Residential Ultrasonic Water Meter (With Valve)

ZIG SERIES

PODYNC

Introduction

In today's world, as water resources continue to diminish, the precise measurement of water consumption has become increasingly important. Additionally, a significant amount of potable water is often wasted due to measurement errors and inaccuracies in traditional water metering devices. Therefore, accurate measurement of water consumption can help prevent water wastage. To address this critical need, Pooyac has made a significant advancement by manufacturing smart ultrasonic meters.

Ultrasonic water meters operate on the principle of using sound waves to measure the flow rate of water. Pooyac's ultrasonic water meters utilize two identical sensors positioned at a fixed distance from each other, both capable of transmitting and receiving signals. The signal's transit time differs when moving with the flow versus against it. By analyzing this time difference, along with the speed of sound in the fluid medium and the distance between the sensors, the fluid velocity and ultimately the flow rate can be accurately calculated.

The advantages of Pooyac's ultrasonic water meters include:

- Utilizing ultrasonic measuring technology, that works without any mechanical moving parts and minimizes pressure loss, increases the life of the device.
- Corrosion resistant
- Long battery life (at least 15 years)
- Water supply network leak detection
- Equipped with a smart data logger for calculating the shock consumption of the water supply network
- Dust and moisture resistant (IP68)
- Compliant with OIML r49 and ISO 4064 standards
- Remote valve control capability, this feature enables the management of water consumption through smart management systems by allowing remote control of the valve.
- With an automatic mechanism to shut-off the water flow in case of leakage or excessive consumption
- With the ability to set the schedule for connecting and disconnecting the valve based on the user's requirements

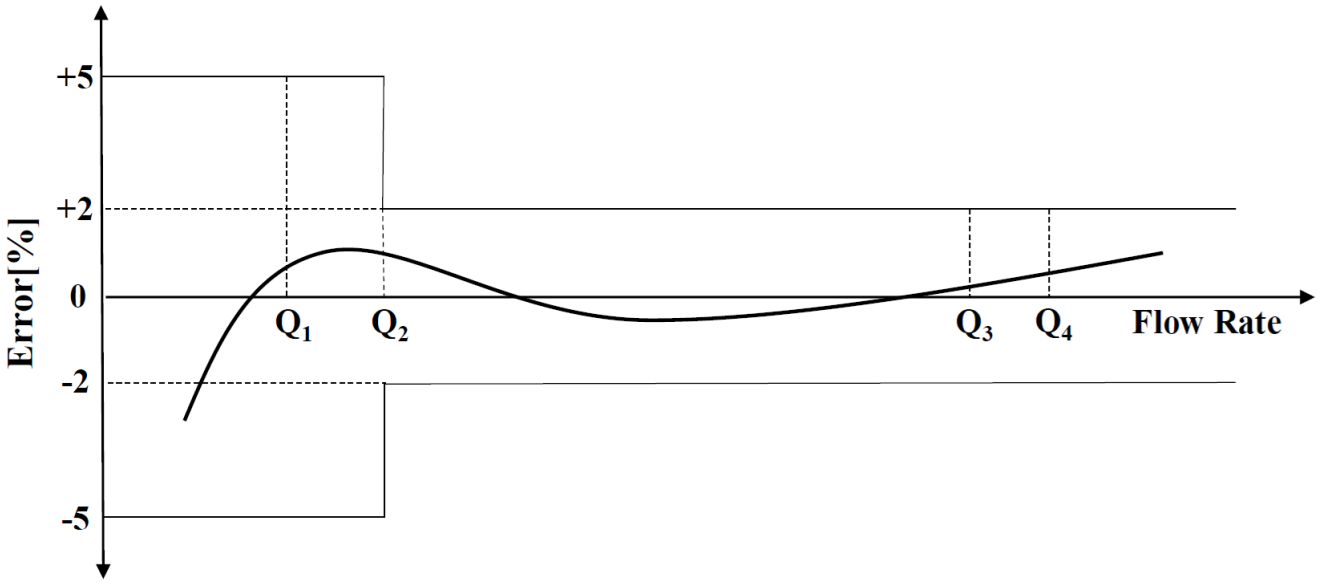
Technical Parameters	
Nominal Diameters	DN15، DN20، DN25، DN32، DN40
Accuracy Class	2، 1 (Optional)
Measuring Range (R)	250، 400
Maximum Permissible Error in Range $Q_1 \leq Q < Q_2$	≤±5%
Maximum Permissible Error in Range $Q_2 \leq Q \leq Q_4$	≤±2% For Cold Water at T≤ 30°C ≤±3% For Water at T> 30°C
Flow Disturbance Immunity Class	U0/D0
Maximum Admissible Pressure	MAP16
Pressure Loss Class	≤0.63 bar
Temperature Class	T50 (0.1°C ...50°C)
Ambient Temperature	-20°C ...70°C
Pipe Material	SS304، SS316L، Brass
Installation Orientation	H، V، H/V
IP Rating	IP68
Battery	3.6VDC/19 Ah، Lithium-Thionyl Chloride ($Li-SoCl_2$)
Battery Life Time	At Least 15 Years
Display Indication	LCD، 9-Digital+Prompting Character
Display Resolution	Accumulated Flow Rate: 0.001 m^3، L(Optional) Instantaneous Flow Rate: 0.01 L/h For Q< 1000 L/h 0.01 m^3/h For Q≥ 1000 L/h
Values Displayed	Accumulated Flow Rate (m^3، Gal، L)، Instantaneous Flow Rate (m^3/h، GPM، L/h) Optional: Water Temperature (°C)، Date (YY/MM/DD)، Time (Hh/mm/ss)، Software Version، Screen Test
Display Range	Accumulated Flow Rate: 0-999999.999m^3
Local Port	IR (Infrared)
Data Communication	Wireless M-bus، LoRaWAN، Wi-Fi، NB-IoT، GPRS، Modbus (RS485) ×Only one item، on request
Output	Pulse Output (Optional)
Alarms	Burst، Leakage، Empty Pipe، Frozen، Low Battery، Tampering، Systematic Alarms

