



pFlow

Wall Mount Ultrasonic Flowmeter **D116**

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ABOUT D116

FEATURES AND CASES



D116 Series Ultrasonic Flowmeter is a state-of-the-art universal transit-time flowmeter designed using FPGA chip and low-voltage broadband pulse transmission.

Comparing with other traditional flowmeter or ultrasonic flowmeter, it has distinctive features such as high precision, high reliability, high capability and low cost, the flowmeter features other advantages:

TVT technology designed.

Less hardware components, low voltage broadband pulse transmission, low consumption power.

Clear, user-friendly menu selections make flowmeter simple and convenient to use.

Daily, monthly and yearly totalized flow Parallel operation of positive, negative and net flow totalizes with scale factor (span) and 7 digit display, while the output of totalize pulse and frequency output are transmitted via relay and open collector.



ABOUT D116

SPECIFICATION





PERFORMANCE SPECIFICATIONS

Flow range	$\pm 0.03\text{ft/s} \sim \pm 16\text{ft/s}$ ($\pm 0.01\text{m/s} \sim \pm 5\text{m/s}$)
Accuracy	$\pm 1.0\%$ of measured value
Pipe size	Clamp-on: 1"~48" (25mm~1200mm)
Fluid	Water.
Pipe material	Carbon steel, stainless steel, PVC.

FUNCTION SPECIFICATIONS

Outputs	OCT Pulse output: 0~5000Hz. Analog output: 4~20mA, max load 750 Ω .
Communication interface	RS485 MODBUS
Power supply	10~36VDC/1A
Keypad	16(4 \times 4)key with tactile action
Display	20 \times 2 lattice alphanumeric, back lit LCD.
Temperature	Transmitter: 14°F~122°F (-10°C~50°C) Transducer: 32°F~176°F (0°C~80°C)
Humidity	Up to 99% RH, non-condensing

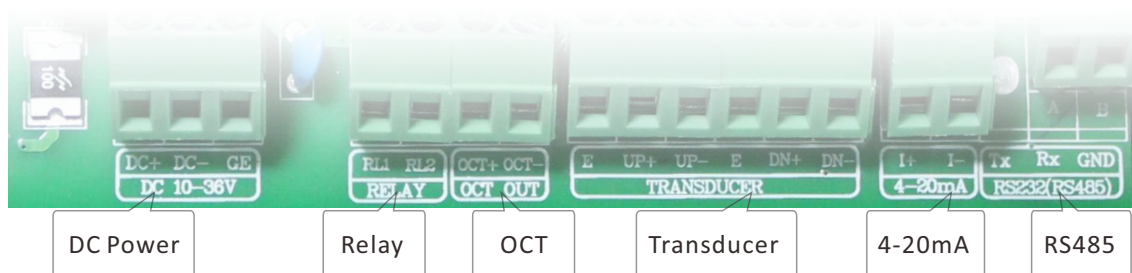
PHYSICAL SPECIFICATIONS

Transmitter	PC/ABS, IP65.		
Transducer	Encapsulated design, IP68.		
Transducer cable	Standard cable length: 30ft (9m).		
Weight	Transmitter: approximately 0.7kg; Transducer: approximately 0.4kg		
			
Transmitter	Transducer	Pipe strips	Coupling compound

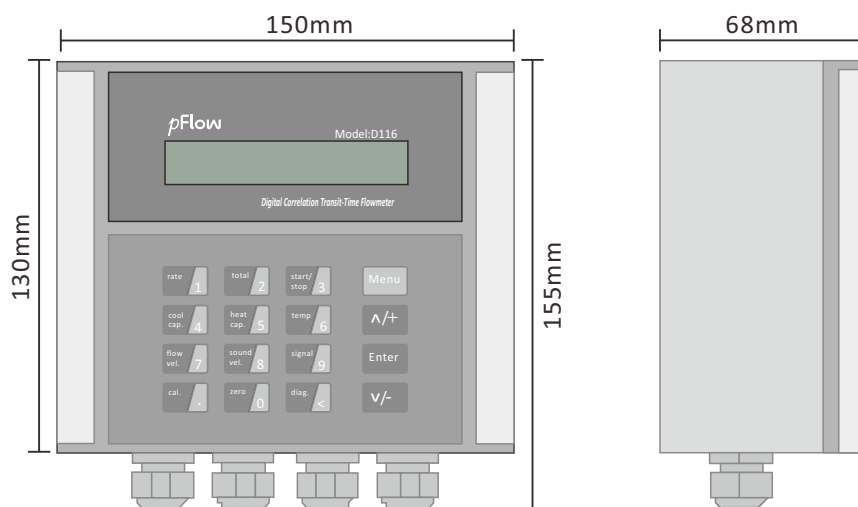
ABOUT D116

INTERFACE AND SIZE

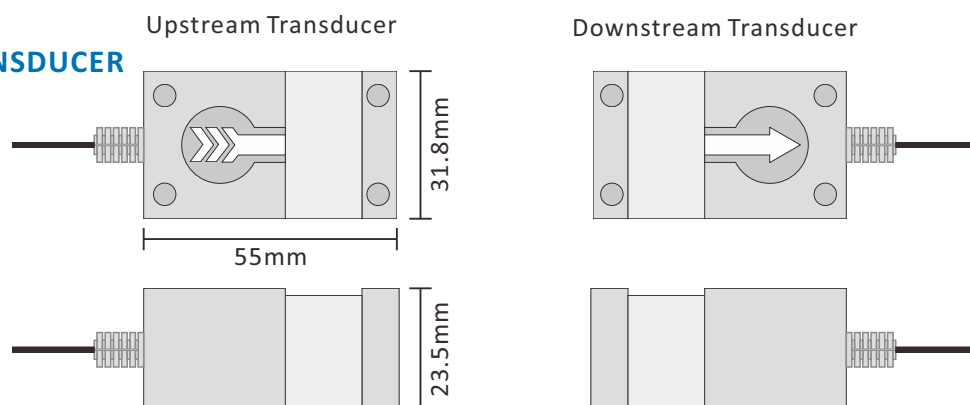
WIRING DIAGRAM



TRANSMITTER DIMENSIONS



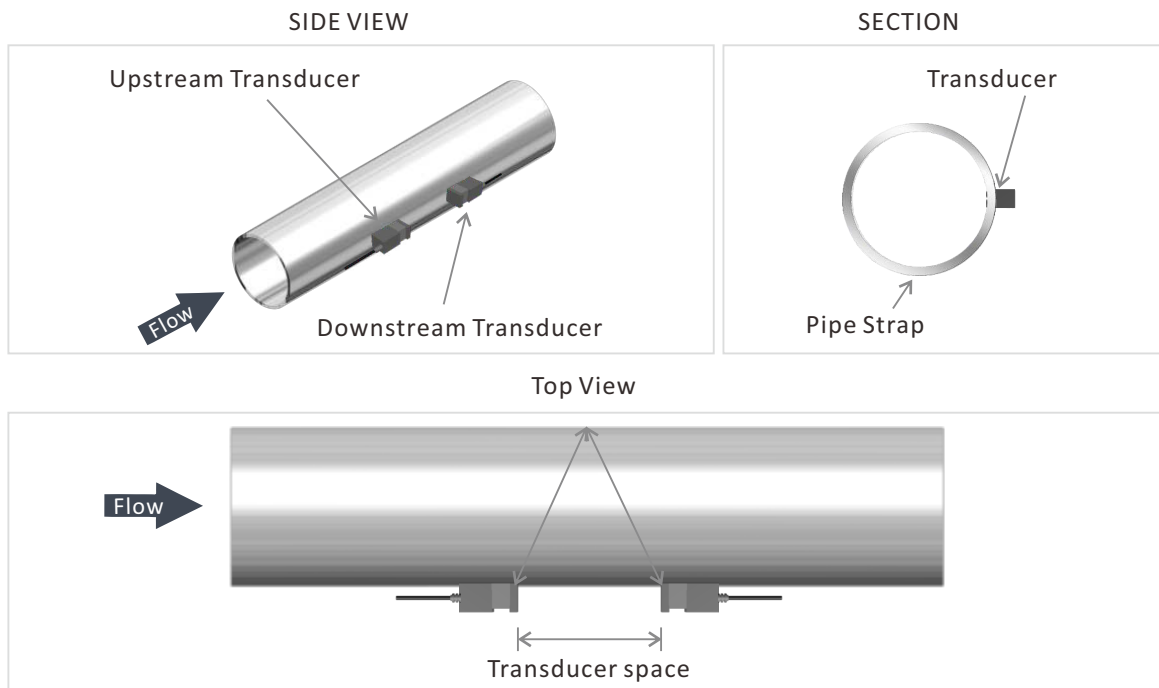
TRANSDUCER



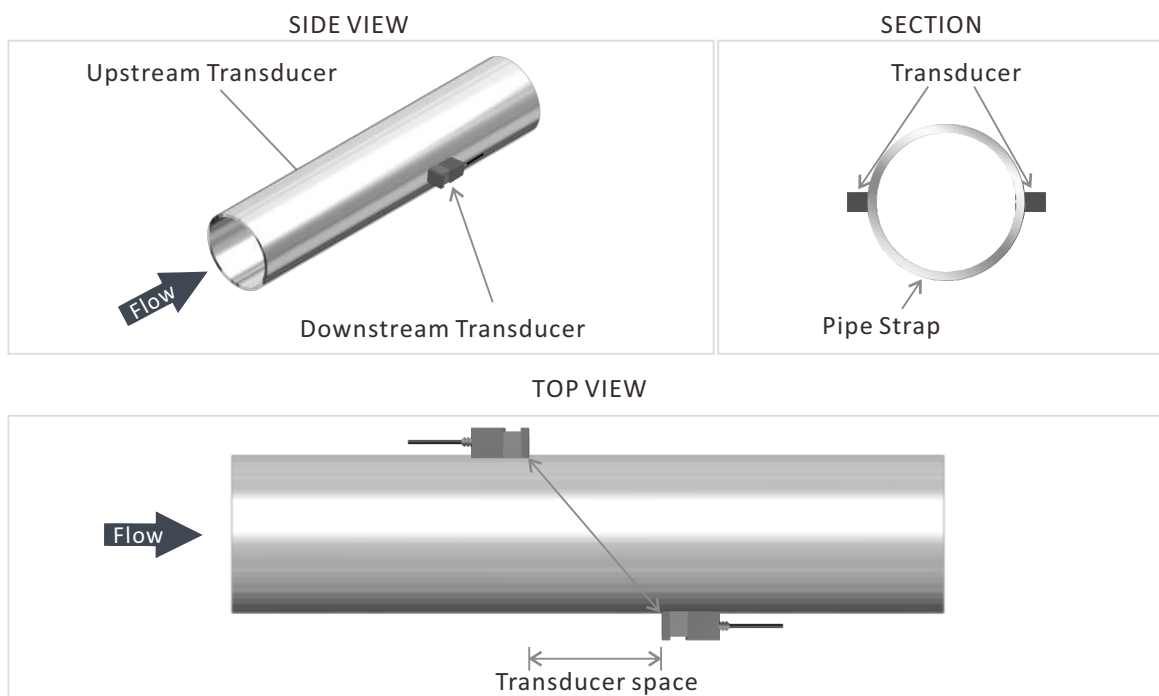
ABOUT D116

TRANSDUCER INSTALLATION METHODS

V METHOD MEASURING PIPE SIZE : 25MM-400MM



Z METHOD MEASURING PIPE SIZE: 100MM-3000MM



ABOUT D116

INSTALLATION 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. Use the following guidelines to select a proper installation site:

Choose a section of pipe that is always full of liquid, such as a vertical pipe with flow in the upward direction or a full horizontal pipe.

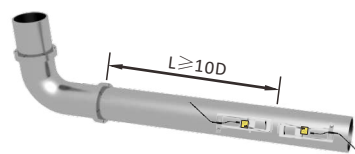
Ensure enough straight pipe length at least equal to the figure shown below for the upstream and downstream transducers installation.

Ensure that the pipe surface temperature at the measuring point is within the transducer temperature limits.

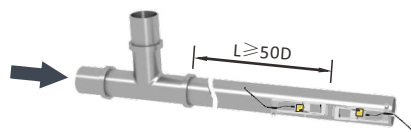
Consider the inside condition of the pipe carefully. If possible, select a section of pipe where the inside is free of excessive corrosion or scaling.

STRAIGHT LENGTH OF UPSTREAM PIPING

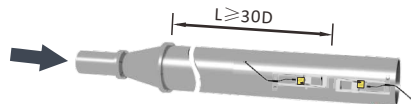
90° Bend



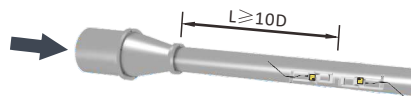
Tee



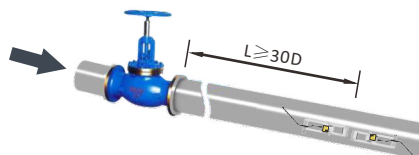
Diffuser



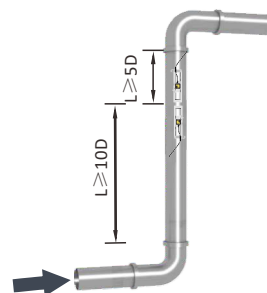
Reduce



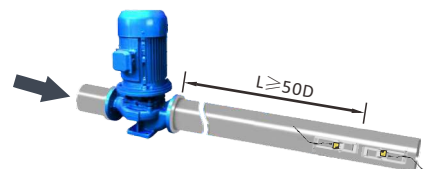
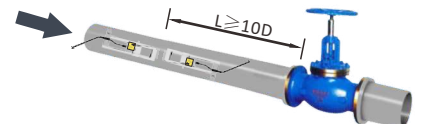
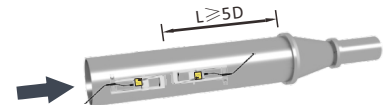
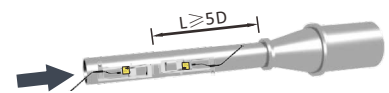
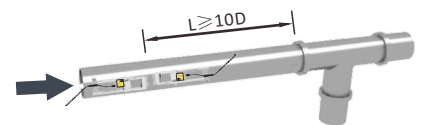
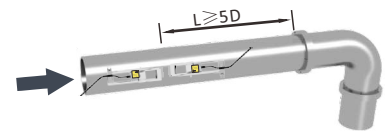
Valve



Vertical



STRAIGHT LENGTH OF DOWNSTREAM PIPING



ABOUT D116

ORDERING INFORMATION

MODEL

DESCRIPTION

D116	Digital Correlation Transit Time Flowmeter Installation method: wall mount Transmitter: Flow Range: $\pm 0.03\text{ft/s} \sim \pm 16\text{ft/s}$ ($\pm 0.01\text{m/s} \sim \pm 5\text{m/s}$) Accuracy: $\pm 1.0\%$ of measured value Repeatability: 0.3% Pipe Size Range: 1"~48" (25mm ~ 1200mm) Keyboard: 16 (4×4) touch keys Display: 20×2, alphanumeric, backlit LCD Power supply: 10-36V DC@1A max Transmitter enclosure: IP65, ABS/PC enclosure Temperature: $-20^{\circ}\text{F} \sim 50^{\circ}\text{F}$ Output: OCT pulse output 0-10KHz, Relay output, 4-20mA optional Communication: RS232, Modbus Protocol Temperature: $-40^{\circ}\text{F} \sim +140^{\circ}\text{F}$ ($-40^{\circ}\text{C} \sim 60^{\circ}\text{C}$)
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CODE

OUTPUT

3	OCT output, Relay output, RS232, 4-20mA output
4	OCT output, Relay output, RS485, 4-20mA output
7	OCT output, Relay output, RS232, 4-20mA output, RTD input
8	OCT output, Relay output, RS485, 4-20mA output, RTD input

CODE

TRANSMITTER ENCLOSURE AREA CLASSIFICATION

CP037	Clamp on transducer, Operating temperature: $32^{\circ}\text{F} \sim +140^{\circ}\text{F}$ ($0^{\circ}\text{C} \sim +60^{\circ}\text{C}$)
W210	Insertion transducer, Operating temperature: $-40^{\circ}\text{F} \sim +176^{\circ}\text{F}$ ($-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$)

CODE

TRANSDUCER CABLE LENGTH

030	Standard 30ft (9m)
xxx	Maximum lengthen to 305m(1000ft), per 5m is a lengthen unit.

CODE

TYPE OF TEMPERATURE SENSOR

PT1000	PT1000 Temperature sensor
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Standard Model: D116-4-CP037-030

Description: standard flowmeter with Clamp-on transducers, OCT pulse output, Relay output, RS485, 9m cable.

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