

## Ultrasonic Flow Transmitter

### ⚙️ Features:

- Wear-free, long life-span
- Maintenance-free
- Not impacted by water impurity or magnetic interference
- No blockage on the flow
- Very low pressure drop
- Wide measurement range
- Accurate transit-time technology
- Free positioning for mounting
- Battery supply for 6 or more years
- Low cost over long run, low cost of ownership
- Robust sensor design. Excellent long-term stability Accuracy does not degrade over time
- Pulse / M-Bus / RS485 for remote readout and meter networking
- Simple and easy to install. Electronic box can be detached from the sensor body and installed separately



### ⚙️ Description:

S280W ultrasonic water meter is the latest innovation from Omicron. It employs cutting-edge technologies on ultrasonic flow measurement, digital signal processing (DSP) and surface mounting electronics. The sensor body is made by bronze. It has no moving parts, thus, is literally maintenance-free. The sensor is straight-through type, no blockage exists. This not only leads to very small pressure drop, but also allows the meter to work with both pure water and water with some solids.

With its maximum 95°C operating temperature (130°C version is available upon request) and nominal pressure of 1.6MPa, the technical specifications meet the standard for residential meters. The high measurement dynamic allows a load of up to double the rating, thereby ensuring high operating security.

Unlike mechanic water meter, S280W water meter has outstanding long-term stability. The performance of its sensor does not degrade over time, thus, its overall system accuracy does not degrade over time. This compact meter fits in even the smallest installation conditions and can be mounted separately from the electronics console. The meter also has an order option for remote read-out (Pulse, M-bus or RS485 output). The large display can be set to display flow velocity, flow total, working time, etc.

S280W ultrasonic water meter represents the trend of modern water metering industry. Both commercial and residential installations can profit from the advantages of wear-free water measurement: precision, operating security and long service life.

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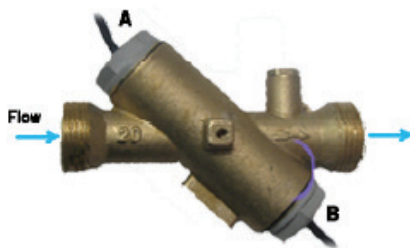
### Specifications:

Pipe Size(mm)	DN	mm	15	20	25	32	40	50	65	80	100
Accuracy Class			Class 2 or Class 3								
Pressure Drop			≤0.025MPa(Normal Flowrate)								
Working Pressure			≤1.6MPa								
Hot/Cold Water			Hot/Cold Water								
Protection			IP68 (transducer) / IP 65 (Electronics)								
Temp Range		°C	-20 ~95								
Max Flowrate	Q <sub>max</sub>	m <sup>3</sup> /h	3.0	5.0	7.0	12.0	20.0	30	50	80	120
Nominal Flowrate	Q <sub>n</sub>	m <sup>3</sup> /h	1.5	2.5	3.5	6.0	10.0	15	25	40	60
Min Flowrate	Q <sub>min</sub>	m <sup>3</sup> /h	0.03	0.05	0.07	0.12	0.2	0.6	1.0	1.6	2.4
Outline Dimension											
Length	L	mm	110	130	130	180	200	200	200	225	250
Connector Length	L1	mm	45	50	58	60	62				
Width	W	mm	80	80	80	90	90	160	160	200	215
Height	H	mm	58	98	105	105	115	160	160	200	215
Joint: Thread or Flange	M		G3/4"	G 1'	G 1 1/4	G 1 1/2	G 2'	Flange 4-M16	Flange 4-M16	Flange 8-M16	Flange 8-M16
Weight		kg	0.6	0.7	0.75	1.2	1.5	6.4	6.4	9	12.5

Note: for bigger pipe and other special requirements, please contact the factory.

### Operating Principle:

A typical ultrasonic water meter consists of a sensor and an electronic console. The sensor has two ultrasonic transducers (A and B) built into its body. Each transducer functions as both ultrasonic transmitter and receiver. The electronic console operates the two transducers by alternately transmitting and receiving a burst of sound energy and measuring the transit time that it takes for sound to travel between the two transducers. The difference in the transit time measured is directly and exactly related to the velocity of the water in the pipe. The flowrate is calculated from the measured velocity and the pipe inner diameter.



For Pipe < DN50 (electronic box not displayed here)



For Pipe ≥ DN50

#### Model Selection:

S280W-DNxx-yy, where xx is pipe size in mm, yy is output option (0: pulse, 1: M-Bus, 2: RS485).

Example: S280W-DN25-1 stands for S280W water meter for pipe size DN25mm with M-Bus output.