DATA SHEET

Type 6480

Servo-assisted 2/2-way piston valve up to 1000 bar

- Hydrogen-resistant screwed valve body
- Function test with forming gas at nominal pressure
- Piston system with mechanical seal bearings
- Explosion-proof variant ATEX and IECEx
- Inspection holes for monitoring the process seal

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

Type description

The valve Type 6480 is a servo-controlled piston valve for hydrogen applications with a nominal diameter of 8 mm. A minimum differential pressure of at least 5 bar is required in the valve to support the opening and closing process. To increase the pressure resistance in contact with hydrogen, the plunger guiding tube and stopper are screwed together. 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 5×10^{-5} mbar l/s. On request, the push-over coil can be provided as a zone 1 or category 2 explosion-proof variant.

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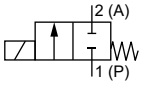
1. General technical data

Product properties	
Dimensions	Further information can be found in chapter "5. Dimensions" on page 5.
Material	
Seal	PEEK/FKM and PEEK/PTFE
Body	Stainless steel 1.4404/316L
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	Approx. 40,000 at Δp = 100...200 bar
Max. absolute switching cycles (service)	Approx. 80,000 (1 year) at Δp = 100...200 bar
Pressure	
Pressure level	PN 1000 bar
Differential pressure [1.)]	5...1000 bar Further information can be found in chapter "7.4. Ordering chart" on page 8.
Orifice	DN 8.0
Circuit function	A Further information can be found in chapter "2. Circuit functions" on page 3.
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, 120 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 at ambient temperature of max. + 40 °C
Viscosity	Max. 22 mm^2/s (22 cSt)
Product connections	
Electrical connection	Male cable plug according to DIN 43650 Terminal box M16×1.5 (ATEX)
Port connection	G ⅜, UNF 13/16 - 16
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.
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

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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 variants 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

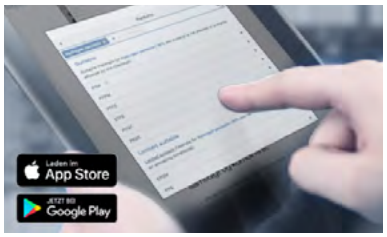
The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

3.4. Explosion protection

Approval	Description	
	Optional: Explosion protection (valid for coils with terminal box)	
	As a category 3 device suitable for zone 2/22.	**As a category 2 device suitable for zone 1/21 (expected to be available from Q2 2026).**
	ATEX: II 3G Ex ec IIC T3 Gc III 3D Ex mb tb IIIB T155 °C Db **IECEx:** Ex ec IIC T3 Gc Ex mb tb IIIB T155 °C Db	**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

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.

