ULTRASONIC WATER METER

QALCOSONIC FLOW 4

APPLICATION

Ultrasonic water meter QALCOSONIC FLOW 4 is designed for measurement of cold and hot water consumption in households and blocks of flats, as well for industrial applications.

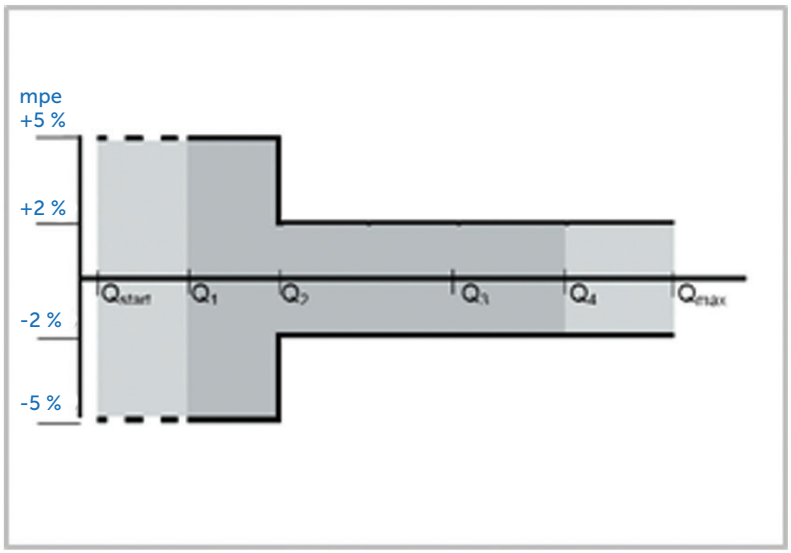
- Static water meter using ultrasonic technology
- High accuracy
- For residential and commercial use
- Hot and cold water

SPECIAL FEATURES

- Temperature class T30, T30/90, T90
- Nominal flow 1.6 / 2.5 / 4.0 /6.3 /10 /16 /25 /40 / 63 /100 m3/h
- Dynamic range up to Q3/Q1 = R 250/400
- No straight sections required up to DN50 including
- No measurement of air
- Environment protection class B
- Protection class: IP65 calculator / IP67 flow sensor
- Nominal pressure PN16/25 bar
- Pressure ΔP25/63
- Temperature measurement Pt500, 0° C ... 180° C
- Metering archive
- Battery lifetime > 12 years
- Power supply options: Battery/External
- Optional communication modules
- Mounting in any installation position
- WMBUS modes: Axis (bidirectional), S1 and T1 OMS modes
- "Walk By", "Drive By"

QALCØ

MEASURING ACCURACY CLASS 2



APPROVALS

MID type approval available
Compliance to the standard OIML R49, EN 14154
EN 14154

AMR INTERFACES

Optical
(WMBUS modes: Axis (bidirectional), S1 and T1 OMS modes)
M-Bus/CL
LON
MiniBus
Pulse output
MODBUS RS485

OPTICAL INTERFACE

Integrated into the front panel of calculator. It is designed for data reading via M-bus protocol and parameterization of the meter.

RADIO INTERFACE

The internal radio provides data reading via WMBUS telegram:

- Current total volume
- Current flow
- Current date and time
- Accounting date information
- Error date

Wired M-BUS INTERFACE

The internal M-BUS module provides data reading possibility via M-Bus protocol.

DATA REGISTRATION

Hourly, daily and monthly parameter values
- Integral volume of liquid
- Integrated pulse value in pulse input 1
- Integrated pulse value in pulse input 2
- Maximum flow rate value and date
- Operating time without an error
- Total error code
- Time when the flow rate exceeded 1.2 Q4
- Time when the flow rate was less than Q1

UNIVERSAL PULSE INPUTS/OUTPUTS

- Pulse cable (optional)
- Two configurable pulse outputs/inputs

ERROR CODES

ERROR code indication in case of errors.

DATA LOGGER – HISTORY VALUES

- Every hour, day and month values of the measured parameters are stored in internal memory
- All data from archive can be read by means of the remote reading
- In addition data logger records of monthly parameters can be seen on the display

LCD INDICATOR:

- The device is equipped with 8-digits LCD (Liquid Crystal Display) with special symbols to display parameters, measure ment units and operation modes
- The following information can be displayed:
  - integral and instantaneous measured parameters,
  - archive data and set day data,
  - device configuration information,
- Programmable LCD displaying parameters

POWER SUPPLY:

Power supply (one of following depending on meter configuration):

- AA battery 3,6 V 2,4 Ah (Li-SOCl2) battery, operation time at least 11 years,
- 12..42 V DC or 12...36 V 50/60Hz AC external power supply, used current 10 mA and back up battery AA 3,6 V (Li-SOCl2), operation time at least 11 years (without reading data through digital interfaces).
- 230 V (+ 10% - 30%) 50 / 60Hz AC power supply, current consumption is not more than 10 mA, the meter should be equipped with external power supply unit and an external transformer TRS.

