MarMonix

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MFU-6400

Portable Ultrasonic Flow meter Marmonix

Overview:

Portable Ultrasonic Flow meter MFU-6400 is suitable for on-line calibration and inspection of liquid flow in various industrial sites. Wide Measuring range: DN15mm-DN6000mm, non-contact measuring method, no moving mechanical parts, free from system pressure and adverse environment. Built-in thermal integrated printer, widely used in petrochemical, metallurgy, electricity, water conservancy, heating, air conditioning billing, energy monitoring and other industrial production, backlit LCD and front panel operation.
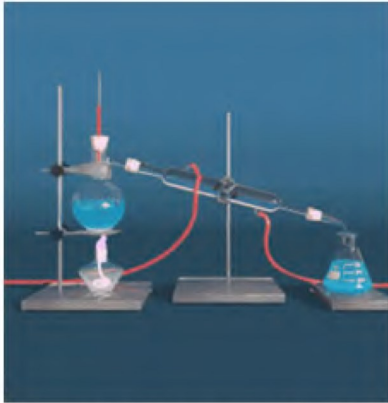
Features:

- Repeatability: better than 0.2%

- Accuracy: better than ±1%

- Chinese & English display, easy to operate

- Built-in rechargeable Ni-MH battery

- Built-in mini thermal printer with instant and timing print function

- Uplink over 20 measuring data to computer or internet

APPLICATION

Uniform liquid which ultrasonic waves can propagate

Ultrapure Water and Liquids

Water / Glycol Solutions

Cooling and Heating Water

Diesel and Fuel Oil

Wastewater

Chemicals

24 Line Character Thermal Printer

Built Mini Thermal Printer

Real time and Timing Printing

Easy to Change the Paper

Specification:

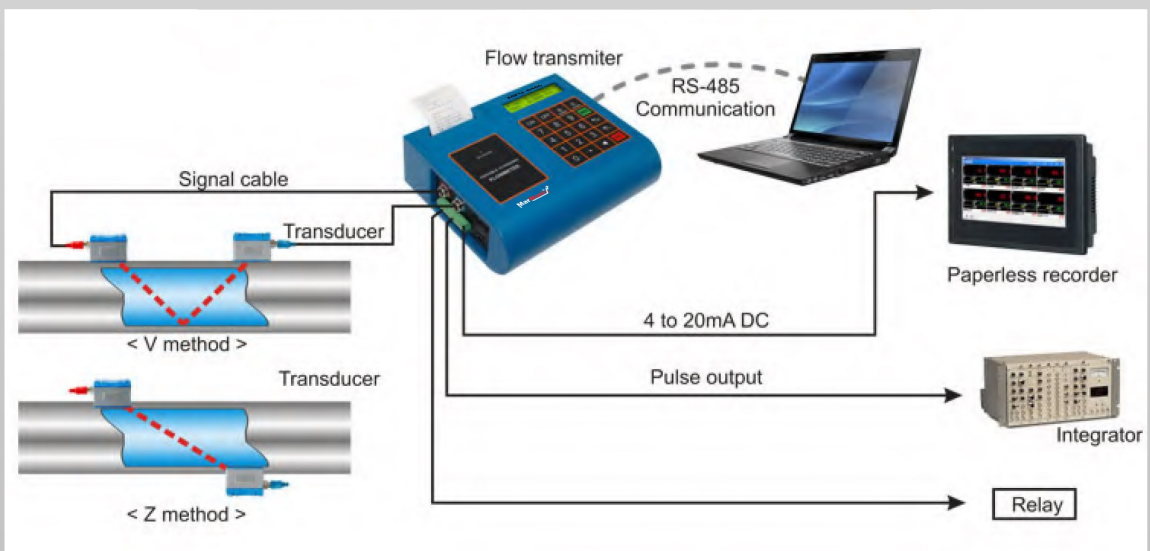| Item	Specification
Main unit	2 line × 2 characters
	Working temperature -20°C - 60°C
	Mini thermal printer with 24 line character output
	4×4+2 pushbutton keypad
	RS485 serial port
Transducers	TS-1: small size transducer (magnetic) for pipe size: DN15-100mm, liquid temperature ≤ 110°C
	TM-1: Medium size transducer (magnetic) for pipe size: DN50-1000mm, liquid temperature ≤ 110°C
	TL-1: Large size transducer (magnetic) for pipe size: DN300- 6000mm, liquid temperature ≤ 110°C
Liquid Types	Water, seawater, industrial sewage, acid and alkali liquid, various oils etc. Liquid which can transmit sound wave.
Flow velocity range	0-&plusmn10m/s
Accuracy	Better than ±1%
Power Supply	Built-in rechargeable Ni-MH battery (for 20 hours operation) or AC 220V
Power consumption	1.5W
Charging	Intelligent charging with AC 220V. After charging sufficiently, it automatically stop and display green light
Weight	Net weight: 2.5kg (main unit)
Remarks	With the high strength carrying case suitable for normal and harsh environment

