                                              | On/off       | [ms]    | 13/18                                                                  |                 |                 | 13/27                               |                 |                 | 16/22             | –        | 14/26      | 15/32           |                 |                 |
|                                                          | Changeover   | [ms]    | –                                                                      |                 |                 |                                     |                 |                 | 12                |          | –          | 21              |                 |                 |
| Size                                                     |              | [mm]    | 18                                                                     |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Connection                                               | 1, 3, 5      |         | G3/8 in manifold rail                                                  |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
|                                                          | 2, 4         |         | G1/4 in manifold rail                                                  |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
|                                                          | 12/14, 82/84 |         | M5 in manifold rail                                                    |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Product weight                                           | VUVG-...     | [g]     | 164                                                                    |                 |                 |                                     |                 |                 | 154               | 160      | 154        | 160             |                 |                 |
|                                                          | VUVG-...-P1  | [g]     | 140                                                                    |                 |                 |                                     |                 |                 | 142               | 140      | 142        | 136             |                 |                 |
| Certificate-issuing authority                            | VUVG-...-P1  |         | UL MH19482                                                             |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Certification                                            | VUVG-...     |         | RCM                                                                    |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
|                                                          | VUVG-...     |         | c UL us - Recognized (OL)                                              |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
|                                                          | VUVG-...-P1  |         |                                                                        |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| CE marking (see declaration of conformity) <sup>6)</sup> |              |         |                                                                        |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
|                                                          | VUVG-...     |         | To EU EMC Directive                                                    |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
|                                                          | VUVG-...-P1  |         | To EU Low Voltage Directive                                            |                 |                 |                                     |                 |                 |                   |          |            |                 |                 |                 |
| Corrosion resistance class CRC <sup>7)</sup>             |              |         | 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 EC declaration of conformity at: [www.festo.com/catalogue/...](http://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](http://www.festo.com/x/topic/crc)

## Datasheet

| Operating and environmental conditions |             |       | T32-A <sup>1)</sup>                                   | T32-M <sup>3)</sup> | M52-R <sup>2)</sup> | B52          | M52-M <sup>3)</sup> | P53         |
|----------------------------------------|-------------|-------|-------------------------------------------------------|---------------------|---------------------|--------------|---------------------|-------------|
| Valve function                         |             |       | Compressed air to ISO 8573-2010 [7:4:4]               |                     |                     |              |                     |             |
| Operating pressure                     | Internal    | [MPa] | 0.15 ... 0.8                                          | 0.3 ... 0.8         | 0.25 ... 0.8        | 0.15 ... 0.8 | 0.3 ... 0.8         |             |
|                                        |             | [bar] | 1.5 ... 8                                             | 3 ... 8             | 2.5 ... 8           | 1.5 ... 8    | 3 ... 8             |             |
|                                        | External    | [MPa] | 0.15 ... 1                                            | −0.09 ... 1         |                     |              | −0.09 ... 1         | −0.09 ... 1 |
|                                        |             | [bar] | 1.5 ... 10                                            | −0.9 ... 10         |                     |              | −0.9 ... 10         | −0.9 ... 10 |
| Pilot pressure                         |             | [MPa] | 0.15 ... 0.8                                          | 0.2 ... 0.8         | 0.25 ... 0.8        | 0.15 ... 0.8 | 0.3 ... 0.8         |             |
|                                        |             | [bar] | 1.5 ... 8                                             | 2 ... 8             | 2.5 ... 8           | 1.5 ... 8    | 3 ... 8             |             |
| Ambient temperature                    | VUVG-...    | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |                     |                     |              |                     |             |
|                                        | VUVG-...-P1 | [°C]  | −5 ... +60                                            |                     |                     |              |                     |             |
| Temperature of medium                  | VUVG-...    | [°C]  | −5 ... +50, with holding current reduction −5 ... +60 |                     |                     |              |                     |             |
|                                        | VUVG-...-P1 | [°C]  | −5 ... +60                                            |                     |                     |              |                     |             |
| Cleanroom class                        |             |       | ISO class 5                                           |                     |                     |              |                     |             |

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

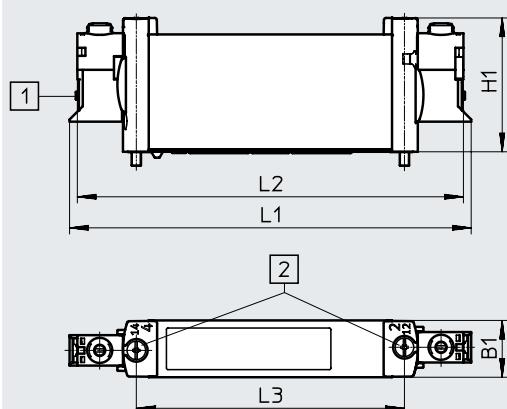
| Electrical data                  |             |        |                                                   |
|----------------------------------|-------------|--------|---------------------------------------------------|
| Electrical connection            | VUVG-...    |        | Via E-box → page 111                              |
|                                  | VUVG-...-P1 |        | Via electric pilot valve                          |
| Pilot interface                  | VUVG-...-P1 |        | To ISO 15218                                      |
| Operating voltage                | VUVG-...    | [V DC] | 5, 12 and 24 ±10%                                 |
|                                  | VUVG-...-P1 | [V DC] | 12 and 24 ±10%                                    |
|                                  |             | [V AC] | 24, 110 and 230 ±10%                              |
| Power                            | VUVG-...    | [W]    | 1, reduced to 0.35 with holding current reduction |
|                                  | VUVG-...-P1 | [W]    | 1.3                                               |
| Duty cycle                       |             | [%]    | 100                                               |
| Degree of protection to EN 60529 |             |        |                                                   |
|                                  | VUVG-...    |        | IP40 (with plug socket), IP65 (with M8)           |
|                                  | VUVG-...-P1 |        | IP65, with electric pilot valve and plug socket   |

| Information on materials |                         |
|--------------------------|-------------------------|
| Housing                  | Wrought aluminium alloy |
| Seals                    | HNBR, NBR               |
| Note on materials        | RoHS-compliant          |
| LABS (PWIS) conformity   | VDMA24364-B1/B2-L       |

## Dimensions VUVG-B18-...F-...

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

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



[1] Horizontal electrical connection [2] Manual override

 **Note**  
 More dimensions for  
 E-boxes  
 → Page 113

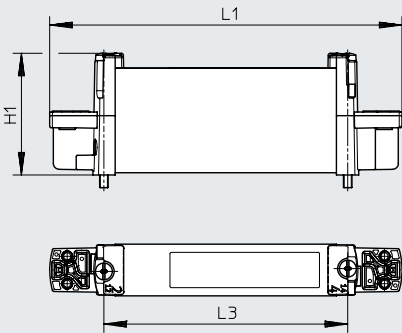
| Type               | B1   | H1   | L1    | L2    | L3   | L4    | L5    |
|--------------------|------|------|-------|-------|------|-------|-------|
| VUVG-B18-...-F-... | 18.3 | 43.1 | 129.4 | 124.4 | 86.4 | 112.2 | 109.7 |

Datasheet

Dimensions VUVG-B18-...-F-P1

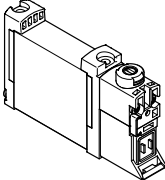
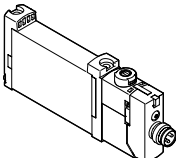
2x 3/2-way, 5/2-way and 5/3-way valve

