

GENERAL

ALSONIC Building Automation Water meters employ transit-time ultrasonic flow technology and are designed for domestic water metering. The no-moving parts design of the ultrasonic meter gives the ALSONIC-BAWM a number of advantages over traditional water meters that employ mechanical measurement techniques. These advantages include superior particle tolerance for dirty-water applications, excellent low flow sensitivity for leak detection applications, and the improved longevity and lower cost of ownership that results from the no-moving-parts design.

The ALSONIC-BAWM is available with a brass body and NPT threaded process connections for ½" through 1½" sizes and a carbon steel body with ANSI or DIN flanges for sizes ranging from 2" through 12". All meters come with an alphanumeric LCD that displays flow rate, totals, leakage alarm, reverse flow, and diagnostic codes. A variety of industry standard communication protocols including 4-20 mA, pulse, M-Bus, RS-485/Modbus, and RF may be selected. These features all combine to make the ALSONIC-BAWM an ideal choice for new construction as well as replacement of older mechanical water meters for service in harsh environments where the domestic water system may have particles or scale present. Unlike conventional water meters, this device introduces virtually no pressure drop and its accuracy doesn't degrade over time.



FEATURES

- Alphanumeric LCD display for flow rate, totalized flow, and a variety of diagnostics
- Maintenance free construction; durable brass or cast iron body & no-moving-parts design
- Temperature compensation for cold water and hot water up to 176°F (80°C)
- ½" - 2" threaded connections, 2"-12" ANSI or DIN flanged
- Complies with OIML R49 / ISO 4064 Class D, ANSI / AWWA C708 & NSF 61 Annex G
- Can be integrated with AMR systems via M-Bus or RS-485/Modbus
- NEMA 6P / IP68 rating; fully submersible
- 2 year data logger with 700 daily and 24 monthly totals
- Battery life in excess of 6 years
- NIST traceable calibration certificate
- Built-in diagnostics