Quick and easy Installation

Clamp on transducer Save time no pipe cutting or process shutdown

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Multiple Inputs and Outputs

2G SD memory card (optional)

UP   DN   SD

DC IN

AC 220V

QC PASS 004

190314-Fn-19701603

GND A15 A14 A13   −RLY+   −OCT+   −AO+   −485+

3 Way 4-20mA input, acquire Signals such as temperature, Pressure and liquid level (optional)

Relay output (optional)

Pulse output (optional)

4-20mA output (optional)

RS485 Communication (optional)
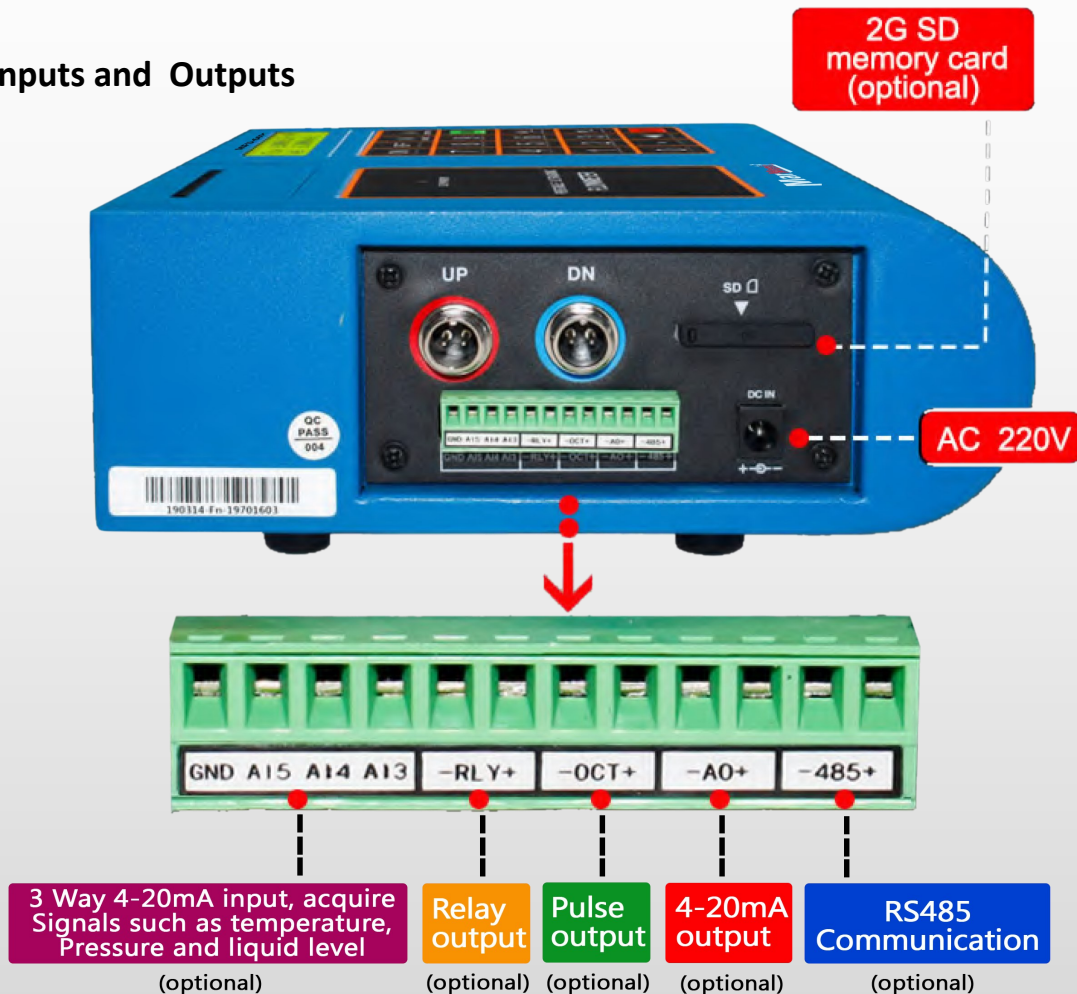
Example of System Comguration

