

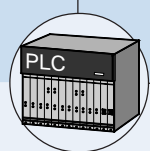
# Paddle-Wheel Flow Sensor High Temperature for Continuous Control

8030-HT

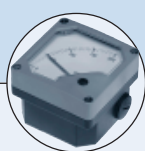
Flow — Continuous Control



Type 8030 can be combined with...



PLC



Type 8034

Flow Indicator  
Wall or Panel



Type 8025

Flow Transmitter  
Wall or Panel



Type 8032

Wall mounted Paddle-wheel Flow Sensor



Type 8021

Frequency Output Module



Type 8023

4-20 mA Output Module

- Fluid Temperature max. 320°F  
Fluid pressure max. 580 PSI
- 2-wires frequency sinusoidal version (coil)  
3-wires frequency pulse version
- Can be upgraded to a low cost transmitter providing calibrated pulse output or 4-20mA
- Mounting and dismounting of sensor head by a quarterturn
- Connection to Burkert devices in remote versions

The paddle-wheel flow sensor HT for continuous flow measurement is especially designed for use in neutral and 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 quarterturn. The Burkert designed stainless-steel-fitting system ensures simple installation of the sensors into all stainless steel pipes from 1/2" to 2". The sensor produces a frequency signal, pulse or sinusoidal,

proportional to the flow rate which can easily be transmitted and processed by:

- a transmitter module 8023 into a 4-20 mA output signal
- a pulse divider module 8021 into adjustable an frequency output signal
- a batch controller 8600 mounted on a valve
- a Burkert remote transmitter/indicator (Type 8025 / 8034 / 8032, panel or wall-mount versions)

## Technical Data

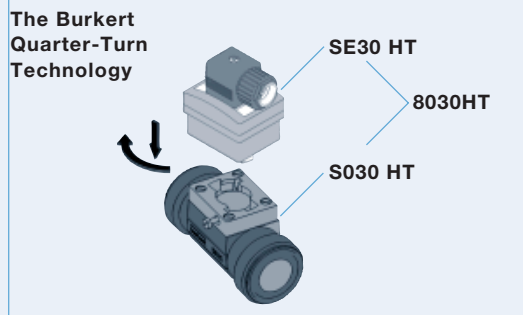
<b>Pipe diameter</b>	1/2"* to 2"
<b>Measuring range</b>	1.6 ft/sec to 32.8 ft/sec
<b>Accuracy</b>	
Teach-In	±1% fs**
Standard K-factor	±(1% fs. +3% of measured value)**
<b>Linearity</b>	±0.5% fs**
<b>Repeatability</b>	0.4% of measured value
<b>Medium temperature</b>	-4°F to 320°F (-20°C to 160°C)
<b>Ambient temperature</b>	
Pulse version	-4°F to 176°F (-20°C to 80°C)
Sinusoidal version	-4°F to 212°F (-20°C to 100°C)
<b>Fluid pressure</b>	580 PSI (whole temperature range)
<b>Materials</b>	
Housing	PPS, glass fibre reinforced
Seal	FPM standard
Paddle-wheel, axis, fitting	Stainless Steel
Bearings	Iglidur (Peek based)
<b>Voltage supply</b>	
8030 HT pulse (Hall) version	12-30 VDC
8030 HT sinusoidal (Coil) version	None
<b>Reversed polarity of DC</b>	Protected
<b>Voltage supply cable</b>	
Cross-section	0.14 up to 0.5 mm <sup>2</sup>
Recommended length	
Pulse version	Max. 150 ft., shielded
Sinusoidal version	Max. 15 ft., shielded

\* Reduced orifice DN8 available in 1/2" male thread  
\*\* fs = of full scale (32.8 ft/sec)

<b>Current consumption</b>	
Pulse version	Max. 10 mA (no load)
<b>Electrical connections</b>	Cable plug DIN 43650A
<b>Protection class</b>	IP65 with connector plugged-in
<b>Outputs 8030 HT</b>	
<b>Pulse Version</b>	Transistor NPN and PNP, open collector, 700 mA max., NPN output: 0.2 - 30 VDC PNP output: Supply Voltage protected against short circuits 0 up to 250 Hz
<b>Frequency</b>	
<b>Sinusoidal Version</b>	
<b>Frequency</b>	0 up to 500 Hz, about 2.8 mV peak to peak /Hzloaded with 50KΩ
<b>Standards</b>	
EMC	EN 50081-1, 61000-6-2
Security	EN 61010-1
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

## Design

The flow sensor 8030HT consists of a transducer SE30HT (sinusoidal or pulse version) and an open-cell paddle-wheel directly connected to a compact fitting S030HT.



