HUI ZHONG

SCL-61D Series

Ultrasonic Water Meter

Scope of application

Suitable for accurate measurement and trade settlement of urban water supply pipeline and household metering, and also suitable for DMA district metering management.

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Features

- Online self-verification function for the accuracy of online running products.
- Large dynamic range, reach to 800:1.
- Low starting flowrate, high accuracy level.
- 4-channel design for all series, dual-fracture surface measuring method, improve the accuracy under complex flow regime.
- Integrated mechanical design with protection class of IP68, able to work in long-term water immersion.
- Micro-power consumption technology, battery powered with lifetime over 10 years.
- Ultrasonic flow measurement technology with no mechanical moving parts and low pressure loss, reduce the power loss of the pump, reduce the cost of water supply for enterprises.
- High reliability, the product can work on any flow point for a long time, strong anti-electromagnetic interference ability.
- Integrated flow, temperature and pressure measurement, able to reach the demand of monitoring.
- High quality seamless stainless steel pipe, energy saving and environmental protection, recyclable.

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Technical Parameters

Item		Parameter			
Medium		Full pipe of Water, sewage, or homogeneous fluids			
Accuracy Class		Class 2			
Dynamic range		R400	R500	R630	R800
Nominal Diameter		DN50~DN300			
Maximum Admissible Working Pressure		1.0MPa/1.6MPa/2.5MPa (Standard is 1.6MPa, only DN200 is 1.0MPa)			
Pressure Loss		Δp 10			
Working Environment		-25℃~55℃, ≤100%RH			
Temperature Class		T30, T50, T70, default T30			
Upstream Flow Field Sensitivity Class		U0			
Downstream Flow Field Sensitivity Class		D0			
Category of Climate & Mechanical Environment Conditions		Class O			
Electromagnetic Compatibility		E2			
Botton		Magnetic Induction Button			
LCD Display		The upper LCD has 9 digits and a word height of 11.05mm; The lower LCD has 9 digits and a word height of 8.53mm; prompt			
Display Content		Cumulative volume (m^3), Instantaneous flow (m^3/h), Cumulative operating time (h), Date (Year/Month/Day), Time (Hour/Minute/Second), Software version, Water temperature (℃)			
Display Resolution		Cumulative volume: -19999999.9m^3～+199999999.9m^3 Instantaneous flow: -99999.9m^3/h ～+99999.9m^3/h			
Communi-cation	Photoelectric interface	Baud rate 2400bps; Protocol EN13757			
	RS-485/M-Bus	Baud rate: 2400bps, 4800bps, 9600bps, default: 2400bps, transmission distance≤1200m; Support EN13757 protocol, Huizhong protocol, Modbus protocol, CJ/T-188 protocol, default: Huizhong protocol			
	Wireless Communication	Narrow Band Internet of Things (NB-IoT)			
	Analog switch on-off output	Passive output, load voltage: max DC24V, load current: max 50mA			
Data Storage		EEPROM applied for cumulative volume and time, automatically storage daily historical data and latest 24 months data, stored for 100 years in power failure			
Measuring Cycle		1 second			
Power Supply		Lithium battery powered DC3.6V, the battery works continuously over 10 years			
		DC10V～DC36V, ≥20mA (Specify while ordering)			
Protection Class		IP68			
Storage Temperature		-25℃～55℃			
Installation Position		Water supply pipe			
The length of the cable from the split display unit to the meter is 1.5m as standard, and the special length should be proposed at the time of order.					

Note:
1. Battery life is related to the ambient temperature of the application, which is indicated here as a test value in the range of 25±5°C; beyond this temperature range, the life expectancy is reduced.
2. Battery life is related to the communication interval, when the communication interval is greater than 30 seconds, the battery life is not affected by the communication interval.
3. NB-IoT interface product battery life will be impacted if the signal is weaker, multiple data re-transmission and high alarm frequency.