Flow transmiter

RS-485 Communication

Signal cable

Transducer

< V method >

Transducer

< Z method >

4 to 20mA DC

Pulse output

Relay

Paperless recorder

Integrator

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Backlit LCD and Front Panel Operation

PORTABLE/HANDHELD

ULTRASONIC

FLOWMETER

Size: 470 x 350 x 130 mm

Flow   0.0000 m3/h *R
Vel   0.0000 m/s

User can select which value to show on each line

High Accuracy
±1.0%
of Rate

MFU-6400

PORTABLE ULTRASONIC
FLOWMETER

All necessary including

- Flow transmitter
- Acoustic coupler(ssilicone grease)
- signal cable
- Clamps and chains
- AC power recharger
- 2 rolls of paper
- Tape

Common Pipe Materials

Galvanized pipe

Stainless steel pipe

FRP pipe

Carbon steel pipe

MFU-6400

Flow   0.0000 m3/h *R
Vel   0.0000 m/s

ON OFF   CHARGE BATTERY
7 8 9 MENU
4 5 6 ▲/+
1 2 3 ▼/-
0 . ◄ ENT

SD/PRINTER

PORTABLE ULTRASONIC
FLOWMETER

Copper pipe
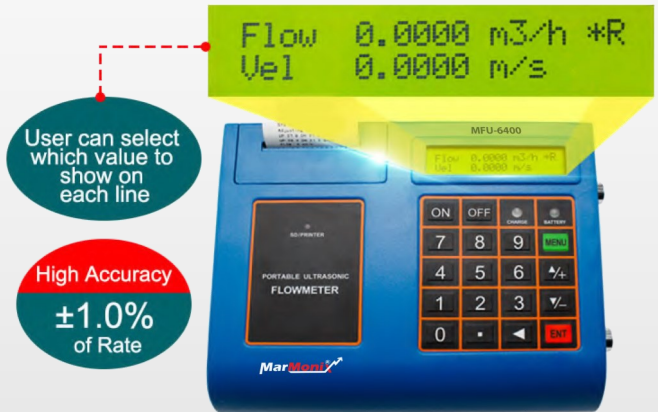
Transducer Selection

One or more pairs of transducer can be selected

Type	Picture	Specification	Measuring range	Temperature range
Clamp on type		Small-size	DN15mm~DN100mm	-30℃~90℃
		Middle-size	DN50mm~DN700mm	-30℃~90℃
		Large-size	DN300mm~DN6000mm	-30℃~90℃
High temperature clamp on type		Small-size	DN15mm~DN100mm	-30℃~160℃
		Middle-size	DN50mm~DN700mm	-30℃~160℃
		Large-size	DN300mm~DN6000mm	-30℃~160℃
Mounting bracket clamp on		Small-size	DN15mm~DN100mm	-30℃~90℃
		Middle-size	DN50mm~DN300mm	-30℃~90℃
		King-size	DN300mm~DN700mm	-30℃~90℃

