

Cordonel

Static flow meter for potable water DN 40...200

Features

- Uses ultrasonic technology with no moving parts or obstruction to the flow
- Maintenance free over its operational lifetime
- Large measuring range; Q_3/Q_1 R1000
- Advanced UOD0 capability
- Meter with MID pattern approval according to annex MI001
- Meter conforms to OIML R49:2013 and ISO 4064:2017
- Constant accuracy over lifetime, no degradation as components age
- Installation in horizontal and vertical pipe orientations
- LCD for consumption, flow, temperature, pressure (optional) and status information
- Integrated radio communication and data logger
- Radio protocol SensusRF and wM-Bus (OMS4 profile A and B)
- Secure encrypted data transmission
- Meter can be submerged; meets protection class IP68 acc. to 60529:2014
- NFC wireless interface for readout of the last volume reading
- Short (WP) and long (WS) lengths available according to DIN 19625 and ISO 4064-1:2017
- 20-year average meter lifetime incl. battery under standard usage conditions
- Optional pulse output with programmable values and lengths

Available options

- Integrated pressure sensor
- Radio communication on alternative frequencies
- Pulse output with different pulse modes



Applications

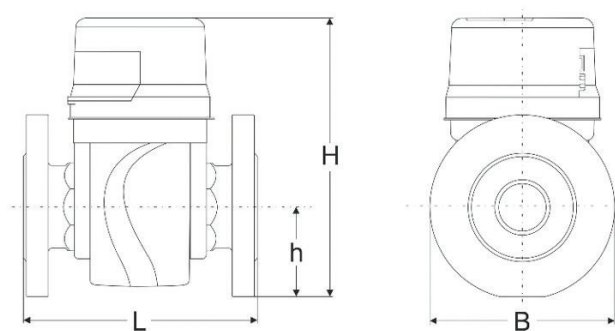
- Measurement for billing of potable water up to 50 °C
- Radio equipped flow meter for walk-by/drive-by readout applications
- Metering endpoint in radio based fixed Smart Water Networks
- Measurement of high flowrates, for example in pumped pipes for irrigation
- Measurement of low flow, for example in light load periods
- Leakage detection
- Flow meter for controlling industrial processes using a pulse output
- Intelligent network sensor for providing flow, pressure and temperature profiles for water network optimization

Performance data

Size	DN	40	50	65	80	100	125	150	200
Q_s Max. peak flow	m ³ /h	78	90	125	200	310	310	780	950
Q_4 Overload flowrate acc. to MID	m ³ /h	50	50	78.75	125	200	200	500	787.5
Q_3 Permanent flowrate acc. to MID	m ³ /h	40	40	63	100	160	160	400	630
Q_2 Transitional flowrate horizontal acc. to MID	m ³ /h	0.06	0.06	0.1	0.16	0.25	0.4	0.64	1.01
Q_1 Minimum flowrate horizontal acc. to MID	m ³ /h	0.04	0.04	0.06	0.1	0.16	0.25	0.4	0.63
Q_s/Q_1 Max. ratio		1000	1000	1000	1000	1000	630	1000	1000
Starting flow	m ³ /h	0.012	0.012	0.02	0.033	0.054	0.075	0.11	0.21

Materials

Body	Cast iron
Measuring transducers	High grade polymer
Inner tube	High grade polymer, stainless steel
Battery	Lithium
Gaskets	EPDM
Other materials	Glass fiber reinforced polymer, stainless steel



Dimensions and weights

Nominal diameter	DN	40	50	50	50	65	65	80	80	80
Overall length	L mm	220	200	270	300	200	300	200	225	300
Height	H mm	238	238	238	238	258	258	297	297	297
Height to pipe axis	h mm	69	73	73	73	85	85	95	95	95
Width	B mm	166	166	166	166	186	186	201	201	201
Meter weight	kg	7.8	9.0	9.7	10.1	11.0	12.8	13.4	13.9	15.9
Meter weight with pressure sensor	kg	7.9	9.1	9.8	10.2	11.1	12.9	13.5	14.0	16.0

Nominal diameter	DN	80	100	100	100	125	150	150	200
Overall length	L mm	350	250	350	360	250	300	500	350
Height	H mm	296	315	315	315	315	325	325	369
Height to pipe axis	h mm	95	105	105	105	105	135	135	162
Dismantling height insert	g mm	-	-	-	-	-	300	300	335
Width	B kg	201	220	220	220	250	285	285	340
Meter weight	kg	16.8	17.9	20.4	20.7	23.2	33.8	43.2	50.8
Meter weight with pressure sensor	kg	16.9	18.0	20.5	20.8	23.3	33.9	43.3	50.9
Metrological unit weight	kg	-	-	-	-	-	4.6	4.6	7.2
Metrological unit with pressure weight	kg	-	-	-	-	-	4.7	4.7	7.3
Meter body weight	kg	-	-	-	-	-	29.2	38.6	43.6

