

## INLINE flowmeter - high temperature for continuous control

- Fluid temperature max. 125 °C  
Fluid pressure max. 40 bars
- 3-wire frequency pulse version
- Mounting and dismounting of the electronics by a quarter-turn
- Connection to Bürkert devices in remote versions

Type 8030-HT can be combined with...



**Type 8619**  
Multifunction transmitter/controller



**Type 8802-GD**  
TopControl System



**Type 8611**  
Universal Controller eControl



**Type 8032**  
Flow controller



**PLC**

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

The 8030-HT 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 pipes from DN06 to DN50.

The flowmeter produces a frequency pulse signal, proportional to the flow rate, which can easily be transmitted and processed by a Bürkert remote transmitter/controller.

General data	
<b>Compatibility</b>	with fittings S030-HT (see page 5)
<b>Materials</b>	
Housing, cover	PPS, glass fibre reinforced
Cable plug	PA
<b>Wetted parts materials</b>	
Fitting, sensor armature	Stainless steel
Paddle-wheel / Axis	Stainless steel / Ceramics
Bearing / Seal	Iglidur® / FKM (EPDM on request)
<b>Electrical connection</b>	Cable plug EN 175301-803
<b>Connection cable</b>	0.14 ... 1.5 mm <sup>2</sup> cross section; max. 50 m length, shielded (up to 500 m depending on installation conditions)
Complete device data (fitting + electronic module)	
<b>Pipe diameter</b>	DN06 ... DN50 (DN65 on request)
<b>Measuring range</b>	0.5 ... 10 m/s
<b>Medium temperature</b>	- 15 ... 125 °C
<b>Fluid pressure max.</b>	PN40 (- 15 ... 90 °C temperature range) PN25 (90 ... 125 °C temperature range)
<b>Viscosity / Pollution</b>	300 cSt. max. / max. 1 % (Size of particles 0.5 mm max.)
<b>Measurement error</b>	
Teach-In	± 1 % of Reading <sup>1)</sup> (at the teach flow rate value)
Standard K-factor	± 2.5 % of Reading <sup>1)</sup>
<b>Linearity</b>	± 0.5 % of F.S.* <sup>1)</sup>
<b>Repeatability</b>	± 0.4 % of Reading <sup>1)</sup>
Environment	
<b>Ambient temperature</b>	- 15 ... + 80 °C (operating and storage)
<b>Relative humidity</b>	≤ 80 %, without condensation

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

<sup>1)</sup> 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.

Electrical data	
Operating voltage	12... 36 V DC, filtered and regulated
Current consumption	≤ 10 mA (no load)
Output: Frequency Transistor	NPN/PNP, open collector, max. 700 mA, NPN output: 0.2... 30 V DC; PNP output: operating voltage
Frequency Transistor NPN, open collector,	0... 250 Hz
Reversed polarity of DC	Protected

Standards, directives and approvals	
Protection class	IP65 with connector plugged-in and tightened
Standard	
EMC	EN 50081-1, 61000-6-2
Low voltage	EN 61010-1
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	DN ≤ 25 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

### Design and principle of operation



The flowmeter 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.

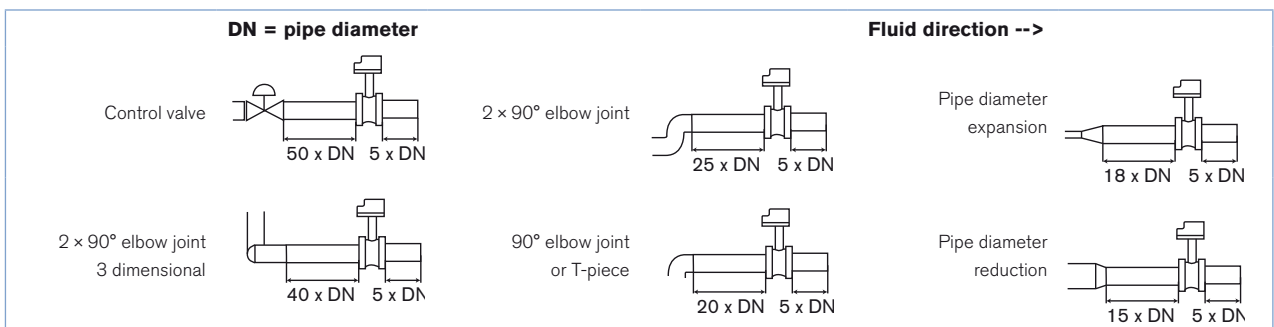
When liquid flows through the pipe, the paddle-wheel is set in rotation. The non-wetted permanent magnets inserted in the paddle wheel generate a measuring signal which frequency is proportional to the flow velocity. A conversion coefficient (K factor, available in the instruction manual of the fitting), 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.

