

TRANSIT TIME ULTRASONIC FLOWMETER

TFM4100-W

**CLEAN FLUIDS FLOW
MEASUREMENT PRECISION
TUBES OUTSIDE**



Non-Contacting Flow Measurement

Ultrasonic transducers mount on the outside of plastic or metal pipes to measure flow rate of clean, non-aerated fluids like water, chemicals, and oils. The clamp on transducers can be mounted without shutting down flow. There is no pressure drop and no obstruction. Transducer separation distance is calculated by the flowmeter according to pipe diameter and wall thickness.

User-Friendly Operating System

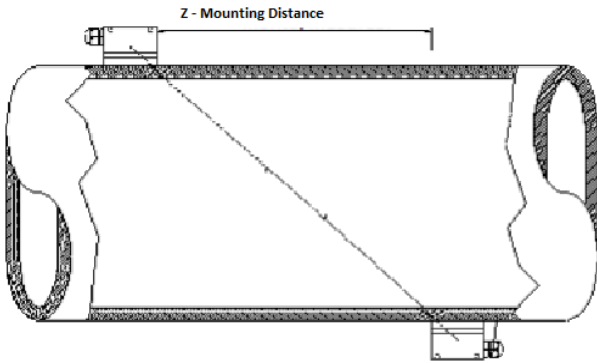
Use the external keypad for fast, easy calibration with menu selection of pipe diameter, wall thickness, pipe material, liner material, liner thickness, liquid type, mounting method, and measurement units (gallons, liters etc.) Calibration values and totalizer are retained during power interruptions.

Working Principle and Transducers Installation Methods

The TFM4100-W Flowmeter works by measuring the “transit time” or “time of flight” for ultrasonic sound pulses transmitted from one transducer to another. Depending on the mounting configuration, the signal may cross the pipe once, twice or four times. The time between transmitted and received signals is precisely measured by the flow meter. Ultrasonic signals are sent upstream and then down stream with the transducers alternating their functions as transmitters/receivers.

The transit time in the direction of flow is always faster than the transit time against the flow. By comparing these differences with precision timing circuits, the TFM4100-W is able to accurately calculate the flow rate. Because the ultrasonic signal is forced to cross the pipe, an average of the flow profile is calculated. So compensation for laminar or turbulent flow is automatic.

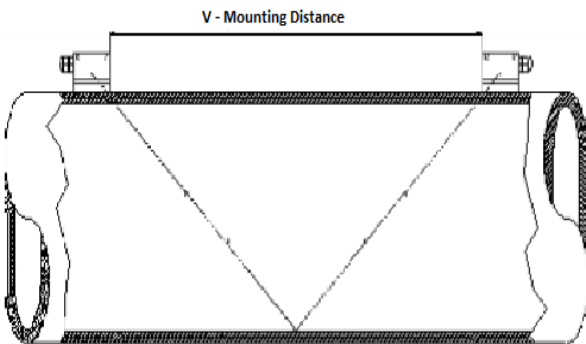
“Z”METHOD



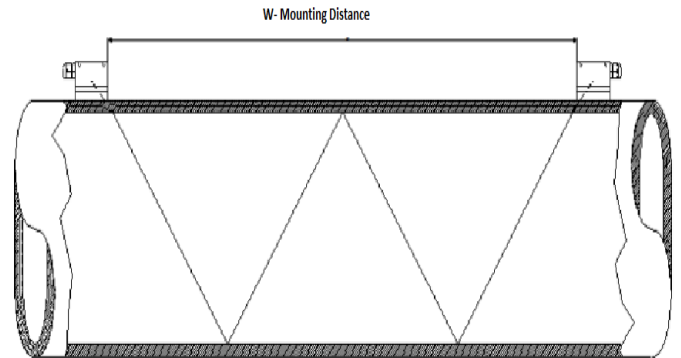
Transducers Installation Methods :

TFM4100-W transducers can be mounted on vertical or horizontal pipes. The pipe must be full. Choice of V, Z or W mounting method depends on the application and pipe diameter. V-Mount is the most common method while Z-Mount is used for larger pipes or weak signal applications and W-Mount for smaller pipes.

“V” METHOD



“W” METHOD



TFM4100-W ULTRASONIC FLOWMETER

GENERAL SPECIFICATIONS

Operating	: For clean liquids in a full pipes with less than 1 % solids or gas bubbles, particles
Configuration	: with external keypad (By the process according to the terms of)
Transmitter	
Accuracy	: $\pm 1\%$ of reading value, Linearity $\pm 0.5\%$, Repeatability: $\pm 0.2\%$
Power Supply	: 24 VDC
Outputs	: 4-20 mA, RS485 Serial Port
Communication	: MODBUS, M-BUS
Operating temp.	: -20...50 °C
Koruma	: IP 20
Boyutlar	: 130x 48 x 34 mm
Sensorler	
Pipe Size	: DN 15...6000 mm
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
Transducer and operating ranges	: TS-1 DN15-100mm (-30...+90°C) TM-1 DN50-1000mm (-30...+90°C) TL-1 DN300-6000mm (-30...+90°C) HTS-1 DN15-100mm (-30...+160°C) HTM-1 DN50-600mm (-30...+160°C)
Transducer Moun. Kit	: Includes set of stainless steel pipe clamps, coupling compound
Cable Lenght	: Standard 6 m

Ultrasonic Flowmeter TFM4100-W

for Clean Liquids in Metal and Plastic Pipes

Easy to Install

Install the TFM4100-W Transit Time Flowmeter without cutting pipe or shutting down flow. Operates on a wide range of metal and plastic pipe sizes takes just a few minutes to calibrate and start-up.

The flowmeter works by injecting sound through the pipe wall and into the flowing liquid. The transducers transmit ultrasonic signals back and forth. The up and downstream "transit times" are precisely measured and compared to calculate the flow rate. Advanced signal processing software and electronics suppress interference and measure flow with high repeatability and accuracy.

TFM4100-W Advanced Features

- It is economic one of clamp-on transducer ultrasonic flowmeter.
- RS485 Serial port output
- Communication via MODBUS, M-BUS

Recommended For:

- Potable water
- River water
- Cooling water
- Demineralized water
- Water/glycol solutions
- Hydraulic oil
- Diesel and fuel oils
- Chemicals

The TFM4100-W Transit Time Flowmeter is ideal to measure flow rate of clean, non-aerated fluids in full pipes. Works best on fluids that have less than 2% particulate or gas bubbles.

How to Order

Contact an Aktek sales representative in your area or phone one of our sales engineers. Describe your requirements and receive our prompt quotation.

Applications Support

Take advantage of Aktek's applications experience. Phone 090-212-621-7200 for advice and information on applications, installation or service for Aktek instruments.

No Risk Appraisal

The Aktek TFM4100-W Transit Time Flow Meter must meet your requirements. Discuss your application with a Aktek representative to arrange a 30-day trial.

The Aktek Guarantee

Quality of Materials and Workmanship - Each instrument manufactured by Aktek is warranted against defects in materials and workmanship for a period of one year from date of purchase. Refer to our limited warranty included with each product.



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