

TUF-2000P Portable Ultrasonic Flow Meter

TUF-2000P Portable ultrasonic flow meter realizes the non-contact measurement. It is ideal for flow surveys and closed-pipe application where non-invasive measurement of liquids is required.

Temperature and heat can also be measured by connecting clamp on temperature transducer. Widely be used in water supply, heat supply, chemical industry, machinery and energy resources.



| Features |

- **High Accuracy measuring**

Accuracy: $\pm 1\%$

- **Wide measuring range**

Several types of transducers for selection, measuring pipe size from DN15mm to DN6000mm

- **Large capacity battery**

Built-in rechargeable Ni-MH battery, provide over 12 hours of continuous operation

- **Built-in printer**

Available to print data in real time, also available to timed print over 20 pre-set measuring results

- **Data storage**

Store over 20 pre-set measuring results to SD card, make it easy to data analysis and statistics

- **Rs485 communication interface**

Upload the parameters and measuring results to computer

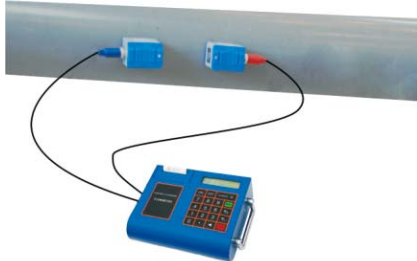
- **Various input and output signal**

Output signal: 4-20mA, pulse signal, relay signal

Input signal: 3 way 4-20mA

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| Measuring Diagram |

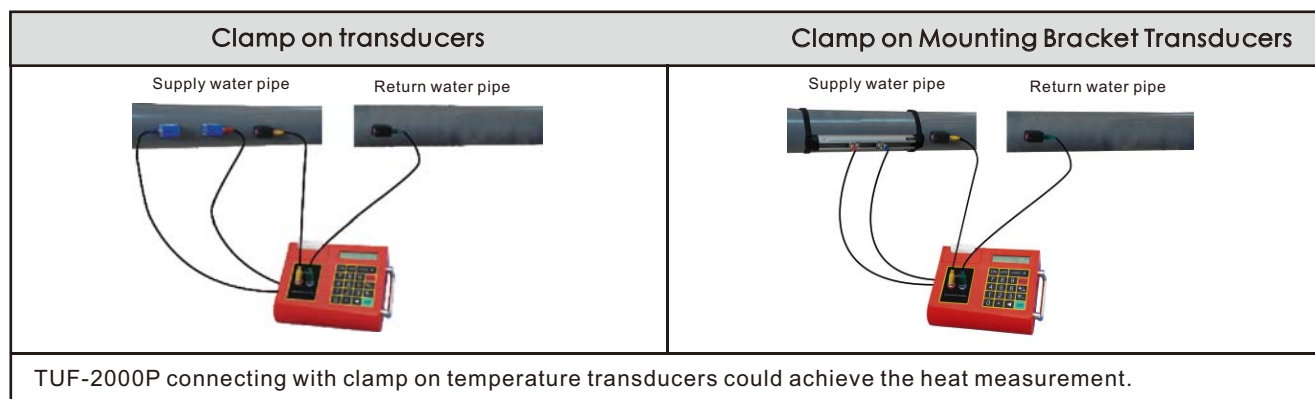
Clamp on transducers	Clamp on Mounting Bracket Transducers
	
• Easy for installation - No need to cutoff water, no pressure loss	• Simplify installation process, shorten installation time, improve installation accuracy. • Easy for installation, no need to cutoff water, no pressure loss

• 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 temperature 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
Mounting Bracket Clamp on		Small Size	HS	DN15~DN100	-30~90℃	318×59×85mm
		Medium Size	HM	DN100~DN300	-30~90℃	568×59×85mm
		Extended	EB-1	DN300~DN700	-30~90℃	188×59×49mm
High Temperature Mounting Bracket Clamp on		Small Size	HS-HT	DN15~DN100	-30~160℃	318×59×110mm
		Medium Size	HM-HT	DN100~DN300	-30~160℃	568×59×110mm
		Extended	EB-1-HT	DN300~DN700	-30~160℃	188×59×49mm

