

## Media separated solenoid valve VYKA

**FESTO**



## Characteristics

### At a glance

[Link](#) [vyka](#)

#### General information:

- Media-separated diaphragm valve for switching different gases and liquids
- Directly controlled solenoid valve with spring return for voltages of 12 ...26 V
- Large pressure/vacuum range and high reversible flow rate with small dimensions
- Extremely versatile thanks to 2/2-way and 3/2-way variants, ideal for controlling and mixing media
- Low power consumption thanks to actuation using holding current reduction
- Extensive range of accessories for electrical and fluidic connection options for customised integration of components
- Performance data can be customised on request, for example extending the pressure/vacuum range or individual interfaces

#### Special characteristics:

- High-quality FDA-listed materials are also suitable for aggressive biological and chemical media
- Reproducible switching behaviour for high repetition accuracy and therefore precision when dispensing liquids
- Low media consumption and easy to clean thanks to small internal volume
- Conforms to oxygen compatibility according to ISO15001 and the limit values for particle emissions and outgassing according to ISO18562
- Development and production according to ISO13485
- Production in cleanroom class 7 according to ISO14664

#### Function:

- The valve VYKA is a directly actuated valve with solenoid coil. When de-energised, the valve automatically returns to its normal position.

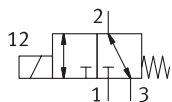
### Additional documents



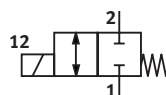
A description of the design of the interface by the customer and notes on integration can be found in the Download area for the media-separated valve VYKA.

### Valve function

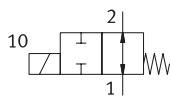
[M32] 3/2-way valve, normally closed or open



[M22C] 2/2-way valve, normally closed



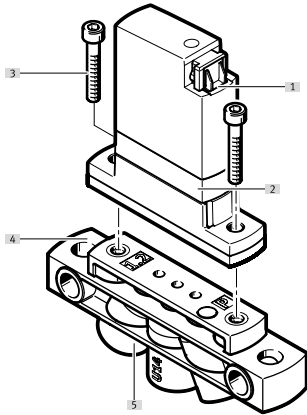
[M22U] 2/2-way valve, normally open



## Characteristics

### Series

[VYKA] Solenoid valve VYKA



- [1] Terminal contact for E-box VAVE or connecting cable NEBV  
[2] Solenoid valve VYKA  
[3] Screws for mounting on the sub-base (included in the scope of delivery of the valves)  
[4] Sub-base VABS  
[5] Media connections

Type code

|      |                                        |  |
|------|----------------------------------------|--|
| 001  | Series                                 |  |
| VYKA | Solenoid valve VYKA                    |  |
| 002  | Directional control valve type         |  |
| F    | Flanged valve                          |  |
| 003  | Size                                   |  |
| 7    | Size 7                                 |  |
| 004  | Valve function                         |  |
| M22C | 2/2-way valve, normally closed         |  |
| M22U | 2/2-way valve, normally open           |  |
| M32  | 3/2-way valve, normally closed or open |  |
| 005  | Nominal width                          |  |
| 12   | 1.2 mm                                 |  |

|     |                                   |  |
|-----|-----------------------------------|--|
| 006 | Pressure range [bar]              |  |
| 007 | Housing material                  |  |
| P   | PEEK                              |  |
| 008 | Diaphragm and sealing material    |  |
| E   | EPDM                              |  |
| F   | FFPM                              |  |
| V   | FPM                               |  |
| 009 | Nominal operating voltage         |  |
| 5Y  | 12 V DC to 26 V DC                |  |
| 010 | Electrical connection             |  |
| Q7  | Plug socket, connection pattern Q |  |

## Datasheet

| General technical data |                                                               |                                |                                                               |
|------------------------|---------------------------------------------------------------|--------------------------------|---------------------------------------------------------------|
| Valve function         | 2/2-way, single solenoid, closed                              | 2/2-way, single solenoid, open | 3/2-way, monostable, open/closed                              |
| Design                 | Rocker valve with diaphragm seal                              |                                |                                                               |
| Type of reset          | Mechanical spring                                             |                                |                                                               |
| Nominal size           | 1.2 mm                                                        |                                |                                                               |
| Size                   | 7                                                             |                                |                                                               |
| Grid dimension         | 7.5 mm                                                        |                                |                                                               |
| Fluid connection       | Flange                                                        |                                |                                                               |
| Internal volume        | 18 µl fluid chamber valve, 24 µl valve with fluid connections |                                | 16 µl fluid chamber valve, 26 µl valve with fluid connections |
| Sealing principle      | Soft                                                          |                                |                                                               |
| Flow direction         | Reversible with restrictions                                  |                                |                                                               |
| Type of actuation      | Electrical                                                    |                                |                                                               |
| Type of piloting       | Direct                                                        |                                |                                                               |
| Manual override        | None                                                          |                                |                                                               |
| Type of mounting       | Via through-hole for M2 screw                                 |                                |                                                               |
| Mounting position      | Any                                                           |                                |                                                               |
| Degree of protection   | IP40                                                          |                                |                                                               |
| Product weight         | 10.9 g                                                        |                                |                                                               |