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

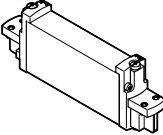


| Type              | H1   | L1    | L3   |
|-------------------|------|-------|------|
| VUVG-B18-...-F-P1 | 43.1 | 124.8 | 86.4 |

## Ordering data

| Ordering data                                                                     |                                                    | Description                                                    | Part no.                | Type                     |
|-----------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------|-------------------------|--------------------------|
| Sub-base valve G1/4, without E-box                                                |                                                    |                                                                |                         |                          |
|   | 2x 3/2-way valve                                   |                                                                |                         |                          |
|                                                                                   | External pilot air supply                          | Normally closed, pneumatic spring return                       | 574443                  | VUVG-B18-T32C-AZT-F-1P3  |
|                                                                                   |                                                    | Normally open, pneumatic spring return                         | 574444                  | VUVG-B18-T32U-AZT-F-1P3  |
|                                                                                   |                                                    | 1x normally open, 1x normally closed, pneumatic spring return  | 574445                  | VUVG-B18-T32H-AZT-F-1P3  |
|                                                                                   |                                                    | Normally closed, mechanical spring return                      | 574446                  | VUVG-B18-T32C-MZT-F-1P3  |
|                                                                                   |                                                    | Normally open, mechanical spring return                        | 574447                  | VUVG-B18-T32U-MZT-F-1P3  |
|                                                                                   |                                                    | 1x normally open, 1x normally closed, mechanical spring return | 574448                  | VUVG-B18-T32H-MZT-F-1P3  |
|                                                                                   | 5/2-way valve, single solenoid                     |                                                                |                         |                          |
|                                                                                   | External pilot air supply                          | Pneumatic/mechanical spring return                             | 574449                  | VUVG-B18-M52-RZT-F-1P3   |
|                                                                                   |                                                    | Mechanical spring return                                       | 574450                  | VUVG-B18-M52-MZT-F-1P3   |
|                                                                                   | 5/2-way valve, double solenoid                     |                                                                |                         |                          |
|                                                                                   | External pilot air supply                          |                                                                | 574451                  | VUVG-B18-B52-ZT-F-1P3    |
| 5/3-way valve                                                                     |                                                    |                                                                |                         |                          |
| External pilot air supply                                                         | Mid-position closed, mechanical spring return      | 574452                                                         | VUVG-B18-P53C-ZT-F-1P3  |                          |
|                                                                                   | Mid-position exhausted, mechanical spring return   | 574453                                                         | VUVG-B18-P53E-ZT-F-1P3  |                          |
|                                                                                   | Mid-position pressurised, mechanical spring return | 574454                                                         | VUVG-B18-P53U-ZT-F-1P3  |                          |
| Sub-base valve G1/4, with E-box R8                                                |                                                    |                                                                |                         |                          |
|  | 2x 3/2-way valve                                   |                                                                |                         |                          |
|                                                                                   | External pilot air supply                          | Normally closed, pneumatic spring return                       | 8031537                 | VUVG-B18-T32C-AZT-F-1R8L |
|                                                                                   |                                                    | Normally open, pneumatic spring return                         | 8031538                 | VUVG-B18-T32U-AZT-F-1R8L |
|                                                                                   |                                                    | 1x normally open, 1x normally closed, pneumatic spring return  | 8031539                 | VUVG-B18-T32H-AZT-F-1R8L |
|                                                                                   |                                                    | Normally closed, mechanical spring return                      | 8031540                 | VUVG-B18-T32C-MZT-F-1R8L |
|                                                                                   |                                                    | Normally open, mechanical spring return                        | 8031541                 | VUVG-B18-T32U-MZT-F-1R8L |
|                                                                                   |                                                    | 1x normally open, 1x normally closed, mechanical spring return | 8031542                 | VUVG-B18-T32H-MZT-F-1R8L |
|                                                                                   | 5/2-way valve, single solenoid                     |                                                                |                         |                          |
|                                                                                   | External pilot air supply                          | Pneumatic/mechanical spring return                             | 8031543                 | VUVG-B18-M52-RZT-F-1R8L  |
|                                                                                   |                                                    | Mechanical spring return                                       | 8031544                 | VUVG-B18-M52-MZT-F-1R8L  |
|                                                                                   | 5/2-way valve, double solenoid                     |                                                                |                         |                          |
|                                                                                   | External pilot air supply                          |                                                                | 8031545                 | VUVG-B18-B52-ZT-F-1R8L   |
| 5/3-way valve                                                                     |                                                    |                                                                |                         |                          |
| External pilot air supply                                                         | Mid-position closed, mechanical spring return      | 8031546                                                        | VUVG-B18-P53C-ZT-F-1R8L |                          |
|                                                                                   | Mid-position exhausted, mechanical spring return   | 8031547                                                        | VUVG-B18-P53E-ZT-F-1R8L |                          |
|                                                                                   | Mid-position pressurised, mechanical spring return | 8031548                                                        | VUVG-B18-P53U-ZT-F-1R8L |                          |

## Ordering data

| Ordering data                                                                     |                                | Description                                                     | Part no. | Type                  |
|-----------------------------------------------------------------------------------|--------------------------------|-----------------------------------------------------------------|----------|-----------------------|
| Sub-base valve G1/4, to ISO 15218                                                 |                                |                                                                 |          |                       |
|  | 2x 3/2-way valve               |                                                                 |          |                       |
|                                                                                   | External pilot air supply      | Normally closed, mechanical spring return                       | 8033559  | VUVG-B18-T32C-AZ-F-P1 |
|                                                                                   |                                | Normally open, mechanical spring return                         | 8033560  | VUVG-B18-T32U-AZ-F-P1 |
|                                                                                   |                                | Normally open/closed, mechanical spring return                  | 8033561  | VUVG-B18-T32H-AZ-F-P1 |
|                                                                                   |                                | Normally closed, single solenoid, mechanical spring return      | 8033562  | VUVG-B18-T32C-MZ-F-P1 |
|                                                                                   |                                | Normally open, single solenoid, mechanical spring return        | 8033563  | VUVG-B18-T32U-MZ-F-P1 |
|                                                                                   |                                | Normally open/closed, single solenoid, mechanical spring return | 8033564  | VUVG-B18-T32H-MZ-F-P1 |
|                                                                                   | 5/2-way valve, single solenoid |                                                                 |          |                       |
|                                                                                   | External pilot air supply      | Mechanical spring return                                        | 8033565  | VUVG-B18-M52-RZ-F-P1  |
|                                                                                   |                                |                                                                 | 8033566  | VUVG-B18-M52-MZ-F-P1  |
|                                                                                   | 5/2-way valve, double solenoid |                                                                 |          |                       |
|                                                                                   | External pilot air supply      |                                                                 | 8033567  | VUVG-B18-B52-Z-F-P1   |
|                                                                                   | 5/3-way valve                  |                                                                 |          |                       |
|                                                                                   | External pilot air supply      | Normally closed, mechanical spring return                       | 8033568  | VUVG-B18-P53C-Z-F-P1  |
|                                                                                   |                                | Mid-position exhausted, mechanical spring return                | 8033569  | VUVG-B18-P53E-Z-F-P1  |
|                                                                                   |                                | Mid-position pressurised, mechanical spring return              | 8033570  | VUVG-B18-P53U-Z-F-P1  |

