

Ultrasonic Flow Meter

Clamp On Type

Model: YF-C3M



Compact construction

Easy to install

Introduction

We are development of flow measurement technology. The products serve real-time flow measurement and process control in the production process.

Customer groups include:
chemical production process, fine chemical production, cleaning industry, beverage industry, etc.



Highlight

- α Clamp on type, No need to cut the pipe or changes pipe line.
- α No need for training, installation and measurement can be done based on the guide.
- α No moving parts or pressure changes involved, installation can be done without stop provide.

Application

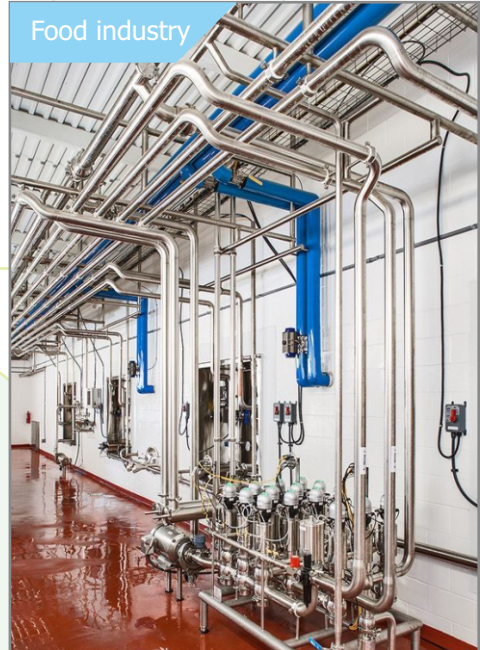
Ultrasonic flowmeter can be used in many industries, The meter used in the cleaning equipment industry, it is easy to install and operate, as well as stable measurement, and many industries are used.

Including: semiconductors, food, medicine, beverages, detergents, printing and dyeing, chemicals, etc.

Semiconductor industry



Food industry



Cleaning industry



Pharmaceutical industry



Beverage industry



Fine Chemistry



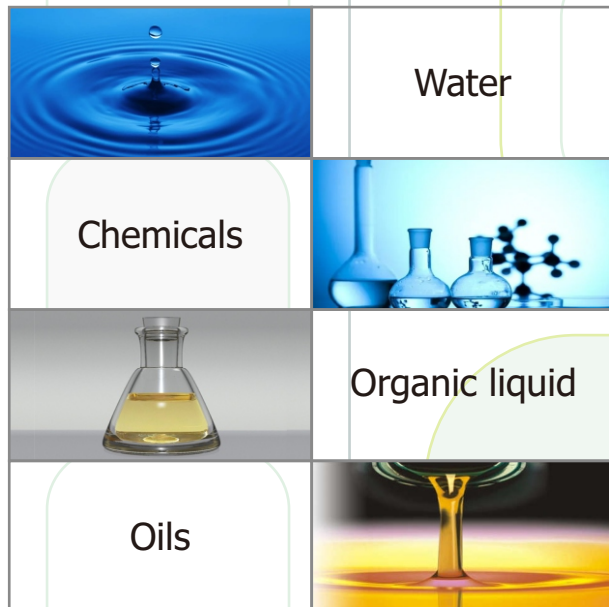
Many applications, many kinds of liquids, different viscosities.

With the field test method, the customer can always find a measurement solution, which makes the application more and more widespread.

Appropriate media

Product measurement medium requirements: single medium, no bubbles, no impurities.

Main applications: tap water, pure water, ultrapure water, metering and control, due to the continuous promotion of the application industry, for all kinds of acids, alkalis, organic liquids, chemical solvents, alcohol, beverage water, etc.