## Principle of operation

When liquid flows through the pipe, the paddle-wheel is set in rotation producing a measuring signal which is converted through the module SE30 into a pulse or sinusoidal frequency output. The frequency is proportional to the flow rate.

## Installation

The minimum straight upstream (10xDN) and downstream (3xDN) distances must be observed. According to the pipe design, longer pipe distances or a flow conditioner can be used to reach the best accuracy. For more informations, please refer to EN ISO 5167-1. The flow sensor can be installed either in horizontal or vertical pipes. The suitable pipe size is selected by using a Flow/Velocity/DN diagram. The flow sensor is not designed for gas flow measurement.

## Ordering charts for Sensor SE30 HT and Fitting S030 HT (Other Version on request)

The sensor 8030 HT is built-up a sensor SE30 HT + a fitting S030 HT

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

Description	Voltage supply	Connector	Item-No.
Sensor with Sinusoidal output	None	Cable plug DIN43650	449 693
Sensor with Pulse output (NPN, PNP open collector)	12-30 VDC	Cable plug DIN43650	449 694

**Fitting Type S030 HT, Stainless Steel, INLINE Quarter-Turn**

Specification	Item-No./ Orifice						
	1/2" (DN 8) <sup>1)</sup>	1/2" (DN 15)	3/4" (DN 20)	1" (DN 25)	1 1/4" (DN 32)	1 1/2" (DN 40)	2" (DN 50)
NPT-port connection, internal thread (NAFTA)	449 732	449 733	449 734	449 735	449 736	449 737	449 738
G-port connection, internal thread (World Wide)	449 725	449 726	449 727	449 728	449 729	449 730	449 731
Weld end connection (ISO4200)	-	551 757	551 758	551 759	551 760	551 761	551 762
Rc-port connection, internal thread (ASIAN)	449 739	449 740	449 741	449 742	449 743	449 744	449 745

<sup>1)</sup> Reduced orifice. Available only in 1/2" male thread.

## Ordering chart for Fitting S030 HT Accessories

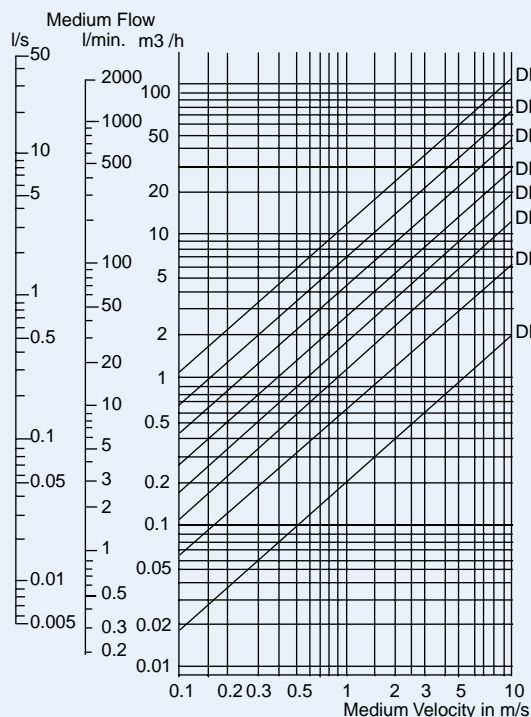
Description	Item-No.
<b>• O-Ring set</b>	
O-Ring set, FPM (1/2" – 2")	426 340
O-Ring set, EPDM (1/2" – 2")	426 341
<b>• Sensor armatures Stainless Steel</b>	
Flowing-through paddle-wheel, gasket (FPM), screws for 1/2" – 2"	551 764
Flowing-through paddle-wheel, gasket (FPM), screws for 1/2" with reduced orifice DN 8	449 723
Flowing-through paddle-wheel, gasket (EPDM), screws for 1/2" – 2"	551 763
Flowing-through paddle-wheel, gasket (EPDM), screws for 1/2" with reduced orifice DN 8	449 724

\* Includes reduced orifice (DN 8) version.

Diagrams Flow (in m/s or fps) - Medium Velocity (in l/s, l/min, m<sup>3</sup>/h or gpm) - DN of the fitting**Example1:**