## Datasheet

## Operating and environmental conditions

|                                                                     |                                                                                                                  |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Valve function                                                      | 2/2-way, single solenoid, closed                                                                                 |                                                                                                                     |                                                                                                                  | 2/2-way, single solenoid, open |                                                                                                                     |                                                                                                                  | 3/2-way, monostable, open/closed                                                                                                                                          |                                                                                                                                                                                 |                                                                                                                                                                           |
| Material membrane                                                   | EPDM                                                                                                             | FFPM                                                                                                                | Fluoro rubber                                                                                                    | EPDM                           | FFPM                                                                                                                | Fluoro rubber                                                                                                    | EPDM                                                                                                                                                                      | FFPM                                                                                                                                                                            | Fluoro rubber                                                                                                                                                             |
| Medium                                                              | Liquid media<br>Gaseous media                                                                                    |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
| Note on the medium                                                  | Observe resistance of materials that come into contact with the media<br>Maximum particle size 5 µm              |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
| Standard nominal flow rate (standardised to DIN 1343) <sup>1)</sup> | 10 l/min                                                                                                         |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  | 11 l/min                                                                                                                                                                  |                                                                                                                                                                                 |                                                                                                                                                                           |
| Water flow rate at max. operating pressure                          | 0.027 m³/h<br>0.45 l/min                                                                                         |                                                                                                                     |                                                                                                                  | 0.024 m³/h<br>0.4 l/min        |                                                                                                                     |                                                                                                                  | 0.03 m³/h<br>0.5 l/min                                                                                                                                                    |                                                                                                                                                                                 |                                                                                                                                                                           |
| Flow rate Kv                                                        | 0.018 m³/h                                                                                                       |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  | 0.021 m³/h                                                                                                                                                                |                                                                                                                                                                                 |                                                                                                                                                                           |
| Flow rate Kv                                                        | 0.3 l/min                                                                                                        |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  | 0.35 l/min                                                                                                                                                                |                                                                                                                                                                                 |                                                                                                                                                                           |
| Note on flow rate Kv                                                | For water as medium, Pressure difference 1 bar                                                                   |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
| Ambient temperature                                                 | 0 ... 50°C                                                                                                       | 15 ... 50°C                                                                                                         | 0 ... 50°C                                                                                                       |                                | 15 ... 50°C                                                                                                         | 0 ... 50°C                                                                                                       |                                                                                                                                                                           | 15 ... 50°C                                                                                                                                                                     | 0 ... 50°C                                                                                                                                                                |
| Media temperature for fluids                                        | 0 ... 50°C                                                                                                       | 15 ... 50°C                                                                                                         | 0 ... 50°C                                                                                                       |                                | 15 ... 50°C                                                                                                         | 0 ... 50°C                                                                                                       |                                                                                                                                                                           | 15 ... 50°C                                                                                                                                                                     | 0 ... 50°C                                                                                                                                                                |
| Medium temperature gaseous media                                    | 0 ... 50°C                                                                                                       | 15 ... 50°C                                                                                                         | 0 ... 50°C                                                                                                       |                                | 15 ... 50°C                                                                                                         | 0 ... 50°C                                                                                                       |                                                                                                                                                                           | 15 ... 50°C                                                                                                                                                                     | 0 ... 50°C                                                                                                                                                                |
| Storage temperature                                                 | -20 ... 70°C                                                                                                     |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
| Corrosion resistance class CRC <sup>2)</sup>                        | 0 - No corrosion stress                                                                                          |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
| Medium pressure <sup>3)</sup>                                       | -0.05 ... 0.2 MPa                                                                                                |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
| Medium pressure                                                     | -0.5 ... 2 bar                                                                                                   |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
| Medium pressure                                                     | -7.25 ... 29 psi                                                                                                 |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
| Note on the medium pressure                                         | IN: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi<br>OUT: -0.5 - 1 bar / -0.05 - 0.1 MPa / -7.25 - 14.5 psi | IN: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi<br>OUT: -0.5 - 0.5 bar / -0.05 - 0.05 MPa / -7.25 - 7.25 psi | IN: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi<br>OUT: -0.5 - 1 bar / -0.05 - 0.1 MPa / -7.25 - 14.5 psi |                                | IN: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi<br>OUT: -0.5 - 0.5 bar / -0.05 - 0.05 MPa / -7.25 - 7.25 psi | IN: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi<br>OUT: -0.5 - 1 bar / -0.05 - 0.1 MPa / -7.25 - 14.5 psi | COM: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi<br>NC: -0.5 – 1 bar / -0.05 – 0.1 MPa / -7.25 – 14.5 psi<br>NO: -0.5 - 1 bar / -0.05 - 0.1 MPa / -7.25 - 14.5 psi | COM: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi<br>NC: -0.5 - 0.5 bar / -0.05 - 0.05 MPa / -7.25 - 7.25 psi<br>NO: -0.5 - 0.5 bar / -0.05 - 0.05 MPa / -7.25 - 7.25 psi | COM: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi<br>NC: -0.5 – 1 bar / -0.05 – 0.1 MPa / -7.25 – 14.5 psi<br>NO: -0.5 - 1 bar / -0.05 - 0.1 MPa / -7.25 - 14.5 psi |
| Pressure difference                                                 | 2 bar                                                                                                            |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
| Burst pressure                                                      | 2.3 MPa                                                                                                          |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
| Burst pressure                                                      | 23 bar                                                                                                           |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |
| Burst pressure                                                      | 333.5 psi                                                                                                        |                                                                                                                     |                                                                                                                  |                                |                                                                                                                     |                                                                                                                  |                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                                                                                                           |

