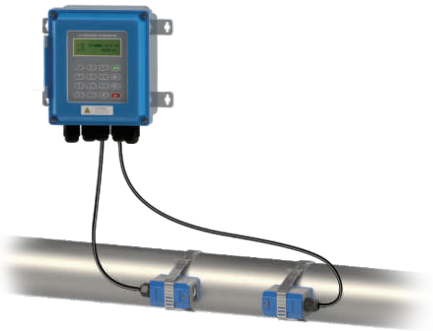
# ULTRASONIC FLOW METER

# TUF-2000B

## FEATURES

- Accuracy: 1%
- Ingress protection level: IP67 (transmitter), IP68 (sensor)
- Wide measurement range, pipe size from DN15mm to DN6000mm.
- Three installation types: wall mounting, DIN-rail mounting, explosion-proof box mounting
- Could operate with temperature sensors for heat/energy measurement.
- Could be installed without shut down equipment operation

Clamp On

Insertion

Pipe

## PRODUCTDESCRIPION

TUF-2000B wall mounted ultrasonic flow meter could be applied to a variety of liquid applications including ultra pure liquids, water, chemicals, raw sewage, reclaimed water, cooling water, river water, plant effluent, alchole, beer, etc.

## MAGNETIC CLAMP ON SENSOR

| Flow Measurement | Heat Measurement | Features |
|---|---|---|

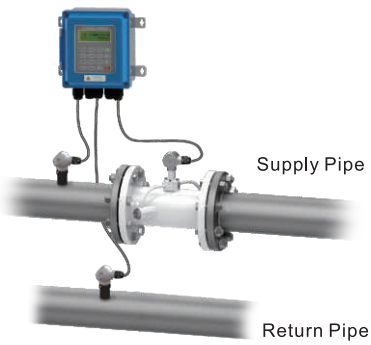
### Calmp on


- Could be installed without shut production down, no pressure loss.
- Could operate with temperature sensor for heat / energy measurement.
- Easy for installation.

### Insertion


- Could be installed without shut production down, no pressure loss.
- Stable and reliable for long term operation.
- Could operate with Pt100 temperature sensor for heat / energy measurement.

### Pipe




- Could be installed without shut production down, no pressure loss.
- High accuracy and stability.
- Could operate with Pt100 temperature sensor for heat / energy measurement.

## SENSOR OPTIONS

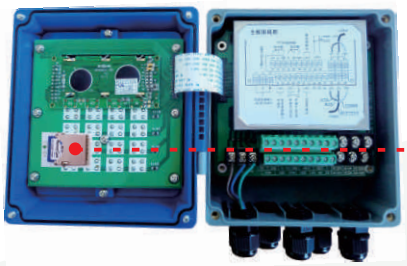
| Types | Picture | Spec. | Model | Measurement Range | Temperature | Dimension |
|---|---|---|---|---|---|---|
| Clamp on |  | Small Size | TS-2 | DN32~DN100 | -30~90℃ | 45×25×32mm |
| |  | Medium Size | TM-1 | DN50~DN700 | -30~90℃ | 64×39×44mm |
| |  | Large Size | TL-1 | DN300~DN6000 | -30~90℃ | 97×54×53mm |
| High temp clamp on |  | Small Size | TS-2-HT | DN32~DN100 | -30~160℃ | 45×25×32mm |
| |  | Medium Size | TM-1-HT | DN50~DN700 | -30~160℃ | 64×39×44mm |
| |  | Large Size | TL-1-HT | DN300~DN6000 | -30~160℃ | 97×54×53mm |
| Insertion |  | Standard | TC-1 | DN80~DN6000 | -30~160℃ | 190×80×55mm |
| |  | Lengthen | TC-2 | DN80~DN6000 | -30~160℃ | 335×80×55mm |
| Pipe |  | π type | G1 | DN15~DN32 | -30~160℃ | Pls refer to detailed pipe dimensions |
| |  | Standard | G2 | DN40~DN1000 | -30~160℃ | |

## OPTIONAL TEMPERATURE SENSORS

| Picture | Specification | Model | Meas. Range | Temperature | Cut of water | Accuracy |
|---|---|---|---|---|---|---|
|  | Clamp on temperature Transducer Pt100 | CT-1 | ≥DN50 | -40~160℃ | No | 100℃ ± 0.8℃ |
|  | Insertion temperature Transducer Pt100 | TCT-1 | ≥DN50 | -40~160℃ | Yes | |
|  | Insertion Pt100 Installation with pressure | PCT-1 | ≥DN50 | -40~160℃ | No | |
|  | Insertion Pt100 Small size pipe diameter | SCT-1 | < DN50 | -40~160℃ | Yes | |

## OPTIONAL SD CARD MEMORY

The optional SD card memory could help to solve the problem of data storage and readings. With the SD card, users will be worry free of data recording or getting a data logger.



## SPECIFICATIONS

| Items | Performance & Parameter | |
|---|---|---|
| Convertor | Principle | Transit-time ultrasonic flowmeter |
| | Accuracy | ±1% |
| | Display | 2×20 character LCD with backlight, support the language of Chinese, English, Italy, Turkish |
| | Signal Output | 1 way 4~20mA output, electric resistance 0~1K，accuracy0. 1% |
| | | 1 way OCT pulse output（Pulse width ~1000ms，default is 200ms) |
| | | 1 way Relay output |
| | Signal Input | 3 way 4~20mA input, accuracy 0. 1%， acquisition signal such as temperature, press and liquid level |
| | | Connect the temperature transducer Pt100, can finish the heat/energy measurement |
| | Data Interface | Insulate Rs485 serial interface, upgrade the flowmeter software by computer, support the MODBUS |
| Special Cable | Twisted-pair cable, generally, the length under 50 meters; Select the RS485, transmission distance can over 1000m | |
| Pipe Installation Condition | Pipe Material | Steel, Stainless steel, Cast iron, Copper, Cement pipe, PVC, Aluminum, Glass steel product, liner is allowed |
| | Pipe Diameter | DN32~6000mm |
| | Straight Pipe | Transducer installation should be satisfied: upstream10D, downstream 5D, 30D from the pump |
| Measuring Medium | Type of Liquid | Single liquid can transmit sound wave,<br>such as Water (hot water, chilled water, city water, sea water, waste water, etc.);<br>Sewage with small particle content; Oil (crude oil, lubricating oil, diesel oil, fuel oil, etc.);<br>Chemicals (alcohol, etc.); Plant effluent; Beverage;<br>Ultra-pure liquids, etc. |
| | Temperature | -30~160℃ |
| | Turbidity | No more than 10000ppm and less bubble |
| | Flowrate | 0~±7m/s |
| Working Environment | Temperature | Convertor：-20~60℃； Flow Transducer：-30~160℃ |
| | Humidity | Convertor: 85% RH； Flow Transducer：can measure under water, water depth≤2m(tansducer sealed glue) |
| Power Supply | DC8~36V or AC85~264V | |
| Power Consumption | 1.5W | |
| Dimension | 132*150*85 mm(convertor) | |