

Clamp on transducer

Transit time Ultrasonic Flow Meter

Model: YF-C8



Easy to install

Clamp on transducer

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.



- α Is an ultrasonic flowmeter based on transit-time schematic design.
- α Designed using the digital technology and low-voltage integrated circuit, it has broadband pulse transmission.
- α 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.
- α Integration design and high integration reduce the link between PCB boards, more reliable.
- α Have friendly menu selections make flow meter simple and convenient to use. It can easily 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



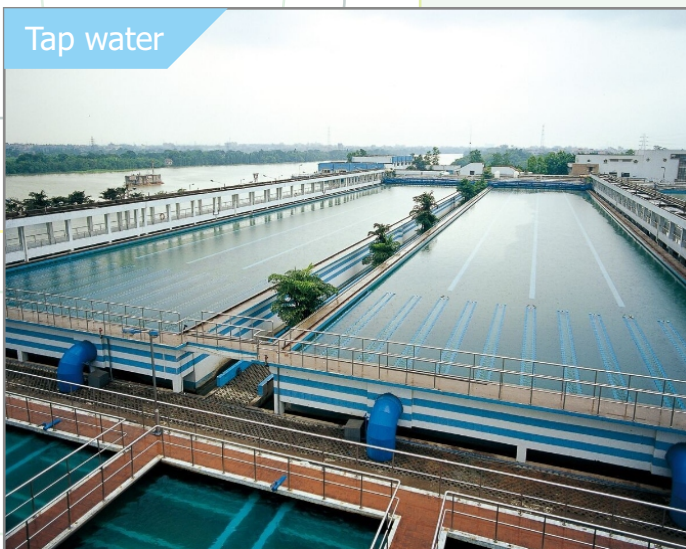
Chemical engineering



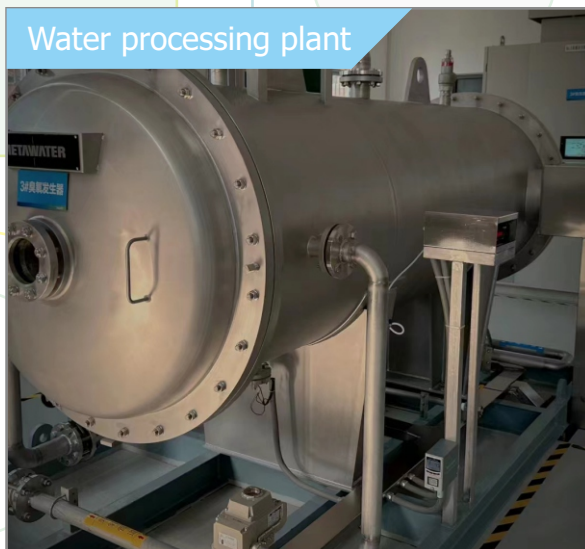
Irrigate



Tap water



Water processing plant



Specification

Product	Clamp on transducer Ultrasonic Flow Meter
Accuracy	+/-0.5% (at 0.5m/s to 5.0m/s)
Flow range	0.1 m/s-12.0m/s
Linearity	+/-0.5% (at 0.5m/s to 5.0m/s)
Repeatability	0.15%
Response	500ms
Display screen	2.8" 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-DN5000
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 (mm²/s)
Cable length	Stand length: 10m (can be extended to 200 m.)

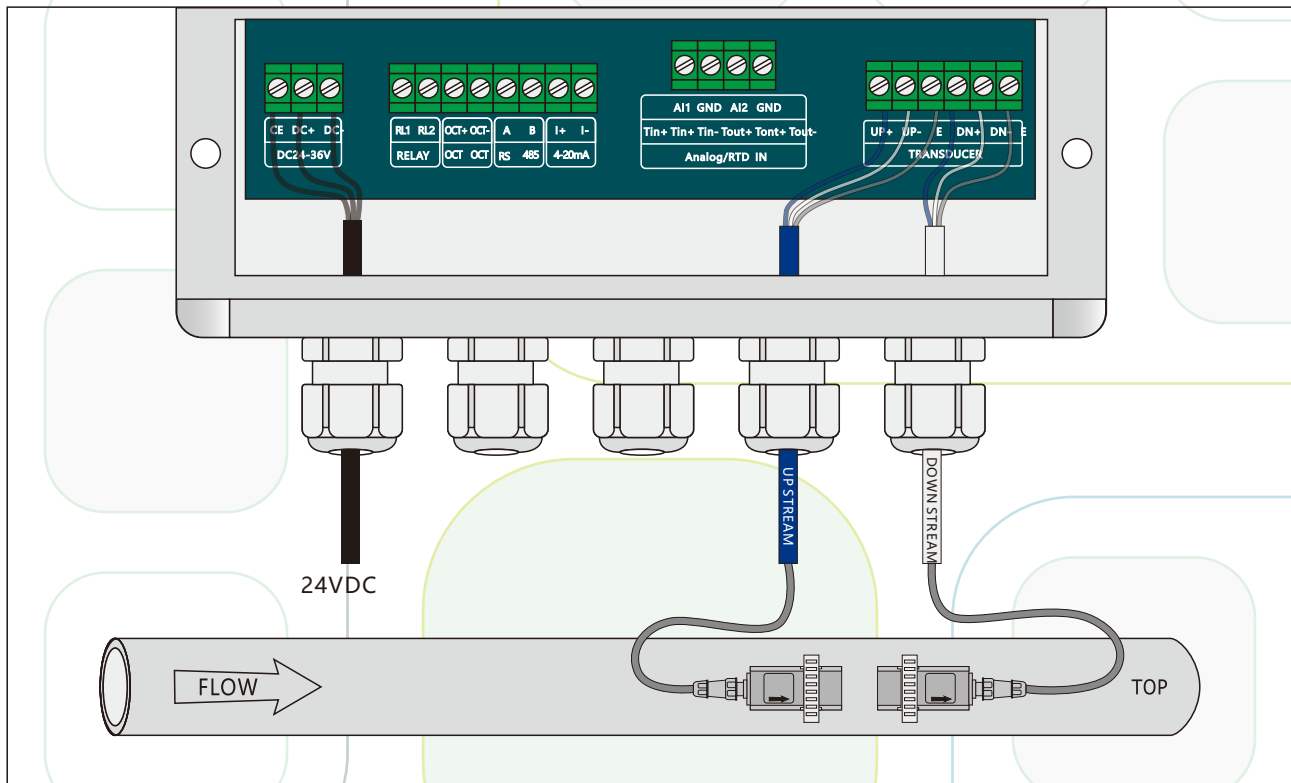
Weight

Unit: kg

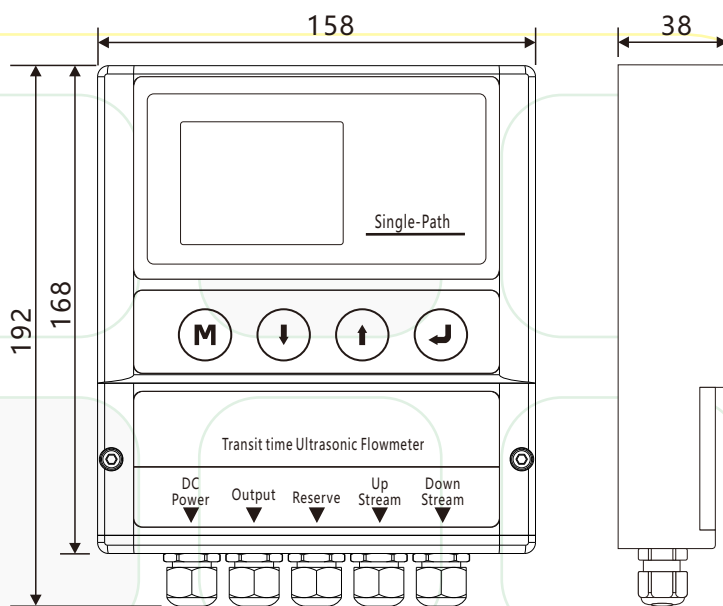
Model	Unit	Sensor
Kgs	1.26	1.5

Dimensions

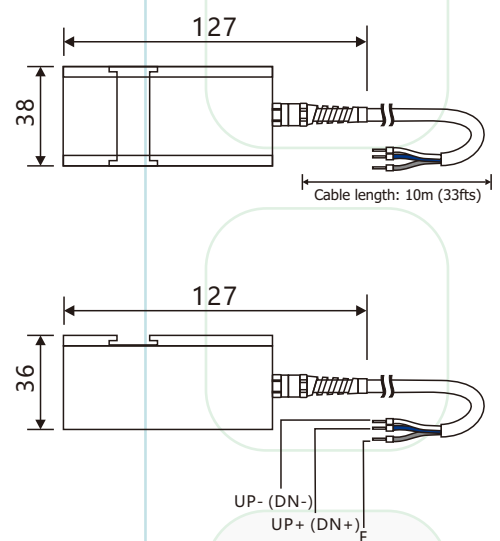
Wiring diagram



Dimensions

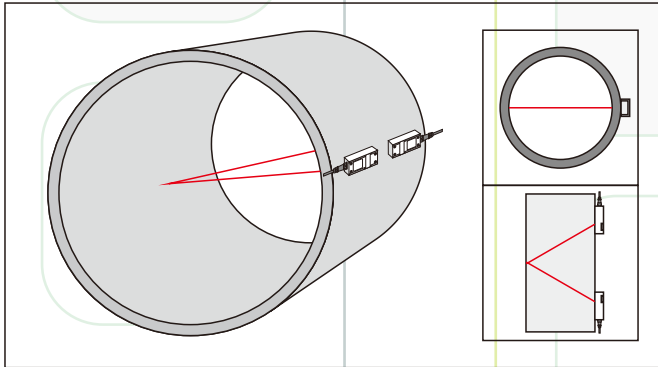


Transmitter dimensions (mm)



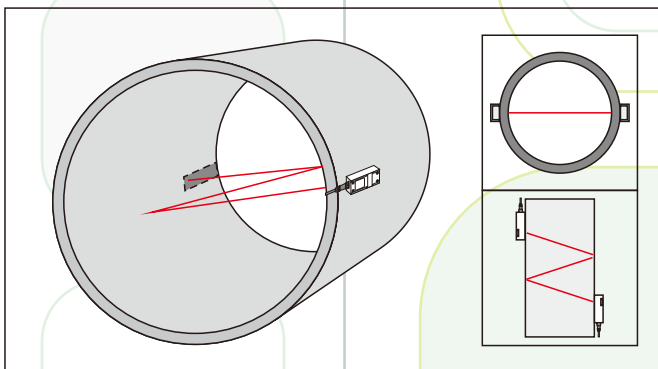
Transducer dimensions (mm)

Installation methods



α V Method

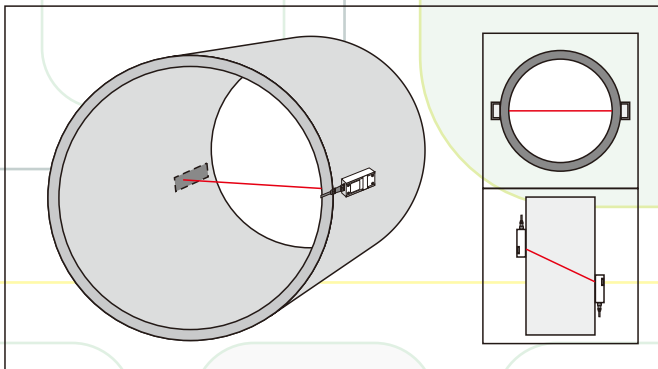
The V method is considered as the standard method. It usually gives a more accurate reading and is used on pipe diameters ranging from 25mm to 400mm (1"~16") approximately. Also, it is convenient to use, but still requires proper installation of the transducer, contact on the pipe at the pipe's centerline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



α 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.

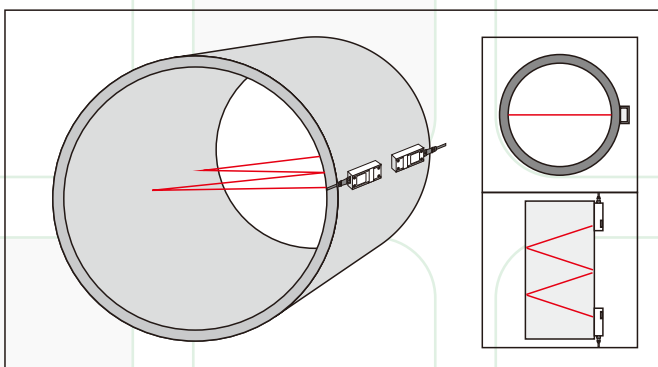
The measurement accuracy can be improved by extending the transit distance with the N method (uncommonly used).



α 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").



α 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").

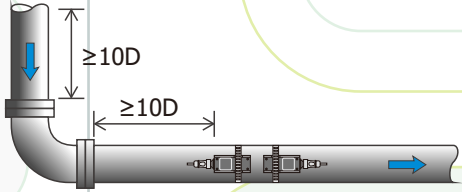
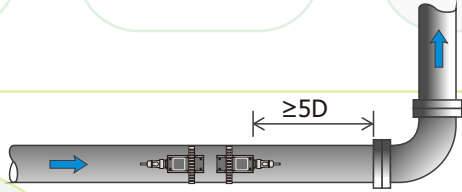
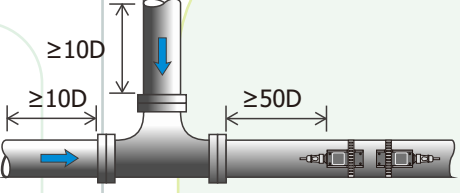
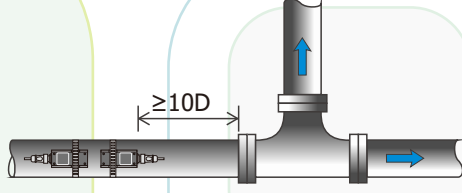
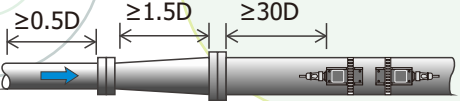
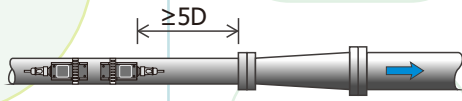
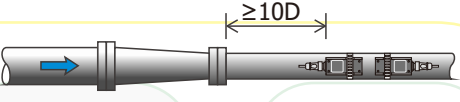
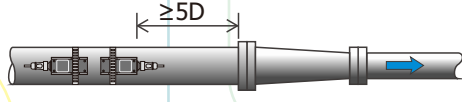
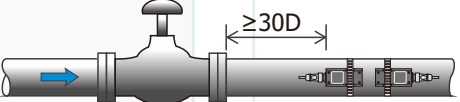
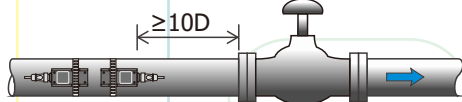
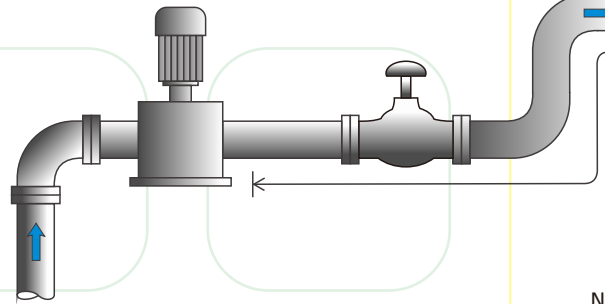
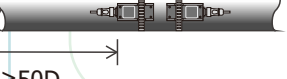
Measurement Site Selection

When selecting a measurement site, it is important to select an area where the fluid flow profile is

liquid, such as a vertical pipe with flow in the upward direction or a full horizontal pipe. Make sure

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
X8	Clamp on transducer Ultrasonic Flow Meter X8
	Installation method: Wall mount
	Flow range: 0.1m/s-12.0m/s
	Accuracy: +/-0.5%(0.5m/s-5.0m/s)
	Repeatability: 0.15%
	Linearity: +/-0.5%(0.5m/s-5.0m/s)
	Pipe size: DN25-DN5000 (1"-200")
	Keypad: Four Touch key
	Display: 2.8" 320*240 IPS LCD can 360 spins (easy to read)
	Power supply: 24 VDC@5W
	Transmitter enclosure: IP54, CNC machining of aluminum alloy
	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,CNC machining of aluminum alloy
2	Customer specific requirements
Code	Type of transducers
C8	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)
CH8	Clamp on transducer. Operating temperature: -40°F ~ 302°F (-40°C ~ 150°C)
W8	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

GPRS Module

Introduce

GPRS DTU module is a data communication product developed based on GPRS network. Through the RS485 communication interface of X series, the data can be uploaded to the Internet. Users can read the measurement data through the network platform to realize the remote data communication between Ultrasonic Flowmeter and monitoring center.



Function

Acquisition function: The instantaneous flow rate, accumulated flow rate and setting

Remote administration: Supports remote parameter setting.

a.

Network diagram

Network

DTU and network two-way transparent transmission



GPRS Specification

Network	
Standard	GSM/GPRS
Rate	14.4 Kbps ~ 57.6Kbps
Standard spectrum	850/900/1800/1900MHz
GPRS Multi-slot Class	GPRS Class 10
GPRS Terminal Device Class	Class B
GPRS Coding Schemes	CS1 ~ CS4
Maximum transmitting power	GSM900 Class4 (2W), DCS1800 Class1 (1W)
Network protocol	TCP, UDP, DNS, HTTP
Serial port	
Communication	Rs485, 2 line(A+ , B-)
Data bits	7,8
Stop bit	1,2
Check digit	None, Even, Odd
Baud rate	2400 bps ~ 921600 bps
Flow control	RTS/CTS
The basic parameters	
Size	86*82.5*25
Working temperature	-25°C ~ 85°C
Environment temperature	-40°C ~85°C, 5% ~ 95% RH
Power voltage	DC 5 ~ 36V
Power current	Normal: 22 ~ 45mA; Max: 20mA/12V

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: