

The fixed separated model is inline measurement for long-term.

There are 3 types converters including wall mounted, panel mounted and proof-explosion.

Convertors can be installed at indoor or instrument cabinet;



## | Features |

- **High Reliability**

Adopt low voltage, multi-pulse technology to improve accuracy, useful life and reliability.

- **Wide measuring range**

Several types transducer for selection, pipe size from Dn15mm to Dn6000mm

- **High Reliability**

Adopt low voltage, multi-pulse technology to improve accuracy, useful life and reliability.

- **Strong Anti-interference**

Dual-balance signal differential receiver/driver circuit to avoid interference of converter, TV tower, high voltage line etc.

- **Powerful Recording Function**

Automatically record the following data:

1. The totalizer data of the last 512 days/128 months/10 years
2. The time and corresponding flow rate of the last 64 times of power on and off events
3. The working status of the last 32 days

- **Support Heat Measurement**

Connect the temperature transducer, can finish the heat/energy measurement

- **Support SD card Memory**

Optional SD card

## | Liquid Type |

This flowmeter can be virtually applied to a wide range of measurement. A variety of liquid applications can be accommodated: ultra-pure liquids, potable water, chemicals, raw sewage, reclaimed water, cooling water, river water, plant effluent. etc

## | Measuring Diagram |

| Flow Measurement                                                                                    | Heat Measurement                                                                                                       | Features                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Clamp on</p>   |  <p>Supply Pipe<br/>Return Pipe</p>   | <ul style="list-style-type: none"> <li>• No need to cut off water , no pressure loss</li> <li>• Easy for installation</li> <li>• Connect clamp on temperature transducer , can finish the heat/energy measurement</li> </ul>                   |
|  <p>Insertion</p> |  <p>Supply Pipe<br/>Return Pipe</p>  | <ul style="list-style-type: none"> <li>• No need to cut off water , no pressure loss</li> <li>• Stable and reliable for long term operation</li> <li>• Connect Pt100 temperature transducer, can finish the heat/energy measurement</li> </ul> |
|  <p>Pipe</p>     |  <p>Supply Pipe<br/>Return Pipe</p> | <ul style="list-style-type: none"> <li>• Need to cut off pipe</li> <li>• With high accuracy and stability</li> <li>• Connect Pt100 temperature transducer, can finish the heat/energy measurement</li> </ul>                                   |

## | Optional Converter |

According to different installation condition, pls choose relative convertor



- Wall mounted TUF-2000SW
- Wall mounting installation
- Dimension : 170×180×56mm
- Power supply: DC8~36V or AC85~264V



- Panel mounted TUF-2000SS
- Instrument cabinet installation
- Dimension : 170×180×56mm
- Hole-opening dimension 152×76mm
- Power supply: DC8~36V or AC85~264V



- Explosion-proof TUF-2000SD
- Explosion-proof installation
- Dimension : 298×298×110mm
- Power supply: DC8~36V or AC85~264V
- Grade : D II BT4

## | Optional Transducers |

| Types              | Picture                                                                            | Spec.       | Model   | Measurement Range | Temperature | Dimension                             |
|--------------------|------------------------------------------------------------------------------------|-------------|---------|-------------------|-------------|---------------------------------------|
| Clamp on           |   | Small Size  | TS-2    | DN15~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 | DN15~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      | G3      | DN15~DN25         | -30~160℃    | Pls refer to detailed pipe dimensions |
|                    |   | Standard    | G2      | DN32/DN40         | -30~160℃    |                                       |
|                    |  | Standard    | G1      | DN50~DN6000       | -30~160℃    |                                       |

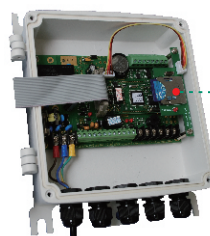
## | Optional Temperature Transducers |

| 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 |

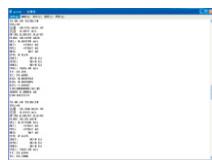
The SD card memory can be expanded to 2GB, which can achieve the ultrasonic flowmeter measurement data mass storage, can solve the problems for wall-mounted flowmeter measurement data stored, reading, and processing inconvenience, can completely replace manual meter reading, no paper records instrument.

