DATA SHEET

Type 8323

bürkert
FLUID CONTROL SYSTEMS

Pressure transmitter for general applications, 0...25 bar

- Piezoresistive or thin film sensor element
- Available with hygienic flush diaphragm
- Housing and wetted parts in corrosion-resistant stainless steel
- Standard signal 4…20 mA for connection to automation systems
- Plug for fast installation and service

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

Can be combined with

Type 8611 ▸
eCONTROL - Universal controller

Type 2301 ▸
Pneumatically operated 2 way Globe Control Valve

Type description

This pressure transmitter is designed to cover the majority of industrial applications in the field of pressure measurement technology. High accuracy, compact design, robust construction and flexibility make the transmitter suitable for different measurement functions.

For technical reasons, the piezoresistive sensor element is used for measuring ranges up to 16 bar and thin film sensor element for the measuring range of 25 bar. All wetted parts are made of stainless steel and completely welded. Internal seal elements, which could restrict the choice of measuring media, are excluded.

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1. General Technical Data

Product properties	
Material	
Please make sure the device materials are compatible with the fluid you are using. Detailed information can be found in chapter "3.1. Chemical Resistance Chart – Bürkert resistApp" on page 5.	
Non wetted parts	
Housing	Stainless steel 1.4301 (304)
Wetted parts	
Standard version	Stainless steel 1.4471 (316Ti)
Standard flush diaphragm version	Stainless steel 1.4471 (316Ti), FKM seal
Hygienic flush diaphragm version	Stainless steel 1.4404 (316L), EPDM seal
Internal transmitting liquid	Synthetic Oil (for standard version with pressure range < 16 bar (232 PSI) and for all flush diaphragm units)
Dimensions	Detailed information can be found in chapter "4. Dimensions" on page 6.
Compatibility	Any pipe with sensor connection • for standard version: G ½" A according to DIN16288 • for flush diaphragm version: – G 1" B with O-ring (range up to 1.6 bar) – G½" B with O-ring (range > 1.6 bar) – G 1" B hygienic version (all ranges)
Measurement technology	Piezo (≤ 16 bar) / Thin film (25 bar)
Measured variable	Relative pressure
Measuring range (Pressure reference = relative pressure [atmospheric])	• 0…0.1; 0.16; 0.25; 0.4; 0.6; 1.0; 1.6; 2.5; 4.0; 6.0; 10.0; 16.0 or 25.0 bar • In PSI on request Detailed information can be found in chapter "7.3. Ordering chart" on page 9 .
Compensated T° range	0…+80 °C (+32…+176 °F)
Product accessories	
Welding socket for pressure transmitter	• Standard flush diaphragm version: G ½" B or G 1" B • Hygienic flush diaphragm version: G 1" B (hygienic) Detailed information can be found in chapter "5. Product accessories" on page 8.
Performance data	
Temperature coefficient (Tc)	In compensated T° range
Average Tc of zero	
Standard version	≤ ± 0.4 % of full scale/10K
Flush diaphragm version	≤ -0.2…+0.3 % of full scale/10K
Average Tc of Span	
Standard and flush diaphragm version	≤ ± 0.2 % of full scale/10K
Adjustability: Zero / span	± 10 %
Response time	≤ 1 ms
Measurement deviation	≤ 0.5 % of full scale (2-point calibration)[1.)] ≤ 0.25 % of full scale (Best Fit Straight Line, BFSL)[1.)]
Hysteresis	≤ 0.1 % of full scale
Repeatability	≤ 0.05 % of full scale
1-year stability	≤ ± 0.2 % of full scale (at reference conditions)
Electrical data	
Operating voltage [Vs]	10…30 V DC, filtered and regulated connection to main supply: permanent (through external SELV (Safety Extra Low Voltage) and LPS (Limited Power Source) power supply)
Power source (not supplied)	The auxiliary energy of the pressure sensor must meet SELV requirements; optionally, an energy-limited current circuit according to section 9.3 of DIN EN 61010-1 and UL 61010-1 can be used.
Reversed polarity of DC	Yes
Overvoltage protection	Yes
Short circuit protection	Yes
Output signal	Standard 4…20 mA, 2 wires
Load in Ω	≤ (Vs [V] - 10 [V]) / 0.02 [A]