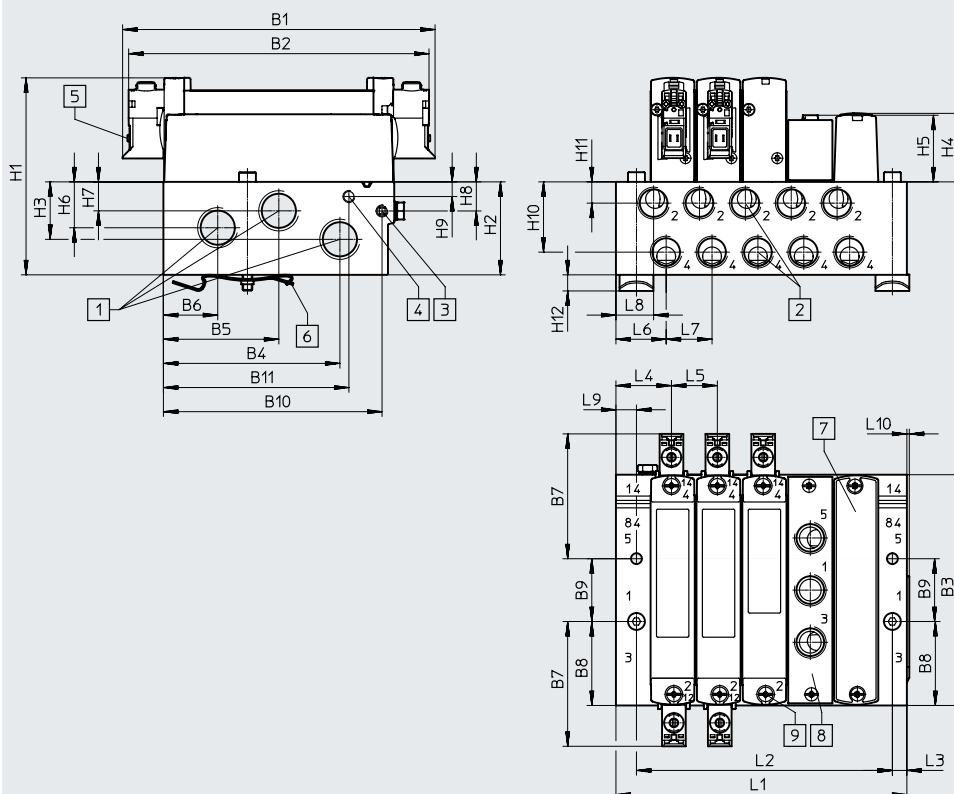
## Manifold assembly

Sub-base valve for  
Manifold assembly  
Connection G1/4



### Dimensions

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



-  **Note**

More dimensions for  
E-boxes  
→ Page 113

- |                                           |                                                       |                                                                    |                                                                         |
|-------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------|
| [1] Ports 1, 3 and 5: G3/8 (at both ends) | [5] Electrical connection for E-boxes and accessories | [6] DIN rail mounting (two M4x40 screws are required for mounting) | [8] Supply plate, ports 1, 3 and 5: G1/4                                |
| [2] Ports 2, 4: G1/4                      |                                                       | [7] Cover plate                                                    | [9] Valve/cover plate/supply plate mounting on manifold rail: M3 thread |
| [3] Ports 12, 14: M5                      |                                                       |                                                                    |                                                                         |
| [4] Ports 82, 84: M5                      |                                                       |                                                                    |                                                                         |

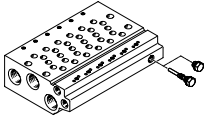
| Type            | B1    | B2    | B3   | B4   | B5   | B6   | B7   | B8   | B9 | B10  | B11  | D1  |
|-----------------|-------|-------|------|------|------|------|------|------|----|------|------|-----|
| VABM-L1-18W-G38 | 129.4 | 124.4 | 95.6 | 73.1 | 47.8 | 22.5 | 51.7 | 34.8 | 26 | 90.6 | 76.8 | 4.5 |

| Type            | H1   | H2   | H3   | H4   | H5   | H6 | H7 | H8   | H9  | H10  | H11 | H12 |
|-----------------|------|------|------|------|------|----|----|------|-----|------|-----|-----|
| VABM-L1-18W-G38 | 81.6 | 38.5 | 11.5 | 28.4 | 27.6 | 19 | 12 | 12.1 | 6.1 | 29.1 | 8.8 | 6.5 |

| Type            | L3 | L4 | L5 | L6   | L7 | L8   | L9  | L10 |
|-----------------|----|----|----|------|----|------|-----|-----|
| VABM-L1-18W-G38 | 6  | 23 | 19 | 20.8 | 19 | 15.6 | 8.5 | 1   |

| Valve positions | 2    | 3    | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 12    | 14    | 16    |
|-----------------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1              | 63.5 | 82.5 | 101.5 | 120.5 | 139.5 | 158.5 | 177.5 | 196.5 | 215.5 | 253.5 | 291.5 | 329.5 |
| L2              | 49   | 68   | 87    | 106   | 125   | 144   | 163   | 182   | 201   | 239   | 277   | 315   |
| VABM weight [g] | 232  | 306  | 380   | 454   | 528   | 602   | 676   | 750   | 824   | 972   | 1120  | 1268  |

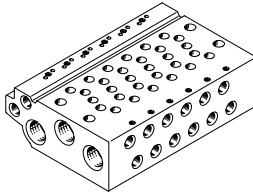
## Ordering data

| Technical data – Manifold rails <sup>1)</sup>                                     |            |         |                 |                 |                         |                    |             |                                          |          |      |
|-----------------------------------------------------------------------------------|------------|---------|-----------------|-----------------|-------------------------|--------------------|-------------|------------------------------------------|----------|------|
|                                                                                   | Connection |         |                 | CRC             | Material <sup>3)</sup>  | Operating pressure |             | Max. tightening torque for mounting [Nm] |          |      |
|                                                                                   | 2, 4       | 1, 3, 5 | 12/14,<br>82/84 |                 |                         | [MPa]              | [bar]       | Valve                                    | DIN rail | Wall |
|  | G1/4       | G3/8    | M5              | 2 <sup>2)</sup> | Wrought aluminium alloy | −0.09 ... 1        | −0.9 ... 10 | 1.18                                     | 1.5      | 3    |

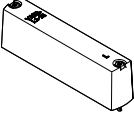
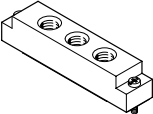
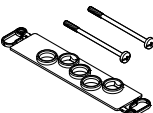
1) Blanking plugs are included with the manifold rail.

2) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

3) Information on materials: RoHS-compliant.

| Ordering data – Manifold rails                                                    |                     |                    |        |                    |
|-----------------------------------------------------------------------------------|---------------------|--------------------|--------|--------------------|
| Description                                                                       |                     | Part no.           | Type   |                    |
| Manifold rail for sub-base valve G1/4                                             |                     |                    |        |                    |
|  | For size B18 (G1/4) | 2 valve positions  | 574467 | VABM-L1-18W-G38-2  |
|                                                                                   |                     | 3 valve positions  | 574468 | VABM-L1-18W-G38-3  |
|                                                                                   |                     | 4 valve positions  | 574469 | VABM-L1-18W-G38-4  |
|                                                                                   |                     | 5 valve positions  | 574470 | VABM-L1-18W-G38-5  |
|                                                                                   |                     | 6 valve positions  | 574471 | VABM-L1-18W-G38-6  |
|                                                                                   |                     | 7 valve positions  | 574472 | VABM-L1-18W-G38-7  |
|                                                                                   |                     | 8 valve positions  | 574473 | VABM-L1-18W-G38-8  |
|                                                                                   |                     | 9 valve positions  | 574474 | VABM-L1-18W-G38-9  |
|                                                                                   |                     | 10 valve positions | 574475 | VABM-L1-18W-G38-10 |
|                                                                                   |                     | 12 valve positions | 574476 | VABM-L1-18W-G38-12 |
|                                                                                   |                     | 14 valve positions | 574477 | VABM-L1-18W-G38-14 |
|                                                                                   |                     | 16 valve positions | 574478 | VABM-L1-18W-G38-16 |

## Ordering data

| Ordering data – Accessories                                                      |                                                                |                                                               |                             |
|----------------------------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|-----------------------------|
|                                                                                  | Description                                                    | Part no.                                                      | Type                        |
| Cover plate                                                                      |                                                                |                                                               | Datasheets → Internet: vabb |
|  | For valve position on manifold rail, including screws and seal | 574482                                                        | VABB-L1-18                  |
| Separator                                                                        |                                                                |                                                               | Datasheets → Internet: vabd |
|  | For creating pressure zones                                    | 574483                                                        | VABD-14-B                   |
| Supply plate                                                                     |                                                                |                                                               | Datasheets → Internet: vabf |
|  | For valve position on manifold rail, including screws and seal | 574481                                                        | VABF-L1-18-P3A4-G14         |
| Seals                                                                            |                                                                |                                                               | Datasheets → Internet: vabd |
|  | For sub-base valves G1/4                                       | Delivery quantity: 10 sets<br>(each with 2 screws and 1 seal) | 574480<br>VABD-L1-18B-S-G14 |

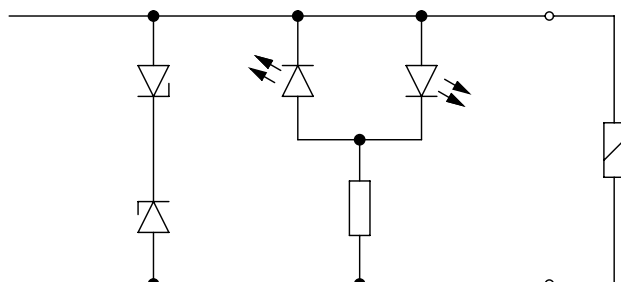
**Note**

Connect supply plate at port 1 with compressed air. Reverse operation (pressure at port 3, 5) is not permissible.

## E-boxes

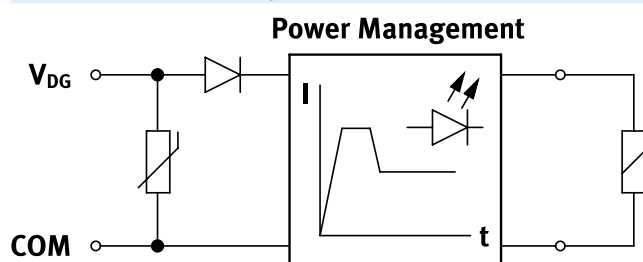
| General technical data            |                |    |    |    |              |                           |                           |
|-----------------------------------|----------------|----|----|----|--------------|---------------------------|---------------------------|
| Variants                          | H2             | H3 | S2 | S3 | L-           | R1                        | R8                        |
| Mounting position                 | Any            |    |    |    |              |                           |                           |
| Electrical connection             | 2-pin, socket  |    |    |    | Flying leads | M8 individual plug, 4-pin | M8 individual plug, 3-pin |
| Degree of protection              | IP40           |    |    |    |              | IP65                      |                           |
| Signal status indication          | LED            |    |    |    |              |                           |                           |
| Type of mounting                  | Clip           |    |    |    |              | Self-tapping screw        |                           |
| Note on materials                 | RoHS-compliant |    |    |    |              |                           |                           |
| Housing colour                    | Black          |    |    |    |              |                           |                           |
| Information on materials: Housing | PA             |    |    |    |              |                           |                           |
| Certification                     | RCM            |    |    |    |              |                           |                           |

## Protective circuit without holding current reduction



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

## Protective circuit with holding current reduction

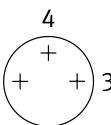
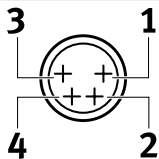


The 24 V DC design (R type) additionally features holding current reduction. This reduces the power from 1 W to 0.35 W.

## Pin assignment for E-box

|                                               | Pin                              | Description |
|-----------------------------------------------|----------------------------------|-------------|
| <b>Rectangular plug, connection pattern H</b> |                                  |             |
|                                               | VAVE-L1-1VH2-LP, VAVE-L1-1VH3-LP |             |
|                                               | 1                                | + or –      |
|                                               | 2                                | + or –      |
|                                               | VAVE-L1-1H2-LR, VAVE-L1-1H3-LR   |             |
|                                               | 1                                | +           |
|                                               | 2                                | –           |
| <b>Rectangular plug, connection pattern S</b> |                                  |             |
|                                               | VAVE-L1-1VS2-LP, VAVE-L1-1VS3-LP |             |
|                                               | 1                                | + or –      |
|                                               | 2                                | + or –      |
|                                               | VAVE-L1-1S2-LR, VAVE-L1-1S3-LR   |             |
|                                               | 1                                | –           |
|                                               | 2                                | +           |
| <b>Stranded conductor, 2-pin</b>              |                                  |             |
|                                               | VAVE-L1-1VL1...4-LP              |             |
|                                               | 1                                | + or –      |
|                                               | 2                                | + or –      |
|                                               | VAVE-L1-1L1...4-LR               |             |
|                                               | 1                                | –           |
|                                               | 2                                | +           |

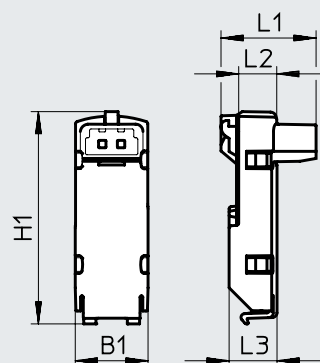
E-boxes

| Pin assignment for E-box                                                            |                 | Pin      | Description                       |
|-------------------------------------------------------------------------------------|-----------------|----------|-----------------------------------|
| Round plug, M8, 3-pin                                                               |                 |          |                                   |
|    | VAVE-L1-1VR8-LP |          |                                   |
|                                                                                     | 1               | Not used | Without holding current reduction |
|                                                                                     | 3               | + or –   |                                   |
|                                                                                     | 4               | + or –   |                                   |
|                                                                                     | VAVE-L1-1R8-LR  |          |                                   |
|                                                                                     | 1               | Not used | With holding current reduction    |
|                                                                                     | 3               | + or –   |                                   |
|                                                                                     | 4               | + or –   |                                   |
| Round plug, M8, 4-pin                                                               |                 |          |                                   |
|     | VAVE-L1-1VR1-LP |          |                                   |
|                                                                                     | 1               | Not used | Without holding current reduction |
|                                                                                     | 2               | Not used |                                   |
|                                                                                     | 3               | + or –   |                                   |
|                                                                                     | 4               | + or –   |                                   |
|                                                                                     | VAVE-L1-1R1-LR  |          |                                   |
|                                                                                     | 1               | Not used | With holding current reduction    |
|                                                                                     | 2               | Not used |                                   |
|                                                                                     | 3               | + or –   |                                   |
|                                                                                     | 4               | + or –   |                                   |
| Open cable end                                                                      |                 |          |                                   |
|  | VAVE-L1-1VK...  |          |                                   |
|                                                                                     | BK              | + or –   | Without holding current reduction |
|                                                                                     | BK              | + or –   |                                   |
|                                                                                     | VAVE-L1-1K...   |          |                                   |
|                                                                                     | BK              | + or –   | With holding current reduction    |
|                                                                                     | BK              | + or –   |                                   |

