# Pneumatic valves VUWG

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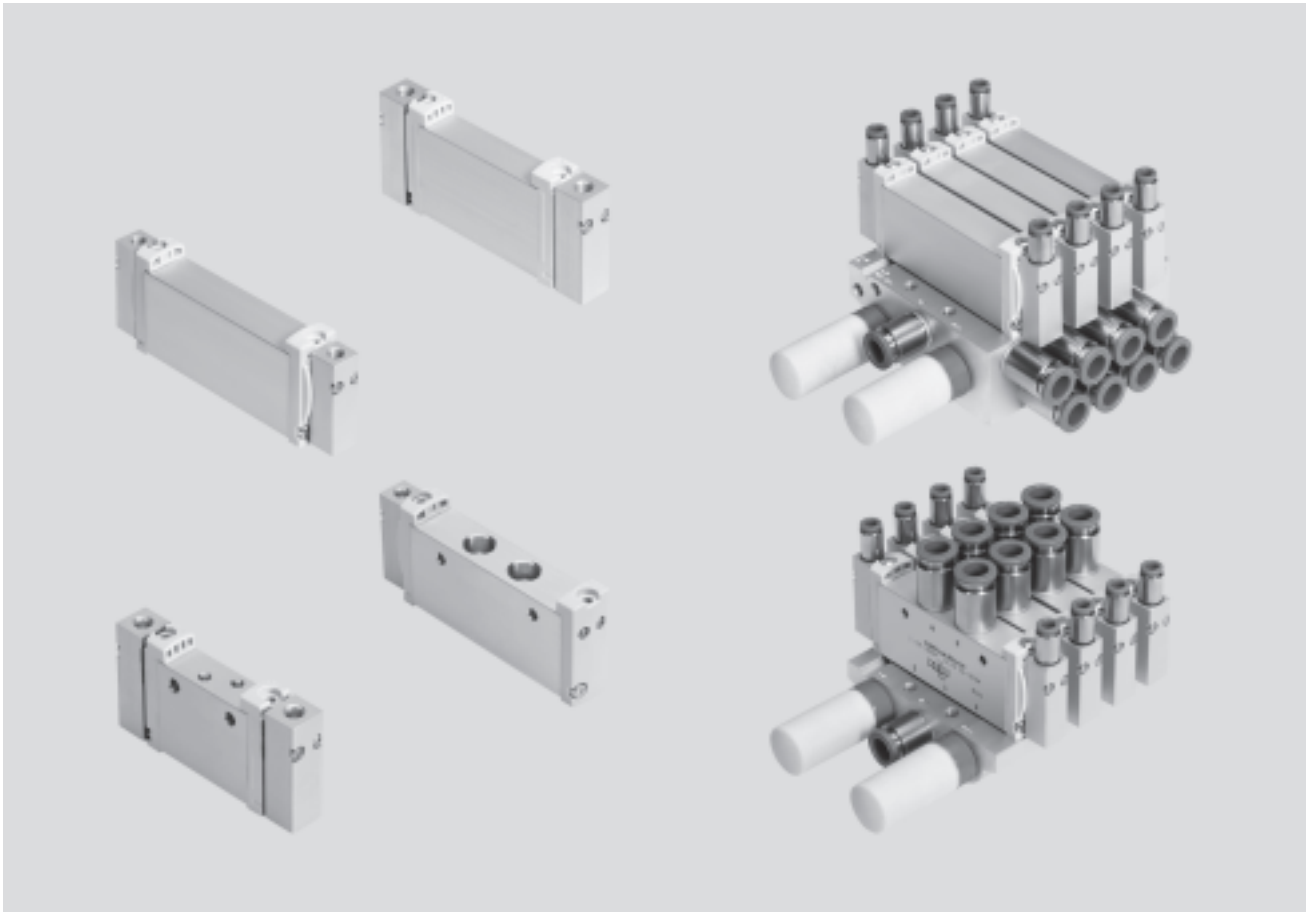
New

# Pneumatic valves VUWG

Key features



**Innovative**

- Various connection sizes (M3, M5, M7, G1⁄8)
- Maximum pressure 10 bar
- 2x3/2-way valve in one valve housing

**Versatile**

- Wide range of valve functions
- In-line valves can be used as individual valves or manifold valves
- M5/M7 in-line valves can be mixed on one manifold rail
- Identical sub-base valves for M5 or M7 manifold rail
- Manifolds with pressure zones
- Choice of quick plug connectors

**Reliable**

- Sturdy and durable metal components
  - Valves
  - Manifold rails
- Convenient servicing thanks to valves that can be replaced quickly and easily

**Easy to mount**

- Secure mounting on wall or H-rail
- Easy mounting thanks to captive screws and seals

# Pneumatic valves VUWG

Key features – Pneumatic components

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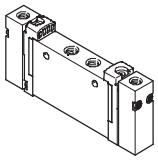
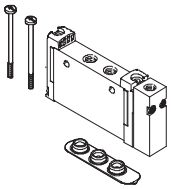
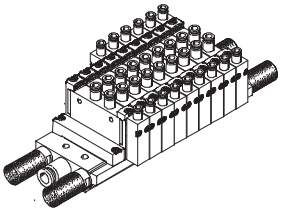
## Individual valves and valve manifolds



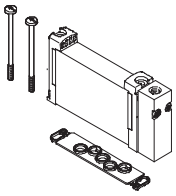
VUWG-L in-line valve as individual valve



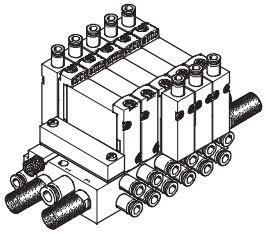
VUWG-S in-line valve for manifold assembly



VUWG-S valve manifold consisting of in-line valves

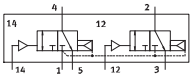


VUWG-B sub-base valve for manifold assembly

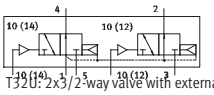


VUWG-B valve manifold consisting of sub-base valves

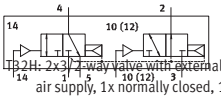
## Functions



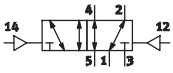
T32C: 2x3/2-way valve with external pilot air supply, 2x normally closed



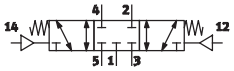
T32U: 2x3/2-way valve with external pilot air supply, 2x normally open



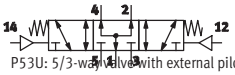
T32H: 2x3/2-way valve with external pilot air supply, 1x normally closed, 1x normally open



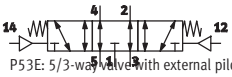
B52: 5/2-way double pilot valve with external pilot air supply



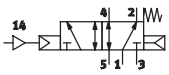
P53C: 5/3-way valve with external pilot air supply, mid-position closed



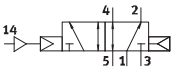
P53U: 5/3-way valve with external pilot air supply, mid-position pressurised



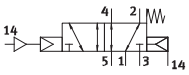
P53E: 5/3-way valve with external pilot air supply, mid-position exhausted



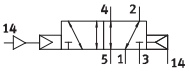
M52: 5/2-way single pilot valve (in-line valve), external pilot air supply, mechanical/pneumatic spring, size 10A/10



M52: 5/2-way single pilot valve (in-line valve), external pilot air supply, pneumatic spring, size 14



M52: 5/2-way single pilot valve (sub-base), external pilot air supply, mechanical/pneumatic spring, size 10A/10



M52: 5/2-way single pilot valve (sub-base), external pilot air supply, pneumatic spring size 14

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# Pneumatic valves VUWG

Key features – Pneumatic components

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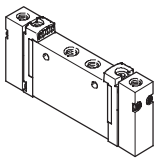
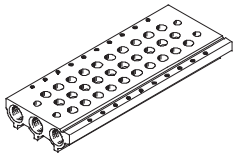
## VUWG basic valves



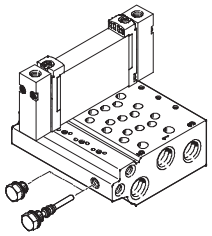
- Width 10 mm and 14 mm
- 2x3/2-way, 5/2-way and 5/3-way valves
- In-line valves
- Sub-base valves

## Manifold rail for in-line valves



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

## Manifold rail for sub-base valves

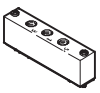


- For sub-base valves 10, 10A and 14, width 10/14
- Manifold rail with M5/M7 or G1⁄8 working lines
- For 2x3/2-way, 5/2-way and 5/3-way valves
- 2 to 10, 12, 14 and 16 valve positions
- The sub-base valves always have external pilot air. The pilot air is set via the manifold rail. A short (for internal pilot air) and long (for external pilot air) blanking plug are included with the manifold rail for this purpose.

## Blanking plate for vacant position

- For covering unused valve positions

## Supply plate

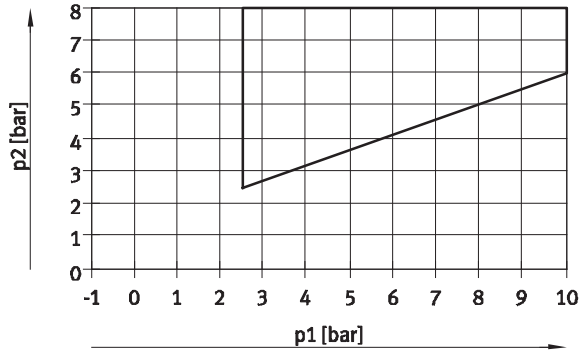


- For additional air supply and exhaust via a valve position

## Separator for pressure zones

- For creating multiple pressure zones in a valve manifold

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




This graph applies to the 2x3/2-way valves and 5/2-way single pilot valves with air spring:

- T32CA, T32UA, T32HA,
- M52a, M52r

**Note**

The compressed air for the air springs is supplied from port 1 (operating pressure).
To ensure reliable valve switching, the minimum pressure as per the graph must always be adhered to for the pilot pressure.

# Pneumatic valves VUWG

Key features – Pneumatic components

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## Creating pressure zones and separating exhaust air

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

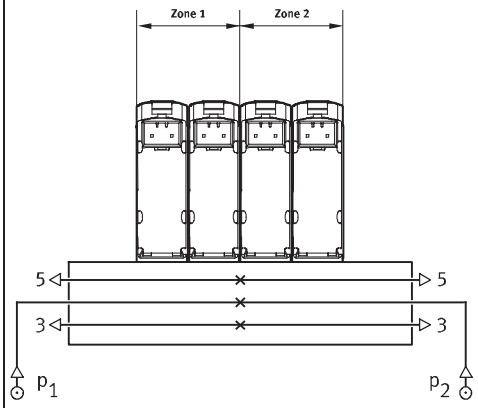
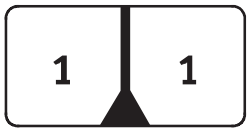
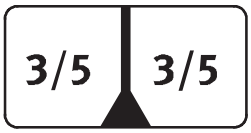
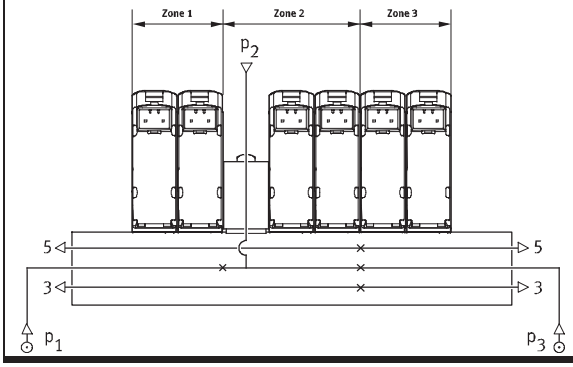
Pressure zones are created by isolating the internal supply ducts between the manifold sub-bases by means of appropriate duct separation.

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

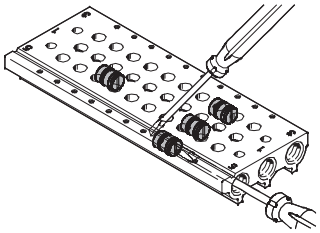
**Note**

- Use separators if the exhaust air pressures are high
- Use at least one supply plate/supply for each pressure zone

## Duct separation

| | Description | Symbol |
|---|---|---|
|  | The pressure zones can be freely configured with the VUWG.<br>The following duct separations are possible:<br>• Duct 1 closed |  |
| | • Duct 1/3/5 closed |  |
| | • Duct 3/5 closed |  |
|  | The number of pressure zones with the VUWG 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 mounted from only one side using a slotted screwdriver, several pressure zones can be created in one profile.

# Pneumatic valves VUWG

Key features – Pneumatic components

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## Operation with different pressures

### Vacuum operation

Note the following with vacuum operation:

- M52 in-line valves with pneumatic spring and pneumatic/mechanical spring reset (vacuum only at 3/5)
- T32 valves with pneumatic spring reset (vacuum only at 3/5)

If external pilot air via duct 14 is used, M52 sub-base valves (B) can be used without restriction.

The remaining valve types can be used without restriction for vacuum.

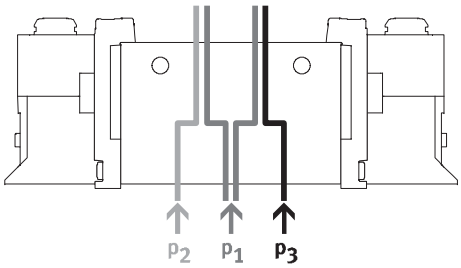
**Note**

Pressure must be present at port 1.

### Reverse operation

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

### Pressure deflector (internal pilot air)




- If two different pressures are required.
- Different pressures can be supplied at ducts 1, 3 and 5.

