



Direct-acting 2/2-way plunger valve up to 900 bar

- Hydrogen-resistant screwed fluid housing
- Function test with forming gas at nominal pressure
- Explosion-proof design ATEX and IECEx
- Inspection holes for monitoring the process seal
- Normally Open (NO) versions on request

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

Type description

The valve type 6080 is a direct-acting plunger valve for hydrogen applications. The plunger guiding tube and stopper are screwed together to increase the pressure resistance in contact with hydrogen. Certified 3.1 materials suitable for hydrogen and carbon-coated magnetic steels are used. Each valve is subject to a functional test at maximum nominal pressure. The external leakage at nominal pressure is 5x 10⁻⁵ mbar l/s. On request, the push-over coil can be provided as a Zone 1 or Category 2 explosion-proof version.

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1. General technical data

| Product properties | |
|---|---|
| Dimensions | Further information can be found in chapter "5. Dimensions" on page 5. |
| Material | |
| Seal | PCTFE/PTFE |
| Body | Stainless steel 1.4404 |
| Coil | Powder-coated steel |
| Tightness | |
| Permissible internal leakage rate | 2×10^{-3} mbar l/s at 20 bar, 5×10^{-5} mbar l/s at nominal pressure |
| Permissible external leakage rate | 5×10^{-5} mbar l/s |
| Max. switching cycles regarding leakage rates | ~ 50.000 at $\Delta p = 100 \dots 200$ bar |
| Max. absolute switching cycles (service) | ~ 100.000 (1 year) at $\Delta p = 100 \dots 200$ bar |
| Pressure | |
| Pressure level | PN 900 bar |
| Differential pressure ¹⁾ | 0...900 bar Further information can be found in chapter "7.4. Ordering chart" on page 8. |
| Orifice | DN 0.5 and DN 0.7 |
| Circuit function | A Further information can be found in chapter "2. Circuit functions" on page 4. |
| Thermal insulation class of solenoid coil | Class H |
| Performance data | |
| Duty cycle | 100 % continuous operation |
| Electrical data | |
| Operating voltage | 24 V/DC, 24 V/50 Hz, 24 V/60 Hz, 230 V/50 Hz (other voltages on request) |
| Voltage tolerance | ± 10 % |
| Medium data | |
| Operating medium ²⁾ | Hydrogen |
| Medium temperature | - 40 °C...+ 80 °C |
| Viscosity | Max. 22 mm ² /s |
| Process/Port connection & communication | |
| Electrical connection | Male cable plug according to DIN 43650 Terminal box M16×1.5 (ATEX) |
| Port connection | G ¼ |
| Approvals and conformities | |
| Degree of protection | IP65 according to DIN 60529 |
| Explosion protection | Further information can be found in chapter "3.4. Explosion protection" on page 4. |
| Others | Further information can be found in chapter "3.5. Others" on page 4. |
| Environment and installation | |
| Installation position | Actuator upright or horizontal |
| Ambient temperature | - 20 °C...+ 50 °C |

1.) Pressure data: overpressure to atmospheric pressure, depending on orifice, tightness seal or nominal pressure

2.) Medium resistance according to material combination

2. Circuit functions

| Symbol | Description |
|--------|--|
| | Circuit function A (CF A) 2/2-way solenoid valve Direct-acting 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. This includes the following directives:

- Pressure equipment directive 2014/68/EU category IV
- Machinery directive 2006/42/EC

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.

3.4. Explosion protection

| Approval | Description |
|----------|---|
| | Optional: Explosion protection As a category 2 device suitable for zone 1/21 and zone 2/22 (optional). ATEX: II 2G Ex e mb IIC T4 Gb II 2D Ex tb mb IIIC T130 °C Db IECEx: Ex e mb IIC T4 Gb Ex tb mb IIIC T130 °C Db |

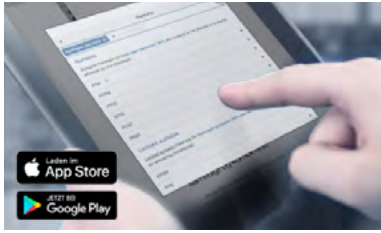
3.5. Others

Hydrogen

| Conformity | Description |
|------------|--|
| | Suitability for hydrogen The products are suitable for use with gaseous hydrogen, according to the manufacturer's declaration. <ul style="list-style-type: none"> • ISO 19880 - 3: Gaseous hydrogen - Refuelling stations - Part 3: Shut-off devices • SAE J2601: Fueling Protocols for Light Duty Gaseous Hydrogen Surface Vehicles → 700 bar • SAE J2601 - 2: Fueling Protocol for Gaseous Hydrogen Powered Heavy Duty Vehicles → 350 bar • ISO 14687: Characteristics of hydrogen as a fuel - specification of the product • DIN 17124: Hydrogen as a fuel • SAE J2719: Hydrogen Purity |

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](#)

