SONOTEC

SEMIFLOW® CO.65
Non-Contact Clamp-On Flow Sensors

SEMIFLOW clamp-on flow sensors are specifically designed for the semiconductor industry. The highly precise ultrasonic sensors measure directly through the rigid plastic tubing or pipe without any contact to the liquid, eliminating leakages and contaminations, thus increasing uptime and maximizing yield. Their compact housing with integrated electronics board is perfectly suited for a convenient system implementation.

Unique Product Benefits

- Maximum uptime
- Maximum yield
- Smallest footprint
- Highest accuracy

Semiconductor Applications

- Chemical supply / delivery systems
- Chemical mechanical polishing / planarization
- Single wafer cleaning
- Mask cleaning
- Slurry lines
- Wet etching

SEMIFLOW® Ex1 Set

The **SEMIFLOW Ex1 Set** enables non-contact liquid flow measurement on rigid plastic tubes and pipes in hazardous environments.

The set consists of the intrinsically safe flow sensor SEMIFLOW CO.66 PI Ex1 and the control gear Barrier Box ST Ex1.

- Protected against explosion hazard by gases, vapors and fogs according to gas group IIB
- Device protection level "Gb" for use in Zone 1 according to ATEX / IECEx

Intuitive and Easy to Handle

Sensor Selection

Parameter Setting

System Integration

Flow Measurement

Technical Data

Measuring Method	Ultrasound transit-time technology
Measuring Cycle	10 ms
Material	PVC-C (housing) PA (connector)
Flow Range – Max.	0 ... 400,000 mL / min
Tubing – Outer Diameter	1/4" ... 50 A
Tubing – Material	PFA, PTFE and other hard plastic tubes and pipes

Accuracy	2 %
Interfaces	0 / 4 ... 20 mA, 0 ... 20 kHz, PNP / NPN / Push-Pull, RS-485 Modbus, digital input
Operating Voltage	12 ... 30 VDC
Current Consumption	30 mA max.
Media / Ambient Temperature	0 ... +90 °C at 0 ... +25 °C ambient 0 ... +60 °C at 0 ... +60 °C ambient
Protection Class	IP65

Accessories

C³ Software

- → Configure sensors
- → Control sensor performance, set outputs / inputs
- → Collect measurement and sensor data

Portable USB Data Converter

- → Easy power supply of flow sensors
- → Direct data transfer
- → Sensor connection via PC and C³ Software

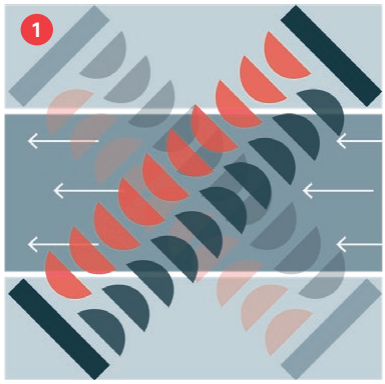
Remote Display

- → Temporary / permanent flow monitoring
- → Zero calibration and manual volume reset
- → Visualization of parameters

Measurement Principle

SEMIFLOW flow sensors use the ultrasound transit-time techology to accurately determine flow rates. The sensors measure the time of flight of the ultrasonic wave with and against the flow direction of the liquid.

The time difference between both signals is a measure of the velocity of the streaming liquid. Measurements are taken in picoseconds and averaged to readings of 10 ms cycles. The flow volume is calculated from the fluid velocity and the cross-sectional area of the tubing.



1 Ultrasonic waves with and against flow direction

Sales & Support

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Certified according to ISO 9001 and EN ISO 13485

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