



## 2/2-way Flipper-Solenoid Valve with separating diaphragm

- Only 4.5 mm wide
- Medium isolation, for aggressive fluids
- Direct-acting
- Vacuum up to 7 bar
- Short response times



Product variants described in the data sheet may differ from the product presentation and description.

### Can be combined with

|                                                                                     |                                                                          |   |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------|---|
|   | <b>Type 2504</b><br>Cable Plug for Bürkert Solenoid Valve Type 6650      | ▶ |
|  | <b>Type 8763</b><br>Pressure controller for precise time-pressure dosing | ▶ |

### Type description

With a width of only 4.5 mm, Type 6650 sets a new standard in medium isolation miniature solenoid valves. The optimized design enables reproducible and precise dosing, good rinsing capability and is suitable for the application of aggressive chemicals owing to the high quality of the materials used. With the two nominal sizes of 0.4 and 0.8 mm it is ideal for applications where the highest fluid performances are required in the smallest space. Type 6650 opens up new possibilities, owing to the 4.5 mm station width, in particular in connection with dosing in 384-well microtiterplates. Based on the well-known flipper principle of the Type 0330, it is tied to the success history of the legendary Type 0127.

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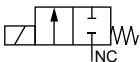
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## 1. General technical data

| Product properties                      |                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions                              | Further information can be found in chapter <b>"5. Dimensions"</b> on page 5.                                                                                                                                                                                                                                                                                                |
| <b>Material</b>                         |                                                                                                                                                                                                                                                                                                                                                                              |
| Seal                                    | FFKM (Simriz)                                                                                                                                                                                                                                                                                                                                                                |
| Body                                    | PEEK                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Internal volume</b>                  |                                                                                                                                                                                                                                                                                                                                                                              |
| Fluid chamber                           | Approx. 30 µl                                                                                                                                                                                                                                                                                                                                                                |
| 2/2-way                                 | Approx. 37 µl                                                                                                                                                                                                                                                                                                                                                                |
| Nominal diameter                        | DN 0.4 and DN 0.8                                                                                                                                                                                                                                                                                                                                                            |
| Circuit function                        | A<br>Further information can be found in chapter <b>"2. Circuit functions"</b> on page 3.                                                                                                                                                                                                                                                                                    |
| Performance data                        |                                                                                                                                                                                                                                                                                                                                                                              |
| Duty cycle                              | 100 % continuous operation only with external power reduction <sup>1)</sup>                                                                                                                                                                                                                                                                                                  |
| Switching time                          | < 5 ms (according to ISO 12238)                                                                                                                                                                                                                                                                                                                                              |
| Electrical data                         |                                                                                                                                                                                                                                                                                                                                                                              |
| Operating voltage                       | 24 V DC (12 V on request)                                                                                                                                                                                                                                                                                                                                                    |
| Nominal power                           | 5.7 W inrush power<br>0.7 W holding power with power reduction. For 100 % duty cycle the power must be reduced externally.<br>Uniform polarity must be ensured when aligning the devices <sup>1)</sup><br>See chapter <b>"5.2. Cable plug type 2504 with integrated booster and power reduction electronics"</b> on page 5 for more information about the power electronics. |
| Switching frequency                     | 80 Hz (for mechanical limit observe maximum temperature) <sup>1)</sup><br>15 Hz (continuous operation only with external power reduction) <sup>1)</sup>                                                                                                                                                                                                                      |
| Voltage tolerance                       | ± 10 %                                                                                                                                                                                                                                                                                                                                                                       |
| Medium data                             |                                                                                                                                                                                                                                                                                                                                                                              |
| Operating medium                        | Resistant to neutral and aggressive liquids and gases<br>(see chapter <b>"4.1. Bürkert resistApp"</b> on page 4)                                                                                                                                                                                                                                                             |
| Medium temperature                      | + 15 °C...+ 50 °C                                                                                                                                                                                                                                                                                                                                                            |
| Process/Port connection & communication |                                                                                                                                                                                                                                                                                                                                                                              |
| Electrical connection                   | Cable plug <b>Type 2504</b> ▶<br>Further information can be found in chapter <b>"Cable plug Type 2504"</b> on page 7.                                                                                                                                                                                                                                                        |
| Port connection                         | Sub-base                                                                                                                                                                                                                                                                                                                                                                     |
| Approvals and conformities              |                                                                                                                                                                                                                                                                                                                                                                              |
| Degree of protection                    | IP65                                                                                                                                                                                                                                                                                                                                                                         |
| Environment and installation            |                                                                                                                                                                                                                                                                                                                                                                              |
| Installation position                   | As required, with side by side connection standard polarity is adhered to                                                                                                                                                                                                                                                                                                    |
| Ambient temperature                     | + 10 °C...+ 50 °C                                                                                                                                                                                                                                                                                                                                                            |

1.) Refer to **operating instructions Type 6650** ▶ for more information.

