



## RBBF Battery Operated Ultrasonic Flow meter

### Features

- ∅ Meet the price ladder accounting requirements;
- ∅ Low starting flow, minimum flow is a traditional meter 1/3;
- ∅ Temperature detection, low temperature alarm;
- ∅ No moving parts, no wear, long-term stable operation;
- ∅ More than 10 years service life;
- ∅ Abnormal water alarm;
- ∅ Can be installed at any angle, the measurement accuracy is not affected;
- ∅ Ultrasonic signal quality testing;
- ∅ Optical switch, IP65, can work long-term immersion
- ∅ M-Bus, Modbus, 4-20mA or Pulse other communications interfaces;
- ∅ Communication protocol compatible GB / T 26831, CJ / T 188, EN 13757;
- ∅ in compliance with GB/T 778-2007  
《measurement of water flow in fully charged closed conduits-meters for cold potable water and hot water》.

### Important

- ∅ Be sure to take good care of this manual so that you can access at any time in the future.
- ∅ Before the products are subjected to rigorous test, for unauthorized users to open the shell, causing damage to the demolition, the company

does not assume any responsibility.

- ∅ Do not change any of the cable length, otherwise it will affect product performance.
- ∅ If the product does not work properly or requires repair, please contact our company or distributor but is duly authorized by the company.
- ∅ This product is a precision measuring instrument, do not drop it or by the impact.
- ∅ Do not charge the battery, short circuit or unauthorized modification.
- ∅ When the battery is low, please replace the battery, which will cause the metering data is missing.
- ∅ Replace the used batteries should be done under the environmental process, or by my company unified recycling.
- ∅ This product is a precision measurement instrument, operated by professionals.

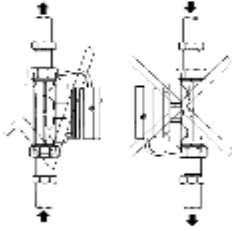
**Note: Default standard parameters for manufactured product, if no special indication. Please indicate in order, if with special requirements.**

## Notes

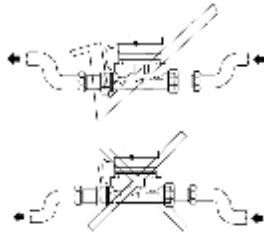
- ⌌ Please install according to designing, do not move without permission.
- ⌌ Replace battery should be operated by trained worker.

## Installation position

- ⌌ When install water meter in vertical direction, water should flow from bottom to up.



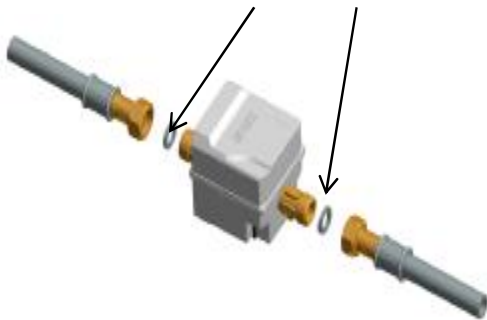
- ⌌ When install water meter in horizontal direction, do not install in the highest position, avoid bubble gathers.



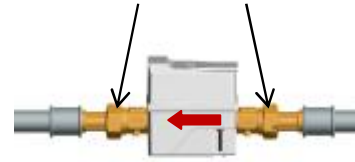
## Installation steps

- ⌌ Cut the pipe open and leave the position for water meter and coupling.
- ⌌ Install coupling at the end of pipe.
- ⌌ Put sealing between water meter and coupling, tighten them together.

Must use EPDM sealing

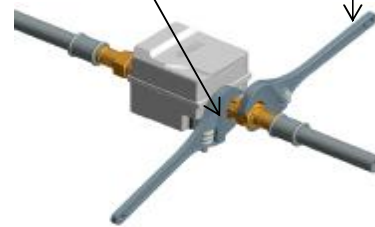


Tighten two coupling by hand (care for flow direction), push sealing closely



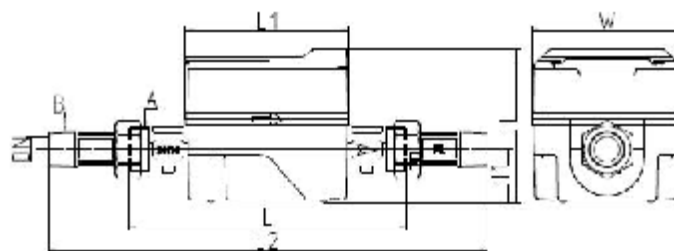
Fixed instruments

Tighten by wrench ( 10-25Nm , G3/4" )



## Data sheet

Nominal diameter DN (mm)	15		20						25		32	40
Body Length (mm)	110	110	130	190	130	190	130	190	160	260	180	200
Max. flow rate $Q_3$ (m <sup>3</sup> /h)	1.2	3	1.2	1.2	3	3	5	5	7	12	12	20
Min. flow rate $Q_1$ (L/h)	0.024	0.06	0.024	0.024	0.06	0.06	0.1	0.1	0.14	0.24	0.24	0.24
pressure loss	14	18	14	14	7	7	17	17	15	20	13	11
maximum working pressure	1.6MPa											
flow rate maximum reading (m <sup>3</sup> )	99999.99999											
accuracy class	Class 1											
IP grade	IP65											
Power supply	3.6V lithium battery											
Battery lifetime	≥10years											
Installation mode	at any angle											
Environment temperature	- 25°C to 55°C											
heat(cooling)carrier	conduit is fully charged with water											
Nominal diameter DN (mm)	15	20		25		32		40				
L	110	130/190*		160/260*		180		200				
L1	150											
L2	200/255	230/290/295		260/360		280		300				
H	100	103		106		109		113				
H1	105											
W	90	90		90		90		90				
Screw thread on meter A (inch)	G3/4B	G1B		G1 1/4B		G1 1/2B		G2B				
Screw thread on coupling B (inch)	R1/2	R3/4		R1		R1 1/4		R1 1/2				
Note	Plus * the length of the table is the default length, other lengths to be customized											



# LCD

## Normal display

	Positive cumulative flow
	Reverse cumulative flow
	Water temperature Instantaneous flow

## Fault alarm display

	Empty pipe instruction
	Transducer fault
Forward water 0:NO; 1:Open circuit; 2: Low amplitude. Reverse water 0:NO; 1:Open circuit; 2: Low amplitude.	
	Low water temperature
	Transducer Weak signal alarm
	Battery low
	Leakage warning

## Test display

	Primary address Battery voltage
	Secondary address
	Real-time date Month - Day Real-time date Year
	Real-time clock Hours - Minutes Real-time clock Second
	Cumulative operation time Accumulated down time
	Main Version number Flow rate revised version
	Sailing reverse water time difference
	Caliber parameters Transducer signal strength
	Display test

### Note:

- ∅ Empty pipe alarm defaults to off.
- ∅ When the water temperature is below 4 °C alarm.
- ∅ Transducer signal is lower than the standard value of 30% of the alarm.
- ∅ When the battery voltage is lower than 3.2V alarm.
- ∅ Using specific software, the meter enters the test condition.