SpireTap™ Series
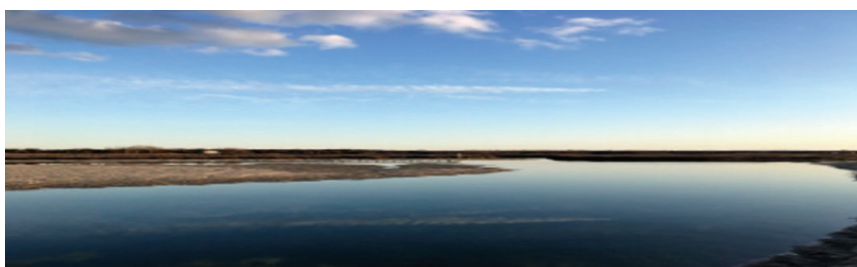## RESIDENTIAL ULTRASONIC WATER METER

Applications

- Revenue metering
- Residential submetering
- Commercial buildings
- Leakage detection
- AMR / AMI and billing
- Drive-by metering
- Smart water, smart city

Internet of Things

NB-IoT

communications

NSF.

NSF61-G

Features

- Residential potable water consumption metering
- Complies with applicable portions of ANSI / AWWA C715 Standard
- Durable, proven Stainless Steel 304 sensor body Solves the challenges of harsh environments
- No moving parts. Wear-free ultrasonic technology
- Lead-free, Complying with NSF / ANSI 61, Annex G
- Patented sensor design. Provides precise signal, robust performance, and not impacted by water impurity
- Excellent long-term stability with consistent performance. Accuracy does not degrade over time
- Tamper-proof design, tampering detection is recorded by the meter
- More than 10 year battery life. Replaceable battery

- Not affected by magnetic interference
- Various alarms available: reverse flow, pipe burst, leakage, battery low
- Wide dynamic range, low starting flowrate
- Detects water leakage
- Unique straight-through sensor design with no obstruction and very low pressure drop
- Large LCD, 9 digit display
- Totally encapsulated, water-proof design
- Data Logger with 700 daily totals and 24 monthly totals
- AMR / AMI ready with optional encoder, pulse and wireless interfaces for drive-by and fixed network meter reading
- NB-IoT ready for smart water, smart city
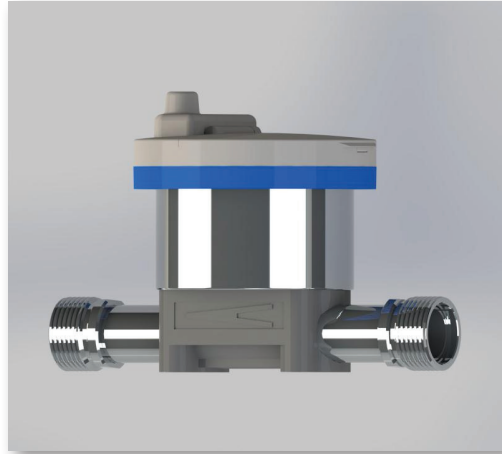
SPIRE METERING TECHNOLOGY

Spire Metering Technology LLC, 249 Cedar Hill Street, Marlborough, MA 01752, USA
Tel +1 978 263-7100 / 888 738-0188 (toll-free) **Fax** +1 978 418-9170 sales@spiremt.com www.SpireMT.com

The SpireTap™ complies with the applicable portion of the AWWA C715 standard. It can be used for either new installation or retrofitting AWWA water meters. The performance of the SpireTap™ far exceeds that of a conventional mechanical water meter. It provides accurate measurement over a wide flow rate span, and the accuracy does not degrade over time.

The SpireTap™ comes with a large LCD which can display the flow total, leakage alarm, reverse flow, and more. The meter also has a remote readout which can be provided as Encoder, Modbus or LoRa wireless.

The SpireTap™ Series Residential Ultrasonic Water Meter is specially designed for domestic water metering applications, where conventional water meters fail due to harsh environment, solids in water, performance degradation, magnetic vandalization or inability to detect leaks.

The SpireTap™ is a solid state water meter. It offers the most advanced water flow measurement by using state-of-the-art ultrasonic technology. Its flow sensor does not have any moving parts that can wear or tear, which provides a robust and accurate meter with no maintenance.

Unlike the other ultrasonic water meters on the market which have a reflector support fixture in the middle of the flow tube, the SpireTap™ uses a unique straight-through sensor design. No measuring components intrude into the flow path, thus it causes no obstruction to the flow and offers very low pressure drop.

Spire Metering's SpireTap™ Residential Ultrasonic Water Meter stands out among its competition due to its robust performance, patented sensor design, tamper-proof feature, NB-IoT ready and capability to detect very low flowrate. It works reliably even when the water has particles and the environment is harsh. Residential installations can profit from the advantage of the wear-free water flow measurement, namely, precision, operational security and long service life.
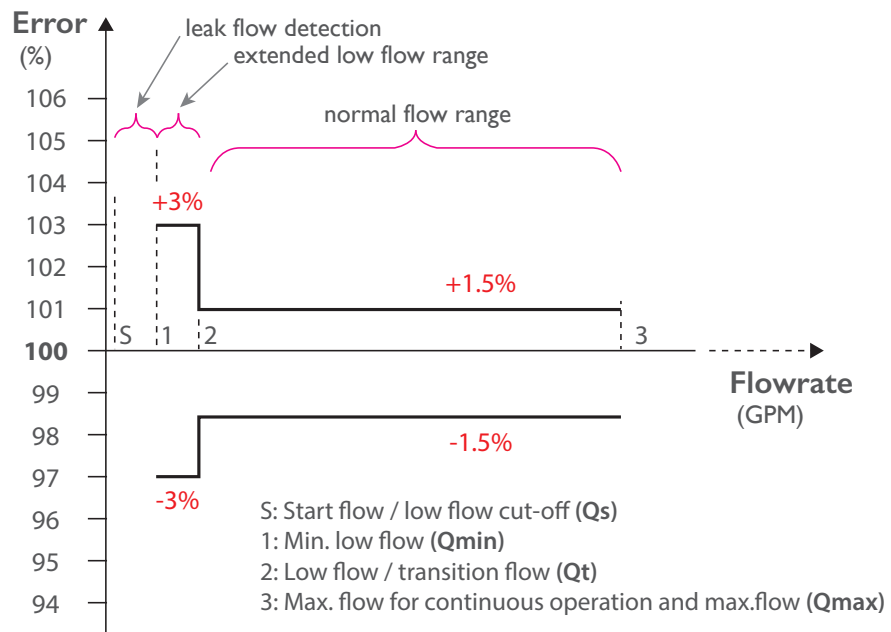
MEASURE **TODAY.** ENSURE **TOMORROW**