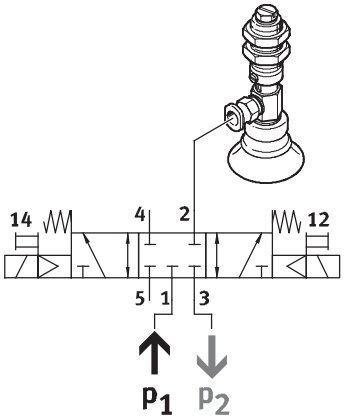
**Note**

- With internal pilot air, the minimum pilot pressure must be adhered to in duct 1
- With 2x3/2-way valves without spring return, the minimum pilot pressure must always be adhered to in duct 1

### Advantages

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

### Vacuum, ejector pulse and normal position




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

# Pneumatic valves VUWG/valve terminals type 26 VTUG

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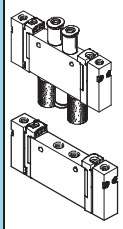
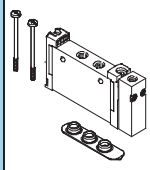
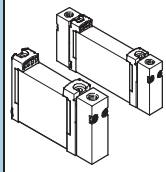
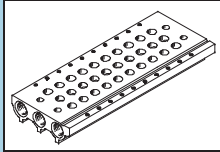
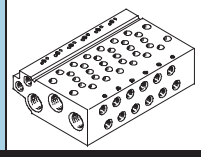
Product range overview

| Design | | Working line | Type code | Functions and flow rate [l/min] T32C | T32U | T32H | M52 | B52 | P53C | P53U | P53E | → Page/ Internet |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| In-line valve as individual valve | VUWG-L | | | | | | | | | | | |
| |  | M3 | 10A | – | – | – | ■ 100 | ■ 100 | ■ 90 | ■ 90 | ■ 90 | 9 |
| | | M5 | 10 | ■ 150 | ■ 150 | ■ 150 | ■ 220 | ■ 220 | ■ 210 | ■ 210 | ■ 210 | 15 |
| | | M7 | 10 | ■ 190 | ■ 190 | ■ 190 | ■ 380 | ■ 380 | ■ 320 | ■ 320 | ■ 320 | 15 |
| | | G1⁄8 | 14 | ■ 650 | ■ 600 | ■ 650 | ■ 780 | ■ 780 | ■ 650 | ■ 600 | ■ 600 | 23 |
| In-line valve for manifold assembly | VUWG-S | | | | | | | | | | | |
| |  | M3 | 10A | – | – | – | ■ 100 | ■ 100 | ■ 90 | ■ 90 | ■ 90 | 12 |
| | | M5 | 10 | ■ 150 | ■ 150 | ■ 150 | ■ 220 | ■ 220 | ■ 210 | ■ 210 | ■ 210 | 20 |
| | | M7 | 10 | ■ 170 | ■ 170 | ■ 170 | ■ 340 | ■ 340 | ■ 300 | ■ 300 | ■ 300 | 20 |
| | | G1⁄8 | 14 | ■ 580 | ■ 580 | ■ 580 | ■ 700 | ■ 700 | ■ 600 | ■ 600 | ■ 600 | 26 |

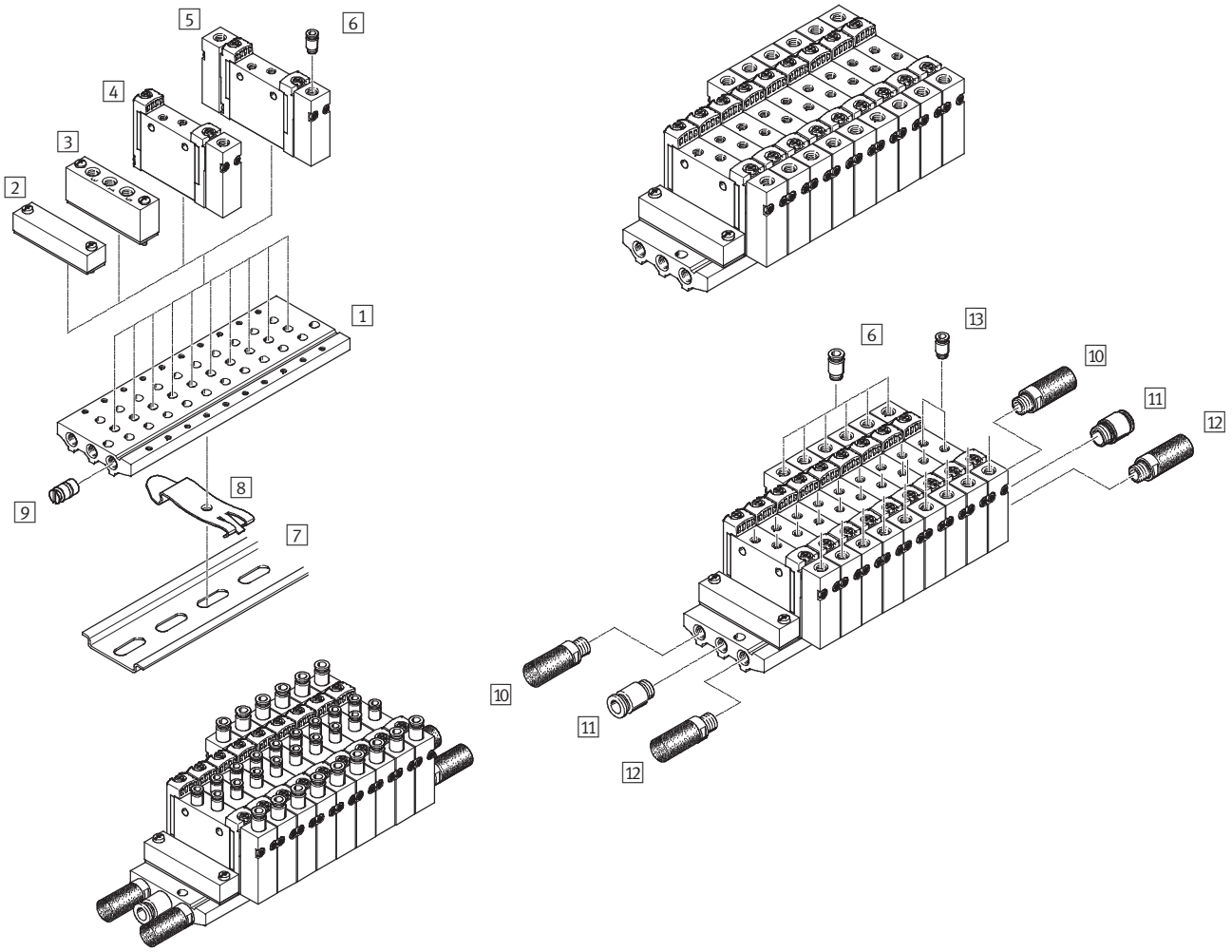
| Design | | Working line | Type code | Functions and flow rate [l/min] T32C | T32U | T32H | M52 | B52 | P53C | P53U | P53E | → Page/ Internet |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sub-base valve | VUWG-B | | | | | | | | | | | |
| |  | – | 10A | – | – | – | ■ 100 | ■ 100 | ■ 90 | ■ 90 | ■ 90 | 29 |
| | | – | 10 | ■ 150 | ■ 150 | ■ 150 | ■ 210 | ■ 210 | ■ 200 | ■ 200 | ■ 200 | 35 |
| | | – | 10 | ■ 160 | ■ 160 | ■ 160 | ■ 270 | ■ 270 | ■ 250 | ■ 250 | ■ 250 | 35 |
| | | – | 14 | ■ 540 | ■ 510 | ■ 540 | ■ 580 | ■ 580 | ■ 540 | ■ 510 | ■ 510 | 41 |

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

# Pneumatic valves VUWG-L10A, in-line valves M3

System overview

## Manifold assembly




| Manifold assembly and accessories | | | |
|---|---|---|---|
| | Type | Brief description | ➔ Page/Internet |
| 1 Manifold rail | VABM-L1-10AS-M5 | For 2 to 10, 12, 14 and 16 valve positions | 13 |
| 2 Blanking plate | VABB-L1-10A | For covering an unused valve position | 13 |
| 3 Supply plate | VABF-L1-10-P3A4- M5 | For air supply port 1 and ports 3 and 5 | 13 |
| 4 Pneumatic valve | VUWG | Single pilot pneumatic valve | 9 |
| 5 Pneumatic valve | VUWG | Double pilot pneumatic valve | 9 |
| 6 Push-in fitting | QS | For adapter plate for port 12 or 14 | 46 |
| 7 H-rail | NRH-35-2000 | For mounting the valve manifold | 46 |
| 8 H-rail mounting | VAME-T-M4 | 2 pieces for fitting the valve manifold on an H-rail | 46 |
| 9 Separator | VABD-4.2-B | For creating pressure zones | 46 |
| 10 Silencer | U | For port 3 | 46 |
| 11 Push-in fitting | QS | For port 1 | 46 |
| 12 Silencer | U | For port 5 | 46 |
| 13 Push-in fitting | QS | For ports 2 and 4 | 46 |

# Pneumatic valves VUWG-L10A, in-line valves M3

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Technical data

Function
5/2-way, single pilot
5/2-way, double pilot
5/3-way, closed, exhausted, pressurised

Width

Flow rate
90 ... 100 l/min

Voltage

| General technical data | | | | | | |
|---|---|---|---|---|---|---|
| Valve function | | 5/2-way, single pilot | 5/2-way, double pilot | 5/3 | | |
| Normal position | | – | – | C[1] | U[2] | E[3] |
| Pneumatic spring reset method | | Yes[5] | – | No | | |
| Mechanical spring reset method | | Yes[5] | – | Yes | | |
| Vacuum operation at port 1 | | No | Yes | Yes | | |
| Design | | Piston spool valve | | | | |
| Sealing principle | | Soft | | | | |
| Actuation type | | Pneumatic | | | | |
| Type of control | | Direct | | | | |
| Pilot air supply | | External | | | | |
| Exhaust function | | With flow control | | | | |
| Type of mounting | | Optionally via through-holes[7] or on manifold rail | | | | |
| Mounting position | | Any | | | | |
| Standard nominal flow rate | [l/min] | 100 | | 90 | | |
| Switching time on/off | [ms] | 7/15 | – | 8/25 | | |
| Changeover time | [ms] | – | 5 | 14 | | |
| Width | [mm] | 10 | | | | |
| Port | 1, 2, 3, 4, 5 | M3 | | | | |
| | 12, 14 | M5 | | | | |
| Product weight | [g] | 37 | 41 | 40.5 | | |
| Corrosion resistance class | CRC | 2[6] | | | | |

1) C = Normally closed
2) U = Normally open
3) E = Normally exhausted
4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open
5) Combined reset method
6) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

# Pneumatic valves VUWG-L10A, in-line valves M3

Technical data

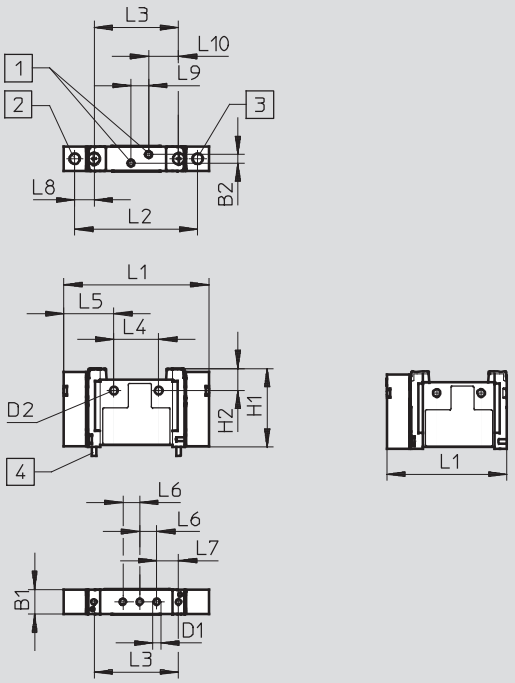
| Operating and environmental conditions | | | | |
|---|---|---|---|---|
| Valve function | | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way |
| Operating medium | | Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated | | |
| Operating pressure | [bar] | 2.5 ... 10 | -0.9 ... 10 | -0.9 ... 10 |
| Pilot pressure | [bar] | 2.5 ... 10[1)] | 1.5 ... 10 | 3 ... 10 |
| Ambient temperature | [°C] | -5 ... +60 | | |
| Temperature of medium | [°C] | -5 ... +50 | | |

1) Note operating pressure/pilot pressure graph ➔ page 4

| Information on materials | |
|---|---|
| Housing | Anodised aluminium |
| Seals | HNBR, NBR |
| Note on materials | RoHS-compliant |

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

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




1 Ports 2, 4: M3
2 Port 14: M5
3 Port 12: M5
4 M2.5 mounting screw

| Type | B1 | B2 | D1 | D2 | H1 | H2 | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VUWG-L-10A-... | 10.3 | 3.6 | M3 | 3.2 | 32.5 | 9.1 | 59.9 | 50.7 | 34.9 | 18.5 | 20.7 | 7 | 9 | 7.9 | 7.3 | 12.4 |
| VUWG-L-10A-M52... | | | | | | | 49.9 | | | | | | | | | |

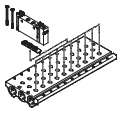
# Pneumatic valves VUWG-L10A and VUWG-S10A, in-line valves M3

FESTO

Order code

| VUWG | – | | 10A | – | | – | | – | | – | |
|---|---|---|---|---|---|---|---|---|---|---|---|

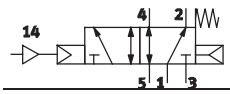
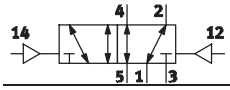
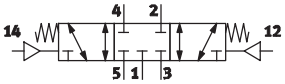
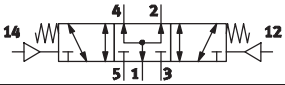
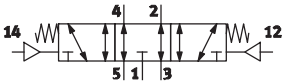
**Valve design**

| | |
|---|---|
| In-line, individual valve  | **L** |
| In-line, manifold valve incl. seal and screws  | **S** |

**Width**

| | |
|---|---|
| 10 mm | **10A** |

**Valve functions**

| | |
|---|---|
|  | **M52** |
|  | **B52** |
|  | **P53C** |
|  | **P53U** |
|  | **P53E** |

**Exhausting with VUWG-L**

| | |
|---|---|
| **QN** | Via fitting[1] |
| **U** | Silencer |
| – | M3 |

| Pneumatic connection | | Flow rate [l/min][2] |
|---|---|---|
| **M3** | Thread M3 | 100 |
| **Q3** | Push-in connector 3 mm/M3 | 80 |
| **Q4** | Push-in connector 4 mm/M3 | 100 |
| **T18** | Push-in connector 1/8" | 80 |
| **T532** | Push-in connector 5/32" | 100 |

**Reset method**

| | |
|---|---|
| **R** | Pneu./mech. spring for M52 |
| – | With B52 and P53 |

1) If Q... is chosen for the pneumatic connection, this also applies to the exhaust ports 3 and 5 (only possible with Q3)

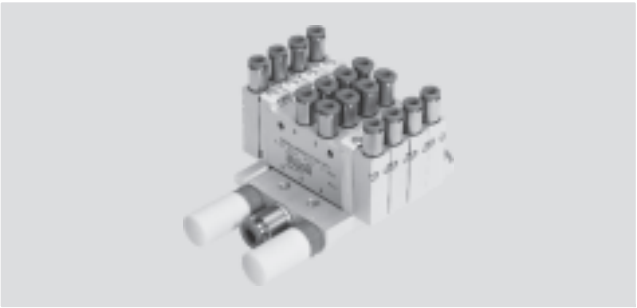
2) Flow rate applies to 5/2-way individual valve

# Pneumatic valves VUWG-S10A, in-line valves M3

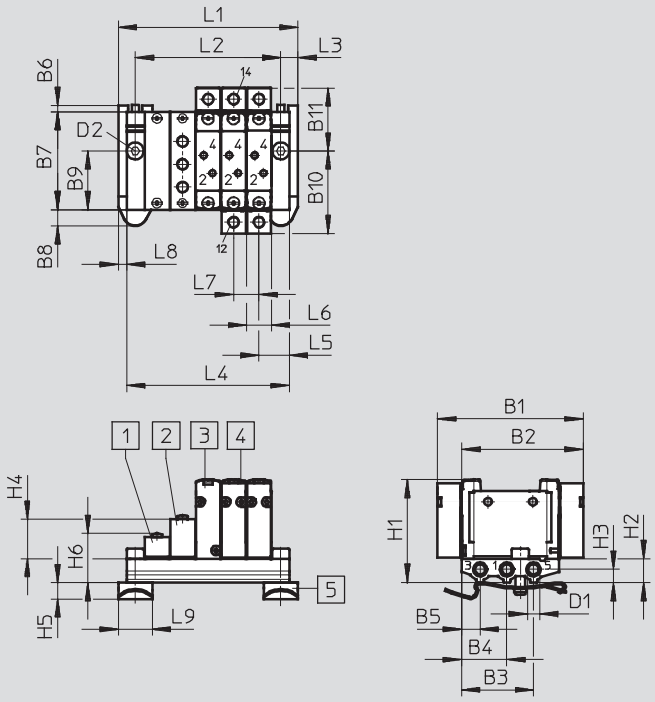
Manifold assembly

FESTO

**In-line valves for manifold assembly**



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




1 Blanking plate VABB-L1-10A-S
2 Supply plate VABF-L1-10A-P3A4-M5
3 Single pilot pneumatic valve
4 Double pilot pneumatic valve
5 H-rail mounting (two M4x15 screws to DIN 912 are required for mounting)

| Type | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VABM-L1-10AS-M5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 | B11 | D1 |
| | 59.9 | 49.9 | 29.7 | 18.7 | 7.7 | 2.95 | 40.3 | 6.75 | 24.2 | 34 | 25.9 | M5 |
| | D2 | H1 | H2 | H3 | H4 | H5 | H6 | L3 | L5 | L6 | L7 | L8 |
| | Ø 4.5 | 42.5 | 10 | 5.5 | 16.2 | 6.8 | 20.3 | 7 | 12.5 | 10.3 | 10.5 | 3.5 |
| | L9 | | | | | | | | | | | |
| | 14 | | | | | | | | | | | |

