DATA SHEET

Type 6080

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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Visit product website

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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 Δp = 100...200 bar
Max. absolute switching cycles (service)	~ 100.000 (1 year) at Δp = 100...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

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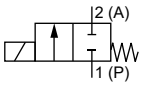
2. Circuit functions

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
H_2	**Suitability for hydrogen** The products are suitable for use with gaseous hydrogen, according to the manufacturer's declaration. • 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

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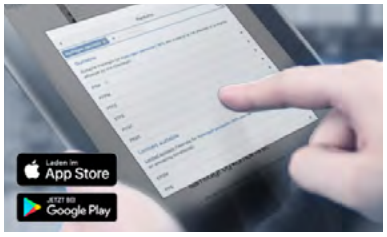
4. Materials

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.

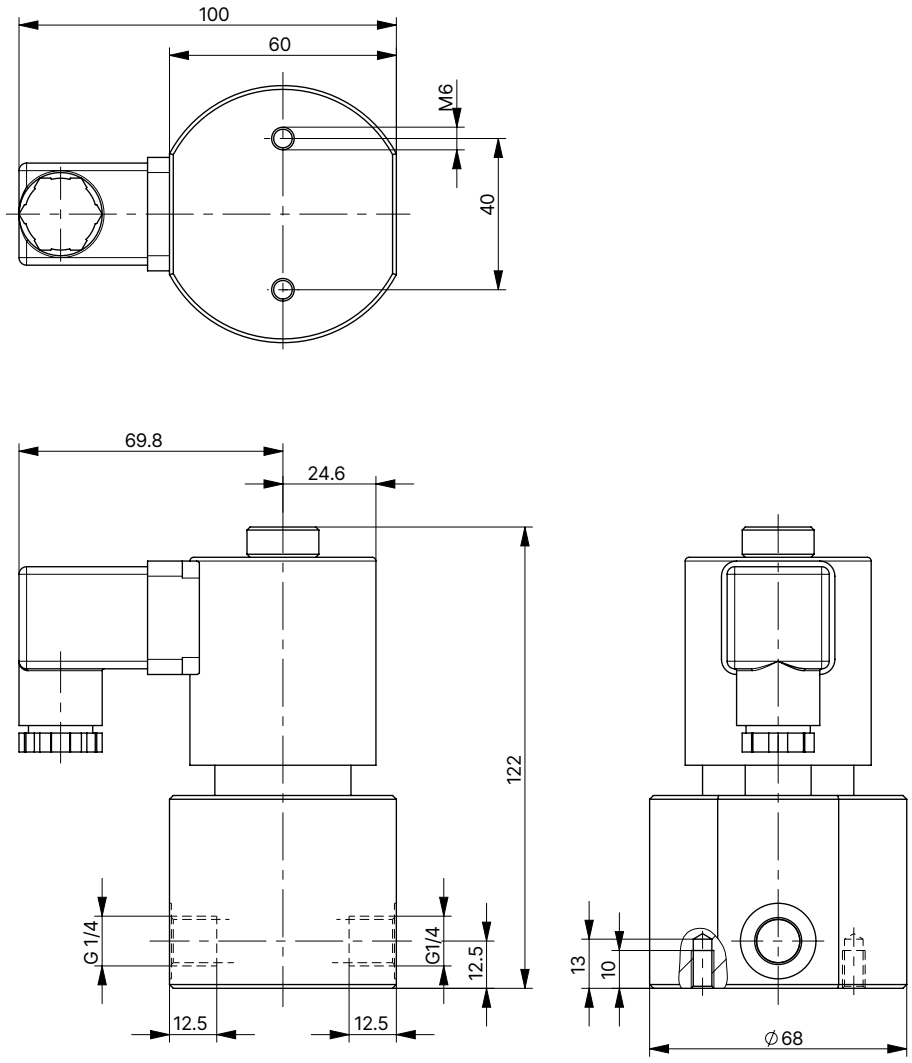
Start chemical resistance check

5. Dimensions

5.1. Threaded version

Standard version

Note:
Dimensions in mm