## 2. Circuit functions

| Symbol                                                                              | Description                                                                                    |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
|  | <b>Circuit function A (CF A)</b><br>2/2-way solenoid valve<br>Direct-acting<br>Normally closed |

### 3. Approvals and conformities

#### 3.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available versions can be supplied with the below mentioned approvals or conformities.

#### 3.2. Conformity

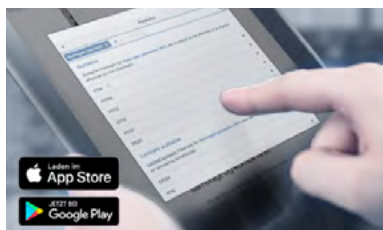
In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

#### 3.3. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

### 4. Materials

#### 4.1. Bürkert resistApp



##### Bürkert resistApp – Chemical resistance chart

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

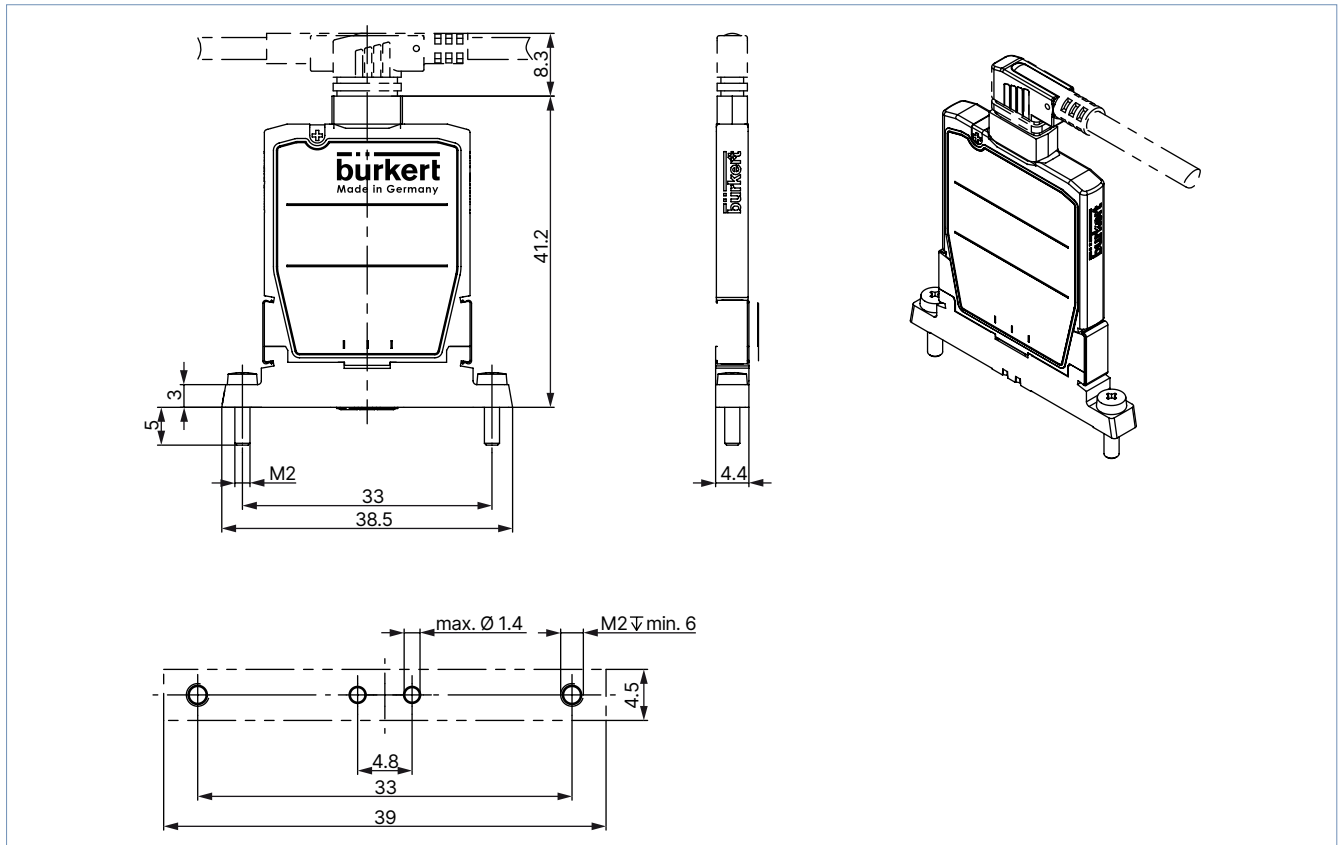
[Start chemical resistance check](#)