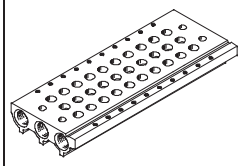
| Valve positions | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 [mm] | 42.5 | 53 | 63.5 | 74 | 84.5 | 95 | 105.5 | 116 | 126.5 | 147.5 | 168.5 | 189.5 |
| L2 [mm] | 28.5 | 39 | 49.5 | 60 | 70.5 | 81 | 91.5 | 102 | 112.5 | 133.5 | 154.5 | 175.5 |
| L4 [mm] | 35.5 | 46 | 56.5 | 67 | 77.5 | 88 | 98.5 | 109 | 119.5 | 140.5 | 161.5 | 182.5 |

# Pneumatic valves VUWG-S10A, in-line valves M3

FESTO

Ordering data

**Technical data – Manifold rails**

| | Port | CRC | Material[2] | Operating pressure | Max. tightening torque for assembly [Nm] | | |
|---|---|---|---|---|---|---|---|
| | 1, 3, 5 | | | [bar] | Valve | H-rail | Wall |
|  | M5 | 2[1] | Wrought aluminium alloy | –0.9 ... 10 | 0.45 | 1.5 | 3 |

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

**Order code – Manifold rails**

| VABM | – | L1 | – | 10A | S | – | M5 | – | |
|---|---|---|---|---|---|---|---|---|---|

Manifold assembly parts
Manifold rail **VABM**

Valve series
VUWG **L1**

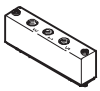
Valve width
10 mm **10A**

Manifold rail with ports 1, 3, 5
For M3 in-line valves **S**

Number of valve positions
2 to 10, 12, 14 and 16

Ports 1, 3, 5
**M5** M5

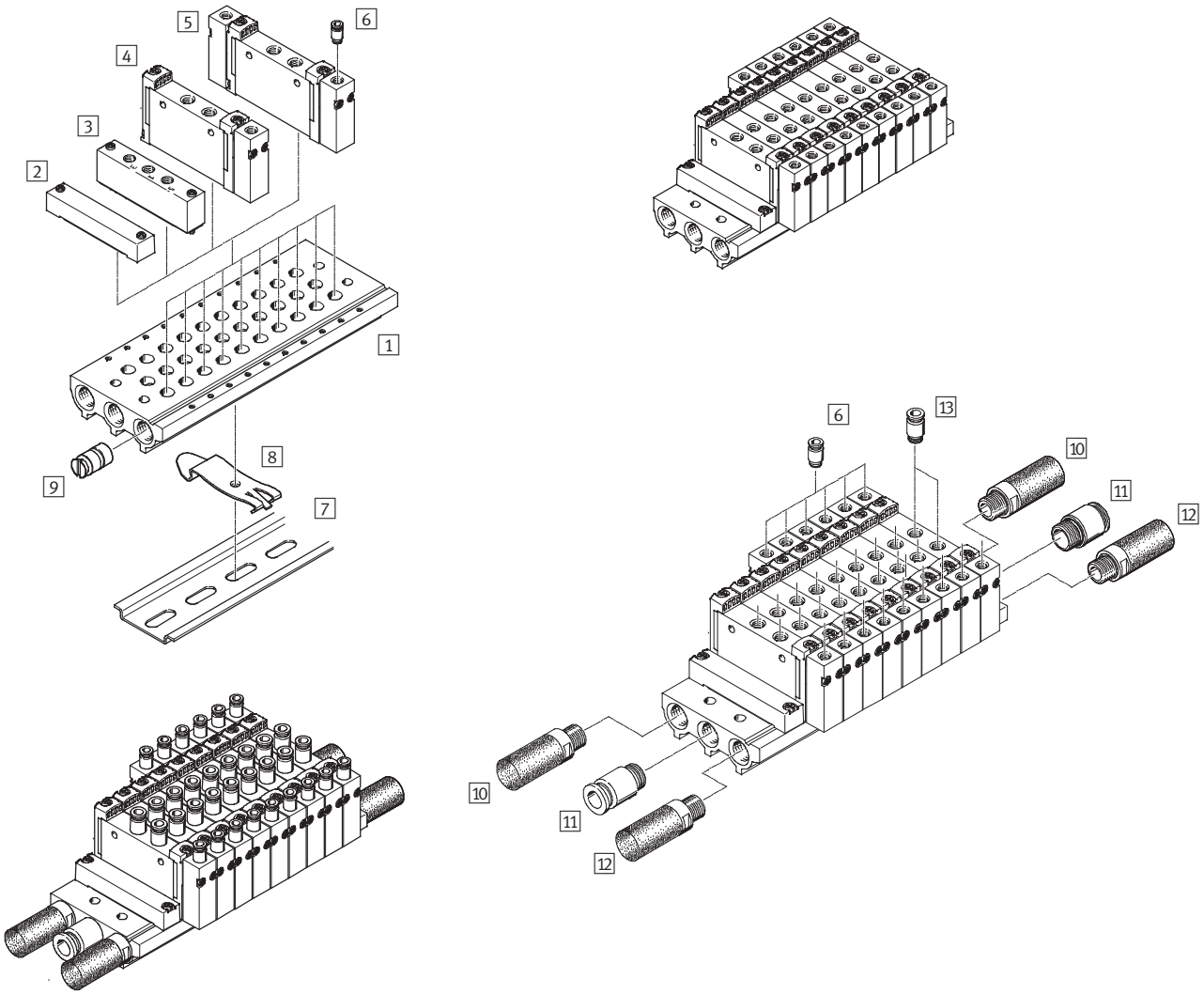
**Ordering data – Accessories**

| | | | Type |
|---|---|---|---|
| Blanking plate | | | Technical data ➔ Internet: vabb |
|  | For manifold rail for M3 in-line valves | Incl. screws and seal | **VABB-L1-10A** |
| Separator | | | Technical data ➔ Internet: vabd |
|  | For manifold rail for M3 in-line valves | Separator for pressure zones | **VABD-4.2-B** |
| Supply plate | | | Technical data ➔ Internet: vabf |
|  | For manifold rail for M3 in-line valves | Incl. screws and seal | **VABF-L1-10A-P3A4-M5** |
| Seals for in-line valves | | | Technical data ➔ Internet: vabd |
|  | M3 | 10 seals and 20 screws | **VABD-L1-10AX-S-M3** |

# Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M5/M7

System overview

## Manifold assembly




**Manifold assembly and accessories**

| | | Type | Brief description | ➔ Page/Internet |
|---|---|---|---|---|
| 1 | Manifold rail | VABM-L1-10S-G18 | For 2 to 10, 12, 14 and 16 valve positions | 21 |
| 2 | Blanking plate | VABB-L1-10-S | For covering an unused valve position | 21 |
| 3 | Supply plate | VABF-L1-10-P3A4 | For air supply port 1 and ports 3 and 5 | 21 |
| 4 | Pneumatic valve | VUWG | Single pilot pneumatic valve | 15 |
| 5 | Pneumatic valve | VUWG | Double pilot pneumatic valve | 15 |
| 6 | Push-in fitting | QS | For adapter plate for port 12 or 14 | 46 |
| 7 | H-rail | NRH-35-2000 | For mounting the valve manifold | 46 |
| 8 | H-rail mounting | VAME-T-M4 | 2 pieces for fitting the valve manifold on an H-rail | 46 |
| 9 | Separator | VABD-8-B | For creating pressure zones | 46 |
| 10 | Silencer | U | For port 3 | 46 |
| 11 | Push-in fitting | QS | For port 1 | 46 |
| 12 | Silencer | U | For port 5 | 46 |
| 13 | Push-in fitting | QS | For ports 2 and 4 | 46 |

# Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M5

Technical data

FESTO

Function
2x3/2C, 2x3/2U, 2x3/2H
5/2-way, single pilot
5/2-way, double pilot
5/3C, 5/3U, 5/3E

Width

Flow rate
150 ... 220 l/min

| General technical data | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Valve function | | | 2x3/2-way, single pilot | | | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way, single pilot | | |
| Normal position | | | C[1] | U[2] | H[4] | – | – | C[1] | U[2] | E[3] |
| Pneumatic spring reset method | | | Yes | | | Yes[5] | – | No | | |
| Mechanical spring reset method | | | No | | | Yes[5] | – | Yes | | |
| Vacuum operation at port 1 | | | No | | | | Yes | | | |
| Design | | | Piston spool valve | | | | | | | |
| Sealing principle | | | Soft | | | | | | | |
| Actuation type | | | Pneumatic | | | | | | | |
| Type of control | | | Direct | | | | | | | |
| Pilot air supply | | | External | | | | | | | |
| Exhaust function | | | With flow control | | | | | | | |
| Type of mounting | | | Optionally via through-holes[7] or on manifold rail | | | | | | | |
| Mounting position | | | Any | | | | | | | |
| Standard nominal flow rate | | [l/min] | 150 | | | 220 | | 210 | | |
| Switching time on/off | | [ms] | 6/16 | | | 7/19 | – | 10/30 | | |
| Changeover time | | [ms] | – | | | | 7 | 16 | | |
| Width | | [mm] | 10 | | | | | | | |
| Port | 1, 2, 3, 4, 5 | | M5 | | | | | | | |
| | 12, 14 | | M5 | | | | | | | |
| Product weight | | [g] | 48 | | | 45 | 48 | | | |
| Corrosion resistance class | | CRC | 2[6] | | | | | | | |

1) C = Normally closed
2) U = Normally open
3) E = Normally exhausted
4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open
5) Combined reset method
6) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

# Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M5

Technical data

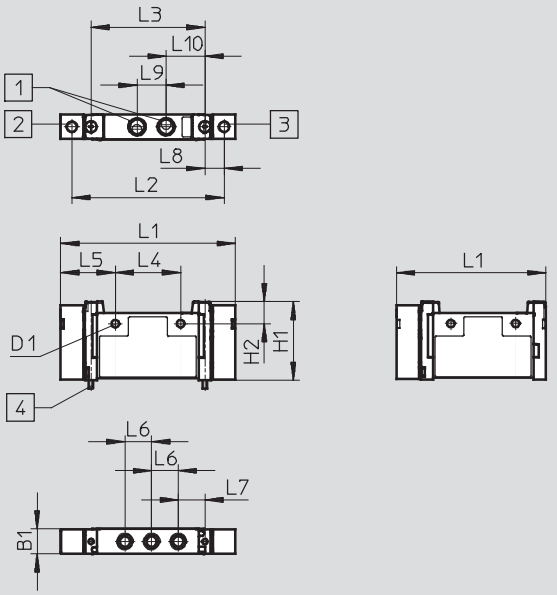
| Operating and environmental conditions | | | | | |
|---|---|---|---|---|---|
| Valve function | | 2x3/2-way | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way |
| Operating medium | | Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated | | | |
| Operating pressure | [bar] | 1.5 ... 10 | 2.5 ... 10 | -0.9...10 | |
| Pilot pressure | [bar] | 1.5 ... 10[1)] | 2.5 ... 10[1)] | 1.5 ... 10 | 3...10 |
| Ambient temperature | [°C] | -5 ... +60 | | | |
| Temperature of medium | [°C] | -5 ... +50 | | | |

1) Note operating pressure/pilot pressure graph ➔ page 4

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

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

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




1 Ports 2, 4: M5
2 Port 14: M5
3 Port 12: M5
4 M2.5 mounting screw

| Type | B1 | D1 | H1 | H2 | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VUWG-L-10-... | 10.2 | 3.2 | 32.5 | 9.1 | 72 | 62.8 | 47 | 27 | 22.5 | 11 | 11 | 7.9 | 12 | 16 |
| VUWG-L-10-M52-... | | | | | 62 | | | | | | | | | |

# Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M7

FESTO

Technical data

Function
2x3/2C, 2x3/2U, 2x3/2H
5/2-way, single pilot
5/2-way, double pilot
5/3C, 5/3U, 5/3E

Width

Flow rate
190 ... 380 l/min

Voltage

| General technical data | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Valve function | | | 2x3/2-way, single pilot | | | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way, single pilot | | |
| Normal position | | | C[1] | U[2] | H[4] | – | – | C[1] | U[2] | E[3] |
| Pneumatic spring reset method | | | Yes | | | Yes[5] | – | No | | |
| Mechanical spring reset method | | | No | | | Yes[5] | – | Yes | | |
| Vacuum operation at port 1 | | | No | | | | Yes | | | |
| Design | | | Piston spool valve | | | | | | | |
| Sealing principle | | | Soft | | | | | | | |
| Actuation type | | | Pneumatic | | | | | | | |
| Type of control | | | Direct | | | | | | | |
| Pilot air supply | | | External | | | | | | | |
| Exhaust function | | | With flow control | | | | | | | |
| Type of mounting | | | Optionally via through-holes[7] or on manifold rail | | | | | | | |
| Mounting position | | | Any | | | | | | | |
| Standard nominal flow rate | | [l/min] | 190 | | | 380 | | 320 | | |
| Switching time on/off | | [ms] | 6/16 | | | 7/19 | – | 10/30 | | |
| Changeover time | | [ms] | – | | | | 7 | 16 | | |
| Width | | [mm] | 10 | | | | | | | |
| Port | 1, 2, 3, 4, 5 | | M7 | | | | | | | |
| | 12, 14 | | M5 | | | | | | | |
| Product weight | | [g] | 48 | | | 45 | 48 | | | |
| Corrosion resistance class | | CRC | 2[6] | | | | | | | |

1) C = Normally closed
2) U = Normally open
3) E = Normally exhausted
4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open
5) Combined reset method
6) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

# Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M7

Technical data

FESTO

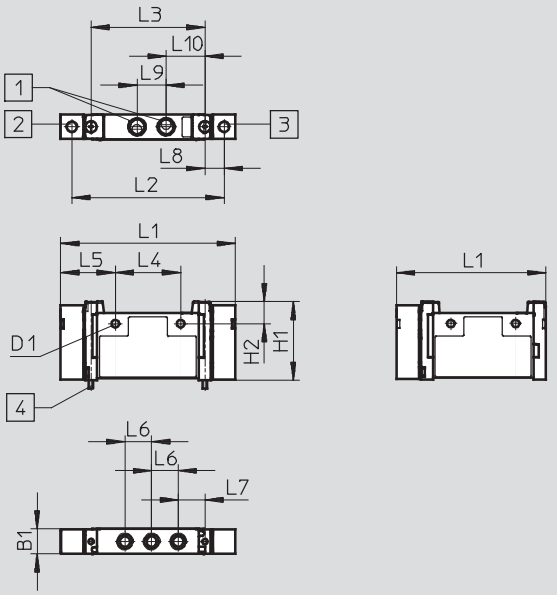
| Operating and environmental conditions | | | | | |
|---|---|---|---|---|---|
| Valve function | | 2x3/2-way | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way |
| Operating medium | | Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated | | | |
| Operating pressure | [bar] | 1.5 ... 10 | 2.5 ... 10 | -0.9...10 | |
| Pilot pressure | [bar] | 1.5...10[1)] | 2.5 ... 10[1)] | | 3...10 |
| Ambient temperature | [°C] | –5 ... +60 | | | |
| Temperature of medium | [°C] | –5 ... +50 | | | |

1) Note operating pressure/pilot pressure graph ➔ page 4

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

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

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




1 Ports 2, 4: M7
2 Port 14: M5
3 Port 12: M5
4 M2.5 mounting screw

| Type | B1 | D1 | H1 | H2 | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VUWG-L-10 -...- | 10.2 | 3.2 | 32.5 | 9.1 | 72 | 62.8 | 47 | 27 | 22.5 | 11 | 11 | 7.9 | 12 | 16 |
| VUWG-L-10-M52 ... | | | | | 62 | | | | | | | | | |

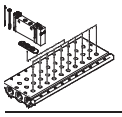
# Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M5/M7

FESTO

Order code

| VUWG | – | | 10 | – | | – | | – | | – | |
|---|---|---|---|---|---|---|---|---|---|---|---|

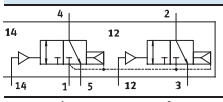
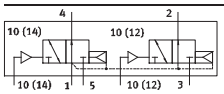
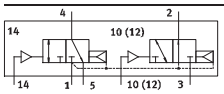
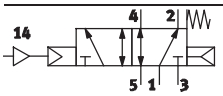
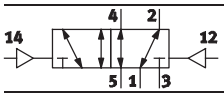
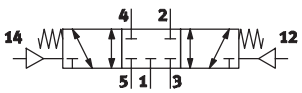
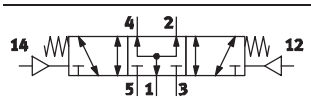
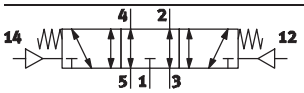
**Valve design**

| | |
|---|---|
| In-line, individual valve  | **L** |
| In-line valve, manifold valve incl. seal and screws  | **S** |

**Width**

| | |
|---|---|
| 10 mm | **10** |

**Valve functions**

| | |
|---|---|
|  | **T32C** |
|  | **T32U** |
|  | **T32H** |
|  | **M52** |
|  | **B52** |
|  | **P53C** |
|  | **P53U** |
|  | **P53E** |

**Exhausting with VUWG-L**

| | |
|---|---|
| **QN** | QS if QS[1] |
| **U** | Silencer |
| – | M5 and M7 |

| Pneumatic connection | | Flow rate [l/min][2] |
|---|---|---|
| **M5** | Thread M5 | 220 |
| **Q3** | Push-in connector 3 mm/M5 | 100 |
| **Q4** | Push-in connector 4 mm/M5 | 200 |
| **Q6** | Push-in connector 6 mm/M5 | 220 |
| **T14** | Push-in connector ¼" | 220 |
| **T18** | Push-in connector ⅛" | 100 |
| **T316** | Push-in connector 3/16 | 200 |
| **T532** | Push-in connector 5/32 | 200 |
| **M7** | Thread M7 | 380 |
| **Q4H** | Push-in connector 4 mm/M7 | 220 |
| **Q6H** | Push-in connector 6 mm/M7 | 330 |
| **T14H** | Push-in connector ¼", M7 | 330 |
| **T316H** | Push-in connector 3/16, M7 | 200 |

**Reset method**

| | |
|---|---|
| **A** | Pneumatic spring for T32 |
| **R** | Pneu./mech. spring for M52 |
| – | With B52 and P53 |

1) If Q... is chosen for the pneumatic connection, this also applies to the exhaust ports 3 and 5

2) Flow rate applies to 5/2-way individual valve

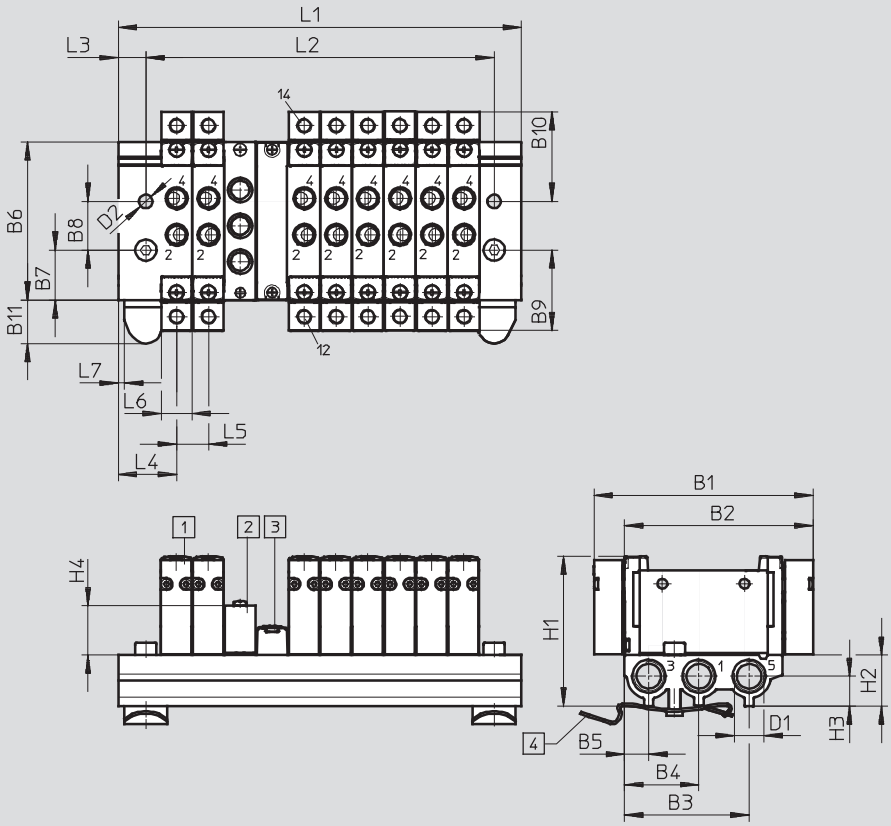
# Pneumatic valves VUWG-S10, in-line valves M5/M7

Manifold assembly

FESTO

**In-line valves for manifold assembly**

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




1 Pneumatic valve
2 Supply plate M5 or M7 for 1, 3, 5
3 Blanking plate VABB-L1-10-S
4 H-rail mounting (two M4x20 screws to DIN 912 are required)

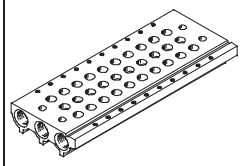
| Type | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VABM-L1-10S-G18 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 | B11 |
| | 72 | 62 | 41 | 24.5 | 8 | 52 | 16.5 | 16 | 26.5 | 29.5 | 14.45 |
| | D1 | D2 | H1 | H2 | H3 | H4 | H4 | L3 | L4 | L5 | L6 |
| | G⅛ | 4.5 | 49.3 | 16.8 | 7 | 16.2 | 16.2 | 9 | 19 | 10.5 | 10.3 |
| | L7 | | | | | | | | | | |
| | 2 | | | | | | | | | | |

| Valve positions | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 16 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 [mm] | 48.5 | 59 | 69.5 | 80 | 90.5 | 101 | 111.5 | 122 | 132.5 | 153.5 | 174.5 | 195.5 | 258.5 |
| L2 [mm] | 30.5 | 41 | 51.5 | 62 | 72.5 | 83 | 93.5 | 104 | 114.5 | 135.5 | 156.5 | 177.5 | 240.5 |

# Pneumatic valves VUWG-S10, in-line valves M5/M7

FESTO

Ordering data

| Technical data – Manifold rails | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Port | CRC | Material[2] | Operating pressure | Max. tightening torque for assembly [Nm] | | |
| | 1, 3, 5 | | | [bar] | Valve | H-rail | Wall |
|  | G1/8 | 2[1] | Wrought aluminium alloy | –0.9 ... 10 | 0.45 | 1.5 | 3 |

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

## Order code – Manifold rails

| VABM | – | L1 | – | 10 | S | – | G18 | – | |
|---|---|---|---|---|---|---|---|---|---|

| Manifold assembly parts | |
|---|---|
| Manifold rail | **VABM** |

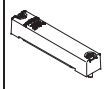
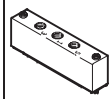
| Valve series | |
|---|---|
| VUWG | **L1** |

| Valve width | |
|---|---|
| 10 mm | **10** |

| Manifold rail with ports 1, 3, 5 | |
|---|---|
| For M5 and M7 in-line valves | **S** |

| Ports 1, 3, 5 | |
|---|---|
| **G18** | G1/8 |

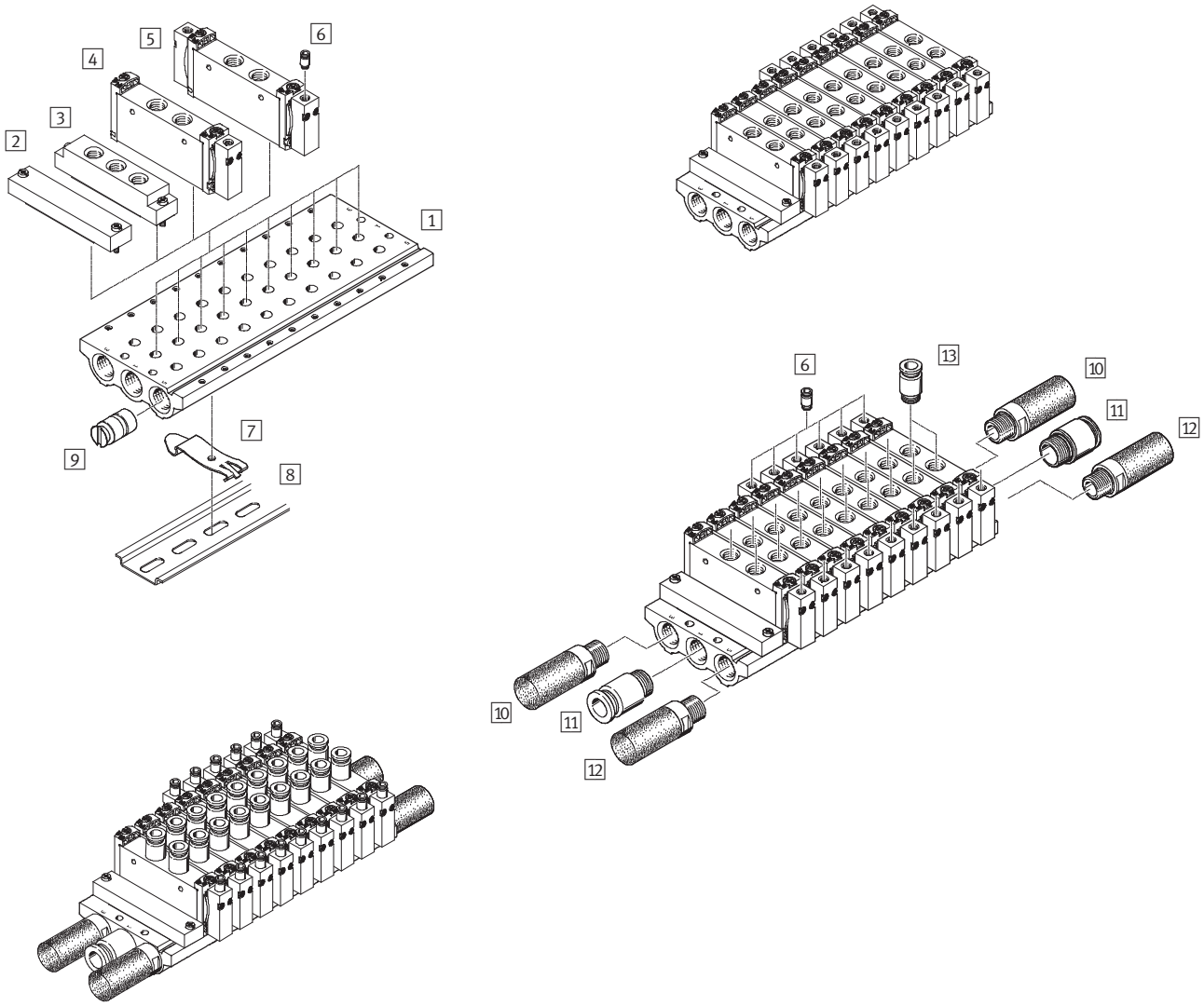
| Number of valve positions | |
|---|---|
| | 2 to 10, 12, 14 and 16 |

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

# Pneumatic valves VUWG-L14 and VUWG-S14, in-line valves G1⁄8

System overview

## Manifold assembly




| Manifold assembly and accessories | | | |
|---|---|---|---|
| | Type | Brief description | ➔ Page/Internet |
| 1 Manifold rail | VABM-L1-14S-G14 | For 2 to 10, 12, 14 and 16 valve positions | 27 |
| 2 Blanking plate | VABB-L1-14 | For covering an unused valve position | 27 |
| 3 Supply plate | VABF-L1-14-P3A4-G18 | For air supply port 1 and ports 3 and 5 | 27 |
| 4 Pneumatic valve | VUWG | Single pilot pneumatic valve | 23 |
| 5 Pneumatic valve | VUWG | Double pilot pneumatic valve | 23 |
| 6 Push-in fitting | QS | For adapter plate for port 12 or 14 | 46 |
| 7 H-rail | NRH-35-2000 | For mounting the valve manifold | 46 |
| 8 H-rail mounting | VAME-T-M4 | 2 pieces for fitting the valve manifold on an H-rail | 46 |
| 9 Separator | VABD-10-B | For creating pressure zones | 27 |
| 10 Silencer | U | For port 3 | 46 |
| 11 Push-in fitting | QS | For port 1 | 46 |
| 12 Silencer | U | For port 5 | 46 |
| 13 Push-in fitting | QS | For ports 2 and 4 | 46 |

# Pneumatic valves VUWG-L14 and VUWG-S14, in-line valves G1⁄8

FESTO

Technical data

Function
2x3/2C, 2x3/2U, 2x3/2H
5/2-way, single pilot
5/2-way, double pilot
5/3C, 5/3U, 5/3E

Width

Flow rate
580 ... 780 l/min

Voltage

| General technical data | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Valve function | | | 2x3/2-way, single pilot | | | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way, single pilot | | |
| Normal position | | | C[1] | U[2] | H[4] | – | – | C[1] | U[2] | E[3] |
| Pneumatic spring reset method | | | Yes | | | | – | No | | |
| Mechanical spring reset method | | | No | | | | – | Yes | | |
| Vacuum operation at port 1 | | | No | | | | Yes | | | |
| Design | | | Piston spool valve | | | | | | | |
| Sealing principle | | | Soft | | | | | | | |
| Actuation type | | | Pneumatic | | | | | | | |
| Type of control | | | Direct | | | | | | | |
| Pilot air supply | | | External | | | | | | | |
| Exhaust function | | | With flow control | | | | | | | |
| Type of mounting | | | Optionally via through-holes[7] or on manifold rail | | | | | | | |
| Mounting position | | | Any | | | | | | | |
| Standard nominal flow rate | | [l/min] | 650 | 600 | 650 | 780 | | 650 | 600 | |
| Switching time on/off | | [ms] | 8/23 | | | 14/28 | – | 12/40 | | |
| Changeover time | | [ms] | – | | | | 8 | 20 | | |
| Width | | [mm] | 14 | | | | | | | |
| Port | 1, 2, 3, 4, 5 | | G1⁄8 | | | | | | | |
| | 14 | | M5 | | | | | | | |
| Product weight | | [g] | 85 | | | 75 | 81 | | | |
| Corrosion resistance class | | CRC | 2[6] | | | | | | | |