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.

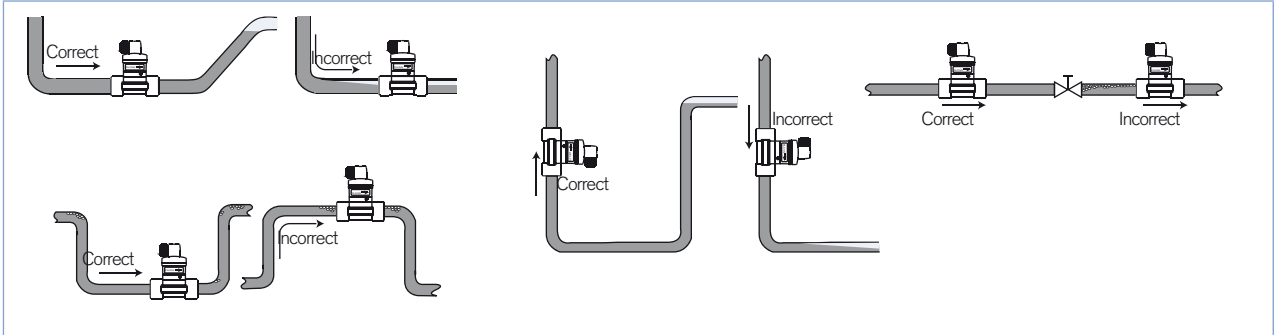
### Installation

Minimum straight inlet and outlet distances must be observed. According to the pipes design, necessary distances can be bigger or use a flow conditioner to obtain the best results. 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 determined according to the standard EN ISO 5167-1



**Installation** (continued)

The device can be installed into either horizontal or vertical pipes.



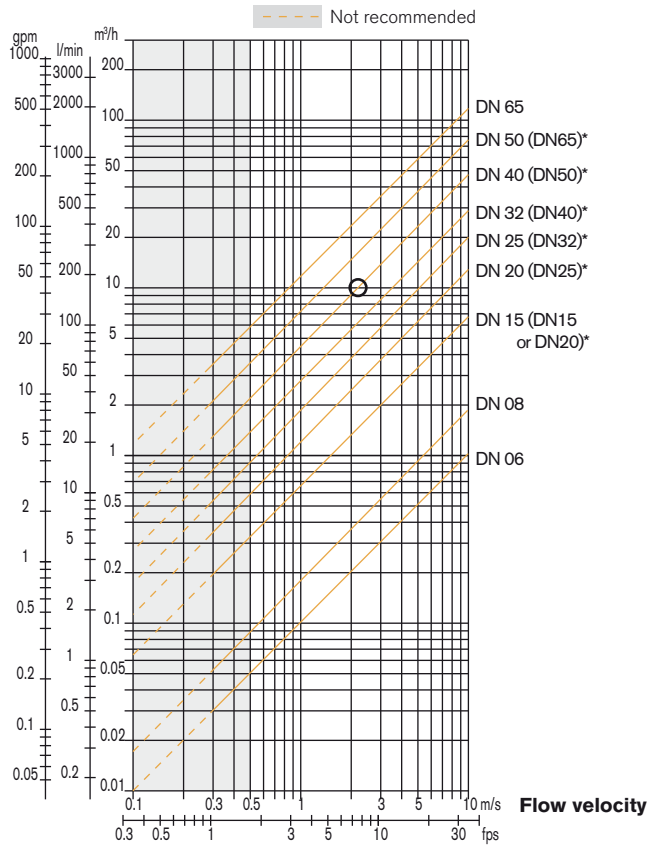
Pressure and temperature ratings must be respected according to the selected fitting material.  
 The suitable pipe size is selected using the diagram Flow/Velocity/DN.  
 The measuring device is not designed for gas flow measurement.

