SONOFLOW® CO.55 V3.0
Non-Contact Clamp-On Flow Meters

SONOFLOW CO.55 clamp-on flow meters are designed for upstream and downstream monitoring in the bioprocess industry. The non-contact ultrasonic sensors combine outstanding measurement accuracy over a wide flow range and highest clamp-to-clamp repeatability. The compact SONOFLOW CO.55 V3.0 flow meters with integrated electronics are suitable for applications ranging from process development through GMP to fill and finish operations. The non-contact sensor is available for most industry standard tubing sizes.

Key Features

- Non-contact design preventing any media contamination and shear stress on cells
- Volume totalizing and dosing output switch for precise delivery
- Stable measurement unaffected by bubbles and different pressure conditions
- Convenient sensor configuration via SONOTEC software
- Integrated electronics, no external transmitter required
- Reusable, thereby sustainable and cost-saving

Intuitive and Easy to Handle

Sensor Selection

Parameter Setting

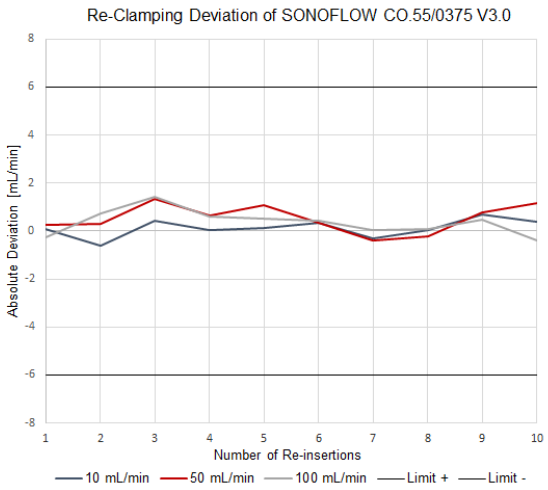
System Integration

Flow Measurement

Proven Clamp-to-Clamp Repeatability

SONOFLOW CO.55 V3.0 sets a new standard for non-contact flow meters in regards to clamp-to-clamp repeatability. The measurement channel of the new sensor has been adapted for typical bioprocessing tubing. The tubing is properly inserted with minimal variation from clamp to clamp ensuring perfect coupling between tubing wall and measuring channel.

The architecture ensures a stable tubing position and geometry throughout the entire measurement cycle. Re-inserting the tubing into the sensor has almost no effect on the measurement accuracy resulting in an absolute accuracy of ±2 mL/min in the low flow rates.

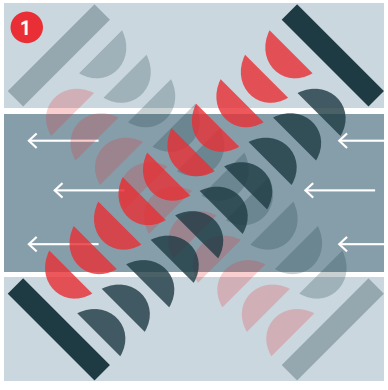


Technical Data

Measuring Method	Ultrasonic transit-time
Measuring Cycle	20 ms
Outer Diameter – Tubing	1/4" | 3/8" | 1/2" | 5/8" | 3/4" | 1 3/8"
Interfaces	4 ... 20 mA, 0 ... 20 kHz, PNP/NPN, RS-485 Modbus, digital input
Operating Voltage	12 ... 30 VDC

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

Measurement Principle



SONOFLOW flow meters use the ultrasound transit-time technology to accurately determine the flow rate. The sensor measures 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 cycle. The specific flow volume is calculated from the fluid velocity and the known area of the measurement channel.

1 Ultrasonic waves with and against flow direction

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SONOTEC GmbH certified acc. to ISO 9001 and EN ISO 13485

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