



sonico[®] NANO

Smart Water Meter



Your benefits

- Best in class accuracy and repeatability up to R1000
Accurate low-flow measurements and on-demand 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 over wMBus dual mode 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
Sustainable design and extendend product life time

Applications

- Cold water supply systems (water temperature up to 50 °C) 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

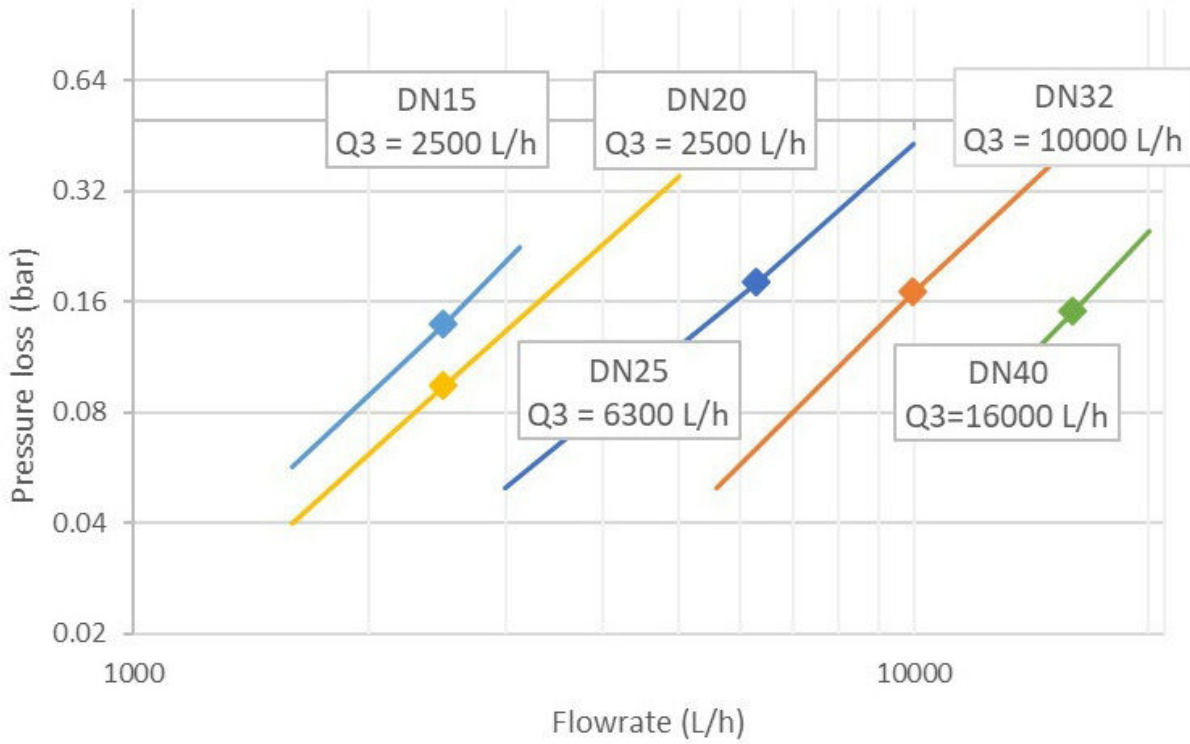
- Measuring range up to R1000 and starting flow down to 1 l/h for DN15
- Precise in any type of installation and flow conditions U0/D0
- Extremely low-pressure loss (down to only 0,10 bar for DN15)
- Highly resistant to overload flow rates, resistance to hydraulic shock and unaffected by magnetic fields
- Firmware updates or protocol changes over-the-air or over the NFC interface
- Automatic radio connection by integrated dual mode for 868 MHz LoRaWAN or wMBus
- Automated and fast (16 s resolution) wirelessly data collection either by walk or drive-by
- infin.io back-end solution for data visualization and management
- Open standards and non-proprietary 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

