

pFlow

Ultrasonic Flowmeter D118



About D118

D118 Ultrasonic Flowmeter is a state-of-the-art transit time ultrasonic flowmeter.

Designed using the latest digital technology and low-voltage broadband pulse transmission.

While principally designed for full-pipe clean liquid applications. The instrument is tolerant of liquids with small amounts of air bubbles or suspended solids found in most industrial environments.

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

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.



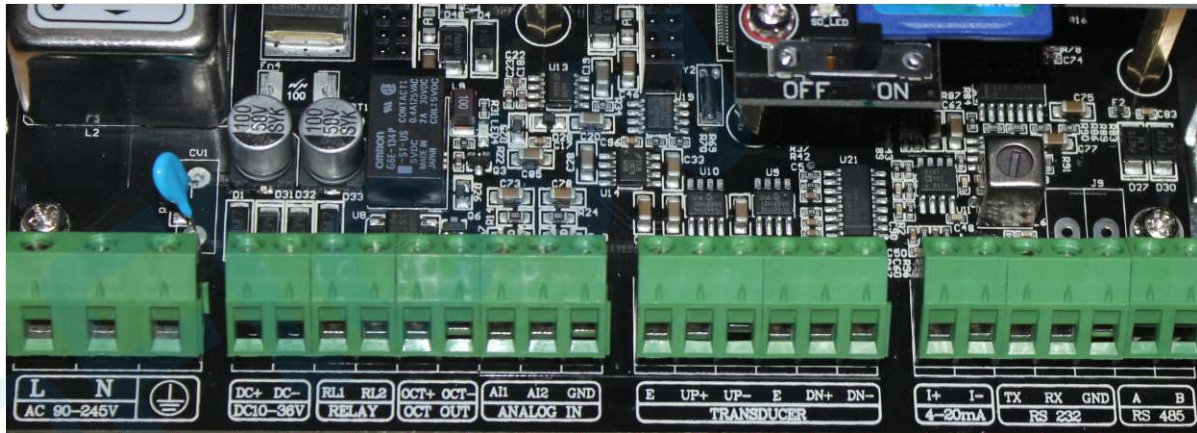
Applications



Specification

Performance specifications	
Flow range	$\pm 0.03\text{ft/s} \sim \pm 40\text{ft/s}$ ($\pm 0.01\text{m/s} \sim \pm 12\text{m/s}$)
Accuracy	$\pm 0.5\%$ of measured value (for $\pm 1.5\text{ft/s} \sim \pm 40\text{ft/s}$)
Repeatability	0.15% of measured value
Linearity	$\pm 0.5\%$
Pipe size	1" to 200" (25mm to 5000mm)
Function specifications	
Outputs	Analog output: 4~20mA, max load 750 Ω . Pulse output: 0~9999Hz, OCT, (min. and max. frequency is adjustable) Relay output: SPST, max 1Hz, (1A@125VAC or 2A@30VDC)
Communication	RS232&RS485
SD Card	Standard SD card Max record: 512 days Record time interval
Power supply	90 to 245 VAC, 48 to 63 Hz. Or 10 to 36VDC
Keypad	22 keys with tactile action
Display	40 character, 2 line (20X2) lattice alphanumeric, back lit LCD.
Temperature	Transmitter: $-40^{\circ}\text{F} \sim 140^{\circ}\text{F}$ ($-40^{\circ}\text{C} \sim 60^{\circ}\text{C}$) Transducer: $-40^{\circ}\text{F} \sim 176^{\circ}\text{F}$ ($-40^{\circ}\text{C} \sim 80^{\circ}\text{C}$, standard)
Humidity	Up to 99% RH, non-condensing
Physical specifications	
Transmitter	NEMA 4X (IP65), Die-cast aluminum
Transducer	Encapsulated design double-shielded transducer cable Standard/maximum cable length: 30ft/1000ft (9m/305m)
Weight	Transmitter: approximately 2.15kg; Transducer: approximately 0.9kg.

