Clamp on transducer

Transit time Ultrasonic Flow Meter

Easy to install

Clamp on transducer

2024

Introduction

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

Widely used in chemicals, irrigation,industrial process water, watersupply, water treatment, boiler, etc.

- Is an ultrasonic flowmeter based on transit-timeschematic design.
- Designed using the digital technology and low-voltageintegrated circuit, it have broadband pulse transmission.
- While principally designed for full-pipe and clean liquid applications. The instrument is tolerant of liquids with small amounts of air bubbles or suspended solids found in most industrial environments.
- Integration design and high integration reduce the link between PCB boards, more reliable.
- Have friendly menu selections make flow meter simple and convenient to use. It can easy to check daily, monthly and yearly totalized flow. Parallel operation of positive, negative and net flow totalizes.

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: Water treatment, waterworks, chemical, irrigation, industrial process water, etc.

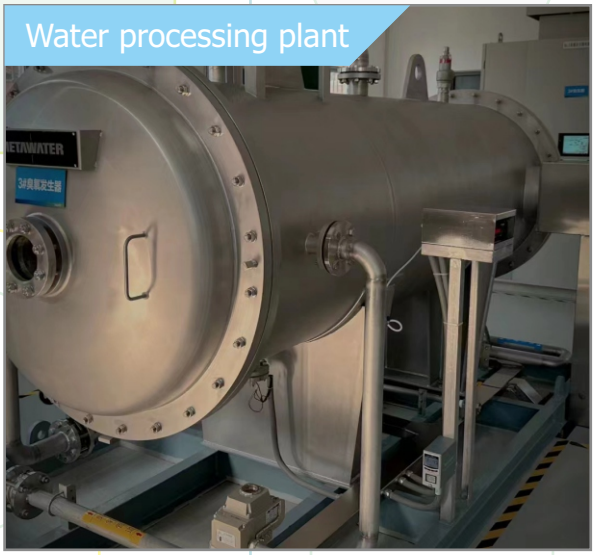
Water treatment

Chemical engineering

Irrigate

Tap water

Water processing plant



Specification

Product	Clamp on transducer Ultrasonic Flow Meter
Accuracy	+/-1.0% (at 0.5m/s to 5.0m/s)
Flow range	0.1 m/s-12.0m/s
Linearity	+/-1.0% (at 0.5m/s to 5.0m/s)
Repeatability	0.20%
Respone	500ms
Display screen	2.4" 320*240 IPS LCD can 360 spins (easy to read)
Language	English, Chinese Simplified, Chinese Traditional
Display unit	Metric and English units are available, can be based on m3, L, GAL and other 7 flow units and day, hour, min, sec,4 kinds of time unit collocation view
Display data	Flow rate, Flow velocity, net totalizer, single totalizer, day-month-year totalizer
Number of displays	Display 10 digits
Data storage	10 years, 64 months, 64 days
Keypad	4 touch key
Calendar battery	CR1220
Power supply	24VDC@5W
Analog output	4 ~ 20mA, Maximum load: 600Ω
Communication	RS485, support Modbus RTU protocol
Alarm output	OCT, Upper and lower limit alarm function
Relay output	30VDC@1A, switching frequency less than 2Hz
Medium	Water, Chemical solvents etc (inclusions less 4%)
IP Grade	Unit: IP54; Sensor: IP68
Pipe range	DN25-DN2000
Housing material	Aluminum alloy
Temperature resistance	Unit: -40°C-60°C; Sensor: -40°C-80°C
Environment temp	-40°C-60°C
Environment humidity	0-95% relative humidity, without condensation
Viscosity	<100CST (mm^2/s)
Cable length	Stand length: 10m (can be extended to 200 m.)