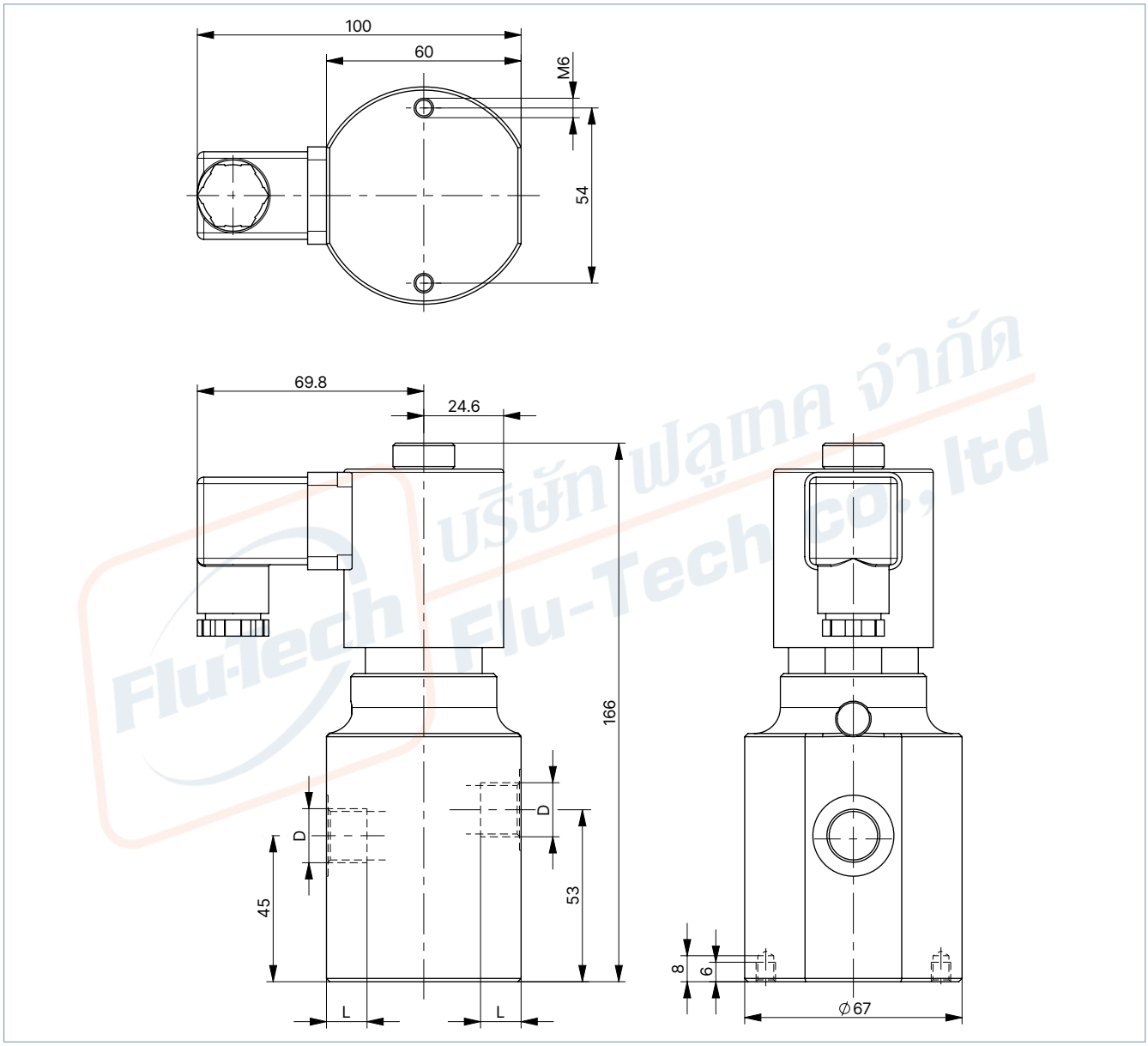
Start chemical resistance check

5. Dimensions

5.1. Threaded variant

Standard variant

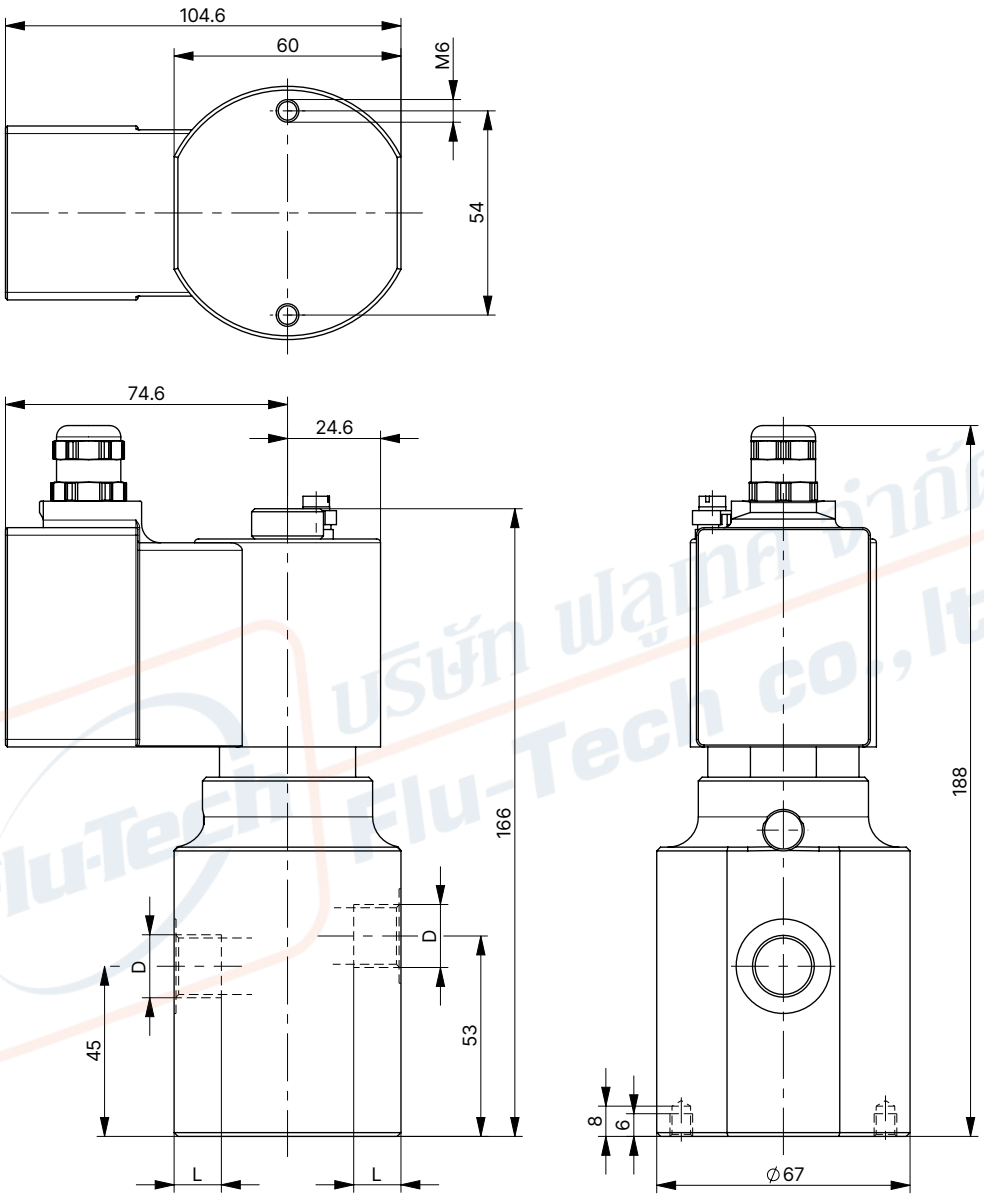
Note:
Dimensions in mm



Port connection	D	L
GM83	G ⅜	12.5
UNFG	13/16 - 16 UNF	25.4

ATEX/IECEx terminal box variant

Note:
Dimensions in mm



Port connection	D	L
GM83	G ⅜	12.5
UNFG	13/16 - 16 UNF	25.4

6. Performance specifications

6.1. Power consumption

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

Coil size	Cold performance
[mm]	[W]
49 (8)	24
49 (8) ATEX	24

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

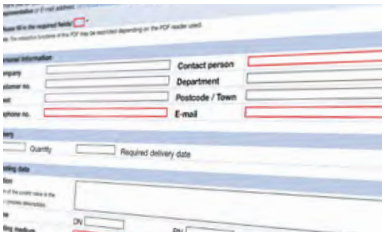
7.2. Bürkert product filter

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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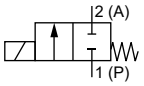
7.4. Ordering chart

Standard variant

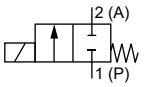
Note:
Other variants are available on request.

Circuit function	Port connection	Orifice	K_V value water	Pressure range (MAWP[1.])	Article no.		
					024/DC	024/AC	230/AC
		[mm]	[m³/h]	[bar]	[V/Hz]	[V/Hz]	[V/Hz]
