

Product information

SeFlow 400

Portable ultrasonic flowmeter for water & wastewater

The **SeFlow 400** is Sewerin's single channel portable flowmeter for applications in the municipal water and wastewater sector offering long term stable and precise bidirectional flow measurements in remote areas outdoor.

Thanks to its matched transducer pairs, sophisticated internal signal processing and highly stable zero point, the **SeFlow 400** can identify even the lowest flow rates, making it **the ideal measurement tool for all leak detection, service and maintenance activities**, for long and short term monitoring, data logging and **meter verification**.

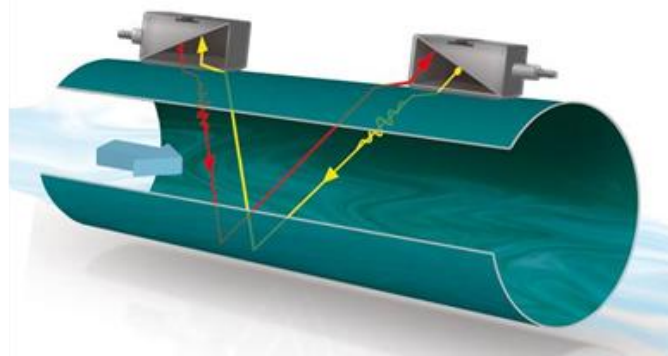
Measurements are made from the outside of the pipe without any need for contact with the water column; there is **no need to cut into the piping system or to interrupt the water supply**.



Principle of operation

Two ultrasonic transducers are placed on the surface of the pipe. The distance between the transducers is determined by the electronic as a function of the input parameters (diameter, material, thickness and roughness of the pipe, fluid to be measured).

For flow measurement, an ultrasonic pulse is emitted in the direction of flow and another in the opposite direction. The sensors are used alternately as transmitter and receiver. The transit time of the signals transmitted in the direction of flow is shorter than that of the signals transmitted in the opposite direction. The difference of the transit times is measured, which provides the velocity of the flow. Knowing the pipe section, the average flow can be calculated.



Applications

- Water loss balancing / Leak detection / Measurement of night flows.
- Measurement of consumption profiles on drinking water distribution networks.
- Verifying existing meter accuracy.
- Control of network elements and storage facilities.
- Monitoring during pumping tests or when carrying out step tests.

Advantages

- **Non-invasive** flow measurement : no process shutdowns or supply interruption.
- Easy & intuitive to use – **tailored to the needs of the water market**.
- Suitable for a wide range of nominal diameters (DN 40 to 4700 mm) and pipe materials.
- Very precise bidirectional measurements with very high dynamics (flow velocity range from **0.01 to 25 m/s**) and detection of very low flow velocities (from 0.01 m/s).
- The digital signal processing unit (DSP) and its noise reduction algorithms guarantees stable and reliable results even under difficult measurement conditions (up to 1000 measurements per second analyzed).
- Very robust housing with **IP67** protection index.
- **Very high battery autonomy** thanks to the integrated "**Low power**" and "**Night flow**" modes (autonomy >1 month with 1 meas. every 10 minutes; > 6 months with additional battery pack).
- **Flow profile correction** functionality (non-ideal inflow conditions).
- **Integrated datalogger** allowing the recording of more than **100,000** measurements and diagnostic data.
- Equipped with one **0/4-20mA current output** (passive) and one **binary output** (opto-relay) with simplified configuration for data transmission on remote management station/logger or process/control applications (fully customizable alarm scenarios).
- **Ultra-powerful and matched IP68 transducers** with reinforced cables (measurement possible in harsh conditions). **No Zero adjustment necessary**.
- **Stainless steel** fastening sets and installation in minutes.
- Reading of the internal memory via serial interface and full data analysis with the FluxDiag Reader Software (free).
- **No drift over time, no recalibration necessary**.
- Easily transportable, the measuring sets are delivered in a transport case.

3 sets available:

Measuring Set	For Pipes with a Nominal Diameter (mm) of	Transducer Frequency (MHz)
SeFlow 400 - A	40 – 1,100	2,0
SeFlow 400 - B	100 – 2,300	1,0
SeFlow 400 - C	200 – 4,700	0,5

Scope of delivery:

- 1x Flowmeter in its IP67 protection case incl. Li-Ion battery (90 Wh).
- 1x EURO charger 230 VAC to 12VDC.
- 1x Data transfer kit incl. PC software for data extraction & analysis.
- 1x Pair of IP68 transducers incl. stainless steel mounting accessories, a tube of water resistant coupling gel and a pair of long term coupling foils.
- 1x Pair of 2m stainless steel chains (for all measuring sets) and pair of 5m straps (for measuring sets B & C).
- 1x User and programming manual (on USB stick).
- 1x 3m measuring tape.
- 1x Reinforced carrying case with IP67 protection degree.

