Data Sheet

Cordonel

Static flow meter for potable water DN 40...150

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

Features

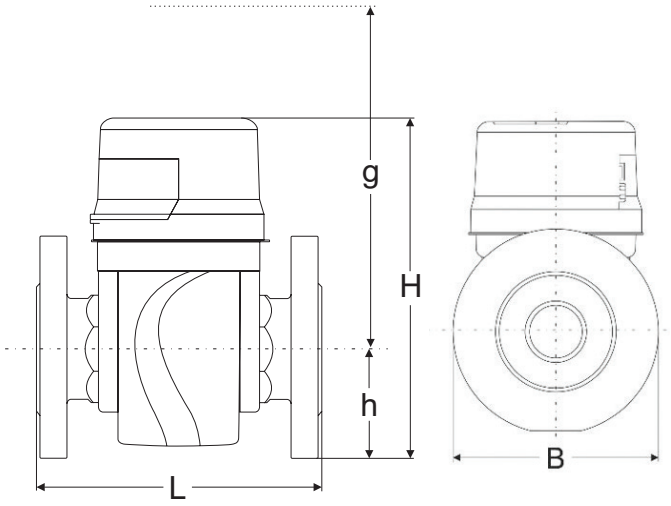
- Uses ultrasonic technology with no moving parts or obstruction to the flow
- Maintenance free over its operational lifetime
- Large measuring range; Q_3/Q_1 R1000
- Advanced U0D0 capability
- Meter with MID pattern approval according to annex MI001
- Meter conforms to OIML R49:2013 and ISO 4064:2017
- 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

Performance data

	Size	DN	40	50	65	80	100	125	150
Q_S	Max. peak flow	m³/h	78	90	125	200	310	310	780
Q_4	Overload flowrate acc. to MID	m³/h	50	50	78.75	125	200	200	500
Q_3	Permanent flowrate acc. to MID	m³/h	40	40	63	100	160	160	400
Q_2	Transitional flowrate horizontal acc. to MID	m³/h	0.06	0.06	0.1	0.16	0.25	0.4	0.64
Q_1	Minimum flowrate horizontal acc. to MID	m³/h	0.04	0.04	0.06	0.1	0.16	0.25	0.4
Q_3/Q_1	Max. ratio		1000	1000	1000	1000	1000	630	1000
	Starting flow	m³/h	0.012	0.012	0.02	0.033	0.054	0.075	0.11



Materials

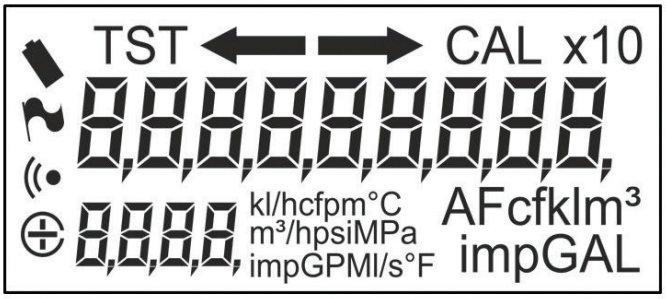
Body	Cast iron
Measuring transducers	High grade polymer
Inner tube	High grade polymer, stainless steel
Battery	Lithium
Gaskets	EPDM
Other materials	Glass fiber reinforced polymer, stainless steel

Dimensions and weights

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

Nominal diameter		DN	80	80	100	100	100	125	150	150
Overall length	L	mm	300	350	250	350	360	250	300	500
Height	H	mm	297	296	315	315	315	315	325	325
Height to pipe axis	h	mm	95	95	105	105	105	105	135	135
Dismantling height insert	g	mm	-						300	300
Width	B	kg	201	201	220	220	220	250	285	285
Meter weight		kg	15.9	16.8	17.9	20.4	20.7	23.2	33.8	43.2
Meter weight with pressure sensor		kg	16.0	16.9	18.0	20.5	20.8	23.3	33.9	43.3
Metrological unit weight		kg	-						4.6	4.6
Metrological unit with pressure weight		kg	-						4.7	4.7
Meter body weight		kg	-						29.2	38.6

Display



Alarm is triggered

Low battery level is reached

Radio is activated (flashing)

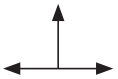
TST System is set up in hydraulic testing mode

⊕⊖ Indicates positive or negative flow

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

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

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

Approvals

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

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

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

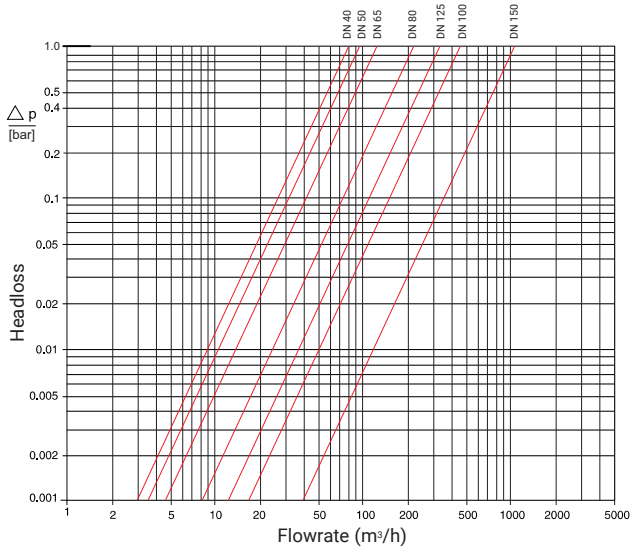
General data

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
Power supply	2x Lithium D cells 3,6 V
Data logger	max. 6000 event loggs and 180 monthly loggs

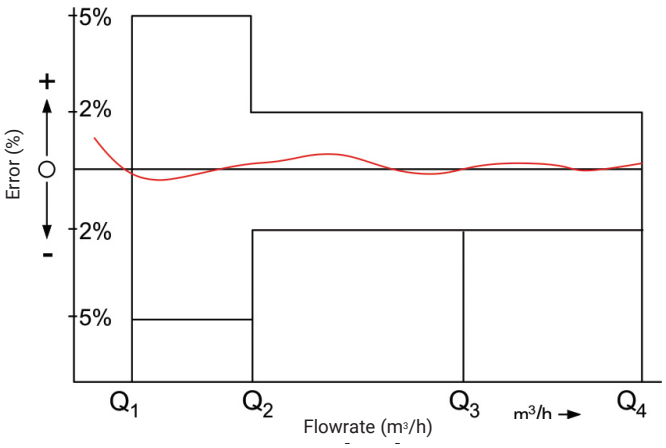
Environmental conditions

- 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

Typical headloss curve



Typical error curve



Order example

	Type
	Size
	Maximum medium temperature
	Nominal pressure
Cordonel, DN 50, T50, PN16	
Drilling EN 1092 PN16	Drilling pattern
Length 200 mm	Body length
m³	Display unit
With MID conformity	Approval standard
With pressure sensor	Options

LB 2000 INT - 04.2025-0013

xylem
Let's Solve Water