pFlow

Ultrasonic Flowmeter

P117 (HD version)

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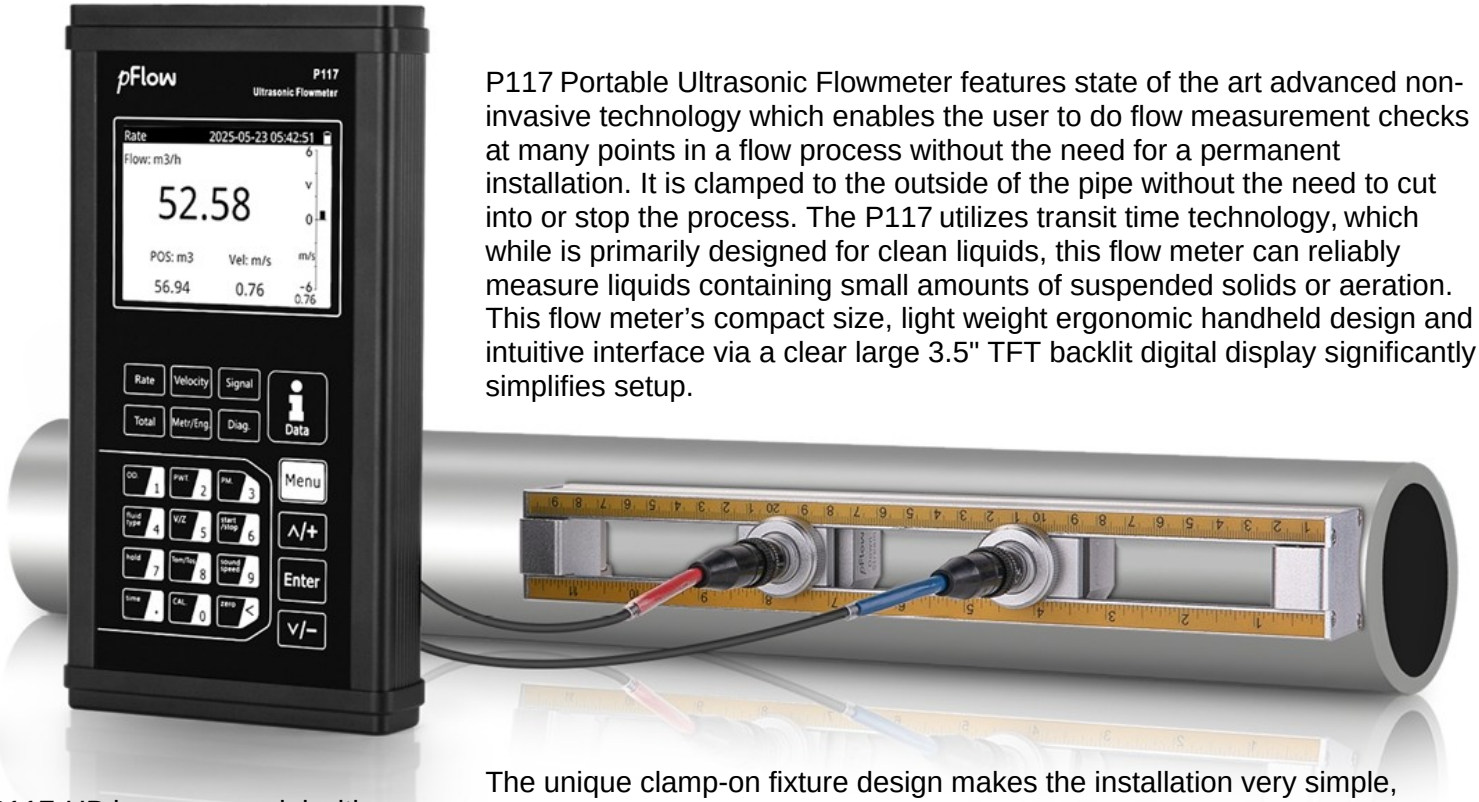
ABOUT P117
FEATURES AND CASES



P117 Portable Ultrasonic Flowmeter features state of the art advanced non-invasive technology which enables the user to do flow measurement checks at many points in a flow process without the need for a permanent installation. It is clamped to the outside of the pipe without the need to cut into or stop the process. The P117 utilizes transit time technology, which while is primarily designed for clean liquids, this flow meter can reliably measure liquids containing small amounts of suspended solids or aeration. This flow meter's compact size, light weight ergonomic handheld design and intuitive interface via a clear large 3.5" TFT backlit digital display significantly simplifies setup.