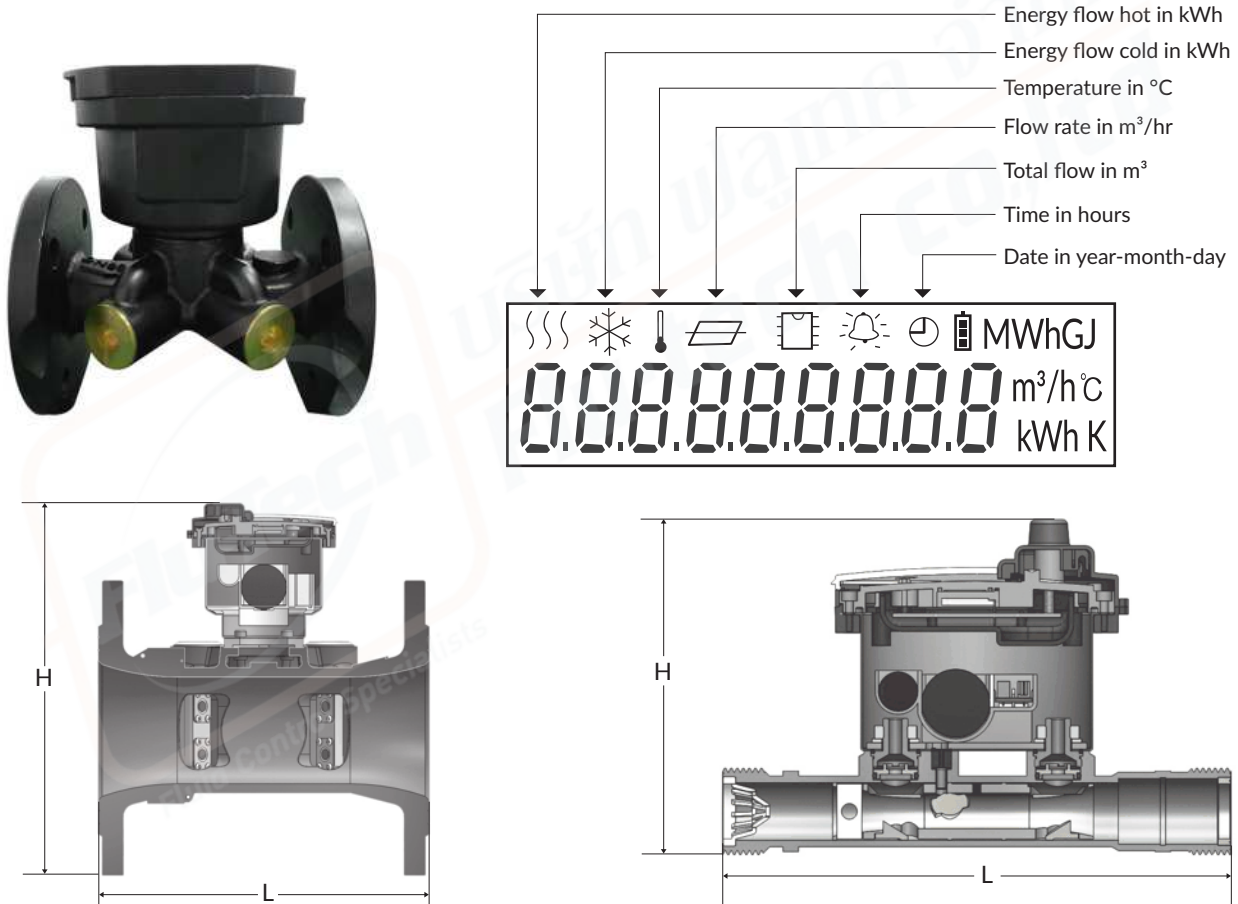


SPECIFICATIONS

| | | | |
|-------------------------------|---|---------------------------------|--|
| Flow measurement : | Transit time ultrasonic method | Flow Profile Sensitivity Class: | U5/D3 |
| Transducer type: | Spool piece, flanged or threaded | Outputs: | MBUS, RS485, 4-20mA, Pulse, RF, Infrared, GPRS, NB-IoT etc. |
| Fluid Temperature: | 0.1°C to 60°C and safety temperature up to 80°C | Approval: | OIML R49/ISO 4064 Class D, ANSI/AWWA C708 Standard and NSF 61-Annex G compliant |
| Pipe Size: | ½-12" 15~300mm | Enclosure: | IP68/NEMA 6P submersible rating with IP67 sensor |
| Pressure: | std: (232psi) PN16, opt: (362psi) PN25 | Response Time: | < 1 second |
| Pressure loss: | Less than 3.6 psi, (0.25 bar) | Ambient Temperature: | -13-131°F (-25~+55 °C) |
| Flow Body Material: | brass, cast iron | Display: | LCD (8 digits + prompting character) |
| Flow rates: | Up to 1200m³/hr (5280 GPM) see chart | Resolution: | 999.99999 - 999999.99 - 99999999 rate, total consumption, flow rate, total flow leakage, alarm, reverse flow, time, date |
| Resolution -Flow: | 0.03 m³/h | Power Supply (DC): | 3.6V _{DC} /2.4Ah Li battery (for 6 years of operation) |
| Resolution -Temp: | ±0.02°F (0.01°C) | Data Storage: | EEPROM, 256 Mb up to 2 years |
| Temperature range: | 35.6-203°F (2~+95°C) | | |
| Engineering units: | Metric or US English | | |
| Pressure Loss Class: | Δp25 (Δp16, Δp10) | | |
| Max Admissible Pressure(MAP): | MAP16 (MAP25, MAP16, MAP10) | | |
| Electromagnetic Class: | E1 (E1/E2) | | |
| Temperature Class: | T30 (T70, T50, T30) | | |