User feedback on measured media:

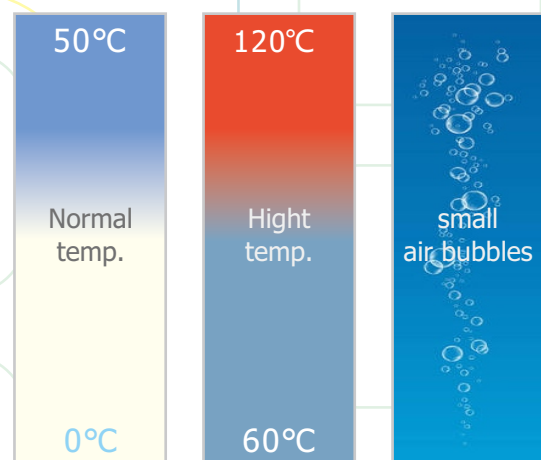
- dilute sulfuric acid
- White wine
- Hydrocarbon
- Alcohol
- Sodium chlorate
- Sodium carbonate
- Triethylamyl alcohol
- Ethylenediamine
- Propylene oxide, etc.

As the market expands, we will also find that more and more media will be measured, and we hope that users will share more applications so that we can continue to enrich our products and improve them.

Determination of the measurable medium:

- Medium flow rate in the pipeline is stable
- Pressure is maintained at 0.3 Mpa
- No air bubbles (or cavitation) due to flow.

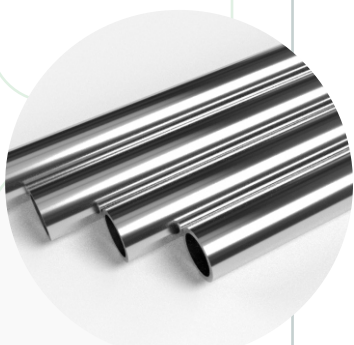
There are many other media that have been measured, so please feel free to inquire.



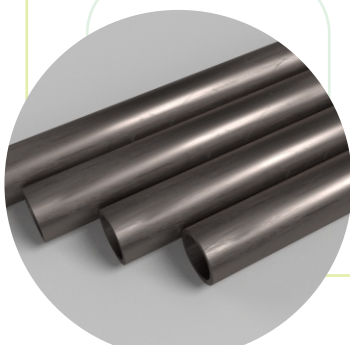
Pipe material

The product can be used for almost pipe material, including both steel pipe and plastic pipe.
Menu options: The flow meter can measure steel pipe / copper pipe and plastic pipe.

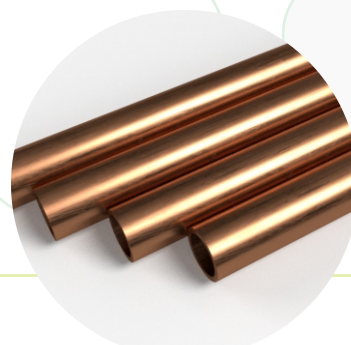
Steel Pipe



Stainless steel pipe

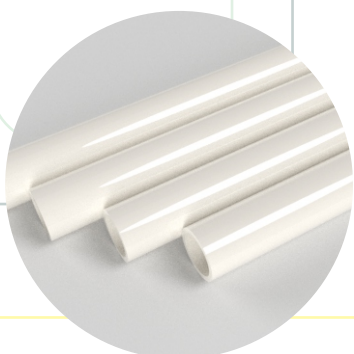


Carbon steel pipe

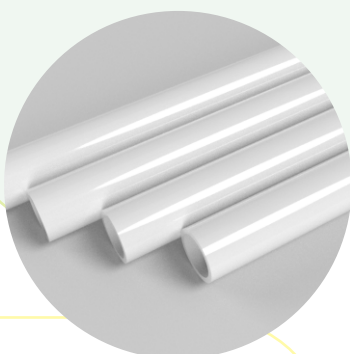


Copper pipe

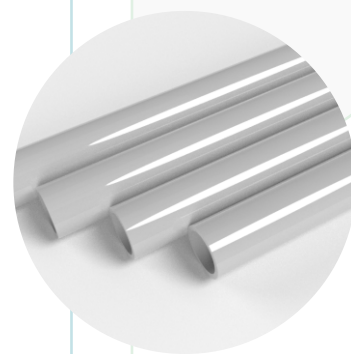
Plastic pipe



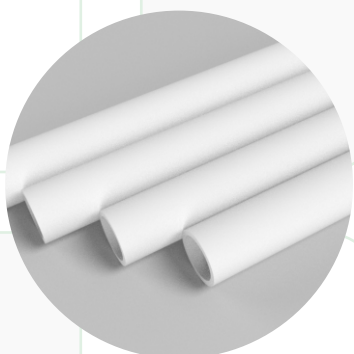
PVDF



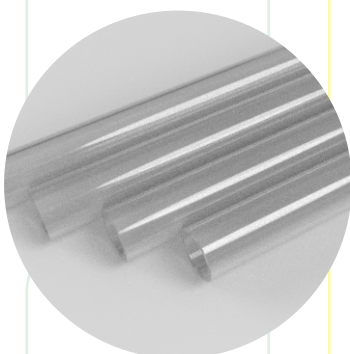
PVC/CPVC



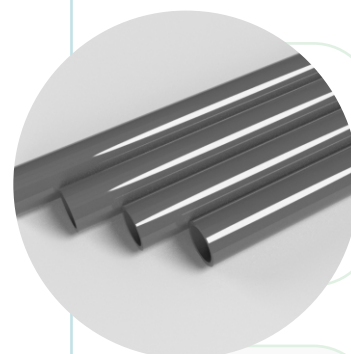
PPR



PPH



PFA/PU



HDPE

For more measurable materials, please contact us

Flow range

This product can measure steel pipes and plastic pipes, but the outer diameter of pipes is different for different standards. We have taken these factors into account in the design, and the structure can be compatible Minimum and maximum outer diameters, When ordering, please pay attention to whether the minimum outer diameter and the maximum outer diameter are on-site pipe diameters.

Model		-9.53	-12.7	-15	-20
OD	mm	φ9.53	φ12.7	φ15	φ20
DN	DN	DN6	DN8	DN10	DN15
NB	NPS	⅜"	¼"	⅜"	½"
Range of OD	mm	9.53-12.7	12.7-14	14-17	17-20
Flow range	L/min	0.2-20	0.44-30	0.57-50	0.92-70
Flow range	m³/h	0.01-1	0.03-2	0.03-3	0.06-4

Model		-25	-32	-40	-50
OD	mm	φ25	φ32	φ40	φ50
DN	DN	DN20	DN25	DN32	DN40
NB	NPS	¾"	1"	1¼"	1½"
Range of OD	mm	22-30	30-35	38-45	48-54
Flow range	L/min	1.36-150	2.71-200	4.24-330	6.8-460
Flow range	m³/h	0.08-10	0.16-15	0.25-20	0.41-30

Model		-63	-75	-90	-110
OD	mm	φ63	φ75	φ90	φ110
DN	DN	DN50	DN65	DN80	DN100
NB	NPS	2"	2½"	3"	4"
Range of OD	mm	58-68	68-78	88-96	108-116
Flow range	L/min	9.54-700	14.8-1030	21.8-1360	36.5-2170
Flow range	m³/h	0.57-40	0.89-60	1.31-80	2.19-130

*The measurable flow range is (0.1m/s-5.0m/s), and the accuracy flow range is (0.3m/s-5.0m/s).

Easy to install

4 screws to tighten bracket

Magnetic design to prevent screws from falling.

2 screws to fix measuring unit

Easy tightening with anti-loosening screws.

✓ Installation complete!

Power on and measure, it's that simple.



Composition

Measuring unit



Base bracket

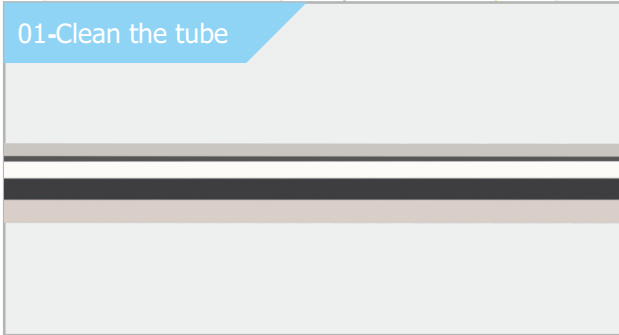


Cable



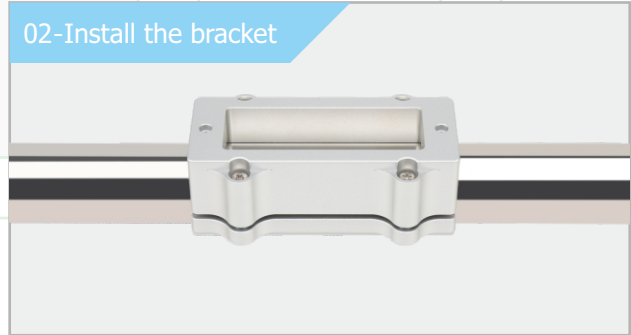
Step by step

01-Clean the tube



Make sure no dirt, paint, or other stains on the surface of the tube.

02-Install the bracket



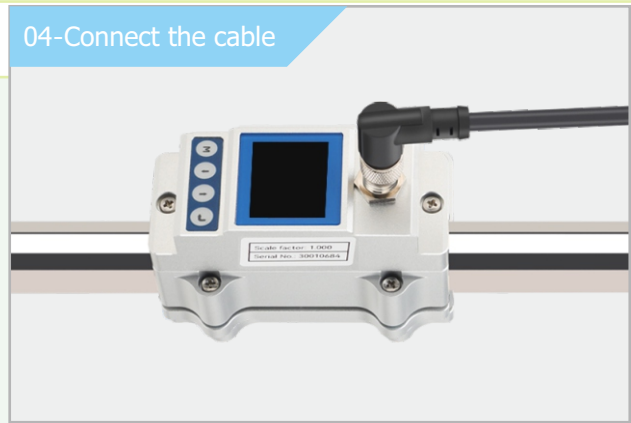
Align flow meter to the pipe position, Install screw on top part of the bracket, the bottom part of the bracket will automatically connect with the top part. tighten the four M4 screws.

03- Install the unit



Put the Unit into Upper bracket, and tighten two M4 screws.

04-Connect the cable



Take out the cable, connect it to the socket, and rotating.

05- Run the host



Please refer to the manual for cable connection; Power on and the $SQ \geq 50$ which indicates that the measurement has been stable.

Setting

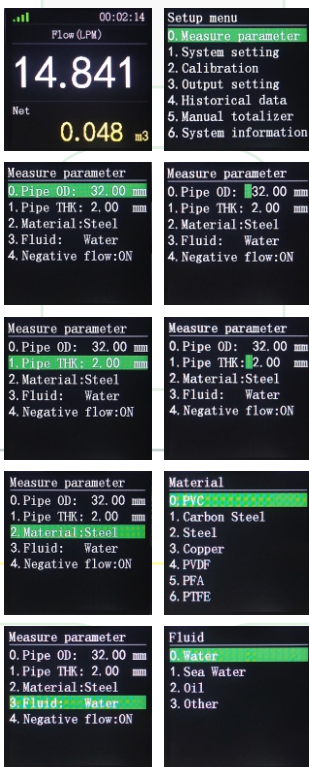
The products are calibrated in standard piping with the water before leaving the factory, all product achieves the Nominal accuracy (+/-2.0% accuracy).

There may be differences between the site piping and the standard piping, media, etc., the first installation needs to confirm the data, the operation is as follows:

Keypad

press **(M)** To switch between setting and display modes, when setting modes press **(M)** To return to the upper-level menu; **(↑)** and **(↓)** Up and down Scroll display interface, set the mode, press **(↓)** For moving to the next digit, press **(↑)** To select a number, loop from 0 to 9 in the end press **(↵)** notarize.

Setup operation



Main screen press **(M)** ,into setup menu.

Press **(↵)** , into 0.pipe setting.

Press **(↵)** , into 0.outer diameter.

