PCE-UFM Series
CLAMP-ON ULTRASONIC FLOW METER

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

PCE-UFM Series CLAMP-ON ULTRASONIC FLOWMETER

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?

- Water
- Sea
- Oil

Where is the meter applied?

- Water Treatment
- Aquaculture
- HVAC/BMS

How about the pipe diameter?

- DN4-DN15
- DN20-DN80
- DN100-DN200

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.

PCE-UFM Series CLAMP-ON ULTRASONIC FLOWMETER

For monitoring water supply and consumption without cutting pipe.

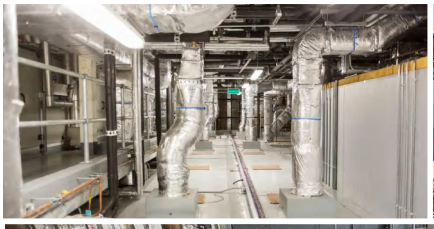
Composition

Display

Upper Bracket

Base Bracket

Cable

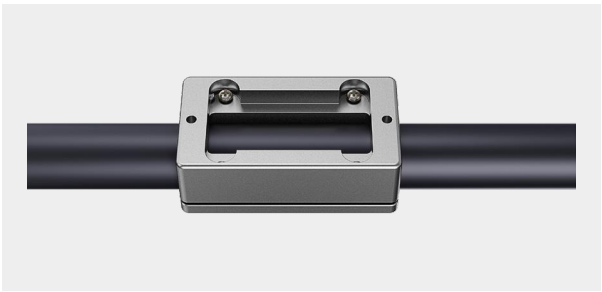


Simple and easy installation

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

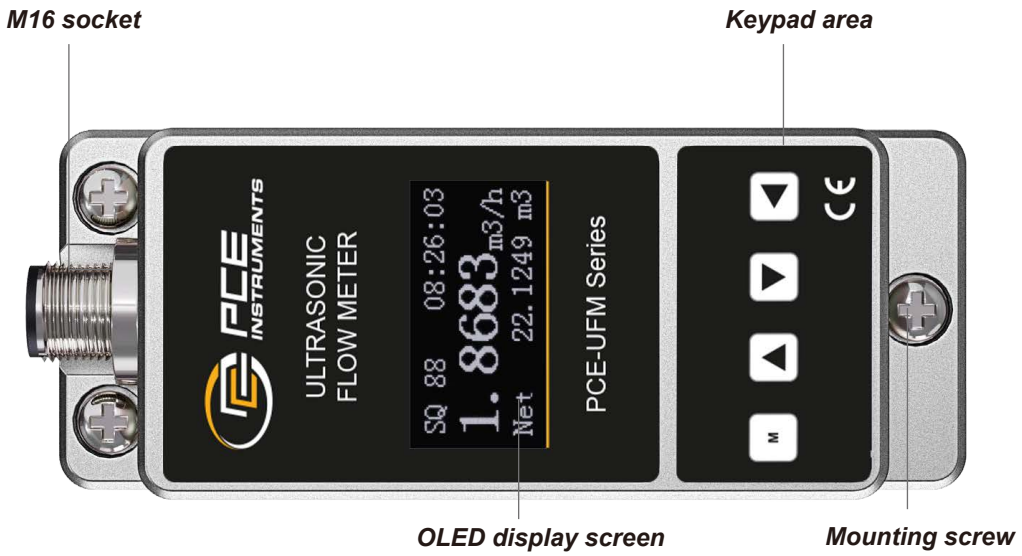
Take out the cable, and fasten it on the socket

