EUROMET

Ultrasonic Water Meters

SNZ-xx-UW

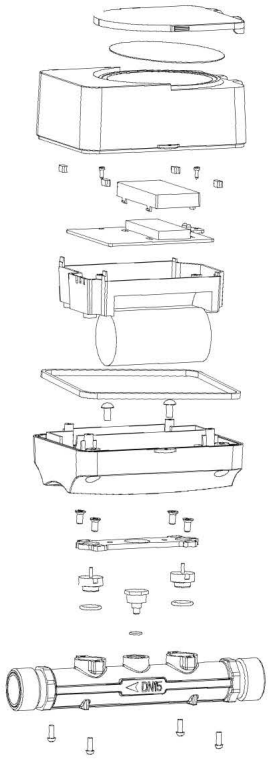
Smart Residential Ultrasonic Water Meters

Lossless Revenue Management and Long-Lasting Precision

The Euromet SNZ-UW series (DN15 - DN40) is a family of static water meters with brass bodies designed specifically for residential and commercial use. Unlike mechanical meters, the ultrasonic measurement technology contains no moving parts, ensuring immunity to sediments and particles while maintaining precision over time.

Key Features:

- Fully Static Structure: No moving impellers or gears; ensures zero wear and maintenance-free operation.
- High Precision: Exceptional leak detection capability with a low minimum flow rate (Q1) and wide dynamic range.
- Ratio : **R400**
- Flexible Installation: Can be installed in Horizontal (H) or Vertical (V) positions without compromising accuracy.
- Long Battery Life: Powered by a non-replaceable lithium battery with a service life exceeding 10 years.
- IoT Ready: Equipped with a standard optical port and supports optional modules like **M-Bus, Wireless M-Bus (WMbus), LoRa, LoRaWAN, and GPRS/4G/5G** for smart metering.



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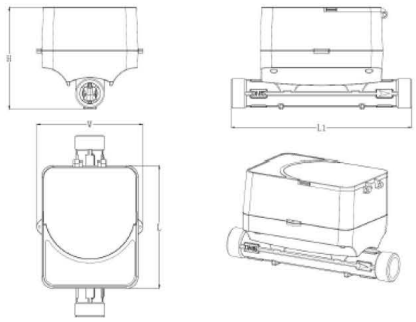
SNZ-xx-UW

Data Sheet	SNZ-15-UW	SNZ-20-UW	SNZ-25-UW	SNZ-32-UW	SNZ-40-UW
Diameter - mm	**DN15**	**DN20**	**DN25**	**DN32**	**DN40**
Overload flowrate Q_4	≤ 3,125	≤ 5,00	≤ 7,875	≤ 12,5	≤ 20,0
Permanent flowrate Q_3	≤ 2,50	≤ 4,00	≤ 6,30	≤ 10,00	≤ 16,00
Transitional flowrate Q_2	≥ 0,010	≥ 0,016	≥ 0,0252	≥ 0,040	≥ 0,064
Minimum flowrate Q_1	≥ 0,00625	≥ 0,010	≥ 0,016	≥ 0,0252	≥ 0,040
Measuring range (R) Q_3/Q_1	**≤ 400**				
Accuracy Class	2				
Temperature class T	T30 / T50				
Water pressure class Bar	MAP 16				
Horizontal length mm	165	195	225	180	200
Pressure loss class Bar	ΔP 63				
Flow profile sensivity class	U0 D0				
Orientation	H (Horizontal) / V (Vertical)				

Dimensions



Size	DN 15	DN 20	DN 25	DN 32	DN 40
L	116,5	116,5	116,5	116,5	116,5
L1	165	195	225	180	200
D	G3/4	G1B	$G1^{1/4}B$	$G1^{1/2}B$	G2B
d	$R^{1/2}$	$R^{3/4}$	R1	$R1^{1/4}$	$R1^{1/2}$
H	96,5	96,5	107	110	115

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SNZ-xx-UW

Smart Residential Ultrasonic Water Meters

Precise Measurement, Long-Lasting Technology, and Smart Management

The Euromet SNZ-UW series (DN15 - DN40) is designed for modern water supply systems, utilizing ultrasonic measurement principles. Its fully electronic structure, free of mechanical moving parts, eliminates wear and tear issues, ensuring stable measurement for many years. With a low starting flow rate and a wide dynamic range, it is reliably used in civil, commercial, and industrial water networks.

Key Features:

- Fully Electronic Structure: Contains no mechanical moving parts; unaffected by sand, sediment, or poor water quality; low maintenance costs.
- High Precision: Provides accurate measurement even at low flow rates (Ratio **R400**).
- IP68 Protection: Fully waterproof body designed to withstand harsh environmental conditions.
- Flexible Installation: Supports both horizontal and vertical (upward flow) installation.

Communication & Smart Features

- Wired Communication: M-Bus, RS-485.
- Wireless Communication: LoRa, NB-IoT, **4G**.
- Local Interface: Infrared (Optical) port.
- Protocol Support: Modbus, CJ/T188, EN13757, and custom protocols.
- Smart Alarms: Detection of reverse flow, leakage, pipe burst, low battery, and empty pipe (air).