Press **(↓)** shift, press **(↑)** adjusted value , press **(↵)** confirm.

Press **(M)** , return to 0.Pipe Setting.

Press **(↓)** and **(↵)** , into 1.Wall thickness.

Press **(↓)** shift , press **(↑)** adjusted value , press **(↵)** confirm.

Press **(M)** , return to 0.Pipe Setting.

Press **(↓)** and **(↵)** , into 2.Material.

Press **(↵)** select , PVC\Steel\Copper... etc, press **(↵)** confirm.

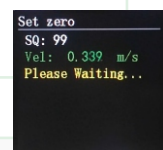
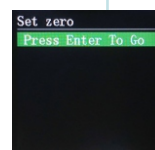
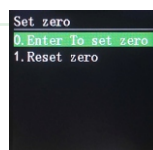
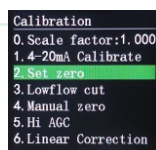
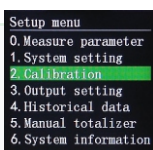
Press **(M)** , return to 0.Pipe Setting.

Press **(↓)** and **(↵)** , into 3.Fluid type.

Press **(↵)** select , Water, Oil... etc, press **(↵)** confirm.

Calibration zero

Note: If the valve cannot be closed on site, this operation may not be done.



The first installation of the new product requires a zero-point calibration operation, during which it is confirmed that the tube is filled with medium without bubbles, the valve is closed, and the medium is stationary.
Main screen press **(M)** , into Setup menu, select 2.Calibration, select 2.Set zero, Press 3 times **(↵)** Calibration zero, Ent To set zero → Press Ent To Go → Enter To Reset , The system automatically returns to the main screen.
Open the valve to measure the flow normally.

Specification

Product	Clamp On Type Ultrasonic Flow Meter
Accuracy	+/-2.0% (at 0.3m/s to 5.0m/s)
Flow range	0.1 m/s-5.0m/s
Linearity	+/-2.0% (at 0.3m/s to 5.0m/s)
Repeatability	0.8%
Response	500ms
Display screen	1.54" 240*240 IPS LCD can 360 spins (easy to read)
Language	English, Chinese Simplified, Chinese Traditional
Display unit	Metric and English units are available, m ³ /h、LPM、GPM、LPH, Default unit setting: m ³ /h
Display data	Flow rate, Flow velocity, net totalizer, single totalizer, Daily max, Daily min, day-month-year totalizer
Number of displays	Display 7 digits
Data storage	10 years, 64 months, 64 days
Keypad	4 touch key
Calendar battery	CR1220
Power supply	24VDC@3W
Analog output	4 ~ 20mA, Maximum load: 600Ω
Communication	RS485, support Modbus RTU protocol
Alarm output	OCT, Upper and lower limit alarm function (option)
Relay output	30VDC@1A, switching frequency less than 2Hz (Option)
Medium	Water, Chemical solvents etc (inclusions less 4%)
IP Grade	IP54/IP65
Installation	Compact Unit, upper and down bracket and Measure Unit tightened by screws
Pipe range	OD9.53-OD110 (DN6-DN100)
Housing material	Aluminum alloy
Medium temp	Compact type: -10°C-50°C
Environment temp	-10°C-50°C
Environment humidity	0-95% relative humidity, without condensation
Viscosity	<300CST (mm ² /s)
Cable length	stand length: 2m (Can be extended to 20 m.)

Weight

Unit: kg

Model	-9.53	-12.7	-15	-20	-25	-32
Kgs	0.69	0.69	0.68	0.68	0.69	0.71
Model	-40	-50	-63	-75	-90	-110
Kgs	0.71	0.72	0.91	0.94	1.20	1.37