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Media data	
Fluid temperature	
Standard version	-20...+100 °C (-4...+212 °F)
Standard flush diaphragm version	-30...+100 °C (-22...+212 °F)
Hygienic flush diaphragm version	-20...+150 °C (-4...+302 °F)
Process/Port connection & communication	
Process connection	
Standard version	• G ½" B (according to EN837) • NPT ½" B (according to ANSI/ASME B1.20.1)
Flush diaphragm version	• G 1" B standard with O-ring (range up to 1.6 bar) • G ½" B standard with O-ring (range up to >1.6 bar) • G 1" B hygienic version (all ranges)
Electrical connection	4 pin cable plug according to EN 175301-803 form A
Approvals and certificates	
Standards	
Protection class according to IEC/EN 60529	IP65 under the following conditions: device wired and with cable plug mounted and tightened
Directives	
CE directives	The applied standards, which verify conformity with the EU Directives, can be found on the EU Type Examination Certificate and/or the EU Declaration of conformity (if applicable)
Pressure equipment directives	Complying with Article 4, Paragraph 1 of 2014/68/EU directive Detailed information on the pressure equipment directive can be found in chapter "2.1. Pressure Equipment Directive" on page 5.
Environment and installation	
Ambient temperature	
Operation	
Standard version	-20...+80 °C (-4...+176 °F)
Standard flush diaphragm version	-20...+80 °C (-4...+176 °F)
Hygienic flush diaphragm version	-20...+80 °C (-4...+176 °F)
Storage	
Standard version	-40...+100 °C (-40...+212 °F)
Standard flush diaphragm version	-40...+100 °C (-40...+212 °F)
Hygienic flush diaphragm version	-20...+100 °C (-4...+212 °F)

1.) Calibrated in vertical mounting position with pressure connection bottom

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2. Approvals

2.1. Pressure Equipment Directive

The device conforms to Article 4, Paragraph 1 of the Pressure Equipment Directive 2014/68/EU under the following conditions:

Device used on a pipe

Note:

- The data in the table is independent of the chemical compatibility of the material and the fluid.
- PS = maximum admissible pressure, DN = nominal diameter of the pipe

Type of fluid	Conditions
Fluid group 1, Article 4, Paragraph 1.c.i	DN ≤ 25
Fluid group 2, Article 4, Paragraph 1.c.i	DN ≤ 32 or PS*DN ≤ 1000
Fluid group 1, Article 4, Paragraph 1.c.ii	DN ≤ 25 or PS*DN ≤ 2000
Fluid group 2, Article 4, Paragraph 1.c.ii	DN ≤ 200 or PS ≤ 10 or PS*DN ≤ 5000

Device used on a vessel

Note:

- The data in the table is independent of the chemical compatibility of the material and the fluid.
- PS = maximum admissible pressure, V = vessel volume

Type of fluid	Conditions
Fluid group 1, Article 4, Paragraph 1.a.i	V > 1 L and PS*V ≤ 25 bar.L or PS ≤ 200 bar
Fluid group 2, Article 4, Paragraph 1.a.i	V > 1 L and PS*V ≤ 50 bar.L or PS ≤ 1000 bar
Fluid group 1, Article 4, Paragraph 1.a.ii	V > 1 L and PS*V ≤ 200 bar.L or PS ≤ 500 bar
Fluid group 2, Article 4, Paragraph 1.a.ii	PS > 10 bar and PS*V ≤ 10000 bar.L or PS ≤ 1000 bar