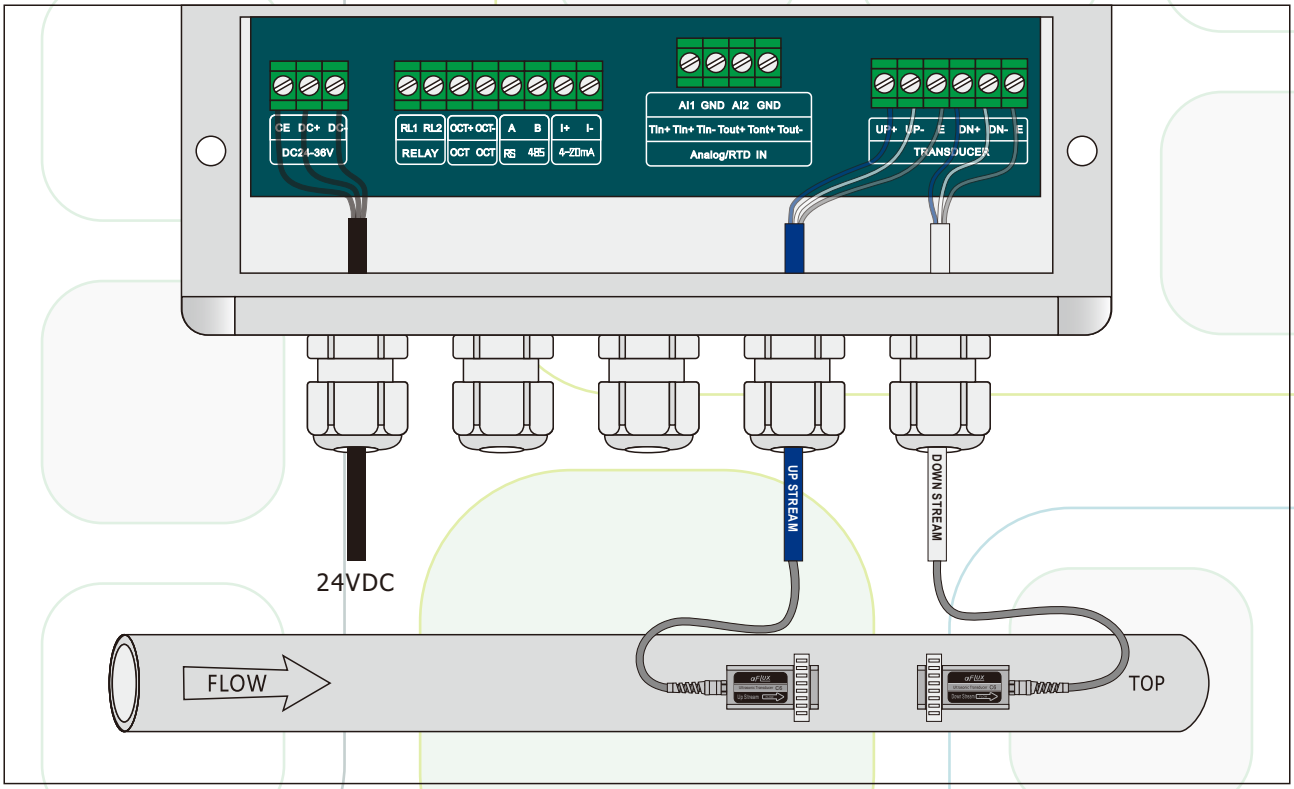
Weight

Unit: kg

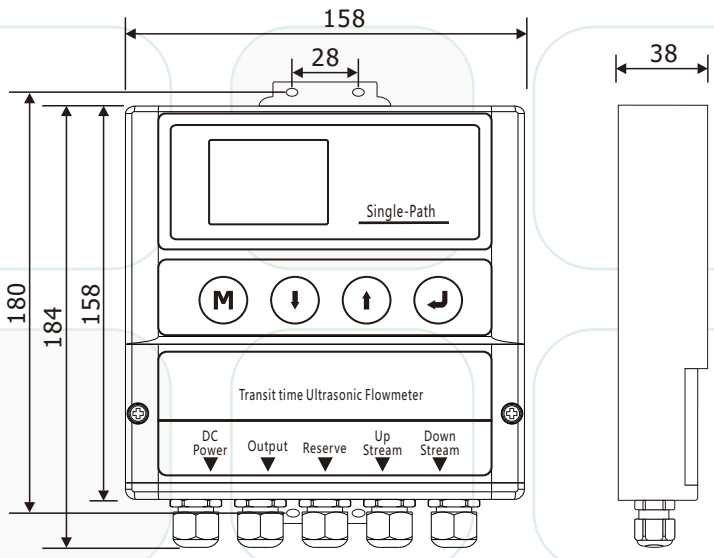
Moeld	Unit	Sensor
Kgs	0.5	1.0

Dimensions

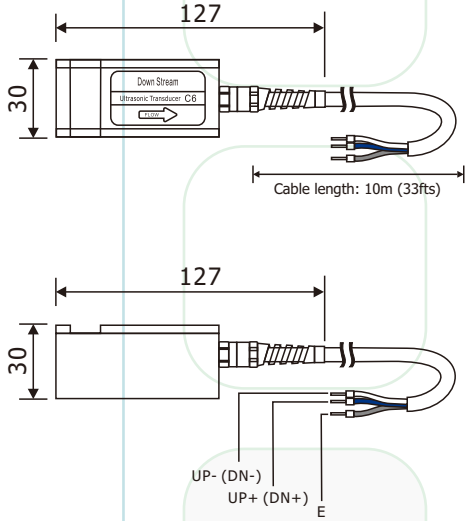