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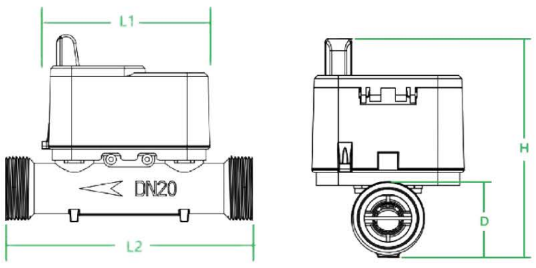
SNZ-xx-UW

Data Sheet	SNZ-15-UW	SNZ-20-UW	SNZ-25-UW
Diameter - mm	**DN15**	**DN20**	**DN25**
Overload flowrate Q_4	≤ 3,125	≤ 5,00	≤ 7,875
Permanent flowrate Q_3	≤ 2,50	≤ 4,00	≤ 6,30
Transitional flowrate Q_2	≥ 0,01	≥ 0,016	≥ 0,025
Minimum flowrate Q_1	≥ 0,006	≥ 0,01	≥ 0,016
Measuring range (R) Q_3/Q_1	**≤ 400**		
Accuracy Class	2		
Temperature class T	T30 / T50		
Water pressure class Bar	MAP 16		
Horizontal length mm	165	195	225
Pressure loss class Bar	ΔP 63		
Flow profile sensivity class	U0 D0		
Orientation	H (Horizontal) / V (Vertical)		

Dimensions



Size	DN 15	DN 20	DN 25
L1	88	88	88
L2	165	195	225
D	G3/4B	G1B	G1 5/4B
W	69	69	69
H	94	98,7	105,3

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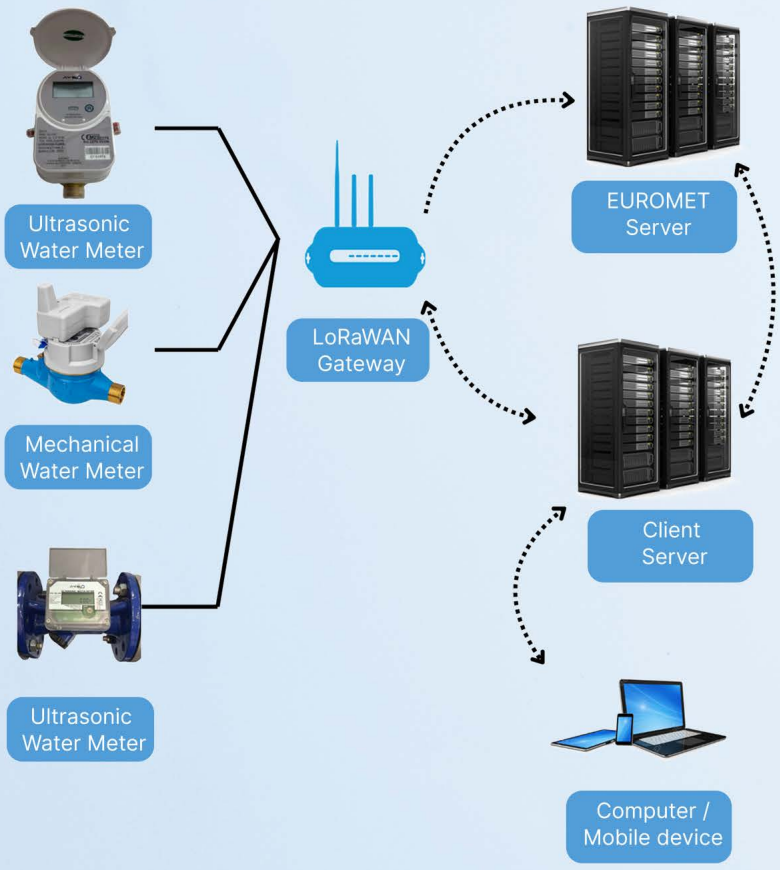
LoRaWAN-Based Smart Water Management Systems

Technology Overview: What is LoRaWAN?

LoRa (Long Range) is a wireless networking technique that uses radio frequency signals for data exchange.
Key Features: It provides both secure transmission and a very wide coverage area.
Advantage: Unlike Wi-Fi and Bluetooth technologies, it can transmit data for much longer periods and over longer distances; this feature allows the system to operate with significantly lower battery consumption.
System Components: LoRa communication technology consists of four main components: End device (meter), Gateway, Network Server, and Application Server.

System Architecture and Working Principle

Connection Structure: Mechanical and ultrasonic meters connect to the internet via the LoRaWAN Gateway, making them readable from anywhere.
Data Flow: This structure enables remote monitoring and control; meter data is collected and transferred to management units securely, uninterruptedly, and cost-effectively.
Software Infrastructure: The software used and developed in the system is entirely owned by EUROMET.



LoRaWAN-Based Smart Water Management Systems

Technical Gains and Efficiency Analysis

Measurement Accuracy: With the introduction of LoRaWAN technology, each meter can measure approximately 30 liters per hour more accurately than existing meters.
Loss/Leak Prevention: When multiplied by the number of subscribers, this difference in accuracy prevents millions of cubic meters of water loss and leakage.
Sustainability and Revenue: This system increases municipal revenues and ensures rational and sustainable water use.

Smart Management Platform and Usage Control

Centralized Monitoring: All meter data is collected at a single location, providing real-time monitoring.
Remote Valve Control: Water can be remotely turned on/off (valve control) in the event of subscribers in debt or in the event of leakage.
Leak Analysis: Instantaneous water losses in the network are detected and reported using the system's hourly, precise measurement data.

Ultrasonic and Mechanical Counter Technology

Ultrasonic Meters: These long-lasting devices have no moving parts, utilize precise sound waves, and are resistant to clogging and wear.
Mechanical Meters: These are economical solutions that combine a traditional structure with a LoRaWAN module, making it smarter.
Common Feature: Both models connect to the internet via a LoRaWAN Gateway, allowing them to be read from anywhere.

Return on Investment and Gains

Increased Revenue: The ability to measure approximately 30 liters more accurately per hour than current meters minimizes unbilled water (NWR).
Operational Savings: Reduces meter reading staff costs and eliminates human-related reading errors.
Resource Management: Sustainable environmental management is achieved by ensuring rational water use.

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