



## SONOFLOW® CO.55 Non-Contact Clamp-On Flow Meters

SONOFLOW clamp-on flow meters are designed for upstream and downstream monitoring in the bio-process industry. The innovative sensors have integrated electronics which allow them to function without an external board or transmitter, being a compact flow meter in the size of a small transducer. The systems are suitable for applications from small-scale process development through GMP manufacturing to fill and finish operations.



- Highly accurate measurements to improve process performance
- Small equipment footprint with a compact flow meter
- Reduced risk of contamination with non-contact flow sensors
- No moving parts to reduce shear stress on cells
- Sustainable and reusable to reduce waste and costs
- Non-contact design

### Key Features

- Reliable flow measurement from 10 ml to 200 L / min
- Accuracy of up to 1% when adjusted for customer specific tubing / fluid
- Ideally suited for silicone, TPE, and most standard bioprocess tubing
- Real-time instantaneous flow measurement
- Volume totalizing and volume dosing output switch for precise volume delivery
- Built-in electronics



### Intuitive and Easy Handling



## Technical Data

<b>Measuring Method</b>	Ultrasound
<b>Measuring Cycle</b>	20ms
<b>Channel Width</b>	3.5 ... 34 mm
<b>Outer Diameter – Tubing</b>	4 ... 35 mm
<b>Mounting</b>	Fixed installation
<b>Interfaces</b>	4-20 mA, 0-20 kHz, PNP/NPN, RS-485/ Modbus, digital input

<b>Operating Voltage</b>	12 ... 30VDC
<b>Current Consumption</b>	30 mA max
<b>Electrical Connection</b>	8-pin M12 connector
<b>Ambient / Media Temperature</b>	0 ... +60 °C
<b>Storage Temperature</b>	-20 ... +70 °C
<b>Protection Class</b>	IP65

## C<sup>3</sup> Software | Configure, Control, Collect

The use of the optional C<sup>3</sup> Software allows for customer specific parameterization and testing.

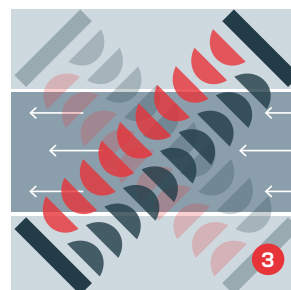
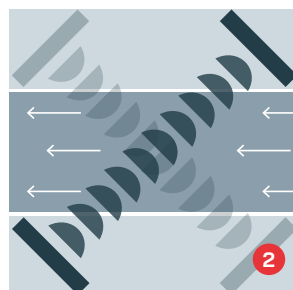
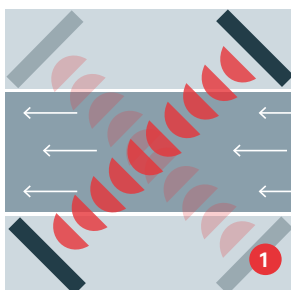
- Software for permanent or temporary data analyzing
- Configure sensors for different applications
- Control sensor performance and set outputs/inputs
- Collect measurement and sensor data
- Data logging functionality with auto safe function
- Connection of up to 12 sensors simultaneously
- Easy interface to a tablet, laptop, data logger, SCADA



## Measurement Principle

SONOFLOW flow meters use the transit time ultrasound method to accurately determine the flow rate. The sensor measures the time of flight of the ultrasonic wave with and against the streaming 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 cycle. The fluid velocity and known area of the measurement channel are related to the specific volume flow.



- 1 Ultrasound waves with flow direction
- 2 Ultrasound waves against flow direction
- 3 Time difference of ultrasound waves

## Sales & Support

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