1) The values for the standard nominal flow rate (standardised according to DIN 1343) apply only to gaseous media.

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

3) Extended pressure and vacuum ranges are available on request.

## Electrical data

|                                                      |                                                                                                           |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Operational voltage range DC                         | 12 ... 26 V                                                                                               |
| Insulation material class                            | B                                                                                                         |
| Duty cycle                                           | 100% in conjunction with holding current reduction<br>Observe the notes on operating the solenoid valves. |
| Permissible voltage fluctuations                     | +/-10%                                                                                                    |
| Characteristic coil data                             | 12 - 26 V DC: low-current phase 0.06 W, high-current phase 2.2 W                                          |
| Electrical connection 1, connection type             | Socket                                                                                                    |
| Electrical connection 1, connector system            | Plug pattern Q7                                                                                           |
| Electrical connection 1, number of connections/cores | 2                                                                                                         |

## Datasheet

## Switching time

|                                  |                                                                                                    |                                                                                                                                                                                              |                                                                                                    |                                                                                                                                                                                              |                                                                                                    |                                                                                                    |                                                                                                                                                                                              |                                                                                                    |                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Valve function                   | 2/2-way, single solenoid, closed                                                                   |                                                                                                                                                                                              |                                                                                                    | 2/2-way, single solenoid, open                                                                                                                                                               |                                                                                                    |                                                                                                    | 3/2-way, monostable, open/closed                                                                                                                                                             |                                                                                                    |                                                                                                    |
| Material membrane                | EPDM                                                                                               | FFPM                                                                                                                                                                                         | Fluoro rubber                                                                                      | EPDM                                                                                                                                                                                         | FFPM                                                                                               | Fluoro rubber                                                                                      | EPDM                                                                                                                                                                                         | FFPM                                                                                               | Fluoro rubber                                                                                      |
| Switching time on gaseous media  | 5 ms                                                                                               | 9 ms                                                                                                                                                                                         | 5 ms                                                                                               | –                                                                                                                                                                                            |                                                                                                    |                                                                                                    | 5 ms                                                                                                                                                                                         | 9 ms                                                                                               | 5 ms                                                                                               |
| Switching time off gaseous media | –                                                                                                  |                                                                                                                                                                                              |                                                                                                    | 5 ms                                                                                                                                                                                         | 9 ms                                                                                               | 5 ms                                                                                               | –                                                                                                                                                                                            |                                                                                                    |                                                                                                    |
| Switch-on time for fluids        | 5 ms                                                                                               | 9 ms                                                                                                                                                                                         | 5 ms                                                                                               | –                                                                                                                                                                                            |                                                                                                    |                                                                                                    | 5 ms                                                                                                                                                                                         | 9 ms                                                                                               | 5 ms                                                                                               |
| Switch-off time for fluids       | –                                                                                                  |                                                                                                                                                                                              |                                                                                                    | 5 ms                                                                                                                                                                                         | 9 ms                                                                                               | 5 ms                                                                                               | –                                                                                                                                                                                            |                                                                                                    |                                                                                                    |
| Note on switching time           | Switching time depends on medium, temperature, medium pressure and individual operating conditions | Switching time depends on medium, temperature, medium pressure and individual operating conditions, The switching behaviour of the FFPM can be slower at temperatures below room temperature | Switching time depends on medium, temperature, medium pressure and individual operating conditions | Switching time depends on medium, temperature, medium pressure and individual operating conditions, The switching behaviour of the FFPM can be slower at temperatures below room temperature | Switching time depends on medium, temperature, medium pressure and individual operating conditions | Switching time depends on medium, temperature, medium pressure and individual operating conditions | Switching time depends on medium, temperature, medium pressure and individual operating conditions, The switching behaviour of the FFPM can be slower at temperatures below room temperature | Switching time depends on medium, temperature, medium pressure and individual operating conditions | Switching time depends on medium, temperature, medium pressure and individual operating conditions |

