# UFM ULTRASONIC FLOW METER

## Summary

Ultrasonic flowmeter is widely used in the long-term online measurement of various liquids, suitable for all dense pipes. The sensor of the flowmeter is divided into external clip type, insertion type and pipe section type, of which the external clip type and insertion type can be installed without pipe or flow. The host can be installed in the indoor, instrumentation cabinet, the sensor is installed on the pipe, the host and the sensor can be connected by custom cables, to achieve the flow measurement, equipped with temperature sensor can achieve the heat measurement.

It is widely used in power plant, metallurgy, chemical industry, water supply, heating, water conservancy, energy and other industries. It can be used for production monitoring, water network balance debugging, heat network balance debugging, energy-saving monitoring, and is an important flow measurement instrument in the production process.

## Operating Principle

Ultrasonic flowmeter using the classic principle of time difference method, ultrasonic signal propagation in the fluid, the propagation speed will be affected by the medium flow rate, resulting in downstream and counter-current propagation time is different, in the same propagation distance, will produce propagation time difference, and then the introduction of other parameters, after further calculations you can get the flow.

## Product Features

• Unique waveform display interface for quick sensor installation and positioning.
• Visual human-machine interface for user-friendly operation.
• Grounded metal sensors are more resistant to interference.
• Based on the digital platform signal processing, high precision, anti-interference ability, can work reliably in the harsh working conditions environment.
• The casing is waterproof, dustproof, resistant to oil, many types of liquids and dirt, rugged, and IP67 rated.

## Technical Parameters

| Category | | Performance / Parameter |
|---|---|---|
| Main engine | Principle | Time difference correlation principle, correlation algorithm |
| | Accuracy | Flow rate: better than ±1% |
| | Display | Adopt 4.3-inch LCD display, support Chinese and English switch |
| | Signal output | 1 way 4-20mA current output, impedance 0~1K, precision 0.1% |
| | Signal input | Connectable to 3-wire PT100 platinum resistors for heat measurement |
| | Data interface | Isolated RS485 serial interface for upgrading the flow meter via PC |
| Specialized cables | | Custom coaxial cables and aviation plugs for effective noise shielding |
| Pipeline conditions | Tube | Steel, stainless steel, cast iron, cement pipe, copper, PVC, aluminum, glass fiber reinforced plastic and all other dense pipe, lining is allowed |
| | Tube inner diameter | 50~3000mm |
| | Straight pipe section | The best sensor installation point to meet: upstream 10D, downstream 5D, 30D from the pump outlet (D is the diameter of the pipe) |
| Measurement medium | categories | A single homogeneous liquid that conducts ultrasonic waves, such as water, seawater, industrial effluent, acid and alkaline solution, alcohol, various oils, etc. |
| | Temperature | -30~160°C |
| | Turbidity | 10000ppm and small bubble content |
| | Flow rate | 0~±10m/s |
| Working environment | Temperature | Main Unit: -40~70°C; Flow Sensor: -30~160°C |
| | Humidity | Host: 85% RH; flow sensor: can be immersed in water, water depth ≤ 2m (Note: after sensor irrigation) |
| Power supply | | DC24V或AC85~264V |
| Power consumption | | ≤ 3W |

## Model Selection Table

| Model | | Code | | | Content | |
|---|---|---|---|---|---|---|
| UFM - | | | | | Transonic flowmeter | |
| | A | | | | External clip-on type | |
| | B | | | | Plug-in type | |
| | C | | | | Pipe type | |
| | | 3 | | | PN16(1.6MPa) | |
| | | 4 | | | PN20(CLASS150) | |
| | | 5 | | | PN25(2.5MPa) | |
| | | 6 | | | PN40(4.0MPa) | |
| | | Note: The above is the operating pressure of the plug-in type / pipe section type, there is no limit to the operating pressure of the external clamp type | | | | |
| | | 7 | 16 | | DN50 | 2″ |
| | | 9 | 18 | | DN80 | 3″ |
| | | 10 | 19 | | DN100 | 4″ |
| | | 21 | 52 | | DN150 | 6″ |
| | | 22 | 53 | | DN200 | 8″ |
| | | 23 | 54 | | DN250 | 10″ |
| | | 24 | 55 | | DN300 | 12″ |
| | | 25 | 56 | | DN350 | 14″ |
| | | 26 | 57 | | DN400 | 16″ |
| | | 27 | 58 | | DN450 | 18″ |
| | | 28 | 59 | | DN500 | 20″ |
| | | Note: The above is the diameter of the inserted type/pipe section type, and the maximum diameter of the external clamp type is DN3000 | | | | |
| | | | 1 | | Pipe material: 20 | |
| | | | H | | Pipe material: stainless steel | |
| | | | Z | | Pipe material: cast iron | |
| | | | B | | Pipe material: FRP | |
| | | | P | | Pipe material: PVC | |
| | | | Q | | Other Materials: other | |
| | | | / | | | |
| | | | | d | Explosion isolation type | |
| | | | | W | No explosion-proof requirements | |
| | | | | D | Medium temperature: -30≤T≤90℃ | |
| | | | | G | Medium temperature: 90 < T≤160℃ | |
| | | | | L | Liquid | |
| | | | | G | Gas | |
| UFM - | □ | □ □ | □ / | □ □ | □ □ | |

## Example

UFM-A322T/WDLY

Explanation: Ultrasonic flowmeter for liquid, external clamp-on type, nominal pressure 1.6MPa, pipe diameter DN200, pipe material is carbon steel, no explosion-proof requirements, medium temperature: -30℃≤T≤90℃.

## Ordering Information

| | |
|---|---|
| Medium | |
| Working temperature | |
| Pipe material | |
| Medium flow rate | |
| Distance between mainframe and sensor (cable length) | |