

Ultrasonic water meter

ULTRIMIS

DESCRIPTION

The Ultrimis is an ultrasonic water meter with many patented design and technological features, such as the proprietary „W-Sonic Technology“ ultrasonic measuring method. None of the materials in contact with water used for the construction of this meter contain heavy metals. The standard version of this water meter is fully waterproof. The innovative structure makes our product arguably the lightest and smallest ultrasonic water meter available to our customers.



MEASUREMENT RANGE (MID)

Cold and hot water: R250, R400 and R800 (R500 for water meters DN50)

APPLICATION

Our ultrasonic water meters measure the flow and volume of water up to a max. temperature of 50°C or 70°C using a closed-loop system, with the full flow rates up to a max. pressure of 16 bar (PN16). This is important, especially when precision measurement of water consumption and the application of modern technologies are required, including NFC and radio reading systems. The water meters feature an e-display (IP68); may be installed in any orientation (H, V, H/V) and do not require the use of UODO straight sections, filters or check valves.

PRODUCT FEATURES

- Structure of the measurement chamber: flow-trough, without moving elements, resistant to impurities, no outlays on inspections or maintenance works
- No need to use straight sections upstream or downstream of the water meter
- Small dimensions, probably the smallest and lightest ultrasonic water meters on the market
- Very low energy consumption
- Very low lithium content - Li < 1.5 g for 2xAA
- Expected battery life of up to 16 years (12 years with the radio)
- No heavy metals in the materials in contact with potable water (composite body)
- Very low weight = low CO2 emission, low transport cost
- Hermetic housing for the water meter - IP68 as standard
- Maximum flow limited only by pressure loss
- No wear of the measurement chamber elements during continuous operation even for high flows
- Pressure - 16 bar
- Resistant to strong magnetic fields
- Resistant to hydrodynamic impact
- Highly resistant to overload flow rates - Q4, option of exceeding the overload flow rate during operation (dedicated e-system to monitor the ultrasonic beam parameters, hence compensating for ageing of the piezo elements)
- Reverse flow measurement

Specification			Ultrimis						
			UL2.5	UL2.5-01	UL4	UL4-01	UL6.3	UL10	UL16
Nominal diameter	DN	mm	15	20	25	32	40	50	
Permanent flow rate	Q ₃	m ³ /h	2,5	4	6,3	10	16	25	
Overload flow rate	Q ₄	m ³ /h	3,125	5	7,875	12,5	20	31,25	
Transitional flow rate	Q ₂	dm ³ /h	16	25,6	40,23	64	102,4	160	
Minimum flow rate	Q ₁	dm ³ /h	10	16	25,2	40	64	100	
Measurement range	R	Q ₃ /Q ₁	R250 in standard						
Transitional flow rate	Q ₂	dm ³ /h	10	10	25	40	64	100	
Minimum flow rate	Q ₁	dm ³ /h	6	16	12	25	40	62,5	
Measurement range	R	Q ₃ /Q ₁	R400						
Transitional flow rate	Q ₂	dm ³ /h	-	-	-	-	-	80	
Minimální průtok	Q ₁	dm ³ /h						50	
Minimum flow rate	R	Q ₃ /Q ₁	R500						
Measurement range	Q ₂	dm ³ /h	5	8	13	20	32	-	
Minimum flow rate	Q	dm ³ /h	3	5	8	13	20	-	
Measurement range	R	Q ₃ /Q ₁	R800						
Starting flow for R250, R400, R500, R800	-	dm ³ /h	0,75	1,2	1,89	3	4,8	12	
Range for R250, R400, R500, R800	-	Q ₂ /Q ₁	1,6						
Temperature class (EN and OIML)	-	°C	T30, T50, T70			T30, T50			
Flow profile sensitivity class (EN)	-	-	U0. D0						
Counter indication range	-	m ₃	999999						
Scale interval value	-	m ₃	0,001						
Maximum permissible error in the range of Q ₂ ≤Q≤Q ₄	ε	%	±2 for cold water T≤30°C ±3 for water T>30°C						
Maximum permissible error in the range of Q1≤Q≤Q ₂	ε	%	±5						
Battery	-	-	2x integrated 3,6 V DC lithium AA batteries						
Frequency	-	-	868 MHz up to 25 mW E.R.P. EU868 MHz LoRa up to 25 mW E.R.P. 434 MHz up to 10 mW E.R.P						
RF communication standard	-	-	OMS-compliant WM-bus OMS-compliant WM-bus + LoRaWAN						
Radio transmission mode	-	-	T1 or C1						
Water pressure class	(EN)	-	bar	MAP16					
	(OIML)	-		0,3 do 16					
Pressure loss class at Q ₃	(EN)	ΔP	bar	ΔP240 at T30, T50		ΔP40		ΔP40	
	(OIML)	-		ΔP25 at T70		-		-	
		Manufacturer specified		-	0,4				0,25
				-	0,25	0,25	0,28	0,26	0,17
Installaton orientation	-	-	H, V, H/V						

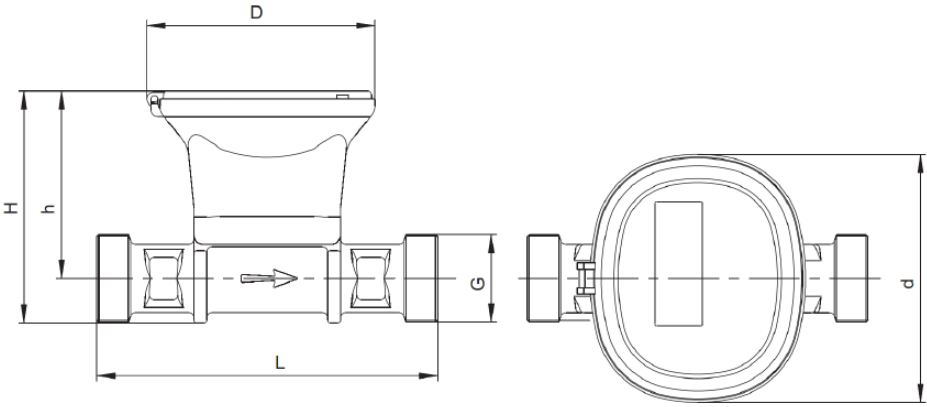
Specifikace			Ultrimis											
			UL2.5		UL2.5-01		UL4		UL4-01	UL6.3	UL10	UL16	UL25	
Reverse flow (manufacturer specified)	-	-	Reverse flow metering by design											
Relative humidity	-	%	≤100											
IP	-	-	IP 68											
Water meter body material			brass		composite		brass		composite		brass			
Connection thread size	G	inch	3/4"			1"			1 1/4"		1 1/2"	2"	Flanged ends***	
			7/8" -> 3/4"											
	G1	mm											155	
Water meter length	L	mm	80	110	80	105	130	105	165	260	300	200; 270; 300		
			115	165	110	115	190	130	260					
Height	H	mm	83; 84		83	88,5			95	102,5	111	158		
	H1	mm	88			94			100	107	117	164		
	H2	mm	163			169			175	182	192	240		
	h	mm	14;15**		14	17,5			21	25	30,5	72		
Counter size	d	mm	87											
	D	mm	94,5											
Flange size	Dz	mm											165	
Weight	-	kg	0,48	0,52	0,29	0,61	0,63	0,33	1,05	1,68	2,15	6,29; 6,75		
			0,53	0,6	0,31	0,66	0,77	0,34	1,39					

*Thread size 7/8" -> 3/4" available for 115 mm long versions only

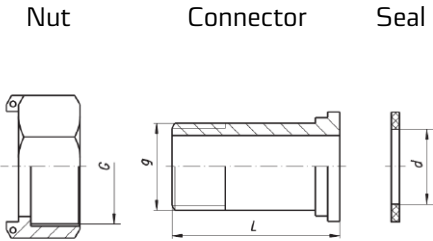
**Applies to thread size 7/8" -> 3/4"

***Also available in a G2 1/2 version

TECHNICAL DRAWINGS



DN	G	g	d	L
	inch	inch	mm	mm
15	3/4"	1/2"	17	37,5
20	1"	3/4"	23	45,5
25	1 1/4"	1"	29	46,5
32	1 1/2"	1 1/4"	36	56
40	2"	1 1/2"	43	70
50	2 1/2"	2"	54	74,2



COMMUNICATION

- Water meter data reading over NFC (Near Field Communication)
- RF (radio-frequency) reading of indications compatible with WM-BUS
- RF indication reading for walk-by and drive-by reading systems and stationary reading systems without any reconfiguration required
- Secondary verification at any suitable location with the Testbox module and a dedicated application

CONFIGURATION - NFC

The ultrimis water meters feature standard NFC data communication which enables configuration of the operating mode, reading of actual parameter values of the instrument and downloading the historical indications of statuses and errors (even at a low battery voltage or meter failure).

Developed specifically for the Ultrimis water meter, the data communication interface includes a dedicated SPIDAP application and the Testbox module. The data communication interface enables re-verification by secondary verification operators SPIDAP.

The data logger supported by NFC enables modification of the interval and range of data logging. The data logging interval can be configured from 12 minutes to 45 days. One of the 10 predefined data acquisition sets can also be selected. Depending on the data acquisition set selected, up to 800 unique records can be stored. The data acquired can drive histograms to evaluate whether the water meter has been specified correctly for its actual application.



RADIO READING

- The water meter includes an integrated radio module. This guarantees efficient remote reading of data
- Frame encryption at the level of the device (by OMS)
- Sends information about: usage during the previous month, the current month and on the day of reading
- Alarms:
 - Reverse flow
 - Leak
 - Large leak
 - Lack of water - air in the water meter
 - No flow
 - Low battery

CONTACTS

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Your distributor:

The manufacturer reserves the right to change design, technical specifications and accessories without prior notice.

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