## Switching frequency

|                                        |                                                                                                                                                                                                            |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Max. switching frequency <sup>1)</sup> | 6 Hz                                                                                                                                                                                                       |
| Note on switching frequency            | Dependent on the ambient temperature and installation state, At 100% duty cycle depending on ambient temperature and installation condition. Higher switching frequencies possible with duty cycle < 100%. |

1) With 100% duty cycle

## Materials

|                   |                                         |
|-------------------|-----------------------------------------|
| Material housing  | Reinforced PA<br>PEEK<br>Reinforced PPA |
| Material membrane | EPDM, FFPM, Fluoro rubber               |
| Material seals    | EPDM, FFPM, Fluoro rubber               |
| Note on materials | RoHS compliant                          |

Dimensions

Dimensions – Solenoid valve VYKA-...

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

The technical drawing shows two views of the solenoid valve. The top view is a plan view showing the mounting base with four mounting holes (1), two fluid connection ports (2), and a central COM port (3). Dimensions L3 and L4 are indicated for the spacing between the ports. The side view shows the valve body with dimensions H1 (total height), H2 (height of the valve body), L1 (width of the base), and L2 (width of the valve body). Callouts 4 and 5 indicate the valve input ports for different models.

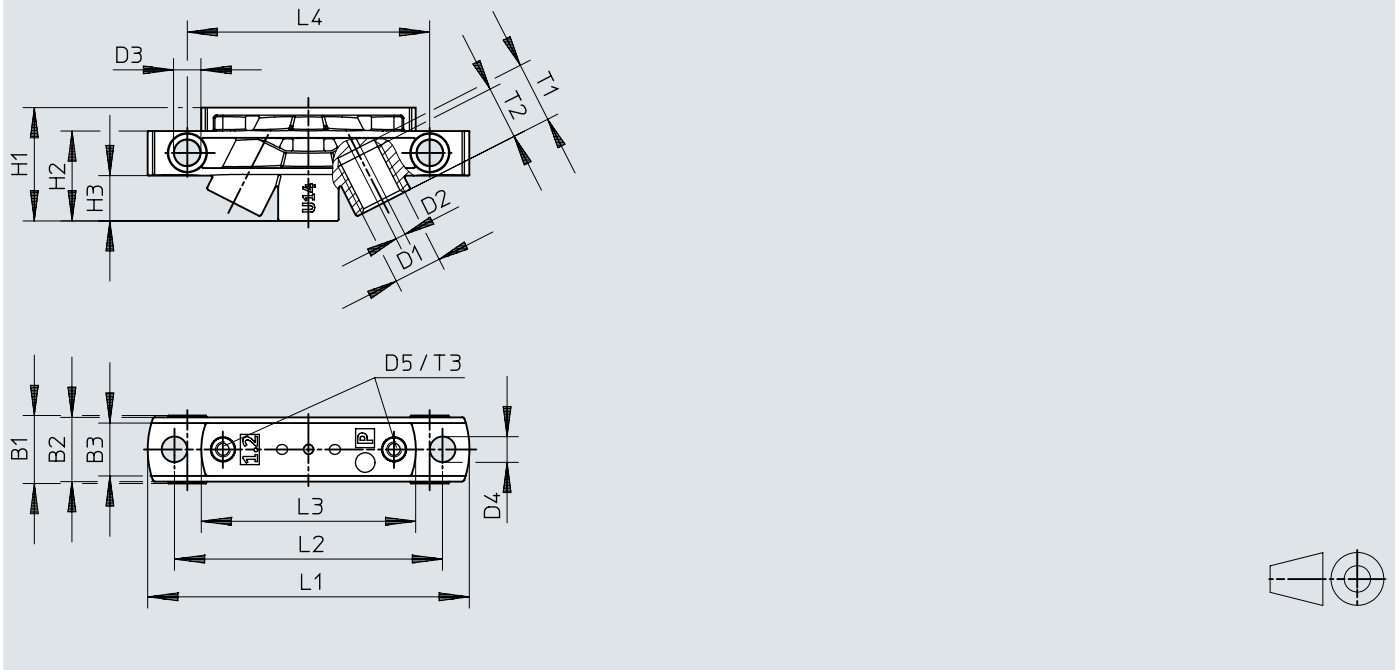
[1] Mounting holes, screws enclosed for M2 threaded hole  
[2] Fluid connection  
[3] COM port (only 3/2-way variants)  
[4] Valve input only for VYKA-F7-M22U  
[5] Valve input only for VYKA-F7-M22C