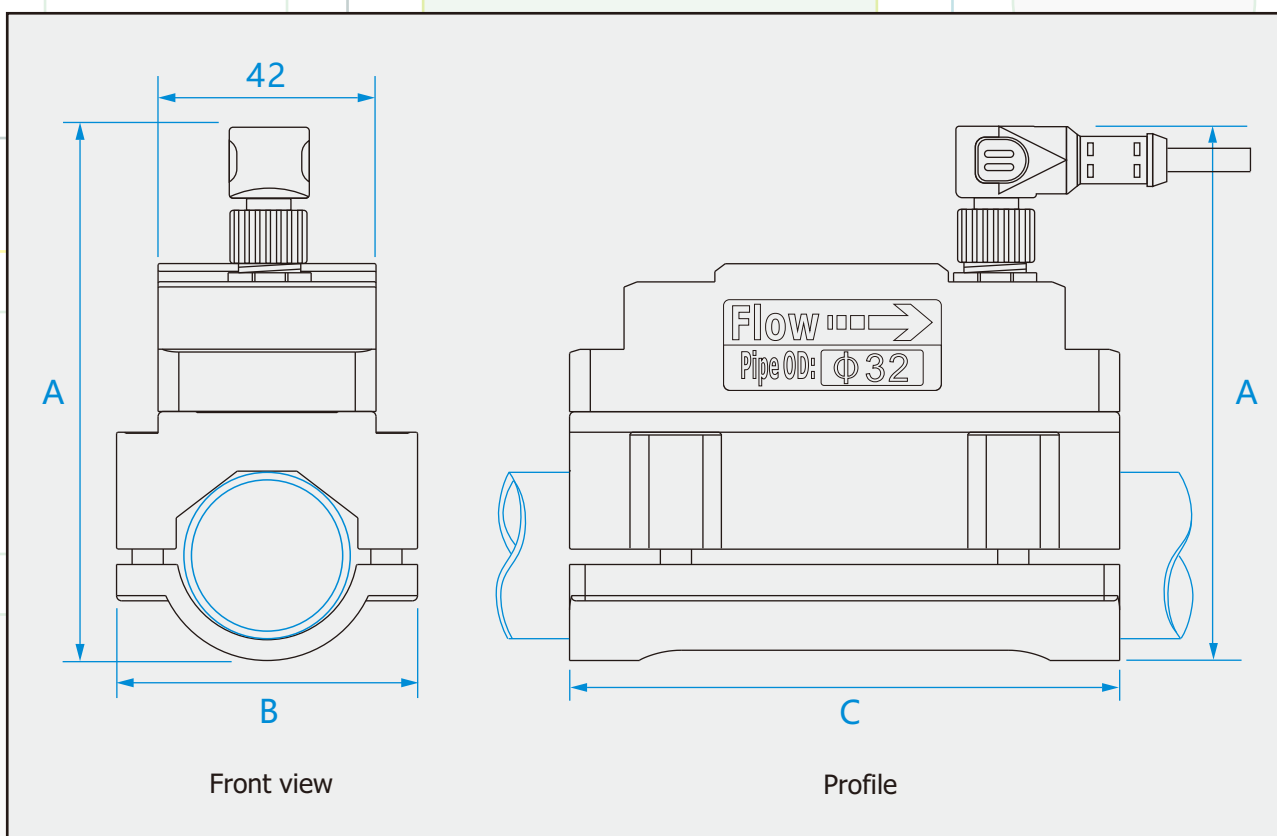
Package

Unit: mm

Model	L*W*H
-9.53 ~ -50	185*143*110mm
-63 ~ -75	185*143*146mm
-90 ~ -110	220*180*143mm