05 Operation

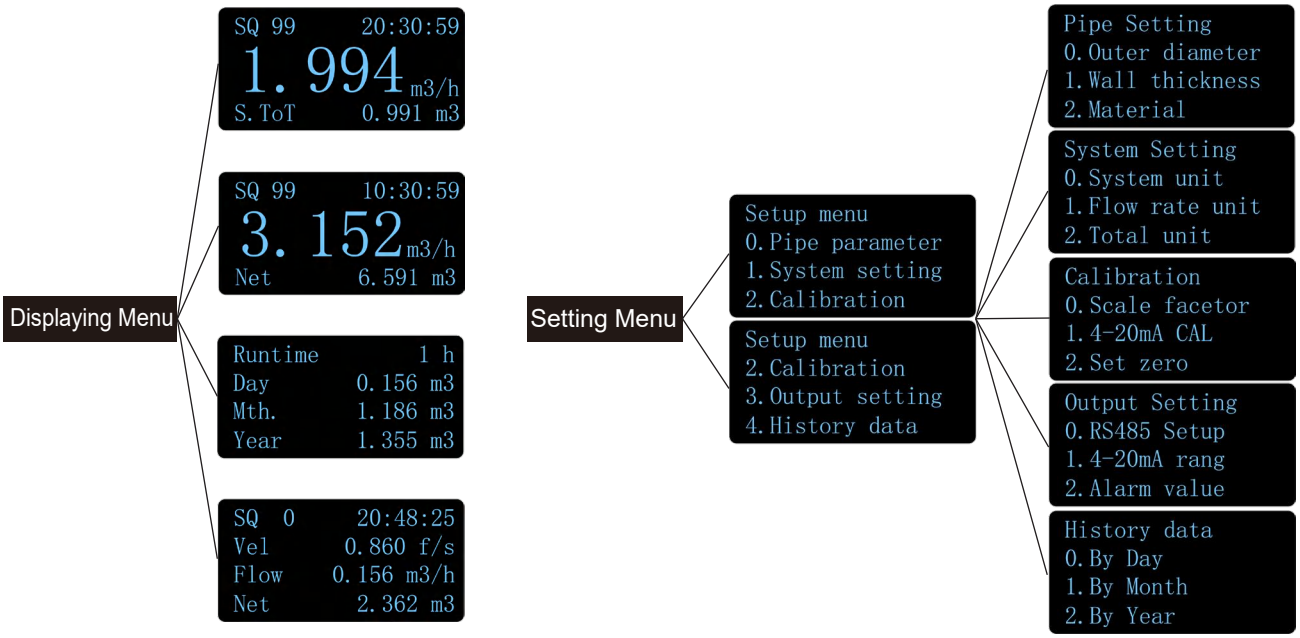
Power on and see if the SQ is more than 50. If yes, this indicates that the measurement has been stable.

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

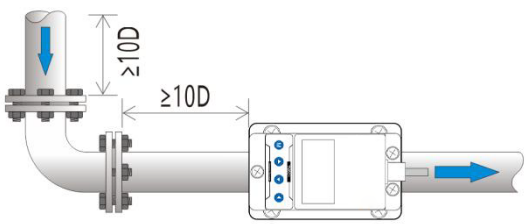
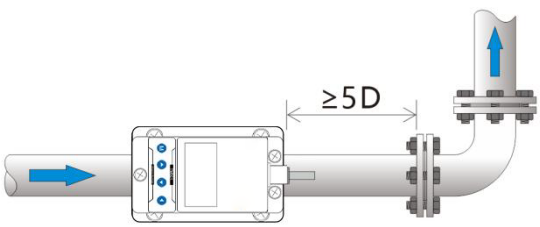
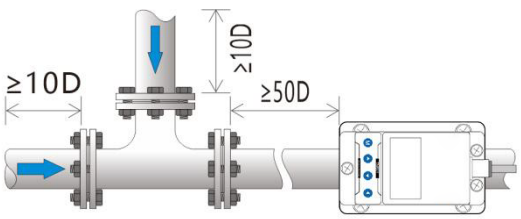
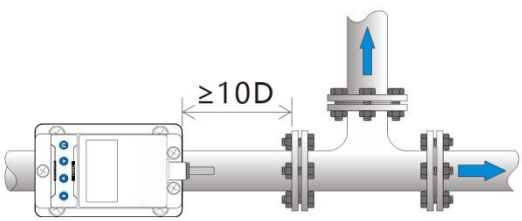
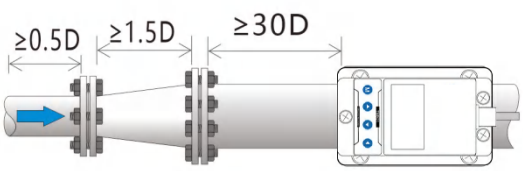
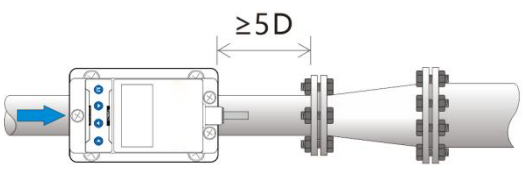