Clamp on type mounting

Bracket mounting
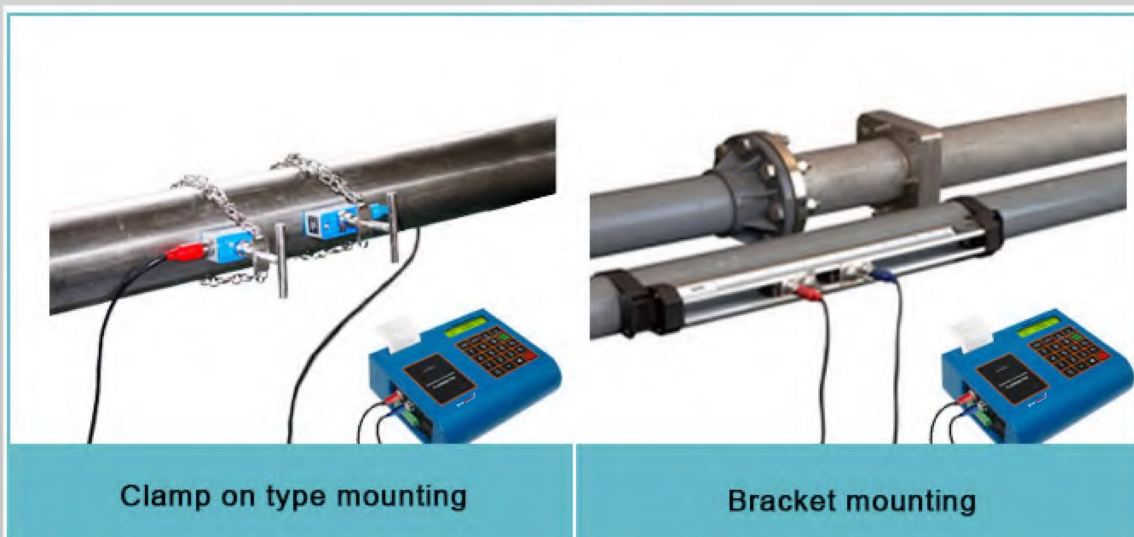
INSTALLATION

V-method Installation

V-method installation is the most widely used mode for daily measurement with pipe inner diameter ranging from DN15mm ~ DN200mm. It is also called reflective mode or method.
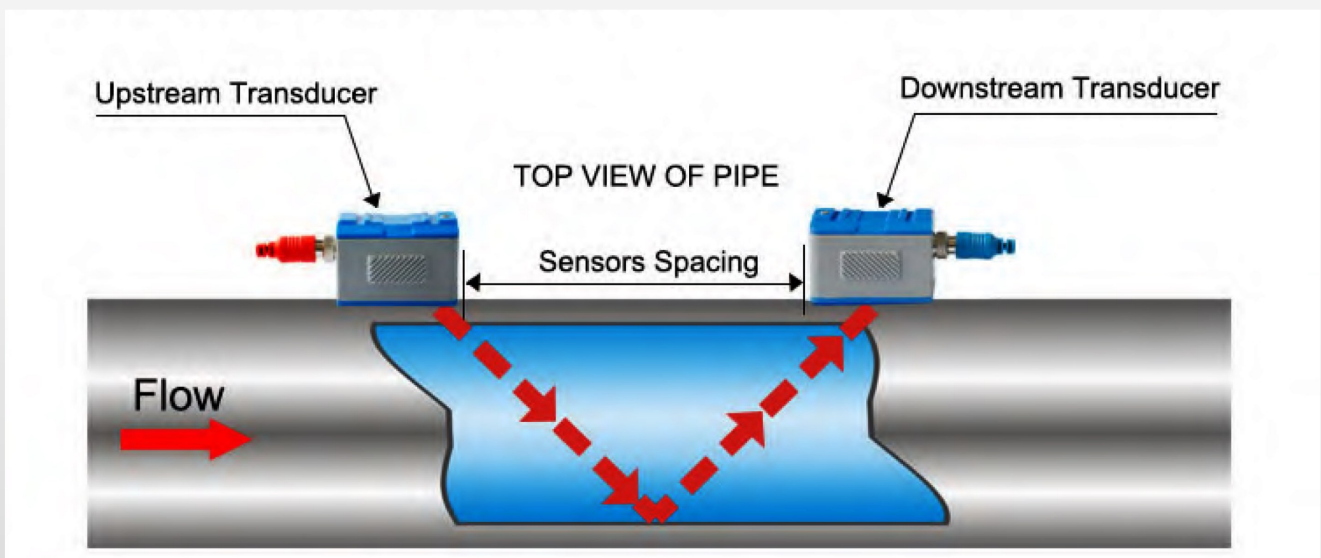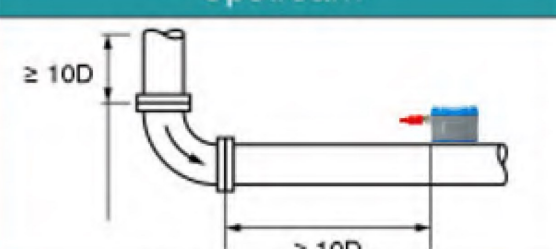