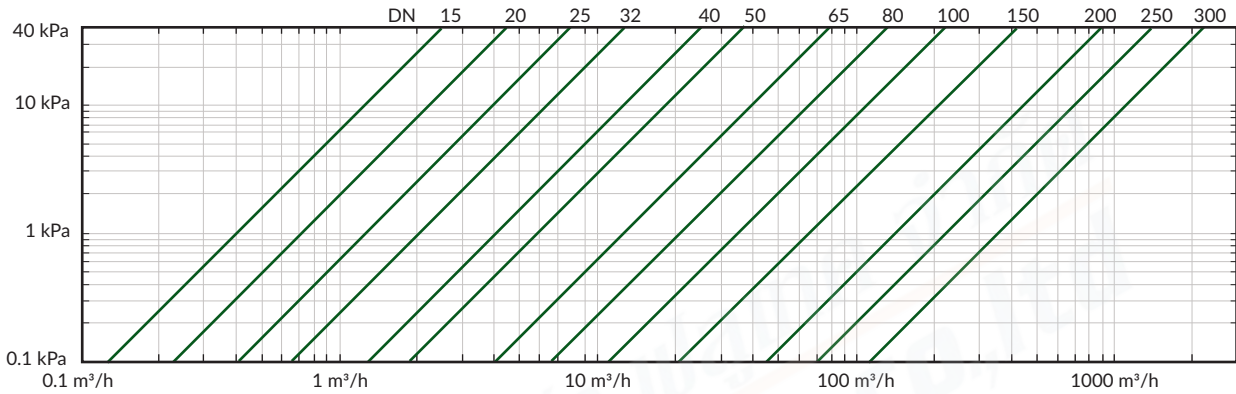
Dimensions

| | |
|-------------------|---|
| Display: | 9-bit LCD display. Can display totalizer, Instanteous flow, error alarm, flow direction, output |
| Data Storage: | Up to 10 years of data, year, month and day |
| Output: | Modbus (baud rate: 19200, 9600, 4800, 2400); 4-20mA, Pulse, (default 2ml/pulse) |
| EM compatibility: | E2 |
| Power supply: | 3.6 V _{DC} (disposable lithium batteries) ≥15 years |
| IP Grade: | IP68 |



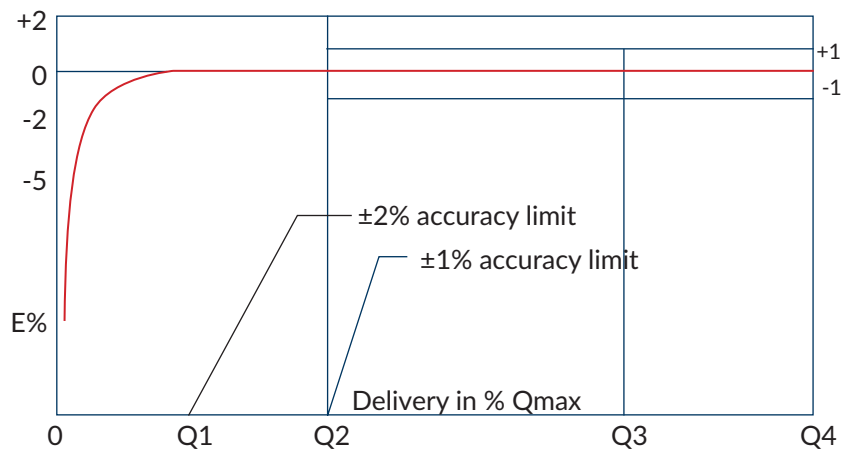
| Line size inch (mm) | Length inch (mm) | Height inch (mm) | Width inch (mm) | Connection | Weight Lb. (kg) |
|------------------------|----------------------|---------------------|--------------------|------------|--------------------|
| ½" (DN15) | 6.49 (165) | 4.01 (102) | 4.33 (110) | G ¾" | 3.30 (1.5) |
| ¾" (DN20) | 7.67 (195) | 4.21 (107) | 4.33 (110) | G 1" | 3.30 (1.5) |
| 1" (DN25) | 8.85/10.23 (225/260) | 4.41 (112) | 4.33 (110) | G 1 ¼" | 3.30 (1.5) |
| 1½" (DN32) | 7.08 (180) | 4.76 (121) | 4.33 (110) | G 1 ½" | 3.96 (1.8) |
| 1¾" (DN40) | 7.87 (200) | 5.19 (132) | 4.33 (110) | G 2" | 4.41 (2) |
| 2" (DN50) | 7.87 (200) | 9.25 (235) | 6.49 (165) | DIN/ANSI | 19.84 (9) |
| 2½" (DN65) | 7.87 (200) | 9.76 (248) | 7.28 (185) | DIN/ANSI | 26.45 (12) |
| 3" (DN80) | 8.85 (225) | 10.39 (264) | 7.87 (200) | DIN/ANSI | 28.66 (13) |
| 4" (DN100) | 9.84 (250) | 11.29 (287) | 8.66 (220) | DIN/ANSI | 33.06 (15) |
| 5" (DN125) | 9.84 (250) | 12.59 (320) | 9.84 (250) | DIN/ANSI | 61.72 (28) |
| 6" (DN150) | 11.81 (300) | 13.97 (355) | 11.22 (285) | DIN/ANSI | 70.54 (32) |
| 8" (DN200) | 13.77 (350) | 16.14 (410) | 13.38 (340) | DIN/ANSI | 99.20 (45) |
| 10" (DN250) | 5.91 (150) | 17.79 (452) | 15.94 (405) | DIN/ANSI | 149.91 (68) |
| 12" (DN300) | 19.68 (500) | 21.65 (550) | 18.11 (460) | DIN/ANSI | 211.64 (96) |

Pressure Loss - KPa



Preformance

| Line size inch (mm) | Q4 m³/hr | Q3 m³/hr | Q2 m³/hr | Q1 m³/hr | ΔP kpa | No.Path |
|------------------------|-------------|-------------|-------------|-------------|-----------|---------|
| ½" (DN15) | 3.125 | 2.5 | 0.04 | 0.025 | 23 | 1 |
| ¾" (DN20) | 5.0 | 4.0 | 0.07 | 0.04 | 23 | 1 |
| 1" (DN25) | 7.875 | 6.3 | 0.1 | 0.063 | 19 | 1 |
| 1½" (DN32) | 12.5 | 10 | 0.16 | 0.1 | 17 | 1 |
| 1¾" (DN40) | 20.0 | 16 | 0.26 | 0.16 | 16 | 1 |
| 2" (DN50) | 31.25 | 25 | 0.16 | 0.1 | 15 | 2 |
| 2½" (DN65) | 50.0 | 40 | 0.256 | 0.16 | 14.5 | 4 |
| 3" (DN80) | 78.75 | 63 | 0.4 | 0.25 | 14 | 4 |
| 4" (DN100) | 125 | 100 | 0.64 | 0.4 | 13 | 4 |
| 5" (DN125) | 200 | 160 | 1.02 | 0.64 | 13 | 4 |
| 6" (DN150) | 312.5 | 250 | 1.6 | 1.0 | 13 | 4 |
| 8" (DN200) | 500 | 400 | 2.56 | 1.6 | 12 | 4 |
| 10" (DN250) | 787.5 | 630 | 4.0 | 2.52 | 11.6 | 4 |
| 12" (DN300) | 1250 | 1000 | 6.4 | 4.0 | 11 | 4 |



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| TYPE OF FLUID | Please provide the name of your fluid, including operating density and viscosity |
| LINE SIZE | Nominal pipe size and sensor connection type |
| PROCESS PRESSURE AND TEMPERATURE | We will calibrate your flowmeter as close to your operating conditions as possible |
| TYPE OF ELECTRONICS | Output and installation type (compact, wall mount) |
| FLOW RANGE | Please provide the flow range |

| ALSONIC | | | | | | | | |
|---|----|-----|----|-----|----|-----|-----|-------------|
| Example 1: Alsonic-BAWM-ST-C100-NN-NN-NC-CT | | | | | | | | |
| ALSONIC BAWM | ** | ** | ** | **_ | * | * | **_ | DESCRIPTION |
| Standard type | ST | | | | | | | Flow Meter |
| ½"~1½" (DN15~DN40) | | S** | | | | | | Line size |
| 2"~12" (DN50~DN300) | | C** | | | | | | |
| Special size | | SP | | | | | | |
| Standard temperature: 35~122°F (+2~+50°C) | | | NN | | | | | Temperature |
| High temperature: 35~176°F (+2~+80°C) | | | HT | | | | | |
| Standard pressure: up to 232 psi (1.6Mpa) | | | | NN | | | | Pressure |
| High pressure: up to 362 psi (2.5Mpa) | | | | HP | | | | |
| Standard - brass flowbody | | | | | NN | | | Material |
| Standard - castiron flowbody | | | | | NN | | | |
| Special material | | | | | ** | | | |
| M-Bus | | | | | | MB | | Output |
| RS485 | | | | | | 485 | | |
| Wireless | | | | | | WL | | |
| Infrared output | | | | | | IR | | |
| Pulse output (total flow) | | | | | | | PT | Options |
| M-bus to GPRS: collector (256 to 1) + concentrator | | | | | | | MG | |
| Wireless to GPRS: data collector (50 m) + data concentrator | | | | | | | WG | |
| M-Bus to RS232 transmitter (64 to 1) | | | | | | | MB | |
| Wireless to GPRS: data collector (1 to 1) | | | | | | | GP | |
| With pre-set control valve | | | | | | | VL | |
| Other options | | | | | | | OP | |