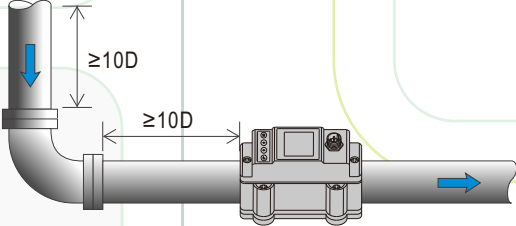
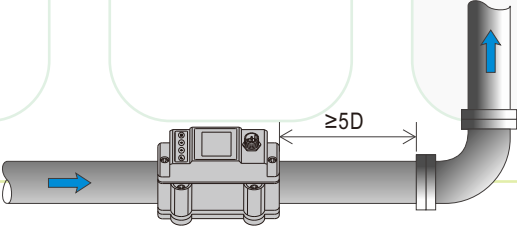
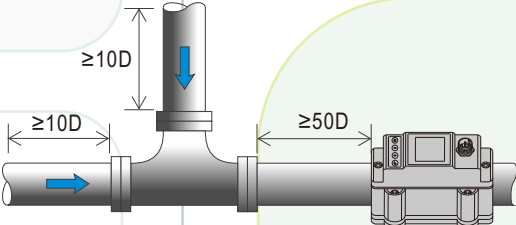
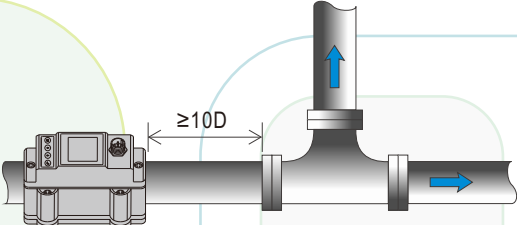
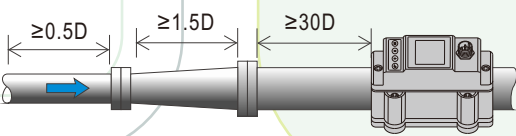
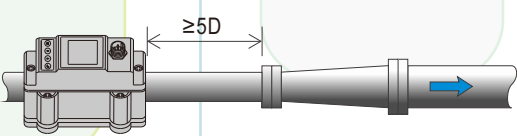
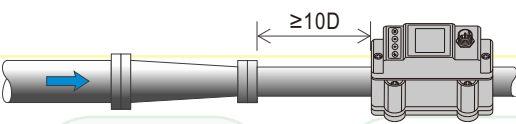
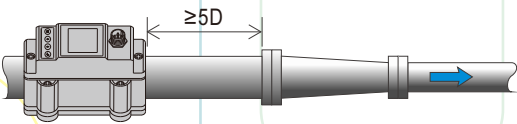
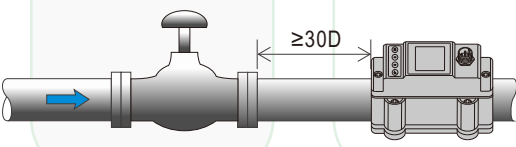
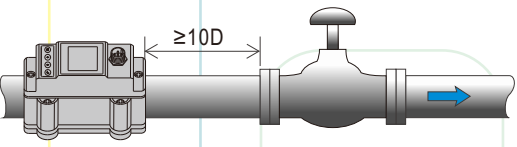
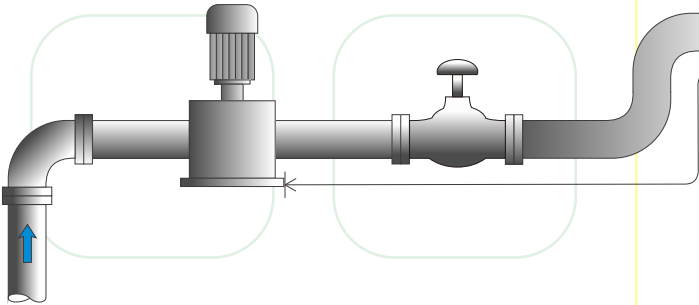
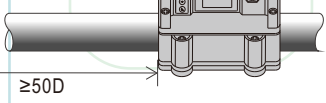
Dimensions

Model	DN	NB	OD (mm)	A max (mm)	B (mm)	C (mm)
-φ9.53	DN6	1/8"	9.53-12.7	97	58	106
-φ12.7	DN8	1/4"	12.7-14	97	58	106
-φ15	DN10	3/8"	14-17	97	58	106
-φ20	DN15	1/2"	17-20	103	58	106
-φ25	DN20	3/4"	22-30	103	58	106
-φ32	DN25	1"	30-35	108	58	106
-φ40	DN32	1 1/4"	38-45	118	68	106
-φ50	DN40	1 1/2"	48-54	127	78	106
-φ63	DN50	2"	58-68	143	91	130
-φ75	DN65	2 1/2"	68-78	156	105	136
-φ90	DN80	3"	88-96	171	119	150
-φ110	DN100	4"	108-116	194	143	174