**Diagram Flow/Velocity/DN**

**Example:**

- Flow: 10 m<sup>3</sup>/h
  - Ideal flow velocity: 2...3 m/s
- For these specifications, the diagram indicates a pipe size of DN40 [or DN50 for (\*) mentioned fittings]

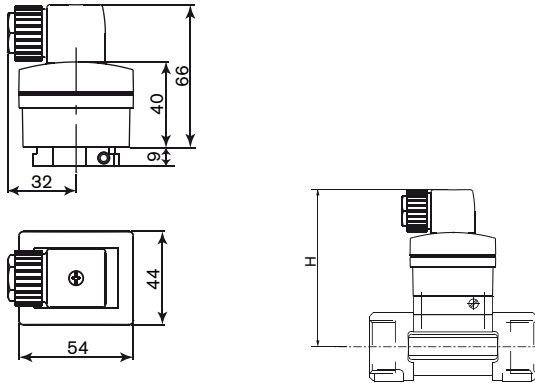
**Flow rate of fluid**



\* for following fittings with:  
 - external threads acc. to SMS 1145  
 - weld ends acc. to SMS 3008, BS4825-1/ASME BPE/DIN 11866 series C or DIN 11850 series 2/DIN 11866 series A/DIN EN 10357 series A  
 - Clamp acc. to SMS 3017, BS 4825-3/ASME BPE or DIN 32676 series A

Dimensions

Electronic module SE30-HT

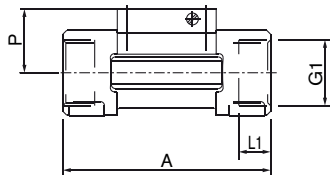


DN [mm]	H [mm]
06	95.5
08	95.5
15	100.5
20	98.0
25	98.0
32	102.0
40	105.5
50	112.0

Fitting S030-HT with

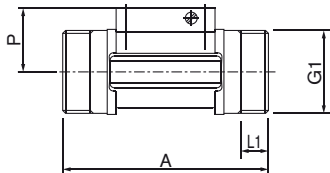
- internal threaded port connection (DN15-DN50)

G, NPT or Rc  
in stainless steel (316L - 1.4404)



- external threaded port connection (DN06 and DN08)

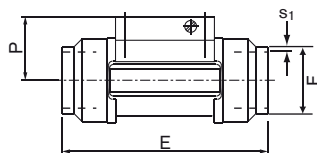
G, NPT or Rc  
in stainless steel (316L - 1.4404)



DN [mm]	P [mm]	A [mm]	G 1 [inch]	L1 [mm]
06	29.5	90.0	G ¼	14.0
08	29.5	90.0	G ½ NPT ½ Rc ½	14.0 14.0 14.0
15	34.5	84.0	G ½ NPT ½ Rc ½	16.0 17.0 15.0
20	32.0	94.0	G ¾ NPT ¾ Rc ¾	17.0 18.3 16.3
25	32.2	104.0	G 1 NPT 1 Rc 1	23.5 18.0 18.0
32	35.8	119.0	G 1¼ NPT 1¼ Rc 1¼	23.5 21.0 21.0
40	39.6	129.0	G 1½ NPT 1½ Rc 1½	23.5 20.0 19.0
50	45.7	148.5	G 2 NPT 2 Rc 2	27.5 24.0 24.0

- with weld-end connection

EN ISO1127/ISO4200/DIN 11866 series B  
in stainless steel (316L - 1.4404)



DN [mm]	P [mm]	E [mm]	F [mm]	S <sub>1</sub> [mm]
15	34.5	84.0	21.3	1.6
20	32.0	94.0	26.9	1.6
25	32.2	104.0	33.7	2.0
32	35.8	119.0	42.4	2.0
40	39.6	129.0	48.3	2.0
50	45.7	148.5	60.3	2.0

## Ordering chart for flowmeter Type 8030-HT

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

### Electronic module Type SE30-HT - for fitting Type S030-HT

Description	Voltage supply	Output	Electrical connection	Article no.
Pulse version	12...36 V DC	Frequency with pulse PNP or NPN, open collector	Cable plug EN 175301-803	449694

### Fitting Type S030-HT



Two versions of the fitting in DN15 and DN20 exist, having different K factors. Only version 2, identified by the "v2" marking, is available from March 2012.