Wiring diagram



Dimensions

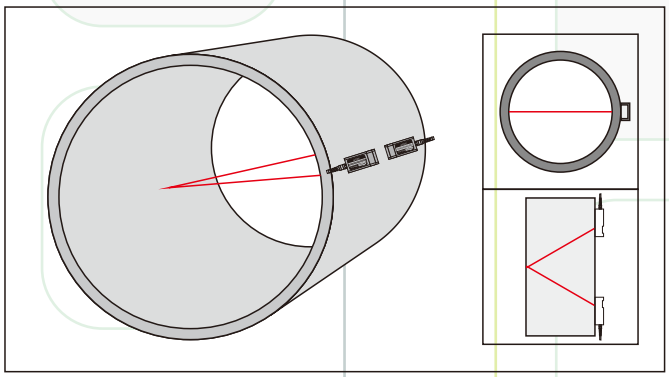


Transmitter dimensions (mm)



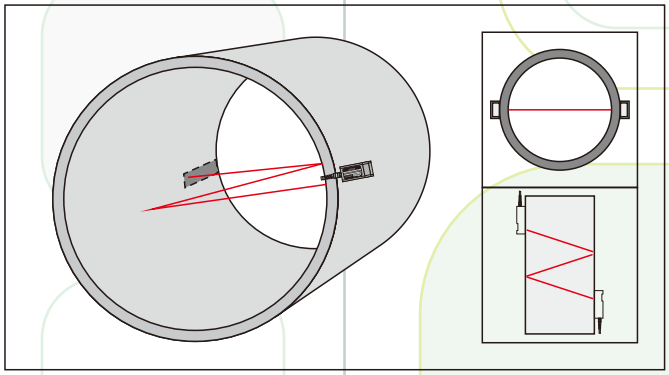
Transducer dimensions (mm)