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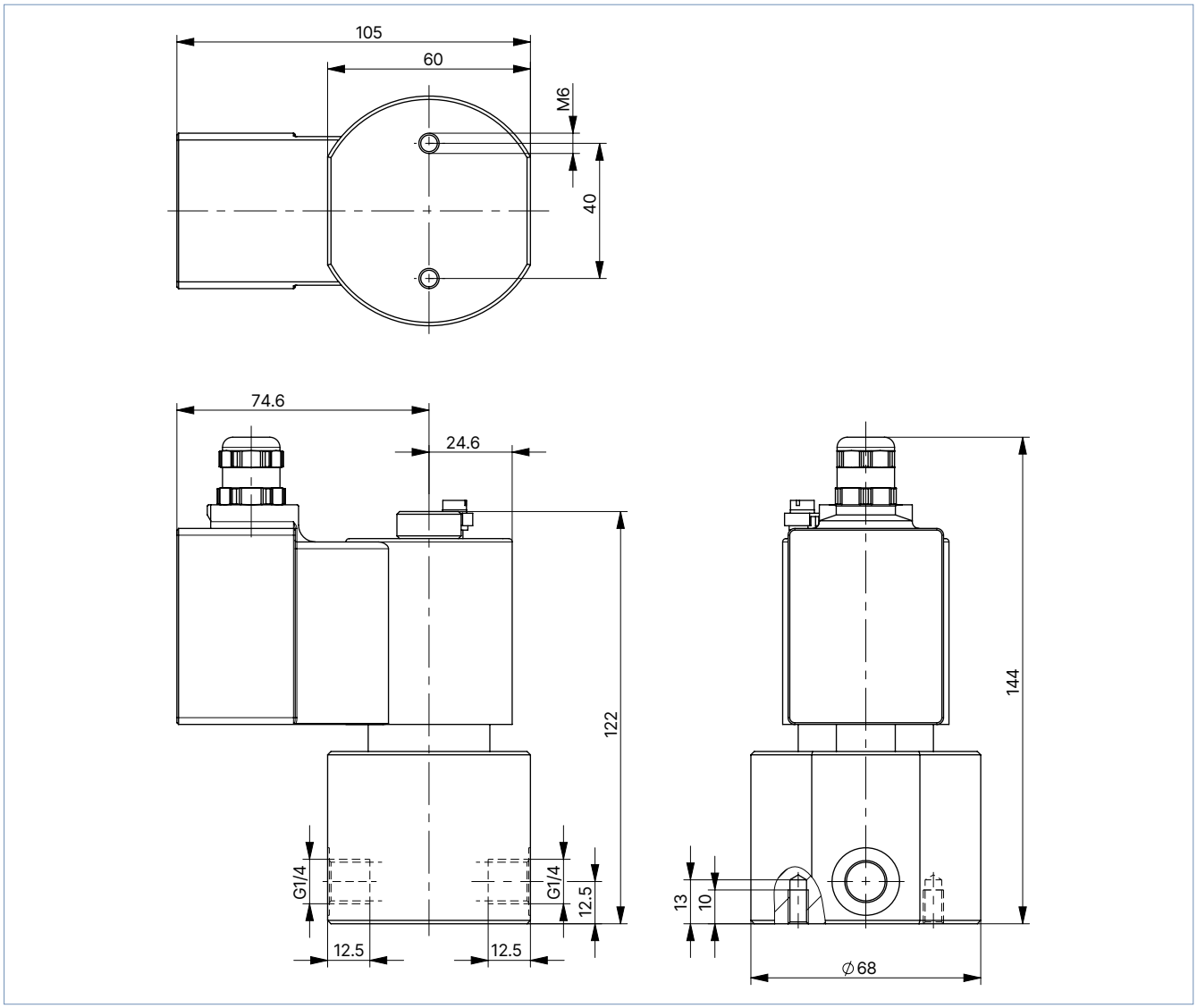
ATEX/IECEx terminal box version

Note:
Dimensions in mm



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6. Performance specifications

6.1. Power consumption

Note:
The cable plug for AC valves contains an integrated rectifier.

Coil size	Cold performance
[mm]	[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

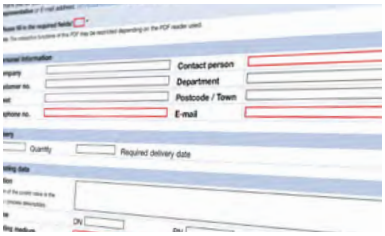
7.2. Bürkert product filter

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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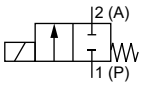
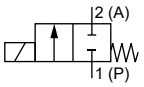
7.4. Ordering chart

Standard version

Note:
Other versions are available on request.

Circuit function	Port connection	Orifice	K_V value water	Pressure range	Article no.		
					024/DC	024/AC	230/AC
		[mm]	[m³/h]	[bar]	[V/Hz]	[V/Hz]	[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.		
					024/DC	024/AC	230/AC
		[mm]	[m³/h]	[bar]	[V/Hz]	[V/Hz]	[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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