Stainless steel body with threaded connection, cable head with integrated rectifier for AC included in scope of delivery							
CF A 2/2-way solenoid valve Direct-acting Normally closed  	**Seal material PEEK/FKM**						
	G ⅜	8.0	0.6	5...500	20093243	20093244	20093245
		8.0	0.6	5...900	20093247	20093248	20093249
	Seal material PEEK/PTFE						
	UNF 13/16 - 16	8.0	0.6	5...1000	20093250	20093251	20093252

1.) Maximum allowable working pressure

ATEX/IECEx terminal box variant

Note:
As a category 3 device suitable for zone 2/22.

Circuit function	Port connection	Orifice	K_V value water	Pressure range (MAWP[1.])	Article no.		
					024/DC	024/AC	230/AC
		[mm]	[m³/h]	[bar]	[V/Hz]	[V/Hz]	[V/Hz]
Stainless steel body with threaded connection							
CF A 2/2-way solenoid valve Direct-acting Normally closed  	**Seal material PEEK/FKM**						
	G ⅜	8.0	0.6	5...500	20121862	o. r.	o. r.
		8.0	0.6	5...900	20122059	o. r.	o. r.
	Seal material PEEK/PTFE						
	UNF 13/16 - 16	8.0	0.6	5...1000	o. r.	o. r.	o. r.

o. r. = on request
1.) Maximum allowable working pressure

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