## E-boxes

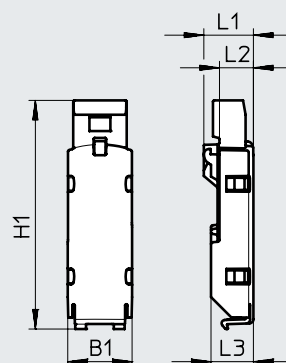
## Dimensions

E-boxes, S2/H2



| Type            | B1  | H1<br>±0.5 | L1   | L2  | L3  |
|-----------------|-----|------------|------|-----|-----|
| VAVE-L1-1VS2-LP | 9.8 | 28.8       | 12.9 | 5.2 | 6.5 |
| VAVE-L1-1S2-LR  |     |            | 10.8 |     |     |
| VAVE-L1-1VH2-LP |     |            |      |     |     |
| VAVE-L1-H2-LR   |     |            |      |     |     |

E-boxes, S3/H3

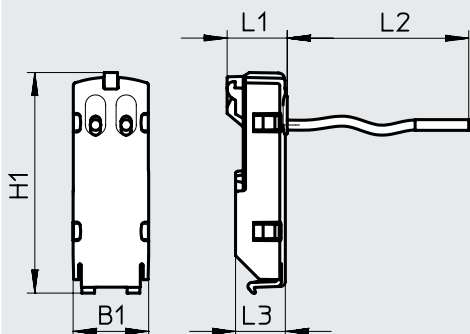


| Type            | B1  | H1<br>±0.5 | L1  | L2  | L3  |
|-----------------|-----|------------|-----|-----|-----|
| VAVE-L1-1VS3-LP | 9.8 | 35         | 7.6 | 5.2 | 6.5 |
| VAVE-L1-1S3-LR  |     | 33.6       | 7.5 |     |     |
| VAVE-L1-1VH3-LP |     |            |     |     |     |
| VAVE-L1-1H3-LR  |     |            |     |     |     |

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

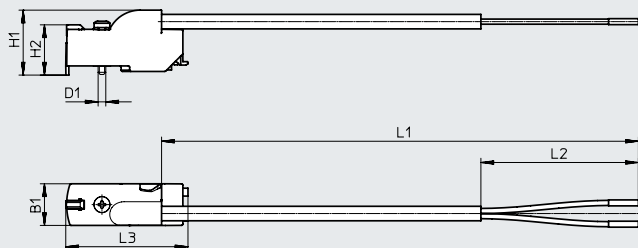
## Dimensions

E-boxes, VL11 ...1 4



| Type            | B1  | H1<br>±0.5 | L1  | L2  | L3  |
|-----------------|-----|------------|-----|-----|-----|
| VAVE-L1-1VL1-LP | 9.8 | 28.8       | 7.9 | 0.5 | 6.5 |
| VAVE-L1-1L1-LR  |     |            |     |     |     |
| VAVE-L1-1VL2-LP |     |            |     | 1   |     |
| VAVE-L1-1L2-LR  |     |            |     |     |     |
| VAVE-L1-1VL3-LP |     |            |     | 2.5 |     |
| VAVE-L1-1L3-LR  |     |            |     |     |     |
| VAVE-L1-1VL4-LP |     |            |     | 5   |     |
| VAVE-L1-1L4-LR  |     |            |     |     |     |

E-boxes, VK6 ... 9



| Type            | B1  | H1   | H2<br>±0.3 | L1  | L2<br>±5 | L3<br>±0.5 | D1<br>Ø |
|-----------------|-----|------|------------|-----|----------|------------|---------|
| VAVE-L1-1VK6-LP | 9.8 | 15.3 | 11.8       | 0.5 | 50       | 28.7       | 1.8     |
| VAVE-L1-1VK7-LP |     |      |            | 1.0 |          |            |         |
| VAVE-L1-1VK8-LP |     |      |            | 2.5 |          |            |         |
| VAVE-L1-1VK9-LP |     |      |            | 5.0 |          |            |         |
| VAVE-L1-1K6-LR  |     |      |            | 0.5 |          |            |         |
| VAVE-L1-1K7-LR  |     |      |            | 1.0 |          |            |         |
| VAVE-L1-1K8-LR  |     |      |            | 2.5 |          |            |         |
| VAVE-L1-1K9-LR  |     |      |            | 5.0 |          |            |         |

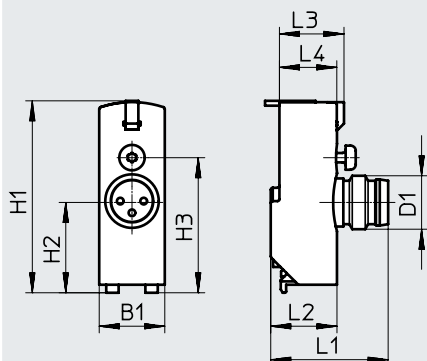
Download CAD data → [www.festo.com](http://www.festo.com)

## E-boxes

## Dimensions

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E-boxes, R8/R1

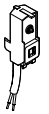
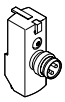


| Type            | B1  | H1   | H2   | H3   | L1   | L2  | L3  | L4  | D1<br>ø |
|-----------------|-----|------|------|------|------|-----|-----|-----|---------|
| VAVE-L1-1VR8-LP | 9.8 | 28.7 | 13.7 | 20.2 | 18.4 | 9.9 | 9.7 | 8.6 | M8      |
| VAVE-L1-1VR1-LP |     |      |      |      |      |     |     |     |         |

