

UFX Hand-Held Battery-Powered Meter

Doppler Flow Meter

DESCRIPTION

The UFX Doppler Flow Meters feature ultrasonic measuring technology, providing accurate and reliable flow velocity readings for aerated liquids and liquids with suspended particles.

The UFX flow meter is a cost-effective, portable flow measurement system for closed full pipes size 1/4 in. (6 mm) and above.

OPERATION

The UFX flow meter uses two piezoelectric crystals contained within one transducer to transmit ultrasonic energy into the fluid stream and receive reflected energy off discontinuities, suspended particles or entrained gases, within the moving liquid. When the fluid is flowing in the pipe (with the discontinuities traveling at the same speed), there will be a shift in frequency from the transmitted ultrasound wave to the received ultrasound wave. The difference between these ultrasound wave frequencies is the Doppler frequency shift and is proportional to fluid velocity.

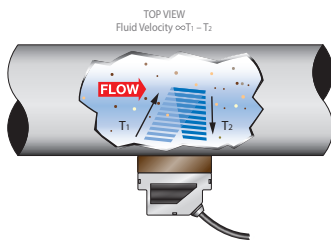


Figure 1: UFX operation

FEATURES

- Non-invasive, hand-held transducer and battery-powered electronics packaged in a NEMA 4 (IP65) rated enclosure
- Measures fluid velocities from 0.3...30 FPS (0.1...9 MPS)
- Reliable readings on nearly all liquid applications containing a minimum of 100 ppm of 100 micron size suspended solids or entrained gases
- Optional CE approved version for pipes size 1 in. (25 mm) and above
- Large four-digit LCD display provides velocity readout in user selected units (FPS or MPS)
- Easy to use flow verification instrument for industrial and municipal applications including concrete slurries, dredging, primary sludge and waste activated sludge



SPECIFICATIONS

Liquid Requirements	100 ppm of 100 micron size suspended solids or entrained gases
Pipe Sizes	Std. 1" (25 mm) and greater Small pipe 1/4"...1" (6...25 mm)
Flow Range	0.3...30 fps (0.1...9 mps)
Accuracy	±2% of full scale
Display	Single line, four digit LCD readout of velocity, signal strength, measuring units, and low battery indication
Enclosure Rating Dimensions	NEMA 4 (IP65) ABS plastic; 1.5 lb (0.7 kg) 4" W x 7.7" H x 1.7" D (101.6 mm x 195.6 mm x 43.2 mm)
Transducer Material	Plated body; Ultem® 1000 sensor material
Ambient Temperature	-28...140° F (-20...60° C)
Liquid Temperature	-40...180° F (-40...82° C)
Humidity	0...95% non-condensing
Supply Voltage	Battery powered; non-rechargeable alkaline, four AA cells; providing greater than 30 hours of continuous operation
Cable	6.6 feet (2 m) cable and connector
Mounting Method	Hand-held with acoustic couplant compound



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Doppler Flow Meter

DIMENSIONS

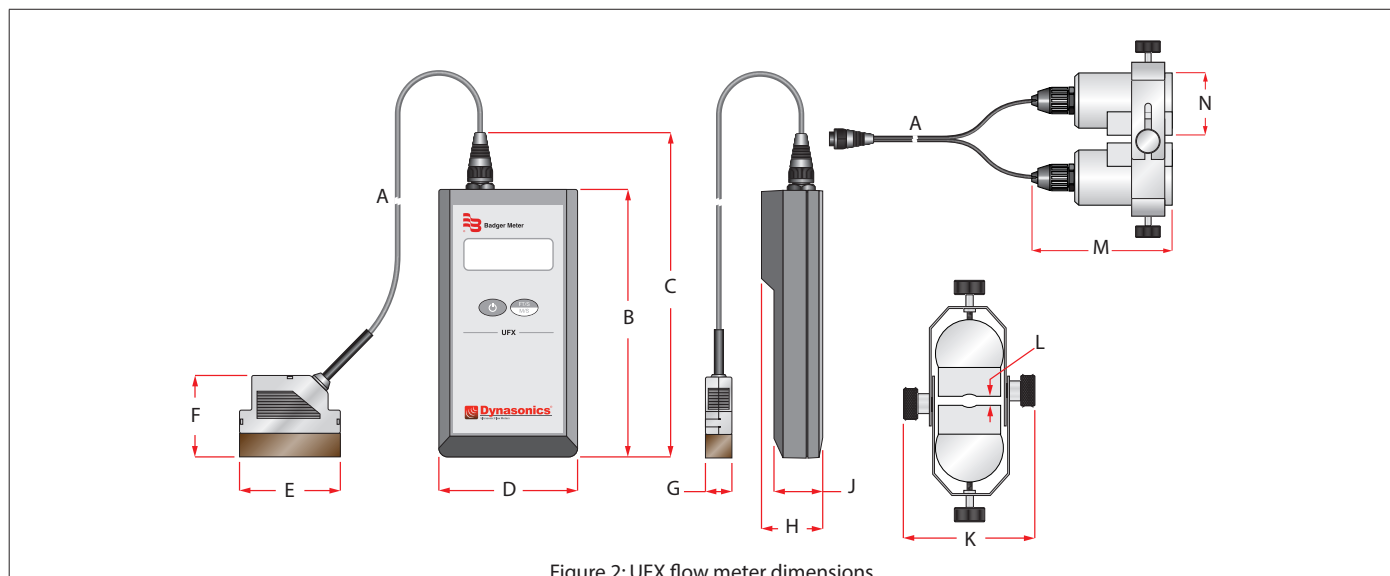


Figure 2: UFX flow meter dimensions

A	B	C	D	E	F	G	H	J	K	L	M	N
6 ft (2 m)	7.70 in. (195.6 mm)	9.57 in. (243.1 mm)	4.0 in. (101.6 mm)	2.87 in. (58.9 mm)	2.32 in. (58.9 mm)	0.75 in. (19.1 mm)	1.70 in. (43.2 mm)	1.38 in. (35.1 mm)	3.24 in. (82.3 mm)	1.38 in. (35 mm)	4.38 in. (111.3 mm)	1.91 in. (48.5 mm)

PART NUMBER CONSTRUCTION

Model		Hand Held Doppler Ultrasonic Flow Meter		DUF	
Transmitter Type		Battery Powered Hand Held		1	
Transducer Types		Small Pipe (1/4 ... 1 Inch)		B1	
		Standard Pipe (Over 1 Inch)		D1	
		Both Small Pipe and Standard Pipe B1 and D1		F1	
Approvals		None (Leave blank when no approvals are required)			
		CE Generic Light Industrial Approval Only on D1		CE	

PARTS AND ACCESSORIES

Nylon Mounting Strap 30" (750 mm)	D002-2007-002
Couplant, Silicone (for temporary mounting)	D002-2011-001
SS Identification Tag	D001117
UFX Standard Pipe Transducer	DTUFX-D1
UFX Small Pipe Transducer	DTUFX-B1
UFX Carrying Case	D003-1009-005
Velocity Conversion Slide Chart	D003-0913-002

NOTE: The UFX meter is shipped with acoustic couplant, velocity slide chart, batteries and a carrying case.

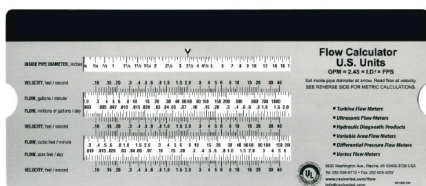


Figure 3: Velocity-to-volumetric conversion slide chart included



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