

IUW

Ultrasonic bulk water meter for use in drinking water distribution and industrial applications

The IUW ultrasonic bulk water meter is used to record high and fluctuating flows in drinking water distribution and in industry, with a very low pressure loss at the same time.

The IUW is factory-equipped with an NFC interface. This allows a retrofitting of a wM-Bus (OMS), LoRaWAN® module.

All materials, which are used in the drinking water section, comply with the required standards, guidelines and the current German drinking water approval (Other country-specific drinking water approvals on request).



Performance characteristics at a glance

- Any installation position (even "head down")
- Highest precision and reliability even in case of low flow rates
- Protection class IP68
- No moving parts in the flow sensor
- No straight inlet or outlet needed (U0/D0) according to OIML R49 and DIN EN ISO 4064
- Electronic, battery powered LCD register with NFC interface
- Smart Metering functions
- Alarm and statistic functions
- Battery life > 15 Years
- Operating pressure MAP 16
- Approved in accordance with MID

Applications

- For consumption measuring of drinking water and unpolluted service water up to 50 °C
- For the measuring of high flow rates

AMR options

- NFC interface (= Near Field Data Capture) for connecting an external NDC-module

Readout options of the measuring device via the NFC interface (Near Field Communication)

- Measuring instrument ID (serial number)
- Current (balanced) consumption display or total volume in case of an overflow
- Date / Time
- Firmware version
- Up to 15 previous month's values
- Temperature
- Key date / Key date volume
- Forward flow volume / Return flow volume
- Alarms or error messages
- Battery end

Technical Data

Permanent flow rate	Q ₃	m ³ /h	16	25	40	40	63	63
Attainable measuring range	Q ₃ /Q ₁	R	315	500	800	500	800	500
Standard measuring range ¹	Q ₃ /Q ₁	R	315	500	500	500	500	500
Overload flow rate	Q ₄	m ³ /h	20,00	31,25	50,00	50,00	78,75	78,75
Max. Overload flow	Q _{4M}	m ³ /h	55,00	55,00	55,00	87,00	87,00	138,00
Minimum flow rate ²	Q ₁	m ³ /h	0,05	0,10	0,16	0,16	0,25	0,25
Transitional flow rate ²	Q ₂	m ³ /h	0,08	0,16	0,26	0,26	0,40	0,40
Lower measuring limit	-	l/h	25	25	25	40	40	63
Display range	min	l	1	1	1	1	1	1
	max	m ³	999.999	999.999	999.999	999.999	999.999	999.999
Temperature range	-	°C	0,1 - 50	0,1 - 50	0,1 - 50	0,1 - 50	0,1 - 50	0,1 - 50
Operating pressure	MAP	bar	0,3 - 16	0,3 - 16	0,3 - 16	0,3 - 16	0,3 - 16	0,3 - 16
Pressure loss at Q ₃	Δp	bar	0,16	0,16	0,25	0,16	0,25	0,10
Mechanical environmental condition	-	-	M1	M1	M1	M1	M1	M1
Electromagnetic environment class	-	-	E1	E1	E1	E1	E1	E1
Climatic condition ³	-	°C	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55
Flow profile sensitivity	-	-	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0

Weight and dimensions

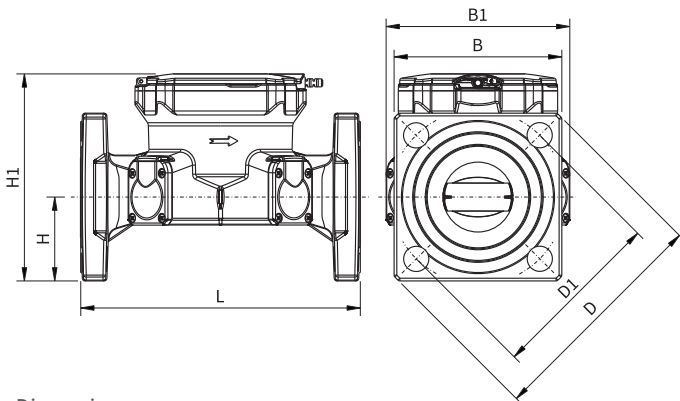
Nominal diameter	DN	mm	50	50	50	65	65	80
Overall length	L	mm	200/270	200/270	200/270	200/300	200/300	225/300
Height	H1	mm	60	60	60	73	73	90
Height	H2	mm	150	150	150	165	165	195
Width	B	mm	120x120	120x120	120x120	145x145	145x145	178x178
Width	B1	mm	135	135	135	150	150	B1 < B
Flange diameter	D	mm	165	165	165	185	185	200
Bolt circle diameter	D1	mm	125	125	125	145	145	160
Number of bolts	-	pz.	4	4	4	4	4	8
Screw size	-	mm	M16	M16	M16	M16	M16	M16
Screw hole diameter	-	mm	19	19	19	19	19	19
Weight approx.	-	kg	7,0/8,8	7,0/8,8	7,0/8,8	8,7/10,8	8,7/10,8	10,8/12,6

¹ Other measuring ranges (R) on request

² Values refer to standard measuring range

³ Condensation possible

Attention: Not all versions are available in all markets



Dimensions

Technical Data

Permanent flow rate	Q_3	m^3/h	100	100	160	250	400	400
Attainable measuring range	Q_3/Q_1	R	800	500	800	500	800	500
Standard measuring range ¹	Q_3/Q_1	R	500	500	500	500	500	500
Overload flow rate	Q_4	m^3/h	125,00	125,00	200,00	312,50	500,00	500,00
Max. Overload flow	Q_{4M}	m^3/h	138,00	220,00	220,00	550,00	550,00	670,00
Minimum flow rate ²	Q_1	m^3/h	0,40	0,40	0,64	1,00	1,60	1,60
Transitional flow rate ²	Q_2	m^3/h	0,64	0,64	1,03	1,60	2,56	2,56
Lower measuring limit	-	l/h	63	100	100	250	250	400
Display range	min	l	1	1	1	10	10	10
	max	m^3	999.999	999.999	999.999	9.999.999	9.999.999	9.999.999
Temperature range	-	$^{\circ}C$	0,1 - 50	0,1 - 50	0,1 - 50	0,1 - 50	0,1 - 50	0,1 - 50
Operating pressure	MAP	bar	0,3 - 16	0,3 - 16	0,3 - 16	0,3 - 16	0,3 - 16	0,3 - 16
Pressure loss at Q_3	Δp	bar	0,10	0,10	0,10	0,10	0,10	0,10
Mechanical environmental condition	-	-	M1	M1	M1	M1	M1	M1
Electromagnetic environment class	-	-	E1	E1	E1	E1	E1	E1
Climatic condition ³	-	$^{\circ}C$	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55
Flow profile sensitivity	-	-	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0

Weight and dimensions

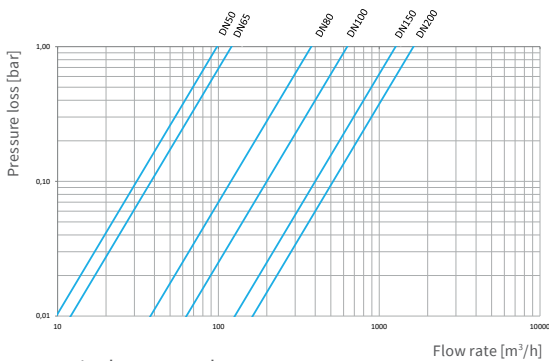
Nominal diameter	DN	mm	80	100	100	150	150	200
Overall length	L	mm	225/300	250/360	250/360	300/500	300/500	350
Height	H1	mm	90	98	98	135	135	162
Height	H2	mm	195	210	210	277	277	326
Width	B	mm	178x178	196x196	196x196	285x285	285x285	340x340
Width	B1	mm	B1 < B	B1 < B	B1 < B	B1 < B	B1 < B	B1 < B
Flange diameter	D	mm	200	220	220	285	285	340
Bolt circle diameter	D1	mm	160	180	180	240	240	295
Number of bolts	-	pz.	8	8	8	8	8	12
Screw size	-	mm	M16	M16	M16	M20	M20	M20
Screw hole diameter	-	mm	19	19	19	23	23	23
Weight approx.	-	kg	10,8/12,6	13,5/16,3	13,5/16,3	24,1/29,4	24,1/29,4	35,5

¹ Other measuring ranges (R) on request

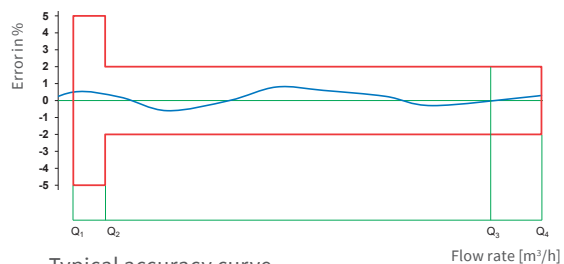
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³ Condensation possible

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Typical pressure loss curve



Typical accuracy curve

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