1) C = Normally closed
2) U = Normally open
3) E = Normally exhausted
4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open
6) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

# Pneumatic valves VUWG-L14 and VUWG-S14, in-line valves G1⁄8

Technical data

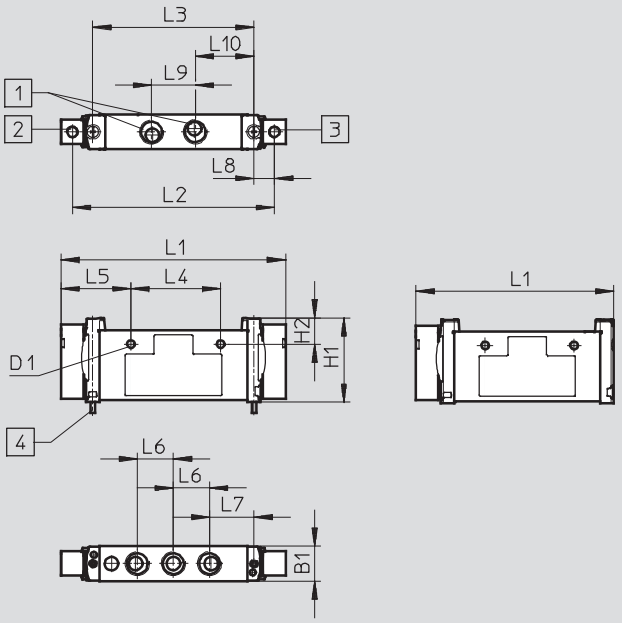
| Operating and environmental conditions | | | | | |
|---|---|---|---|---|---|
| Valve function | | 2x3/2-way | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way |
| Operating medium | | Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated | | | |
| Operating pressure | [bar] | 1.5 ... 10 | 2.5 ... 10 | -0.9 ... 10 | |
| Pilot pressure | [bar] | 1.5 ... 10[1)] | | 1.5 ... 10[1)] | 3 ... 10 |
| Ambient temperature | [°C] | −5 ... +50, −5 ... +60 | | | |
| Temperature of medium | [°C] | −5 ... +50, −5 ... +60 | | | |

1) Note operating pressure/pilot pressure graph ➔ page 4

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

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

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




1 Ports 2, 4: G1⁄4
2 Port 14: M5
3 Port 12: M5
4 M2.5 mounting screw

| Type | B1 | D1 | H1 | H2 | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VUWG-L-14-... | 14.4 | 3.2 | 34.8 | 10.8 | 92.6 | 83.4 | 66.5 | 37 | 28.8 | 14.9 | 18.35 | 8.45 | 18 | 24.25 |
| VUWG-L14-M52 ... | | | | | 82.25 | | | | | | | | | |

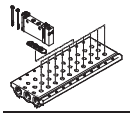
# Pneumatic valves VUWG-L14 and VUWG-S14, in-line valves G1⁄8

FESTO

Order code

| VUWG | – | | 14 | – | | – | | – | | – | |
|---|---|---|---|---|---|---|---|---|---|---|---|

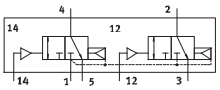
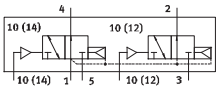
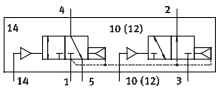
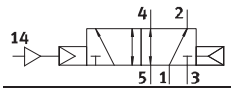
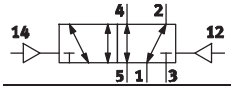
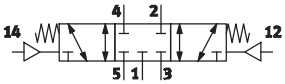
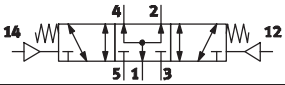
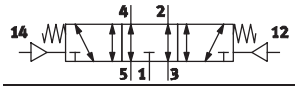
**Valve design**

| | |
|---|---|
| In-line, individual valve  | **L** |
| In-line, manifold valve incl. seal and screws  | **S** |

**Width**

| | |
|---|---|
| 14 mm | **14** |

**Valve functions**

| | |
|---|---|
|  | **T32C** |
|  | **T32U** |
|  | **T32H** |
|  | **M52** |
|  | **B52** |
|  | **P53C** |
|  | **P53U** |
|  | **P53E** |

– | | – | |

**Exhausting with VUWG-L**

| | |
|---|---|
| **QN** | QS if QS[1] |
| **U** | Silencer |
| – | G1⁄8 |

| Pneumatic connection | | Flow rate [l/min][2] |
|---|---|---|
| **G18** | Thread M5 | 780 |
| **Q4** | Push-in connector 3 mm/G1⁄8 | 250 |
| **Q6** | Push-in connector 4 mm/G1⁄8 | 500 |
| **Q8** | Push-in connector 4 mm/G1⁄8 | 700 |
| **T14** | Push-in connector 1⁄4" | 500 |
| **T516** | Push-in connector 5⁄16" | 700 |

**Reset method**

| | |
|---|---|
| **R** | Pneumatic spring for T32 and M52 |
| **–** | With B52 and P53 |

1) If Q... is chosen for the pneumatic connection, this also applies to the exhaust ports 3 and 5

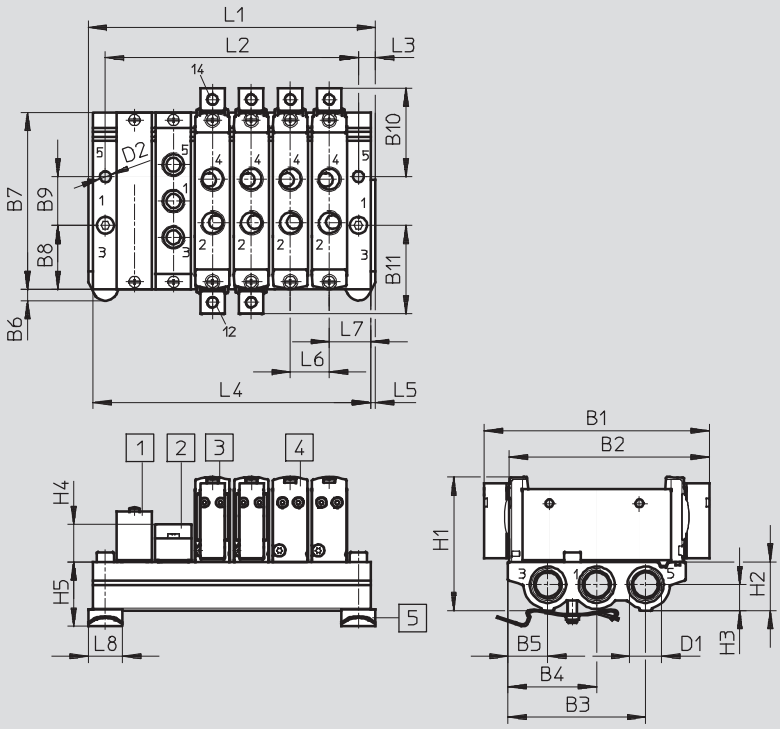
2) Flow rate applies to 5/2-way individual valve

# Pneumatic valves VUWG-S14, in-line valves G1⁄8

Manifold assembly

**In-line valves for manifold assembly**

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




1 Blank plate VABB-L1-14

2 Supply plate VABF-L1-14-P3A4-G18

3 Double pilot pneumatic valve

4 Single pilot pneumatic valve

5 H-rail mounting (two M4x25 screws to DIN 912 are required for mounting)

| Type | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VABM-L1-14S-G14 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 | B11 | D1 |
| | 92.6 | 82.3 | 56.6 | 36.5 | 16.4 | 4.5 | 72.9 | 26.45 | 20 | 36.3 | 36.3 | G¼ |
| | D2 | H1 | H2 | H3 | H4 | H5 | L3 | L5 | L6[1)] | L7 | | |
| | Ø 4.5 | 54.8 | 20 | 10.6 | 15.4 | 26.4 | 7 | 2 | 16 | 17 | | |

| Valve positions | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 [mm] | 54 | 70 | 86 | 98 | 118 | 134 | 150 | 166 | 182 | 214 | 246 | 278 |
| L2 [mm] | 40 | 56 | 72 | 88 | 104 | 120 | 136 | 152 | 168 | 200 | 232 | 264 |
| L4 [mm] | 50 | 66 | 82 | 98 | 114 | 130 | 146 | 162 | 178 | 210 | 242 | 274 |

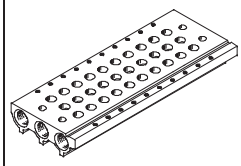
1) Grid dimension

# Pneumatic valves VUWG-S14, in-line valves G1⁄8

FESTO

Ordering data

**Technical data – Manifold rails**

| | Port | CRC | Material[2] | Operating pressure | Max. tightening torque for assembly [Nm] | | |
|---|---|---|---|---|---|---|---|
| | 1, 3, 5 | | | [bar] | Valve | H-rail | Wall |
|  | G1⁄4 | 2[1] | Wrought aluminium alloy | –0.9 ... 10 | 0.65 | 1.5 | 3 |

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

**Order code – Manifold rails**

| VABM | – | L1 | – | 14 | S | – | G14 | – | |
|---|---|---|---|---|---|---|---|---|---|

Manifold assembly parts
Manifold rail **VABM**

Valve series
VUWG **L1**

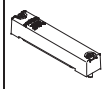
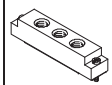
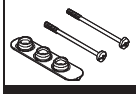
Valve width
14 mm **14**

Manifold rail with ports 1, 3, 5
For G 1⁄8 in-line valves **S**

Number of valve positions
2 to 10, 12, 14 and 16

Ports 1, 3, 5
**G14** G1⁄4

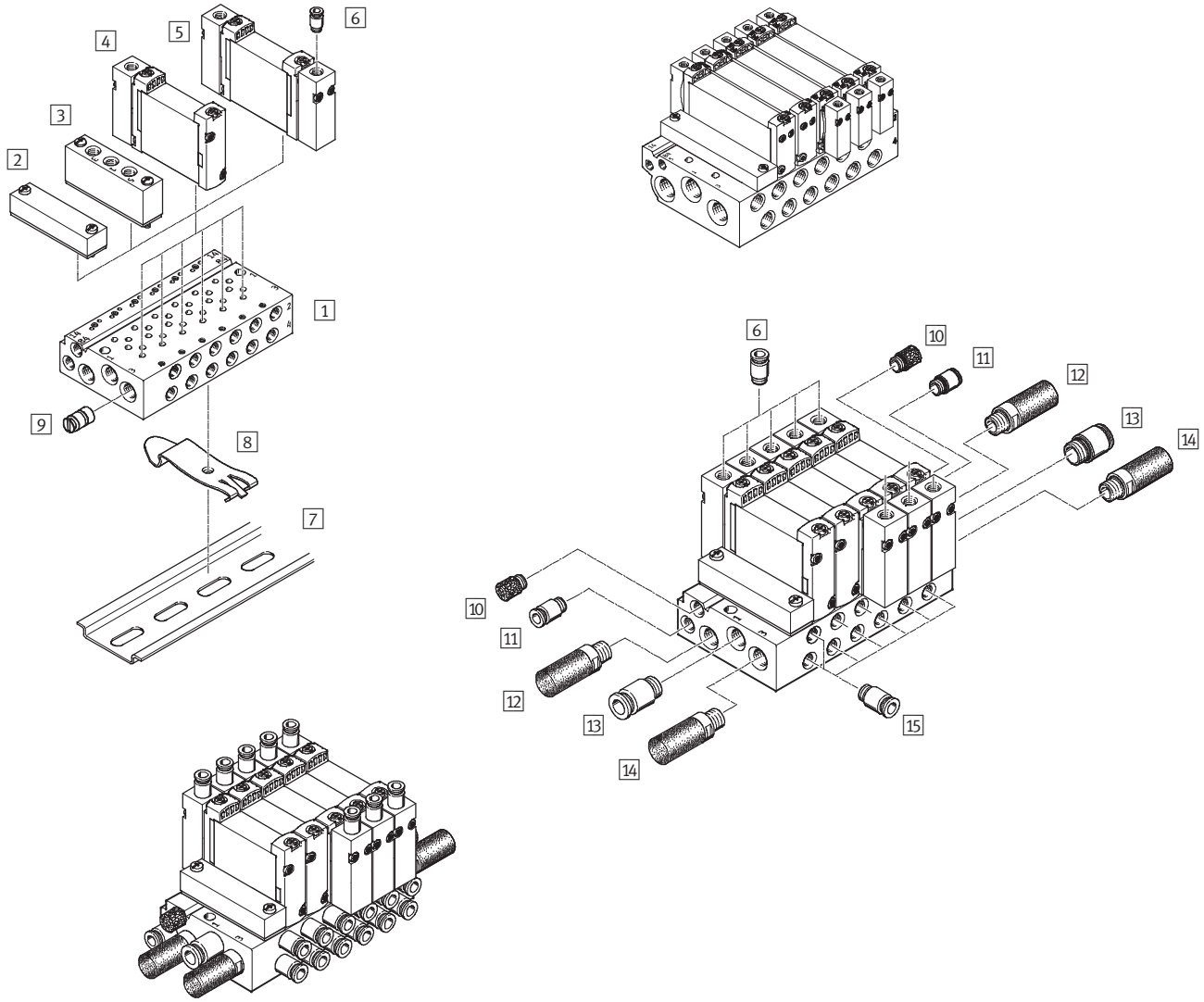
**Ordering data – Accessories**

| | | | Type |
|---|---|---|---|
| Blanking plate | | | Technical data ➔ Internet: vabb |
|  | For manifold rail for M5/M7 in-line valves | Incl. screws and seal | **VABB-L1-14** |
| Separator | | | Technical data ➔ Internet: vabd |
|  | For manifold rail for G 1⁄8 in-line valves | Separator for pressure zones | **VABD-10-B** |
| Supply plate | | | Technical data ➔ Internet: vabf |
|  | For manifold rail for G 1⁄8 in-line valves | Incl. screws and seal | **VABF-L1-14-P3A4-G18** |
| Seals for in-line valves | | | Technical data ➔ Internet: vabd |
|  | G1⁄8 | 10 seals and 20 screws | **VABD-L1-14X-S-G18** |

# Pneumatic valves VUWG-B10A, sub-base valves

System overview

## Manifold assembly




**Manifold assembly and accessories**

| | | Type | Brief description | ➔ Page/Internet |
|---|---|---|---|---|
| 1 | Manifold rail | VABM-L1-10AW-M7 | For 2 to 10, 12, 14 and 16 valve positions | 33 |
| 2 | Blanking plate | VABB-L1-10A | For covering an unused valve position | 33 |
| 3 | Supply plate | VABF-L1-10A-P3A4-M5 | For air supply port 1 and ports 3 and 5 | 33 |
| 4 | Pneumatic valve | VUWG | Single pilot pneumatic valve | 29 |
| 5 | Pneumatic valve | VUWG | Double pilot pneumatic valve | 29 |
| 6 | Push-in fitting | QS | For adapter plate for port 12 or 14 | 46 |
| 7 | H-rail | NRH-35-2000 | For mounting the valve manifold | 46 |
| 8 | H-rail mounting | VAME-T-M4 | 2 pieces for fitting the valve manifold on an H-rail | 46 |
| 9 | Separator | VABD-4.2-B | For creating pressure zones | 33 |
| 10 | Silencer | U | For port 84 | 46 |
| 11 | Push-in fitting | QS | For port 14 | 46 |
| 12 | Silencer | U | For port 5 | 46 |
| 13 | Push-in fitting | QS | For port 1 | 46 |
| 14 | Silencer | U | For port 3 | 46 |
| 15 | Push-in fitting | QS | For ports 2 and 4 | 46 |