Metrology and radio data

Execution			Q ₃ / 1.6	Q ₃ / 2.5	Q ₃ / 2.5	Q ₃ / 4.0	Q ₃ / 6.3	Q ₃ / 10	Q ₃ / 10	Q ₃ / 16
Nominal diameter	DN	mm	15	15	20	20	25	25	32	40
Operating pressure	MAP	bar	16	16	16	16	16	16	16	16
Nominal flow rate	Q ₃	m ³ /h	1.6	2.5	2.5	4	6.3	10	10	16
Overload flow rate	Q ₄	m ³ /h	2	3.1	3.1	5	7.9	12.5	12.5	20
Transitional flow rate	Q ₂	l/h	5.1	4.0	8.0	6.4	20.2	16	16	25.6
Minimum flow rate	Q ₁	l/h	3.2	2.5	5	4	12.6	10	10	16
Starting flow rate		l/h	1	1	2	2	3	3	5	8
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		bar	0.10	0.16	0.16	0.25	0.25	0.40	0.25	0.16
Installation orientation			H, V, H/V							
Smallest readable volume		l	0.01 Test mode							
Maximum register reading		m ³ /GAL	9-digits							
Flow disturbance class			U0/D0							
Batteries			1 x integrated 3.6-V-DC-lithium-C-battery							
Protection class			IP68							
Operating ambient temperature range		°C	-10 / +70							
Storage temperature range		°C	-25 / +70 (>35 max. 4 weeks)							
Battery life time			Up to 16 years (depending on environment and configuration conditions)							
Integrated wMBus C1 / C2 / OMS / 868 MHz			Default transmission interval: 16 s							
Integrated LoRaWAN / 868 MHz			Spec. V1.0.4, default transmission interval: 1 day SF12. 15 min SF7							
Transmission power			Max. 14 dBm (25 mW)							
Sampling frequency			Up to 4 Hz (1 Hz by default)							

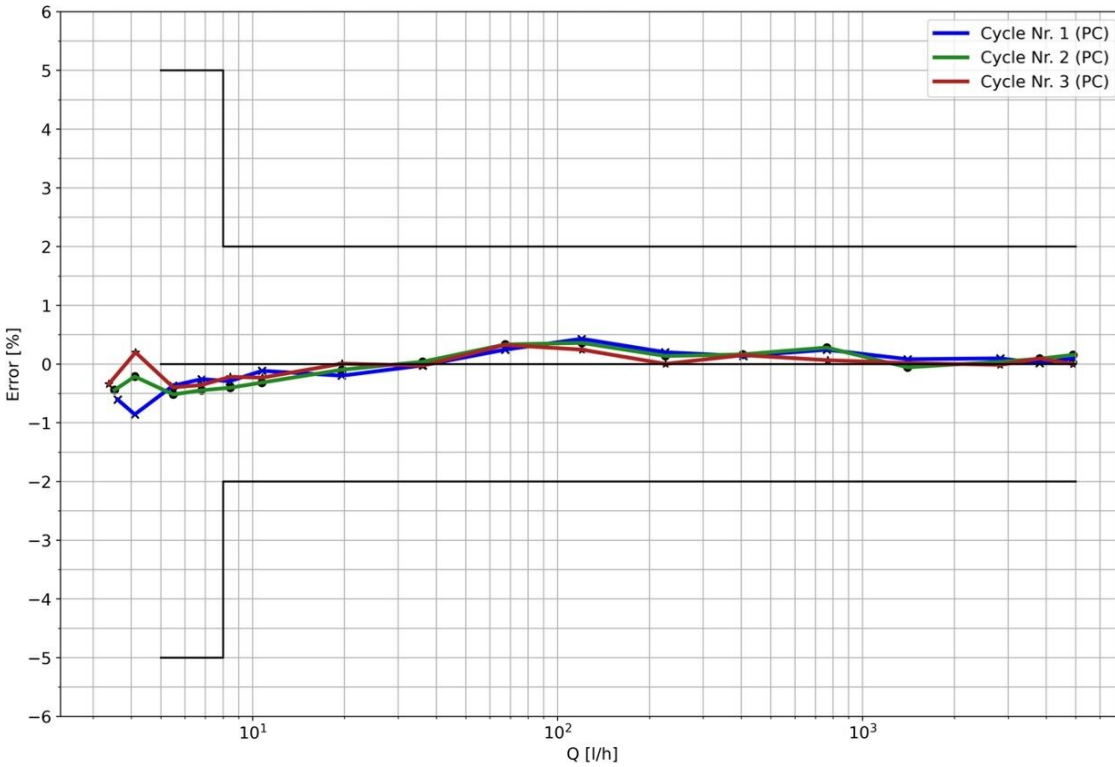
1) Default production calibration R800

Pressure loss curve



R1000 accuracy measurements

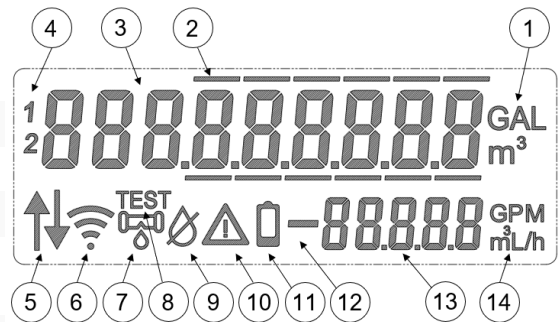
GWF 4D-Technology delivers best in class measuring range and repeatability.



Display information

The display shows beside the WELMEC information the following content:

- | | |
|--|--|
| 1. Volume unit indicator (digital) | 8. Test mode information |
| 2. Non-billing relevant lines | 9. Empty 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 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

Internal 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

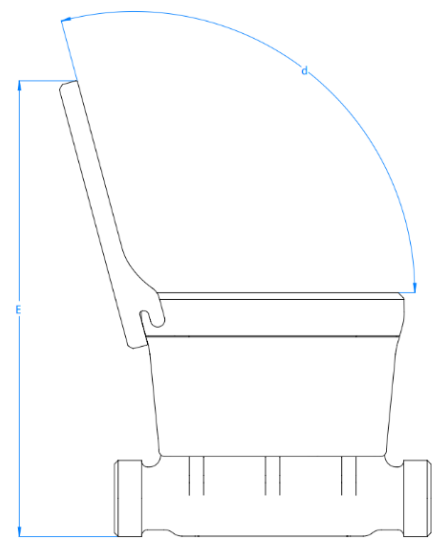
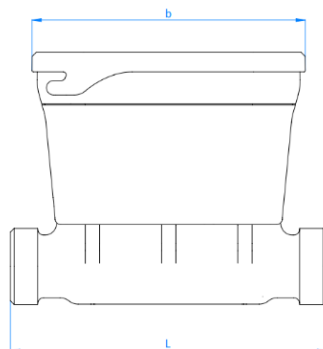
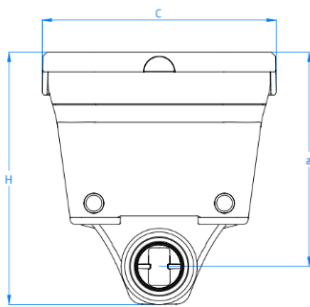
Materials and Sustainability

- 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.

Dimensions and weight

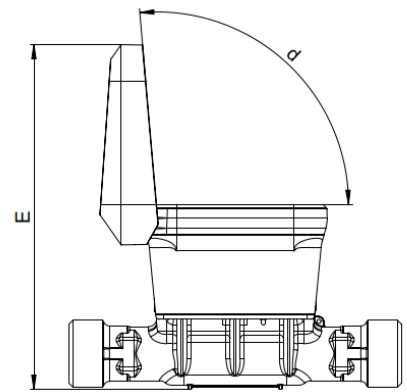
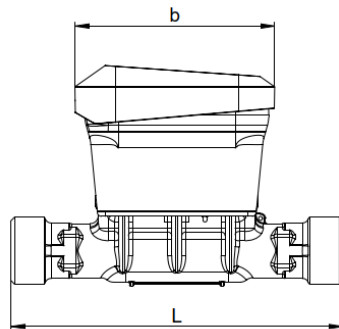
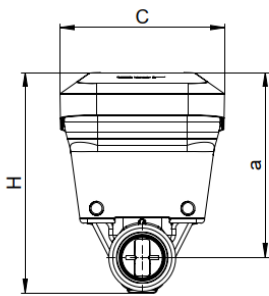
sonico® NANO without NMB-1 (wired M-Bus module)

Size	DN	mm	15	15	15	20	20	25	25	32	40		
Nominal flow rate	Q3	m ³ /h	1.6	2.5	2.5	2.5	4.0	6.3	10	10	16		
Overall length	L	mm	110	110	115	105	105	150	150	150	150		
			115	115		110	110						
			160	160		130	130						
			165	165		160	160						
			170	170		165	165						
						190	190						
						220	220						
Height	H	mm	87.5	87.5	87.5	94.5	94.5	102.5	102.5	126	135		
Housing length	b	mm	95	95	95	95	95	95	95	95	95		
Housing width	C	mm	81	81	81	81	81	81	81	81	81		
Housing height	a	mm	74	74	74	76.5	76.5	79.5	79.5	100	105		
Height incl. lid	E	mm	164	164	164	171	171	173	173	196.5	205.5		
Lid opening angle	d	°	105	105	105	105	105	105	105	105	105		
Meter thread		Inch	G¾B	G¾B	G¾B G¾B	G1B	G1B	G1¼B	G1¼B	G1½B	G2B		
Adapter thread		Inch	R½	R½	R¾ R½	R¾	R¾	R1	R1	R1¼	R1½		
Weight		kg	0.65	0.65	0.70	0.65	0.65	1.00	1.00	1.40	1.43	1.80	
			0.70			0.70	0.70						0.70
			0.75			0.75	0.75						0.75
			0.75			0.75	0.80						0.80
			0.80			0.80	0.80						0.80
							0.85						0.85
		0.90	0.90										



sonico® NANO with NMB-1 (wired M-Bus module)

Size	DN	mm	15	15	15	20	20	25	25	32	40
Nominal flow rate	Q3	m ³ /h	1.6	2.5	2.5	2.5	4.0	6.3	10	10	16
Overall length	L	mm	110	110	115	105	105	150	150	150	150
			115	115		110	110				
			160	160		130	130				
			165	165		160	160				
			170	170		165	165				
						190	190				
						220	220				
Height	H	mm	102.5	102.5	102.5	109.5	109.5	117.5	117.5	141	150
Housing length	b	mm	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5
Housing width	C	mm	82	82	82	82	82	82	82	82	82
Housing height	a	mm	89.5	89.5	89.5	92	92	94.5	94.5	115	120
Height incl. lid	E	mm	164	164	164	171	171	173	173	202.5	211.5
Lid opening angle	d	°	95	95	95	95	95	95	95	95	95
Meter thread		Inch	G¾B	G¾B	G¾B G¾B	G1B	G1B	G1¼B	G1¼B	G1½B	G2B
Adapter thread		Inch	R½	R½	R¾ R½	R¾	R¾	R1	R1	R1¼	R1½
Weight		kg	0.73	0.73	0.78	0.73	0.73	1.08	1.08	1.48	1.88
			0.78	0.78		0.78	0.78				
			0.83	0.83		0.83	0.83				
			0.83	0.83		0.88	0.88				
			0.88	0.88		0.88	0.88				
						0.93	0.93				
						0.98	0.98				



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 (Directive 2014/32/EU of 26 February 2014)
- WELMEC 7.2
- RED (2025)
- UL2043

Drinking water certificates:

- KTW / W270 (2019)
- SVGW
- ACS
- WRAS