



### Introduction

TSONIC-502 ultrasonic flow meter is a wall-mount, clamp-on or insertion type ultrasonic flow meter using transit-time technology. Both Clamp on type sensors and Insertion type sensors are available. New designed using advanced chip and low-voltage broadband pulse transmission, ensure flow meter with high accuracy and repeatability for long term operation.

### Advantages

Comparing with other traditional flow meter, TSONIC-502 ultrasonic flow meter has distinctive features such as high precision, high reliability and high capability.

TSONIC-502 ultrasonic flow meter adopt user-friendly menu design. British and metric measurement units are available. Support to check total flow for the last 64days and months as well as for the last 6 years. With SD card function optional, ultrasonic flow meter could achieve data storage for analysis.

### Applications

TSONIC-502 ultrasonic flowmeter is widely applied in HVAC, water treatment, irrigation.

### Technical Data

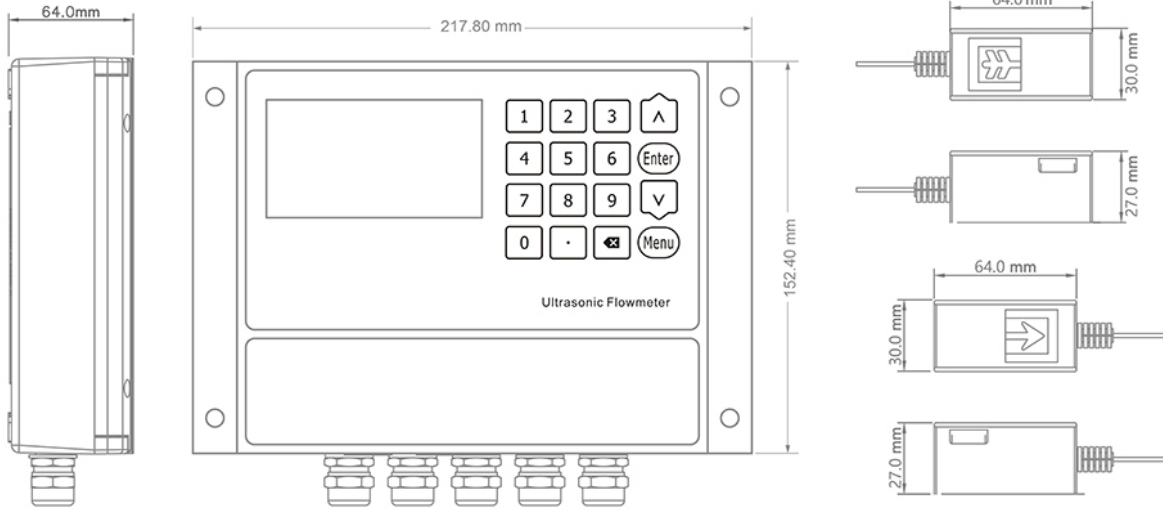
Wall Mounted Ultrasonic Flow Meter Parameters



Size	DN25-DN3000mm
Accuracy	±1% of measured value
Flow Range	±0.09ft/s ~ ±16ft/s (±0.03m/s ~ ±5m/s)
Fluid	Single medium liquid
Pipe Material	Carbon steel, stainless steel, PVC and other compact material pipe
Power Supply	10~36VDC/1A
Outputs	Analog output: 4~20mA, max load 750Ω Pulse output: 0~10KHz
Communication	RS485
Temperature	Transmitter: -14°F~140°F(-20°C~60°C) Transducer: -40°F~176°F(-40°C~80°C,standard) -40°F~176°F(-40°C~130°C,special)
Humidity	Up to 99% RH, non-condensing
Protection	Transmitter: PC/ABS, IP65 Transducer: ABS, IP68
Cable	9m (standard), Longer cable available