P117-HD is a new model with improved HD display and improved hardware

The unique clamp-on fixture design makes the installation very simple, requiring no special skills or tools. This flow meter is designed for short term flow measurement surveys on full-pipe liquid systems and includes onboard data logging which could be used for applications like leak detection over time, to find intermittent faults in a flow process, or flow measurement surveys. This flow meter offers high precision, reliability, and capability at an economical price point.

PICTURE OF STANDARD SET

FEATURES

1. Inbuilt rechargeable battery (up to 10 hours run time)
2. 3.5" TFT backlit digital display
3. Data logging - Large capacity memory and data download function.
4. Due to the non-invasive nature of clamp-on transducers, there is no pressure drops, no moving parts, no leaks, no contamination risk
5. Lightweight and easily transportable in rugged carry case
6. For measurement of clean liquids (not clear, so even oils can be measured)

APPLICATIONS

- Water (Hot water, cooling water, potable water, sea water etc...)
- Petroleum products
- Chemicals, including alcohol, acids, etc..
- Beverage, food and pharmaceutical processors
- Secondary sewage, waste treatment, etc...
- Mining industry, power plants for various processes
- Fire suppression system testing
- Pipeline leak detection and inspections
- Flow measurement surveys

ABOUT P117
PRODUCT BUNDLE

P117 Transmitter

Coupling Compound

Card reader

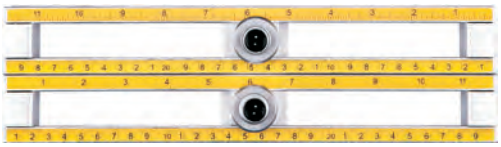
Charger

Junction Box

Signal Cable

Tape

Pipe straps



Transducer

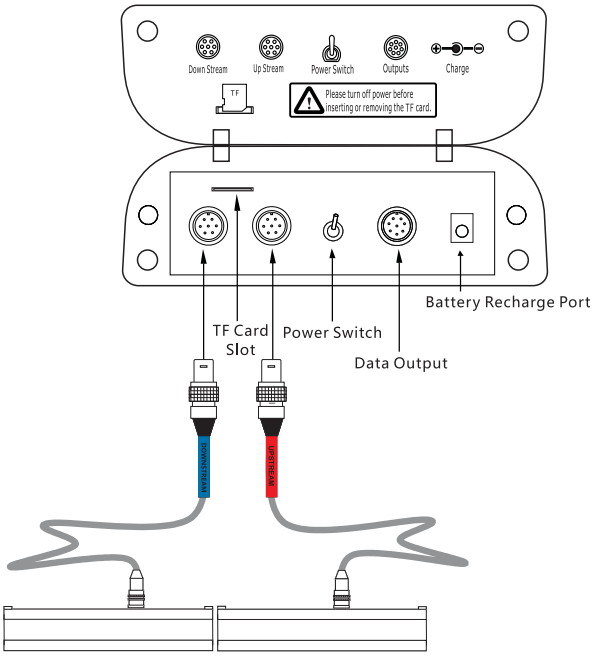
The P117 Ultrasonic Flowmeter is an advanced transit-time flowmeter designed with ARM chip technology and low-voltage wide-pulse sending technology. It offers high precision, reliability, and versatility. The flowmeter features a user-friendly interface with clear menu selections, supporting both U.S., British, and Metric measurement units. It supports multiple communication protocols, including FUJI and MODBUS, making it compatible with various systems. The device can store up to 1,000 files on a TF card with intervals as short as 1 second, providing extensive data logging capabilities. With a wide measurement range and high accuracy, the P117 is suitable for a variety of industrial applications. Its robust design and low power consumption make it an ideal choice for reliable flow measurement.

NOTE: P117 HD has some limitations compared with the old P117, including:
- Available transducer mounting methods are V or Z only, (used to be V, Z, N, now N is removed)
- Liner option has been removed, P117 HD cannot be used on pipes with a liner
- Some menus are slightly different, like segment correction is no longer present, but this is just for calibration purposes and not needed.

