



ULTRASONIC WATER METER QALCOSONIC

W1

Sizes DN15 - DN40

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METERING

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APPLICATION

Ultrasonic water meter **QALCOSONIC W1** is designed for accurate measurement of cold and hot water consumption in households, apartment buildings and commercial premises.

- Static method of water flow measurement, no moving parts
- High accuracy calculation of water consumption
- Eliminates measuring deviations caused by sand, suspended particles or air pockets
- Long-term measurement stability and reliability
- 9 digits, multi-line LCD. Total volume and instantaneous flow rate indication
- Sensitive and accurate in low flows, down to 1 l/h
- Ready for AMR with NFC, w-MBus, LoRa and NB IoT technologies

AMR INTERFACES, OPTIONAL



TECHNICAL FEATURES

- Temperature class T30, T50, T30/90, T90
- Nominal flow 1.6 / 2.5 / 4.0 / 6.3 / 10 / 16 / 25 m³/h
- Wide measurement range Q3/Q1 = R 250/400/800 (optional)
- No straight sections required
- Installation in any position
- No measurement of air
- Environment class E2/M1
- Protection class IP68
- Nominal pressure PN16 (PN25 for flange version)
- Internal datalogger
- Maintenance free device, battery lifetime > 16 years
- Bi-directional flow measurements
- Flow direction indication
- Meter parametrisation and archive reading via NFC or optical interface
- Durable composite body
- Measurement units: m³-m³/h

AMR READY

- wMBus 433 or 868 MHz OMS T1; 868 MHz S1
- LoRa WAN (EU868, AS923, AU915, US915 channel plans)
- NB IoT (CoAP)
- NFC

PARAMETERISATION OF THE METER

NFC and optical interfaces are integrated in the top panel of the meter. They can be used for data reading and parameterisation of the meter

RADIO INTERFACE

Integrated radio communication allows data reading via WMBUS telegram: 433 MHz or 868 MHz, OMS S1, T1 mode, LoRa WAN or NB IoT.

DATA REGISTRATION

- Total volume
- Forward volume
- Reverse volume
- Maximum flow rate value and date
- Minimum flow rate value and date
- Operating time without an error
- Operating time
- Error code
- Water temperature indication

TECHNICAL DATA:

Flow sensor	Q3 [m ³ /h]	1.6 / 2.5 / 4.0 / 6.3 / 10 / 16 / 25
	R Q3 / Q1	80 / 160 / 250 / 315 / 400 / 800
	Water temperature	0,1 – 90°C
	LCD Display	9-digits
Flow measurement	Protection class [IP]	IP68
	Ambient class	Class C / EN 14 154
	Ambient temperature	-15°C ... +70°C
	Installation position	All installation positions (vertical, horizontal, rising pipe, down pipe)
	Nominal pressure [bar]	PN16 bar
	Pressure loss	0.16 / 0.25 / 0.40 / 0.63
	Battery lifetime	16 years LoRa / wMbus version, 12 years NB IoT version (depending on communication settings)
Units	m ³ /h - l/h - m ³	

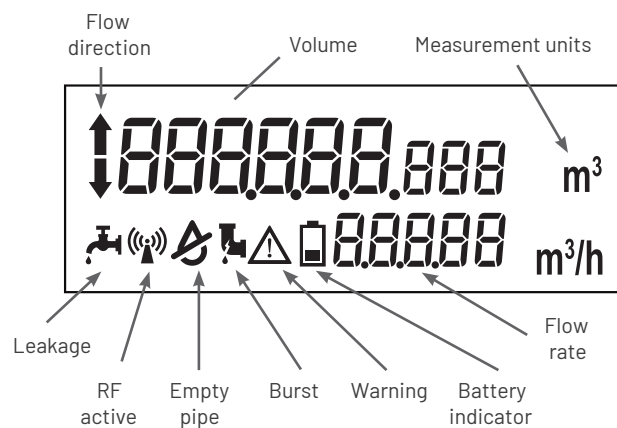
DATA LOGGER - HISTORY VALUES

- Hourly, daily, monthly values of the measured parameters are stored in internal memory