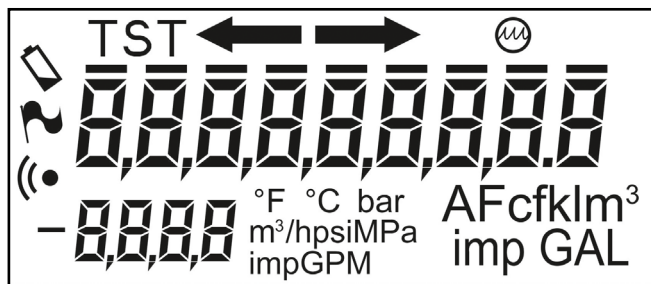
Approvals

Metrology	DE-19-MI001-PTB008
Marking	CE M-XX* 0102 (*year of conformity assessment)
Potable water	KTW / UBA WRAS ACS KIWA

Environmental conditions

- According to ISO 4064-1:2017
- Environmental class O acc. to OIML R49-1:2013
- Environmental temperature: -10 °C ... 70 °C
- Mechanical environmental conditions: class M2
- Electromagnetic environmental conditions: class E2

Display



- Alarm is triggered
- Low battery level is reached
- Radio is activated (flashing)
- TST** System is set up in hydraulic testing mode
- Indicates positive or negative flow
- Empty pipe

	Smallest reading	Maximum reading
Working mode DN 40 - 125	0.001 m³	999999.999 m³
Working mode DN 150 - 200	0.01 m³	9999999.99 m³
Test mode DN 40 - 125	000.000001 m³	999.999999 m³
Test mode DN 150 - 200	0000.00001 m³	9999.99999 m³

The bottom line displays flow, temperature or optionally pressure in an automatic loop.

General data

Medium temperature (approved for billing applications)	0.1 ... 50 °C (T50)
Medium temperature (material resistance)	0.1 ... 70 °C
Nominal pressure	PN 16; 1.6 MPa
Measuring interval	two times per second in standard and test mode
Power supply	2x Lithium D cells 3,6 V
Data logger	max. 6000 event loggs and 180 monthly loggs

Technical data temperature measurement

Display resolution	0.1 °C
Accuracy	1 °C in the range of 5 to 50 °C
Measuring interval	1/15 Hz

Technical data pressure sensor

Display resolution	0.01 MPa
Repeatability	0.017 MPa
Drift	< 0,2% of the measuring range per year
Measuring interval	1/60 Hz
Adjustable	yes

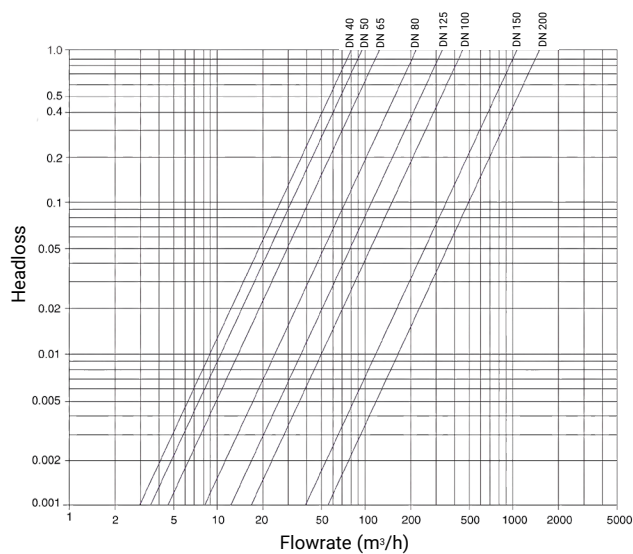
Installation

Pipe	horizontal vertical
Meter head	upwards sideways

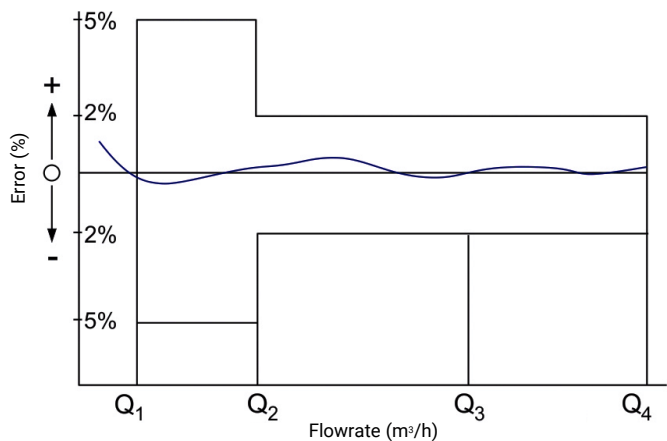


- Unrestricted straight pipe upstream and downstream 0 x DN U0D0 acc. to OIML R 49-1:2013
- Meter display should not be installed with the display pointed downwards

Typical headloss curve



Typical error curve



Order example

Cordonel, DN 50, T50, PN16

Drilling EN 1092 PN16

Length 200 mm

m³

With MID conformity

With pressure sensor

Type

Size

Maximum medium temperature

Nominal pressure

Drilling pattern

Body length

Display unit

Approval standard

Options



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