



# SpireTap™ Series

## RESIDENTIAL ULTRASONIC WATER METER

### Applications

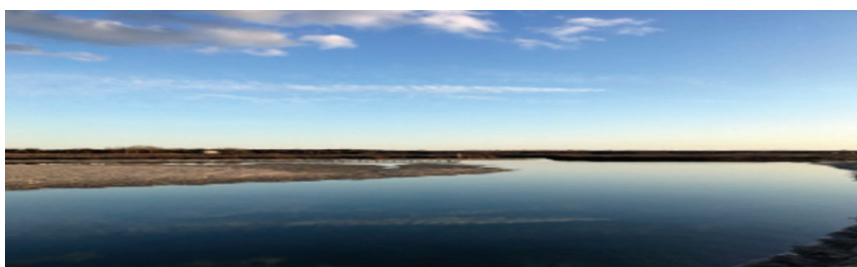
- Revenue metering
- Residential submetering
- Commercial buildings
- Leak detection
- AMR / AMI and billing
- Drive-by metering
- Smart water, smart city



### Features

- Residential potable-water consumption metering
- Complies with ANSI/AWWA C715
- Durable, proven 304 stainless steel sensor body that withstands harsh environments
- No moving parts; wear-free ultrasonic technology
- Patented sensor design delivers a strong precise signal and is unaffected by water impurities
- Excellent long-term stability; accuracy does not degrade over time.
- Tamper-detection; tampering events are recorded by the meter
- More than 10 year battery life.
- Immune to external magnetic interference
- Configurable alarms; reverse flow, pipe burst, leak, low battery
- Wide dynamic range with a low start flow rate
- Detects water leaks
- Unique straight-through sensor design with no obstruction and very low pressure loss
- Large 9-digit LCD
- Fully encapsulated, submersible design
- Built-in Data Logger: 700 daily totals and 24 monthly totals
- AMR/AMI ready: optional encoder with Sensus UI-1203 protocol, pulse and wireless interfaces for drive-by and fixed network reading
- LoRaWAN and NB-IoT ready for smart water, smart city

DS-spiretap-260608\_Rev.3



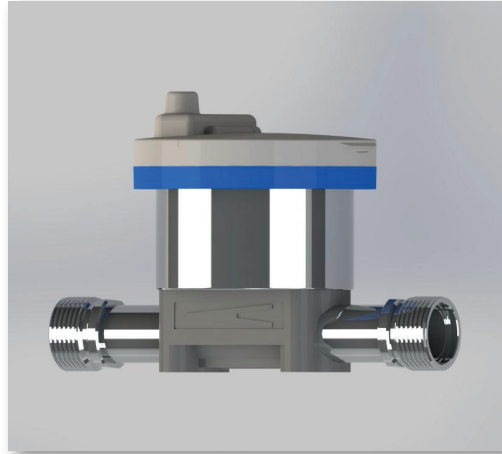
Spire Metering Technology LLC, 34 Saint Martin Drive, Suite 13 Marlborough, MA 01752, USA

Tel +1 978 263-7100 / 888 738-0188 (toll-free) Fax +1 978 418-9170 sales@spiremt.com www.SpireMT.com



# SpireTap™ Series

## RESIDENTIAL ULTRASONIC WATER METER



The SpireTap™ Series Residential Ultrasonic Water Meter is purpose built for residential potable-water metering, where conventional meters fail due to harsh environments, solids in the water, performance drift, magnetic tampering, or inability to detect leaks.

The SpireTap™ is a solid-state water meter that delivers advanced flow measurement using ultrasonic technology. Its flow sensor has no moving parts to wear out, so the meter stays accurate and maintenance-free.

Unlike other ultrasonic water meters, which place a reflector 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, so the meter creates no obstruction or flow disturbance and adds very low pressure loss.

The SpireTap™ complies with the applicable portion of AWWA C715 and suits both new installations and AWWA meter retrofits. Its performance far exceeds that of a conventional mechanical meter, providing accurate measurement over a wide flow range with no accuracy drift over time.

The SpireTap™ features a large LCD that shows cumulative volume, leak alarms, reverse-flow events, and more. A remote readout is available as encoder, Modbus, NB-IoT or LoRaWAN wireless.

Spire Metering's SpireTap™ Residential Ultrasonic Water Meter distinguishes itself with robust performance, a patented sensor design, tamper detection, NB-IoT readiness, and the ability to measure very low flow rates. It performs reliably even when the water carries particles and the installation environment is harsh. Residential users benefit from wear-free flow measurement, precision, operational reliability, and a long service life.