## Ordering data – E-boxes

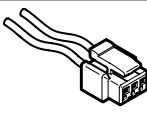
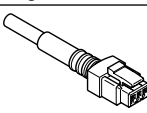
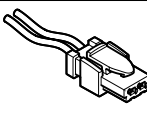
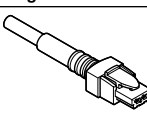
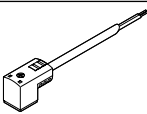
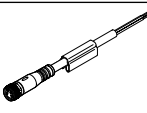
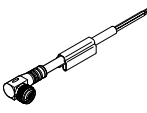
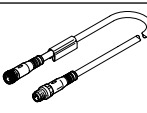
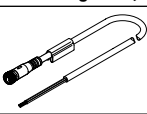
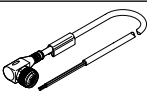
| Design | Plug           | Additional functions                             | Ambient temperature [°C] | Code | Power [W] | Voltage [V DC] | Part no. | Type            |
|--------|----------------|--------------------------------------------------|--------------------------|------|-----------|----------------|----------|-----------------|
|        | NEBV-H1 ...    | Spark arresting, bipolar, IP40                   | –5 ... +50               | H2   | 1         | 12/24          | 566714   | VAVE-L1-1VH2-LP |
|        |                | Spark arresting, holding current reduction, IP40 | –5 ... +60               | H2R  | 0.35      | 24             | 566716   | VAVE-L1-1H2-LR  |
|        | NEBV-H1 ...    | Spark arresting, bipolar, IP40                   | –5 ... +50               | H3   | 1         | 12/24          | 566715   | VAVE-L1-1VH3-LP |
|        |                | Spark arresting, holding current reduction, IP40 | –5 ... +60               | H3R  | 0.35      | 24             | 566717   | VAVE-L1-1H3-LR  |
|        | NEBV-HS ...    | Spark arresting, bipolar, IP40                   | –5 ... +50               | S2   | 1         | 12/24          | 566718   | VAVE-L1-1VS2-LP |
|        |                | Spark arresting, holding current reduction, IP40 | –5 ... +60               | S2R  | 0.35      | 24             | 566720   | VAVE-L1-1S2-LR  |
|        | NEBV-HS ...    | Spark arresting, bipolar, IP40                   | –5 ... +50               | S3   | 1         | 12/24          | 566719   | VAVE-L1-1VS3-LP |
|        |                | Spark arresting, holding current reduction, IP40 | –5 ... +60               | S3R  | 0.35      | 24             | 566721   | VAVE-L1-1S3-LR  |
|        | Open cable end | Spark arresting, bipolar, IP40                   | –5 ... +50               | L1   | 1         | 12/24          | 566722   | VAVE-L1-1VL1-LP |
|        |                |                                                  |                          | L2   |           |                | 566723   | VAVE-L1-1VL2-LP |
|        |                |                                                  |                          | L3   |           |                | 566724   | VAVE-L1-1VL3-LP |
|        |                |                                                  |                          | L4   |           |                | 566725   | VAVE-L1-1VL4-LP |
|        |                | Spark arresting, holding current reduction, IP40 | –5 ... +60               | L1R  | 0.35      | 24             | 566726   | VAVE-L1-1L1-LR  |
|        |                |                                                  |                          | L2R  |           |                | 566727   | VAVE-L1-1L2-LR  |
|        |                |                                                  |                          | L3R  |           |                | 566728   | VAVE-L1-1L3-LR  |
|        |                |                                                  |                          | L4R  |           |                | 566729   | VAVE-L1-1L4-LR  |

## E-boxes

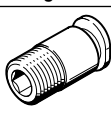
| Ordering data – E-boxes                                                           |                |                                                           |                          |      |       |         |              |          |                 |
|-----------------------------------------------------------------------------------|----------------|-----------------------------------------------------------|--------------------------|------|-------|---------|--------------|----------|-----------------|
| Design                                                                            | Plug           | Additional functions                                      | Ambient temperature [°C] | Code | Power | Voltage | Cable length | Part no. | Type            |
|                                                                                   |                |                                                           |                          |      | [W]   | [V DC]  | [m]          |          |                 |
|  | Open cable end | Spark arresting, bipolar, IP65                            | -5 ... +60               | K6   | 1     | 12/24   | 0.5          | 573941   | VAVE-L1-1VK6-LP |
|                                                                                   |                |                                                           |                          | K7   |       |         | 1            | 573942   | VAVE-L1-1VK7-LP |
|                                                                                   |                |                                                           |                          | K8   |       |         | 2.5          | 573943   | VAVE-L1-1VK8-LP |
|                                                                                   |                |                                                           |                          | K9   |       |         | 5            | 573944   | VAVE-L1-1VK9-LP |
|                                                                                   |                | Spark arresting, bipolar, holding current reduction, IP65 | -5 ... +60               | K6R  | 0.35  | 24      | 0.5          | 573945   | VAVE-L1-1K6-LR  |
|                                                                                   |                |                                                           |                          | K7R  |       |         | 1            | 573946   | VAVE-L1-1K7-LR  |
|                                                                                   |                |                                                           |                          | K8R  |       |         | 2.5          | 573947   | VAVE-L1-1K8-LR  |
|                                                                                   |                |                                                           |                          | K9R  |       |         | 5            | 573948   | VAVE-L1-1K9-LR  |
|  | NEBU-M8 ...    | Spark arresting, bipolar, IP65                            | -5 ... +60               | R8   | 1     | 12/24   | –            | 573919   | VAVE-L1-1VR8-LP |
|                                                                                   |                | Spark arresting, bipolar, holding current reduction, IP65 |                          | R8R  | 0.35  | 24      | –            | 573920   | VAVE-L1-1R8-LR  |
|                                                                                   |                | Spark arresting, bipolar, IP65                            |                          | R1   | 1     | 12/24   | –            | 573921   | VAVE-L1-1VR1-LP |
|                                                                                   |                | Spark arresting, bipolar, holding current reduction, IP65 |                          | R1R  | 0.35  | 24      | –            | 573922   | VAVE-L1-1R1-LR  |

| Ordering data – Pilot controls                                                      |                             |                 |                          |                         |        |          |                         |         |                         |
|-------------------------------------------------------------------------------------|-----------------------------|-----------------|--------------------------|-------------------------|--------|----------|-------------------------|---------|-------------------------|
| Design                                                                              | Electrical connection       | Manual override | Ambient temperature [°C] | Voltage                 |        | Part no. | Type                    |         |                         |
|                                                                                     |                             |                 |                          | [V DC]                  | [V AC] |          |                         |         |                         |
|    | Type C to DIN EN 175301-803 | Non-detenting   | −5 ... +50               | 24                      | –      | 8040564  | VSCS-B-M32-MH-WA-1C1-8  |         |                         |
|                                                                                     |                             |                 |                          | 12                      | –      | 8040565  | VSCS-B-M32-MH-WA-5C1-8  |         |                         |
|                                                                                     |                             |                 |                          | –                       | 24     | 8040566  | VSCS-B-M32-MH-WA-1AC1-8 |         |                         |
|                                                                                     |                             |                 |                          | –                       | 110    | 8040567  | VSCS-B-M32-MH-WA-2AC1-8 |         |                         |
|                                                                                     |                             |                 |                          | –                       | 230    | 8040568  | VSCS-B-M32-MH-WA-3AC1-8 |         |                         |
|                                                                                     | Type C to industry standard |                 |                          | 24                      | –      | 8137327  | VSCS-B-M32-MH-WA-1E1-8  |         |                         |
|  | M12 to IEC 61076-2-101      |                 |                          | 24                      | –      | 8040569  | VSCS-B-M32-MH-WA-1R3-8  |         |                         |
|  | Type C to DIN EN 175301-803 |                 |                          | Non-detenting/detenting |        | 24       | –                       | 8040570 | VSCS-B-M32-MD-WA-1C1-8  |
|                                                                                     |                             |                 |                          |                         |        | 12       | –                       | 8040571 | VSCS-B-M32-MD-WA-5C1-8  |
|                                                                                     |                             |                 |                          |                         |        | –        | 24                      | 8040572 | VSCS-B-M32-MD-WA-1AC1-8 |
|                                                                                     |                             |                 |                          |                         |        | –        | 110                     | 8040573 | VSCS-B-M32-MD-WA-2AC1-8 |
|                                                                                     |                             | –               | 230                      |                         |        | 8040574  | VSCS-B-M32-MD-WA-3AC1-8 |         |                         |
|                                                                                     | Type C to industry standard | 24              | –                        |                         |        | 8137328  | VSCS-B-M32-MD-WA-1E1-8  |         |                         |
|  | M12 to IEC 61076-2-101      | 24              | –                        |                         |        | 8040575  | VSCS-B-M32-MD-WA-1R3-8  |         |                         |

## Accessories

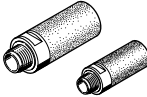
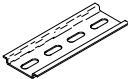
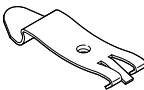
| Ordering data                                                                      |                                                                                         | Cable length [m] | Part no.                    | Type                         |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------|-----------------------------|------------------------------|
| Description                                                                        |                                                                                         |                  |                             |                              |
| Plug socket with cable, not sheathed, open end                                     |                                                                                         |                  | Datasheets → Internet: nebv |                              |
|    | For E-box code H2, H2R or H3, H3R,<br>2-pin socket                                      | 0.5              | 566654                      | NEBV-H1G2-KN-0.5-N-LE2       |
|                                                                                    |                                                                                         | 1                | 566655                      | NEBV-H1G2-KN-1-N-LE2         |
|                                                                                    |                                                                                         | 2.5              | 566656                      | NEBV-H1G2-KN-2.5-N-LE2       |
|                                                                                    |                                                                                         | 5                | 566657                      | NEBV-H1G2-KN-5-N-LE2         |
| Plug socket with cable, sheathed, open end                                         |                                                                                         |                  | Datasheets → Internet: nebv |                              |
|    | For E-box code H2, H2R or H3, H3R,<br>2-pin socket                                      | 0.5              | 566658                      | NEBV-H1G2-P-0.5-N-LE2        |
|                                                                                    |                                                                                         | 1                | 566659                      | NEBV-H1G2-P-1-N-LE2          |
|                                                                                    |                                                                                         | 2.5              | 566660                      | NEBV-H1G2-P-2.5-N-LE2        |
|                                                                                    |                                                                                         | 5                | 566661                      | NEBV-H1G2-P-5-N-LE2          |
| Plug socket with cable, not sheathed, open end                                     |                                                                                         |                  | Datasheets → Internet: nebv |                              |
|    | For E-box code S2, S2R or S3, S3R,<br>2-pin socket,                                     | 0.5              | 566662                      | NEBV-HSG2-KN-0.5-N-LE2       |
|                                                                                    |                                                                                         | 1                | 566663                      | NEBV-HSG2-KN-1-N-LE2         |
|                                                                                    |                                                                                         | 2.5              | 566664                      | NEBV-HSG2-KN-2.5-N-LE2       |
|                                                                                    |                                                                                         | 5                | 566665                      | NEBV-HSG2-KN-5-N-LE2         |
| Plug socket with cable, sheathed, open end                                         |                                                                                         |                  | Datasheets → Internet: nebv |                              |
|    | For E-box code S2, S2R or S3, S3R,<br>2-pin socket                                      | 0.5              | 566666                      | NEBV-HSG2-P-0.5-N-LE2        |
|                                                                                    |                                                                                         | 1                | 566667                      | NEBV-HSG2-P-1-N-LE2          |
|                                                                                    |                                                                                         | 2.5              | 566668                      | NEBV-HSG2-P-2.5-N-LE2        |
|                                                                                    |                                                                                         | 5                | 566669                      | NEBV-HSG2-P-5-N-LE2          |
| Connecting cable, open end                                                         |                                                                                         |                  |                             |                              |
|  | For pilot valve VSCS to ISO 15218,<br>narrow socket, type C to EN 175301-803            | 2.5              | 8032623                     | NEBV-C1SW2L-P-K-2.5-N-LE2-S9 |
|                                                                                    |                                                                                         | 5                | 8032626                     | NEBV-C1SW2L-P-K-5-N-LE2-S9   |
|                                                                                    |                                                                                         | 10               | 8032627                     | NEBV-C1SW2L-P-K-10-N-LE2-S9  |
|                                                                                    |                                                                                         | 2.5              | 8032628                     | NEBV-C1SW3-K-2.5-N-LE3-S9    |
|                                                                                    |                                                                                         | 5                | 8032629                     | NEBV-C1SW3-K-5-N-LE3-S9      |
| Connecting cable, open end                                                         |                                                                                         |                  | Datasheets → Internet: neba |                              |
|  | For E-box code R8<br>3-pin, straight socket, M8x1                                       | 2.5              | 8078223                     | NEBA-M8G3-U-2.5-N-LE3        |
|                                                                                    |                                                                                         | 5                | 8078224                     | NEBA-M8G3-U-5-N-LE3          |
|                                                                                    | For E-box code R1<br>4-pin, straight socket, M8x1                                       | 2.5              | 8078227                     | NEBA-M8G4-U-2.5-N-LE4        |
|                                                                                    |                                                                                         | 5                | 8078228                     | NEBA-M8G4-U-5-N-LE4          |
| Connecting cable, open end                                                         |                                                                                         |                  | Datasheets → Internet: neba |                              |
|  | For E-box code R8<br>3-pin, angled socket, M8x1                                         | 2.5              | 8078230                     | NEBA-M8W3-U-2.5-N-LE3        |
|                                                                                    |                                                                                         | 5                | 8078231                     | NEBA-M8W3-U-5-N-LE3          |
|                                                                                    | For E-box code R1<br>4-pin, angled socket, M8x1                                         | 2.5              | 8078233                     | NEBA-M8W4-U-2.5-N-LE4        |
|                                                                                    |                                                                                         | 5                | 8078234                     | NEBA-M8W4-U-5-N-LE4          |
| Connecting cable                                                                   |                                                                                         |                  | Datasheets → Internet: nebu |                              |
|  | For E-box code R8,<br>3-pin, straight socket, M8x1                                      | 0.5              | 541346                      | NEBU-M8G3-K-0.5-M8G3         |
|                                                                                    |                                                                                         | 1                | 541347                      | NEBU-M8G3-K-1-M8G3           |
|                                                                                    |                                                                                         | 2.5              | 541348                      | NEBU-M8G3-K-2.5-M8G3         |
|                                                                                    |                                                                                         | 5                | 541349                      | NEBU-M8G3-K-5-M8G3           |
|                                                                                    |                                                                                         | 10               | 569844                      | NEBU-M8G3-K-10-M8G3          |
|                                                                                    | For E-box code R1,<br>4-pin, straight socket, M8x1                                      | 2.5              | 554035                      | NEBU-M8G4-K-2.5-M8G4         |
| Connecting cable, open end                                                         |                                                                                         |                  | Datasheets → Internet: neba |                              |
|  | For pilot valve VSCS to ISO 15218,<br>straight socket, M12x1, A-coded to EN 61076-2-101 | 2.5              | 8078236                     | NEBA-M12G5-U-2.5-N-LE3       |
|                                                                                    |                                                                                         | 5                | 8078237                     | NEBA-M12G5-U-5-N-LE3         |
|  | For pilot valve VSCS to ISO 15218,<br>angled socket, M12x1, A-coded to EN 61076-2-101   | 2.5              | 8078245                     | NEBA-M12W5-U-2.5-N-LE3       |
|                                                                                    |                                                                                         | 5                | 8078246                     | NEBA-M12W5-U-5-N-LE3         |

