

SC7 Series Bulk Ultrasonic Water Meters

PRODUCT DATA



Application

- Any application that requires high accuracy across all flow rates for revenue billing
- Municipal water and water distribution network
- Waste water, irrigation water, reclaim water and storm water
- Commercial buildings: Malls, campus, hospitals, industrial parks, airports, facilities
- Industrial water: Steel, heavy manufacturing plants, power plants, food & beverage
- Leak and tamper detection, DMA (District Metered Area) leakage detection system
- AMR/AMI projects which require flow accuracy with low life cycle costs

Features

- Excellent long-term stability and reliability
- Rugged mechanical design - Submersible (IP68)
- Bi-directional
- Flexible data formats including flow directions, flow rates and volumes
- Temperature inspection and low temperature alarm
- Pressure inspection
- Large LCD, 8 digits display
- 10 years battery lifetime with battery life indication
- Special body design with Patent to improve R value
- Data Logger with 480 Daily data, 36 Monthly data, and 16 Yearly data
- MID / ISO 4064:2005
- Wide communication possibilities
- Variety of alarm functions for low battery and system error

Overview

Ploumeter SC7 series Ultrasonic Water Meter is specially designed for municipal, commercial and industrial water metering applications where the demand is challenging and traditional mechanical water meters fail.

Ploumeter SC7 series Ultrasonic Water Meter stands out among the competition due to its rugged design, multi-path technology, wide dynamic range, long last battery with field replaceable feature and extensive AMR functions. The SC7 series is even able to perform reliably when the water has high particulate or the environment is harsh. Both commercial and industrial installations can profit from the advantages of precision, wear-free water flow measurement, operational security and long service life.

Technical Specifications

Table 1. Flow rate

Nominal Size	DN50	DN65	DN80
Body Material	Ductile iron body and Ductile iron flanges		
Overload flow rate Q4 (m ³ /h)	31.25/50	50	78.75
Nominal flow rate Q3 (m ³ /h)	25/40	40	63
Transitional flow rate Q2 (m ³ /h)	0.08/0.128	0.128	0.2016
Min flow rate Q1 (m ³ /h)	0.05/0.08	0.08	0.126

Table 2. Flow rate

Nominal Size	DN100	DN125	DN150
Body Material	Ductile iron body & flanges	SS body + CS or SS flanges	SS body + CS or SS flanges
Overload flow rate Q4 (m ³ /h)	125	200	312.5
Nominal flow rate Q3 (m ³ /h)	100	160	250
Transitional flow rate Q2 (m ³ /h)	0.32	0.512	0.8
Min flow rate Q1 (m ³ /h)	0.2	0.32	0.5

Table 3. Flow rate

Nominal Size	DN200	DN250	DN300	DN350	DN400	DN500	DN600
Body Material	(SS body + CS flanges) or (SS body + SS flanges)						
Overload flow rate Q4 (m ³ /h)	500	787.5	1250	1250	2000	3125	5000
Nominal flow rate Q3 (m ³ /h)	400	630	1000	1000	1600	2500	4000
Transitional flow rate Q2 (m ³ /h)	1.28	2.016	3.2	3.2	5.12	8	12.8
Min flow rate Q1 (m ³ /h)	0.8	1.26	2	2	3.2	5	8

Notes:

SS: Stainless steel

CS: Carbon steel

Q3/Q1 (R): 500 (400 can be customized)

Q4/Q3: 1.25

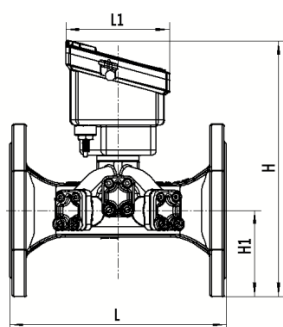
Q2/Q1: 1.6

The water meter has an epoxy coating to prevent corrosive, epoxy coating color is blue and the thickness is listed below:

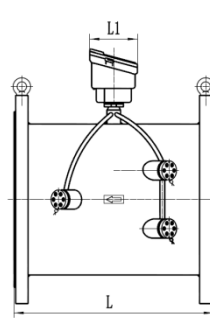
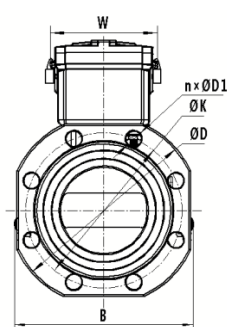
DN50-DN150: 0.25±0.1mm