## 5. Dimensions

### 5.1. Valve

**Note:**

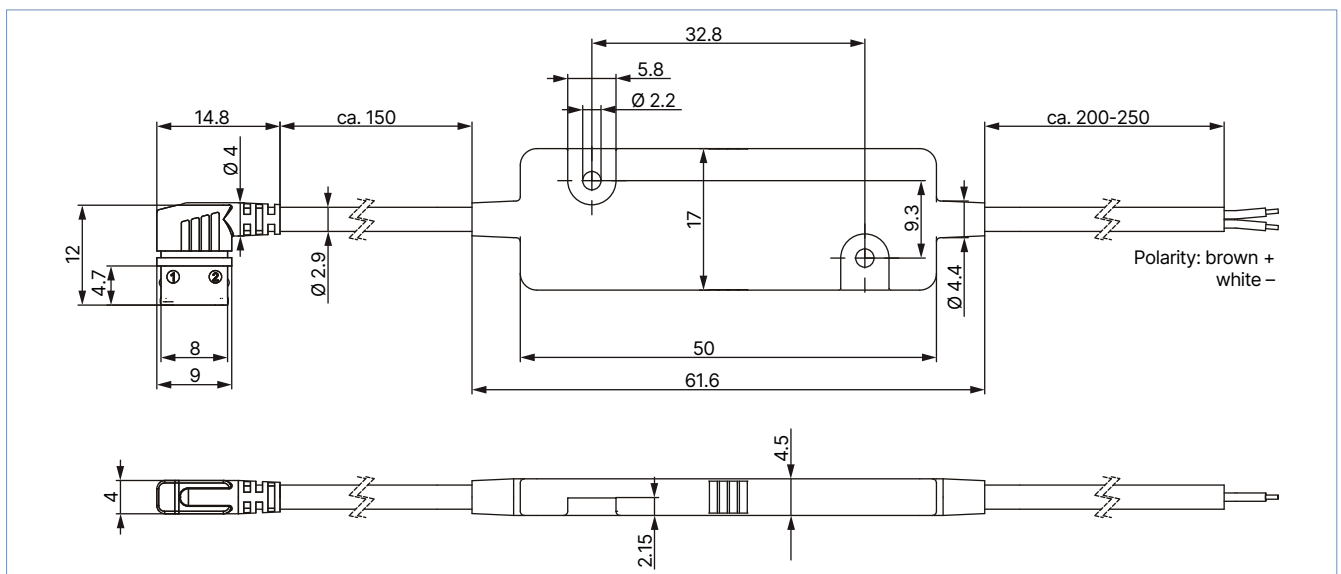
Dimensions in mm



### 5.2. Cable plug type 2504 with integrated booster and power reduction electronics

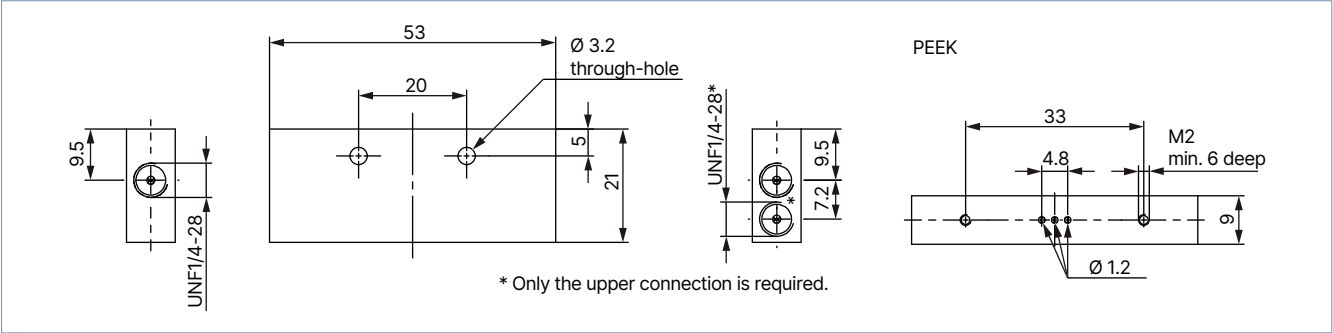
**Note:**

Dimensions in mm



5.3. Single manifold made of PEEK for Bürkert sub-base interface 3-way

**Note:**  
Dimensions in mm



| Description                   | Article no. |
|-------------------------------|-------------|
| Single manifold material PEEK | 670181      |

6. Ordering information

6.1. Bürkert eShop

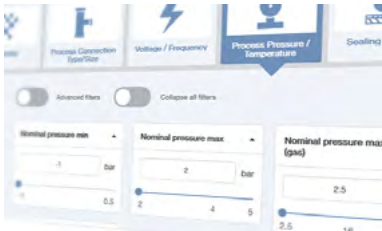


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6.2. Bürkert product filter

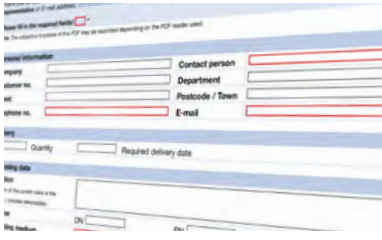


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6.3. Bürkert Product Enquiry Form



**Bürkert Product Enquiry Form – Your enquiry quickly and compactly**

Would you like to make a specific product enquiry based on your technical requirements? Use our Product Enquiry Form for this purpose. There you will find all the relevant information for your Bürkert contact. This will enable us to provide you with the best possible advice.

[Fill out the form now](#)

## 6.4. Ordering chart

### Note:

Fastening screws: stainless steel, 2 x M2 x 8 (included in scope of delivery)

| Circuit function                                                                                                                                               | Orifice            | K <sub>v</sub> value water         | Voltage | Nominal power |               | Pressure range | Max. pressure difference | Article no.                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------|---------|---------------|---------------|----------------|--------------------------|--------------------------------------------------------------------------------------------|
|                                                                                                                                                                | [mm]               | [m <sup>3</sup> /h] <sup>1.)</sup> |         | Inrush power  | Holding power |                |                          |                                                                                            |