Pipe Materials:

SS304, SS316L

Brass

Error Curve:



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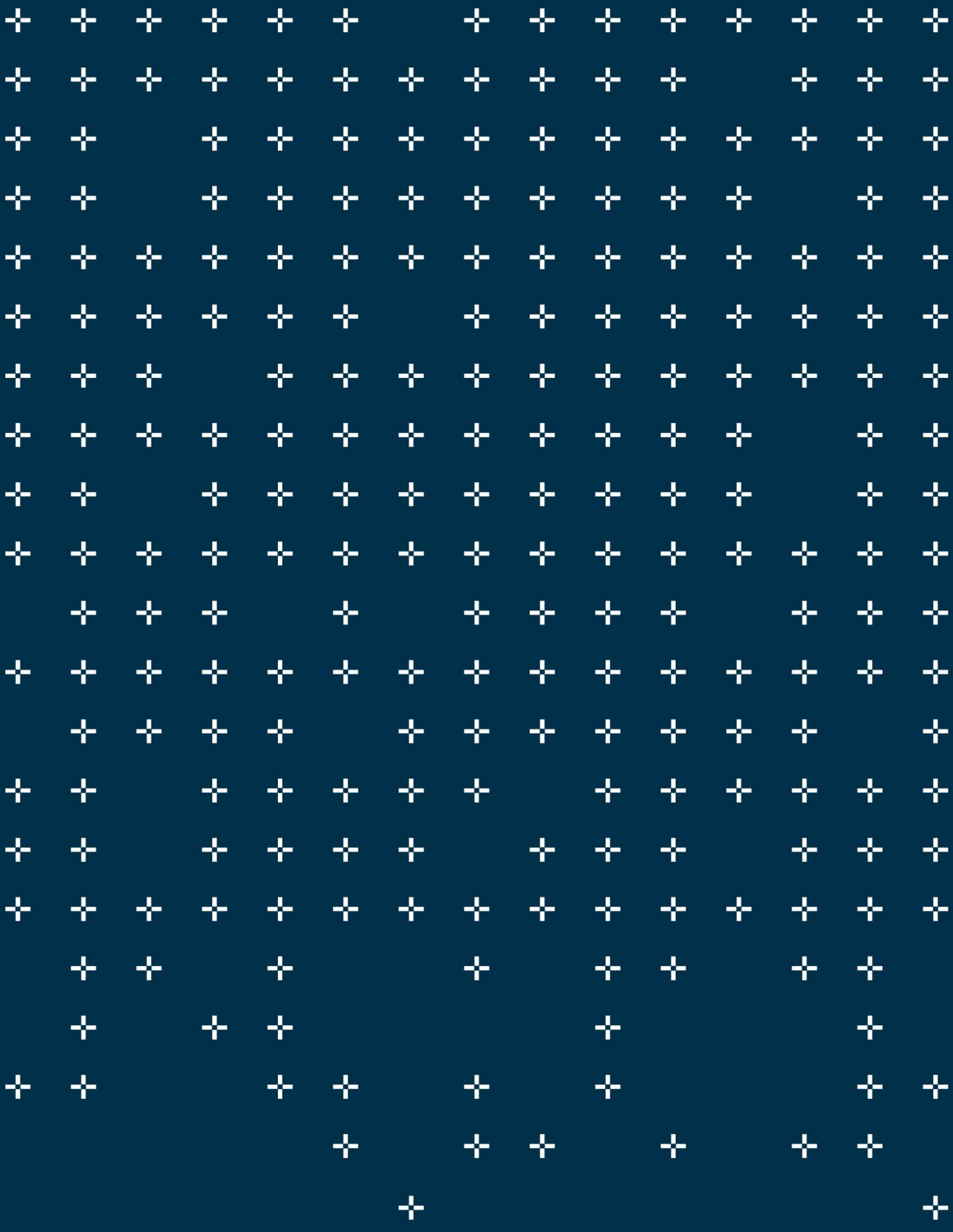
Flow Parameters (R250):

Size	Minimum Flow Rate Q_1 [L/h]	Transitional Flow Rate Q_2 [L/h]	Permanent Flow Rate Q_3 [m^3/h]	Overload Flow Rate Q_4 [m^3/h]	Min. Cut-off [L/h]	Max. Cut-off [m^3/h]	Connection On Meter
DN15	10	16	2.5	3.1	3	4.5	G3/4
DN20	16	25.6	4	5	4.8	7.2	G1
DN25	25	40	6.3	7.8	7.5	11.3	G1 1/4
DN32	40	64	10	12.5	12	18	G1 1/2
DN40	64	102.4	16	20	19	29	G2

Flow Parameters (R400):

Size	Minimum Flow Rate Q_1 [L/h]	Transitional Flow Rate Q_2 [L/h]	Permanent Flow Rate Q_3 [m^3/h]	Overload Flow Rate Q_4 [m^3/h]	Min. Cut-off [L/h]	Max. Cut-off [m^3/h]	Connection On Meter
DN15	6.25	10	2.5	3.1	3	4.5	G3/4
DN20	10	16	4	5	4.8	7.2	G1
DN25	16	25.2	6.3	7.8	7.5	11.3	G1 1/4
DN32	25	40	10	12.5	12	18	G1 1/2
DN40	40	64	16	20	19	29	G2



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