



**NO PIPE CUT  
NECESSARY**

## CLAMP ON TYPE FLOW METER

No need to cut the pipe;  
Easy to install;  
No moving parts;  
No need to stop production during the installation.

# TM601 CLAMP-ON ULTRASONIC FLOWMETER

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Fluid is widely used in many facilities, and each facility has its own use and purpose. Such as, water treatment plant and clean PCB with washing water.

What types of FLUIDS do you utilize in your processes?



Where is the meter applied?



How about the pipe diameter?



What our Clamp on flow meter could provide?

- Monitor flow directly on unit;
- Check dosage of the liquid;
- Send signal to PLC;
- Track operation to improve efficiency.

# TM601 CLAMP-ON ULTRASONIC FLOWMETER

For monitoring water supply and consumption without cutting pipe.

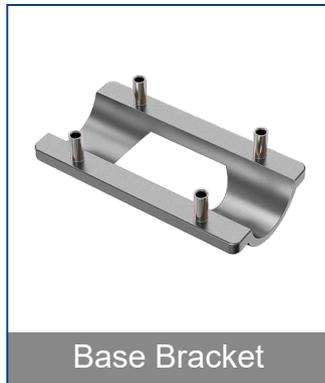
## Composition



FLO-INSTRU



Upper Bracket



Base Bracket



Cable



## Simple and easy installation

### 01 Clean the pipe



No dirt and oil contamination outside the pipe.

### 02 Install the bracket



Align flow meter to the pipe position, install screw on top part of the bracket, and then the bottom part of the bracket will automatically connect with the top part. Fasten the four M4 screws.

### 03 Install the sensor part



Remove the protection film outside the sensor, put the sensor part into the bracket, and fasten the two M4 screws.