| <b>CF A</b><br>2/2-way solenoid valve<br>Direct-acting<br>Normally closed<br> | 0.4 <sup>3.)</sup> | 0.004                              | 24      | 5.7           | 0.7           | Vac. - 7       | 7                        | 182284  |
|                                                                                                                                                                | 0.8 <sup>4.)</sup> | 0.010                              | 24      | 5.7           | 0.7           | Vac. - 3       | 3                        | 226664  |

1.) Measurement at + 20 °C, 1 bar at the valve inlet and free outlet

2.) Pressure data: overpressure to atmospheric pressure

3.) With orifice 0.4 mm flow permitted in both directions

4.) With orifice 0.8 mm observe the flow direction according to the type plate

### Further versions on request



#### Voltage

12 V on request (external power reduction necessary, not possible with Article no. 670178)

## 6.5. Ordering chart accessories

### Cable plug Type 2504

| Accessories                                                                         | Description                                                                                                                                                                    | Article no.                                                                                  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|  | Cable plug with cable, 2-pin, with integrated booster and power reduction electronics assembly, 24 V/DC, cable length: 500 mm, power reduction to 0.7 W after 5 ms (Type 2504) | 670178  |
|  | Cable plug with cable, 2-pin, single cable, cable length: 500 mm (Type 2504) <sup>1.)</sup>                                                                                    | 670164  |
|                                                                                     | Cable plug with cable, 2-pin, single cable, cable length: 5000 mm (Type 2504) <sup>1.)</sup>                                                                                   | 680840  |

1.) The valve must be controlled with nominal voltage. After 5 ms the voltage is reduced to 0.35x nominal voltage in hold mode or switched to a PWM signal (20 kHz, duty cycle 33 %). If the available integrated electronics are not used, the power must be reduced accordingly on the control side. If no power reduction is used, the permissible duty cycle is reduced, see **operating instructions Type 6650** ►.