Measurement Site Selection

When selecting a measurement site, it is important to select an area where the fluid flow profile is fully developed with flow in the upward direction or a full horizontal pipe. Make sure that the pipe surface temperature at the measurement site is stable. If possible, select a section of pipe where its inside is free of excessive corrosion or scaling. Examples of acceptable measurement site selection are shown in the figure below.

Site	Installation point front straight section	Straight pipe section after installation point
Elbow		
Tee		
Expanded pipes		
Reducing pipe		
Valve		
Pump		

Note: D is the outer diameter of the pipe

Ordering information

Ultrasonic flowmeter data sheet

Please fill in your information in as much detail as possible, if you need help, please contact our business manager, we will be happy to help you.

Name:	Tel:	Title:	Unit:	Filling date:
Quantity on demand:	In the next 12 months:	In the next 2 to 3 years:		

Pipe material:	Outer diameter: mm	Wall thickness: mm	Fluid:	Temperature: °C	Corrosivity: ☐ Yes
Minimum flow:	Maximum flow:		Viscosity:	Velocity of sound:	Pressure: mpa
Unit of measurement: ☐ L/min ☐ m³/h ☐ Else _____					

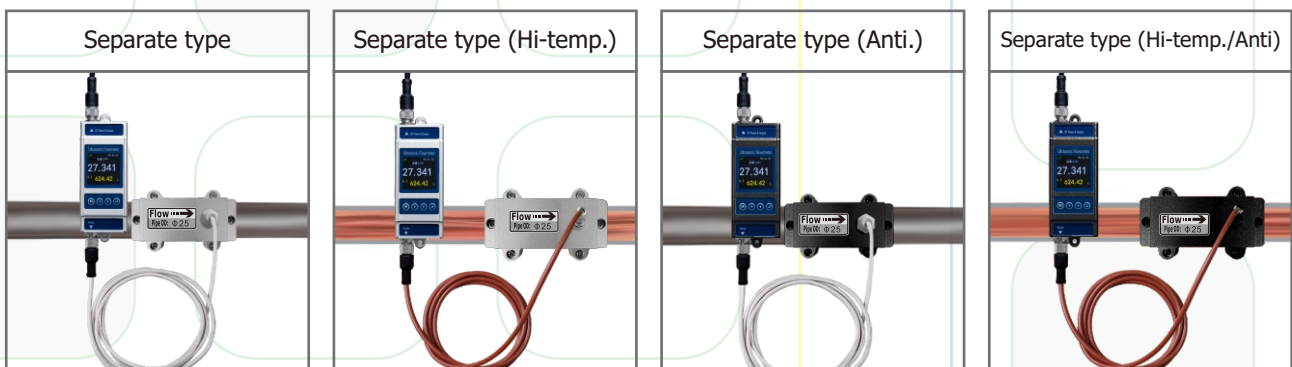
Available Power supply:	The standard product is 24VDC power supply, if you need 220VAC, optional external power converter? ☐ Yes
Straight pipe: upstream length _____ mm, downstream length _____ mm	Installation site: ☐ Vertical tube ☐ Horizontal pipe
IP Grade ☐ IP54 ☐ IP66	Installation area: ☐ not dangerous ☐ danger, anti-hazard classification _____

Output: ☐ RS485, 4-20mA ☐ 4-20mA, OCT ☐ Other requirements (please specify): _____
Cable length (standard 2 meters): need to be extended m, ☐ No need for extension ☐ See list for more requirements

The above information is not detailed enough, what else do you have to say:

Learn more

In addition to the whole series of products, there are also Separate type, Separate high-temp type, anti-corrosion type, PP material to choose from, if you are interested, please contact our business manager for information.



There is one for your needs.....