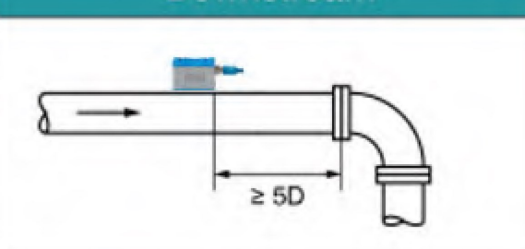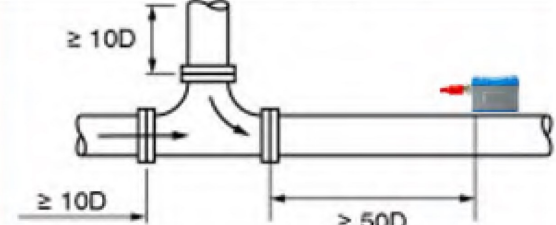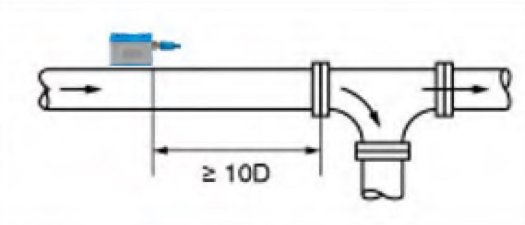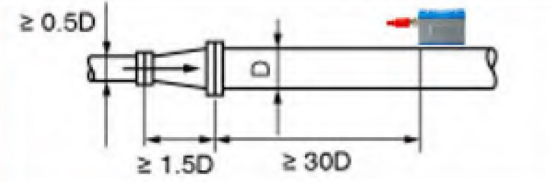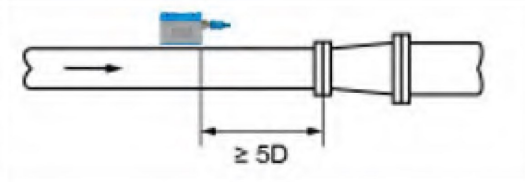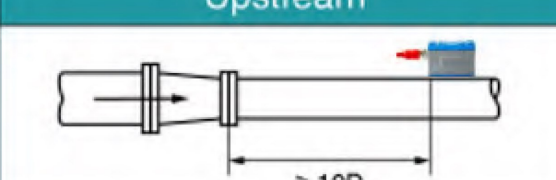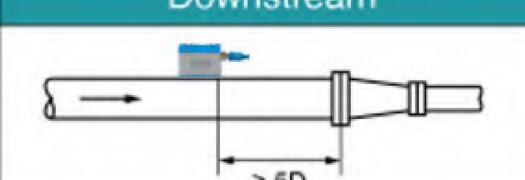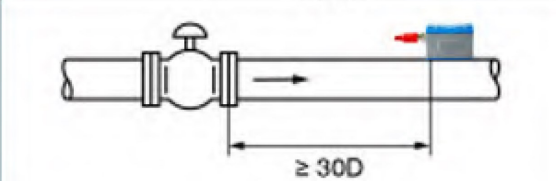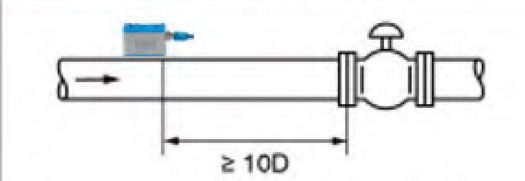

