





Paddle-wheel sensor for low-flow rates

- Cost attractive solution for low-flow rates and solid-free liquids
- Wetted parts made of ECTFE, sapphire, coated stainless steel, FKM or EPDM for use in aggressive liquids
- 3-wire system with paddle-wheel and Hall sensor up to 80 °C, 6 bar
- Frequency output proportional to the flow rate, PLC-compatible

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

Can be combined with

	Type 8025 Flow transmitter or remote batch controller	▶
	Type 8611 eCONTROL - Universal controller	▶
	Type 8619 multiCELL - Multi-channel and multi-function transmitter/controller	▶
	Type 8802 ELEMENT continuous control valve systems - overview	▶

Type description

The compact low-flow sensor Type 8031 with paddle-wheel and Hall sensor is specially designed for use in aggressive and solid-free liquids.

The particular cost attractive measuring principle is based on a local flow velocity measurement. The sensor produces a flow proportional frequency signal which can easily be transmitted and processed.

We recommend here particularly the connection to the Bürkert Universal transmitter Type 8025 (see separate data sheet).

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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 4.](#)

Wetted parts

Sensor housing	POM or ECTFE
Seal	FKM, EPDM or FFKM
Axis	Coated stainless steel or sapphire
Bearings	POM or Rubin
Paddle-wheel	POM or ECTFE
Magnets	ECTFE encapsuled or blank
Dimensions	Detailed information can be found in chapter “4. Dimensions” on page 4.
Measuring principle	Paddle wheel
Measuring range	<ul style="list-style-type: none"> • 10...100 l/h (2.6...27 gph) • 20...250 l/h (5.3...66 gph)
K-factor	<ul style="list-style-type: none"> • 10200 pulse/litre (range 10...100 l/h) • 3400 pulse/litre (range 20...250 l/h) <p>Detailed information can be found in chapter “5.2. Flow characteristic” on page 6.</p>

Performance data

Measurement deviation	±2 % of full scale
Repeatability	±0.8 % of full scale
Pressure loss	Detailed information can be found in chapter “5.1. Pressure loss diagram” on page 6.

Electrical data

Operating voltage (V+)	5...24 V DC
Current consumption	Max. 11 mA at 24 V DC
Outputs	<ul style="list-style-type: none"> • Push-pull (complementary output) between V+ (white wire) and signal (green wire) or between GND (brown wire) and signal (green wire) • Frequency: 0...300 Hz

Medium data

Fluid temperature	0...80 °C (+32...+176 °F)
Fluid pressure	Max. 10 bar (145 PSI) at 20 °C (68 °F)
Viscosity	1...10 cSt.

Process/Port connection & communication

Port connection	<ul style="list-style-type: none"> • G ¼" • Tube spigot 8/6 mm • Tube spigot 9 mm
Electrical connection	Cable, 1 m length (3×0.14 LiYY)

Approvals and certificates

Standards

Protection class according to IEC/EN 60529	IP65
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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 4.

Environment and installation

Ambient temperature	<ul style="list-style-type: none"> • Operation: 0...+80 °C (+32...+176 °F) • Storage: -10...+80 °C (+14...+176 °F)
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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

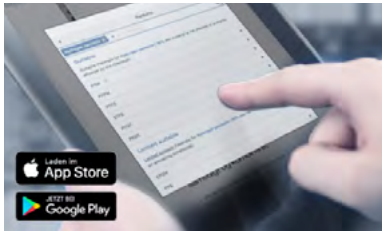
Note:

- 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

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.

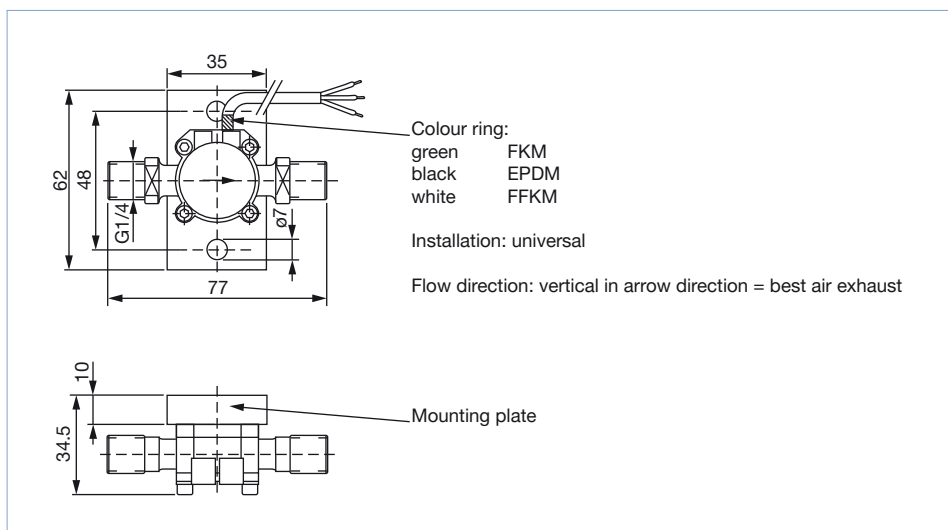
[Start Chemical Resistance Check](#)

4. Dimensions

4.1. Paddle-wheel sensor with G 1/4" port connection

Note:

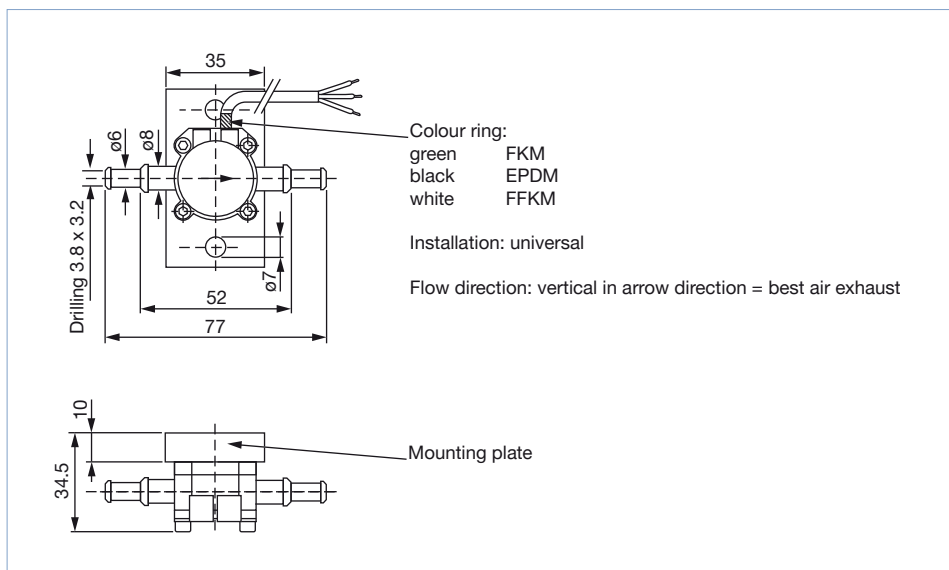
Dimensions in mm



4.2. Paddle-wheel sensor with 8/6 mm tube spigot port connection

Note:

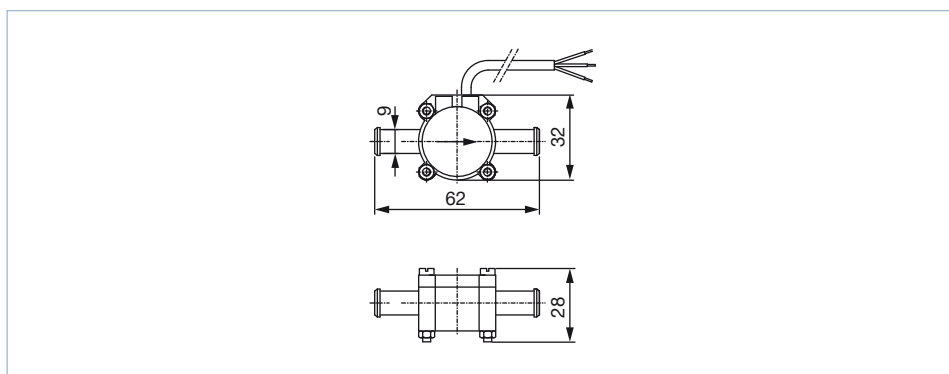
Dimensions in mm



4.3. Paddle-wheel sensor with 9 mm tube spigot port connection

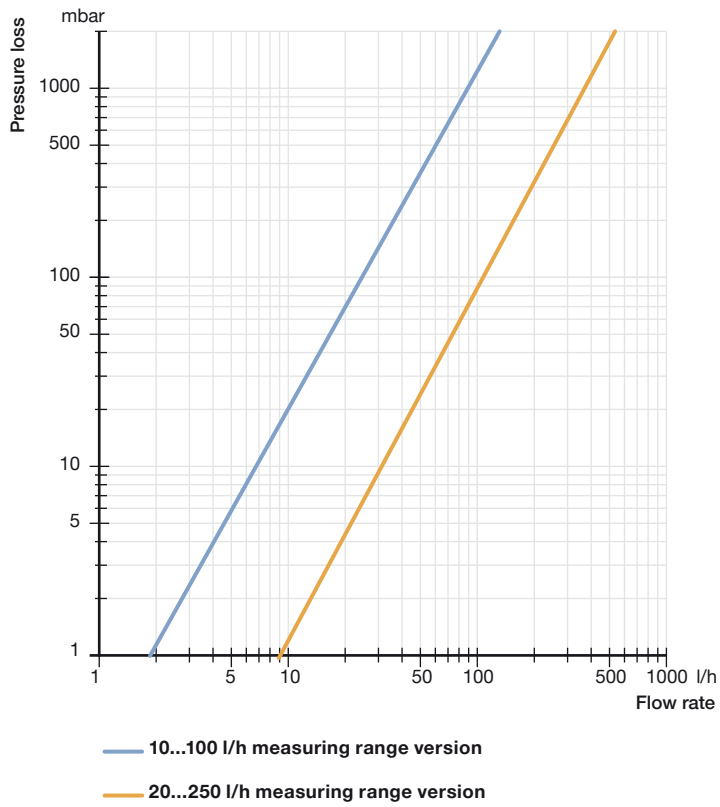
Note:

Dimensions in mm



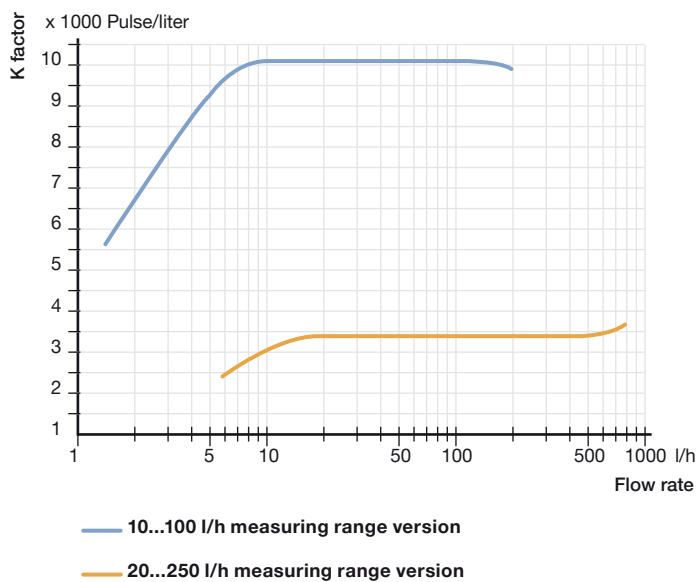
5. Performance specifications

5.1. Pressure loss diagram




5.2. Flow characteristic

Determination of the K-factor



6. Ordering information

6.1. Bürkert eShop – Easy ordering and quick delivery




Bürkert eShop – Easy ordering and fast delivery

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6.2. 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.

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6.3. Ordering chart

Measuring range	Port connection	Output	Material			Article no.
			Housing, paddle-wheel	Axis	Seal	
Without mounting plate						
10...100 l/h	Tube spigot 8/6 mm	Frequency push-pull	POM	Coated stainless steel	FKM	783717
	G 1/4"					783719
20...250 l/h	Tube spigot 9 mm					783718
	G 1/4"					783720
With mounting plate						
10...100 l/h	G 1/4"	Frequency push-pull	ECTFE	Sapphire	FKM	783721
					EPDM	783722
					FFKM	783723
				Coated stainless steel	FKM	437982
					EPDM	438531
20...250 l/h				Sapphire	FKM	783724
					EPDM	783725
					FFKM	783726
				Coated stainless steel	FKM	438532
					EPDM	437524

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