# Pneumatic valves VUWG-B10A, sub-base valves

FESTO

Technical data

Function
5/2-way, single pilot
5/2-way, double pilot
5/3-way, closed, exhausted, pressurised

Width

Flow rate
90 ... 100 l/min

Voltage

| General technical data | | | | | | |
|---|---|---|---|---|---|---|
| Valve function | | 5/2-way, single pilot | 5/2-way, double pilot | 5/3 | | |
| Normal position | | – | – | C[1] | U[2] | E[3] |
| Pneumatic spring reset method | | Yes | – | Yes | | |
| Mechanical spring reset method | | Yes | – | No | | |
| Vacuum operation at port 1 | | No | Yes | Yes | | |
| Design | | Piston spool valve | | | | |
| Sealing principle | | Soft | | | | |
| Actuation type | | Pneumatic | | | | |
| Type of control | | Direct | | | | |
| Pilot air supply | | External | | | | |
| Exhaust function | | With flow control | | | | |
| Type of mounting | | Optionally via through-holes[7] or on manifold rail | | | | |
| Mounting position | | Any | | | | |
| Standard nominal flow rate | [l/min] | 100 | | 90 | | |
| Switching time on/off | [ms] | 7/15 | – | 8/25 | | |
| Changeover time | [ms] | – | 5 | 14 | | |
| Width | [mm] | 10 | | | | |
| Port | 1, 3, 5 | M5/M7 | | | | |
| | 2, 4 | M3 | | | | |
| | 12, 14, 82/84 | M5 | | | | |
| Product weight | [g] | 37 | 40 | 40 | | |
| Corrosion resistance class | CRC | 2[6] | | | | |

1) C = Normally closed
2) U = Normally open
3) E = Normally exhausted
5) Combined reset method
6) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

# Pneumatic valves VUWG-B10A, sub-base valves

Technical data

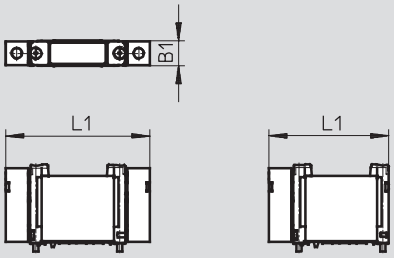
| Operating and environmental conditions | | | | |
|---|---|---|---|---|
| Valve function | | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way |
| Operating medium | | Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated | | |
| Operating pressure | [bar] | –0.9...10 | -0.9 ... 10 | -0.9 ... 10 |
| Pilot pressure | [bar] | 2.5 ... 10[1)] | 1.5 ... 10 | 3 ... 10 |
| Ambient temperature | [°C] | -5 ... +60 | | |
| Temperature of medium | [°C] | -5 ... +50 | | |

1) Note operating pressure/pilot pressure graph ➔ page 4

| Information on materials | |
|---|---|
| Housing | Anodised aluminium |
| Seals | HNBR, NBR |
| Note on materials | RoHS-compliant |

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

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




| Type | B1 | L1 |
|---|---|---|
| VUWG-B10A-... | 10.3 | 59.9 |
| VUWG-B10A-M52... | | 49.9 |

1) Only with external pilot air

# Pneumatic valves VUWG-B10A, sub-base valves

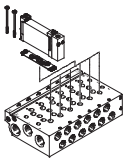
FESTO

Order code

| VUWG | – | B | 10A | – | | – | | – | F |
|---|---|---|---|---|---|---|---|---|---|

**Valve design**

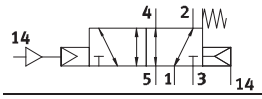
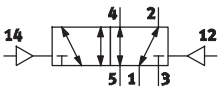
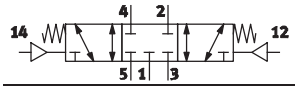
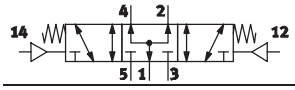
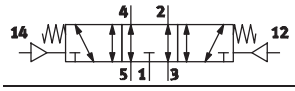
| | |
|---|---|
| Sub-base, manifold valve incl. seal and screws | B |



**Width**

| | |
|---|---|
| 10 mm | 10A |

**Valve functions**

| | |
|---|---|
|  | M52 |
|  | B52 |
|  | P53C |
|  | P53U |
|  | P53E |

**Pneumatic connection**

| | |
|---|---|
| F | In the manifold rail |

**Reset method**

| | |
|---|---|
| R | Pneu./mech. spring for M52 |
| – | With B52 and P53 |

New

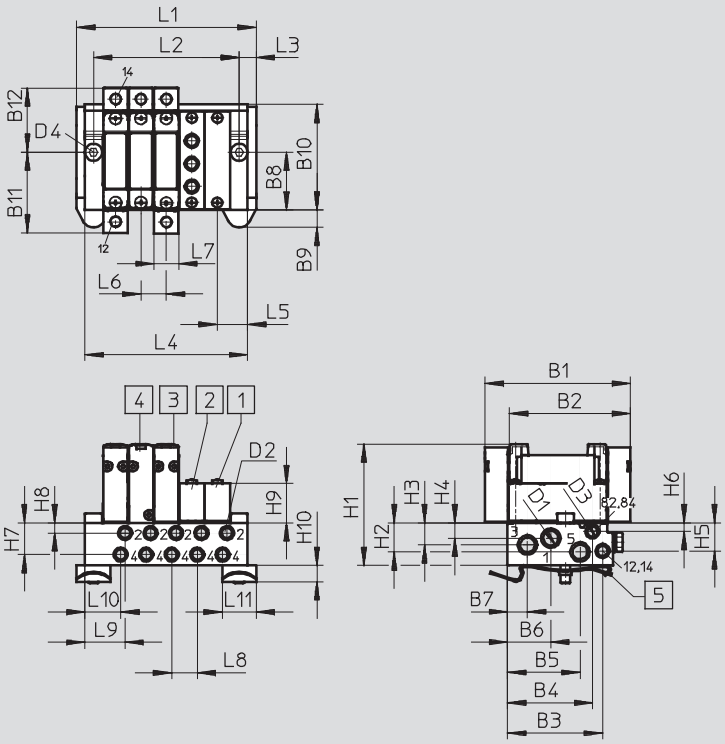
# Pneumatic valves VUWG-B10A, sub-base valves

Manifold assembly

FESTO

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

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




1 Blanking plate VABB-L1-10A
2 Supply plate VABF-L1-10A-P3A4-M5
3 Double pilot pneumatic valve
4 Single pilot pneumatic valve
5 H-rail mounting (two M4x25 screws to DIN 912 are required)

| Type | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VABM-L1-10AW-M7 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 | B11 | B12 |
| | 59.9 | 49.9 | 39.1 | 35 | 29.8 | 17.8 | 8.2 | 24 | 7.15 | 43.5 | 33.45 | 26.45 |
| | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | D1 | D2 |
| | 50 | 12 | 9.1 | 6.3 | 11.6 | 3.6 | 13.1 | 4.2 | 16.2 | 6.8 | M7 | M5 |
| | D3 | D4 | L3 | L5 | L6 | L7 | L8 | L9 | L10 | L11 | | |
| | M5 | Ø4.5 | 7 | 12.5 | 10.5 | 10.2 | 10.5 | 16.5 | 14.7 | 11 | | |

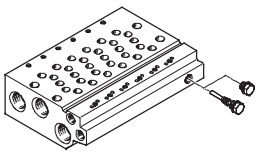
| Valve positions | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 [mm] | 42.5 | 53 | 63.5 | 74 | 84.5 | 96 | 106.5 | 116 | 126.5 | 147.5 | 168.5 | 189.5 |
| L2 [mm] | 28.5 | 39 | 49.5 | 60 | 70.5 | 81 | 91.5 | 102 | 112.5 | 133.5 | 154.5 | 175.5 |
| L4 [mm] | 35.5 | 46 | 56.5 | 67 | 77.5 | 89 | 99.5 | 109 | 119.5 | 140.5 | 161.5 | 182.5 |

# Pneumatic valves VUWG-B10A, sub-base valves

FESTO

Ordering data

**Technical data – Manifold rails[1)]**

| | Port | | | CRC | Material[3)] | Operating pressure | Max. tightening torque for assembly [Nm] | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2, 4 | 1, 3, 5 | 12/14, 82/84 | | | [bar] | Valve | H-rail | Wall |
|  | M5 | M7 | M5 | 2[2)] | Wrought aluminium alloy | –0.9 ... 10 | 0.45 | 1.5 | 1.5 |

1) Blanking plugs are included with the manifold rail.
2) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
3) Note on materials: RoHS-compliant

**Order code – Manifold rails M3**

| VABM | – | L1 | – | 10A | W | – | M7 | – | |
|---|---|---|---|---|---|---|---|---|---|

Manifold assembly parts
Manifold rail **VABM**

Valve series
VUWG **L1**

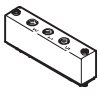
Valve width
10 mm **10A**

Rail with ports 1, 2, 3, 4, 5, 12/14, 82/84
Port 2 and 4 in M5 **W**

Number of valve positions
**2** to 10, 12, 14 and 16

Ports 1, 3, 5
**M7** M7

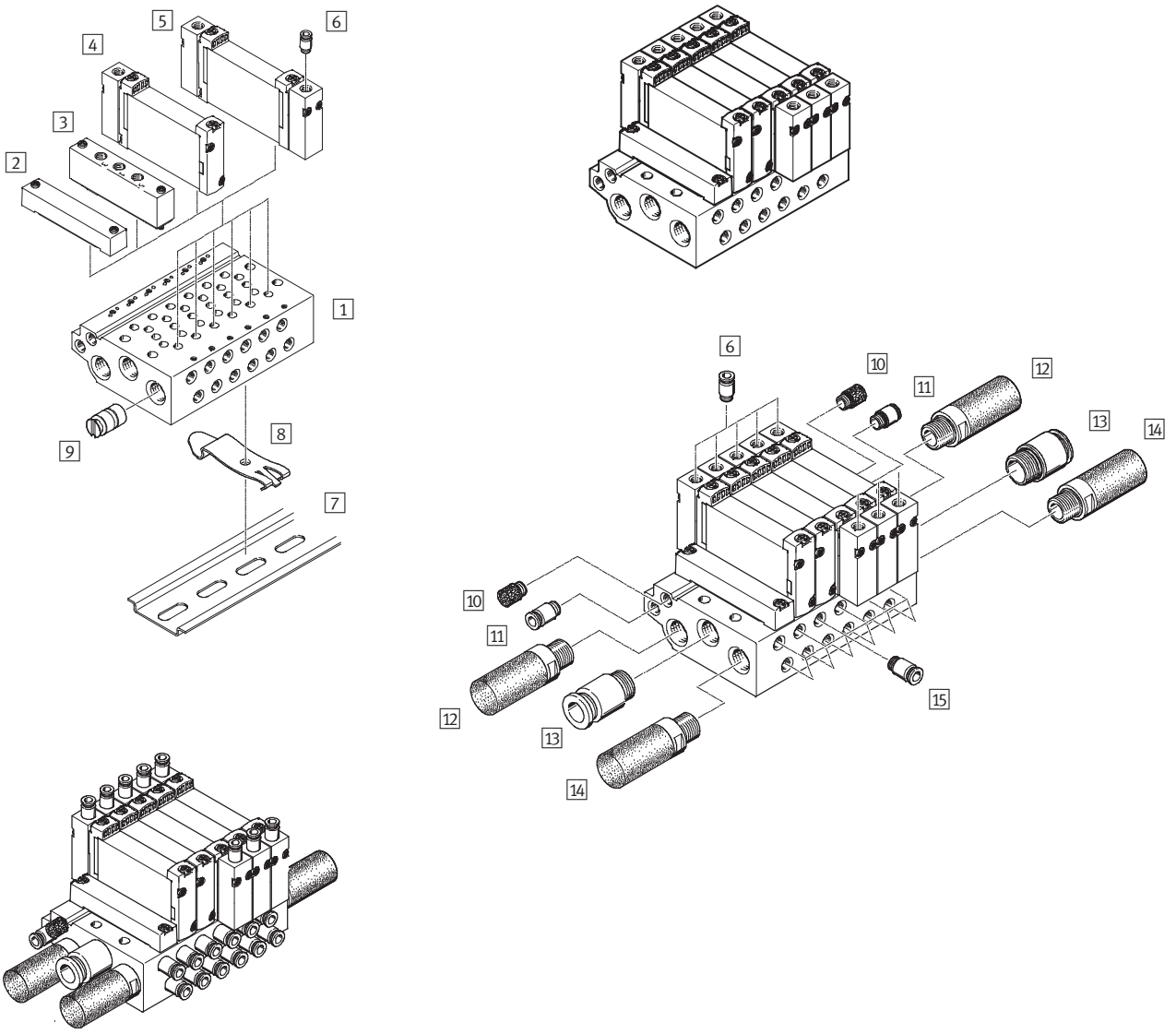
**Ordering data – Accessories**

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

# Pneumatic valves VUWG-B10, sub-base valves

System overview

## Manifold assembly




**Manifold assembly and accessories**

| | | Type | Brief description | ➔ Page/Internet |
|---|---|---|---|---|
| 1 | Manifold rail | VABM-L1-10W-G18 | For 2 to 10, 12, 14 and 16 valve positions | 39 |
| 2 | Blanking plate | VABB-L1-10-W | For covering an unused valve position | 39 |
| 3 | Supply plate | VABF-L1-10-P3A4-M5 | For air supply port 1 and ports 3 and 5 | 39 |
| 4 | Pneumatic valve | VUWG | Single pilot pneumatic valve | 35 |
| 5 | Pneumatic valve | VUWG | Double pilot pneumatic valve | 35 |
| 6 | Push-in fitting | QS | For adapter plate for port 12 or 14 | 46 |
| 7 | H-rail | NRH-35-2000 | For mounting the valve manifold | 46 |
| 8 | H-rail mounting | VAME-T-M4 | 2 pieces for fitting the valve manifold on an H-rail | 46 |
| 9 | Separator | VABD-6-B | For creating pressure zones | 39 |
| 10 | Silencer | U | For port 84 | 46 |
| 11 | Push-in fitting | QS | For port 14 | 46 |
| 12 | Silencer | U | For port 5 | 46 |
| 13 | Push-in fitting | QS | For port 1 | 46 |
| 14 | Silencer | U | For port 3 | 46 |
| 15 | Push-in fitting | QS | For ports 2 and 4 | 46 |

# Pneumatic valves VUWG-B10, sub-base valves

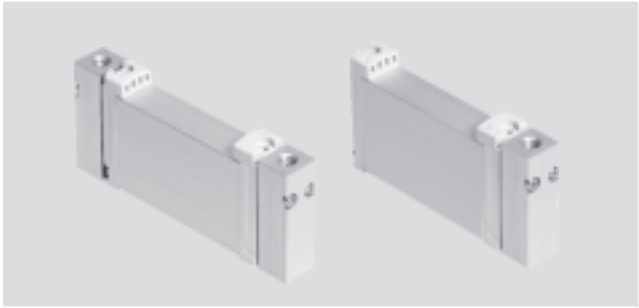
Technical data

FESTO

Function
2x3/2C, 2x3/2U, 2x3/2H
5/2-way, single pilot
5/2-way, double pilot
5/3C, 5/3U, 5/3E

