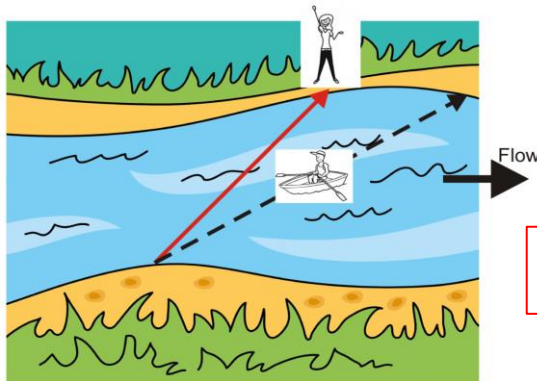


SEMIFLOW

Expertise in Measuring Flow Using Ultrasound

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.



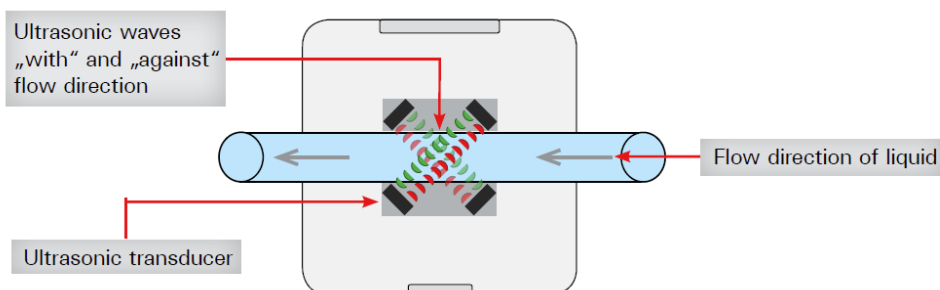
US-wave interacts with streaming liquid

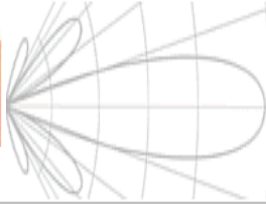


utilize the drift of the ultrasonic wave within the liquid

The boat does not achieve the destination because the streaming river modifies the route

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.





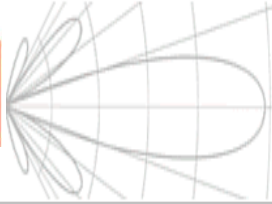
Clamp-On Type – Functional Advantages

- **The product size is small. Since product itself is AMP integrated, no additional device is required.**
- **The sensor is installed on the tubes that are already in use. No changes to the flow, therefore no pressure drop.**
- **Bi-directional measurement with fast response time.**
- **Small power consumption. < 30mA**
- **Selective site calibration and parameter optimization via software.**
- **Real-time measurement monitoring with data download function**
- **Possible on either Window OS installed desktop PC or tablet PC**

Clamp-On Type – User Advantages

- **Leak free, less contamination risk**
- **Easy replacement = reduced equipment down time**
- **Teflon Fitting is not required.**
- **Cost saving**
- **Reduced labor time = increased equipment production capacity**
- **Larger internal space = lower risk of accident during maintenance.**
- **When LFC integration is used, prevention on quality failure**
- **Easy inventory control due to simple model**
- **Easy spare parts replacement due to AMP one touch connector type**
- **Fluid loss due to Wafer-return is decreased and easy management on such via additional supply line installation on batch (real-time measurement, integrated value)**
 - **Prevention on quality failure**
 - **Usage check on supplementary fluid between equipments.**





Technical drawings

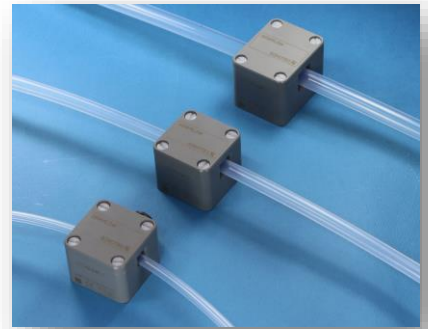
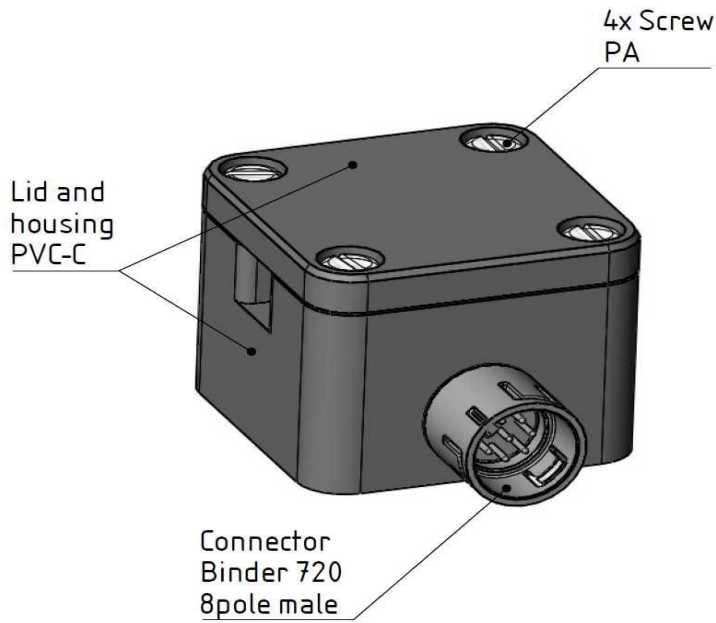


Figure 1: Dimensions SEMIFLOW CO.65

Specification SEMIFLOW	Measuring channel Width with inlay	Tubing OD	Dimensions (L x W x H)
CO.65/080PI V2.0	6mm	1/4"	44 x 44 x 34 mm
CO.65/120PI V2.0	8.5mm	3/8"	44 x 44 x 38 mm
CO.65/160PI V2.0	12mm	1/2"	44 x 56 x 41 mm
CO.65/190PI V2.0	17.8mm	3/4"	50 x 76 x 54 mm
CO.65/260PI V2.0	23.4mm	1"	50 x 76 x 60 mm