Insertion Magmeter in Solid State Technology

Picture showing a complete Burkert System using Type 8040 with Fitting S020

8040

PVDF Version

✓ **Sensor in solid state technology (no moving parts)**

✓ **Fittings available in**
- **stainless steel and brass DN 15 – 50**
- **PVC, PP and PVDF DN 15 – 400**

This 8040 magmeter is an insertion type flow meter for pipe sizes from 1/2" to 16". Fittings are available in stainless steel, brass, PVC, PP and PVDF, covering all hydraulic interfaces as inner/outer thread, flange, Tri-Clamp® and others.
Typical applications are liquids having a conductivity > 20 µS/cm.
If required, any existing installation using Burkert paddle wheel transmitters can easily be upgraded within a few minutes.

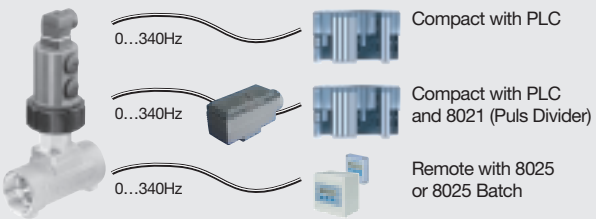
Technical Specification

Measuring principle	Magnetic-inductive
Measuring range	0.1 – 2 m/s 0.1 – 5 m/s 0.1 – 10 m/s
Measuring error	1 – 10 m/s
Teach K-factor	±2% OR [1]
Standard K-factor	±4% OR [1]
Accuracy	±2% OR [1]
Temp. coefficient	DN15 = +0.2% /K [2] DN20, DN25 = +0.1% /K [2] >DN25 = +0.05% /K [2]
Fluid conductivity	>20 µS/cm
Temperatures	
Fluid (max.)	
• Brass and stainless steel	0 up to 80°C (32 up to 176°F)
• PVC	0 up to 50°C (32 up to 122°F)
• PP	0 up to 80°C (32 up to 176°F)
• PVDF	0 up to 80°C (32 up to 176°F)
Ambient	0 up to 60°C (32 up to 140°F)
Storage temperature	0 up to 60°C (32 up to 140°F)
Pressure class	PN 6 (depending on fitting material, see Press.-Temp.-Diagram on next page)
Enclosure	IP65 (NEMA4)
Materials	
Sensor body	PVDF
Sensor electrodes	Stainless steel (1.4404 / 316L)
O-rings	FPM standard
Housing	PEHD
Fittings - materials and sizes	
• Stainless steel	- DN15 to DN50 - DN65 to DN 350 (weld-o-let)
• Brass	- DN15 to DN50
• PVC, PP and PVDF	- DN15 to DN50 (true union and solvent spigot) - DN65 to DN200 (saddle) - DN65 to DN400 (weld-o-let)
Power supply	18...36 VDC; regulated
Max. current consumption	100 mA if connected with common – 200 mA if connected with common +
Pulse output	0 up to 240 Hz (max. 340 Hz) Open collector NPN or PNP
4...20 mA output	Max. load 1130 Ohm/36 V Max. load 330 Ohm/18 V

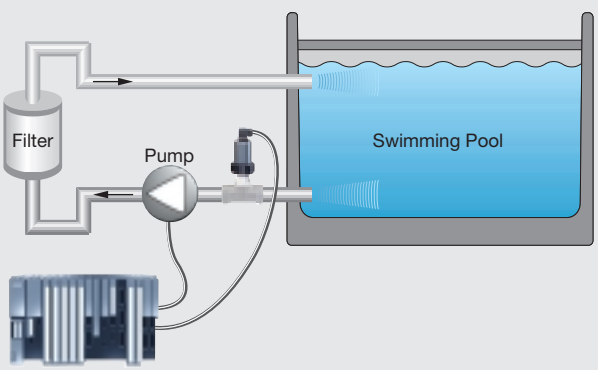
[1] under reference conditions, i.e. fluid = water, water and ambient temperatures = 20°C, up and downstream distances respected, adapted dimensions and pipes
[2] to be taken into account when temperature >40°C

Applications: Flow control of liquids with or without solid particles
- Waste Water Treatment
- Off-Gas Treatment
- Cooling Systems
- Laundries
- Swimming Pools
- Irrigations

Different Monitoring Combinations



Flow Control in Swimming Pools



bürkert Fluid Control Systems

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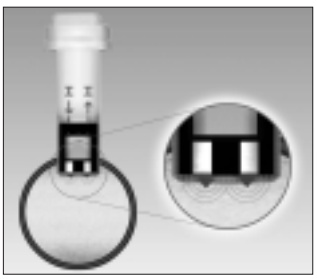
Principle of Operation

The E-shaped magnetic system inside the sensor induces a magnetic field into the fluid, which is rectangular to the direction of the flow.



Two electrodes are in galvanic contact with the liquid. Based on the Faradays law, a voltage is measured between these electrodes once a liquid flows along the pipe (min. conductivity > 20 µS/cm).

The output voltage is proportional to the flow speed. Using the appropriate K-factor for the pipe diameter, the speed can be converted into a volume per time value (e.g. l/h, gal/min etc.).

Installation

The 8040 flow transmitter can easily be installed into any Burkert insertion fitting by just fixing the main nut. The recommended in- and outflow straight pipe length should respect 10 x D in and 3 x D out. According to pipe designs, necessary distances can be longer.
For fluid systems consisting of an INLINE transmitter with a valve, it is recommended to have the fluid pass through the transmitter first, followed by the valve.
To obtain the best accuracy a flow conditioner is recommended.
For further information please refer to EN ISO 5167-1.

The 8040 flow transmitter can be installed in either horizontal or vertical pipes. The suitable pipe size is selected using the diagrams below. Pressure and temperature ratings must be respected according to the selected fitting material.
The flow transmitter is not suitable for gas flow measurement.

Pressure-Temperature-Diagram for Plastics

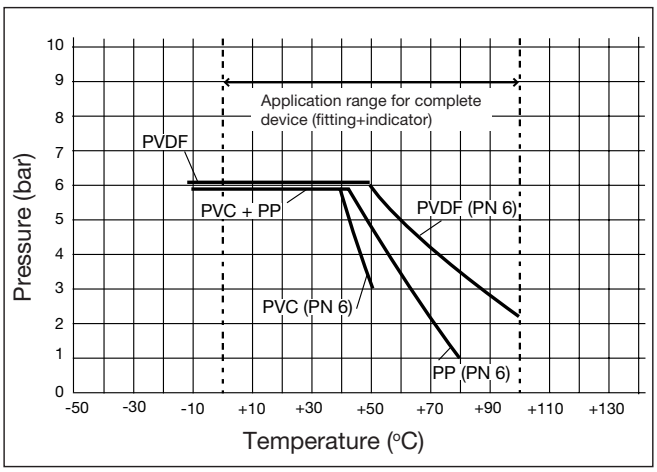
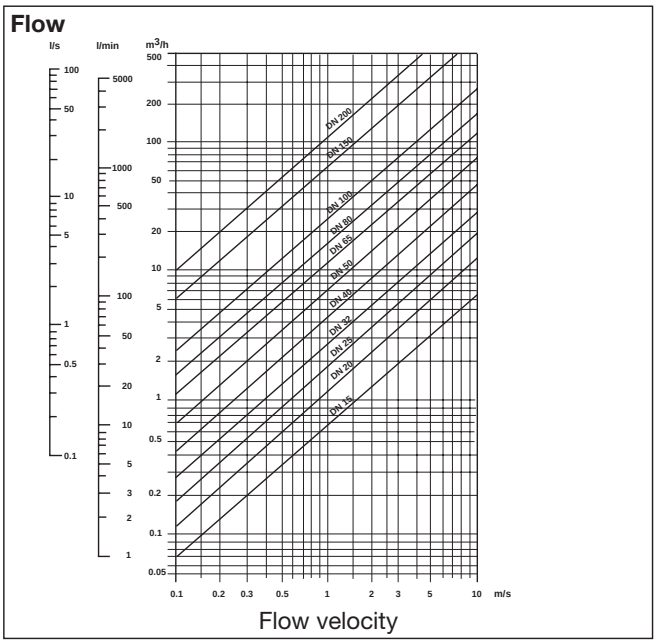
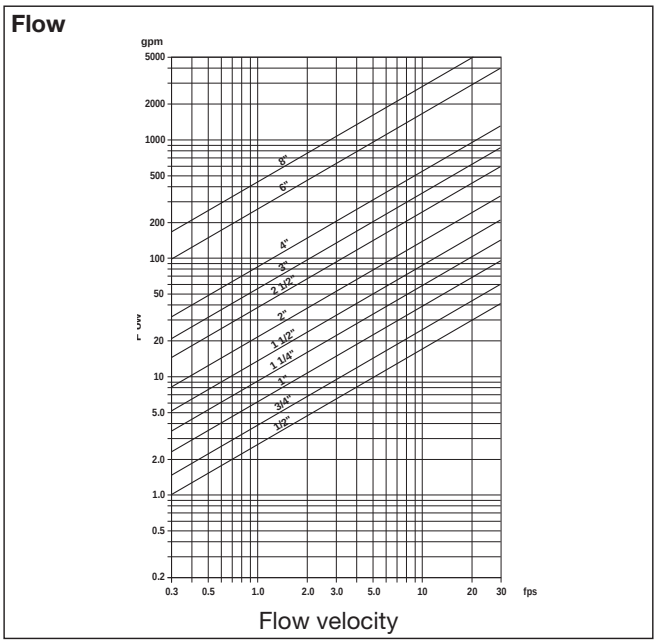


Diagram for Flow-Pipe Size-Velocity





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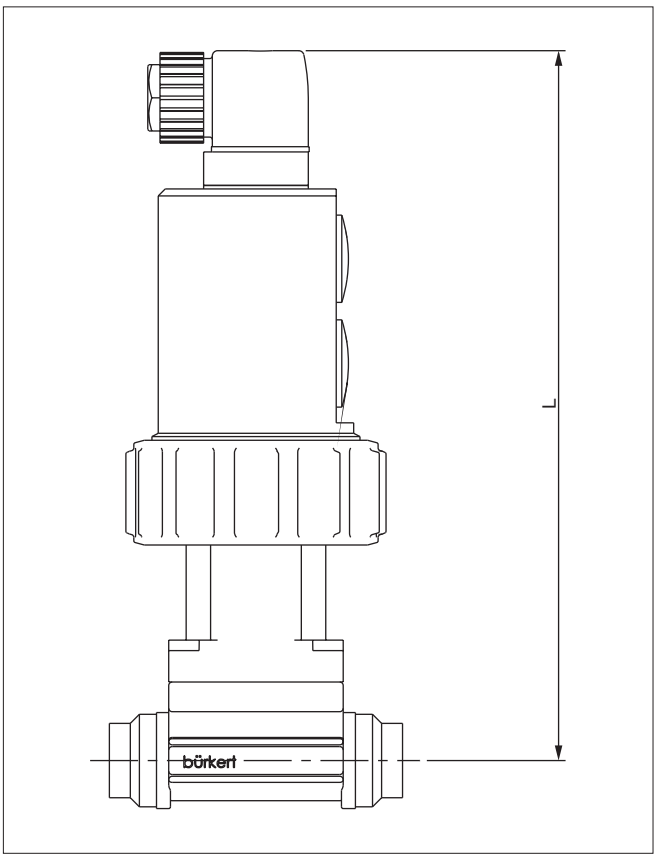
Dimensions [mm] - Fittings S020, DN 15 – 50



Variable Dimensions [mm]

DN	L
15	203
20	200
25	201
32	204
40	208
50	214

Applicable for all fitting materials DN 15 ...50 sizes and process connections.

SE40 Insertion Magmeter for INLINE Fitting SO20

Voltage supply	Sensor	Output	Connector	Item-No.
18 – 36 VDC	Short	Pulse	Cable plug 2508	438 954 V
18 – 36 VDC	Long	Pulse	Cable plug 2508	438 955 W
18 – 36 VDC	Short	4...20 mA	Cable plug 2508	440 437 V
18 – 36 VDC	Long	4...20 mA	Cable plug 2508	440 438 E

Fitting SO20

Please see data sheet S020

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

We reserve the right to make technical changes without notice.
203-GB/ 1-0259

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