### 04 Cable connection



Take out the cable, and fasten it on the socket

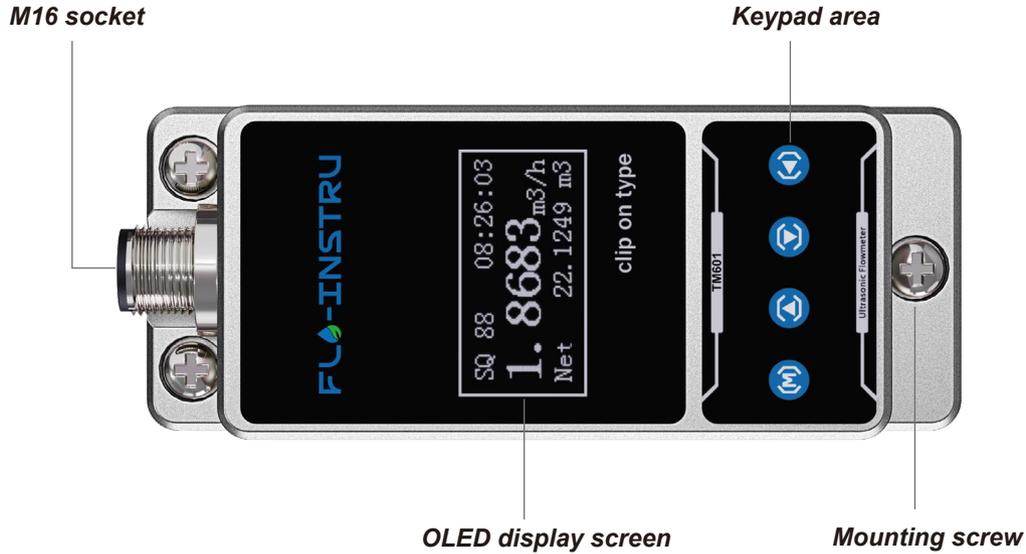
### 05 Operation



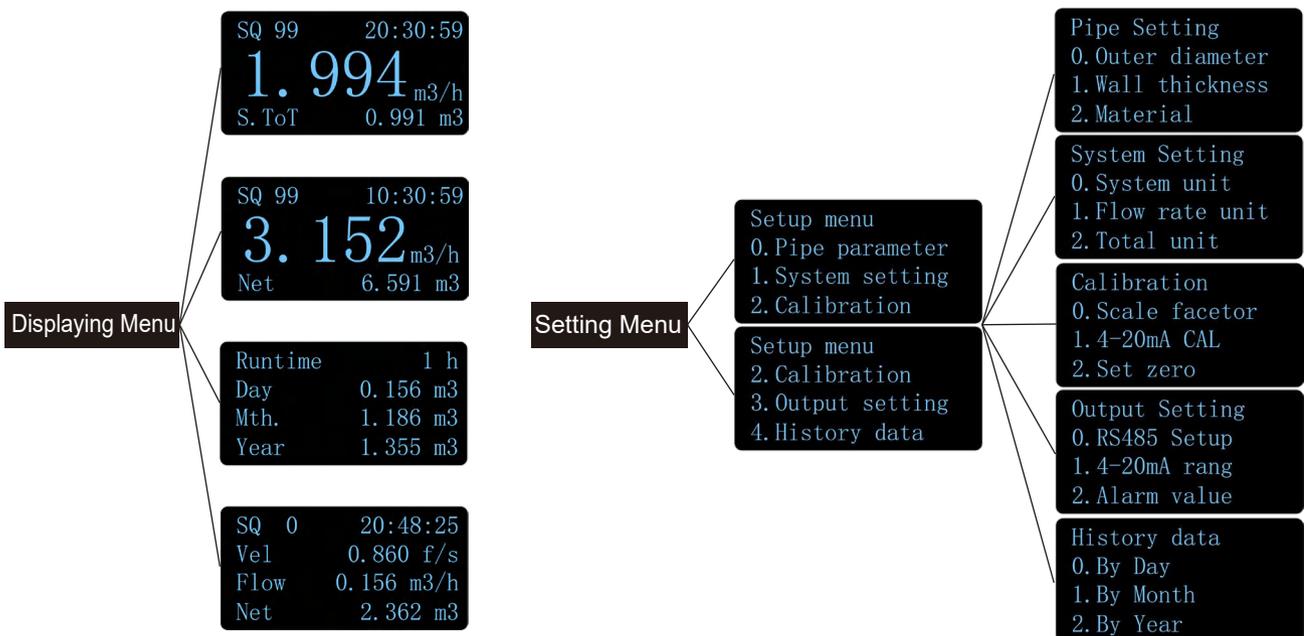
Power on and see if the SQ is more than 50. If yes, this indicates that the measurement has been stable.

# Setup

For different pipe diameters and pipe designs, the factory defaults have defaulted to the specified standard settings. there is no need to reset.



# Menu



## Working Principle

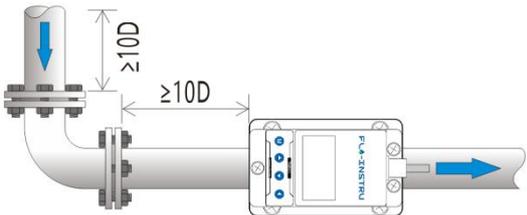
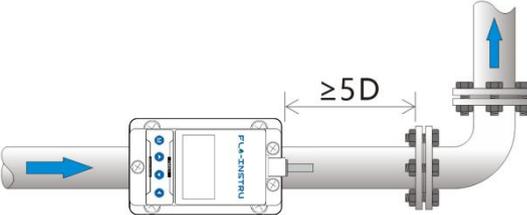
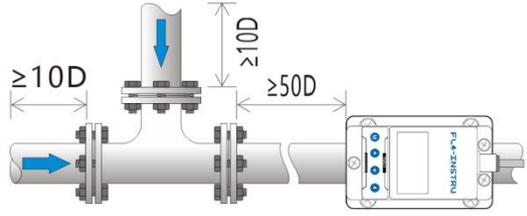
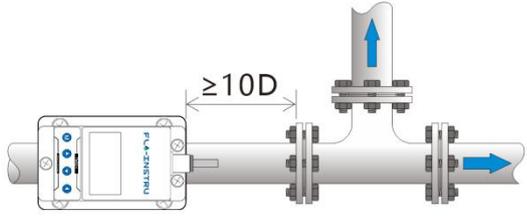
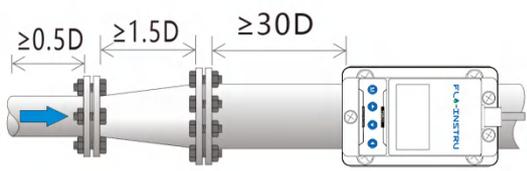
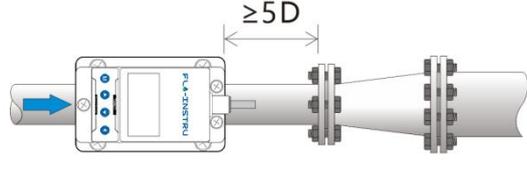
Products developed by adopting the ultrasonic principle of transit-time difference method (also called the speed difference method) send and receive ultrasonic signals through the sensor. The downstream propagation time is fast and the counter-flow propagation time is slow. We can get transit-time difference, thereby converting the flow velocity and multiplying it by the cross-sectional area of the pipe. flow can be calculated.