|          | B1 | H1 | H2  | L1   | L2   | L3<br>± 0,1 | L4<br>± 0,1 |
|----------|----|----|-----|------|------|-------------|-------------|
| VYKA-... | 7  | 30 | 3,8 | 28,4 | 17,8 | 22,7        | 7           |

## Dimensions

Dimensions – Manifold rail VABS-K1-7B-12-...

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



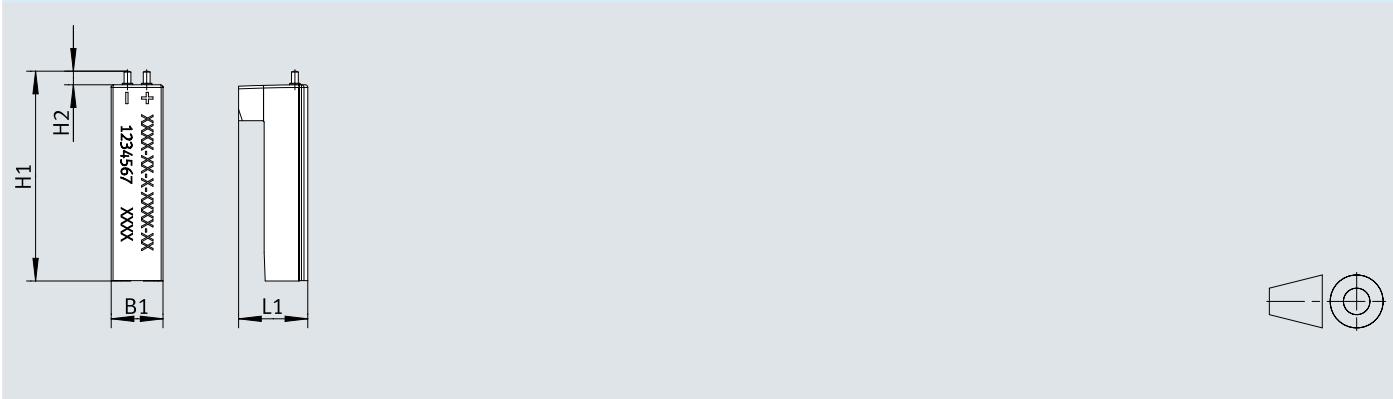
|                     | B1 | B2  | B3 | D1         | D2  | D3  | D4  | D5 |
|---------------------|----|-----|----|------------|-----|-----|-----|----|
| VABS-K1-7B-12-U14-P | 9  | 8,5 | 7  | UNF 1/4-28 | 1,3 | 3,6 | 3,4 | M2 |
| VABS-K1-7B-12-M5-P  |    |     |    | M5         |     |     |     |    |

|                     | H1 | H2   | H3 | L1   | L2   | L3   | L4   | T1 | T2 | T3 |
|---------------------|----|------|----|------|------|------|------|----|----|----|
| VABS-K1-7B-12-U14-P | 15 | 11,9 | 6  | 42,6 | 35,5 | 28,4 | 32,1 | 8  | 7  | 5  |
| VABS-K1-7B-12-M5-P  |    |      |    |      |      |      |      |    |    |    |

Dimensions

Dimensions – E-box VAVE-K1-7-5YW2... [Download CAD data](#) [www.festo.com](http://www.festo.com)

