



PF-D550

Portable Doppler Flow Meter for Dirty or Aerated Liquids



Features

- / Measurement through the pipe
- / Easy calibration
- / No pressure drop
- / Ideal for problem liquids
- / For pipes ½" to 180" ID
- / Operating temp. up to 150°C
- / 300,000 point data logger
- / 4...20 mA output (AC powered)
- / 10-Digit totalizer
- / AC/DC operation
- / Built-in rechargeable battery

Description:

The PF-D550 ultrasonic sensor injects high frequency sound through the pipe wall and into the flowing liquid. Gas bubbles or solids suspended in the liquid reflect the ultrasonic signal back to the sensor. When this sound is reflected from moving bubbles or particles it is returned to the sensor at an altered frequency. This frequency shift is called the Doppler effect. The PF-D550 continuously measures the change from its transmitted frequency to the received frequency to accurately calculate flow.

Application:

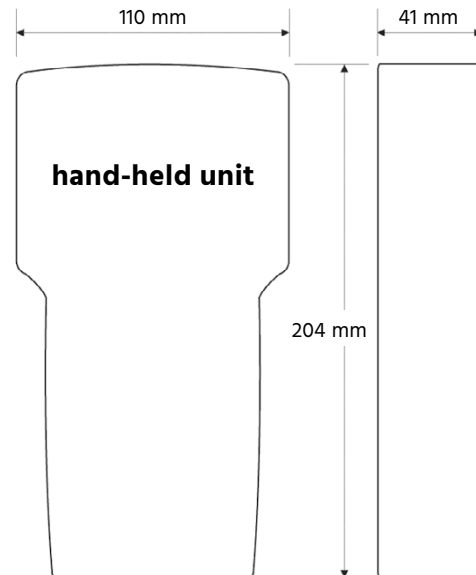
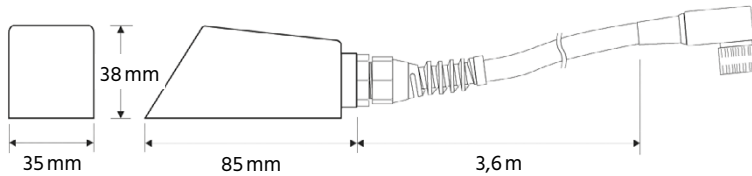
The PF-D550 works best with difficult liquids in applications that would damage regular flow meters. Because the sensor is mounted on the outside of the pipe, there is no contact with the moving fluid. The ultrasonic sensor straps onto the outside of pipes 12.5 mm (½") ID or larger and measures flow in common pipe materials: PVC, carbon steel, stainless steel, cast iron, fiberglass and lined pipes... any pipe that conducts ultra-sound. Doppler signals cannot be transmitted through pipe walls which contain air pockets (materials like concrete and wood), or loose insertion liners (with an air gap between the liner and pipe wall). Because the sensor is so easy to install you can test any application and pipe material in a few minutes.

Recommended for: Sewage, Treated Wastewater, Aerated Water, Sludge and Slurries, Chemicals and Solvents, Viscous Liquids, Abrasives, Food Products, Pulp Stock, Acids and Caustics.



Dimensions in mm:

Sensor



Technical Specifications

| | |
|----------------------------------|---|
| Flow rate / | $\pm 0.075 \dots 12.2$ m/s |
| Accuracy / | ± 2 % of full scale, requires solids or bubbles minimum size of 100 microns, minimum concentration 75 ppm |
| Repeatability / | ± 0.25 % |
| Linearity / | ± 0.5 % |
| Sensitivity / | adjustable damping and cut-off |
| max. Temperature / | $-23 \dots +60^\circ\text{C}$ (hand-held unit) |
| Outputs / | 4 .. 20 mA analogue output and USB |
| min. Ø-Pipe / | 12.5 mm inner diameter 15.0 mm outer diameter |
| max. Ø-Pipe / | 4500 mm inner diameter |
| max. Temperature sensor / | $-40 \dots +120^\circ\text{C}$ |
| Frequency / | 640 kHz |
| Housing material / | st. steel |
| Sensor cable / | 3.6 m shielded cable |
| Mounting kit / | stainless steel pipe clamp, silicone coupling compound (150 gr.) |
| Data logger / | 300.000 points with time and date |

Electrical Specifications:

| | |
|---------------------------|---|
| Output / | 4 .. 20 mA (500 Ω) when AC-powered |
| Display / | 4-digit white, backlit matrix |
| Exposition / | flow rate, totalizer, operating mode and calibration menu |
| Power supply / | built-in battery (NiMH) /supply voltage |
| Supply voltage / | 100 .. 240 VAC, 50 .. 60 Hz |
| Battery capacity / | up to 18 hours continuous operation |

Ordering Codes:

| | |
|--|-------------------|
| Order number | PF-D550. A |
| PF-D550 Portable Doppler Flow Meter | |
| Version / | |
| 0 = basic version | |
| 1 = basic version with 15 m (50 ft) sensor cable extension, shielded | |