

# PORTABLE DOPPLER ULTRASONIC FLOWMETERS

FD613 Series  
Starts at  
**\$855**



- ✓ Non-Invasive Clamp-On Transducer
- ✓ For Liquids Containing Suspended Solids or Entrained Gases
- ✓ User-Selected Velocity Units (FPS or MPS)
- ✓ Measures Fluid Velocities from 0.3 to 30.0 FPS (0.10 to 9.00 MPS)
- ✓ 100:1 Turndown Ratio
- ✓ Pipe Sizes from 6.3 mm (0.25")
- ✓ CE Approval Optional
- ✓ Batteries Included
- ✓ NIST Certificate Standard

The FD613 Series flowmeter employs advanced trans-phase measuring technology, providing accurate and reliable flow velocity assessments in closed piping systems. The series uses a non-invasive clamp-on transducer that is placed on the outside of a pipe. Within seconds, the large 18 mm (0.7") LCD provides stable flow-rate readings in feet per second or meters per second. This product operates on metal or plastic pipes containing liquids with more than 100 ppm of 100 micron or larger suspended solids or entrained gases.

## PRINCIPLE OF OPERATION

The FD613 Series flowmeter utilizes an advanced trans-phase measuring technique, providing accurate, non-invasive fluid velocity assessment without opening the pipe. The series uses two piezoelectric crystals contained within one transducer to transmit ultrasonic energy into the fluid stream and receive back energy reflected off discontinuities (suspended particles or entrained gases) within the moving liquid. Transformations that result from the energy reflections are processed and converted to a measurement of fluid velocity by the



sophisticated software algorithm. The processor also controls all operations of the instrument from its ultra-efficient battery management circuitry to a proprietary FIR (finite impulse response) filtration program.

## SPECIFICATIONS

**Supply Voltage:** Battery powered, non-rechargeable alkaline, four "AA" (included), providing over 30 hours of continuous operation

**Flow Range:** 0.30 to 30.00 FPS (0.10 to 9.00 MPS)

**Display:** Single line—four-digit LCD readout of velocity [18 mm (0.7") digits], signal strength, measuring units, and low battery indication

**Temperature:** -20 to 60°C (-28 to 140°F)

**Enclosure Rating/Dimensions:** NEMA 12X ABS plastic; 200 H x 100 W x 38 mm H (7.76 x 4 x 1.5")

**Weight:** 0.7 kg (1.5 lb)

**Accuracy:** ±2% FS

## SENSOR SPECIFICATIONS

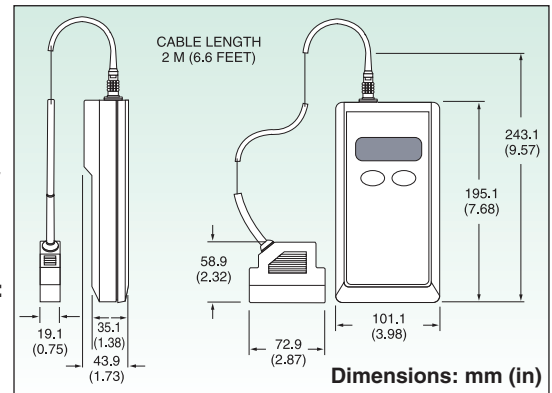
**Transducer Material:** Plated body; Ultem 1000 sensor material

**Cable:** 2 m (6.6') cable and connector

**Temperature:** -40 to 82°C (-40 to 180°F)

**Humidity:** 0 to 95% non-condensing

**Mounting Method:** Clamp-on style with Dow 111 coupling compound



**AVAILABLE FOR FAST DELIVERY!**

## To Order (Specify Model Number)

Model No.	Price	Description
FD613	\$855	Handheld readout, sensor sold separately
FD614-CE	1645	FD613 kit with CE approval w/sensor for pipes 1" dia. & larger
<b>FD613 Sensors</b>		
FD613-S1	\$540	Clamp-on sensor for ¼ to 1" diameter pipe (small pipe sensor has a two-piece clamp on head)
FD613-S2	450	Clamp-on sensor for pipes 1" diameter and larger
<b>Accessories</b>		
MN1500-4	\$3	Replacement Alkaline "AA" batteries (qty 4)

Comes complete with carrying case, silicone couplant, 4 "AA" batteries, NIST certificate and operator's manual.

**Ordering Examples:** FD613, flowmeter and FD613-S1, clamp-on sensor for ¼ to 1" pipe, \$855 + 540 = \$1395.

FD614-CE, FD613 kit with CE approval, \$1645.

Recommended Reference Book: Fluid Flow Measurement, PE-1355, \$80, See Section Y For Additional Books





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