



Badger Meter Europa

PortaSonic 7000

Portable ultrasonic transit time flow meter

Description

The meters of the PortaSonic 7000 series are portable ultrasonic flow meters designed for accurate and reliable non-intrusive flow measurement of influent/effluent process water and other liquids.

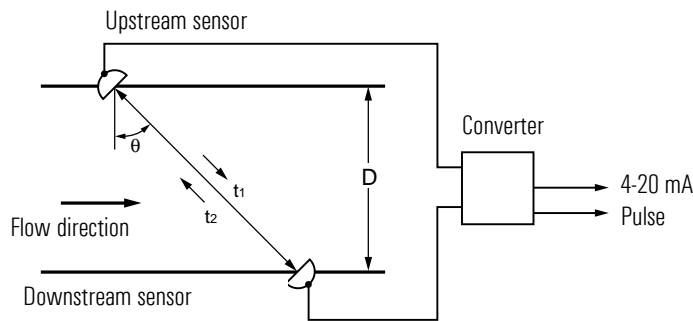
These meters are working according to the transit time differential method and are used for flow measuring in pressure pipe from DN 13 to DN 6000.

The strap-on sensors can be installed on either horizontal or vertical pipes. Condition for an accurate flow measurement is a well developed velocity profile. This can be achieved by a full pipe with sufficient straight inlet and outlet pipe length.



Measuring principle

The meters are operating according to the ultrasonic transit time method. Ultrasonic waves are transmitted and received diagonally across the flow stream. The flow velocity is calculated from the difference of the transit times. Compared to a Doppler measurement, the transit time method is working more accurate and reliable.



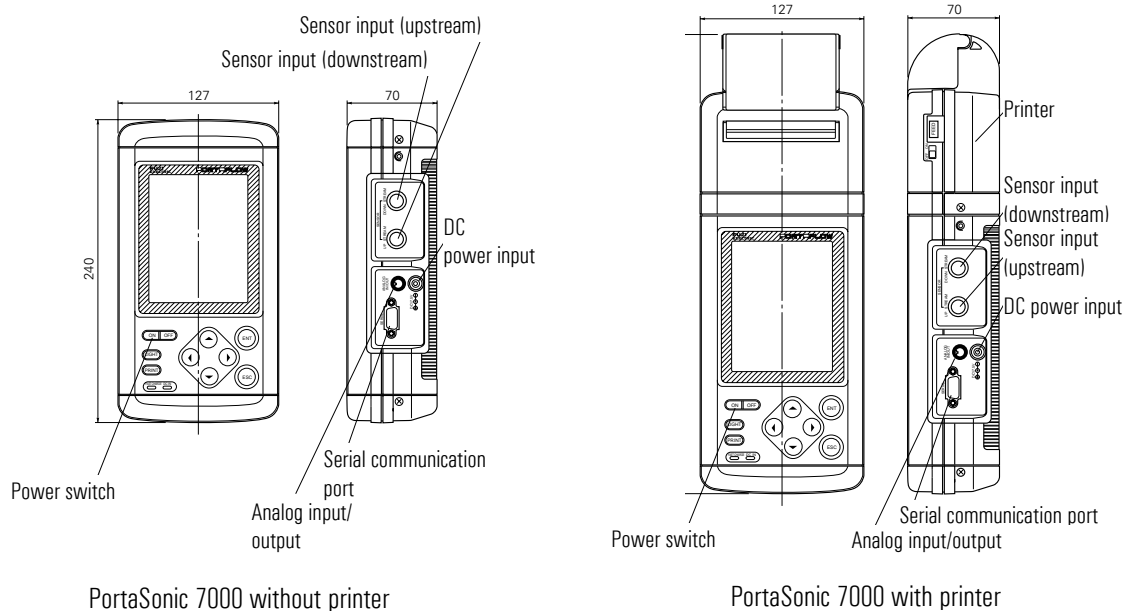
Applications

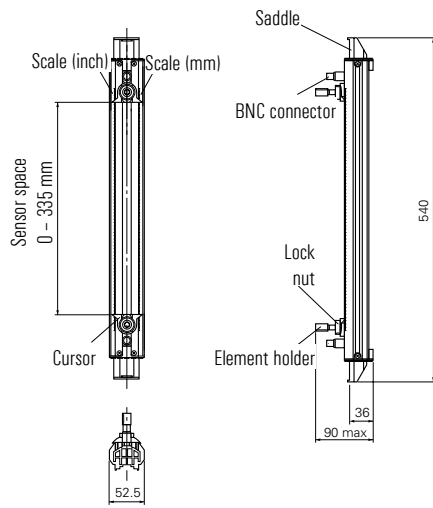
- ↻ Water & waste water
- ↻ Waste water treatment
- ↻ Acids & toxic liquids, detergents
- ↻ Heating and cooling water
- ↻ Hydrocarbons

Technical data

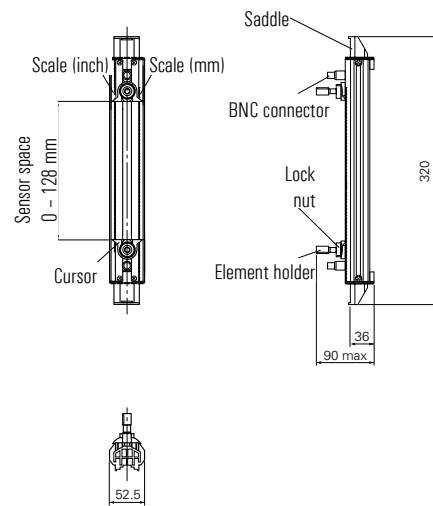
Type	PortaSonic 7000		
Measuring principle	Transit time 1-path		
Housing material	Plastic		
Dimensions HxWxD	240 x 127 x 70 (without printer) 359 x 127 x 70 (with printer)		
Protection class	IP50		
Operating temperature range	-10°C to +55°C (without printer) -10°C to +45°C (with printer)		
Outputs	RS232, 4-20 mA max. load 1 k Ω		
Inputs	DC voltage input, 4-20 mA		
Printer	Optional		
Display functions	act. Q and V, total for- and backward, trend, recorded data of the logger		
Display language	German, English, French		
Supply voltage	Internal Ni-Cd battery, service life approx. 5 Std. or with adapter 90 – 264 VAC, 47 – 63 Hz or 10-30 VDC		
Programming	Via front keypad		
Measuring accuracy	Diameter	V	Accuracy
	DN 13 to 50	2 to 32 m/s 0 to 2 m/s	$\pm 1,5\%$ of actual Q 0,03 m/s
	DN 50 to 300	2 to 32 m/s 0 to 2 m/s	$\pm 1\%$ of actual Q 0,02 m/s
	DN 300 to 6000	1 to 32 m/s 0 to 1 m/s	$\pm 1\%$ of actual Q 0,01 m/s
Data logger	40000 data, time, act. Q, act. V, totalizer, analog input and status		
Strap-on sensors	DN 13 - DN 100	Type FLD22	max. 100°C
	DN 50 - DN 400	Type FLD12	max. 80°C
	DN 200 - DN 1200	Type FLD41	max. 80°C
	DN 200 - DN 6000	Type FLD51	max. 80°C
	DN 50 - DN 400	Type FLD32	max. 200°C
Sensor material	Plastic, stainless steel		
Cable length	5 m		
Temperature range	-20°C to +200°C		
Protection class	FLD51 (IP67), others (IP52)		

Dimensions

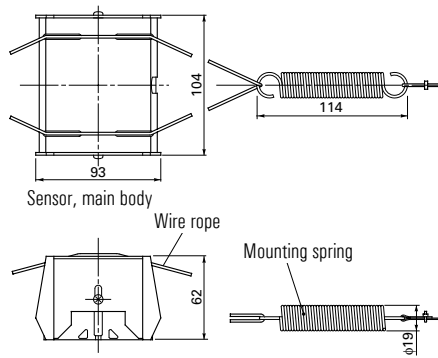




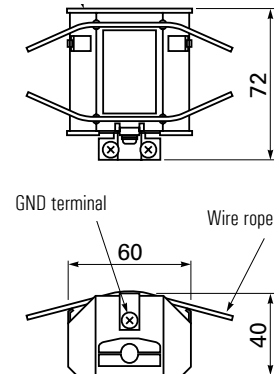
Sensor FLD12



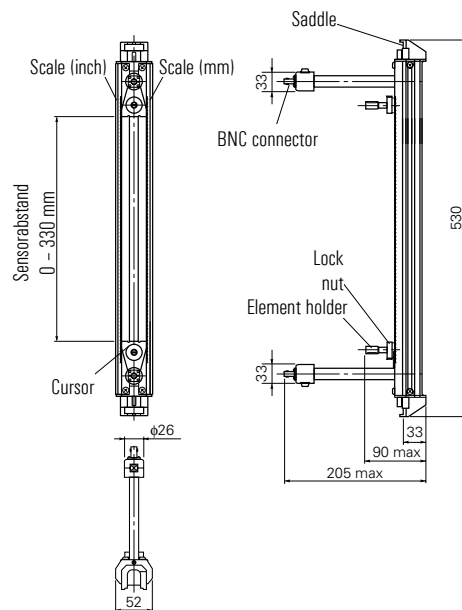
Sensor FLD22



Large sensor FLD51



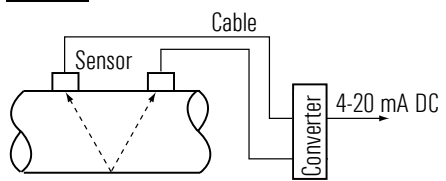
Middle-sized sensor FLD41



Sensor FLD32 (high temperature)

Sensor mounting

V method



Z method

