



| Features |

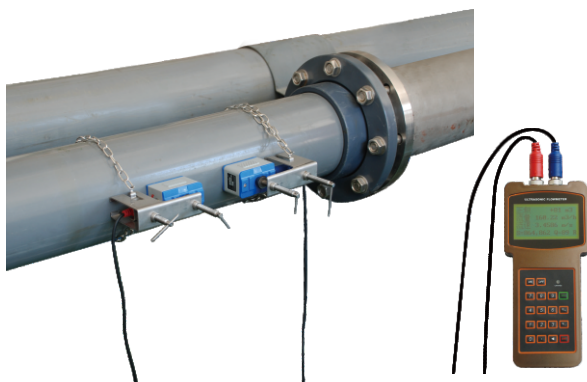
- **High Accuracy measuring**
Accuracy: $\pm 1\%$, linearity: 0.5%, repeatability: 0.2%
- **Wide measuring range**
Several types transducer for selection, measuring pipe size from DN15mm to DN6000mm
- **Large capacity battery**
Built-in rechargeable Ni-MH battery, provide over 12 hours of continuous operation
- **Non-intrusive measuring**
Non-intrusive, clamp-on transducer, no pressure drop, no pipe disturbance
- **Support Multiple Language Menu**
Chinese, English, Italian and other languages can be customized
- **Large LCD display**
Display instantaneous flow, accumulated flow (positive, negative and net), velocity, working status etc.
- **Built-in data logger**
Built-in 24K data logger, store over 2000 lines measuring data

TUF-2000H Handheld Ultrasonic Flowmeter

| Liquid Type |

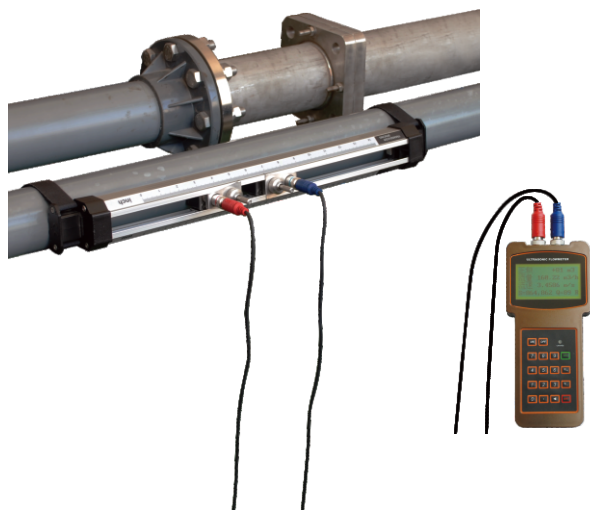
This flowmeter can be virtually applied to a wide range of measurement. A variety of liquid applications can be accommodated: ultra-pure liquids, potable water, chemicals, raw sewage, reclaimed water, cooling water, river water, plant effluent. etc

| Measuring Diagram |



| Clamp on Transducers |

- Install the clamp on transducer (with magnet) on the pipe, can finish the flow measurement. No pressure drop, no need cut off pipe.
- Several types transducers for selection, measuring pipe size from DN15mm to DN6000mm.
- Several types transducers for selection,

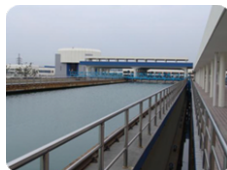


| Clamp on Mounting Bracket Transducers |

- Bracket transducer can simplify the ultrasonic flowmeter installation process, shorten installation time and improve installation accuracy.
- Install the clamp on bracket transducer (with magnet) on the pipe, can finish the flow measurement. No pressure drop, no need cut off pipe.
- Several types bracket transducers for selection, measuring pipe size from DN15mm to Dn700mm.
- Several types bracket transducers for selection, measuring temperature range from -30°C to 160°C

| Applications |

Water supply and drainage



Heating



Construction of Energy-saving



Metallurgy



Petrochemical

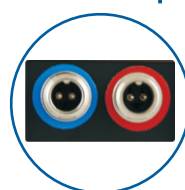


Power

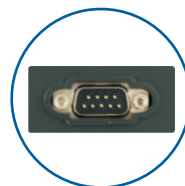


TUF-2000H Handheld Ultrasonic Flowmeter

| Parts Descriptions |



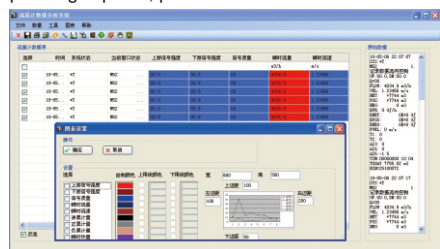
Transducer Interface



Communication & Signal Output Interface

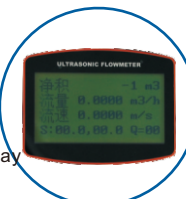
• 32Kbit Data Storage

It is convenient for measuring data storage, if use our company's "Flow data analysis, statistical software" for processing, can finish the tabulation, statistical, data analysis, printing reports, production flow curve and other functions.



Display

4×16 character screen with backlight can display instantaneous flow, accumulated flow (positive, negative and net), velocity, working status etc



Aluminum alloy Carrying Case



| Optional Transducer |

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	DN50~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	DN50~DN300	-30~160℃	568×59×110mm
		Extended	EB-1-HT	DN300~DN700	-30~160℃	188×59×49mm

TUF-2000H Handheld Ultrasonic Flowmeter

| Datasheet |

Items		Performance & Parameter
Converter	Principle	Transit-time ultrasonic flowmeter
	Accuracy	$\pm 1\%$
	Display	4×16 character LCD with backlight, support the language of Chinese, English and Italy
	Data Interface	Insulate Rs232 serial interface, upgrade the flowmeter software by computer
Pipe Installation Condition	Pipe Material	Steel, Stainless steel, Cast iron, Copper, Cement pipe, PVC, Aluminum, Glass steel product, liner is allowed
	Pipe Diameter	25~6000mm
	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~±10m/s
Working Environment	Temperature	Converter: -20~60℃; Flow Transducer: -30~160℃
	Humidity	Converter: 85%RH; Flow Transducer: Ip67
Power Supply	3 AAA built-in Ni-MH batteries 1.2V(for over 12 hours of operation). 90V-260V AC adapter	
Power Consumption	1.5W	
Case Material	ABS	
Dimension	200*93*32MM(Converter)	

| Ordering Code |

TUF-2000H - Optional Transducer - Cable length

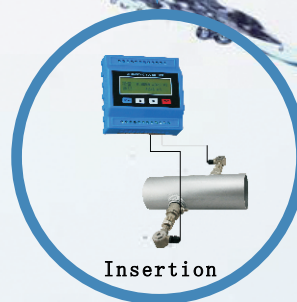
5 5m×2 (Standard)

10 10m×2

Example: TUF -2000H+HM++ 10m

PS: Standard configuration = TUF -2000H1(converter)+TM-1+5M*2 cable +Stretcher+ Carrying case+Ruler

This ultrasonic module is inline measurement for long-term. The converter and transducer are installed fixing on the pipe, with the advantages of small size, low cost and easy operation.









| Features |

- **High Accuracy**
Better than $\pm 1\%$
- **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
- **Far transmission distance, easy for networking**
RS485 support wireless network, connect GPRS module to accomplish wireless transmission .
- **Support Heat Measurement**
Connect the temperature transducer , can finish the heat/energy measurement

| Liquid Type |

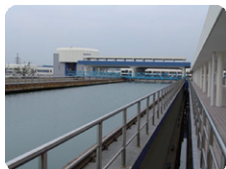
This flowmeter can be virtually applied to a wide range of measurement. A variety of liquid applications can be accommodated: ultra-pure liquids, potable water, chemicals, raw sewage, reclaimed water, cooling water, river water, plant effluent. etc

| Measuring Diagram |

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

| Applications |

Water supply and drainage



Heating



Construction of Energy-saving



Metallurgy














Petrochemical







Power



| Optional Transducers |

Types	Picture	Specification	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	

| Parts Descriptions |

Front View	Wiring Diagram	Back View
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- Dimensions: 92×90×34mm
- LCD Display: 60×19mm
- 4 keyboard operation

TX2	T2	GND	T1	TX1	AI5	AI4	AI3	OC1+	OC1-	RLY+	RLY-
24V+	24V-	485+	485-	AO-IN	AO	UP+	UP-	GND	DN+	DN-	GND



- Installation Method:
Guide Rail(width is 35mm)

| Datasheet |

Items		Performance & Parameter	
Convertor	Principle	Transit-time ultrasonic flowmeter	
	Accuracy	± 1%	
	Operation	4 keyboards operation	
	Signal Output	1 way 4~20mA output, electric resistance 0~1K, accuracy0. 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: upstream10D, 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 (tansducer sealed glue)	
Power Supply	DC8~36V or AC10~30V		
Power consumrption	1. 5W		
Dimension			

| Ordering code |

Flow Transducer Diameter Pipe Material Pressure Cable Length Temperature Transducer
 TUF-2000M- -DNmm - -- MPa ----- m --

TS-2	0 Carbon Steel	None
TM-1	1 Stainless Steel	CT-1
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-2000M+TM-1+DN300+0+1.6MPa+10m+PCT-1

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

TUF-2000B SERIES

WALL MOUNTED ULTRASONIC FLOWMETER

IP67

Water & Dust Resistant



clamp on



Insertion



Pipe



| Features |

- Measurement accuracy 1%.
- Converter protection class IP67, transducer protection class IP68.
- Wide measurement range, pipe size from DN15mm to DN6000mm.
- Three types installation method: wall mounted, DIN-rail mounted, explosion-proof box mounted.
- Connect the temperature transducer can finish the heat/energy measurement.

