# Introduction

This is a full function handle transfer time ultrasonic flow meter. No matter you want to quickly verify the flow reading of another meter or to data log flow system values over an extended time period, the Great's flow meter is the suitable tool. The portable meter has the clamp on transducers no tapping or cutting is required, just clamp outside of the pipe. The meter can be easily moved and installed in different pipe and convenient to carry site to site.Its portability makes it an excellent choice formeasuring flows throughout the plumbing infrastructure to verify sensor, pump andvalve performance.

# Feature

1. Easy to install, reduced installation time and cost.
2. No pressure head loss, No moving parts to maintain or replace.
3. BTU function is an option.  could be used as a portable ultrasonic energy meter.
4. Powerful data storage and also support the data sheet analysis software.

# Application

The ultrasonic flowmeter widely application in oil industry, water treatment, pure water, chemical and etc.

## Specification

### Performance specifications

| | |
|---|---|
| Flow range | ±0.03 ft/s ~ ±40 ft/s (±0.01 m/s~ ±12 m/s) |
| Accuracy | ±1% of measured value |
| Pipe size | Clamp-on:1"~48"(25mm~1200mm) |
| Fluid | Single medium liquid |
| Pipe material | Carbon steel,stainless steel,PVC and other compact material pipe |

### Function specifications

| | |
|---|---|
| Outputs | Analog output: 4~20mA, Max 750 Ω.<br>Modbus: RS485 |
| SD card | 16G |
| Interval | 1 ~ 99999seconds |
| Key broad | Digital keys |
| Display | 240*128 back lit LCD |
| Power supply | Rechargeable Lithium Battery Power，3000mAh<br>(Continuous operation of main battery 16 hours). |
| Temperature | Transmitter: -40℃~60℃<br>Transducer: -40℃~80℃ (-40℃~80℃ is standard; -40℃~130℃ is an option) |
| Humidity | Up to 99% RH,non-condensing |

### Physical specifications

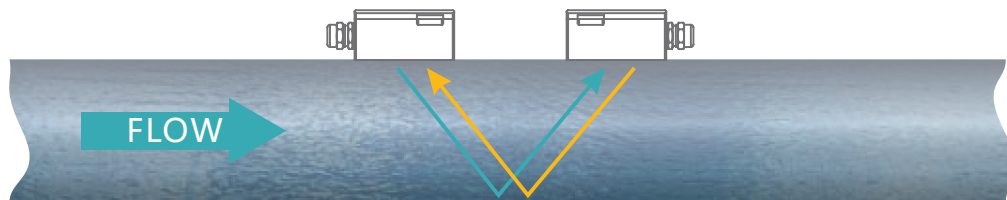| | |
|---|---|
| Transmitter | NEMA13,IP54. |
| Transducer | Encapsulated design,IP68 |
| Transducer cable | Standard cable length: 5m (16ft). |

# Product photo



## Accessories

1. Carrying Case*1pc.
2. Transmitter (Electronic)*1pc.
3. Transducer (Sensor) *1 pair.
4. Mounting track*1 set
5. Pipe straps *2 pairs.
6. Coupling compound (Grease)*1 pc, Battery charge*1pc, Output cable*1pc and Tapeline*1

## Measuring Principle

Transfer time technical means the ultrasonic signal from the transducer is transmitted and received through the moving liquid, there will be a difference between the upstream and downstream transit time, which can be used to calculate flow and velocity.

FLOW

An ultrasonic meter equipped with heat flow capabilities measuresthe rate and quantity of heat delivered or removed from devicessuch as heat exchangers. By measuring the volumetric flow rate of
the heat exchanger liquid, the temperature at the inlet pipe andthe temperature at the outlet pipe, the energy usage canbe calculated.

## Ordering Code

| Model | Description |
|---|---|
|  | Portable Ultrasonic Flow Meter |
|  | Installation method: Handheld |
|  | Flow Range:±0.03 ft/s ~ ±40 ft/s (±0.01 m/s~ ±12 m/s) |
|  | Accuracy: ±1% of measured value |
|  | Repeatability: 0.2% |
|  | Output: 4-20mA, RS485 |
|  | Internal lithium power supply: 3000mAh |
|  | Pipe size range: 1"~48"(25mm~1200mm) |
|  | Transducer: IP68, TT series transducer, 5m cable with mounting kits. |

| Code | Type of Transmitter |
|------|---------------------|
| 1 | Ultrasonic Flow Meter |
| 2 | Ultrasonic Energy/Btu Meter function( RTD) |
| **Code** | **Type of transducers** |
| TT02 | Clamp-on, IP68.<br>Operating temperature: -40℉ ~ +176℉(-40℃ ~ +80℃) |
| TT03 | Clamp-on, IP68.<br>Operating temperature: -40℉ ~ +266℉(-40℃ ~ +130℃) |
| **Code** | **Type of mounting track** |
| | Dual guides mounting type bracket |
| **Code** | **Transducers cable length** |
| P5 | D series type of cable Standard 5m (16ft) with mounting track. |
| PXX | XX is the length you need for cables, Maximum lengthen to 30m. |
| **Code** | **Temperature sensor** |
| PT1000 | A pair of clamp on PT1000 sensor 9m |

Flow meter model (example):

1-TT02-P5

Portable Ultrasonic Flow Meter, TT02 type transducer 5m cables with single guide mounting track.


Energy/ Btu meter model(example):

2-TT02-P5-PT1000

Portable Ultrasonic Energy/Btu Meter , TT02 type transducer 5m cables with single guide typemounting track. A pair of PT1000 clamp on temperature sensor, 9m cables.