

FLOW METERING Transit Time Flowmeters

Greyline PTFM 1.0 Portable Transit Time Flowmeters

- Portable non-contact flow measurement of clean liquids in full pipes
- Easy calibration and setup
- Built-in 300,000 point data logger standard



PTFM 1.0 transit time meters measure the flow of clean liquids like water, glycol, oil and most chemicals. They're ideal for flow studies, troubleshooting and calibration of other inline flowmeters. Use them for spot checks or for extended operation as a 4-20 mA flow transmitter.

The ultrasonic sensors strap on the outside of pipe and send a signal that penetrates all common metal and plastic pipe materials. Since the sensors don't contact the fluid, you can take readings without shutting down the flow—no obstructions or drops in pressure. Clamp the sensors onto vertical or horizontal pipes ranging from 2 to 48".

Calibrating your meter is easy with the user-friendly on-screen menu system and 5-button keypad. Just enter your pipe diameter, wall thickness and pipe material, and the meter indicates the optimum mounting method and separation distance for the sensors. Power the meter via an internal rechargeable NiMH battery, or operate it continuously with AC power.

Advanced data logging and downloading features

The PTFM 1.0 features a 300,000 point data logger and 14-digit totalizer, and can measure forward and reverse flow. For extended operation applications, the convenient on-screen "Flow Report" shows total, minimum, maximum and average flow rates in a 24-hour daily summary. The USB connection lets you easily download data to a Windows® computer in CSV format for use with Microsoft Excel®. Included software makes generating flow reports easy.

Includes: watertight carrying case, transducer set, cables, AC adapter/charger, mounting clamps, coupling compound, USB cable, software and manual.



Included software lets you download and graph data

Take quick, easy flow measurements from outside the pipe!

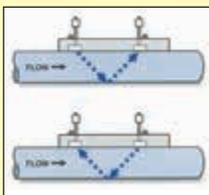
- Accuracy:** ±1% of reading or 0.1 ft/sec (0.03 m/sec), whichever is greater
- Repeatability:** ±0.25%
- Flow velocity:** ±0.07 to 39 ft/sec typical
- Pipe size:** 2 to 48"
- Pipe materials:** any metal or plastic sonic conducting material including carbon steel, stainless steel, ductile iron, cast iron, PVC, PVDF, fiberglass, copper, brass, aluminum and pipes with bonded liners including epoxy, rubber and Teflon®
- Display:** white backlit matrix; displays 5-digit flow rate with floating decimal and 14-digit totalizer
- Outputs:** 4-20 mA (500Ω) when powered by AC adapter; USB for data log transfer by direct PC connection
- Data logger:** programmable 300,000 data point capacity, time and date stamped or formatted flow reports including total, average, minimum, maximum and times of occurrence
- Power:** NiMH battery (up to 18 hours continuous operation) or external charger with 100-240 VAC, 50/60 Hz input
- Enclosure:** portable ABS with 5 keys, includes IP67 carrying case
- Operating temp**
 - Display:** -5 to 140°F
 - Sensor:** -40 to 300°F
- Sensor cable:** 12'L with BNC connections and seal jackets

Protective carrying case keeps all your components organized.



DESCRIPTION	PIPE SIZE OD	STOCK #	EACH
PTFM 1.0 Portable Transit Time Flowmeter	2 to 48"	60993	\$
Accessories			
DESCRIPTION		STOCK #	EACH
Sensor Cable Extension, Coaxial Pair (50'L Cable w/ Connectors)		60994	\$
Replacement Coupling Compound, 3 oz		15171	

Transit time ultrasonic flowmeters measure flow by injecting sound from a transmitting sensor through the pipe wall into the flowing liquid and then to a receiving sensor. The elapsed time between transmitted and received signals is very precisely calculated by the flowmeter.



Then the sensors trade functions. The original receiving sensor now becomes the transmitting sensor and the ultrasonic signal is transmitted in the opposite direction. Again the elapsed time between transmitted and received signals is calculated.

The transit time in the direction of flow is faster than the transit time against the flow. By comparing these time differences, the transmitter calculates the flow rate. Because the ultrasonic signal is forced to cross the pipe, an average flow profile is calculated so laminar or turbulent flow compensation is automatic.

Transit time flowmeters are designed for clean, non-aerated liquids (<2% by volume). High concentrations of solids or gas bubbles will attenuate the ultrasonic signal and sound will not be able to cross the pipe. Use a Doppler-type flowmeter for applications with solids or bubbles (e.g., wastewater or slurries).

operator notes