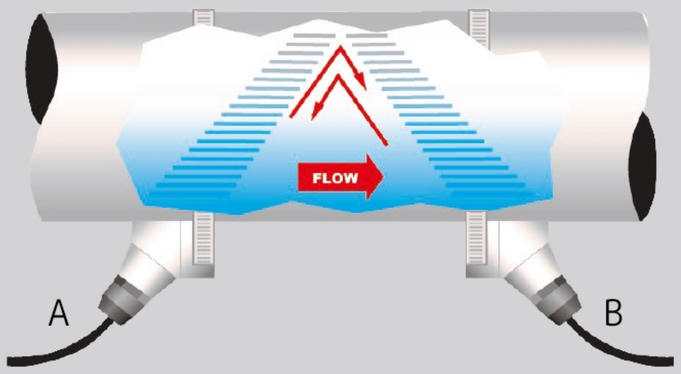
PUTF201

Clamp-on Transit-time Ultrasonic Flow Meter

Working Principle



$V = K \times D \times \Delta t$ $Q = S \times V$

K: Constant

D: Distance Of 2 Transducers

S: Pipe Sectional Area

Transit-time ultrasonic flow meter utilizes the difference of ultrasonic sound forwarding and reversing flow rate to measure flow. Two transducers that function as both transmitter and receivers are clamped on outside of a closed pipe at a specific distance from each other. The transducer signal travels faster downstream than upstream. By measuring transit time △t, the average flow velocity can be detained. The flow volume Q can be calculated out of the flow velocity V and pipe sectional area S.

Technical Features

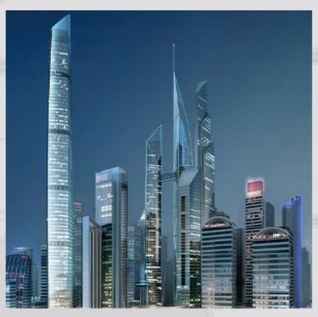
- 4 Lines Display Velocity, Flow Rate, Volume and Meter Status
- Easy Installation, No Processing Interruption, Simple Maintenance & Calibration
- Fluid Temperature Range -40℃ ~ 260℃, Built-in Data Storage Is Optional
- Temperature Sensor Is Optional For Thermal Energy Measuring Function
- Suitable For DN20-DN6000 Flow Measurement By Selecting Different Size Sensors
- Wide Measurement Range, Bi-directional Measuring Flow Velocity

Application

Suitable for measuring clean liquid in fully filled pipe, also for liquid with tiny amounts of solids, air bubbles. Widely applied in many fields, as below...

Water supply and drainage

HAVC



Building Energy Efficiency

Petrochemical Industry

Mining

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Summary

PUTF201 clamp-on transit-time ultrasonic flow meter utilizes transit-time principle. The transducer is mounted outside surface of the pipe without requirements of flow stop or pipe cutting. It’ s very simple, convenient for installation, calibration and maintenance. Different sizes of transducers satisfy different measuring requirements. Plus, select the thermal energy measuring function to achieve completely energy analysis. Widely applied in processing monitoring, water balance test, district heating balance test, energy efficiency monitoring as easy installation and simple operation advantages.

Features

- 4 Lines Display Velocity, Flow Rate, Volume And Meter Status
- Clamp-on Mounted, Unnecessary Pipe Cutting Or Processing Interruption
- Fluid Temperature Range -40℃ ~ 260℃
- Built-in Data Storage Is Optional
- Selecting Temperature Sensor PT1000 To Achieve Thermal Energy Measurement Function
- Suitable For DN20-DN6000 Flow Measurement By Selecting Different Size Transducers
- Bi-directional Measurement, Flow Range From 0.01m/s To 12m/s

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Clamp-on Transit-time Ultrasonic Flow Meter

Specification

· Transmitter

Measuring Principle	Transit-time
Velocity	0.01 - 12 m/s, Bi-directional Measurement
Resolution	0.25mm/s
Repeatability	0.10%
Accuracy	±1.0% R
Response Time	0.5s
Sensitivity	0.003m/s
Damping	0-99s (settable by user)
Suitable Fluid	Clean or tiny amounts of solids, air bubbles liquid, Turbidity <10000 ppm
Power Supply	AC: 85-265V DC:12- 36V/500mA
Installation	Wall Mounted
Protection Class	IP66
Operating Temperature	-40℃ ~ 75℃
Enclosure Material	Fiberglass
Display	4X8 Chinese Or 4X16 English, Backlit
Measuring Unit	Meter, ft, m^3, liter, ft^3, gallon, barrel etc.
Communication Output	4~20mA, OCT, Relay, RS232, RS485 (Modbus-RUT), Data Logger, GPRS
Energy Unit	Unit: GJ, Opt: KWh
Security	Keypad Lockout, System Lockout
Size	8*6.13*3.71 (inch)
Weight	2.4kg

· Transducer

Protection Class	IP67
Fluid Temperature	Std.transducer -40℃ ~ 85℃ (Max.120℃) High Temp. -40℃ ~ 260℃
Pipe Size	20mm-6000mm
Transducer Size	S (20mm-50mm) M (40mm-1000mm) L (1000mm-6000mm)
Transducer Material	Std. Aluminium alloy, High Temp.(PEEK)
Temperature Sensor	PT1000
Cable Length	Std. 10m (customized)

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Clamp-on Transit-time Ultrasonic Flow Meter

Model Selection

PUTF201	Clamp-on Transit-time Ultrasonic Flow Meter	
	Power Supply	
	A	85-265VAC
	D	24VDC
	S	Solar power
	Output Selection 1	
	N	N/A
	1	4-20mA
	2	Frequency (1-9999Hz)
	3	Relay (Volume or Alarm)
	4	RS232
	5	RS485
	6	Data Storage
	7	GPRS
	Output Selection 2	
	Same As Above	
	Output Selection 3	
Transducer Type		
S	DN20 - DN50	
M	DN40 - DN1000	
L	DN1000 - DN6000	
Transducer Temperature		
N	-40℃ ~ 85℃ (Max.120℃)	
H	-40℃ ~ 260℃	
	Temperature Sensor	
	N	N/A
	1	Clamp-on PT1000 (0 ~ 200℃)
	2	Insertion PT1000 (0 ~ 200℃)
	Pipe Size	
	XXX	020-20mm, 6000-6000mm
	Cable Length	
	10m	Std.10m
	Xm	Common, Max.300m
	XmH	High Temp. Cable

For Example: PUTF201-A-1-5/MNN-0400-010

Stands for: PUTF201 clamp-on ultrasonic flow meter, 220VAC power supply, 4-20mA and RS485 output, M transducer, normal temperature, pipe size DN400, cable length 10m.