The "v2" marking can be found on the side of the DN15 or DN20 fitting in metal



Description	Article no.							
	DN06*	DN08**	DN15	DN20	DN25	DN32	DN40	DN50
G-port connection, internal thread	552735	449725	449726	449727	449728	449729	449730	449731
Weld-end connection (EN ISO 1127/ ISO 4200/DIN 11866 series B)	-	-	551757	551758	551759	551760	551761	551762
RC-port connection, internal thread (ASEAN)	-	449739	449740	449741	449742	449743	449744	449745
NPT-port connection, internal thread (NAFTA)	-	449732	449733	449734	449735	449736	449737	449738

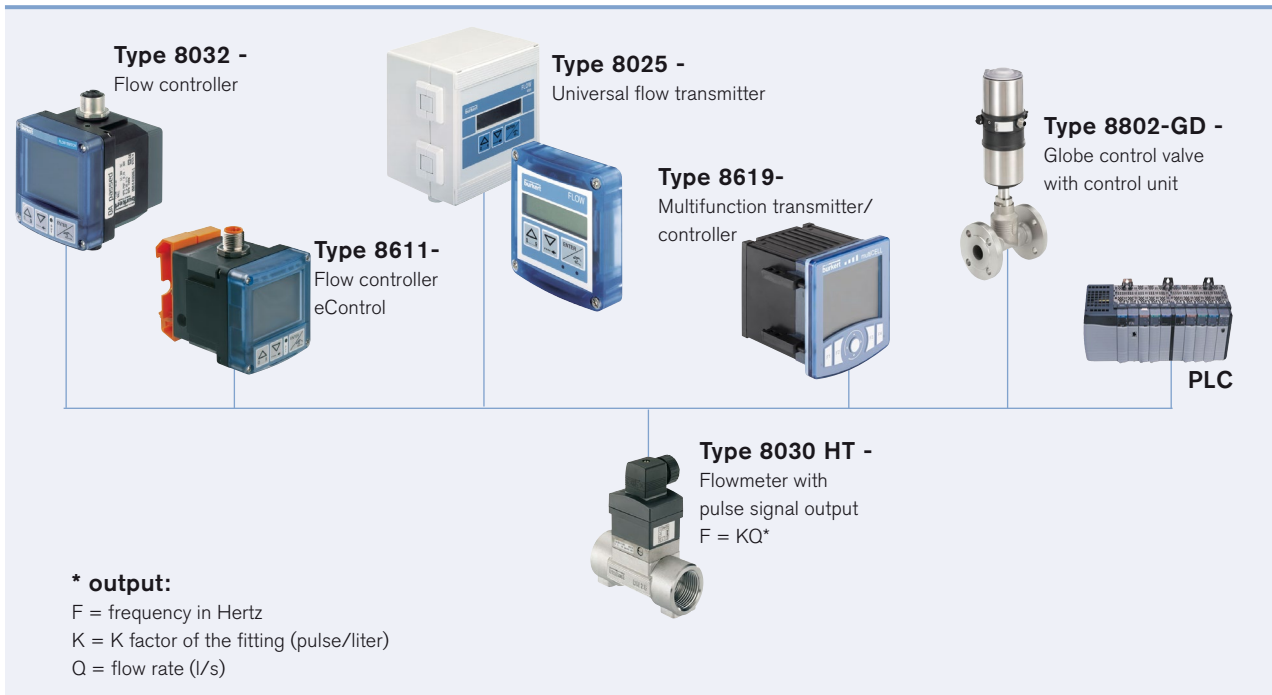
\* Only version with G external thread 1/4"

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

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

Specifications	Article no.	
O-Ring set	FKM (DN06...DN50)	426340
	EPDM (DN06...DN50)	426341
Sensor armatures in stainless steel	Stainless steel paddle wheel, FKM seal, screws for DN15 (except DN15 v2 and DN20 v2)...DN50	551764
	Stainless steel paddle wheel, FKM seal, screws for DN06, DN08, DN15 v2 and DN20 v2	449723
	Stainless steel paddle wheel, EPDM seal, screws for DN15 (except DN15 v2 and DN20 v2)...DN50	551763
	Stainless steel paddle wheel, EPDM seal, screws for DN06, DN08, DN15 v2 and DN20 v2	449724

## Interconnection possibilities with the sensor Type 8030-HT



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

To find your nearest Bürkert facility, click on the orange box →

[www.burkert.com](http://www.burkert.com)

In case of special application conditions,  
please consult for advice.

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