M-Bus

Virtec

VIRTEC INSTRUMENTS INC.

MID
Measuring Instruction Directive
2014/32/UE Complied

Ultrasonic & Electro Magnetic Flow / Heat Meters

ENERGY METERING

QUICK & RELIABLE

VIR-830- PORTABLE ULTRASONIC FLOW METER

MAIN FEATURES

- Non-contact measuring method, small size, light weight and easy to carry
- The sensor is easy to install, suitable for measuring various sizes of pipe sound guiding media
- There is no need to destroy the pipeline during the measurement process, no need to stop production
- Built-in rechargeable battery, can work continuously for more than 12 hours
- Compact, sturdy, internationally advanced die-cast aluminum host
- The first 64 days before the automatic memory, the first 64 months, the first 5 years of cumulative flow
- Backlit LCD all Chinese display instantaneous flow and positive, negative, static cumulative flow, flow rate, time, analog input and other data

OVERVIEW

The hand-held ultrasonic flowmeter is a representative of portable ultrasonic flowmeters with small size, light weight and true meaning in China. The modified products have the characteristics of automatic data storage, high measurement accuracy and flexible operation. Once launched, the products have been favored by customers at home and abroad and have been exported to Japan, South Korea, Europe, America and the Middle East, and have been well received by domestic and foreign customers. It is mainly used for flow measurement of industrial pipeline fluids, and is widely used in environmental protection, petrochemical, metallurgy, papermaking, food, pharmaceutical and other industries.

Applicable occasions: Applicable medium: water, sea water, sewage, various oils, etc., single, uniform and stable liquid capable of conducting ultrasonic waves.

SPECIFICATION

Parameter	
Flow range	± 32m/s
Nominal diameter	DN15 ~ DN6000
Unit of measurement	meters, feet, cubic meters, liters, cubic feet, US gallons
Accuracy	indication value ± 1%, flow rate is greater than 0.2m / s
Response time	0~999 second (optional)
Applicable pipe	Uniform medium pipe such as carbon steel, stainless steel, cast iron, copper, PVC, aluminum, FRP
Liquid type	more than 30 kinds of pure liquid such as pure water and tap water
Power supply mode	Rechargeable battery power supply (distribution charger)
Working power supply	100-240VAC adapter, Built-in Ni-H battery (12 hours after continuous operation)
Data record	Built-in data logger can store 2000 rows of data
Medium temperature	conventional -30 ~ 90 ° C, high temperature type up to -30 ~ 150 ° C
Usage temperature	Host: -30 ~ 90 ° C; Sensor: -30 ~ 160 ° C
Signal output	1 channel OCT pulse output (pulse 6-1000ms, default 200ms)
Usage Humidity	Host 85%
Protection level	P67
Communication	RS232C baud rate is 75~57600, and can also be compatible with other products according to customer requirements.
Shell material	Flame retardant ABS
Installation method	External installation
Dimensions	100*66*20mm

INSTRODUCTION

- Portable ultrasonic flowmeter
- Instantaneous cumulative display
- No need to break the tube
- Accurate measurement

Instantaneous cumulative display

Simultaneous display of accumulated flow, instantaneous flow and flow velocity.

Low power design

Upgrade and optimize the circuit, with the advantages of high integration, low power consumption, high reliability, etc., can achieve 12 hours of continuous uninterrupted work.

