

Digital flowmeter INSERTION COMPACT

- Compact version for DN06 to DN400 mm, PN10
- Displays both flow rate and volume (with two totalizers)
- On site calibration by Teach-In
- Simulation of all output signals

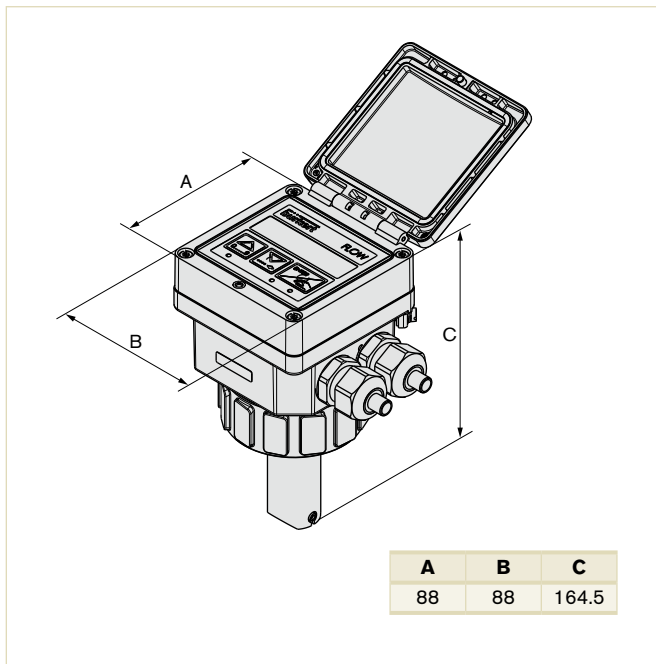


The compact flowmeter with paddle wheel sensor is specially designed for use with neutral and slightly aggressive, solid-free liquids.

Technical Data

Technical Data	
Display	15 x 60 mm, 8 digit LCD, alphanumeric, 15 segments, 9 mm high
Compatibility	with Fittings S020 (see Type S020)
Materials	
Housing, cover, lid, nut	PC
Front panel foil/	Polyester/Stainless steel
Screws	
Cable plug or glands	PA
Wetted parts materials	
Fitting	Brass, stainless steel 1.4404/316L, PVC, PP or PVDF
Sensor holder, paddle-wheel	PVDF
Axis and bearing/Seal	Ceramics / FKM (EPDM option)
Electrical connections	Cable plug or cable glands M20 x 1.5 or none (for battery version)
Recommended cable	Max. 50 m, shielded, 1.5 mm ² max. cross-section
Device data (Fitting S020 + flowmeter)	
Pipe diameter	DN20 to DN400
Measuring range	0.5 to 10 m/s (Battery version - Coil transducer) 0.3 to 10 m/s (Hall transducer version)
Fluid temperature with fitting in	
PVC / PP	0 °C to 50 °C (32 to 122°F) / 0 °C to 80 °C (32 to 176°F)
PVDF, brass or stainless steel	-15 °C to 80 °C ¹⁾ (5 to 176°F)
Fluid pressure max.	PN10 (145.1 PSI) (see pressure/temperature diagram)
Viscosity / Pollution	300 cSt. max. / 1% max.
Measurement error	
Teach-In	±1% of Reading ¹⁾ (at the teach flow rate value)
Standard K-factor	±2.5% of Reading ¹⁾
Linearity	±0.5% of F.S.* ²⁾
Repeatability	±0.4% of Reading ²⁾

Envelope Dimensions [mm] (see datasheet for details)



Electrical data	
Power supply (V+)	
Standard signal version	12 - 36 V DC ±10%, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level or 115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
Battery indicator/totalizer version	2 x 9 V DC batteries, lifetime min. 1 year at 20 °C (68°F)
Reversed polarity of DC	protected
Current consumption with sensor (without consumption of pulse output)	≤ 70 mA at 12 V DC - flowmeter with relays ≤ 25 mA at 12 V DC - flowmeter without relay

Technical Data (continued)

Output	
Standard signal version	
Signal current	4... 20 mA (3-wire with relays; 2-wire without relay) max. loop impedance: 900 Ω at 30 V DC, 600 Ω at 24 V DC, 50 Ω at 12 V DC, 800 Ω with a 115/230 V AC voltage supply
Pulse	Polarized, potential free, 5... 36 V DC; 100 mA, protected, line drop at 100 mA: 2.5 V DC
Relay	2 relays, freely configurable, 3 A, 230 V AC
Battery indicator/ totalizer version	None
4... 20 mA measurement error	±1%
Environment	
Height above sea level	Max. 2000 m
Relative humidity	≤ 80%, without condensation
Ambient temperature (operation and storage)	-10 to +60 °C (32 to 140°F) (version 12 - 36 V DC) -10 to +50 °C (32 to 122°F) (version 115/230 V AC)
Technical specifications 115/230 V AC	
Voltage supply available inside the device	27 V DC regulated, max. current: 125 mA integrated protection: fuse 125 mA temporised power: 3 VA

Standards, directives and approvals	
Protection class (according to EN60529)	IP65 with cable plug or gland mounted and tightened or with obturator locked if not used
Standards and directives Pressure	Complying with article 3 of chap. 3 from 97/23/CE directive*
Standard	
EMC	EN 61000-6-2, EN 61000-6-3
Safety	EN 61010-1
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

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

¹⁾ with Battery version = 100 °C (212°F)

²⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature=20 °C (68°F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

Type of fluid	Conditions
Fluid group 1, chapter 1.3.a	DN25 only
Fluid group 2, chapter 1.3.a	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
Fluid group 1, chapter 1.3.b	PN*DN ≤ 2000
Fluid group 2, chapter 1.3.b	DN ≤ 200

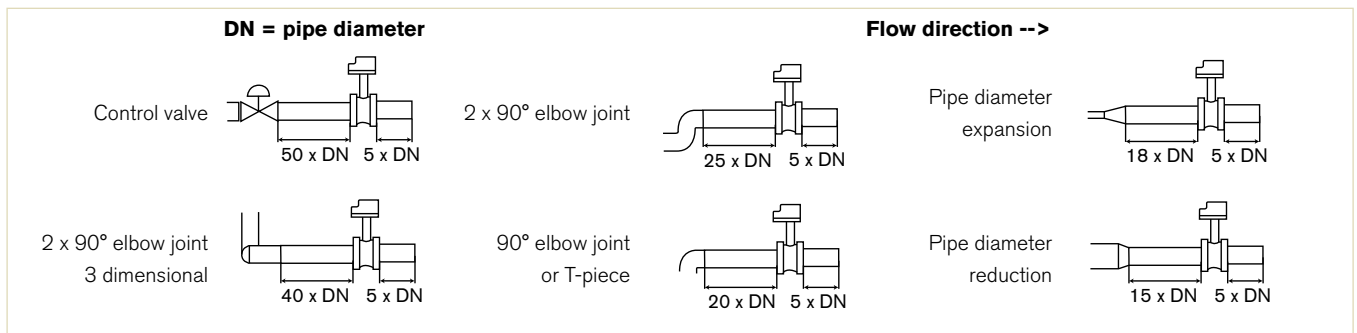
* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

Installation

The Type 8025 can easily be installed into any Bürkert INSERTION fitting system (S020) by just fixing the main nut.

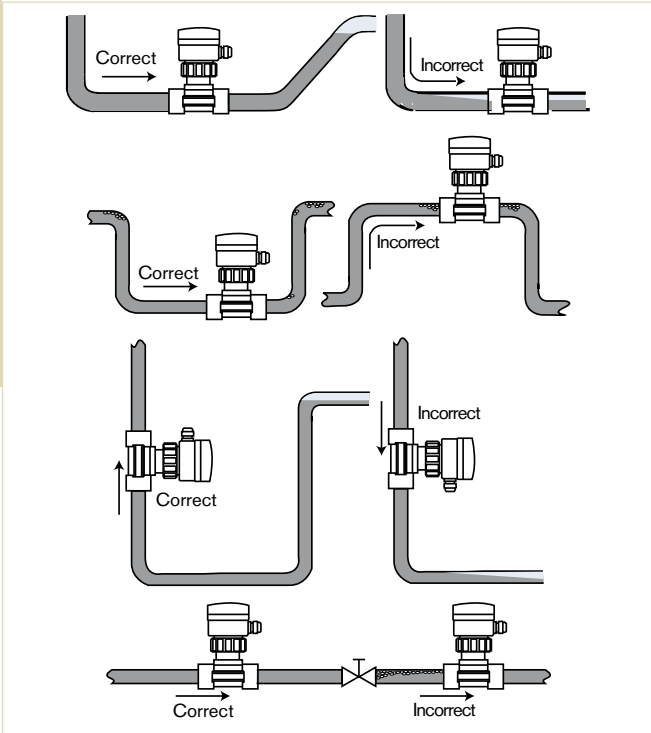
Minimum straight upstream and downstream distances must be observed. According to the pipe's design, necessary distances can be bigger or use a flow conditioner to obtain the best accuracy. For more information, please refer to EN ISO 5167-1.

EN ISO 5167-1 prescribes the straight inlet and outlet distances that must be complied with when installing fittings in pipe lines in order to achieve calm flow conditions. The most important layouts that could lead to turbulence in the flow are shown below, together with the associated prescribed minimum inlet and outlet distances. These ensure calm, problem-free measurement conditions at the measurement point.



Installation (continued)

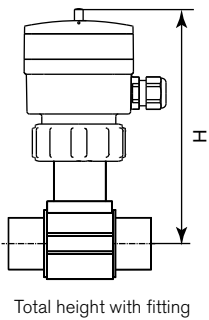
The device can be installed into either horizontal or vertical pipes. Mount the Type 8025 in these correct ways to obtain an accurate flow measurement.