Technical Specifications

Size	Safe Maximum Operating Capacity (SMOC)	Normal Flow Range (100% ±1.5%)	Minimum Flow (100% ± 5%)	Start Flow	Head Loss at SMOC	Connection on Meter	Laying Length
Inch		GPM			PSI	NPSM Thread / Flange	Inches (mm)
⅝	20	0.2 - 20	0.13	0.015	4.1	¾"	7 ½" (190)
⅝ x ¾	20	0.2 - 20	0.13	0.015	4.1	1"	7 ½" (190)
¾	30	0.5 - 30	0.15	0.015	3	1"	7 ½" or 9" (190 or 229)
1	50	0.8 - 50	0.30	0.04	4	1 ¼"	10 ¾" (273)
1 ½	100	2.0 - 100	0.60	0.06	8	2"	12 ⅝" (321)
1 ½	100	2.0 - 100	0.60	0.06	8	1 ½" flange	13" (330)
2	160	2.5 - 160	1	0.22	2	2 ½"	15 ¼" (387)
2	160	2.5 - 160	1	0.22	2	2" Flange	17" (432)

Error (%)

leak flow detection
extended low flow range
normal flow range

106
105
104
103 +3%
102
101   +1.5%
100 S 1 2   3
99   Flowrate (GPM)
98   -1.5%
97
96 -3%   S: Start flow / low flow cut-off (Qs)
95   1: Min. low flow (Qmin)
           2: Low flow / transition flow (Qt)
94   3: Max. flow for continuous operation and max.flow (Qmax)

SPIRE METERING TECHNOLOGY

NB-IoT

PTCRB Certification

MODEL: **SpireTap / ST-280WD**
Antenna: **internal**

P T C R B

Regulatory Approvals

FCC
XMR2018BC66

ISED
10224A-2018BC66
Innovation, Science and
Economic Development Canada

NB-IoT
Platform

Customer Server
/ SMT Hosted Server
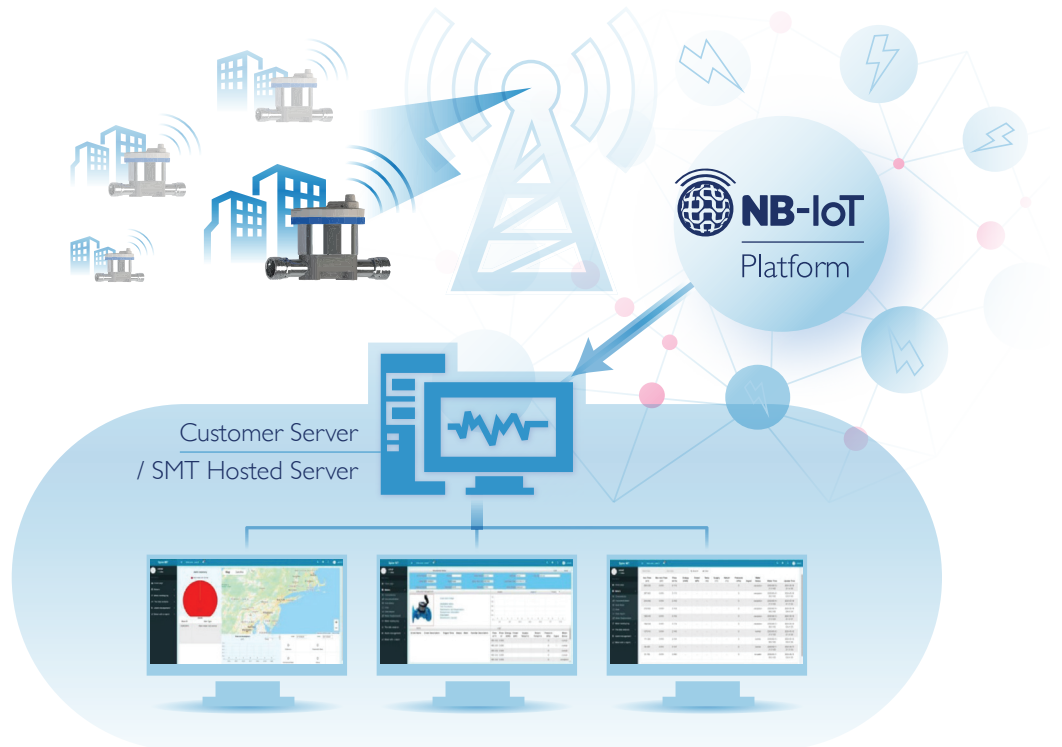
Total system management information:
distribution status, individual meter detail, account usage,
maintenance tracking, customer care at your desk