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Flow Parameters: R400

(m³/h)

Nominal diameter (mm)	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300
Starting Flow rate	0.009	0.014	0.024	0.036	0.057	0.088	0.127	0.227	0.353
Minimum Flowrate Q1	0.063	0.100	0.158	0.250	0.400	0.625	1.000	1.575	2.500
Transitional Flowrate Q2	0.100	0.160	0.2520	0.400	0.640	1.000	1.600	2.520	4.000
Permanent Flowrate Q3	25	40	63	100	160	250	400	630	1000
Overload Flowrate Q4	32.15	50	78.75	125	200	312.5	500	787.5	1250

Flow Parameters: R500

(m³/h)

Nominal diameter (mm)	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300
Starting Flow rate	0.009	0.014	0.024	0.036	0.057	0.088	0.127	0.227	0.353
Minimum Flowrate Q1	0.050	0.080	0.126	0.200	0.320	0.500	0.800	1.260	2.000
Transitional Flowrate Q2	0.080	0.128	0.2016	0.320	0.512	0.800	1.280	2.016	3.200
Permanent Flowrate Q3	25	40	63	100	160	250	400	630	1000
Overload Flowrate Q4	32.15	50	78.75	125	200	312.5	500	787.5	1250

Flow Parameters: R630

(m³/h)

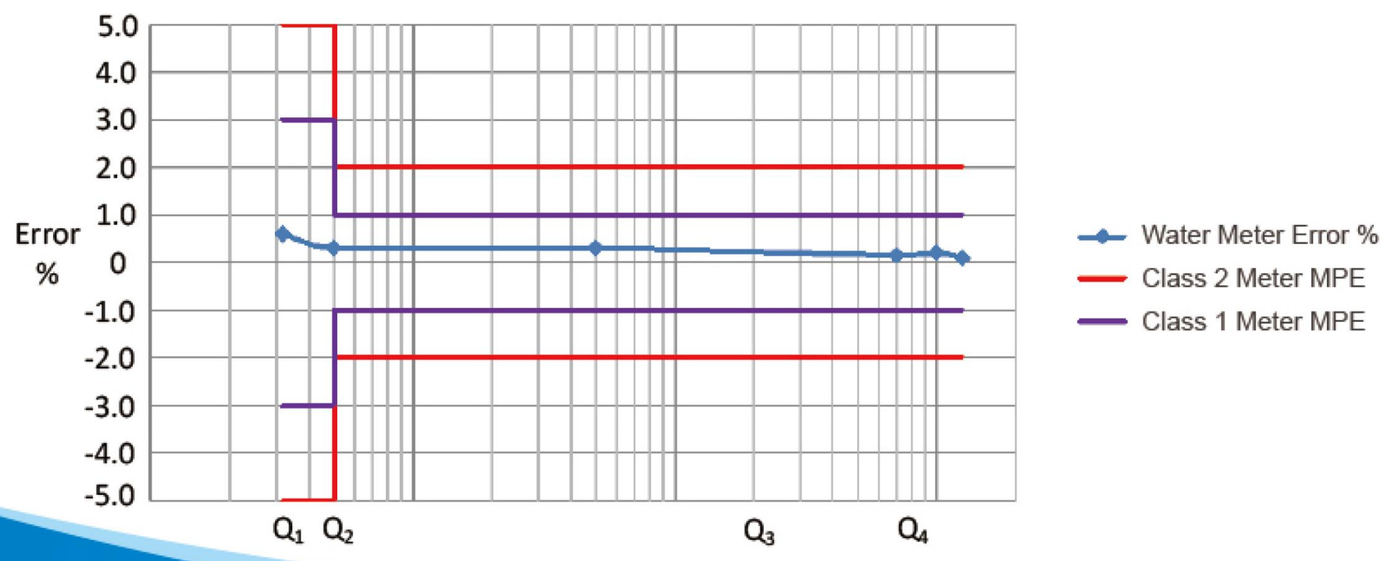
Nominal diameter (mm)	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300
Starting Flow rate	0.009	0.014	0.024	0.036	0.057	0.088	0.127	0.227	0.353
Minimum Flowrate Q1	0.063	0.100	0.159	0.254	0.397	0.635	1.000	1.587	2.540
Transitional Flowrate Q2	0.102	0.160	0.254	0.407	0.635	1.016	1.600	2.540	4.063
Permanent Flowrate Q3	40	63	100	160	250	400	630	1000	1600
Overload Flowrate Q4	50	78.75	125	200	312.5	500	787.5	1250	2000

Flow Parameters: R800

(m³/h)