## Accessories

| Ordering data                                                                     |                             | Description                |                      | Part no. | Type            | PU <sup>1)</sup> |
|-----------------------------------------------------------------------------------|-----------------------------|----------------------------|----------------------|----------|-----------------|------------------|
| Blanking plug                                                                     |                             | Datasheets → Internet: b   |                      |          |                 |                  |
|  | For manifold rail and valve | M5 thread                  |                      | 3843     | B-M5            | 10               |
|                                                                                   |                             | M7 thread                  |                      | 174309   | B-M7            | 10               |
|                                                                                   | For manifold rail           | G1/8 thread                |                      | 3568     | B-1/8           | 10               |
|                                                                                   |                             | G1/4 thread                |                      | 3569     | B-1/4           | 10               |
|                                                                                   |                             | G3/8 thread                |                      | 3570     | B-3/8           | 10               |
|  | For valve                   | G1/8 thread                |                      | 578406   | NPQH-BK-G18-P10 | 10               |
|                                                                                   |                             | G1/4 thread                |                      | 578407   | NPQH-BK-G14-P10 | 10               |
|                                                                                   |                             |                            |                      |          |                 |                  |
| Reducing nipple                                                                   |                             |                            |                      |          |                 |                  |
|  | Male thread M7              | Female thread M5           |                      | 161359   | D-M5I-M7A-ISK   | 10               |
|                                                                                   |                             |                            |                      |          |                 |                  |
| Fittings                                                                          |                             | Datasheets → Internet: qsm |                      |          |                 |                  |
|  | M3 thread                   | For tubing Ø 3 mm          | Round releasing ring | 133001   | QSM-M3-3-I-R    | 10               |
|                                                                                   |                             | For tubing Ø 4 mm          | Round releasing ring | 133002   | QSM-M3-4-I-R    | 10               |
|                                                                                   | M5 thread                   | For tubing Ø 3 mm          | Round releasing ring | 133003   | QSM-M5-3-I-R    | 10               |
|                                                                                   |                             |                            | Oval releasing ring  | 153313   | QSM-M5-3-I      | 10               |
|                                                                                   |                             | For tubing Ø 4 mm          | Round releasing ring | 133004   | QSM-M5-4-I-R    | 10               |
|                                                                                   |                             |                            | Oval releasing ring  | 153315   | QSM-M5-4-I      | 10               |
|                                                                                   |                             | For tubing Ø 6 mm          | Round releasing ring | 133005   | QSM-M5-6-I-R    | 10               |
|                                                                                   |                             |                            | Oval releasing ring  | 153317   | QSM-M5-6-I      | 10               |
|                                                                                   | M7 thread                   | For tubing Ø 4 mm          | Oval releasing ring  | 153319   | QSM-M7-4-I      | 10               |
|                                                                                   |                             |                            | Round releasing ring | 133007   | QSM-M7-6-I-R    | 10               |
|                                                                                   |                             | For tubing Ø 6 mm          | Oval releasing ring  | 153321   | QSM-M7-6-I      | 10               |
|                                                                                   | G1/8 thread                 | For tubing Ø 4 mm          | Oval releasing ring  | 186106   | QS-G1/8-4-I     | 10               |
|                                                                                   |                             | For tubing Ø 6 mm          | Oval releasing ring  | 186107   | QS-G1/8-6-I     | 10               |
|                                                                                   |                             | For tubing Ø 8 mm          | Oval releasing ring  | 186109   | QS-G1/8-8-I     | 10               |
|                                                                                   |                             | For tubing Ø 10 mm         | Oval releasing ring  | 132999   | QS-G1/8-10-I    | 10               |
|                                                                                   | G1/4 thread                 | For tubing Ø 6 mm          | Oval releasing ring  | 186108   | QS-G1/4-6-I     | 10               |
|                                                                                   |                             |                            |                      | 130677   | QS-1/4-6-100    | 100              |
|                                                                                   |                             | For tubing Ø 8 mm          | Oval releasing ring  | 186110   | QS-G1/4-8-I     | 10               |
|                                                                                   |                             |                            |                      | 153016   | QS-1/4-8-I      | 10               |
|                                                                                   |                             | For tubing Ø 10 mm         | Oval releasing ring  | 186112   | QS-G1/4-10-I    | 10               |
|                                                                                   |                             |                            |                      | 153018   | QS-1/4-10-I     | 10               |
|                                                                                   | 3/8 thread                  | For tubing Ø 8 mm          | Oval releasing ring  | 130681   | QS-3/8-8-50     | 50               |
|                                                                                   |                             | For tubing Ø 10 mm         | Oval releasing ring  | 130682   | QS-3/8-10-50    | 50               |
|                                                                                   |                             | For tubing Ø 12 mm         | Oval releasing ring  | 130683   | QS-3/8-12-20    | 20               |
|                                                                                   |                             | For tubing Ø 16 mm         | Oval releasing ring  | 164957   | QS-3/8-16       | 1                |

1) Packaging unit.

## Accessories

| Ordering data                                                                      |                                                                                          | Description                                |              | Part no.     | Type            | PU <sup>1)</sup> |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------|--------------|--------------|-----------------|------------------|
| Silencer <span style="float:right">Datasheets → Internet: amte</span>              |                                                                                          |                                            |              |              |                 |                  |
|    | 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               |                  |
|                                                                                    |                                                                                          | Lower flow rate                            | 165004       | UC-1/4       | 1               |                  |
|                                                                                    | For G3/8 thread                                                                          | High flow rate                             | 2309         | U-3/8        | 1               |                  |
|                                                                                    |                                                                                          | Lower flow rate                            | 1707427      | UC-3/8       | 1               |                  |
|                                                                                    | Metal housing                                                                            |                                            | 6843         | U-3/8-B      | 1               |                  |
| DIN rail <span style="float:right">Datasheets → Internet: nrh</span>               |                                                                                          |                                            |              |              |                 |                  |
|    | To EN 60715, 35 x 7.5 (WxH)                                                              | Length: 2 m                                | 35430        | NRH-35-2000  | 1               |                  |
| DIN rail mounting <span style="float:right">Datasheets → Internet: vame</span>     |                                                                                          |                                            |              |              |                 |                  |
|  | –                                                                                        |                                            | 569998       | VAME-T-M4    | 2               |                  |
| 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              |                  |
| Identification holder <span style="float:right">Datasheets → Internet: aslr</span> |                                                                                          |                                            |              |              |                 |                  |
|  | Holder for an inscription label and covering for the retaining screw and manual override |                                            | 570818       | ASLR-D-L1    | 10              |                  |
| Mounting kit <span style="float:right">Datasheets → Internet: davm</span>          |                                                                                          |                                            |              |              |                 |                  |
|  | With mounting bracket for lateral valve mounting                                         | For standards-based cylinder DSBC-32...40  | For VUVG-L14 | 2568514      | DAVM-MW-V1-32-V | 1                |
|                                                                                    |                                                                                          | For standards-based cylinder DSBC-50...125 | For VUVG-L18 | 2612128      | DAVM-MW-V1-50-V | 1                |

1) Packaging unit.

## Accessories

| Ordering data                                                                       |                                     | Description                                                                              | Part no.               | Type           | PU <sup>1)</sup> |    |
|-------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------|------------------------|----------------|------------------|----|
| Check valve                                                                         |                                     |                                                                                          |                        |                |                  |    |
|    | For manifold rails<br>VABM-L1-10... | For blocking the flow in the event of back pressure in duct 3 and 5                      | 8047364                | VABF-L1-10H-H2 | 10               |    |
|                                                                                     | For manifold rails<br>VABM-L1-14... |                                                                                          | 8047365                | VABF-L1-14-H2  | 10               |    |
| Flow restrictor                                                                     |                                     |                                                                                          |                        |                |                  |    |
|    | For manifold rails<br>VABM-L1-10... | For setting the flow rate for 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 for 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<br>VABM-L1-14... | For setting the flow rate for 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<br>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<br>VABM-L1-14... | Two of each size, for Ø 5.8 mm                                                           | 8062201                | VFFG-T-F6-A-V1 | 14               |    |

1) Packaging unit.