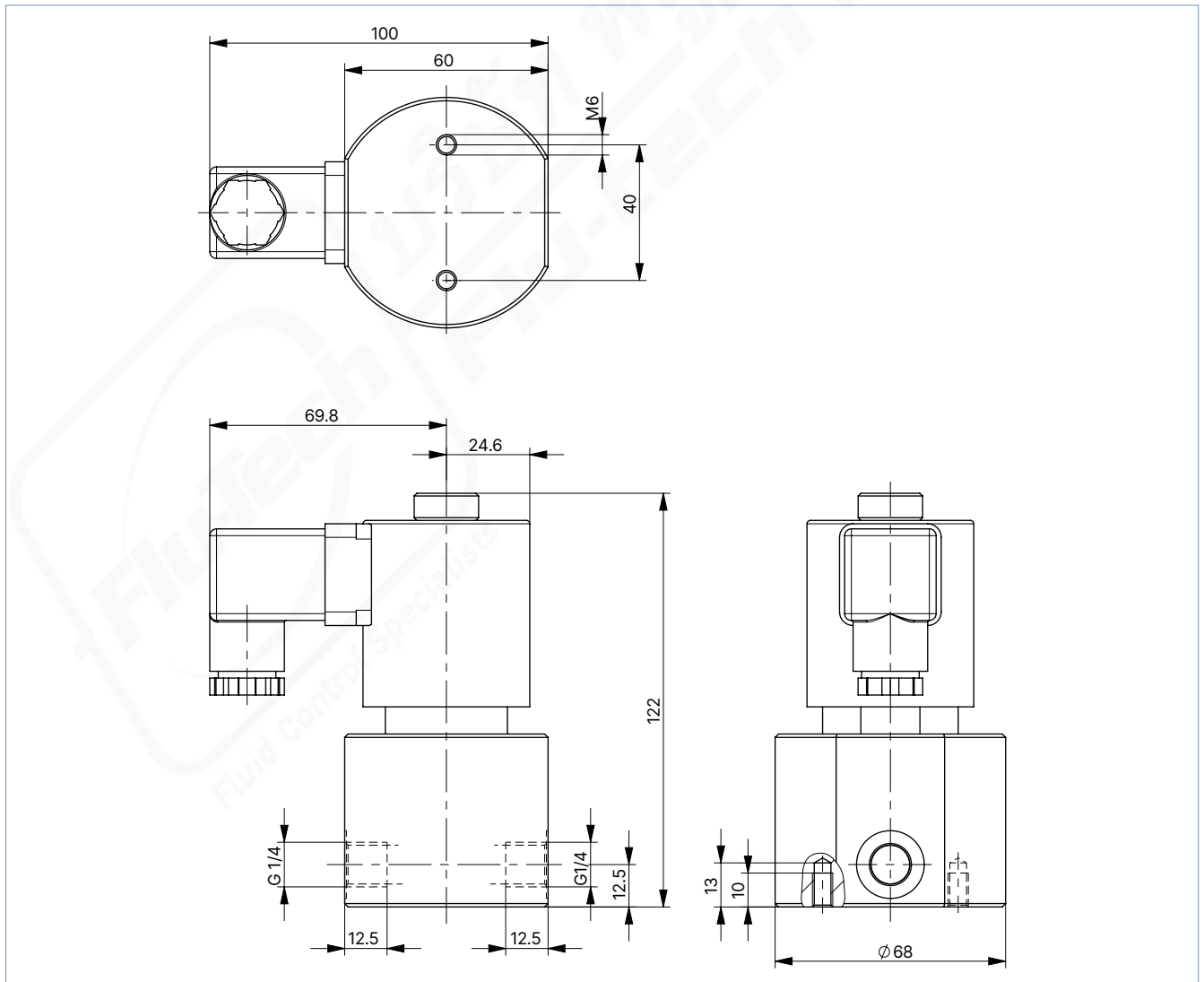
5. Dimensions

5.1. Threaded version

Standard version

Note:

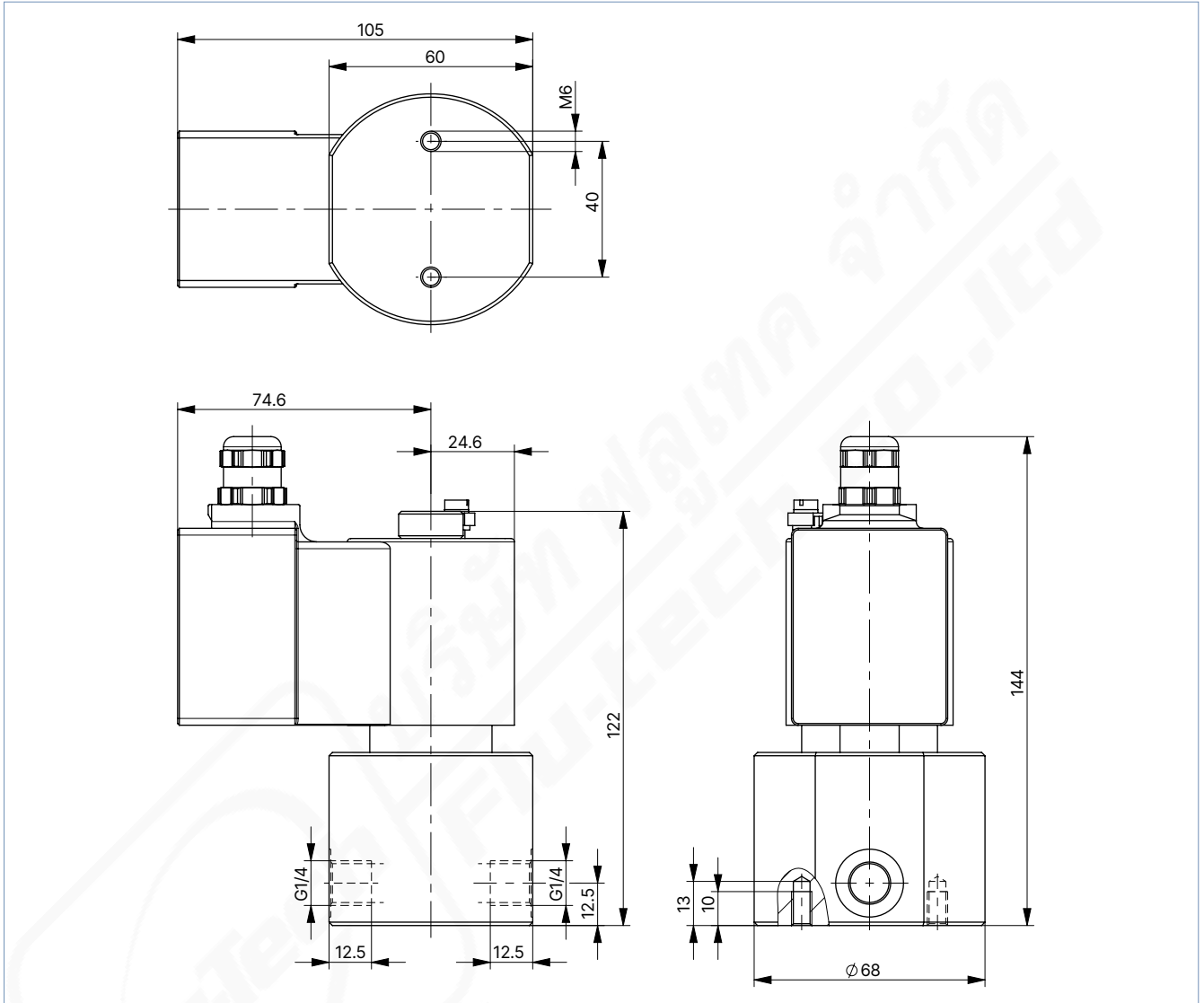
Dimensions in mm



ATEX/IECEx terminal box version

Note:

Dimensions in mm



6. Performance specifications

6.1. Power consumption

Note:

The cable plug for AC valves contains an integrated rectifier.

| Coil size [mm] | Cold performance [W] |
|-------------------|-------------------------|
| 77 (M) | 46 |
| 77 (M) ATEX | 30 |

7. Ordering information

7.1. Bürkert eShop



Bürkert eShop – Easy ordering and quick delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

[Order online now](#)

7.2. Bürkert product filter

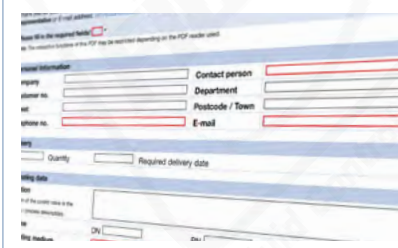


Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

[Try out our product filter](#)

7.3. 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](#)

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7.4. Ordering chart

Standard version

Note:

Other versions are available on request.

| Circuit function | Port connection | Orifice | K _v value water | Pressure range | Article no. | | |
|---|-----------------|---------|----------------------------|----------------|------------------|------------------|------------------|
| | | [mm] | [m ³ /h] | [bar] | 024/DC [V/Hz] | 024/AC [V/Hz] | 230/AC [V/Hz] |
| Stainless steel body, internal G-thread, seal material PCTFE+PTFE, cable head with integrated rectifier for AC included in scope of delivery | | | | | | | |
| CF A 2/2-way solenoid valve Direct-acting Normally closed | G ¼ | 0.5 | 0.015 | 0...900 | 20092947 | 20093197 | 20093199 |
| | | 0.7 | 0.020 | 0...500 | 20093200 | 20093201 | 20093202 |

ATEX/IECEX terminal box version

| Circuit function | Port connection | Orifice | K _v value water | Pressure range | Article no. | | |
|---|-----------------|---------|----------------------------|----------------|------------------|------------------|------------------|
| | | [mm] | [m ³ /h] | [bar] | 024/DC [V/Hz] | 024/AC [V/Hz] | 230/AC [V/Hz] |
| Stainless steel body, internal G-thread, seal material PCTFE+PTFE | | | | | | | |
| CF A 2/2-way solenoid valve Direct-acting Normally closed | G ¼ | 0.5 | 0.015 | 0...900 | 20093203 | 20093206 | 20093207 |
| | | 0.7 | 0.020 | 0...500 | 20093208 | 20093209 | 20093210 |

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