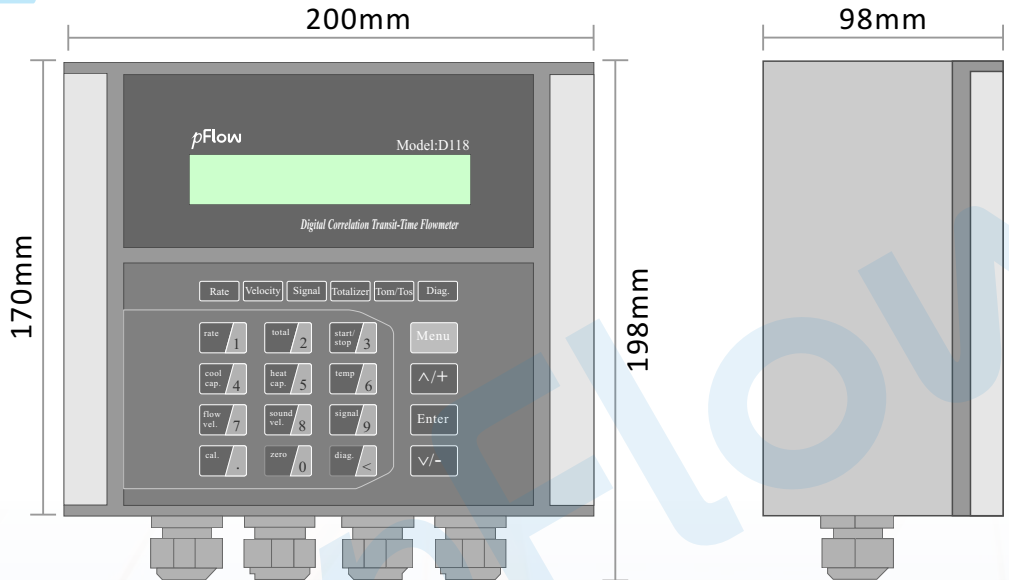
Wiring Diagram



- AC Power
- DC Power
- Relay
- OCT
- Analog in
- Transducer
- 4-20mA
- RS232
- RS485

Transmitter Dimensions

Transmitter

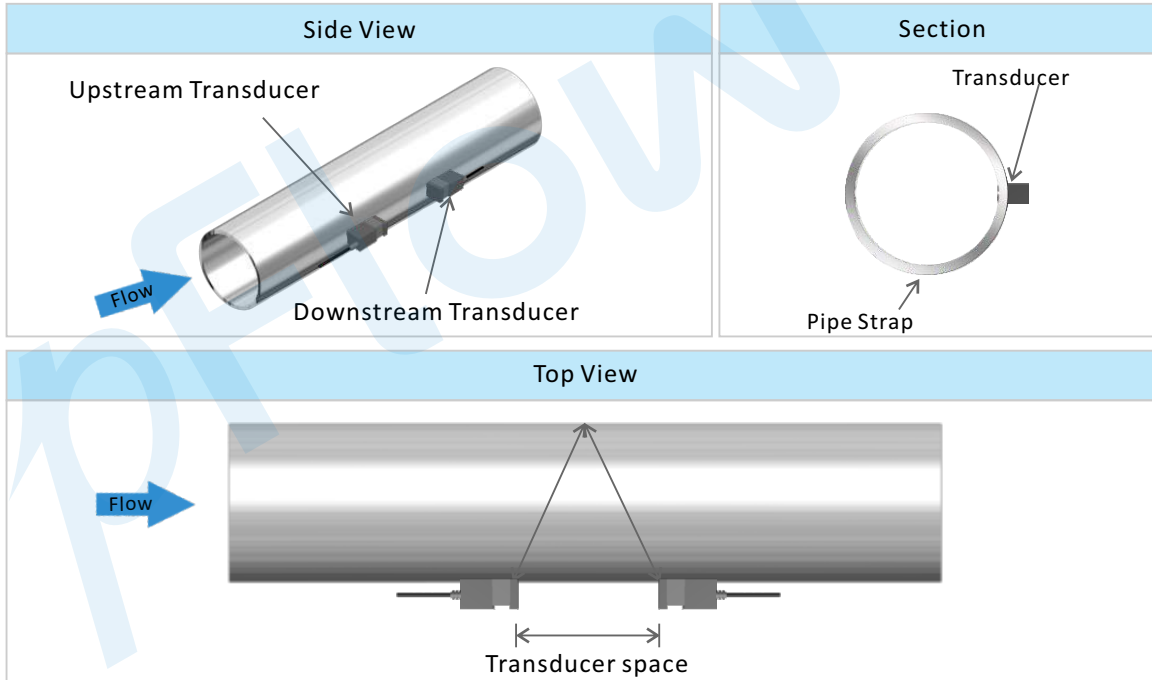


Transducer

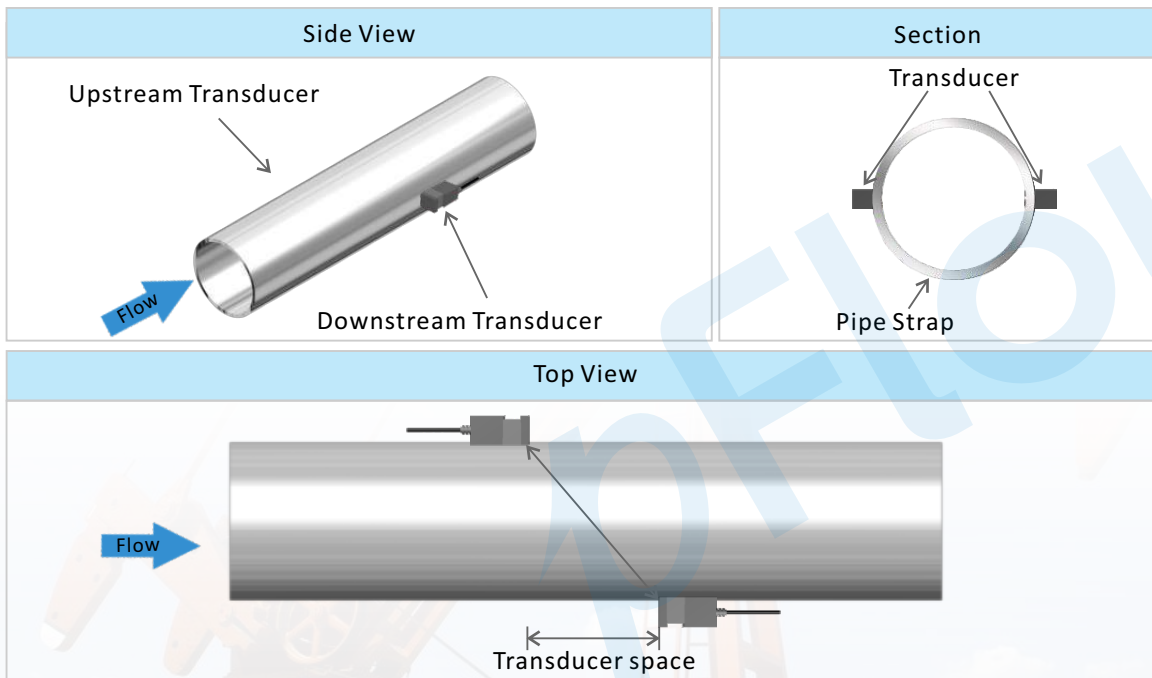


Transducer Installation Methods

V method measuring pipe size : 25mm-400mm



Z method measuring pipe size: 100mm-3000mm



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:

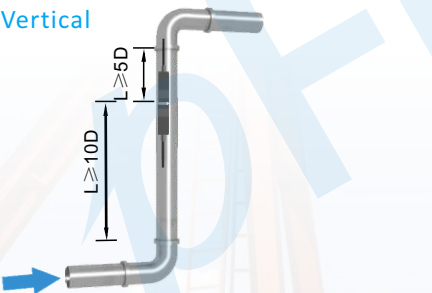
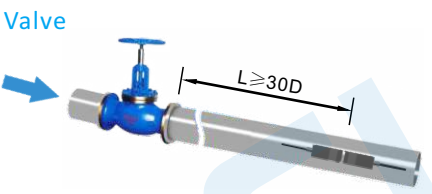
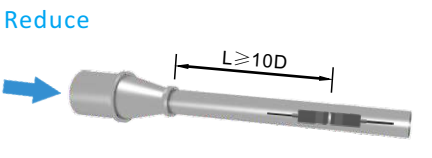
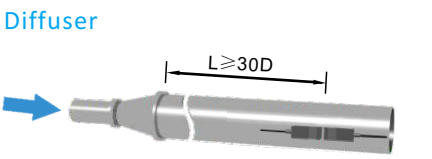
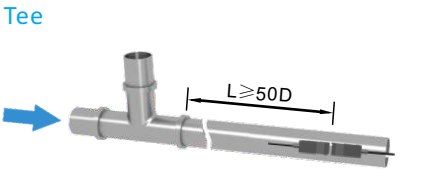
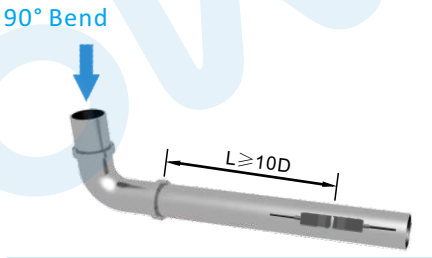
Choose a section of pipe that is always full of liquid, such as a vertical pipe with flow in the upward direction or a full horizontal pipe.

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

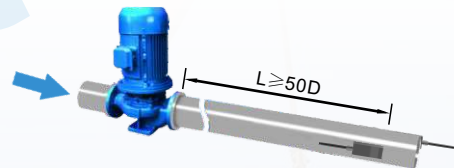
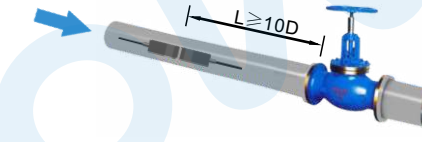
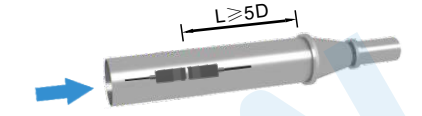
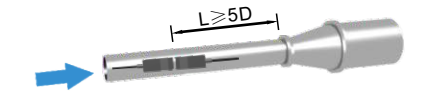
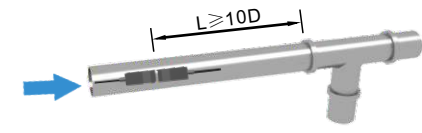
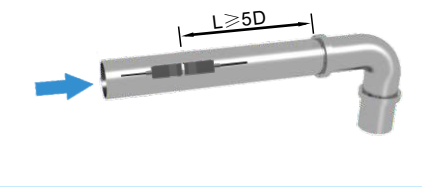
Ensure that the pipe surface temperature at the measuring point is within the transducer temperature limits.

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



Straight length of downstream piping




Ordering Information

Description	
D118	Digital Correlation Transit Time Flowmeter Installation method: Wall mount 2G SD card high memory data logging, maximum memorize 512 days data. Flow Range: 0.03 ~ ±40ft/s (0.01~ ±12 m/s) Accuracy: ±0.5% of measured value Repeatability: 0.15% Pipe Size Range: 1"~200"(25mm ~ 5000mm) Keyboard:16 (4×4) touch keys Display: 20*2, alphanumeric, backlit LCD Power supply: 90-250VAC, 48-63 Hz or 10-36V DC Transmitter enclosure: IP65, die-cast aluminum machined enclosure Output: 4~20mADC, OCT pulse output, relay output Communication: RS-232 / RS-485 terminal Modbus Protocol
Output	
1	4-20mA, OCT pulse output, relay output, RS-232 / RS-485
2	4-20mA, OCT pulse output, relay output, RS-232 / RS-485, RTD temperature input
Transmitter enclosure area classification	
1	IP65, die-cast aluminum machined enclosure
2	Explosion-proof enclosure , Ex dia II BT4
Type of transducers	
C010	Clamp on transducer, Operating temperature:-40°F ~ +176°F(-40°C ~ +80°C)
CH020	High temperature Clamp on transducer:32°F ~ +302°F(0°C ~ +150°C)
W210	Insertion transducer, Operating temperature:-40°F ~ +176°F(-40°C ~ +80°C)
WH101	High temperature Insertion transducer:32°F ~ +302°F(0°C ~ +150°C)
Transducer Cable Length	
030	Standard 30ft (9m)
xxx	Maximum lengthen to 305m(1000ft), per 5m is a lengthen unit.
Type of Temperature sensor	
PT1000	PT1000 Temperature sensor
Standard Model: D118-1-1-C010-030	
Description: Standard enclosure with Clamp-on transducers, RS232/RS485, 9m cable.	

Product Line

D116 Dedicated Ultrasonic Flowmeter




Accuracy: $\pm 1\%$
 Flow range: 0.03 ~ $\pm 16\text{ft/s}$
 Pipe Size Range: 1" ~ 48"

P116 Portable Ultrasonic Flowmeter




Accuracy: $\pm 1\%$
 Flow range: 0.03 ~ $\pm 40\text{ft/s}$
 Pipe Size Range: 1" ~ 48"

D118 Dedicated Ultrasonic Flowmeter




Accuracy: $\pm 0.5\%$
 Flow range: 0.03 ~ $\pm 40\text{ft/s}$
 Pipe Size Range: 1" ~ 200"

P118i Portable Ultrasonic Flowmeter



Accuracy: $\pm 0.5\%$
 Flow range: 0.03 ~ $\pm 40\text{ft/s}$
 Pipe Size Range: 0.6" ~ 240"

D118i Dedicated Ultrasonic Flowmeter



Accuracy: $\pm 0.5\%$
 Flow range: 0.03 ~ $\pm 40\text{ft/s}$
 Pipe Size Range: 1" ~ 200"

Application

Perfect performance in single liquid medium.
 Eg: Water, Pure water, Beer, Oil, etc.

Remark: The above mode choose doesn't including the spool piece, it is for customization.

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