ULTRASONIC TRANSIT TIME PRINCIPLE

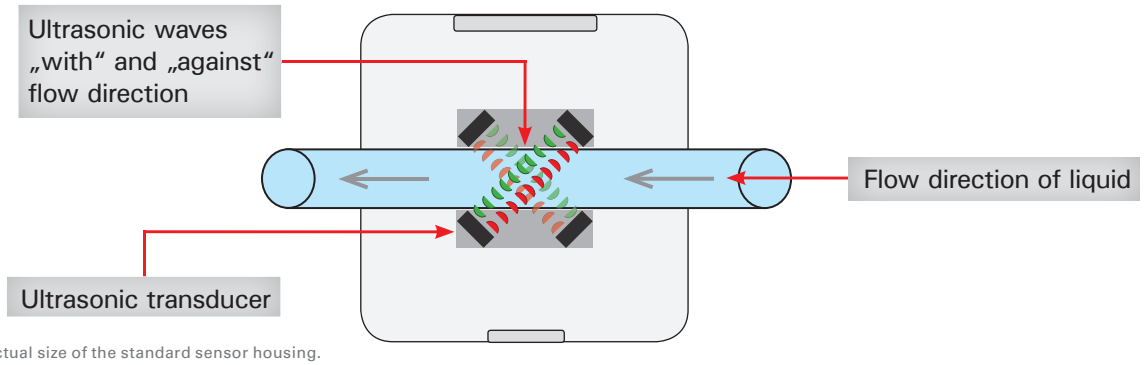
Transit time measurement is based on simple physics. Imagine you and a friend are looking at each other, diagonally across from each other, on two opposite river shores. If both start swimming at the same time, the friend swimming with the river stream would reach the shore faster than the one that is swimming against the stream.

Ultrasonic waves behave exactly the same way. An ultrasonic pulse travelling in the flow direction of the fluid is accelerated, the one travelling against the flow is decelerated.

How to turn simple physics into a commercial product? SONOTEC and its German R&D department with experienced engineers and scientists have developed a compact non-invasive flow sensor which incorporates the described transit time principle. One of the biggest advantages of this clamp-on flow meter is no need for external electronics as they are completely integrated into the sensor.

Four piezo elements are arranged in an X-pattern. The transmitters send pulsating ultrasonic waves in a predefined frequency from one side to the other – based on the mentioned principle. The difference in transit time is proportional to the average fluid velocity.

Furthermore, SONOTEC offers a calibration of the flow sensor to customer tubing, fluid, conditions and flow range on request. This way, a very high sensor accuracy of ± 2 percent can be achieved – not only in the lab, but also under practical conditions.



The picture shows the actual size of the standard sensor housing.

ULTRASONIC FLOW SENSOR — SONOFLOW CO.55

The clamp-on ultrasonic flow meter SONOFLOW CO.55 measures flow rates in plastic tubes without any medium contact. This makes the flow sensor very well-suited for applications with strict hygiene requirements.

- Non-invasive ultrasonic technology
- Compact clamp-on sensor with integrated electronics
- Not affected by medium color, tube color or electromagnetic properties of liquids
- Multiple outputs (flow switch, volume dosing etc.)
- Optional software for easy parameterization and calibration

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