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| Heat Measuring Diagram |



• Typical application

- Thermal power plant
- Heating companies
- Heat exchange station
- Air conditioning refrigeration
- Energy conservation and emission reduction

• Optional temperature transducers

Picture	Types	Model	Measurement Range	Temperature	Cutoff water	Accuracy
	Clamp on temperature transducer PT100	CT-1	$\geq \text{DN50}$	$-40 \sim 160^{\circ}\text{C}$	No	$100^{\circ}\text{C} \pm 0.8^{\circ}\text{C}$

| Parts Description |



Wiring board

Output signal: 4-20mA
Pulse signal
Relay signal
Input signal :3 way 4-20mA

• SD CARD

Convenience for long-term storage of data.
Available to do the data processing like tabulation, statistics, data analysis, print reports and make flow curve by using the matching data analysis software.



Temperature and heat measurement

Convenient to measure temperature and heat rate by connecting clamp on temperature transducers.

Thermal printer (24 column characters)

Available to print data in real time, also available to timed print over 20 pre-set measuring results



Display

2 × 20 character
backlight screen,
LCD size: 85 × 19mm



Carrying case

High-strength carrying case, easy to take,
dustproof, waterproof and impact resistance.



TUF-2000P Portable Ultrasonic Flow Meter

| Datasheet |

Items		Performance & Parameter
Convertor	Principle	Transit time ultrasonic flowmeter
	Accuracy	± 1%
	Display	2×20 character LCD with backlight, support the language of Chinese, English and Italian
	Signal Output	1 way 4-20mA output, electric resistance 0~1K, accuracy 0.1%
		1 way OCT pulse output(Pulse width 6~1000ms, the default value is 200ms)
		1 way relay output
	Signal Input	3 way 4-20mA input, accuracy 0.1%, acquire signals such as temperature, press and liquid level
		Achieve to heat measurement by connecting the temperature transducer PT100.
Pipe Installation Condition	Data Interface	Insulate RS485 serial interface, upgrade the flowmeter software by computer, support MODBUS
	Data Record	Thermal printer, external SD card(2G of capacity)
	Material	Steel, Stainless steel, Cast iron, Copper, Cement pipe, PVC, Aluminum, Glass steel product, liner is allowed.
Measuring Medium	Diameter	15~6000mm
	Straight Pipe	Transducer installation should be satisfied: upstream 10D, downstream 5D, 30D from the pump.
	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 partical content; Oil(crude oil, lubricating oil, diesel oil, fuel oil, etc.) Chemicals(alcohol, etc.); Plant effluent; Beverage; Ultra-pure liquids, etc.
	Temperature	30~160℃
Working Environment	Turbidity	Less than 10000ppm and little bubble
	Flowrate	0~± 10m/s
	Temperature	Convertor: -20~60℃; Transducer: -30~160℃
Power Supply	Humidity	Convertor: 85%RH; Transducer protection level: IP67
		8 built-in Ni-MH batteries 1.2V(for over 20 hours of operation). Could operate 8 hours by connecting 4-20mA signal output. 90V - 260V AC adapter
Power Consumption		1. 5W

| Ordering Code |

TUF-2000P- Optional Transducer - Cable length - Heat Measurement - Input Signal

5 5m×2 (standard) N No heat measurement N no output
 10 10m×2 1 Heat measurement 1 4-20mA output (please specify range)

Example: TUF-2000P-HS, HM, TL-1-5-N-N

Explanation: portable ultrasonic flow meter+small size mounting bracket transducer+ medium size mounting bracket
transducer+ large size clamp on transducer+ 2×5M cable, no heat measurement, no 4-20mA signal output