INLINE Flow Transmitter for continuous flow measurement

For use with fitting DN15-50 mm

- Displays both flow rate and volume (with two totalizers)
- Automatic calibration: Teach-In
- Simulation: all output signals

See appropriate fittings S030

The flow transmitter is specially designed for use in neutral, slightly aggressive, solid free liquids. The transmitter is made up of a compact fitting with paddle-wheel (S030) and an electronic module (SE35) quickly and easily connected together by a Quarter-Turn

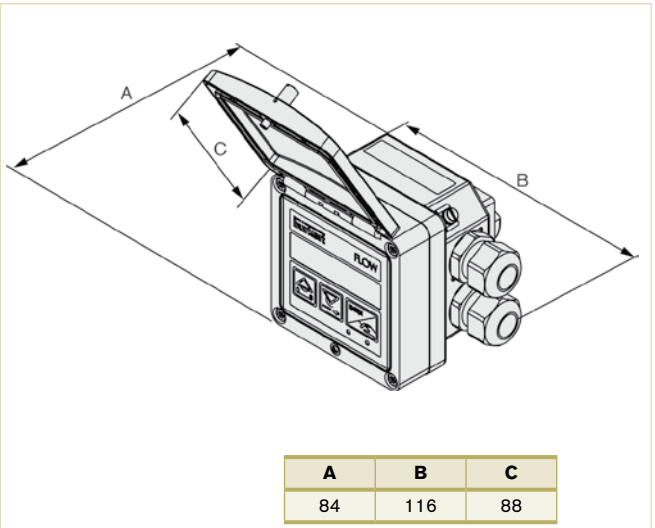
Technical data

General data	
Compatibility	with fittings S030 (see corresponding data sheet)
Materials	
Housing, cover, lid, nut	PC
Front panel foil / Screws	Polyester / Stainless steel
Cable plug or glands	PA
Wetted parts materials	
Fitting, sensor armature	Brass, stainless steel 1.4404/316L, PVC, PP or PVDF
Paddle-wheel	PVDF
Axis and bearing / Seal	Ceramics / FKM (EPDM included but non-mounted)
Display	15x60 mm, 8-digit LCD, alphanumeric, 15 segments, 9 mm high
Electrical connections	Cable plug EN175301-803 or cable glands M20x1.5 or none (for battery version) max. 50 m, shielded cable with 1.5 mm² max. cross-section (cable plug included)
Complete device data (Fitting S030 + electronics)	
Pipe diameter	DN06 to DN65
Measuring range	0.5 m/s to 10 m/s (Battery ver. - Coil transducer) 0.3 m/s to 10 m/s (Hall transducer version)
Fluid temperature with fitting in	
PVC / PP	0°C to 50°C / 0°C to 80°C)
PVDF, brass or stainless steel	-15°C to 100°C
Fluid pressure max.	PN10 *(145.1PSI)* (with plastic fitting) - PN16 *(232.16PSI)* (with metal fitting - PN40 on request, see S030 data sheet) - see Pressure/Temperature diagram
Viscosity / Pollution	300 cSt. max. / 1% max. (size: 0.5 mm 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.*[1]
Repeatability	±0.4% of reading[1]

[1] 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

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

Dimension [mm] (see datasheet for more details)



A	B	C
84	116	88

Options

- Electrical connection acc. to EN 75301-803 Type 2508 (Item no. 438 811) or Type 2509 (Item no. 162 673)
- PVDF or PP Fittings.
- High flow rates (8025) up to DN350 mm
- Various seal materials
- Special calibration certificate

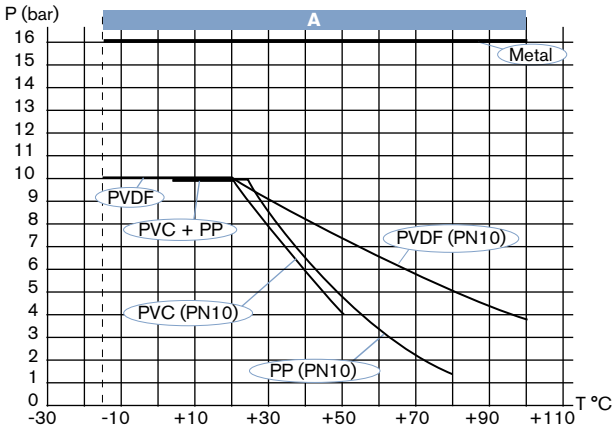
Technical data (continued)

Electrical data	
Power supply (V+)	
Standard signal version	12-36 V DC ±10%, filtered and regulated, SELV (extra low safety voltage) circuit with a non dangerous energy level or 115/230 V AC 50/60 Hz (see tech. spec. 115/230 V AC)
Battery indicator/totalizer version	2 x 9 V DC batteries, lifetime min. 1 year at 20°C
Reversed polarity of DC	protected
Current consumption with sensor (without consumption of pulse output)	≤ 70 mA at 12 V DC - transmitter with relays ≤ 25 mA at 12 V DC - transmitter without relay
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 to 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 to 20 mA measurement error	±1%
Environment	
Height above sea level	max. 2000 m
Ambient temperature (operation and storage)	0°C to +60°C (12-36 V DC or battery version) 0°C to +50°C (115/230 V AC version)
Relative humidity	≤ 80%, without condensation
Technical specifications 115/230 V AC	
Voltage supply available inside the device	27 V DC regulated, max. current: 125 mAintegrated protection: fuse 125 mA temporised power: 3 VA
Standard, directives and approvals	
Protection class	IP65 with cable plug or gland mounted and tightened or with obturator locked if not used.
Standard	
EMC	EN 61000-6-2, EN 61000-6-3
Safety	EN 61010-1
Pressure (Fitting S030, DN06 to DN65, in PVC, PP, PVDF, stainless steel or brass)	Complying with article 3 of chp. 3 from 2006/95/CE directive*
Vibration / Shock	EN 60068-2-6 / EN 60068-2-27

* For the 2006/95/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	PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200

Pressure/Temperature diagram



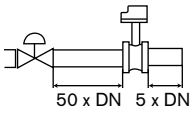
A: Application range for complete device (fitting + electronics)

Installation

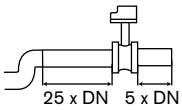
EN ISO 5167-1 specifies the straight inlet and outlet distances that must be complied with when installing fittings in pipelines in order to achieve calm flow conditions. The most important layouts that could lead to turbulence in the flow are shown below, together with the associated minimum inlet and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

