

INSERTION paddle wheel flowmeter for continuous flow measurement

- Economic integration in pipe systems without any additional piping
- 3-wire frequency pulse version to directly interface with PLC's (both PNP and NPN)
- Connection to Bürkert devices in remote versions



The paddle wheel flowmeter for continuous flow measurement is especially designed for use in neutral, slightly aggressive, solid free liquids.

The Bürkert designed fitting system ensures simple installation of the devices into all pipes from DN20 to DN400 mm. The flowmeter produces a frequency pulse signal, proportional to the flow rate, which can easily be transmitted and processed by a Bürkert transmitter/controller.

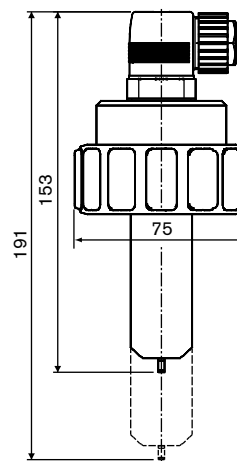
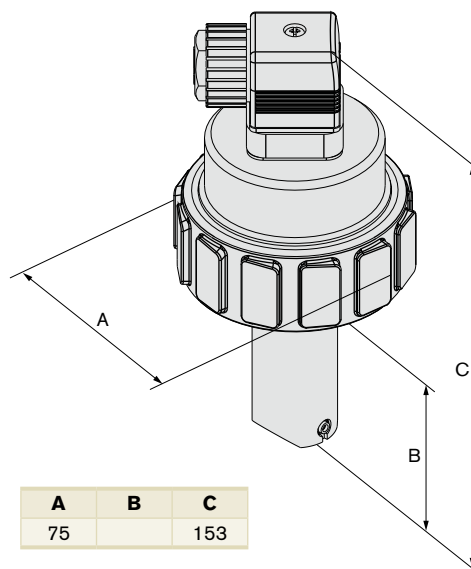
Technical Data

General data	
Compatibility	With fittings S020 (see datasheet)
Materials	
Housing / Union nut	PE / PC
Cable plug	PA
Wetted parts materials	
Fitting	Brass, st. st. 1.4404/316L, PVC, PP, PVDF
Sensor armature, paddle wheel	PVDF
Axis, bearing / Seal	Ceramics / FKM (EPDM option)
Electrical connection	Cable plug EN 175301-803 (included)
Connection cable	1,5 mm ² cross section; Max. 50 m length, shielded
Complete device data (fitting + electronic module)	
Pipe diameter	DN20-400 mm
Measuring range	0,3 to 10 m/s
Medium temp. with fitting in	
PVC / PP	0 °C to +50 °C / 0 °C to +80 °C
Stainless steel, brass, PVDF	-15 °C to +80 °C
Medium pressure max.	PN10 (145,1 PSI)
Viscosity / Pollution	300 cSt. max. / max. 1% (Size of particles 0,5 mm max.)
Accuracy	
Teach-In	±0,5% of F.S.* (at 10 m/s) ¹⁾
Standard K-factor	±(0,5% of F.S.* + 2,5% of Reading) ¹⁾
Linearity	±0,5% of F.S.* (at 10 m/s) ¹⁾
Repeatability	≤ 0,4% of Reading ¹⁾
Environment	
Ambient temperature	-15 to 60 °C (5 to 140 °F) (operating and storage)
Relative humidity	≤ 80%, without condensation

* F.S. = Full scale (10 m/s)

¹⁾ Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20 °C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

Envelope Dimensions [mm] (see datasheet for details)



Note:

The length of the sensor armature depends on the fitting used. See data sheet Type S020.

Technical Data (continued)

Electrical data	
Operating voltage	12 - 36 V DC (via Bürkert transmitter for "Low Power" version)
Current consumption	with sensor
Pulse version	≤ 50 mA
Pulse "Low power" version	≤ 0,8 mA
Output: Frequency	
Pulse version	Transistor NPN/PNP, open collector, max. 100 mA, frequency: 0... 300 Hz; duty cycle 1/2
Pulse "Low Power" version	Transistor NPN, open collector, max. 10 mA, frequency: 0... 300 Hz; duty cycle 1/2
Reversed polarity of DC	Protected
Standards and approvals	
Protection class	IP65 with connector plugged-in and tightened
Standard and directives	
EMC	EN 61000-6-2, 61000-6-3
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN25 only
Fluid group 2, §1.3.a	DN ≤ 32 or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	DN ≤ 25 or DN > 25 and PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 400

Ordering Chart

Description	Operating voltage	Output	Sensor version	Electrical connection	Item no.
Pulse version flowmeter (pluggable to Types 8025 Universal transmitter, batch controller; 8032; PLC)	12 - 36 V DC	Frequency with PNP or NPN	short	Cable plug DIN EN 175301-803	419 587
			long	Cable plug DIN EN 175301-803	419 589
Pulse "Low Power" version flowmeter (pluggable to Types 8025, 8032 transmitter)	from Transmitter	Frequency with NPN Pulse	short	Cable plug DIN EN 175301-803	419 591
			long	Cable plug DIN EN 175301-803	419 593

Note regarding the ordering of a complete sensor:

The complete 8020 sensor consists of the Type S020 INSERTION fitting and the Type 8020 sensor.
FKM seal in standard; 1 Kit including a black EPDM seal and a green FKM seal is supplied with each sensor.
Please order the relevant INSERTION fitting and the sensor separately!

Accessories

Description	Item no.
Set with 1 green FKM and 1 black EPDM gasket	552 111
Ring	619 205
Union nut	619 204
Cable plug EN 175301-803 with cable gland (Type 2508)	438 811
Cable plug EN 175301-803 with NPT 1/2" reduction without cable gland (Type 2509)	162 673

Pressure / temperature chart