3. Materials

3.1. Chemical Resistance Chart – 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

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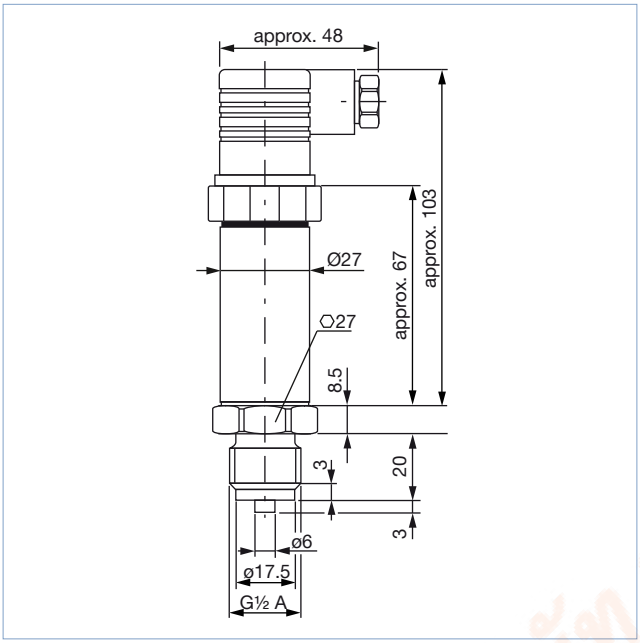
4. Dimensions

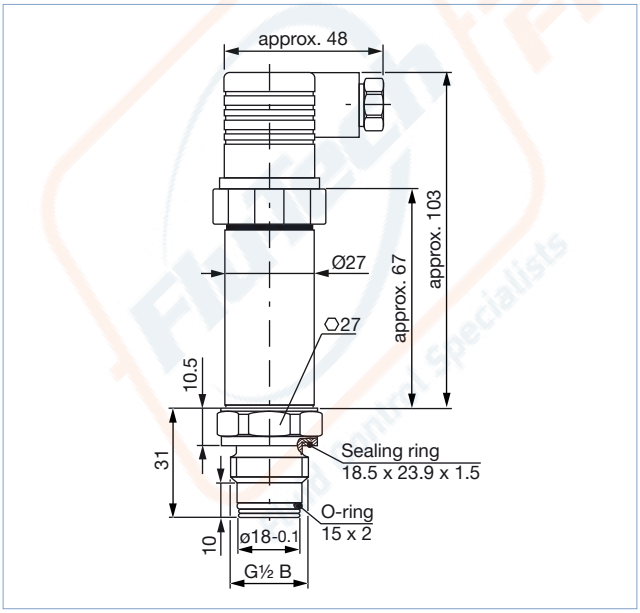
4.1. Standard version with process connection G ½" A

Note:
Dimensions in mm



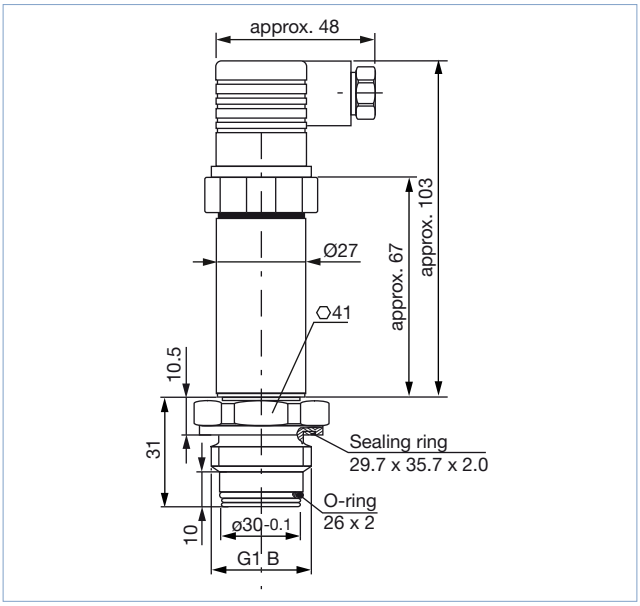
4.2. Standard flush diaphragm version with process connection G ½" B

Note:
Dimensions in mm



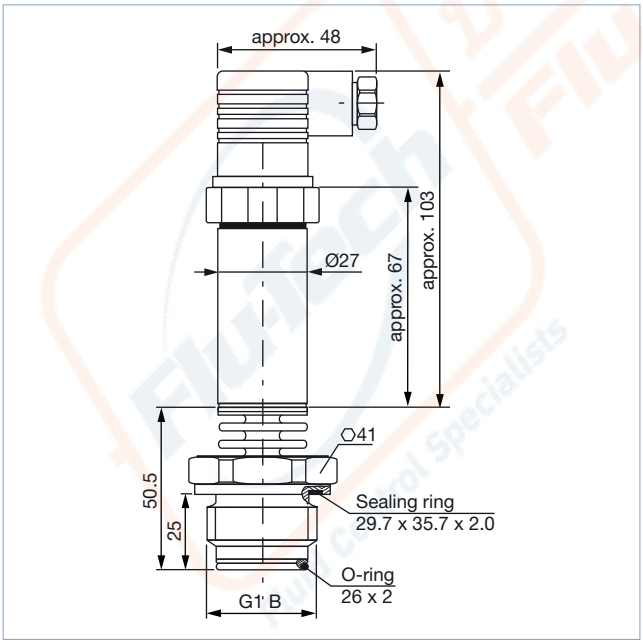
4.3. Standard flush diaphragm version with process connection G 1" B