Pressure and temperature ratings must be in accordance to the selected fitting material. The suitable pipe size is selected using the diagram Flow/Velocity/DN.

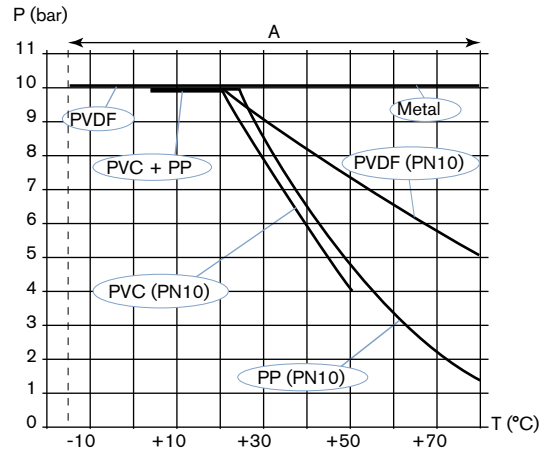
The flowmeter is not designed for gas or steam flow measurement.

Dimensions [mm]

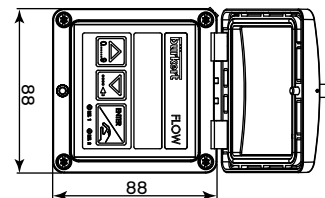
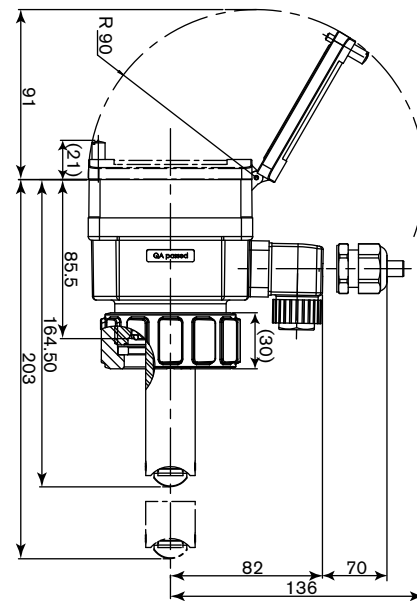


DN	H			
	T-Fitting	Saddle	Plastic spigot	Metal spigot
20	185			
25	185			
32	188			
40	192			
50	198	223		193
65	198	221	206	199
80		226	212	204
100		231	219	214
110		227		
125		234	254	225
150		244	261	236
180		268		
200		280	282	257
250			300	317
300			312	336
350			325	348
400			340	

Pressure/Temperature diagram



A: Application range for complete device (fitting + measuring device)



Note:

The length of the sensor finger depends on the fitting used.

see Type S020.






Ordering chart

Description	Voltage supply	Output	Relay	Sensor version	Electrical connection	Item no.	
Compact Flowmeter Type 8025T							
Standard output signal flowmeter, 2 totalizers	12 - 30 V DC	4 - 20 mA (2-wire) + pulse	none	Hall, short	DIN EN 175301-803	418 762	
					2 cable glands	418 802	
				Hall, long	DIN EN 175301-803	418 763	
					2 cable glands	418 803	
				Hall, short	2	2 cable glands	418 778
	Hall, long	2 cable glands	418 779				
	115 - 230 V AC	4 - 20 mA (2-wire) + pulse	none	Hall, short	2 cable glands	418 423	
					Hall, long	2 cable glands	418 424
				Hall, short	2	2 cable glands	418 431
							Hall, long
2 x 9 V DC battery				none	none	Coil, short	none
	Coil, long	none	418 405				

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Note regarding the ordering of a complete sensor for the Type 8025T remote Transmitter:

Please enter the appropriate sensor according to the Technical Data table regarding compatibility and select and order the respective INSERTION fitting and the selected sensor separately.

		DN20	DN50	DN65	DN100	DN200	DN350	DN400
Available S020 fitting DN	T-fitting 	Short sensor						
	Weld-in socket 			Short sensor		Long sensor		
	Fusion spigot 			Short sensor		Long sensor		
	Screw-on S020 				Long sensor			
	Saddle 			Long sensor				

Accessories

Description	Item no.
Set with 2 cable glands M20 x 1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5 + 2 multiway seals 2 x 6 mm	449 755
Set with 2 reductions M20 x 1.5 /NPT1/2" + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5	551 782
Set with 1 stopper for unused cable gland M20 x 1.5 + 1 multiway seal 2 x 6 mm for cable gland + 1 black EPDM seal for the sensor + 1 mounting instruction sheet	551 775
Ring	619 205
Union nut	619 204
Set with 1 green FKM and 1 black EPDM seal	552 111
Cable plug DIN EN 175301-803 with cable gland (Type 2508)	438 811
Cable plug DIN EN 175301-803 with NPT1/2" reduction without cable gland (Type 2509)	162 673