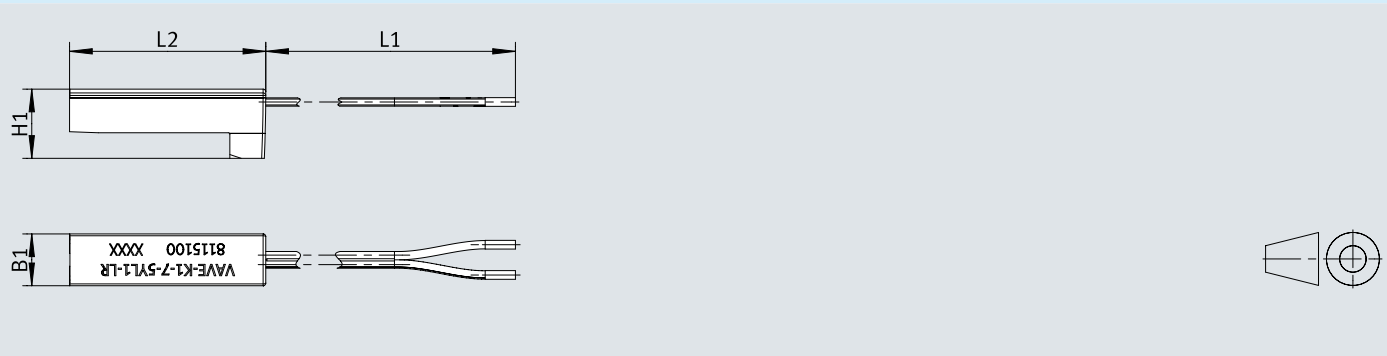


|                   | B1   | H1    | H2<br>Ø | L1<br>Ø |
|-------------------|------|-------|---------|---------|
| VAVE-K1-7-5YW2    | ~6,8 | ~27,8 | 1,8     | ~9,2    |
| VAVE-K1-7-5YW2-LR |      |       |         |         |

Dimensions

Dimensions – E-box VAVE-K1-7-5YL1-LR

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



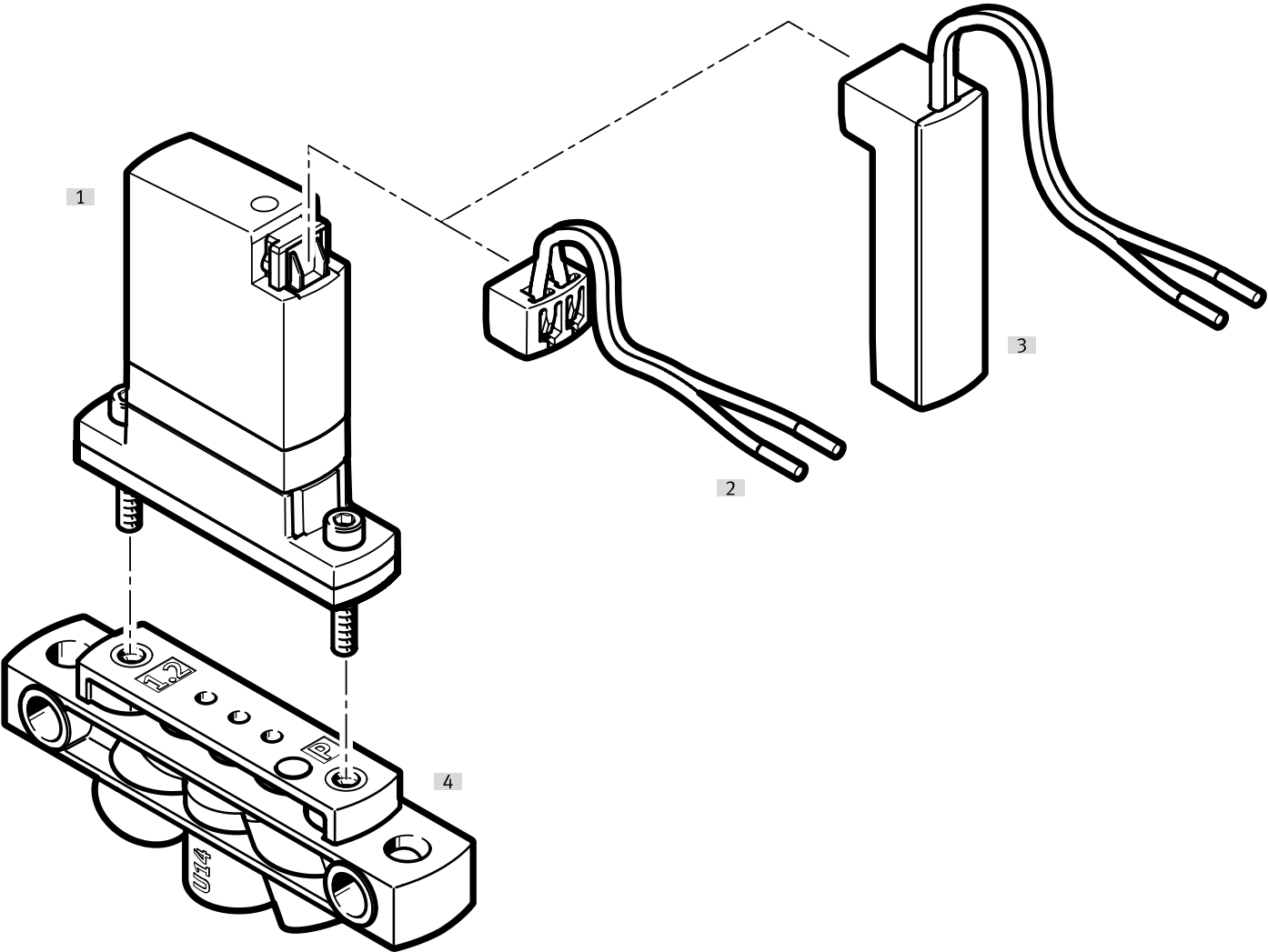
|                   | B1   | H1   | L1<br>+40/0 | L2  |
|-------------------|------|------|-------------|-----|
| VAVE-K1-7-5YL1-LR | ~6,9 | ~9,2 | 500         | ~30 |