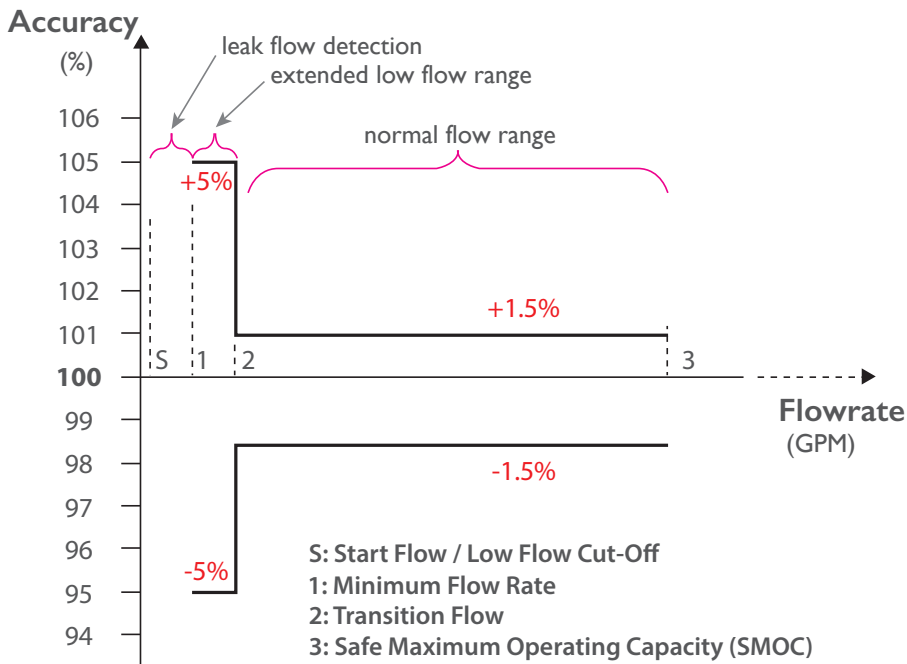
# SpireTap™ Series

## RESIDENTIAL ULTRASONIC WATER METER

### Technical Specifications

Size	Safe Maximum Operating Capacity (SMOC)	Normal Flow Range (± 1.5%)	Minimum Flow (± 5%)	Start Flow	Pressure Loss at SMOC	Connection on Meter	Laying Length	Tail-piece Thread	Tail-piece Length
Inch	GPM				PSI	NPSM Thread / Flange	Inches (mm)	NPT Thread	Inches (mm)
5/8	15	0.25 - 15	0.10	0.015	10	3/4" NPSM	7 1/2" (190)	1/2"	2 3/8" (60)
5/8 x 3/4	15	0.25 - 15	0.10	0.015	10	1" NPSM	7 1/2" (190)	3/4"	2 1/2" (64)
3/4	25	0.50 - 25	0.15	0.015	10	1" NPSM	7 1/2" or 9" (190 or 229)	3/4"	2 1/2" (64)
1	40	0.75 - 40	0.30	0.04	10	1 1/4" NPSM	10 3/4" (273)	1"	2 5/8" (67)
1 1/2	80	1.5 - 80	0.60	0.06	10	1 1/2" internal NPT	12 5/8" (321)		
1 1/2	80	1.5 - 80	0.60	0.06	10	1 1/2" flange	13" (330)		
2	120	2.0 - 120	1.0	0.22	10	2" internal NPT	15 1/4" (387)		
2	120	2.0 - 120	1.0	0.22	10	2" Flange	17" (432)		

\* Note: The 1 1/2" SpireTap can be ordered with internal NPT or NSPM threads, see order code section to specify the thread type.





# SpireTap™ Series

## RESIDENTIAL ULTRASONIC WATER METER

### Order Specifications


Base Unit

ST - 280W - D -  -

Meter Size	ID
5/8" (3/4" NPSM threads)	1
5/8" x 3/4" (1" NPSM threads)	2
3/4" (1" NPSM threads)	3
1" (1 1/4" NPSM threads)	4
1 1/2" (2" NPSM threads)	5
1 1/2" (1 1/2" internal NPT threads)	5A
1 1/2" (2-bolt oval flange)	6
2" (2" internal NPT threads)	7
2" (2-bolt oval flange)	8

Interface	ID
None (Default, TTL Serial)	0
Built-in NB-IoT	B
Built-in LoRaWAN US915	L



**Attention**

Please note that Spire Metering does not provide meter couplings (tail pieces). SpireTap meters have standard NPSM threads or 2-bolt oval flanges, compatible with AWWA meter couplings of the same size.

### Optional Components

(For Base Unit with Interface option 0 only)

Output Interface Module (Choose One)	Model No.
RS485 / Modbus Module	280AP-MOD
Encoder with Sensus UI-I203 protocol	280AP-EBW
NB-IoT Endpoint with Mushroom Antenna	280AP-MR-NB
LoRaWAN US915 Wireless Endpoint with Mushroom Antenna	280AP-MR-LRW915
Pulse Output (dry contact, requires external 12-24VDC)	280AP-P2
BACnet / MSTP (requires external 12-24VDC)	280AP-MSTP

## About Spire Metering Technology

Spire Metering is a global supplier of flow and energy management solutions. Through continuous innovation, we make sophisticated ultrasonic measurement technology affordable, reliable, and accessible. Our portfolio includes water, heat, general purpose flow, and mag meters, along with complete AMR/AMI solutions. Contact us to discuss how Spire Metering Technology can support your application.

Email: [sales@spiremt.com](mailto:sales@spiremt.com) Phone: +1-978-263-7100.