Note:
Dimensions in mm



4.4. Hygienic flush diaphragm version with process connection G 1" B

Note:
Dimensions in mm



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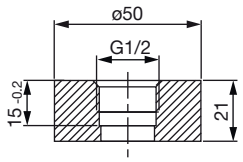
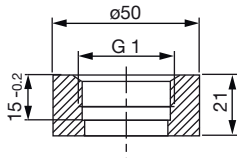
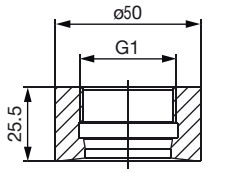
5. Product accessories

Note:
Pressure transmitter with flush diaphragm can be installed via a process adapter with welding connection (e.g. for welding to tanks). Measuring instrument and process adapter can be easily fastened or loosened with a wrench.

Accessory	Description
	Welding socket for pressure transmitter with flush diaphragm: Standard version with process connection G ½" B Material: stainless steel 1.4435 (316L); UNS S31603 Surface roughness of wetted parts Ra <0.4 µm Nominal pressure PN 40
	Welding socket for pressure transmitter with flush diaphragm: Standard version with process connection G 1" B Material: stainless steel 1.4435 (316L); UNS S31603 Surface roughness of wetted parts Ra <0.4 µm Nominal pressure PN 40
	Welding socket for pressure transmitter with flush diaphragm: Hygienic version with process connection G 1" B Material: stainless steel 1.4435 (316L); UNS S31603 Surface roughness of wetted parts Ra <0.4 µm Nominal pressure PN 40

6. Networking and combination with other Bürkert products

Example:

Type 8323
Pressure transmitter

4…20 mA output signal

Type 8619 ▸
multiCELL Transmitter/ Controller

Type 8611 ▸
eCONTROL - Universal controller on valve

Type 8802 ▸
(2301 & 8693)
Control valve systems

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7. Ordering information

7.1. Bürkert eShop – Easy ordering and quick delivery

Bürkert eShop – Easy ordering and fast 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. Ordering chart

Pressure range	Pressure max.	Bursting pressure	Operating voltage	Output signal	Article no.			
					Standard	Flush diaphragm		
[bar]	[bar]	[bar]	[V DC]	[mA]	G ½" A	Standard G ½" B	Standard G 1" B	Hygienic G 1" B
0...0.10	1	2	10...30	4...20	417692	-	552063	551803
0...0.16	1.5	2	10...30	4...20	417693	-	552064	-
0...0.25	2	2	10...30	4...20	417694	-	-	-
0...0.40	2	2	10...30	4...20	417695	-	552065	551675
0...0.60	4	4	10...30	4...20	417696	-	-	551676
0...1.00	5	5	10...30	4...20	417697	-	552066	551677
0...1.60	10	10	10...30	4...20	417698	-	-	551678
0...2.50	10	10	10...30	4...20	417699	-	-	551679
0...4.00	17	17	10...30	4...20	417700	-	-	-
0...6.00	35	35	10...30	4...20	417701	552067	-	-
0...10.0	35	35	10...30	4...20	417702	552068	-	551684
0...16.0	80	80	10...30	4...20	417703	552069	-	-
0...25.0	50	250	10...30	4...20	417704	-	-	-

7.4. Ordering chart accessories

Accessories for pressure transmitter with flush diaphragm

Description	Article no.
Weld-on socket for standard flush diaphragm version with process connection G ½"	443295
Weld-on socket for standard flush diaphragm version with process connection G 1"	444137
Weld-on socket for hygienic flush diaphragm version with process connection G 1"	443296

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