

# Product Manual | Ultrasonic FlowMeter 221

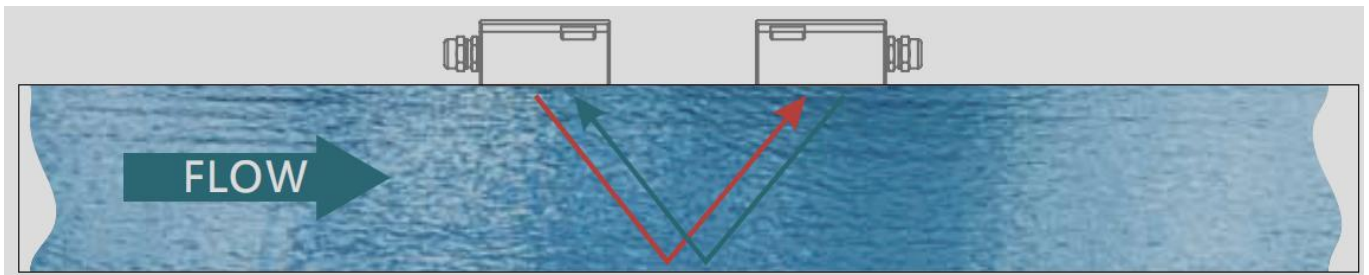


## Introduction

221 is a full function hand transfer time ultrasonic flow meter. No matter you want to quickly verify the flow reading of another meter or to data log flow system values over an extended time period, our 221 is the suitable tool. The 221 portable meter has the clamp on transducers no tapping or cutting is required, just clamp outside of the pipe. The meter can be easily moved and installed in different pipe and convenient to carry site to site. Its portability makes it an excellent choice for measuring flows throughout the plumbing infrastructure to verify sensor, pump and valve performance.

## Measuring principle

Transfer time technical means the ultrasonic signal from the transducer is transmitted and received through the moving liquid, there will be a difference between the upstream and downstream transit time, which can be used to calculate flow and velocity.



An ultrasonic meter equipped with heat flow capabilities measures the rate and quantity of heat delivered or removed from devices such as heat ex-changers. By measuring the volumetric flow rate of the heat ex-changer liquid, the temperature at the inlet pipe and the temperature at the outlet pipe, the energy usage can be calculated.

## Feature

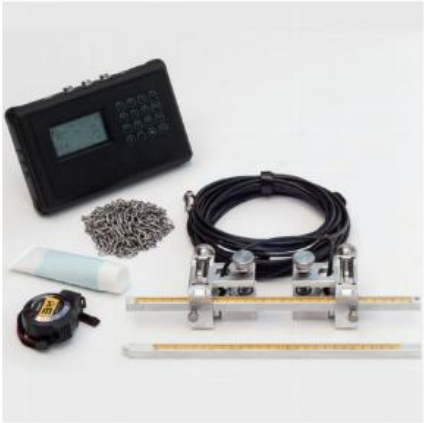
1. Easy to install, reduced installation time and cost.
2. No pressure head loss, No moving parts to maintain or replace.
3. BTU function is an option. 221 could be used as a portable ultrasonic energy meter.
4. Powerful data storage and also support the data sheet analysis software.



## Technical parameters

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	$\pm 1\%$ of measured value
Pipe size	Clamp-on: 1"~48" (25mm~1200mm)
Fluid	Single liquid
Pipe material	Carbon steel, stainless steel, PVC and other compact material pipe
Outputs	Analog output: 4~20mA, Max 750 $\Omega$ .
Communication protocol	RS485/Modbus
SD card	16G (option)
Interval	1 ~ 99999seconds
Display	240*128 backlit LCD, with digital keys
Power supply	Rechargeable Lithium Battery Power, 3000mAh (Continuous operation of main battery around 16 hours).
Temperature	Transmitter: $-40^{\circ}\text{C} \sim 60^{\circ}\text{C}$ Transducer: $-40^{\circ}\text{C} \sim 80^{\circ}\text{C}$ ( $-40^{\circ}\text{C} \sim 80^{\circ}\text{C}$ is standard; $-40^{\circ}\text{C} \sim 120^{\circ}\text{C}$ is an option)
Humidity	Up to 99% RH, non-condensing
Protection grade	Transmitter: NEMA13, IP54 Sensor: IP68
Transducer cable	Standard cable length: 5m (16ft).

**Accessories:**

No	Items	QTY	
1	Carrying Bag	1 PC	
2	Transmitter (Electronic)	1 PC	
3	Transducer (Sensor)	1 PC	
4	Mounting track, ST or DT	1 SET	
5	Pipe straps	2 Pairs	
6	Coupling compound (Grease)	1 PC	
7	Battery charge	1 PC	
8	Output cable	1 PC	
9	Tapeline	1 PC	



Mounting track, ST



Mounting track, DT



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Wechat



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Manufacturer 2 : Chengdu City, Sichuan Province, China