**Dimension**



Transmitter Size

Transducer size

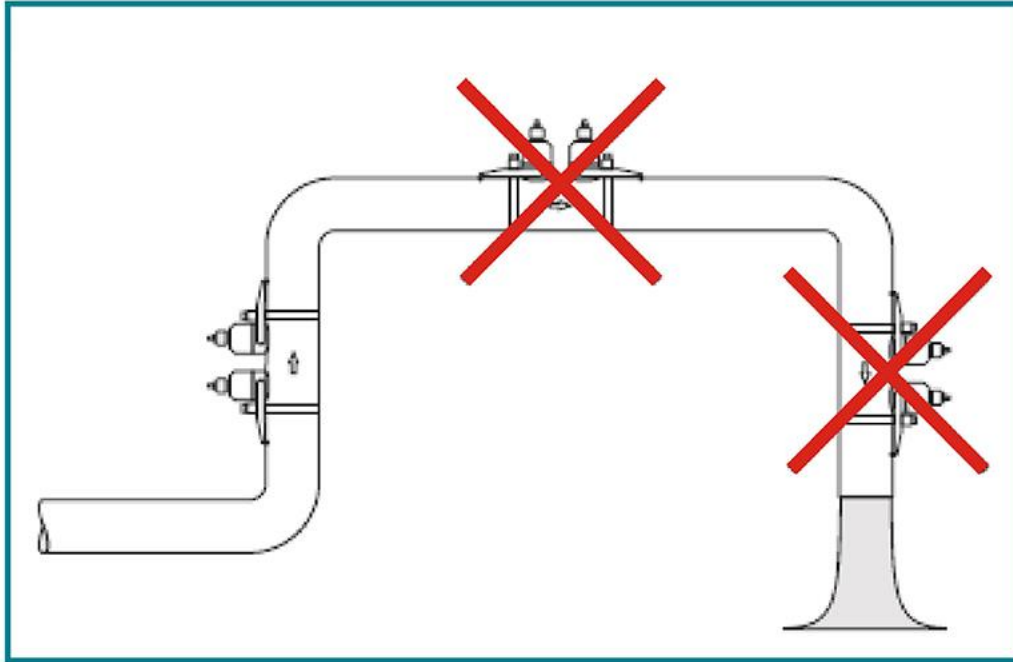
**Model Selection**

Tsonic-502	Specification						
Signal	OCT, Relay, RS-232/RS- 485, 4-20 mA (Volumetric)	1					
	OCT, Relay, RS-232/RS- 485, 4-20 mA, RTD input (Energy) *must select Code PT1000 or provide external temperature sensors	2					
Type of transducers	Clamp-on, IP68. Operating temperature: -40°F ~ +176°F(-40°C ~ +65°C)		CD01				
	Clamp-on, IP68. 2MHz Pipe Operating temperature: 32°F~140°F(0°C ~ +60°C)		C2				
	Clamp-on, IP68. Operating temperature: -40°F ~ +266°F(-40°C ~ +130°C)		C1U				
	Insertion, IP68. Operating temperature: -40°F ~ +266°F(-40°C ~ +130°C)		W1				
Cable length	9m (standard)			P9			
	5m (standard for C2 only)			P5			
	XXm (max 274m)			PXX			
Temperature Sensor (BTU meter only)	Without a pair of clamp on PT1000 sensor 9m				WT		
	With a pair of clamp on PT1000 sensor 9m				WA		
Power Supply	DC10-36V					DC	
Special Function	None						N
	AC power,90-245VAC						AC
	SD Card						SD
	HART						H

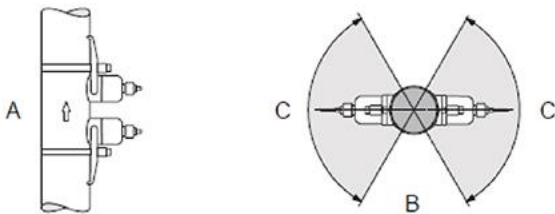


### Installation

The first condition for ultrasonic flow meter is the pipe must be full of liquid, the bubbles will greatly influence the accuracy of the measurement, please avoid the following installation positions:

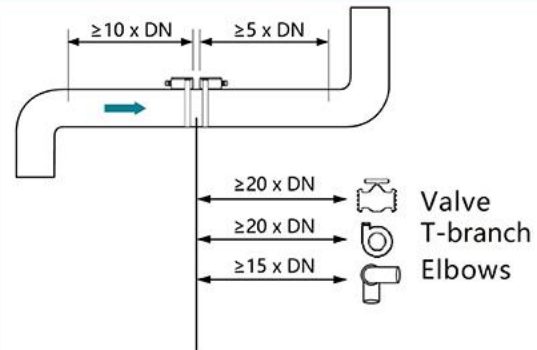


#### The suggestion installation area is as following:



- A is for upright pipeline, please notice the water direction is from the bottom to top.
- B is for horizontal pipeline, the transducers need to be installed inside the C area, angle for area C, max 120°.

#### Straight pipe demand



We suggest avoiding valves, T-branch pipes, and elbows if the pipe conditions allow. When dealing with more than one interfering resource, please satisfy the largest position installation requirement.