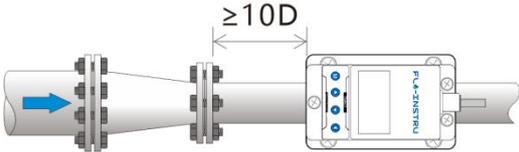
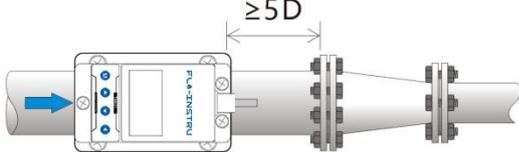
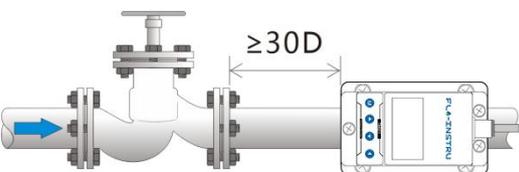
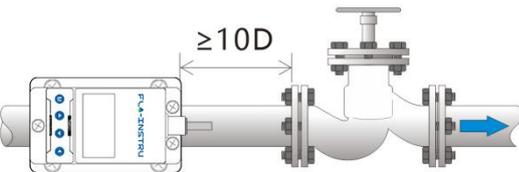
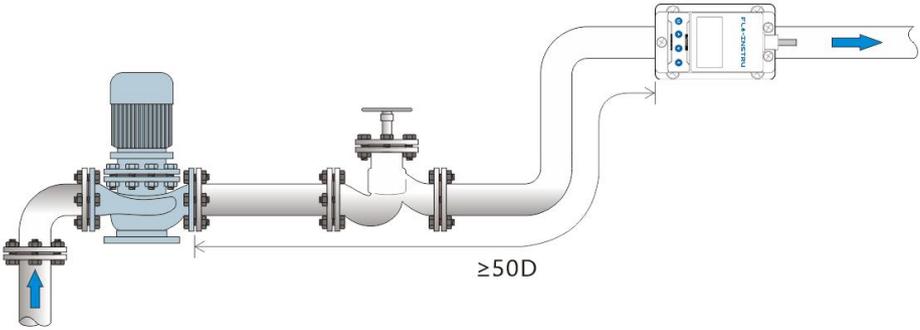
For first-time using, kindly refer to the following operation:

## Point selection (Installation Position)

The transit-time difference ultrasonic flowmeter can only be well measured when the flow rate is stable, the medium (liquid) in the pipeline is free of impurities and bubbles, and there is a certain pressure (about 0.4MPa)— This is a necessary basic condition for flowmeter with velocity difference method. In order to ensure the above conditions, the flowmeter must be installed on the horizontal pipeline or vertical pipeline (the flow direction is from bottom to top to avoid empty pipes or bubbles)

The pipe is filled with liquid, and the temperature is within the specified range. It should be installed on the side of the pipe (at 3:00 or 9:00), as shown in the following diagram:

Installation Point	Straight pipe section in the front of installation point	Straight pipe section in the back of installation point
Elbow		
Three-way Pipe		
Expansion Pipe		