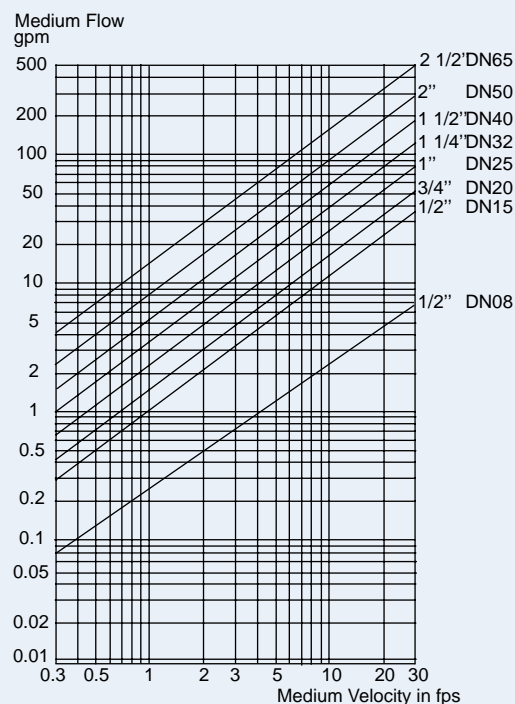
- Specification of nominal flow: 10 m<sup>3</sup>/h
- Ideal flow velocity: 2-3 m/s

For these specifications, the diagram indicates a pipe size of DN 40

**Example2:**

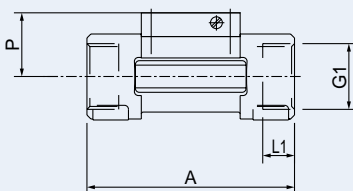
- Specification of nominal flow: 50 gpm
- Ideal flow velocity: 8 fps

For these specifications, the diagram indicates a pipe size of 1 1/2"

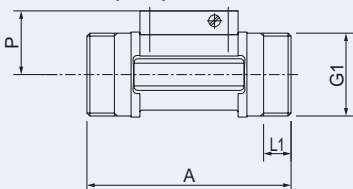


## Dimensions [mm] for electronic SE30 HT and Fittings S030 HT

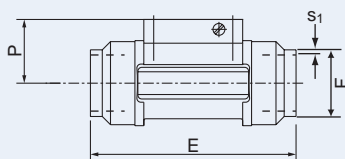
Fitting Stainless steel (316L - 1.4404)  
with internal threaded  
port connection (DN15-50)



with external threaded  
port connection (DN8)



with weld ends (ISO 4200)

