

 INSTORE MEASUREMENT & ANALYTICS | DATA SHEET

Ultrasonic Flow meter

Der fluss 2000X

Portable Ultrasonic Flow Meter



Measurement made easy

- **High Accuracy**
Accuracy better than 1%
- **Wide measurement range**
Measurement range from DN15~DN6000mm
- **Rechargeable Power Supply**
Built –in high capacity NiMH rechargeable batteries can work 20 hours (fully charged)
- **Non Invasion Measurement**
Can achieve measurement with clamp on sensors
- **Data Storage**
32K BIT built in data storage, can store two thousand rows of data
- **LCD Display**
LCD display can display the instant , flow, total flow, flow velocity and working condition

Wide range of applicability

- Water and wastewater
- Power
- Supply heating
- Building energy conservation
- Metallurgy
- Petroleum and Chemicals

Overview

Der fluss 2000X

The Portable Ultrasonic Flow Meter is designed to work with clamp on transducer to enable the flow of liquid within a closed pipe to be measured accurately without needing to insert any mechanical parts through the pipe wall or protrude into the flow system.

Using ultrasonic transit time techniques, the instrument is controlled by a microprocessor system which contain a wide range of data that enables it to be used with pipes with an outside diameter ranging from 15mm to 6000mm (depending on model) and constructed of almost any material. The instrument will also operate on wide range of fluid temperature.

Clamp on transducer

- Easy to install and no need to cut off the flow, no pressure loss
- Different transducer from DN15-DN6000mm
- Different transducer for temperature -30 ~160 deg C
- Reduce installation time, improve installation accuracy

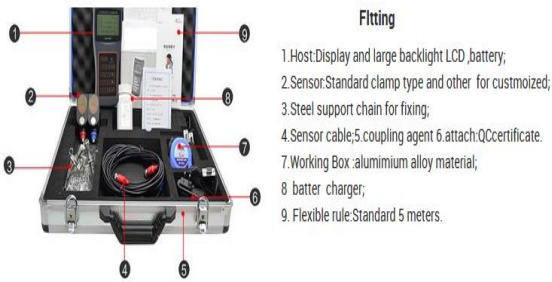


Fig 1.0 Portable Ultrasonic flow meter 2000X-Overview

Features

- High Precise measurement, accuracy is upto +_1.0%, linearity 0.5%, repeat accuracy 0.2%
- Small size & Light Weight, the volume is only 210*90*30mm, and the weight is only 0.5Kg
- Non contacted measurement can be completed by absorbing magnetic ultrasonic flowmeter sensor to the outer wall of the pipe line.
- The measurement range is large, and the different types of sensors can be used to realize the measurement of diameter DN-15-600MM pipeline flow.
- Charging power supply, Built in large capacity ,Ni-MH rechargeable battery, can support the flow meter for more than 12 hours
- Print screen display can display Cumulative traffic, instantaneous flow rate, working condition and so on
- The Built in data logger spaces 24K bytes, which can store data of 2000 rows.



Handheld ultrasonic flow meter with real time display, The flow rate, flow and status. Handheld ultrasonic flow meter with strong body, the material is ABS, Aluminum alloy and special material.



Optional Transducer

| Type | Picture | Size | Model | Measuring range | Temperature | Dimension |
|--------------------------------|---------|--------|---------|-----------------|-------------|--------------|
| Standard Clamp on Type | | Small | TS-2 | DN15~DN100 | -30~90℃ | 45×25×32mm |
| | | Medium | TM-1 | DN50~DN700 | -30~90℃ | 64×39×44mm |
| | | Large | TL-1 | DN300~DN6000 | -30~90℃ | 97×54×53mm |
| High Temperature Clamp on Type | | Small | TS-2-HT | DN15~DN100 | -30~160℃ | 45×25×32mm |
| | | Medium | TM-1-HT | DN50~DN700 | -30~160℃ | 64×39×44mm |
| | | Large | TL-1-HT | DN300~DN6000 | -30~160℃ | 97×54×53mm |
| Standard Bracket Type | | Small | HS | DN15~DN100 | -30~90℃ | 318×59×85mm |
| | | Medium | HM | DN100~DN300 | -30~90℃ | 568×59×85mm |
| | | Large | EB-1 | DN300~DN700 | -30~90℃ | 188×59×49mm |
| High Temperature Bracket Type | | Small | HS-HT | DN15~DN100 | -30~160℃ | 318×59×110mm |
| | | Medium | HM-HT | DN100~DN300 | -30~160℃ | 568×59×110mm |
| | | Large | EB-1-HT | DN300~DN700 | -30~160℃ | 188×59×49mm |