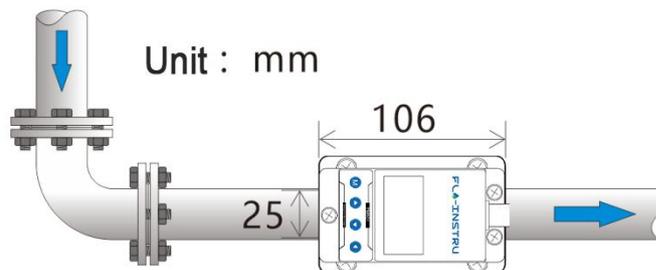
Swaged Pipe		
Valve		
Bump		

Note: D refers to the diameter of the pipe, such as: the pipe is DN25, 10D is 254mm

## Pipeline Treatment

Ultrasonic signals are greatly attenuated in the air, and paint or potholes on the surface of the pipeline will affect the propagation of ultrasonic waves, and surface treatment of the pipeline is required. The surface of the paint pipe is free from stains, flat and bright. In particular, the surface of the metal pipe should be polished with a grinder, and then scrubbed with clean water.

Refer to the figure below for the grinding area:



## Specification

Model No.	TM601
Flow Range	$\pm 0.328\text{ft/s} \sim \pm 16\text{ft/s}$ ( $\pm 0.1\text{m/s} \sim \pm 5\text{m/s}$ )
Accuracy	2.0%
Repeatability	0.8%
Pipe Size	OD9.53, OD12.7, OD15, OD20, OD25, OD32, OD40, OD50, OD63, OD75, OD90, OD110, OD140, OD220
Liquid	Water, Sea water, Oil, Alcohol...
Analog Output	4~20mA, Maximum load: 750 $\Omega$
Alarm Output	OCT upper and lower limit alarm function (optional)
Communication	RS485
Power Supply	10-36V DC
Cable Length	2m
Key Panel	Four touch buttons
Display	OLED 128*64 dot-matrix display screen
Unit	Support metric unit selection, Cubic Meters(m <sup>3</sup> ), Liters(l), USA Gallons(gal). /hour, /min, The factory default unit is cubic meters per hour.
Totalizer	6 bit flow rate totalizer.
Pipe Material	Carbon Steel, Stainless Steel, PVC...
Housing Material	aluminum alloy
Ambient Temperature	0°C- 50°C
Fluid Temperature	0°C- 50°C
Ambient Humidity	RH 0~95%, No condensation
IP Rate	IP54
Data Storage	Daily, Monthly, and Annual Flow Totalizer;

## Ordering Information

### Default Parameter

Velocity Range: 0.01m/s~±5 m/s (0.328ft/s~±16ft/s)  
 Accuracy: ±2.0%  
 Repeatability: 0.8%  
 Display: OLED 128\*64  
 Keyboard: Four light touch buttons  
 Protection Rate: IP54 Housing  
 Enclosure: Aluminum alloy  
 Power supply: 10-36V DC  
 Transducer (Flow sensor): Clamp-on type  
 Operating Temperature: 0°C~50°C  
 Liquid: Water, Sea water, Oil, Alcohol...  
 Cable: 2m (7ft) Length



### Optional Parameters:

Code	Output			
1	4-20mA+RS485(Standard)			
2	OCT Pulse+Relay(Optional Module)			
Code	Pipe Material			
NC	PVC\Stainless Steel\Carbon Steel...			
Code	Pipe Size(1 choice from 13)			
OD	Outer Diameter		Nominal Diameter	
	OD	OD Range	DN	Inch
	OD9.53	9.5mm-10.5mm	DN4	
	OD12.7	12.4mm-13.1mm	DN8	1/4"
	OD15	14.5mm-15.4mm	DN10	3/8"
	OD20	16.5mm-23.0mm	DN15	1/2"
	OD25	25.0mm-30.0mm	DN20	3/4"
	OD32	32.0mm-35.0mm	DN25	1"
	OD40	38.0mm-45.0mm	DN32	1-1/4"
	OD50	48.0mm-54.0mm	DN40	1-1/2"
	OD63	58.0mm-64.0mm	DN50	2"
	OD75	72.0mm-78.0mm	DN65	2-1/2"
	OD90	80.0mm-92.0mm	DN80	3"
	OD110	108.0mm-116.0mm	DN100	4"
OD140	132.0mm-142.0mm	DN125	5"	
OD220	218.0mm-228.0mm	DN200	8"	

Order Rules: TM601-1-NC-OD25

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