Standard aviation connector design

Quick release with air quick coupler

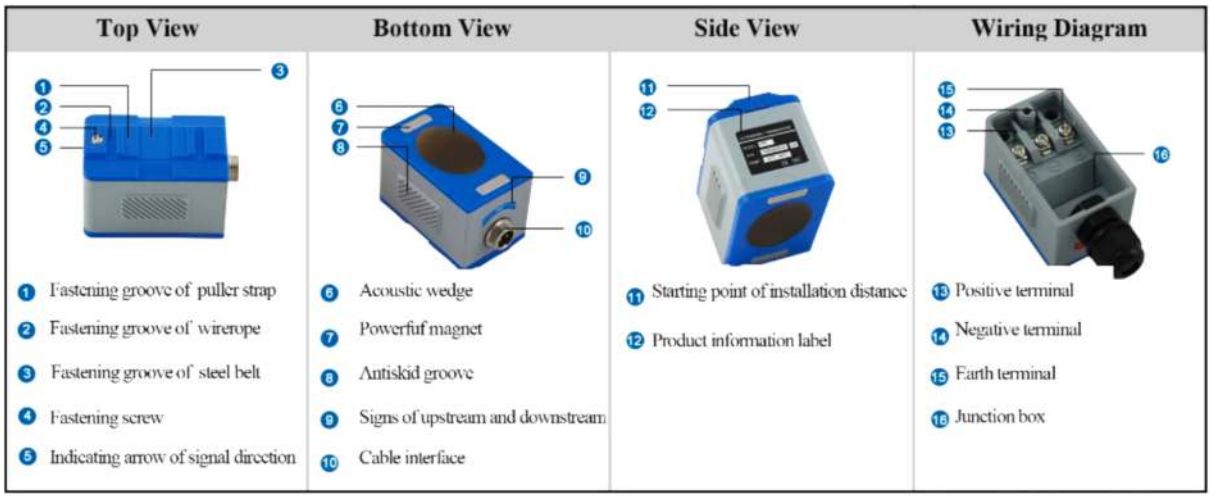
Standard RS232C communication interface

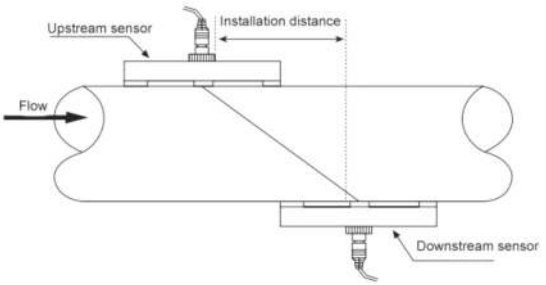
Support host computer communication transmission, standard 232 interface communication line, charging equipment.

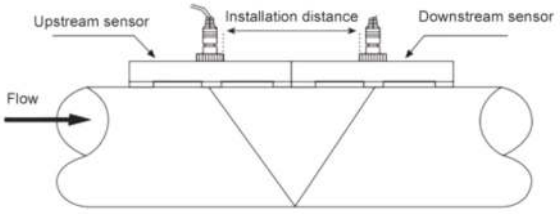
SENSOR OPTIONS

Clamp-on Type	Picture	Model	Accuracy	Protection Class	Measuring Pipe Size	Medium Temperature
Sstandard		TS-2	±1%	IP68	DN25-100mm	-30℃~90℃
		TM-1	±1%	IP68	DN50-700mm	-30℃~90℃
		TL-1	±1%	IP68	DN300-6000mm	-30℃~90℃
High Temperature standard		TS-2-HT	±1%	IP68	DN25-100mm	-30℃~160℃
		TM-1-HT	±1%	IP68	DN50-700mm	-30℃~160℃
		TL-1-HT	±1%	IP68	DN300-6000mm	-30℃~160℃
Mounting Bracket		HS	±1%	IP68	DN25-100mm	-30℃~90℃
		HM	±1%	IP68	DN50-300mm	-30℃~90℃
		EB-1	±1%	IP68	DN300-700mm	-30℃~90℃
High Temperature Mounting Bracket		HS-HT	±1%	IP68	DN25-100mm	-30℃~160℃
		HM-HT	±1%	IP68	DN50-300mm	-30℃~160℃
		EB-1-HT	±1%	IP68	DN300-700mm	-30℃~160℃

PARTS DESCRIPTION







INSTALLATION

Measuring sensor selection

External clip mounting

Flow measurement can be achieved by mounting a magnetic clip-on sensor outside the pipe. No need to break the pipe and no pressure loss. DN15~DN100 (small)/DN50-DN700 (medium)/ DN300~DN6000 (large) pipe flow flow measurement can be realized by using different size sensor probes.

Standard specification measuring temperature: -30~90 °C, using high temperature clip-on sensor, can measure -30~160 °C medium.

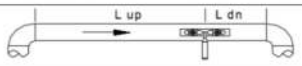
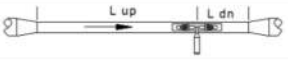
Bracket mounting

Flow detection can be achieved by attaching a bracket-type sensor with a graduated size to the outer wall of the ramp. No need to break, stop, no pressure loss, and with standard size, it is easy to determine the probe installation distance.

Select different size sensor probes to achieve DN32 ~ DN100 (small) / DN50 ~ DN700 (medium) / DN300 ~ DN6000 (large)

Standard specification star temperature: -30~90 °C, high temperature clip-on sensor can be used

Measuring position selection

Piping Configuration and Transducer Position	Upstream Dimension L up x Diameters	Downstream Dimension L dn x Diameters
	10D	5D
	10D	5D
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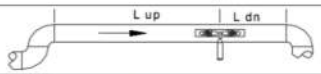
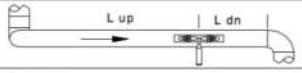
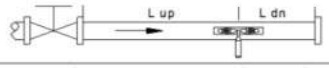
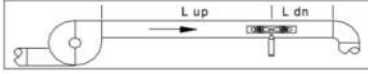
	12D	5D
	20D	5D
	20D	5D
	30D	5D

The principle of correctly selecting the measurement position:
The pipe where the sensor is installed must have a long straight pipe section. Of course, the longer the better, generally 10 times the diameter of the upstream pipe, 5 times the diameter of the pipe downstream, and 30 times the diameter of the pipe from the pump outlet. At the same time, the liquid in the pipe is ensured. It must be full.
Make sure that the temperature range of the pipe under test is within the operating temperature range of the sensor, usually at room temperature.
Taking into account the corrosion or scaling of the pipe, it is best to choose a newer pipe measurement, if the condition is not available, subtract the rust from the pipe wall thickness or consider the fouling as a lining.

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