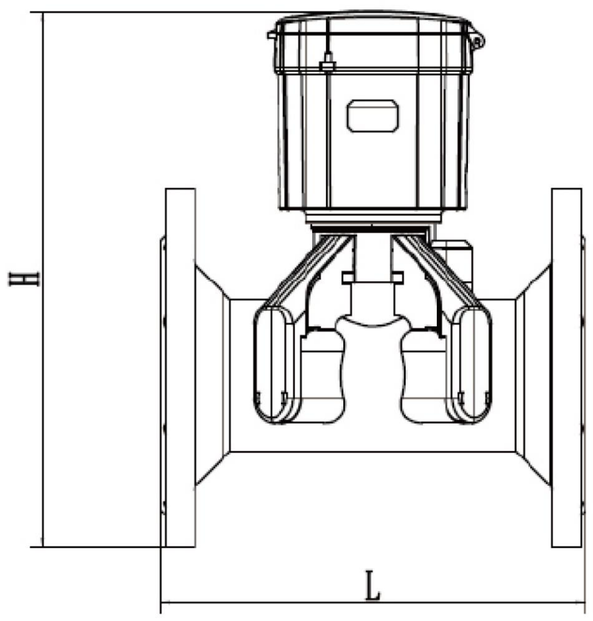
Nominal diameter (mm)	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300
Starting Flow rate	0.009	0.014	0.024	0.036	0.057	0.088	0.127	0.227	0.353
Minimum Flowrate Q1	0.050	0.079	0.125	0.200	0.313	0.500	0.788	1.250	2.000
Transitional Flowrate Q2	0.080	0.126	0.200	0.320	0.500	0.800	1.260	2.000	3.200
Permanent Flowrate Q3	40	63	100	160	250	400	630	1000	1600
Overload Flowrate Q4	50	78.75	125	200	312.5	500	787.5	1250	2000

Performance Error Curve

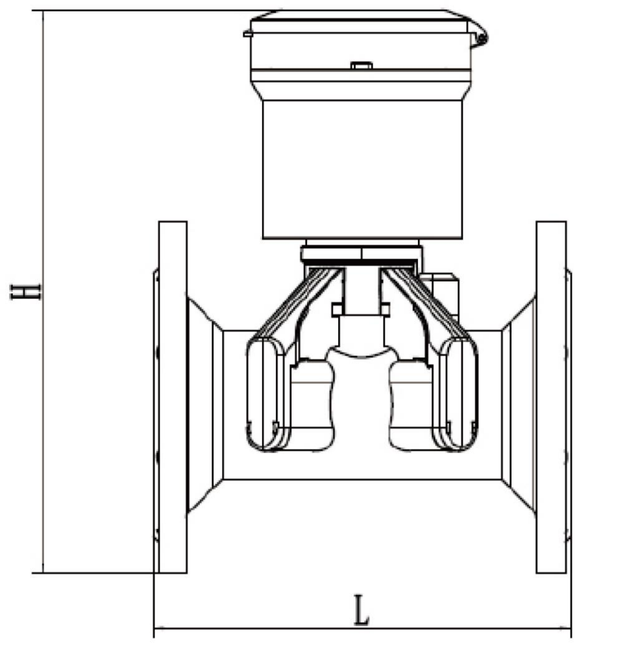


Dimensions

Combined

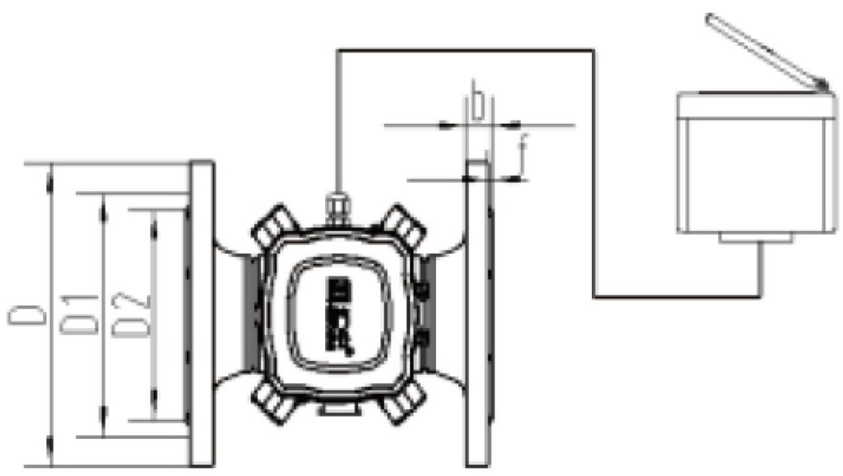


SCL-61D Ultrasonic Water Meter (Plastic Casing) (DN50~DN300)