Ordering data

| Solenoid valve VYKA                                                              |                                          |              |                                                                     |              |                                                     |          |                         |
|----------------------------------------------------------------------------------|------------------------------------------|--------------|---------------------------------------------------------------------|--------------|-----------------------------------------------------|----------|-------------------------|
|                                                                                  | Valve func-<br>tion                      | Nominal size | Standard<br>nominal flow<br>rate (stand-<br>ardised to<br>DIN 1343) | Flow rate Kv | Water flow<br>rate at max.<br>operating<br>pressure | Part no. | Type                    |
|  | 2/2-way, sin-<br>gle solenoid,<br>closed | 1.2 mm       | 10 l/min                                                            | 0.3 l/min    | 0.027 m³/h,<br>0.45 l/min                           | 8170086  | VYKA-F7-M22C-12-PF-5YQ7 |
|                                                                                  |                                          |              |                                                                     |              |                                                     | 8170087  | VYKA-F7-M22C-12-PV-5YQ7 |
|                                                                                  |                                          |              |                                                                     |              |                                                     | 8170088  | VYKA-F7-M22C-12-PE-5YQ7 |
|                                                                                  | 2/2-way, sin-<br>gle solenoid,<br>open   |              |                                                                     |              | 0.024 m³/h,<br>0.40 l/min                           | 8170089  | VYKA-F7-M22U-12-PF-5YQ7 |
|                                                                                  |                                          |              |                                                                     |              |                                                     | 8170090  | VYKA-F7-M22U-12-PV-5YQ7 |
|                                                                                  |                                          |              |                                                                     |              |                                                     | 8170091  | VYKA-F7-M22U-12-PE-5YQ7 |
|                                                                                  | 3/2-way,<br>monostable,<br>open/closed   |              | 11 l/min                                                            | 0.35 l/min   | 0.03 m³/h,<br>0.5 l/min                             | 8170084  | VYKA-F7-M32-12-PV-5YQ7  |
|                                                                                  |                                          |              |                                                                     |              |                                                     | 8170085  | VYKA-F7-M32-12-PE-5YQ7  |
|                                                                                  |                                          |              |                                                                     |              |                                                     | 8170083  | VYKA-F7-M32-12-PF-5YQ7  |

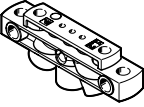
Peripherals

Peripherals overview



| Accessories          |                                        | → Link                 |
|----------------------|----------------------------------------|------------------------|
| Type/order code      | Description                            |                        |
| [1] Solenoid valve   | VYKA                                   | <a href="#">☞ vyka</a> |
| [2] Connecting cable | NEBV                                   | <a href="#">14</a>     |
| [3] E-box            | VAVE-K1-7-5YW2...<br>VAVE-K1-7-5YL1-LR | <a href="#">14</a>     |
| [4] Sub-base         | VABS                                   | <a href="#">14</a>     |

## Accessories

| Sub-base                                                                         |              | Part no. | Type                |
|----------------------------------------------------------------------------------|--------------|----------|---------------------|
|                                                                                  | Nominal size |          |                     |
|  | 1.2 mm       | 8047063  | VABS-K1-7B-12-U14-P |
|                                                                                  |              | 8047064  | VABS-K1-7B-12-M5-P  |

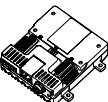
| E-box                                                                            |                                     |                           |          |                   |
|----------------------------------------------------------------------------------|-------------------------------------|---------------------------|----------|-------------------|
|                                                                                  | Electrical connection <sup>1)</sup> | Additional functions      | Part no. | Type              |
|  | 2-pin                               |                           | 8242326  | VAVE-K1-7-5YW2    |
|                                                                                  |                                     | Holding current reduction | 8242327  | VAVE-K1-7-5YW2-LR |

1) This variant VAVE-K1-7-5YW2-... does not offer holding current reduction with an integrated protection circuit and only establishes an electrical connection to the VYKA valve.

| E-box                                                                            |                                     |              |                           |          |                   |
|----------------------------------------------------------------------------------|-------------------------------------|--------------|---------------------------|----------|-------------------|
|                                                                                  | Electrical connection <sup>1)</sup> | Cable length | Additional functions      | Part no. | Type              |
|  | 2-pin, Twin wire, Open end          | 0.5 m        | Holding current reduction | 8115100  | VAVE-K1-7-5YL1-LR |

1) This variant VAVE-K1-7-5YL1-LR offers holding current reduction with an integrated protection circuit.

| Connecting cable                                                                   |              |          |                        |  |
|------------------------------------------------------------------------------------|--------------|----------|------------------------|--|
|                                                                                    | Cable length | Part no. | Type                   |  |
|  | 0.1 m        | 8115892  | NEBV-Q7G2-PD-0.1-N-LE2 |  |
|                                                                                    | 0.5 m        | 8115099  | NEBV-Q7G2-PD-0.5-N-LE2 |  |

| Valve control module                                                               |                        |          |                |
|------------------------------------------------------------------------------------|------------------------|----------|----------------|
|                                                                                    | Max. number of outputs | Part no. | Type           |
|  | 8                      | 8088772  | VAEM-V-S8EPRS2 |

| Push-in fitting                                                                    |                              |                                     |                 |          |                  |
|------------------------------------------------------------------------------------|------------------------------|-------------------------------------|-----------------|----------|------------------|
|                                                                                    | Pneumatic connection, port 1 | Pneumatic connection, port 2        | Design          | Part no. | Type             |
|  | Male thread M5               | For tubing outside diameter of 4 mm | L-shape         | 8203302  | NPQO-L-M5-Q4-P10 |
|                                                                                    |                              |                                     | Straight design | 8203292  | NPQO-D-M5-Q4-P10 |
|                                                                                    |                              |                                     |                 | 8085657  | NPQR-DK-M5-Q4    |
|                                                                                    |                              | For tubing outside diameter of 6 mm | L-shape         | 8203303  | NPQO-L-M5-Q6-P10 |
|                                                                                    |                              |                                     | Straight design | 8203293  | NPQO-D-M5-Q6-P10 |
|                                                                                    |                              |                                     |                 | 8085659  | NPQR-DK-M5-Q6    |

## Accessories

| Fitting                                                                           |                  |                                |              |          |                        |
|-----------------------------------------------------------------------------------|------------------|--------------------------------|--------------|----------|------------------------|
|                                                                                   | Fluid connection | Fluid connection 2             | Size of pack | Part no. | Type                   |
|  | UNF1/4-28        | For tubing O.D. 3 mm           | 10           | 8104286  | NLFA-D-U14-K3-PP-P10   |
|                                                                                   |                  | For tubing I.D. 1.2 mm         |              | 8104288  | NLFA-D-U14-B1.2-PP-P10 |
|                                                                                   |                  | For tubing I.D. 2.1 mm         |              | 8104289  | NLFA-D-U14-B2.1-PP-P10 |
|                                                                                   |                  | For tubing O.D. 1.6 mm (1/16") |              | 8104285  | NLFA-D-U14-K1.6-PP-P10 |
|                                                                                   |                  | For tubing O.D. 3.2 mm (1/8")  |              | 8104287  | NLFA-D-U14-K3.2-PP-P10 |

| Dosing nozzles                                                                    |                         |                                |              |          |                              |
|-----------------------------------------------------------------------------------|-------------------------|--------------------------------|--------------|----------|------------------------------|
|                                                                                   | Length of dosing needle | Nominal width of dosing needle | Size of pack | Part no. | Type                         |
|  | 30 mm                   | 0.3 mm                         | 10           | 8104295  | VAVN-N-A1.6-03-30-F-V-V1-P10 |
|                                                                                   |                         | 0.6 mm                         |              | 8104294  | VAVN-N-A1.6-03-30-V-V1-P10   |
|                                                                                   |                         |                                |              | 8104290  | VAVN-N-A1.6-06-30-V1-P10     |
|                                                                                   |                         |                                |              | 8104296  | VAVN-N-A1.6-06-30-V-V1-P10   |
|                                                                                   | 60 mm                   | 1.2 mm                         |              | 8104291  | VAVN-N-A1.6-12-30-V1-P10     |
|                                                                                   |                         | 0.3 mm                         |              | 8104298  | VAVN-N-A1.6-03-60-F-V-V1-P10 |
|                                                                                   |                         |                                |              | 8104297  | VAVN-N-A1.6-03-60-V-V1-P10   |
|                                                                                   |                         | 0.6 mm                         |              | 8104292  | VAVN-N-A1.6-06-60-V1-P10     |
|                                                                                   |                         |                                |              | 8104299  | VAVN-N-A1.6-06-60-V-V1-P10   |
|                                                                                   |                         | 1.2 mm                         |              | 8104293  | VAVN-N-A1.6-12-60-V1-P10     |