DN = pipe diameter **Fluid direction -->**

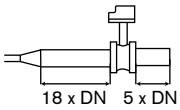
Control valve



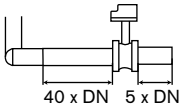
2 x 90° elbow joint



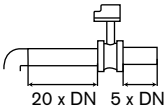
Pipe diameter extension



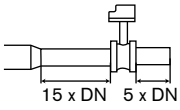
2 x 90° elbow joint 3 dimensional



90° elbow joint or T-piece



Pipe diameter reduction



Ordering chart

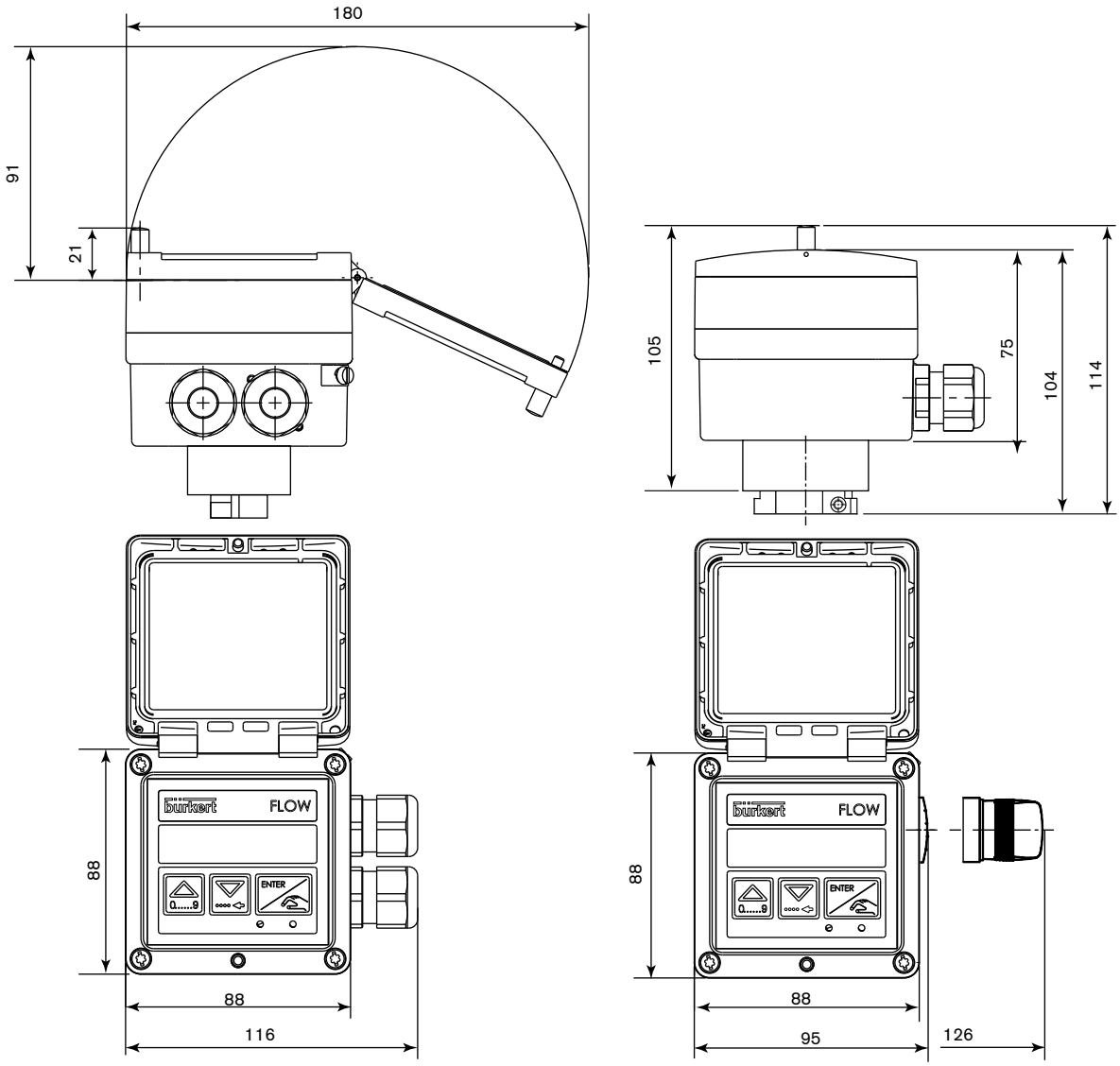
Supply voltage	Outputs	Electrical connection	Item no.
12 - 36 V/DC	4 - 20 mA (2 -wire) + Pulse	Cable plug	444 005
		2 cable glands	444 006
	4 - 20 mA (3 -wire) + Pulse + Relays	2 cable glands	444 007
115 - 230 V/50 Hz	4 - 20 mA (2-wire) + Pulse	2 cable glands	423 922
	4 - 20 mA (3 -wire) + Pulse + Relays	2 cable glands	423 924
2 x 9 V/ DC Batteries	-	None	423 921

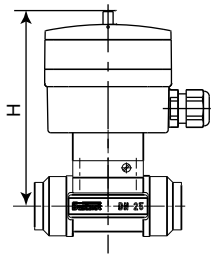
Note: The SE35 electronic module and the S030 fitting must be ordered separately

Accessories

Specifications	Item no.
Set with 2 cable glands M20x1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20x1.5 + 2 multiway seals 2x6 mm	449 755
Set with 1 stopper for unused cable gland M20x1.5 + 1 multiway seal 2x6 mm for cable gland + 1 black EPDM seal for the sensor + 1 mounting instruction sheet	551 775

Dimensions [mm]





DN	H
06	134
08	134
15	139
20	137
25	137
32	140
40	144
50	151
65	151