Installation methods



V Method

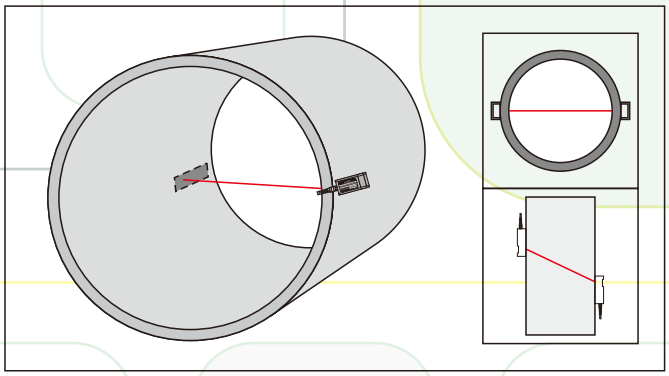
The V method is considered as the standard method. It usually gives a more accurate reading and is used on pipe diameters ranging from 25mm to 400mm (1”~16”) approximately. Also, it is convenient to use, but still requires proper installation of the transducer, contact on the pipe at the pipe's centerline and equal spacing on either side of the centerline.



N Method

With the N method, the sound waves traverse the fluid three times and bounce twice off the pipe walls. It is suitable for small pipe diameter measurement.

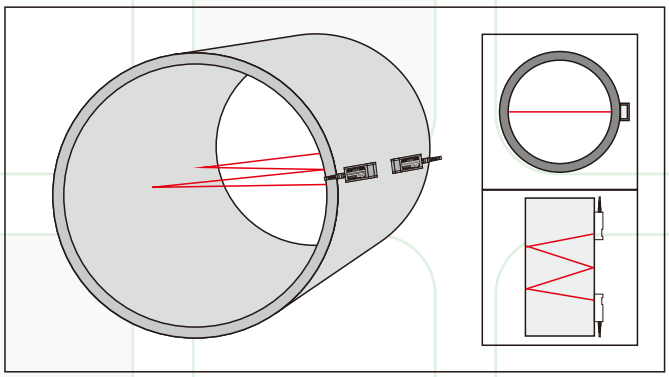
The measurement accuracy can be improved by extending the transit distance with the N method (uncommonly used).



Z Method

The signal transmitted in a Z method installation has less attenuation than a signal transmitted with the V method. This is because the Z method utilizes a directly transmitted (rather than reflected) signal which transverses the liquid only once.

The Z method is able to measure on pipe diameters ranging from 100mm to 2000mm (4”~80”).



W Method

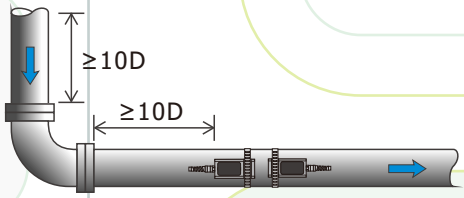
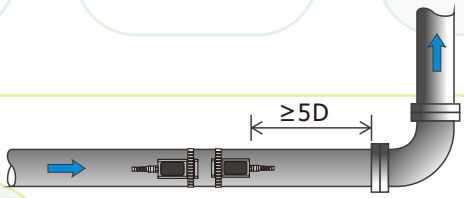
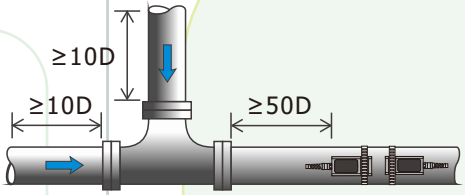
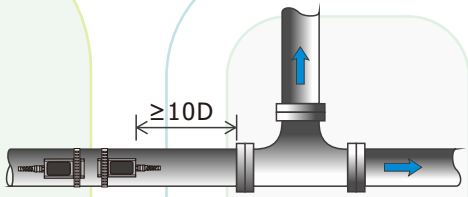
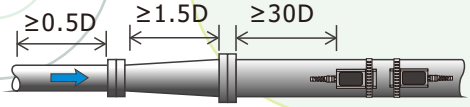
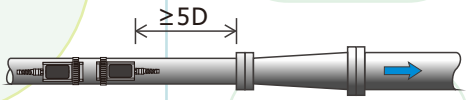
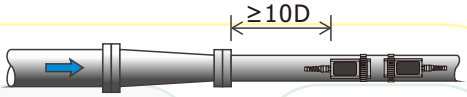
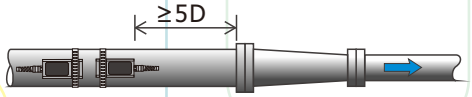
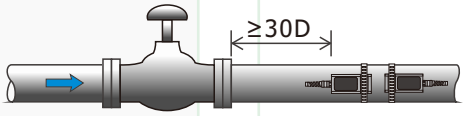
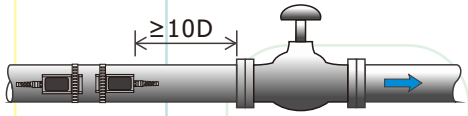
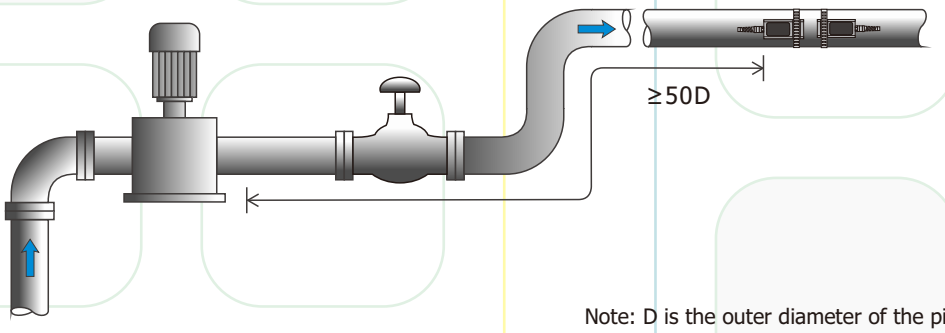
As with the N method, the measurement accuracy can also be improved by extending the transit distance with the W method. The sound wave traverses the fluid four times and bounces three times off the pipe walls.