TECHNICAL DATA

Flow rate sensor	Q3 [m³/h]	1.6 / 2.5 / 4.0 /6.3 /10 /16 /25 /40 /63 /100 m3/h
	R Q3 / Q1 [m³/h]	Q3 1.6: 250 Q3 2.5: 250 / 400 Q3 4.0, 6.3, 10, 16, 25, 40, 63, 100: 250 / 400
	Medium Temp. (operating temperature)	0,1 ... 90°C
Technical data	LCD-Display	8-digit
	Protection class	IP65 calculator / IP67 flow sensor
	Environment protection	Class B / EN 14 154
	Ambient temperature	+0 °C...+65 °C
	Installation place	indoor, outdoor in a pit or inst. box
	Installation position	all installation positions (vertical, horizontal, rising pipe, down pipe)
	Nominal pressure [bar]	PN16/25 bar
	Pressure loss	0.63 / (0.25) bar
	Flow sensor cable length	1,2m (2,5m or 5 m – special order)
	Temperature sensor, two-wired connection, cable length (optional)	Up to 5m.
	Battery lifetime	10-12 years
	Mounting of calculator	Mounting on flow sensor or wall- standard DIN-rail

QALCØ

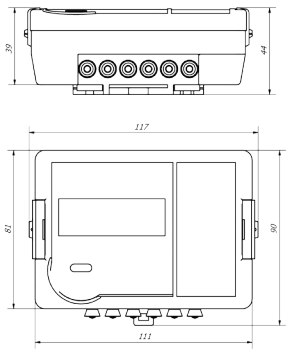
Q_3, m³/h	R Q_3/Q_1	Q_4, m³/h	Q_1, m³/h	Q_2, m³/h	Threshold value of flow rate, m³/h	Joining to the pipeline (Thread – G, flange–DN)	Overall length L, mm	ΔP (bar x 100)
1,6	R250	2	0,0064	0,01	0,003	G3/4“	110, 165	ΔP 63 or ΔP 25
						G1“ or DN20	190	ΔP 25
2,5	R250	3,125	0,01	0,016	0,005	G3/4“	110, 165	ΔP 63
						G1“ or DN20	190	ΔP 25
						G1“	130	ΔP 25
2,5	R400	3,125	0,0063	0,01	0,003	G3/4“	110, 165	ΔP 63
						G1“ or DN20	190	ΔP 25
4	R250	5	0,016	0,026	0,008	G1“ or DN20	190	ΔP 63 or ΔP 25
						G1“	130	ΔP 63
4	R400	5	0,01	0,016	0,005	G1“	130	ΔP 63
						G1“ or DN20	190	ΔP 63 or ΔP 25
6,3	R250	7,875	0,0252	0,04	0,012	G1“ or DN20	190	ΔP 63
						G1 1/4“ or DN25	260	ΔP 25
6,3	R400	7,875	0,016	0,026	0,008	G1“ or DN20	190	ΔP 63
10	R250	12,5	0,04	0,064	0,02	G1 1/4“ or DN25	260	ΔP 63
						G2“ or DN40	300	ΔP 25
10	R400	12,5	0,025	0,04	0,012	G1 1/4“ or DN25	260	ΔP 63
16	R250	20	0,064	0,1	0,03	G2“ or DN40	300	ΔP 63
						DN50	270	ΔP 25
16	R400	20	0,04	0,064	0,02	G2“ or DN40	300	ΔP 63
25	R250	31,25	0,1	0,16	0,05	DN50	270	ΔP 63
						DN65	300	ΔP 25
25	R400	31,25	0,063	0,1	0,03	DN50	270	ΔP 63
40	R250	50	0,16	0,26	0,08	DN65	300	ΔP 63
						DN80	350	ΔP 25
40	R400	50	0,1	0,16	0,05	DN65	300	ΔP 63
63	R250	78,75	0,252	0,4	0,12	DN80	350	ΔP 63
						DN100	350	ΔP 25
63	R400	78,75	0,16	0,26	0,08	DN80	350	ΔP 63
100	R250 R400	125 125	0,4 0,25	0,64 0,4	0,2 0,12	DN100 DN100	350 350	ΔP 63 ΔP 63

PULSE OUTPUT VALUE DEPENDING ON Q3, M3/H:

Pulse output value depending on Q_3, m³/h	1,6 ... 6,3	10 ... 100
Pulse value, L/imp	1	10

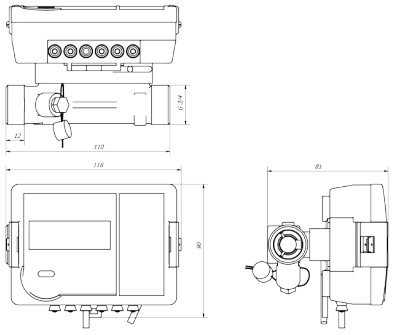
DIMENSIONS OF CALCULATOR

117 mm x 44 mm x 89,5 mm,



SIZES AND DIMENSIONS OF WATER METER

Example – flow sensor Q3= 1,6/2,5m3/h, Threaded end connections G3/4“, mounting length L=110 mm.



DN [mm]	15	20	25	40	50	65	80	100
L [mm]	110/165	130/ 190	260	300	270	300	350	350
H [mm]	81	85	123/134	141/163	167	167	180	196
G/ Flange DN	G3/4“	G1“ or DN20	G1 1/4“ or DN25	G2“ or DN40	DN50	DN65	DN80	DN100

QALCØ