Overview-Transducers & Fittings



Normal Clamp On Transducer



High Temperature Clamp On Transducer



Bracket Clamp On Transducer



| Item | Code | Quantity | Description |
|--------------------------------|------------------------------|----------|---|
| Hand Held Transmitter | | 1 Set | Size 210×90×30mm , Working Temperature : -20~60℃ , Accuracy ±1% |
| Transducer | According to the requirement | 1 Pair | Clamp On Transducer. Cover the diameter range from DN15-DN6000 Temperature:-40-160℃ |
| Signal Cable | | 2 Pcs | Length : 5m , For Linking the Transducer and Transmitter. |
| Data Wire | | 1Pc | Length : 1m , For Upload the Data from the Transmitter to Computer |
| Power Adapter | | 1Pc | Length : 1m , For Recharging the Hand Held Transmitter |
| Couplant | | 1 Pc | Weight : 110g , For Better Ultrasonic Sound Transitting |
| Strecher | | 2 Pcs | Length : 3m , Max Force : 100kg , For Tighting the Sensor on Un-Metal Pipe. |
| Ruler | | 1 Pc | Range : 3m For Measuring the distance between the sensors. |
| Instruction Book | | 1 Pc | |
| Aluminum Alloy Protection Case | | 1 Pc | Size : 415×315×100mm |



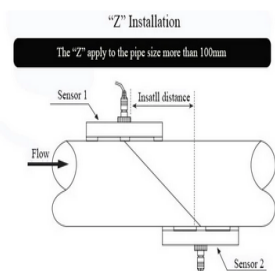
Specifications

| Type | | Performance Parameter |
|-----------------------|----------------|---|
| Transmitter | Principle | Ultrasonic Transit-time principle, Four byte IEEE754 floating point arithmetic |
| | Accuracy | Flow: Better than $\pm 1\%$ |
| | Display | LCD display with Chinese, English, Italian, German language |
| | Output | One OCT pule output(pules width 6-1000ms, Default 200ms) |
| | Data Interface | Isolation of 232 communication interface, can upgrade flowmeter through PC |
| Pipeline Conditions | Pipe Material | Steel, Stainless steel, Cast iron, copper, PVC, aluminium, FRP etc. (liner allowed) |
| | Diameter | 15~6000mm |
| | Installation | Upstream 10D, downstream 5D, 30D away from the pump outlet (D for diameter) |
| Medium | Fluid | Water, sea water, acid liquid, beer, alcohol, oil and any other liquid that can spread sonic |
| | Temperature | Temperature: -30~160 °C |
| | Turbidity | 10000ppm and with little bubbles |
| | Velocity | 0~ ± 10 m/s |
| Operating Environment | Temperature | Transmitter: -20~60°C; Transducer: -30~160°C |
| | Humidity | Transmitter: 85%RH; transmitter protection grade: IP67 |
| Power | | Three internal 1.2V, 2000mAH rechargeable Ni-MH battery. Can work 12 hours fully charged. Can achieve continuous measurement with AC90~260V power adapter |
| Consumption | | 1.5W |
| Case Material | | Flame retardant ABS |
| Weight | | Transmitter: 390g |

Installations-Procedure

The installation of handheld ultrasonic water flow meter

- 1) "W" installation: The pipe size: DN10~100mm;
- 2) "V" Installation: the pipe size :DN20~300mm;
- 3) "Z" Installation: The pipe size: Than 100mm .

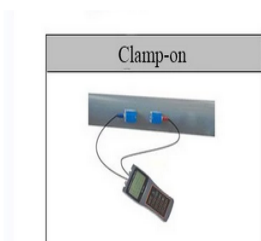


The "Z" installation

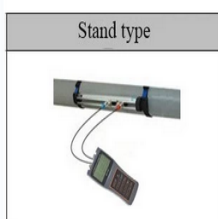
The "Z" type installation apply to the pipe size more than 100mm
The distance of sensor 1 to sensor 2 you need to control and test.

The Sensor installation

Bellow is the installation method of sensor(handheld ultrasonic water flow meter):



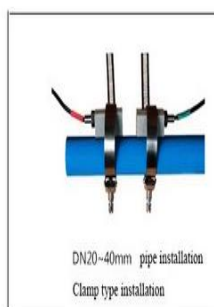
Just need install the clamp on sensor to outside of pipe. Easy to install. without pressure loss.



The bracket with scale, Shorten installation time.

"V" Installation

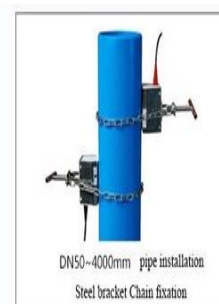
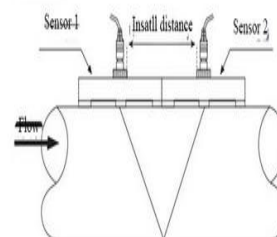
The "V" type installation apply to pipe size 20~300mm,
V type installation of handheld ultrasonic water flow meter is general.



The clamp type installation the pipe size DN:20-40mm
Easy disassembly and installation.

"V" Installation

The "V" apply to the pipe size more than 100mm



The DN50-4000mm you need the steel bracket chain fixation.



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