Width

Flow rate
150 ... 270 l/min



| General technical data | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Valve function | | | 2x3/2-way, single pilot | | | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way, single pilot | | |
| Normal position | | | C[1] | U[2] | H[4] | – | – | C[1] | U[2] | E[3] |
| Pneumatic spring reset method | | | Yes | | | Yes[5] | – | No | | |
| Mechanical spring reset method | | | No | | | Yes[5] | – | Yes | | |
| Vacuum operation at port 1 | | | No | | | | Yes | | | |
| Design | | | Piston spool valve | | | | | | | |
| Sealing principle | | | Soft | | | | | | | |
| Actuation type | | | Pneumatic | | | | | | | |
| Type of control | | | Direct | | | | | | | |
| Pilot air supply | | | External | | | | | | | |
| Exhaust function | | | With flow control | | | | | | | |
| Type of mounting | | | Optionally via through-holes[7] or on manifold rail | | | | | | | |
| Mounting position | | | Any | | | | | | | |
| Flow rate on manifold rail M5 | | [l/min] | 150 | | | 220 | | 200 | | |
| Flow rate on manifold rail M7 | | [l/min] | 160 | | | 270 | | 250 | | |
| Switching time on/off | | [ms] | 6/16 | | | 7/19 | – | 10/30 | | |
| Changeover time | | [ms] | – | | | | 7 | 16 | | |
| Width | | [mm] | 10 | | | | | | | |
| Port | 1, 3, 5 | | G1/8 | | | | | | | |
| | 2, 4 | | M5/M7 | | | | | | | |
| | 12/14, 82/84 | | M5 | | | | | | | |
| Product weight | | [g] | 48 | | | 45 | 48 | | | |
| Corrosion resistance class | | CRC | 2[6] | | | | | | | |

1) C = Normally closed
2) U = Normally open
3) E = Normally exhausted
4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open
5) Combined reset method
6) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

# Pneumatic valves VUWG-B10, sub-base valves

Technical data

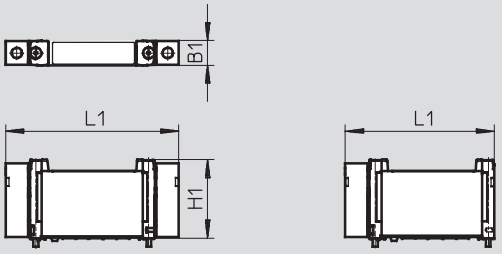
| Operating and environmental conditions | | | | | |
|---|---|---|---|---|---|
| Valve function | | 2x3/2-way | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way |
| Operating medium | | Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated | | | |
| Operating pressure | [bar] | 1.5 ... 10 | –0.9 ... 10 | -0.9...10 | |
| Pilot pressure | [bar] | 1.5 ... 10[1)] | 2.5 ... 10[1)] | 1.5 ... 10 | 3...10 |
| Ambient temperature | [°C] | -5 ... +60 | | | |
| Temperature of medium | [°C] | -5 ... +60 | | | |

1) Note operating pressure/pilot pressure graph ➔ page 4

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

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

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




| Type | B1 | H1 | L1 |
|---|---|---|---|
| VUWG-B10-... | 10.3 | 32.5 | 72 |
| VUWG-B10-M52-... | | | 62 |

1) Only with external pilot air

# Pneumatic valves VUWG-B10, sub-base valves

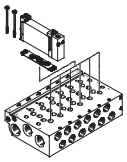
FESTO

Order code

| VUWG | – | B | 10 | – | | – | | – | F |
|---|---|---|---|---|---|---|---|---|---|

**Valve design**

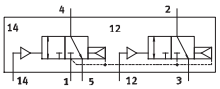
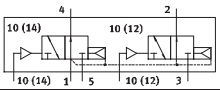
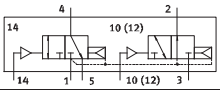
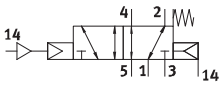
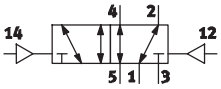
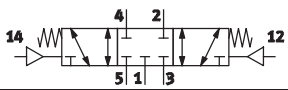
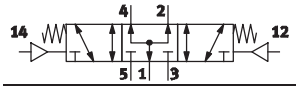
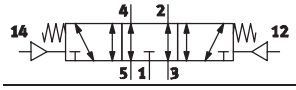
| | |
|---|---|
| Sub-base, manifold valve incl. seal and screws | B |



**Width**

| | |
|---|---|
| 10 mm | 10 |

**Valve functions**

| | |
|---|---|
|  | T32C |
|  | T32U |
|  | T32H |
|  | M52 |
|  | B52 |
|  | P53C |
|  | P53U |
|  | P53E |

**Pneumatic connection**

| | |
|---|---|
| F | In the manifold rail |

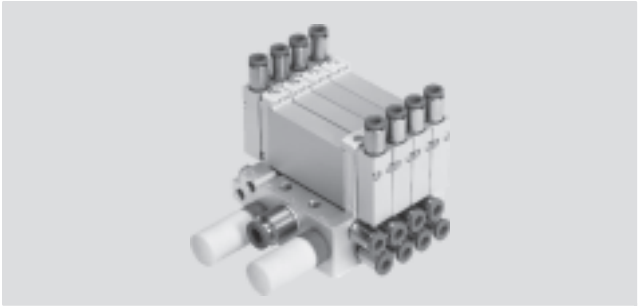
**Reset method**

| | |
|---|---|
| R | Pneu./mech. spring for M52 |
| – | With B52 and P53 |

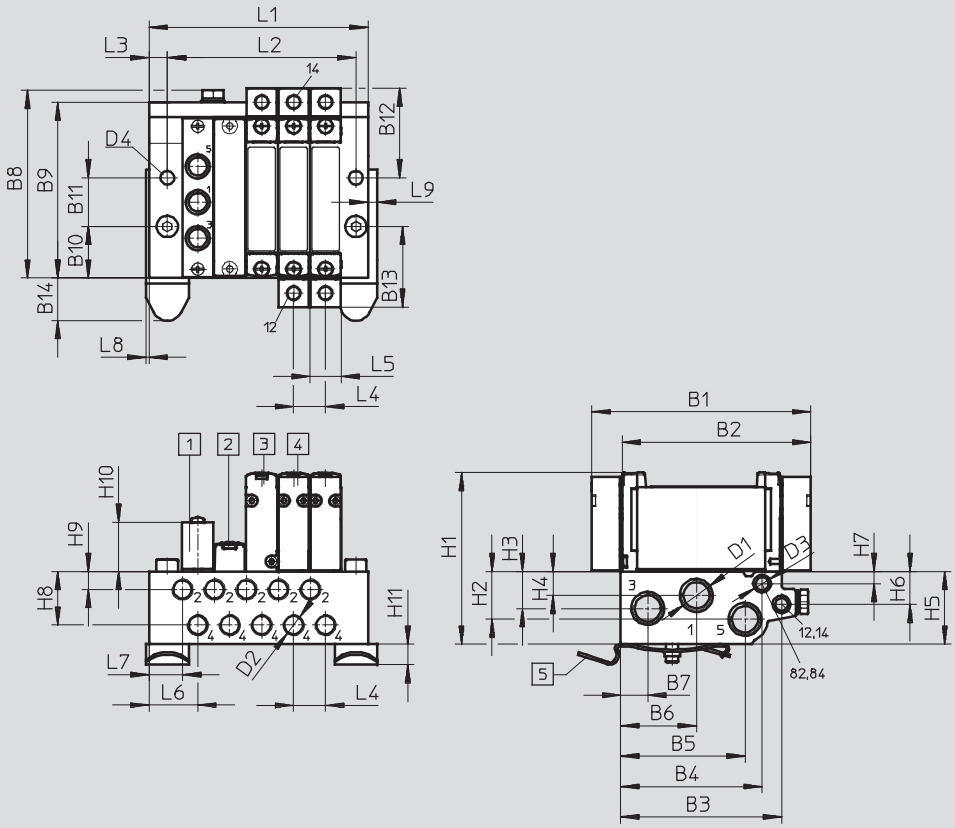
# Pneumatic valves VUWG-B10, sub-base valves

Manifold assembly

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



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




1 Supply plate VABF-L1-10-P3A4-M5
2 Blanking plate VABB-L1-10-W
3 Single pilot pneumatic valve, VUWG-B10-M52
4 Double pilot pneumatic valve, VUWG-B10
5 H-rail mounting (2x M4x30 screws to DIN 912 are required)

| Type | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VABM-L1-...G18 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 | B11 | B12 |
| | 72 | 62 | 52.9 | 46.5 | 40.9 | 24.9 | 8.9 | 62 | 57.7 | 16.9 | 16 | 29.5 |
| | B13 | B14 | D1 | D2 | D3 | D4 | H1 | H2 | H3 | H4 | H5 | H6 |
| | 26.5 | 14.1 | G1⁄8 | M5 | M5 | 4.5 | 56.4 | 15.7 | 12.2 | 7.9 | 23.9 | 10.8 |
| | H7 | H8 | H9 | H10 | H11 | L3 | L4 | L5 | L6 | L7 | L8 | L9 |
| | 4 | 17.6 | 5.9 | 16.2 | 6.8 | 4 | 10.5 | 10.3 | 16 | 11 | 1 | 3 |
| | L8 | L9 | L15 | | | | | | | | | |
| | 1 | 3 | 10 | | | | | | | | | |

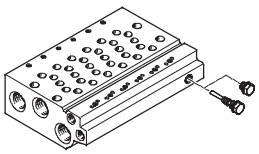
| Valve positions | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 16 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 [mm] | 48.5 | 59 | 69.5 | 80 | 90.5 | 101 | 111.5 | 122 | 132.5 | 153.5 | 174.5 | 195.5 | 258.5 |
| L2 [mm] | 30.5 | 41 | 51.5 | 62 | 72.5 | 83 | 93.5 | 104 | 114.5 | 135.5 | 156.5 | 177.5 | 240.5 |

# Pneumatic valves VUWG-B10, sub-base valves

FESTO

Ordering data

**Technical data – Manifold rails[1)]**

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

1) Blanking plugs are included with the manifold rail.
2) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
3) Note on materials: RoHS-compliant

**Order code – Manifold rails M5 and M7**

| VABM | – | L1 | – | 10 | | – | G18 | – | |
|---|---|---|---|---|---|---|---|---|---|

Manifold assembly parts
Manifold rail **VABM**

Valve series
VUWG **L1**

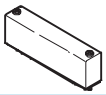
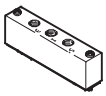
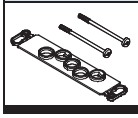
Valve width
10 mm **10**

Manifold rail with ports 1, 2, 3, 4, 5, 12/14, 82/84
Ports 2 and 4 in M5 **W**
Ports 2 and 4 in M7 **HW**

Ports 1, 3, 5
**G18** G1⁄8

Number of valve positions
2 to 10, 12, 14 and 16

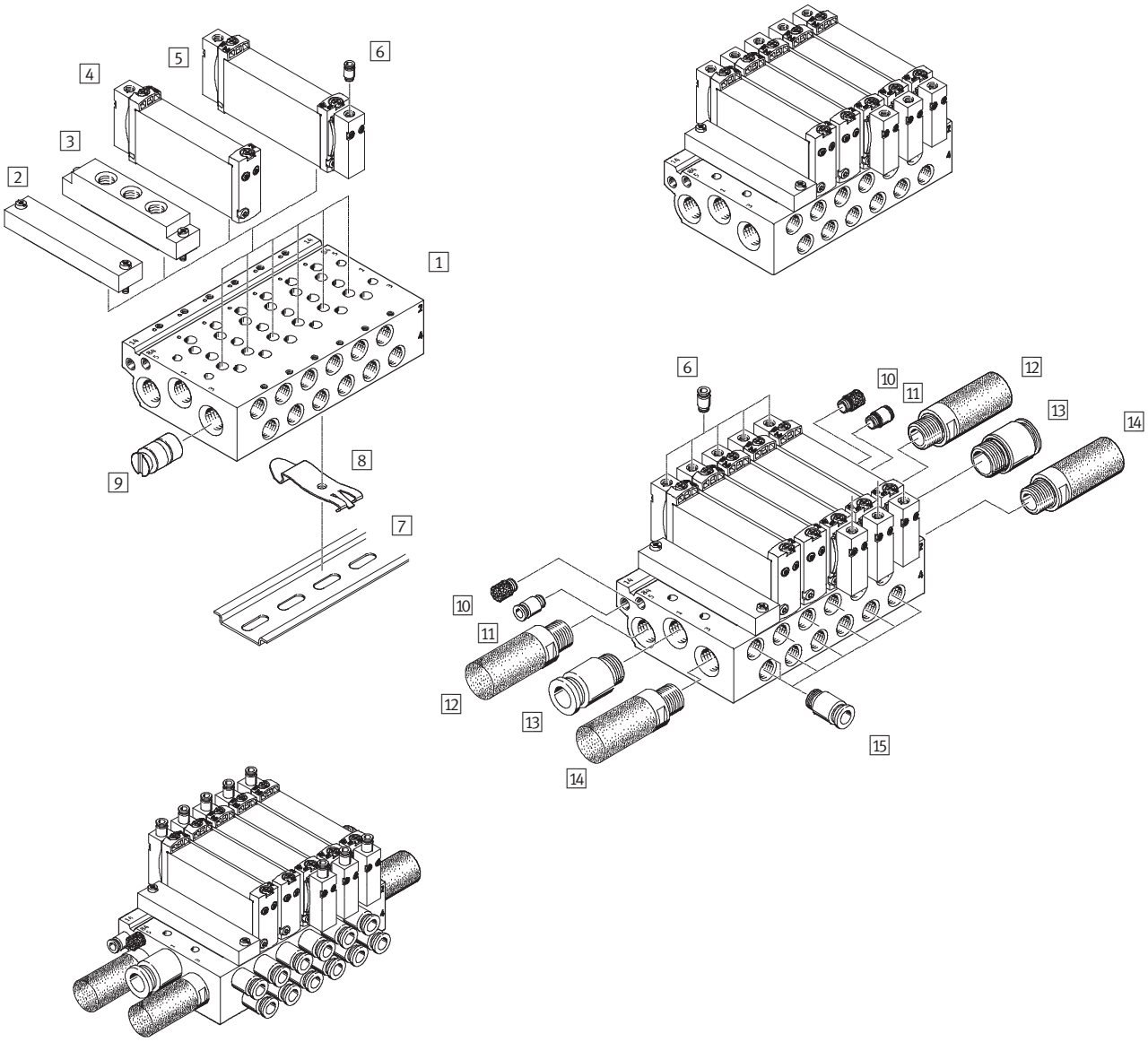
**Ordering data – Accessories**

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

# Pneumatic valves VUWG-B14, sub-base valves

System overview

## Manifold assembly




**Manifold assembly and accessories**

| | | Type | Brief description | ➔ Page/Internet |
|---|---|---|---|---|
| 1 | Manifold rail | VABM-L1-14W-G14 | For 2 to 10, 12, 14 and 16 valve positions | 45 |
| 2 | Blanking plate | VABB-L1-14 | For covering an unused valve position | 45 |
| 3 | Supply plate | VABF-L1-14-P3A4-G18 | For air supply port 1 and ports 3 and 5 | 45 |
| 4 | Pneumatic valve | VUWG | Single pilot pneumatic valve | 41 |
| 5 | Pneumatic valve | VUWG | Double pilot pneumatic valve | 41 |
| 6 | Push-in fitting | QS | For adapter plate for port 12 or 14 | 46 |
| 7 | H-rail | NRH-35-2000 | For mounting the valve manifold | 46 |
| 8 | H-rail mounting | VAME-T-M4 | 2 pieces for fitting the valve manifold on an H-rail | 46 |
| 9 | Separator | VABD-10-B | For creating pressure zones | 44 |
| 10 | Silencer | U | For port 84 | 46 |
| 11 | Push-in fitting | QS | For port 14 | 46 |
| 12 | Silencer | U | For port 5 | 46 |
| 13 | Push-in fitting | QS | For port 1 | 46 |
| 14 | Silencer | U | For port 3 | 46 |
| 15 | Push-in fitting | QS | For ports 2 and 4 | 46 |

