Water



SONICO® NANO USA

Smart Water Meter

Your benefits

- Best in class accuracy and repeatability
  Accurate low-flow measurements and ondemand leakage notification. Reduces nonrevenue water and scarcity water.
- Accurate measurements in all possible directions and installation conditions
  High installation flexibility reduces installation costs.
- Integrated LoRaWAN and seamless data integration
  Reduction of network initialization, maintenance, and meter reading costs.
- Over the air software update to upgrade new features or radio settings and to increase lifetime
  Sustainable design and extendend product life time.

Applications

- Cold water supply systems (water temperature up to 158°F) requiring reliable and accurate water consumption metering
- Reliable data communication on site (NFC) and integrated radio technology (RF) for mobile or fixed network / smart metering collection systems (AMR)

Properties

- Measuring range up to R1000 and starting flow down to 0.004 gpm for ½"
- Precise in any type of installation and flow conditions U0/D0
- Extremely low-pressure loss (down to only 1.5 PSI for ½")
- Highly resistant to overload flow rates, resistance to hydraulic shock and unaffected by magnetic fields
- Firmware updates or protocol changes over-the-air or over the NFC interface
- Automatic radio connection for 915MHz LoRaWAN
- infin.io back-end solution for data visualization and management
- Open standards and non-propriatery communication protocols
- GWF LIFE software app for local meter readings and configurations over NFC
- End-to-end AES-128 Bit data encryption
- Selectable simulation, standby or operation meter mode
- NFC pulse module for test bench measurements
- Robust and sustainable design mainly made of brass and glass
- Simple to recycle - no potted battery and electronics
- UL2043 plenum rating for products installed in air-handling spaces

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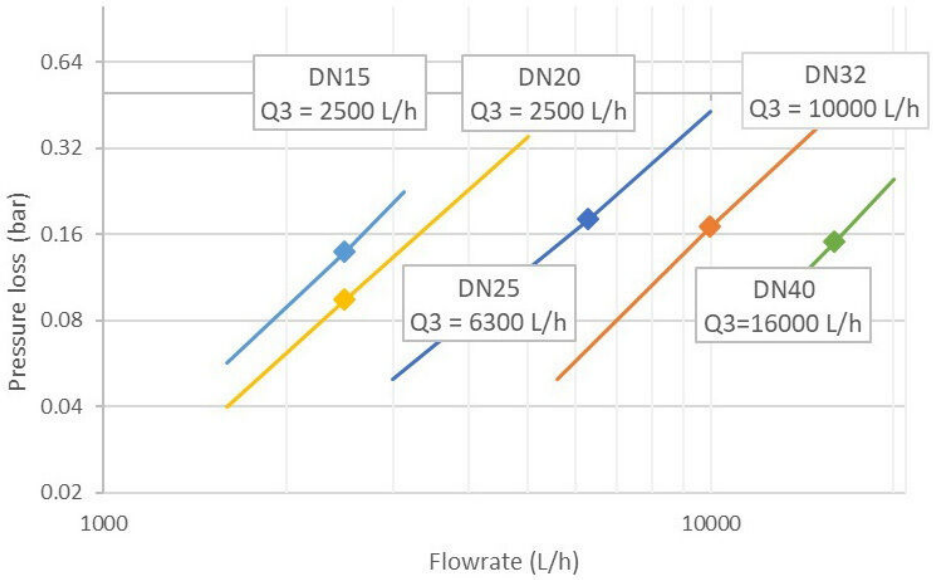
Metrology and radio data

Execution			Q_3 / 7	Q_3 / 11	Q_3 / 11	Q_3 / 18	Q_3 / 28	Q_3 / 44	Q_3 / 44	Q_3 / 70
Nominal diameter	DN	Inch	½"	½"	¾"	¾"	1"	1"	1¼"	1½"
Operating pressure	MAP	PSI	232	232	232	232	232	232	232	232
Nominal flow rate	Q_3	GPM	7.0	11.0	11.0	17.6	27.7	44.0	44.0	70.4
Overload flow rate	Q_4	GPM	8.8	13.6	13.6	22.0	34.8	55.0	55.0	88.1
Transitional flow rate	Q_2	GPM	0.022	0.018	0.035	0.028	0.044	0.070	0.070	0.113
Minimum flow rate	Q_1	GPM	0.014	0.011	0.022	0.018	0.028	0.044	0.044	0.070
Starting flow rate		GPM	0.004	0.004	0.009	0.009	0.013	0.013	0.022	0.035
Measuring range	R	Q_3/Q_1	500	up to R1000 [1]	500	up to R1000 [1]	up to R1000 [1]	up to R1000 [1]	up to R1000 [1]	up to R1000 [1]
Pressure loss		PSI	1.45	2.32	2.32	3.63	3.63	5.80	3.63	2.32
Installation orientation			H, V, H/V							
Smallest readable volume		GAL	0.00264 Test mode							
Maximum register reading		m^3/GAL	9 digits							
Flow disturbance class			U0/D0							
Batteries			1 x integrated 3.6 DC lithium C battery							
IP rating			IP68							
Operating ambient temperature range		°F	+14 to +158							
Storage temperature range		°F	-13 to +158 (>+63 max. 4 weeks)							
Battery life time			Up to 20 years (depending on environmental conditions and configuration settings)							
Integrated LoRaWAN / 915 MHz			Default transmission interval: 1 day SF12, 15 min SF7 or other intervals depending on configuration and required battery life time							
Transmission power			Max. 20 dBm (100 mW)							
Sampling frequency			Up to 4Hz (1Hz by default)							

1] Default production calibration R800

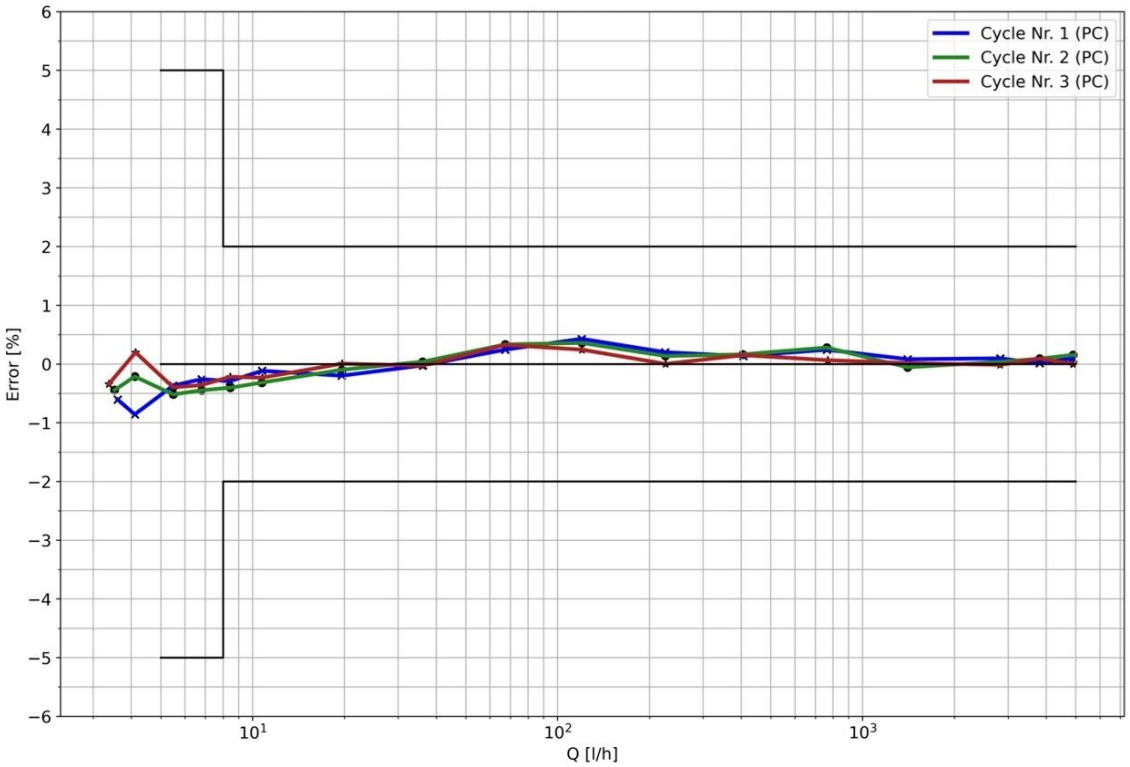
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Pressure loss curve



R1000 accuracy measurements

GWF 4D-Technology delivers best in class measuring range and repeatability.

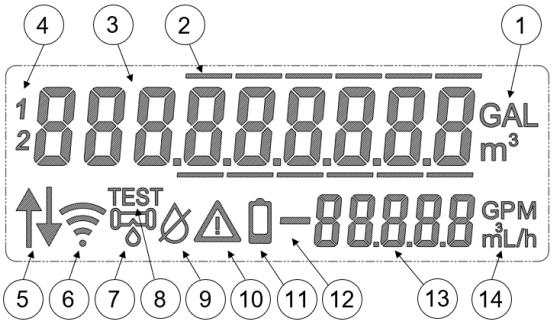


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Display information

The display is updated every second and shows beside the WELMEC information the following content:

1. Volume unit indicator (digital)	8. Test mode information
2. Non-billing relevant lines	9. Air in pipe icon
3. Volume	10. System alarm icon
4. Tariff zone	11. Battery level icon
5. Main flow direction (automatic set)	12. Actual flow direction arrow
6. Radio connection status	13. Flow rate
7. Leakage icon	14. Flow rate unit indicator (digital)



The display is updated every second.

Configurable alerts

The following integrated alerts are displayed on the meter LCD and transmitted over the integrated radio or NFC interface.

