HANDHELD ULTRASONIC FLOW METER
For Clean Liquids

FDT-21 1 YEAR WARRANTY CE

✔ **Accuracy 1%**
✔ **Repeatability 0.2%**
✔ **Positive, Negative and Net Totalizer**
✔ **4-Line LCD Display**
✔ **Clamp On Transducers**
✔ **RS232 Output**

FDT-21 ultrasonic flow meter is designed to measure the fluid velocity of liquid in a full/closed pipe. It is a handheld measurement system which is both easy to install and use. The FDT-21 operates according to the difference in the transit time of flight measured, and determines the flow velocity by measuring the travel time of a pulse from one transducer to the next. Flow in the same direction takes less time to travel to the second transducer than does flow in the opposite direction. Electroacoustic transducers receive and emit brief ultrasonic pulses through the liquid of the pipe. Transducers are vertically placed at both sides of the measured pipe. Sensors are placed on the pipe and fastened by means of a clamp. The display will quickly show the flow velocity. The FDT-21 can be used for metallic, plastic and rubber tubes.

SPECIFICATIONS
Accuracy: ±1% of reading >(0.2m/s) 0.6 ft/s
Repeatability: 0.2%
Linearity: 0.5%
Response Time: 0 to 999 seconds (user configured)
Velocity: (±0.01 to 30 m/s) ±0.03 to 105 ft/s bi-directional
Temperature Range:
  Standard: 0 to 70°C (32 to 158°F)
  With High Temp Transducers: 0 to 160°C (32 to 320°F)
Pipe Size: DN 20 to 100 mm (0.75 to 4") standard
[up to DN 6000 mm (236") with optional transducers]
Transducer Frequency: 1 MHz

FDT-21-UPS Universal power supply (optional).

Rate Units (User Configured): Meter, feet, cubic meter, cubic feet, USA gallon, oil barrel, USA liquid barrel, imperial liquid barrel, million USA gallons
Totalizer: 7-digit totals for positive, negative and net flow
Liquid Types: Most liquids including clean water, sea water, waste water, chemical liquids, oil, crude oil, alcohol, beer, and more
Suspension Concentration: ≤20,000 ppm (may contain very small amounts of air bubbles)
Pipe Material: All metals, most plastics and fiberglass
Security: Programmable lock-out code
Display: 4 x 16 english letters
Communications: RS232C (baud rate from 75 to 115,200 bps)
Transducer Cable Length: 5 m (15')
Power: 3 "AAA" Ni-H built-in batteries (included) with 90 to 230 Vac charger, fully charged lasts over 12 hrs.
Data Logger: Built-in, stores over 2000 lines of data
Totalizer/Calibration: 7-digit press-to-go for calibration
Housing: ABS plastic with aluminum alloy protective carrying case
Case: NEMA-4 (IP65)
Dimensions: 100 H x 66 W x 20 mm D (3.9 x 2.6 x 0.8")
Weight: 514 g (1.2 lb)

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FDT-21, comes complete with 3 "AAA" batteries, small pipe high temperature transducer (S2H), acoustic gel, tape measure, plug-in charger, RS232 cable, transducer cable, rugged carrying case and operator's manual, shown smaller than actual size.

All accessories shown smaller than actual size.

FDT-21-M2, medium pipe, standard transducer

FDT-21-M2H, replacement medium pipe, high-temperature transducer

FDT-21-S2H, small pipe, high-temperature transducer

FDT-21-L2H, large pipe, high-temperature transducer

Parameters	HS-Type	HM-Type	L2H-Type	S2H-Type	M2H-Type
Pipe Size (mm)	20 to 100DN	50 to 700DN	300 to 6000DN	20 to 100DN	50 to 700DN
Pipe Size (inch)	¾ to 4	2 to 28	12 to 240	¾ to 4	2 to 28
Material	Aluminum Alloy		ABS	Alloy	ABS
Frequency	1 MHz				
Calibration	Calibrate with the main unit				
Magnetism	Magnetic		Non-magnetic		Magnetic
Temperature	0 to 70°C (32 to 158°F)		0 to 160°C (32 to 320°F)		
Protection Class	NEMA 4 (IP65)				
Dimensions (mm)	200 x 25 x 25	280 x 40 x 40	91 x 44 x 52	45 x 30 x 30	71 x 37 x 40
Weight g (oz)	250 (8.8)	1080 (38)	535 (18.5)	75 (2.6)	259 (9.1)
Liquid Types	Fresh water, salt water, chemical liquids, oil, crude oil, alcohol, beer, etc.				
Suspension Concentration	≤20000 ppm, may contain very small amount of air bubbles				
Pipe Material	All metals, most plastics, fiberglass, etc.				
Dedicated Shielded Transducer Cable	Standard length 5 meter x 2, can be extended to 10 meter x 2 or 15 meter x 2				

To Order

Model No.	Description
FDT-21	Handheld transit-time ultrasonic flow meter (includes S2H transducers)

Comes complete with 3 "AAA" batteries, small pipe, high temperature transducer (S2H), acoustic gel, tape measure, plug-in charger, RS232 cable, transducer cable, rugged carrying case and operator's manual.

Accessories

Model No.	Description	Weight g (oz)	Pipe Size mm (inch)
FDT-21-S2H	Replacement small pipe high temp transducer	75 (2.6)	20 to 100 (0.75 to 4)
FDT-21-HS	Small pipe aluminum transducer	250 (8.82)	20 to 100 (0.75 to 4)
FDT-21-HM	Medium pipe aluminum transducer	1080 (38.09)	50 to 700 (2 to 28)
FDT-21-M2H	Medium pipe high temp transducer	259 (9.1)	50 to 700 (2 to 28)
FDT-21-L2H	Large pipe high temperature transducer	535 (18.5)	300 to 6000 (12 to 236)
FDT-21-GREASE-S1	Acoustic gel for standard transducers		
FDT-21-GREASE-S1H	Acoustic gel for high-temperature transducers		
FDT-21-UPS	Universal power supply		

Ordering Example: FDT-21, *handheld transit-time ultrasonic flow meter.*