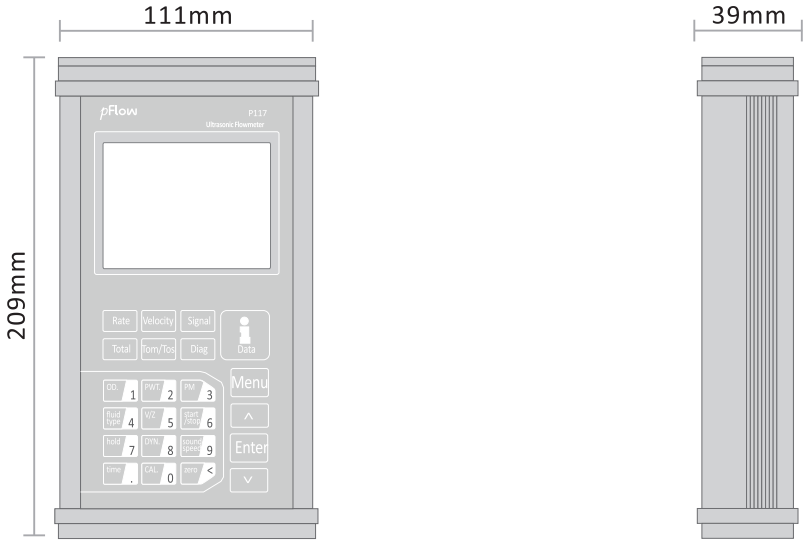
This new model has generally been streamlined and simplified, general response and usability has been improved.

ABOUT P117
INTERFACE AND SIZE

WIRING DIAGRAM



PRODUCT DIMENSIONS

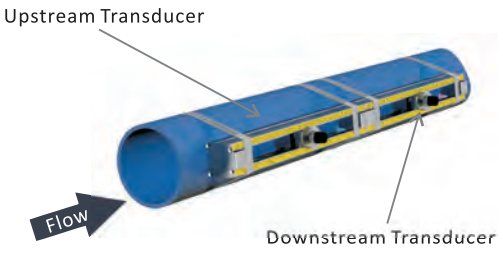


TRANSDUCER DIMENSIONS

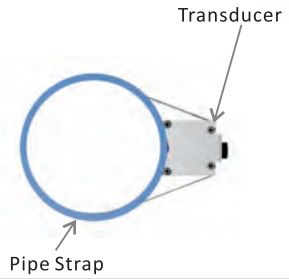
ABOUT P117
TRANSDUCER INSTALLATION METHODS

V method measuring pipe size : 25mm-400mm

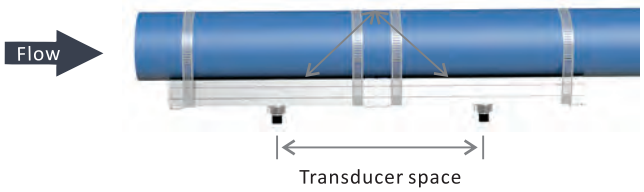
Side View



Section

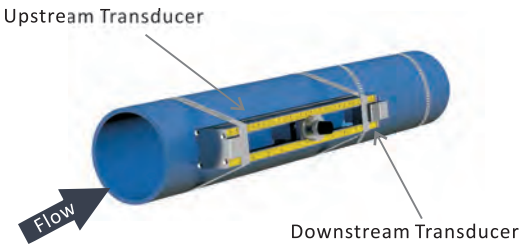


Top View

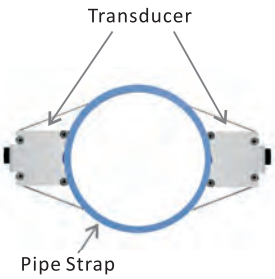


Z method measuring pipe size: 100mm-1200mm

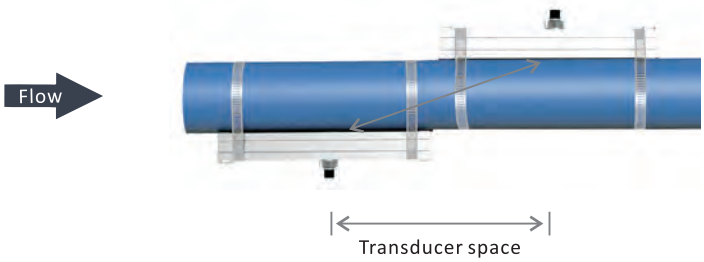
Side View



Section



Top View



ABOUT P117
INSTALLATION SITE SELECTION

When selecting a measurement site, it is important to select an area where the fluid flow profile is fully developed to provide an accurate measurement. Use the following guidelines to select a proper installation site

a) 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.

b) Ensure enough straight pipe length before and after the transducers so that the flow is non turbulent inside the pipe

c) Transducers are best mounted on the 3 or 9 o'clock position of the pipe section (at the side of the pipe) this is to avoid sediment at the bottom of a pipe or air bubbles at the top

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

e) Consider the condition of the pipe inside and out. Select a section free of excessive corrosion or scaling

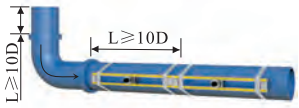
f) Consider the possibility of sedimentation at the bottom of the pipe and the presence of an air pocket at the top of the pipe. In addition, avoid flanges and welding areas and select a smooth portion of the pipe to install the transducers.

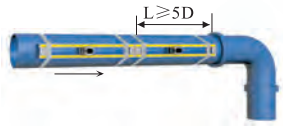
g) Ensure pipe and liquid are compatible or suitable to measured ultrasonically and install away from sources of interference or vibrations.

STRAIGHT LENGTH OF UPSTREAM PIPING

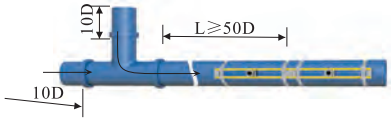
STRAIGHT LENGTH OF DOWNSTREAM PIPING

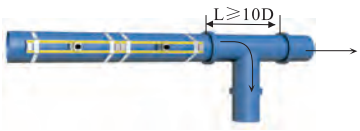
90° Bend



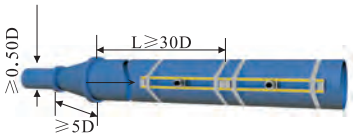


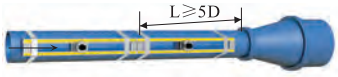
Tee



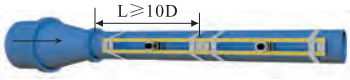


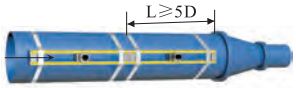
Diffuser



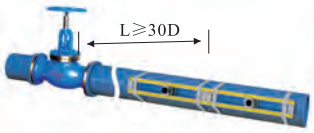


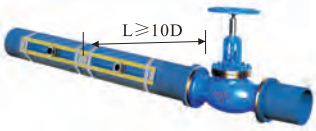
Reduce



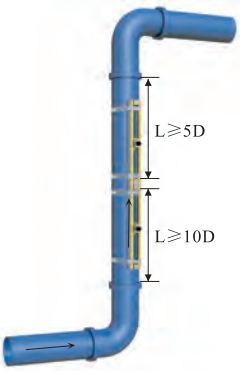


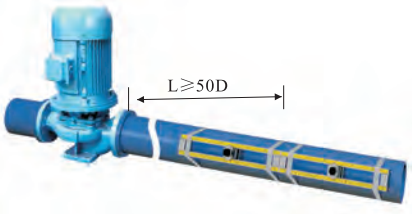
Valve





Vertical





ABOUT P117
ORDERING INFORMATION

MODEL	DESCRIPTION
P117	Flow range: ± (0.03 ~ 20) ft/s, ± (0.01 ~ 6) m/s Accuracy: ± 1.0% of measured value Repeatability: 0.2% Pipe Size: 1" ~ 48" (25mm ~ 1200mm) Output: RS485, 4~20mA, Max 500 Ω TF card: Storage: 16GB Max: 1000 files Interval: 1 ~ 86400 seconds Power Supply: 10.8V rechargeable Lithium Battery Power Keypad: Tactile Keys Display: 3.5 inch TFT black and white screen(320 × 480), backlit LCD Temperature: Transmitter: 14°F to 122°F (-10°C～50°C) Transducer: -40°F to 176°F (-40°C～80°C,standard) Humidity: 0 ~ 99% RH, non-condensing Transmitter: NEMA13 (IP54) Transducer: Encapsulated design, IP68 Standard cable length: 5m

CODE	TYPE OF TRANSDUCERS
P011	P type magnet portable transducer Operating temperature:40°F~176°F(-40°C~80°C)
PH020	PH type high temperature portable transducer Operating temperature:-40°F~302°F(-40°C~150°C)

CODE	TRANSDUCER CABLE LENGTH
016	P type of cable, standard 16ft (5m)
010	PH type of cable, standard 10ft (3m)
XXX	Maximum lengthen to 30m, per 5m is a lengthen unit

Standard Model: P117-P011-016
Description: P117 Portable Flow Meter P type magnet portable transducer, 16ft (5m) cable.

STANDARD INCLUSIONS

- Carry case
- Transmitter (includes internal lithium battery)
- 1 pair of transducers (upstream and downstream)
- 1 pair of transducer mounting frames
- 1 pair of transducer cables
- 1 set of pipe straps
- AC power supply
- Coupling compound
- SD card and SD card reader (USB adapter)
- Output junction box
- Logging software is a free download
- Hard copy of the manual and quick start guide
- Calibration certificate

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