Z-method Installation

Z-method installation is commonly used when the pipe diameter is above DN300 mm.
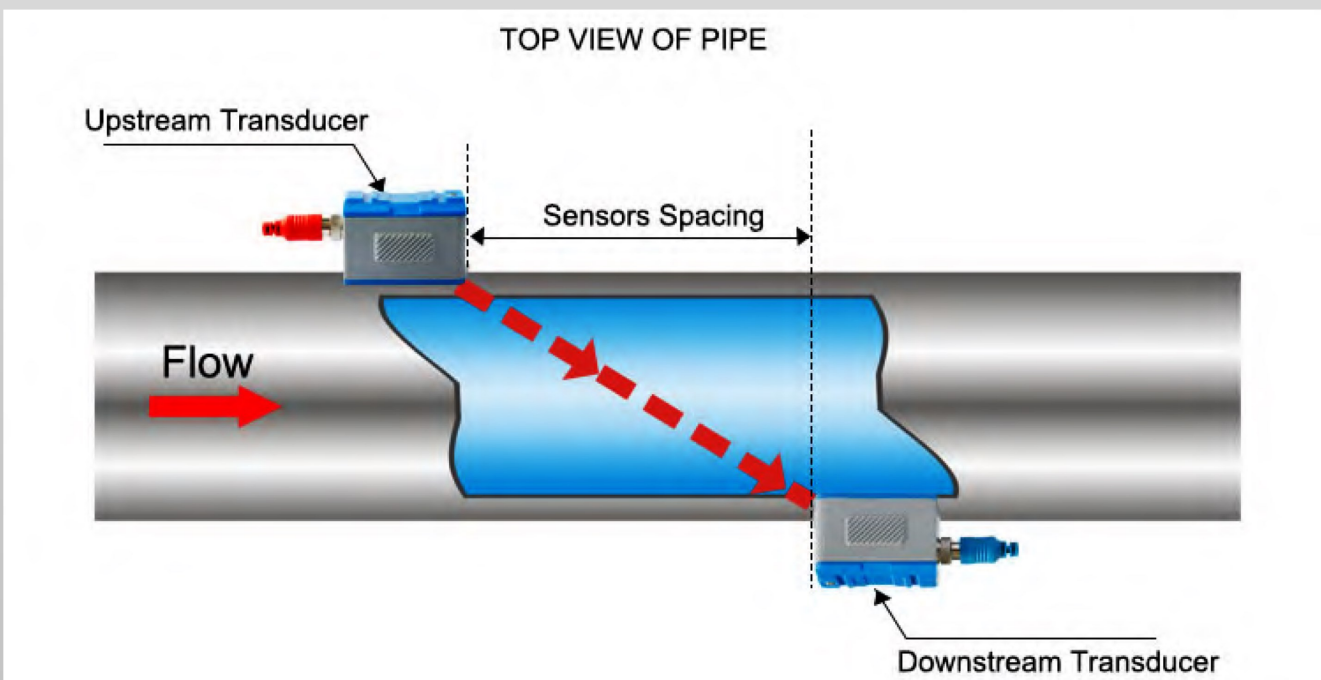
Piping Requirements

	Upstream	Downstream
90° bend	≥ 10D / ≥ 10D	≥ 5D
T-shaped pipe	≥ 10D / ≥ 10D / ≥ 50D	≥ 10D
Expanding pipe	≥ 0.5D / ≥ 1.5D / ≥ 30D	≥ 5D

	Upstream	Downstream
Tapered pipe	≥ 10D	≥ 5D
Valves	≥ 30D — In the case where a flow control valve exists on upstream side	≥ 10D — In the case where a flow control valve exists on downstream side
Pump	Check valve / Gate valve / ≥ 50D	