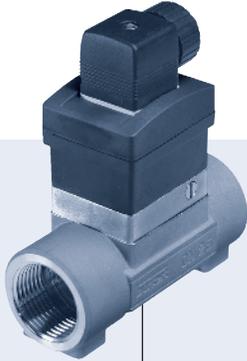


INLINE flow sensor - high temperature for continuous control



- Fluid temperature max. 257°F
Fluid pressure max. 580 PSI
- 3-wire frequency pulse version
- Mounting and dismounting of the sensor head by a quarter-turn
- Connection to Bürkert devices in remote versions

Type 8030-HT can be combined with...



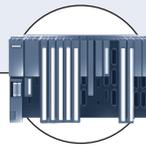
Type 8025

Flow transmitter
remote version



Type 8032

Flow sensor
wall-mounted version



PLC

The HT paddle-wheel flow sensor for continuous flow measurement is especially designed for use in neutral, slightly aggressive, solid free liquids. The sensor is made up of a compact fitting and an electronic module quickly and easily connected together by a Quarter-Turn. The Bürkert designed stainless steel fitting system ensures simple installation of the sensors into all stainless steel pipe diameters from 1/4" to 2". The sensor produces a frequency pulse signal, proportional to the flow rate, which can easily be transmitted and processed by a Bürkert remote transmitter (Type 8025/8032).

General data	
Compatibility	with fittings S030-HT (see page 3)
Materials	
Housing, cover	PPS, glass fibre reinforced
Cable plug	PA
Materials wetted parts	
Fitting, sensor armature	Stainless steel
Paddle-wheel / axis	Stainless steel / Ceramics
Bearing / Seal	Iglidur® / FKM
Electrical connection	Cable plug EN 175301-803
Connection cable	0.14 up to 1.5 mm ² cross section; max. 164 ft. length, shielded (up to 1,640 ft. depending on installation conditions)
Complete device data (fitting + electronic module)	
Pipe diameter	1/4" to 2" (DN 06 to 50) (DN65 on request)
Measuring range	1.6 f/s to 32.8 f/s (0.5 m/s to 10 m/s)
Fluid temperature	5°F up to 257°F (-15°C up to +125°C)
Fluid pressure max.	580 PSI (PN40) (whole temperature range)
Viscosity	300 cSt. max.
Accuracy	
Teach-In	≤ ± 1% o. FS.* (at 10 m/s) ¹⁾
Standard K-factor	≤ ± (1% o. FS.* + 3% o. Reading) ¹⁾
Linearity	≤ ± 0.5% o. FS.* (at 32.8 f/s) ¹⁾
Repeatability	≤ 0.4% o. Reading ¹⁾

Electrical data	
Power supply	12-36 V DC filtered and regulated
Current consumption	≤ 10 mA (no load)
Output: Frequency	NPN/PNP, open collector, max. 700 mA, NPN-output: 0.2-30 V DC; PNP-output: supply voltage Transistor NPN, open collector, 0...250 Hz
Transistor	
Frequency	
Reversed polarity of DC	Protected
Environment	
Ambient temperature	5°F up to 176°F (-15°C up to +80°C) (operating and storage)
Relative humidity	≤ 80%, non condensated
Standards and approvals	
Protection class	IP65 with connector plugged-in and tightened
Standard	
EMC	EN 50081-1, 61000-6-2
Security	EN 61010-1
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

* FS. = Full scale (32.8 f/s)

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

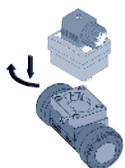
Design and principle of operation

The flow sensor 8030-HT is built up with an electronic module SE30-HT associated to a fitting S030-HT with integrated measurement paddle-wheel. This connection is made by means of a Quarter-Turn. In a 3-wire system, the signal can be displayed or processed directly. The output signal is provided via cable plug according to EN 175301-803.

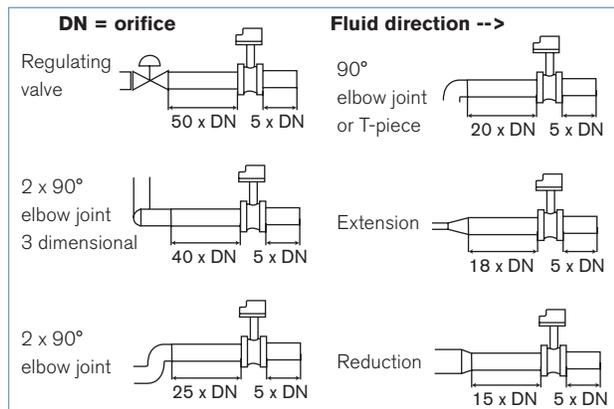
When liquid flows through the pipe, the paddle-wheel is set in rotation, producing a measuring signal in the transducer. The frequency modulated induced voltage is proportional to the flow velocity of the fluid. A conversion coefficient (K factor, available in the instruction manual of the fitting), specific to each pipe (size and material) enables the conversion of this frequency into flow rate.

The electronic module with frequency output is available with one pulse output (either NPN or PNP transistor output depending on wiring). An external power supply of 12-30 V DC is required. It is designed for connection to any system with open collector NPN or PNP frequency input.

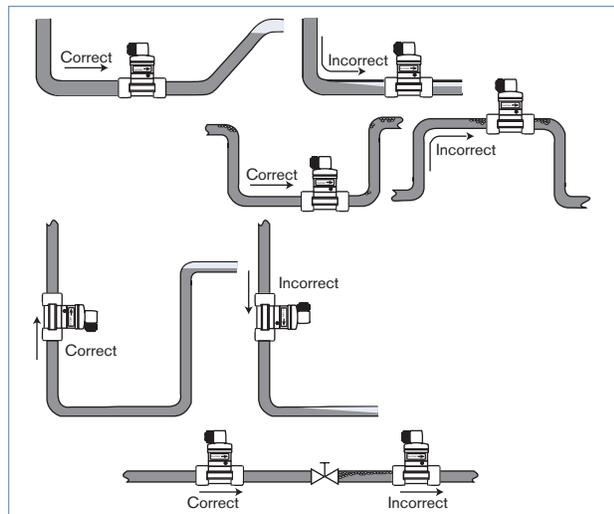
Installation



The 8030-HT flow sensor can easily be installed into any Bürkert INLINE fitting system Type S030-HT, by means of a Quarter-Turn. 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.



The flow rate sensor can be installed into either horizontal or vertical pipes.



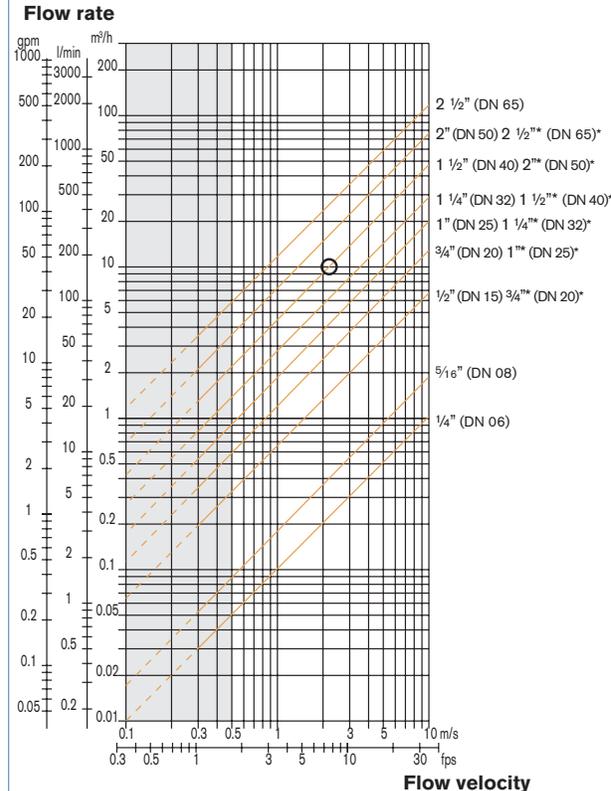
Pressure and temperature ratings must be respected according to the selected fitting material. The suitable pipe size is selected using the diagram Flow / Velocity / DN.

The sensor is not designed for gas flow measurement.

Selection of fitting / pipe size

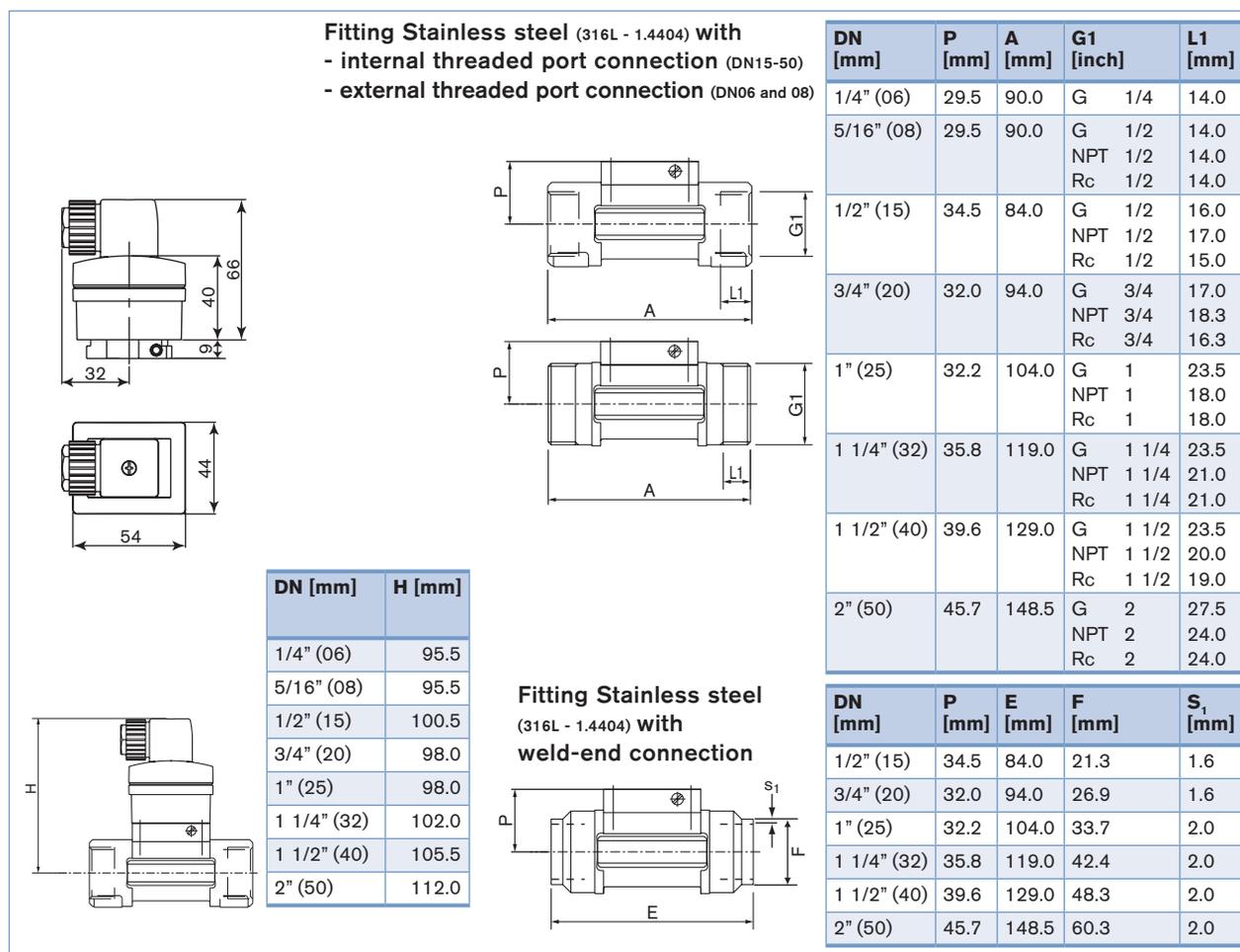
Example:

- Specification of nominal flow: 50 gpm
- Ideal flow velocity: 8 f/s
- For these specifications, the diagram indicates a pipe size of 1 1/2" (DN40) [or 2" (DN50) for (*) mentioned fittings]



* For weld ends fittings SMS3008 or BS4825/ASME BPE, or Tri-Clamp® fittings SMS3017/ISO2852 or BS4825/ASME BPE. Tri-Clamp® is a registered Trademark of Alfa Laval Inc.

Dimensions



Ordering chart for sensor Type 8030-HT

The flow sensor Type 8030-HT is built-up of a sensor electronic module Type SE30-HT + an INLINE fitting Type S030-HT

Sensor Type SE30-HT - for fitting Type S030-HT

Description	Voltage supply	Output	Electrical connection	Item no.
Hall (pulse version) sensor	12-36 V DC	Frequency with pulse PNP or NPN, open collector	Cable plug EN 175301-803	449 694

Fitting Type S030-HT

Description	Item no. 1/4" (DN 06)*	Item no. 5/16" (DN 08)**	Item no. 1/2" (DN 15)	Item no. 3/4" (DN 20)	Item no. 1" (DN 25)	Item no. 1 1/4" (DN 32)	Item no. 1 1/2" (DN 40)	Item no. 2" (DN 50)
G-port connection, internal thread	552 735	449 725	449 726	449 727	449 728	449 729	449 730	449 731
Weld-end connection (EN ISO 1127/ISO 4200)	-	-	551 757	551 758	551 759	551 760	551 761	551 762
RC-port connection, internal thread (ASEAN)	-	449 739	449 740	449 741	449 742	449 743	449 744	449 745
NPT-port connection, internal thread (NAFTA)	-	449 732	449 733	449 734	449 735	449 736	449 737	449 738