IP67

TUF-2000B Wall Mounted Ultrasonic Flowmeter

| Introduction |

TUF-2000B flowmeter can be virtually applied to a wide range of in long-term online measurement. Converter protection class IP67, transducer protection class IP68. A variety of liquid applications can be accommodated: ultra-pure liquids, portable water, chemicals, raw sewage, reclaimed water, cooling water, river water, plant effluent.etc

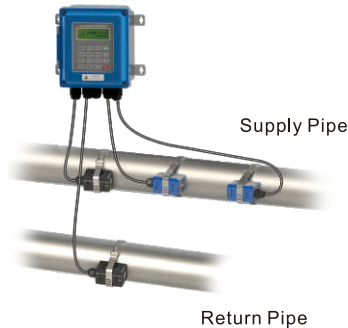
| Measuring Diagram |

Flow Measurement

Heat Measurement

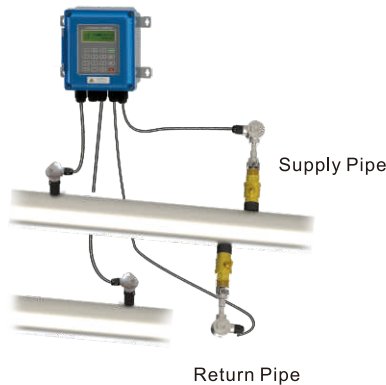
Features

Clamp on



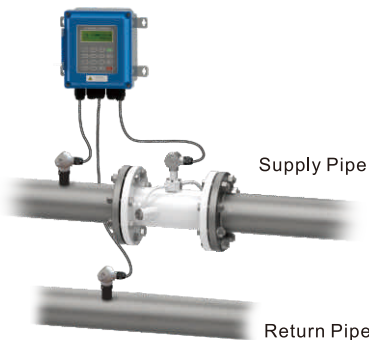
- No need to cut off water , no pressure loss.
- Connect clamp on temperature transducer,can finish the heat/energy measurement.
- Easy for installation.

Insertion



- No need to cut off water , no pressure loss.
- Stable and reliable for long term operation.
- Connect Pt100 temperature transducer, can finish the heat/energy measurement.

Pipe













- Need to cut off pipe
- With high accuracy and stability
- Connect Pt100 temperature transducer, can finish the heat/energy measurement

TUF-2000B Wall Mounted Ultrasonic Flowmeter





| Optional Transducers |

Please choose the suitable transducer, according to different liquid pipe condition and installation method, (please refer to the measuring diagram).

Types	Picture	Spec.	Model	Measurement Range	Temperature	Dimension	
Clamp on		Small Size	TS-2	DN25~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	DN25~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℃	SUS304 thread connection	Please refer to detailed pipe dimensions
		Standard	G2	DN40~DN1000	-30~160℃	carbon steel thread connection	

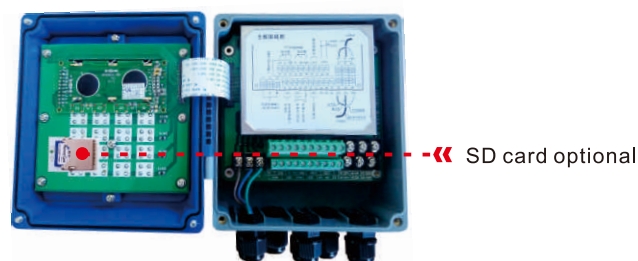
| Optional Temperature Transducers |

Connect the temperature transducer can finish the heat/energy measurement

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 |

Convenience for long-term and large data storage. Available to do the data processing like tabulation, statistical, data analysis, printing reports and production flow curve by using data analysis software.



TUF-2000B Wall Mounted Ultrasonic Flowmeter

| 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, Italy, Turkish
	Signal Output	1 way 4~20mA output, electric resistance 0~1K, accuracy 0.1%
		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	25~6000mm
	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	132*150*85 mm (convertor)	

| Ordering Code |

TUF-2000B ----- -DN mm - -- MPa - m - -----

Flow Transducer	Diameter	Pipe Material	Pressure	Cable Length	Temperature Transducer	SD card Memory
TS-2		0 Carbon Steel			None	0 Yes
TM-1		1 Stainless Steel			CT-1	1 No
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-2000B+TM-1+DN300+0+1.6MPa+10m+PCT-1+0

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