DN200 and above: 80~150 μm

SC7 SERIES BULK ULTRASONIC WATER METER



DN50-DN125



DN125-DN600

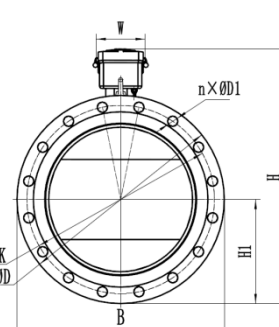


Table 4. Dimensions

Rated Pressure	DN (mm)	L	L1	H	H1	W	B	n×ΦD1
PN16	50	200	120	240	60	123	172	4×Φ18
	65	200	120	260	70	123	190	4×Φ18
	80	225	120	280	90	123	205	8×Φ18
	100	250	120	300	100	123	230	8×Φ18
	125	250	120	380	125	123	250	8×Φ18
	150	300	120	400	130	123	285	8×Φ22
PN10	200	350	120	470	170	123	340	8×Φ22
	250	450	120	525	198	123	395	12×Φ22
	300	500	120	575	223	123	445	12×Φ22
	350	500	120	635	253	123	505	16×Φ22
	400	600	120	690	283	123	565	16×Φ26
	500	600	120	790	335	123	670	20×Φ26
	600	800	120	895	390	123	780	20×Φ30

Notes:

Dimension for reference only, please contact us for exact measure.

Approvals

ISO4064, MID B

Electrical Data

Power Supply: Battery, 3.6V Lithium (220VAC, 24VDC optional)

Communication Interface: Infra-red, M-Bus, RS485

Wireless Interface: Wireless M-bus (T1 868MHz), LoRa, NB-IoT

Output: Pulse, 4-20mA

Electromagnetic Class: Class E1(class E2 optional)

Volume Display Options: Net (Forward less reverse), Forward only, Forward & reverse alternating

Max.Flow Reading (m³): 99999999.99999

Alarm: Low battery and System error

Accuracy / MPE (Maximum Permissible Error)

MPE according to ISO 4064: 2005

$\pm 2\%$ in the range $Q_2 \leq Q \leq Q_4$ [$T \leq 30^\circ\text{C}$]

$\pm 3\%$ in the range $Q_2 \leq Q \leq Q_4$ [$T > 30^\circ\text{C}$]

$\pm 5\%$ in the range $Q_1 \leq Q < Q_2$ [regardless of the temperature range]

Dynamic Range: 400 (standard), 500 (option), (For others please contact Ploumeter)

Mechanical Data

Metrological Class: 2 (according to ISO 4064: 2005 / OIML R49)

Environmental Class: Class C (B optional)

Environmental Temp: $5 \sim 55^\circ\text{C}$

Permissible Flow Temp: $0.1 \sim 50^\circ\text{C}$ (T50, T30)

Enclosure Protection: IP68

Integrator Detachable: No

Pressure: PN16 for DN50-DN150, PN10 for DN200-DN600

Channel: Double channels for DN50...DN300, Three channels for DN350...DN600

Pressure Loss

Pressure Loss: Δp_{25} Kpa

Installation

Installation Method: Arbitrary angle

Straight Pipe Requirement: U3, D0

Others: During measurement meter must be completely filled with water

Order Specifications

Base Unit

SC7- DN - - -

Meter Size

DN50	50
DN65	65
DN80	80
DN100	100
DN125	125
DN150	150
DN200	200
DN250	250
DN300	300
DN350	350
DN400	400
DN500	500
DN600	600

Process Connection

D	DIN Flange (default)
A	ANSI Flange
Z	Others

Interface Module

MB	M-Bus Module (wired)
485	RS485 / Modbus Module
wMB	M-Bus Module (wireless)
NB	NB-IoT
LR	LoRa

Output

P	Pulse
A	4-20mA

Example

- SC7-DN50-P-485-D stands for the SC7 Series Bulk Water Meter base unit of R400 for pipe DN50mm DIN Flange PN16, with pulse and RS485.
- M-Bus module (wired) is standard output interface module.