Metrology alerts:

- Water leak
- Water burst
- Air in pipe
- Empty pipe
- Reverse flow over configured time or volume
- No flow over configured time or volume
- Tampering
- Ambient temperature too high or low
- Water temperature too high or low
- Low battery

Communication alerts:

- NFC error
- Invalid configuration

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Interal data backup and security

The meter has a permanent memory, in which more than 400 log's are saved. The data logging interval is configurable and results in the following history log periode:

History log period	Data logging interval
16 days	1 hour
400 days	1 day
20 years	1 month

Each logging interval backup's the following data:

1. Cumulative, forward and reverse volume
2. All possible active alerts
3. Max. and min. flow rates incl. timestamp
4. Max. and min. temperatures incl. timestamp

Materials and Sustainability

- Meter is made of fully recyclable materials for low CO2 footprint.
- Meter body made of lead-free eco brass.
- Mineral glass for high hygenic standard.
- Battery is connected by plug to electronics and allows at end of live a proper component separation and recycling.
- Production, packaging and distribution with minimal CO2 footprint.

Regulatory and Standard Compliance

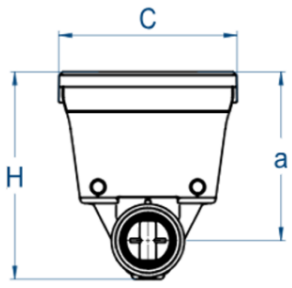
Certificates in conformity with:
> 2014/32/EU (MID) (2019)
> OIML R49:2013 (2019)
> EN-ISO 4064-1 to 5:2014(E) – Flow meters for cold potable water and hot water
> EC Type Test Certificate TCM 142/24-5958 for cold water applications
> Class E2 (EN-ISO 4064:2014)
> Class M3 (EN-ISO 4064:2014)
> Class M3 (Directive 2014/32/EU of 26 February 2014)
> WELMEC 7.2
> RED (2025)
> OMS
> NTEP
> UL2043

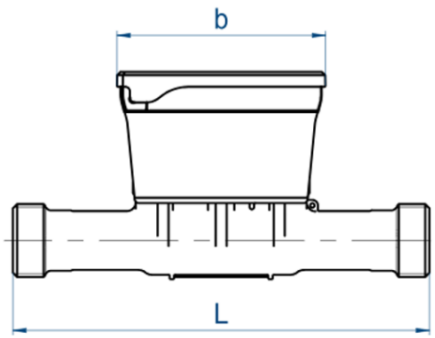
Drinking water approvals:
> ACS
> KTW / W270 (2019)
> WRAS
> NSF-61 d.hot (Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified)

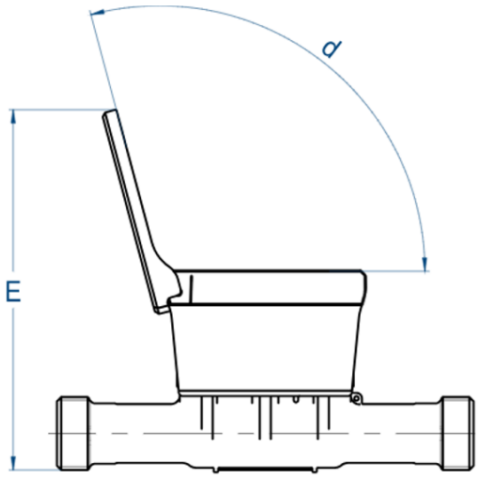
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Dimensions and weight

Size		Inch	½"	½"	½"	¾"	¾"	1"	1"	1¼"	1½"
Nominal Flow Rate	Q_3	GPM	7	11	11	11	18	28	44	44	70
Overall Length	L	Inch	4.3 4.5 6.3 6.5 6.7	4.3 4.5 6.3 6.5 6.7	4.5 6.7	4.1 4.3 4.5 5.1 6.3 6.5 7.5 8.7	4.1 4.3 4.5 5.1 6.3 6.5 7.5 8.7	5.9 6.3 6.9 8.7 10.2	5.9 6.3 6.9 8.7 10.2	5.9 6.3 6.9 8.7 10.2	5.9 7.9 11.8
Height	H	Inch	3.4	3.4	3.4	3.7	3.7	4.0	4.0	5.0	5.3
Housing Length	b	Inch	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Housing Width	C	Inch	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Housing Height	a	Inch	2.9	2.9	2.9	3.0	3.0	3.1	3.1	3.9	4.1
Height incl. Lid	E	Inch	6.5	6.5	6.5	6.7	6.7	6.8	6.8	7.7	8.1
Lid Opening Angle	d	°	105	105	105	105	105	105	105	105	105
Meter Thread		Inch	G¾B	G¾B	G⅞B G¾B	G1B	G1B	G1¼B	G1¼B	G1½B	G2B
Adapter Thread		Inch	R½	R½	R¾ R½	R¾	R¾	R1	R1	R1¼	R1½
Weight			1.43 1.54 1.65 1.65 1.76	1.43 1.54 1.65 1.65 1.76	1.54 1.76	1.43 1.54 1.54 1.65 1.76 1.76 1.87 1.98	1.43 1.54 1.54 1.65 1.76 1.76 1.87 1.98	2.87	2.87	3.97	5.95







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