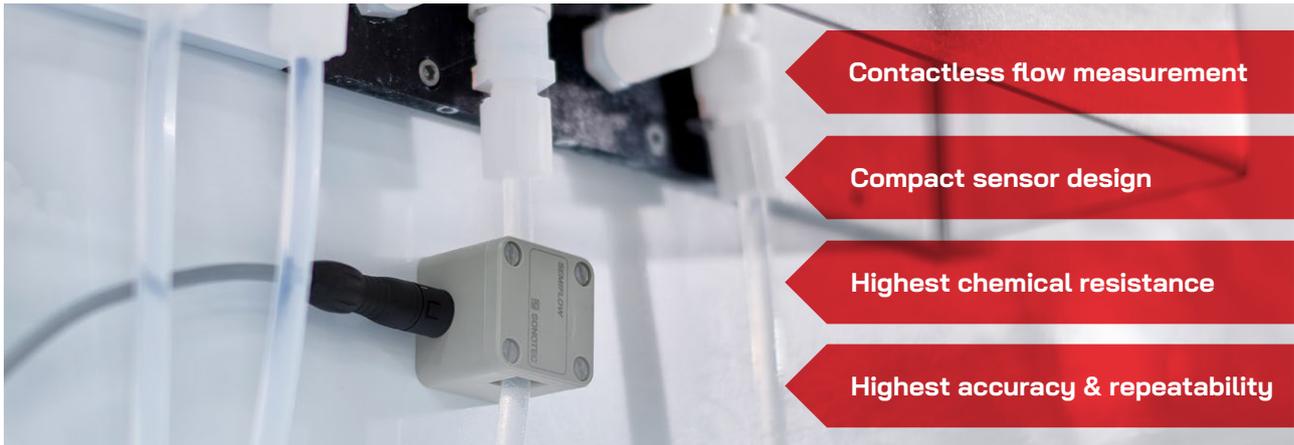


## SEMIFLOW® CO.65 Non-Contact Clamp-On Flow Meters

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

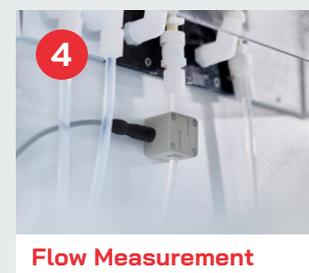
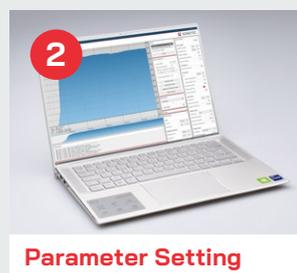


### Semiconductor Applications

- Chemical supply/delivery (CCSS/CDS)
- Chemical mechanical polishing/planarization (CMP)
- Lithography
- Plating
- Resist coating
- Slurry blending/mixing
- Wafer/mask cleaning
- Wet etching



### Intuitive and Easy to Handle



## 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

## Technical Data

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

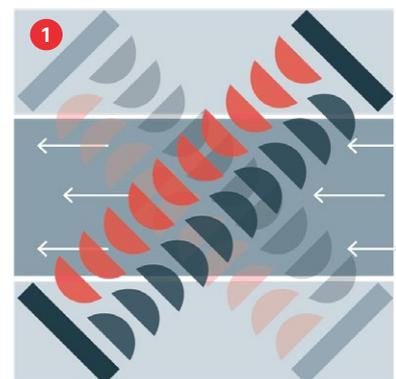
<b>Accuracy</b>	up to 1% (of reading)
<b>Interfaces</b>	0/4 ... 20 mA, 0 ... 20 kHz, PNP/NPN/Push-Pull, RS-485 Modbus, digital input
<b>Operating Voltage</b>	12 ... 30VDC
<b>Current Consumption</b>	30 mA max.
<b>Media / Ambient Temperature</b>	0 ... +90 °C at 0 ... +25 °C ambient 0 ... +60 °C at 0 ... +60 °C ambient
<b>Protection Class</b>	IP65

## Measurement Principle

SEMIFLOW flow sensors use the ultrasound transit-time technology 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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Rev. 5