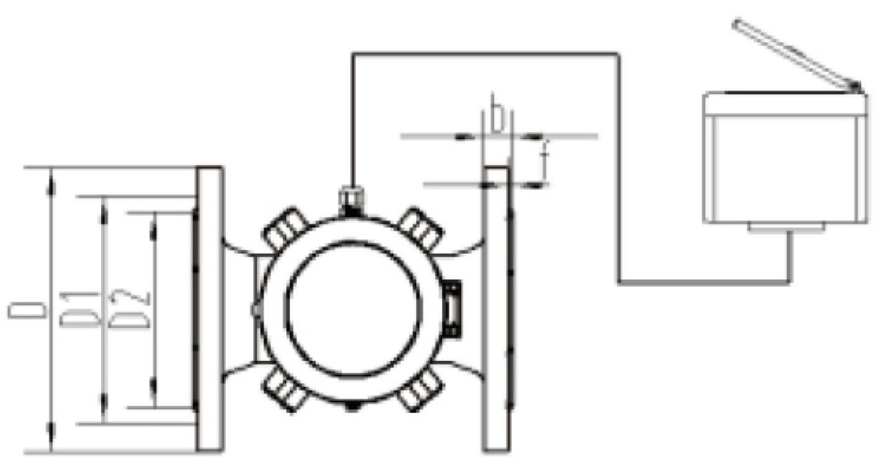


SCL-61D Ultrasonic Water Meter (Metal Casing) (DN50~DN300)

Separated



SCL-61D Ultrasonic Water Meter (Plastic Casing) (DN50~DN300)



SCL-61D Ultrasonic Water Meter (Metal Casing) (DN50~DN300)

(Unit:mm)

Nominal Diameter	Pressure MPa	Outside Diameter D	Flange Hole D1	Sealing Surface D2	Sealing Surface f	Flange Thickness b	No. of Flange Hole n	Diameter of Flange d	Length L	Height for Plastic Casing H	Height for Metal Casing H	Weight (kg)
DN50	1.0	φ165	φ125	φ102	3	18	4	φ18	200	270	291	9.7
	1.6											
	2.5											
DN65	1.0	φ185	φ145	φ122	3	18	8	φ18	200	282	303	11.8
	1.6											
	2.5					22	8					
DN80	1.0	φ200	φ160	φ138	3	20	8	φ18	225	299	320	13.3
	1.6											
	2.5					24						
DN100	1.0	φ220	φ180	φ158	3	20	8	φ18	250	315	336	16.0
	1.6											
	2.5	φ235	φ190	φ162		24		φ22		322.5	343.5	
DN125	1.0	φ250	φ210	φ188	3	22	8	φ18	250	340	361	19.3
	1.6											
	2.5	φ270	φ220			26		φ26		350	371	
DN150	1.0	φ285	φ240	φ212	3	22	8	φ22	300	370	391	26.5
	1.6											
	2.5	φ300	φ250	φ218		28		φ26		377.5	398.5	
DN200	1.0	φ340	φ295	φ268	3	24	8	φ22	350	412	433	35.4
	1.6					24	12					
	2.5	φ360	φ310	φ278		30		φ26		422	443	
DN250	1.0	φ395	φ350	φ320	3	26	12	φ22	450	476	497	57.2
	1.6	φ405	φ355					φ26		481	502	
	2.5	φ425	φ370	φ335		32		φ30		491	512	
DN300	1.0	φ445	φ400	φ370	4	26	12	φ22	500	544.5	559.5	81.6
	1.6	φ460	φ410	φ378		28		φ26		552	567	
	2.5	φ485	φ430	φ395		34	16	φ30		564.5	579.5	

Note: 1.The weight in the table is a reference, which based on the normal plastic casing, 1.6MPa meter.