# Pneumatic valves VUWG-B14, sub-base valves

Technical data

FESTO

Function
2x3/2C, 2x3/2U, 2x3/2H
5/2-way, single pilot
5/2-way, double pilot
5/3C, 5/3U, 5/3E

Width

Flow rate
510 ... 580 l/min

Voltage

| General technical data | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Valve function | | | 2x3/2-way, single pilot | | | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way, single pilot | | |
| Normal position | | | C[1] | U[2] | H[4] | – | – | C[1] | U[2] | E[3] |
| Pneumatic spring reset method | | | Yes | | | | – | No | | |
| Mechanical spring reset method | | | No | | | | – | Yes | | |
| Vacuum operation at port 1 | | | No | | | Yes | | | | |
| Design | | | Piston spool valve | | | | | | | |
| Sealing principle | | | Soft | | | | | | | |
| Actuation type | | | Pneumatic | | | | | | | |
| Type of control | | | Direct | | | | | | | |
| Pilot air supply | | | External | | | | | | | |
| Exhaust function | | | With flow control | | | | | | | |
| Type of mounting | | | Optionally via through-holes[7] or on manifold rail | | | | | | | |
| Mounting position | | | Any | | | | | | | |
| Standard nominal flow rate | | [l/min] | 540 | 510 | 540 | 580 | | 540 | 510 | |
| Switching time on/off | | [ms] | 8/23 | | | 14/28 | – | 12/40 | | |
| Changeover time | | [ms] | – | | | | 8 | 20 | | |
| Width | | [mm] | 14 | | | | | | | |
| Port | 1, 3, 5 | | G¼ | | | | | | | |
| | 2.4 | | G⅛ | | | | | | | |
| | 12/14, 82/84 | | M5 | | | | | | | |
| Product weight | | [g] | 83 | | | 75 | 81 | | | |
| Corrosion resistance class | | CRC | 2[6] | | | | | | | |

1) C = Normally closed
2) U = Normally open
3) E = Normally exhausted
4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open
6) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

# Pneumatic valves VUWG-B14, sub-base valves

Technical data

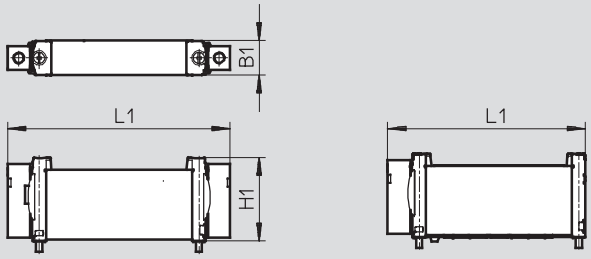
| Operating and environmental conditions | | | | | |
|---|---|---|---|---|---|
| Valve function | | 2x3/2-way | 5/2-way, single pilot | 5/2-way, double pilot | 5/3-way |
| Operating medium | | Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated | | | |
| Operating pressure | [bar] | 1.5 ... 10 | -0.9 ... 10 | | |
| Pilot pressure | [bar] | 1.5 ... 10[1)] | 2.5 ... 10[1)] | 1.5 ... 10 | 3 ... 10 |
| Ambient temperature | [°C] | –5 ... +60 | | | |
| Temperature of medium | [°C] | –5 ... +50 | | | |

1) Note operating pressure/pilot pressure graph ➔ page 4

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

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

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




| Type | B1 | H1 | L1 |
|---|---|---|---|
| VUWG-B14-... | 14.4 | 34.8 | 92.6 |
| VUWG-B14-M52-... | | | 82.3 |

1) Only with external pilot air

# Pneumatic valves VUWG-B14, sub-base valves

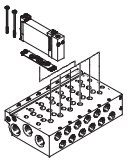
FESTO

Order code

| VUWG | – | B | 14 | – | | – | | – | F |
|---|---|---|---|---|---|---|---|---|---|

**Valve design**

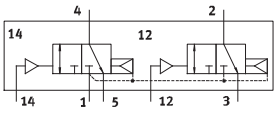
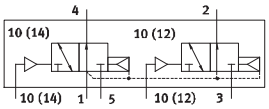
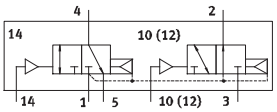
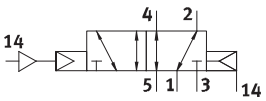
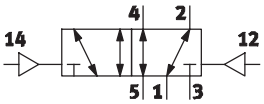
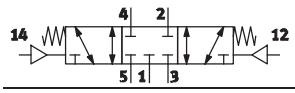
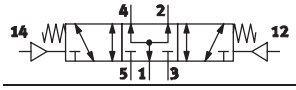
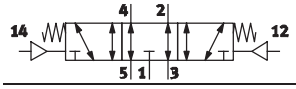
| | |
|---|---|
| Sub-base, manifold valve incl. seal and screws | B |



**Width**

| | |
|---|---|
| 10 mm | 14 |

**Valve functions**

| | |
|---|---|
|  | T32C |
|  | T32U |
|  | T32H |
|  | M52 |
|  | B52 |
|  | P53C |
|  | P53U |
|  | P53E |

**Pneumatic connection**

| | |
|---|---|
| F | In the manifold rail |

**Reset method**

| | |
|---|---|
| R | Pneu./mech. spring for T32 and M52 |
| – | With B52 and P53 |

1) If Q... is chosen for the pneumatic connection, this also applies to the exhaust ports 3 and 5

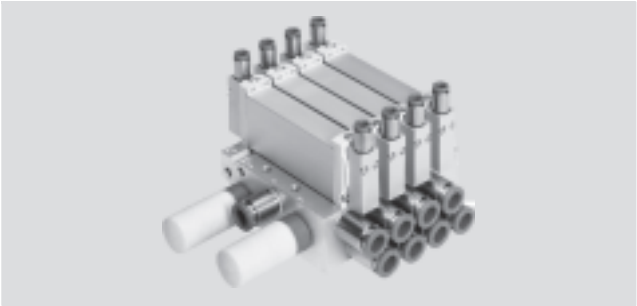
2) Flow rate applies to 5/2-way individual valve

# Pneumatic valves VUWG-B14, sub-base valves

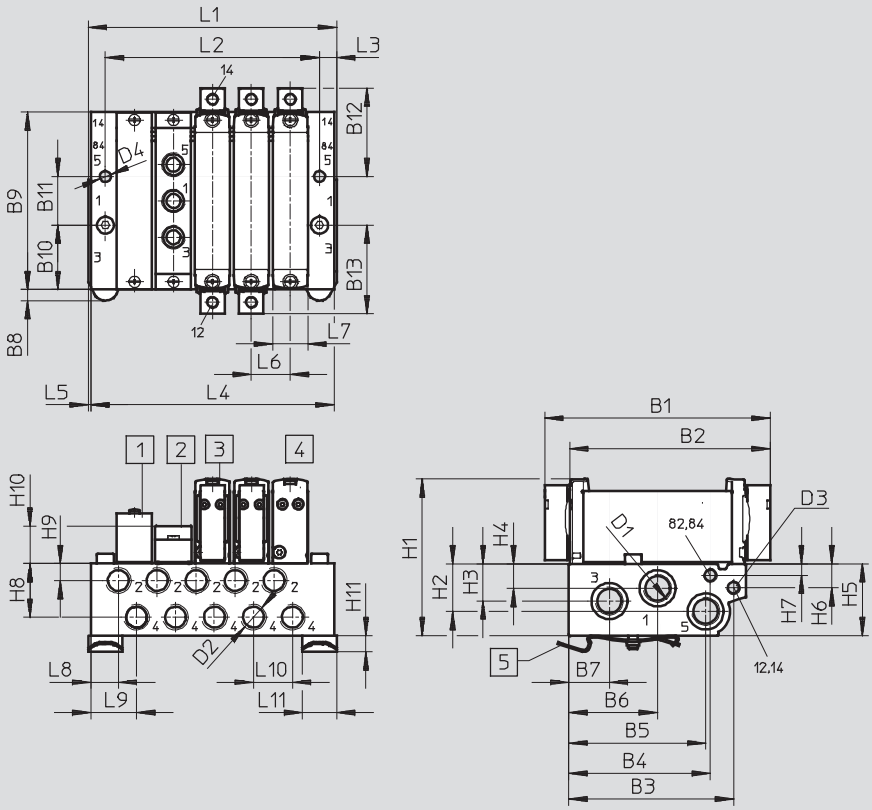
Manifold assembly

FESTO

**Sub-base valve for manifold assembly**
**G⅛ connection**



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




1 Blanking plate VABB-L1-14
2 Supply plate VABF-L1-14-P3A4-G18
3 Double pilot pneumatic valve
4 Single pilot pneumatic valve
5 H-rail mounting (two M4x25 screws to DIN 912 are required)

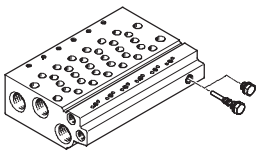
| Type | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VUWG-B14 -...-F- ... | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 | B11 | B12 |
| | 92.6 | 82.3 | 67.7 | 58.2 | 56.3 | 36.6 | 16.7 | 4.5 | 72.9 | 26.5 | 20 | 36.3 |
| | B13 | D1 | D2 | D3 | D4 | H1 | H2 | H3 | H4 | H5 | H6 | H7 |
| | 36.3 | G¼ | G⅛ | M5 | Ø 4.5 | 64.3 | 19.6 | 15.3 | 10.1 | 29.5 | 9.8 | 4.8 |
| | H8 | H9 | H10 | H11 | L3 | L5 | L6 | L7 | L8 | L9 | L10 | L11 |
| | 22.1 | 7 | 15.4 | 6.8 | 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 [mm] | 56.3 | 72.3 | 88.3 | 104.3 | 120.3 | 136.3 | 152.3 | 168.3 | 184.3 | 216.3 | 248.3 | 280.3 |
| L2 [mm] | 40 | 56 | 72 | 88 | 104 | 120 | 136 | 152 | 168 | 200 | 232 | 264 |
| L4 [mm] | 54.3 | 70.3 | 86.3 | 102.3 | 118.3 | 134.3 | 150.3 | 166.3 | 182.3 | 214.3 | 246.6 | 278.3 |

# Pneumatic valves VUWG-B14, sub-base valves

FESTO

Ordering data

| Technical data – Manifold rails[1] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Port | | | CRC | Material[3] | Operating pressure | Max. tightening torque for assembly [Nm] | | |
| | 2, 4 | 1, 3, 5 | 12/14, 82/84 | | | [bar] | Valve | H-rail | Wall |
|  | G⅛ | G¼ | M5 | 2[2] | Wrought aluminium alloy | –0.9 ... 10 | 0.65 | 1.5 | 3 |

1) Blanking plugs are included with the manifold rail.
2) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
3) Note on materials: RoHS-compliant

## Order code – Manifold rails G ⅛

| VABM | – | L1 | – | 14 | W | – | G14 | – | |
|---|---|---|---|---|---|---|---|---|---|

| Manifold assembly parts | |
|---|---|
| Manifold rail | **VABM** |

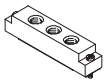
| Valve series | |
|---|---|
| VUWG | **L1** |

| Valve width | |
|---|---|
| 14 mm | **14** |

| Manifold rail with ports 1, 2, 3, 4, 5, 12/14, 82/84 | |
|---|---|
| Ports 2 and 4 in G ⅛ | **W** |

| Ports 1, 3, 5 | |
|---|---|
| **G14** | G¼ |

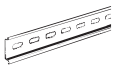
| Number of valve positions | |
|---|---|
| | 2 to 10, 12, 14 and 16 |

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

# Pneumatic valves VUWG

Accessories

FESTO

| Ordering data | | | |
|---|---|---|---|
| | Description | | Type |
| Blanking plug | | | Technical data ➔ Internet: b |
|  | For manifold rail and valve | | **B-M5-B** |
| | | | **B-M7** |
| | For manifold rail | | **B-⅛** |
| | | | **B-¼** |
| Blanking plug | | | Technical data ➔ Internet: qsc |
|  | For valve | | **QSC-F-G1/8-I** |
| | | | |
| Reducing nipple | | | |
|  | | | **D-M5I-M7A-ISK** |
| | | | |
| Fittings | | | Technical data ➔ Internet: qs |
|  | For tubing Ø 3 mm | 100 pieces | **QSM-M3-3-I-R-100** |
| | For tubing Ø 4 mm | | **QSM-M3-4-I-R-100** |
| | For tubing Ø 3 mm | | **QSM-M5-3-I-R100** |
| | For tubing Ø 4 mm | | **QSM-M5-4-I-R100** |
| | For tubing Ø 6 mm | | **QSM-M5-6-I-R100** |
| | For tubing Ø 6 mm | | **QSM-M7-6-I-R100** |
| | For tubing Ø 3 mm | 10 pieces | **QSM-M5-3-I** |
| | For tubing Ø 4 mm | | **QSM-M5-4-I** |
| | For tubing Ø 6 mm | | **QSM-M5-6-I** |
| | For tubing Ø 4 mm | | **QSM-M7-4-I** |
| | For tubing Ø 6 mm | | **QSM-M7-6-I** |
| | For tubing Ø 4 mm | 10 pieces | **QS-G1/8-4-I** |
| | For tubing Ø 6 mm | | **QS-G1/8-6-I** |
| | For tubing Ø 8 mm | | **QS-G1/8-8-I** |
| | For tubing Ø 10 mm | | **QS-G1/8-10-I** |
| | For tubing Ø 6 mm | 10 pieces | **QS-G1/4-6-I** |
| | For tubing Ø 8 mm | | **QS-G1/4-8-I** |
| | For tubing Ø 10 mm | | **QS-G1/4-10-I** |
| | | | |
| Silencer | | | Technical data ➔ Internet: uc |
|  | For thread M5 | | **U-M5** |
| | For thread M7 | | **UC-M7** |
| | For thread G⅛ | | **UC-⅛** |
| | For thread G¼ | | **UC-¼** |
| | | | |
| H-rail | | | Technical data ➔ Internet: nrh |
|  | To EN 60715, 35 x 7.5 (WxH) | 2 m | **NRH-35-2000** |
| | | | |
| H-rail mounting | | | Technical data ➔ Internet: vame |
|  | – | 2 pieces | **VAME-T-M4** |

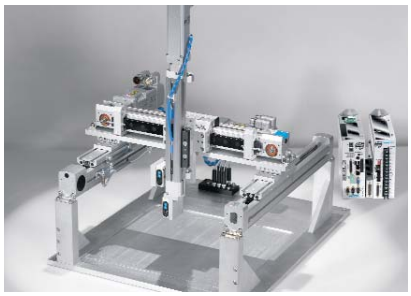
# Product Range and Company Overview

## A Complete Suite of Automation Services

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.

**Custom Automation Components**
Complete custom engineered solutions

**Custom Control Cabinets**
Comprehensive engineering support and on-site services



**Complete Systems**
Shipment, stocking and storage services

## The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.

**Electromechanical**
Electromechanical actuators, motors, controllers & drives

**Pneumatics**
Pneumatic linear and rotary actuators, valves, and air supply

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

**Supporting Advanced Automation... As No One Else Can!**

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

**Quality Assurance, ISO 9001 and ISO 14001 Certifications**

Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.



FSC Printed on recycled paper at New Horizon Graphic, Inc., FSC certified as an environmentally friendly printing plant.

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