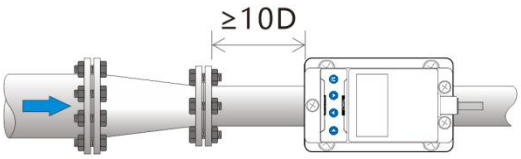
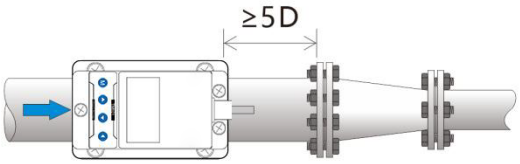
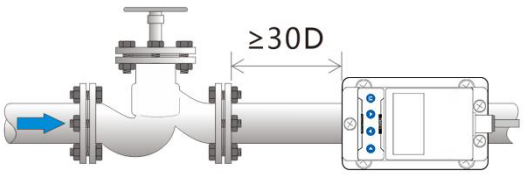
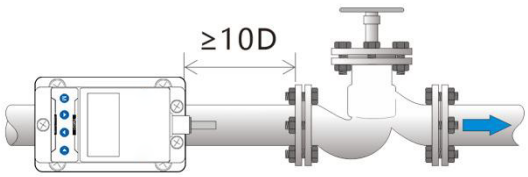
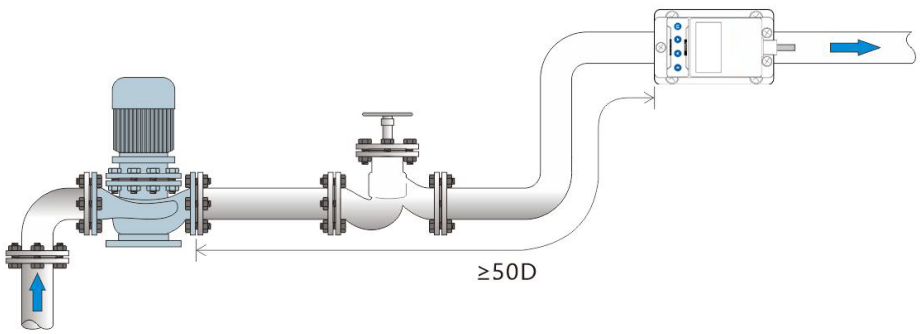
Working Principle

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:

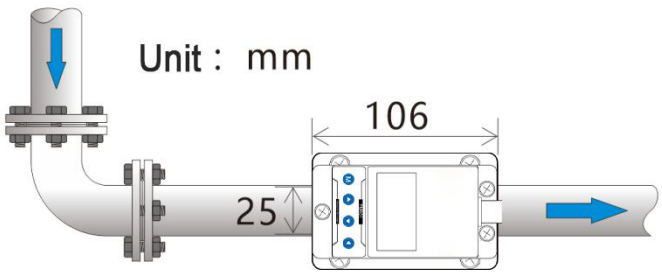
Installation Point	Straight pipe section in the front of installation point	Straight pipe section in the back of installation point
Elbow		
Three-way Pipe		
Expansion Pipe		

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.	PCE-UFM Series
Flow Range	±0.328ft/s ~ ±16ft/s (±0.1m/s ~ ±5m/s)
Accuracy	2.0%
Repeatability	0.8%
Pipe Size	OD12.7, OD15, OD20, OD25, OD32, OD9.53
Liquid	Water, Sea water, Oil, Alcohol...
Analog Output	4～20mA, Maximum load: 750Ω
Alarm Output	OCT upper and lower limit alarm function (optional)
Communication	RS485
Power Supply	9～36V 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^3), 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℃- 50℃
Fluid Temperature	0℃- 50℃
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: 9~36V DC
Transducer (Flow senor): Clamp-on type
Operating Temperature: 0℃~50℃
Liquid:Water,Sea water,Oil, Alcohol...
Cable: 2m (7ft) Length

Optional Parameters:

	Output			
	4-20mA+RS485(Standard)			
	OCT Pulse			
	Pipe Material			
	PVC\Stainless Steel\Carbon Steel...			
	Pipe Size(1 choice from 5)			
PCE-UFM 4 PCE-UFM 8 PCE-UFM 10 PCE-UFM 15 PCE-UFM 20 PCE-UFM 25	Outer Diameter		Nominal Diameter	
	OD	OD Range	DN	Inch
	OD9.53	9.5mm-10.5mm	DN4	1/8″
	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″