In addition, the SD memory card measurements data, can be used by our company's "Flow data analysis, statistical software" for processing, including the tabulation, statistical, data analysis, printing reports, production flow curve and other functions.

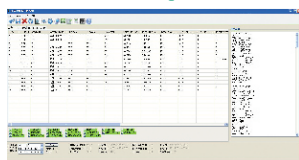


SD card memory of wall mounted

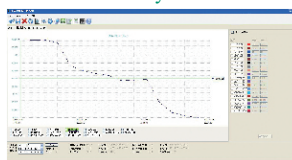
- Raw Data



- Software Import Data



- Instantaneous Flow Curves Generated by Software



- Cumulative Flow Bar Chart Generated by Software



## | Datasheet |

| Items                       |                                                                                                                   | Performance & Parameter                                                                                                                                                                                                                                                                                    |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Convertor                   | Principle                                                                                                         | Transit-time ultrasonic flowmeter                                                                                                                                                                                                                                                                          |
|                             | Accuracy                                                                                                          | $\pm 1\%$                                                                                                                                                                                                                                                                                                  |
|                             | Display                                                                                                           | 2×20 character LCD with backlight, support the language of Chinese, English and Italy                                                                                                                                                                                                                      |
|                             | Signal Output                                                                                                     | 1 way 4~20mA output, electric resistance 0~1K, accuracy 0.1%                                                                                                                                                                                                                                               |
|                             |                                                                                                                   | 1 way OCT pulse output (Pulse width 6~1000ms, 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                                                                                                     | 15~6000mm                                                                                                                                                                                                                                                                                                  |
|                             | Straight Pipe                                                                                                     | Transducer installation should be satisfied: upstream 10D, downstream 5D, 30D from the pump                                                                                                                                                                                                                |
| Measuring Medium            | Type of Liquid                                                                                                    | Single liquid can transmit sound wave, such as Water (hot water, chilled water, city water, sea water, waste water, etc.); Sewage with small particle content; Oil (crude oil, lubricating oil, diesel oil, fuel oil, etc.); Chemicals (alcohol, etc.); Plant effluent; Beverage; 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 (transducer sealed glue)                                                                                                                                                                                                        |
| Power Supply                | DC8~36V or AC85~264V (optional)                                                                                   |                                                                                                                                                                                                                                                                                                            |
| Power Consumption           | 1.5W                                                                                                              |                                                                                                                                                                                                                                                                                                            |
| Dimension                   | 205*154*70cm(convertor)                                                                                           |                                                                                                                                                                                                                                                                                                            |

## | Ordering code |

|           | Convertor   | Flow Transducer | Diameter          | Pipe Material            | Pressure        | Cable Length  | Temperature Transducer | SD card Memory |
|-----------|-------------|-----------------|-------------------|--------------------------|-----------------|---------------|------------------------|----------------|
| TUF-2000S | <div></div> | <div></div>     | DN <div></div> mm | <div></div>              | <div></div> MPa | <div></div> m | <div></div>            | <div></div>    |
| W         |             | TS-2            |                   | 0 Carbon Steel           |                 |               | None                   | 0 Yes          |
| S         |             | TM-1            |                   | 1 Stainless Steel        |                 |               | CT-1                   | 1 No           |
| D         |             | TL-1            |                   | 2 Cast Iron              |                 |               | TCT-1                  |                |
|           |             | TS-2-HT         |                   | 3 Glass Fiber reinforced |                 |               | PCT-1                  |                |
|           |             | TM-1-HT         |                   | 4 PVC                    |                 |               | SCT-1                  |                |
|           |             | TL-1-HT         |                   | 5 Cement                 |                 |               |                        |                |
|           |             | TC-1            |                   | 6 Others                 |                 |               |                        |                |
|           |             | TC-2            |                   |                          |                 |               |                        |                |
|           |             | G               |                   |                          |                 |               |                        |                |

Example: TUF-2000SW+TM-1+DN300+0+1.6MPa+10m+PCT-1+0

PS: Standard configuration=TUF-2000SW(convertor)+TM-1+5M cable +Steel belt (DN200)+Couplant(1 pc)