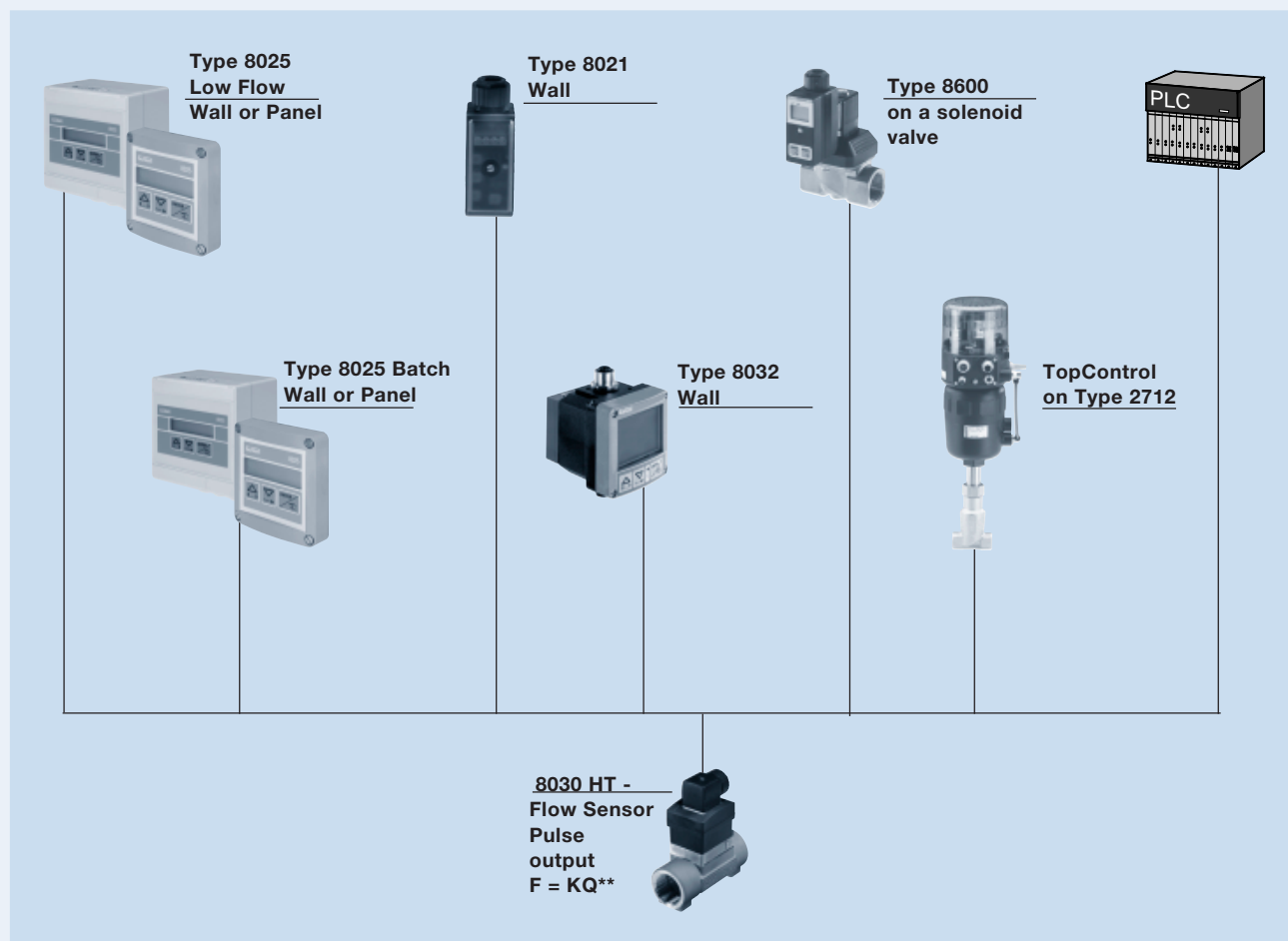
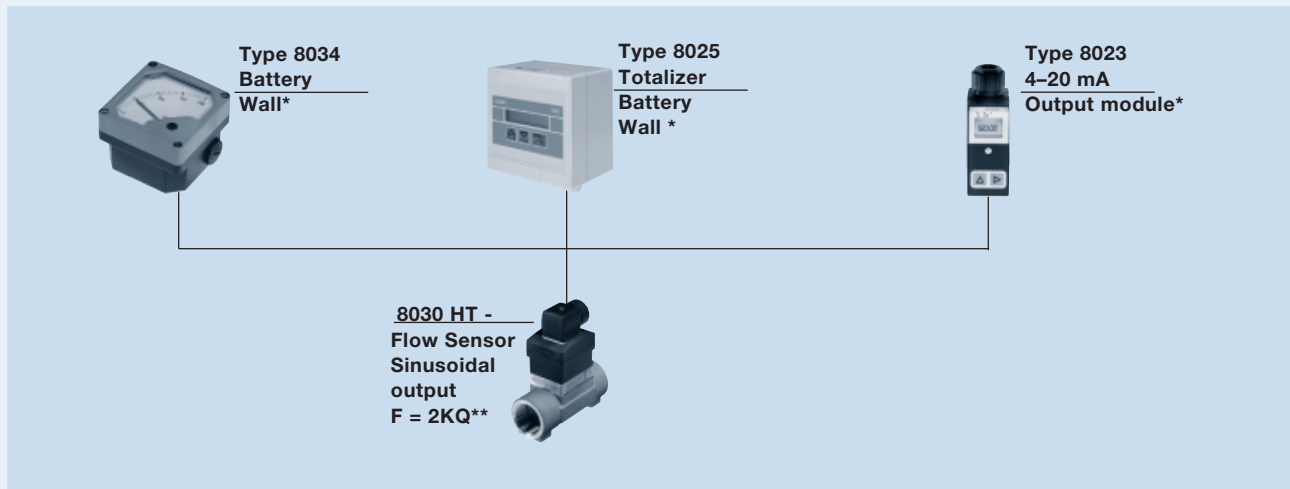
**Dimensions**

Orifice DN [mm]	P [mm]	A [mm]	G1 [inch]	L1 [mm]
8	29.5	90.0	G 1/2	14.0
			NPT 1/2	14.0
			Rc 1/2	14.0
15	34.5	85.0	G 1/2	16.0
			NPT 1/2	17.0
			Rc 1/2	15.0
20	32.0	95.0	G 3/4	17.0
			NPT 3/4	18.3
			Rc 3/4	16.3
25	32.2	105.0	G 1	23.5
			NPT 1	18.0
			Rc 1	18.0
32	35.8	120.0	G 1 1/4	23.5
			NPT 1 1/4	21.0
			Rc 1 1/4	21.0
40	39.6	130.0	G 1 1/2	23.5
			NPT 1 1/2	20.0
			Rc 1 1/2	19.0
50	45.7	150.0	G 2	27.5
			NPT 2	24.0
			Rc 2	24.0

**Dimensions**

Orifice 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	149.0	60.3	2.0

## Interconnection Possibilities with the 8030 HT



\* When connected to these devices, maximum input frequency is 250Hz

\*\* Output:

F = frequency in Hertz

K = K factor of the fitting (pulse /gallon)

Q = flow rate (gal/s)

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

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

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

We reserve the right to make technical changes  
 without notice.

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