LCD INDICATIONS AND ALARM

MULTIPLE ALARMS AND EVENTS, INCLUDING:

- Flow direction indication
- Battery level indication
- Leakage
- Burst
- Backflow
- Empty pipe
- Radio communication
- Warning indication
- Low temperature warning



TECHNICAL DATA:

Nominal flow rate Q3, m ³ /h	1,6					2,5					4,0								
Overall length, mm	80, 105, 110, 165, 170					80, 105, 110, 165, 170					105, 110, 130, 165, 190								
Nominal diameter	DN15					DN15					DN20								
Connection	G 3/4"					G 3/4"					G 1"								
Dynamic range R, Q3/Q1	80	160	250	315	400	80	160	250	315	400	80	160	250	400	80	160	250	315	400
Minimum flow rate Q1, m ³ /h	0,020	0,010	0,0064	0,005	0,004	0,031	0,0156	0,010	0,0062	0,0031	0,031	0,0156	0,010	0,0062	0,050	0,025	0,016	0,010	0,050
Transitional flow rate Q2, m ³ /h	0,032	0,016	0,010	0,008	0,0064	0,050	0,025	0,016	0,010	0,005	0,050	0,025	0,016	0,010	0,080	0,040	0,026	0,016	0,080
Starting flow rate, m ³ /h	0,001					0,001					0,001								
Maximum flow rate Q4, m ³ /h	2,0					3,125					3,125								
Pressure loss class Δp, bar x 100	Δp16					Δp25					Δp16								

Nominal flow rate Q3, m ³ /h	6,3										10,0									
Overall length, mm	260					260					260									
Nominal diameter	DN25					DN32					DN25					DN25				
Connection	G 1 1/4"					G 1 1/2"					G 1 1/4"					G 1 1/2"				
Dynamic range R, Q3/Q1	80	160	250	400	800*	80	160	250	400	80	160	250	400	800*	1000*	80	160	400	800*	
Minimum flow rate Q1, m ³ /h	0,079	0,040	0,0252	0,016	0,080	0,079	0,040	0,0252	0,016	0,125	0,0625	0,040	0,025	0,0125	0,010	0,125	0,0625	0,025	0,0125	
Transitional flow rate Q2, m ³ /h	0,126	0,063	0,040	0,0252	0,013	0,126	0,063	0,040	0,0252	0,200	0,100	0,064	0,040	0,020	0,016	0,200	0,100	0,040	0,020	
Starting flow rate, m ³ /h	0,003					0,005					0,003					0,005				
Maximum flow rate Q4, m ³ /h	7,875					7,875					12,5					12,5				
Pressure loss class Δp, bar x 100	Δp25					Δp16					Δp63					Δp25				

Nominal flow rate Q3, m ³ /h	10,0				16,0				25,0				
Overall length, mm	300				300				300				
Nominal diameter	DN40				DN40				DN40				
Connection	G 2"				G 2"				G 2"				
Dynamic range R, Q3/Q1	80	160	250		80	160	250	400	80	160	250	400	800*
Minimum flow rate Q1, m ³ /h	0,125	0,0625	0,0625	0,200	0,100	0,064	0,040	0,3125	0,156	0,100	0,0625	0,0312	
Transitional flow rate Q2, m ³ /h	0,200	0,100	0,100	0,032	0,016	0,102	0,064	0,500	0,250	0,160	0,100	0,050	
Starting flow rate, m ³ /h	0,01				0,01				0,01				
Maximum flow rate Q4, m ³ /h	12,5				20,0				31,25				
Pressure loss class Δp, bar x 100	Δp16				Δp16				Δp16				

SIZE AND DIMENSIONS:

DN [mm]	15	20	25	32	40
L [mm]	80, 105, 110, 165, 170	105, 110, 130, 165, 190	260	260	300
Connection	3/4"	1"	G 1 1/4"	G 1 1/2"	G 2