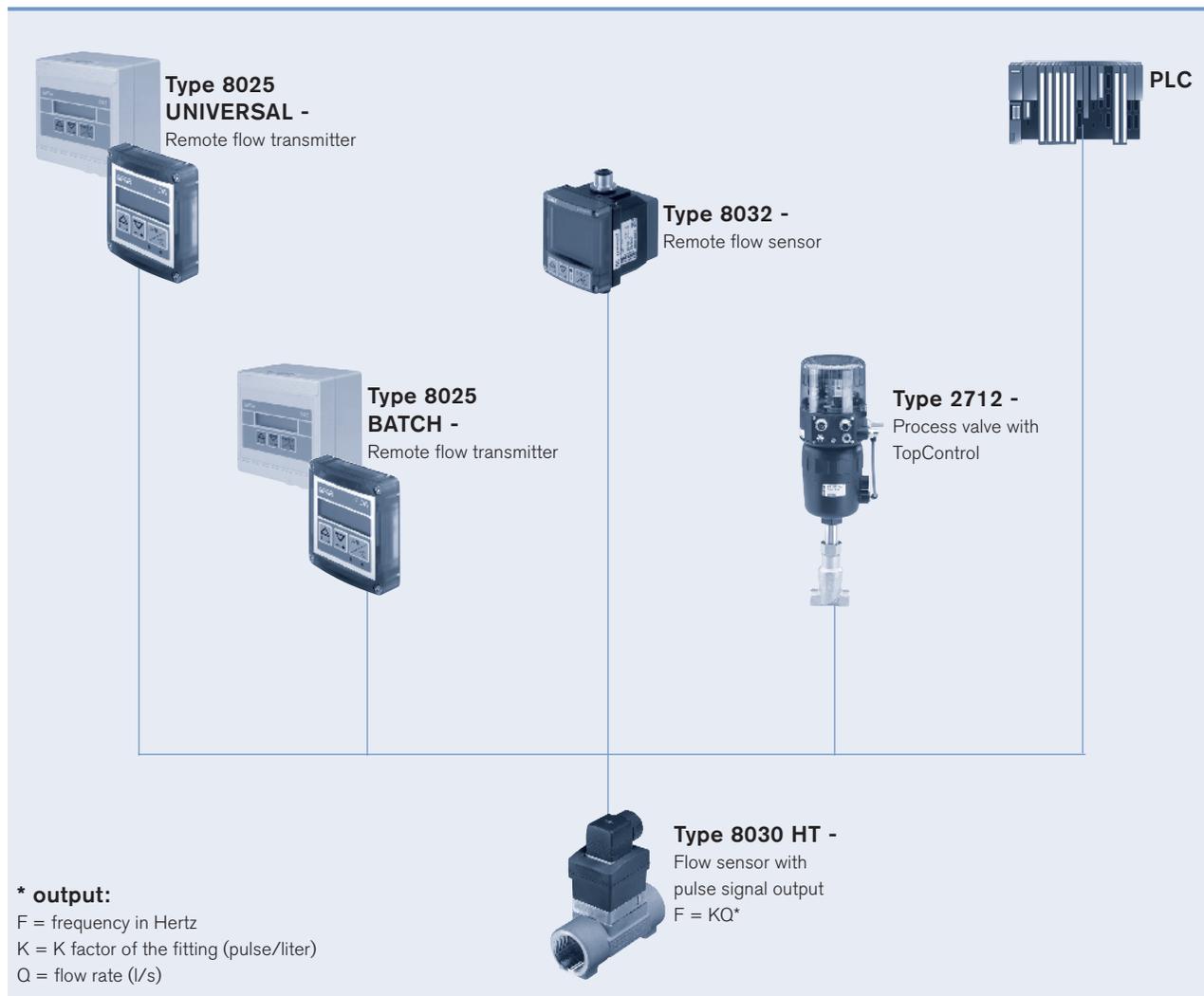
* Only version with G external thread 1/4"

** Only version with G/NPT/RC external thread 1/2"

Ordering chart - accessories for fitting S030-HT (to be ordered separately)

Specifications		Item no.
O-Ring set	FKM (DN 06 to DN50)	426 340
	EPDM (DN 06 to DN50)	426 341
Sensor armatures stainless steel	Paddle-wheel, FKM gasket, screws for DN 15 to DN 50	551 764
	Paddle-wheel, FKM gasket, screws for DN 06 and DN 08	449 723
	Paddle-wheel, EPDM gasket, screws for DN 15 to DN 50	551 763
	Paddle-wheel, EPDM gasket, screws for DN 06 and DN 08	449 724

Interconnection possibilities with the sensor Type 8030-HT



For more details about Bürkert remote devices, please refer to corresponding datasheets.