It is suitable for very small pipe (diameters less than 50mm, 2”).

Measurement Site Selection

When selecting a measurement site, it is important to select an area where the fluid flow profile is fully developed to guarantee a highly accurate measurement. Please follow these guidelines for selecting a proper measurement installation site : Choose a section of pipe, which is always full of liquid, such as a vertical pipe with flow in the upward direction or a full horizontal pipe. Make sure that the pipe surface temperature at the measuring point is within the transducer temperature limits. Consider the inside condition of the pipe carefully. If possible, select a section of pipe where its inside is free excessive corrosion or scaling.

Examples 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

Code	Description
X6	Clamp on transducer Ultrasonic Flow Meter X6
	Installation method: Wall mount
	Flow range: 0.1m/s-12.0m/s
	Accuracy:+/-1.0%(0.5m/s-5.0m/s)
	Repeatability: 0.20%
	Linearity:+/-1.0%(0.5m/s-5.0m/s)
	Pipe size: DN25-DN2000 (1"-80")
	Keypad: Four Touch key
	Display: 2.4" 320*240 IPS LCD can 360 spins (easy to read)
	Power supply: 24 VDC@5W
	Transmitter enclosure: IP54, PC Plastic enclosure
	Output: 4~20mA, OCT pulse output, relay output
	Communication: RS-485 terminal Modbus Protocol
Code	Input and output
1	4-20mA, OCT pulse output, relay output, RS-485
Code	Transmitter enclosure area classification
1	IP54, PC Plastic enclosure
2	Customer specific requirements
Code	Type of transducers
C6	Clamp on transducer. Operating temperature: -40°F~176°F (-40°C ~ 80°C)
C500	Clamp on transducer. Operating temperature: -40°F~176°F (-40°C ~ 80°C)
W6	Wetted transducer. Operating temperature: -40°F ~ 176°F (-40°C ~ 80°C)
Code	Transducer cable length
033	Cable length 33 feet (10m)
xxx	Extended length, up to 656 feet (200m), per 16 feet (5m) is a lengthen unit

Ordering infomation

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 ☐ m^3/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: