



Tianjin Sure Instrument Co., Ltd.

E-mail: overseas@suremeter.com

Website: www.suremeter.com

Factory Address: No.12 outer ring industry park zhong bei industry park (northern area), Xiqing district, Tianjin, China

Office Address: Buliding 10, huading xinqu ,haitai chuang xin road 6, No.2 xiqing district, Tianjin, China.

Product Brochure

Tianjin Sure Instrument Co., Ltd.

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THE COMPANY

TIANJIN SURE INSTRUMENT is engaged into the design, manufacture and service of measurement and analysis instruments field. With 22 years development, we have become one of the outstanding enterprises in this field in China.

At present, Sure Instrument is a professional and responsible flow meter enterprise with 353 staffs, 73000m² standardized workshops and machining centers, high-precision numerical control machines automated assembling line as well as other equipments.

With excellent staffs, advanced equipments, strict quality control system and good services, our products are widely sold to more than 97 countries and gain good reputation from customers. Our aim is to provide a metering solution that helps our customers achieve operational improvement through their production capability, usually, in the form of reduced energy usage, improved product quality, lower emissions and greater production throughout. Reducing emissions, carbon footprint, and your company's impact on the environment is our goal. Not only will have a strong social and environmental impact but also a positive economic impact today and future.



ELECTROMAGNETIC FLOW METER



DESCRIPTION

Electromagnetic flow meter is flexible and universally applicable flow measurement systems. It is a velocity flow meter which does not have any moving parts and is ideal for conductive fluid.

APPLICATIONS

- Water treatment
- Water distribution
- Industrial waste water
- Industrial processes
- Slurries
- Irrigation
- Pumping station
- Dams
- Mining

FEATURES

- High accuracy and wide flow rate range measurement
- 99.999% pure copper for coil
- No mechanically moving parts
- IP68 proof, Maximum 3 meter immersion in water
- Drinking water approvals
- FDA approvals
- Bi-directional measure
- Wide choice of materials for housing and flanges including SS304 and SS316
- Advanced wire-winding technology, No drift zero point
- Robust, fully welded and potted construction
- In house wet calibration for all diameters (up to DN3000)
- Three electrodes
- ≥ 3 mm thickness PTFE liner, durable service life

TECHNICAL DATA

Diameter	PTFE: DN2.5-DN1000
	Rubber: DN50-DN3000
Flow Direction	Positive; Negative
Repeatability Error	$\pm 0.1\%$
Accuracy	$\pm 0.5\%$ of rate; $\pm 0.2\%$ of rate
Medium Temperature	Rubber liner: $-20 \dots +60^\circ\text{C}$
	PTFE liner: $-20 \dots +120^\circ\text{C}$
	PFA: $-20 \dots +180^\circ\text{C}$
Velocity	0.3-10m/s
Ambient Temperature	$-20 \dots +60^\circ\text{C}$
Relative Humidity	5%~95%
Power Consumption	<20W
Protection	IP 65; IP 68 (Remote Type)



A - Compact Type

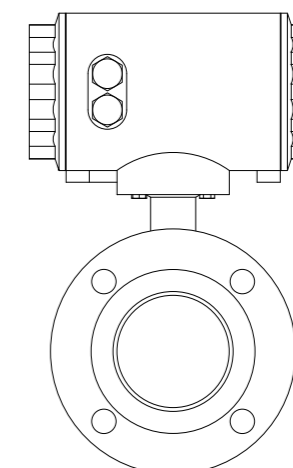
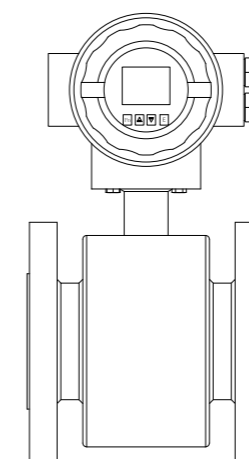


B- Compact Type



L- Remote Type

TECHNICAL DRAWINGS



ELECTROMAGNETIC FLOW METER

MODEL SELECTION

Model	Suffix Code											Description
LDG-	①	②	③	④	⑤	⑥	-⑦	⑧	⑨	⑩	⑪	Electromagnetic Flow Meter
Type	B											B type
	A											A type (ATEX)
	H											Energy Meter (PT1000 temperature sensors)
Diameter	XXX											Stand for diameter 0006: DN6; 0015: DN15 0100: DN100; 2200: DN2200
Structure		S										Compact Type with local display
		L										Remote Type; 10 meters cable default
Electrode Material			M									SS316L
			T									Titanium
			D									Tantalum
			H									Hastelloy C
			P									Platinum-Iridium
Signal Output					0							No Output
					1							4-20mA / Pulse
Liner Material						X						Rubber
						P						Polyurethane
						F						PTFE
						A						PFA
Power Supply							-0					110-240V AC
							-1					24V DC (20-36V DC)
							-2					Battery Power Supply
Communication								0				No Communication
								1				Modbus RS485
								2				HART
								3				GPRS
Sensor Grounding									0			No Grounding
									1			Grounding Ring
									2			Grounding Electrode
Connection										DXX		D16: DIN PN16 Flange ; D25: DIN PN25 Flange...
										AXX		A15: ANSI150# Flange; A30: ANSI 300# Flange...
										JXX		J10: JIS 10K Flange; J20: JIS 20K Flange...
										XXX		On request
Body Material											CS	Carbon Steel
											S4	Stainless Steel 304

FLOW RANGE

Diameter		Flow Rate (m ³ /h)		
		V=0.3m/s	V=6m/s	V=10m/s
mm	Inch	Min	Calibrated	Max
2.5	1/10"	0.0053	0.106	0.177
4	1/8"	0.014	0.271	0.452
6	1/4"	0.03	0.6	1
10	3/8"	0.1	1.7	3
15	1/2"	0.2	4	6
20	3/4"	0.3	7	11
25	1"	0.5	11	18
32	1-1/4"	0.9	17	29
40	1-1/2"	1	27	45
50	2"	2	42	71
65	2-1/2"	4	72	120
80	3"	5	109	181
100	4"	8	170	283
125	5"	13	265	442
150	6"	20	382	636
200	8"	34	679	1131
250	10"	53	1060	1767
300	12"	76	1527	2545
350	14"	104	2078	3465
400	16"	136	2714	4524
450	18"	171	3435	5726
500	20"	212	4241	7069
600	24"	305	6107	10179
700	28"	415	8310	13850
800	32"	542	10860	18100
900	36"	662	13740	22900
1000	40"	848	16962	28270

MINI ELECTROMAGNETIC METER

TECHNICAL DATA

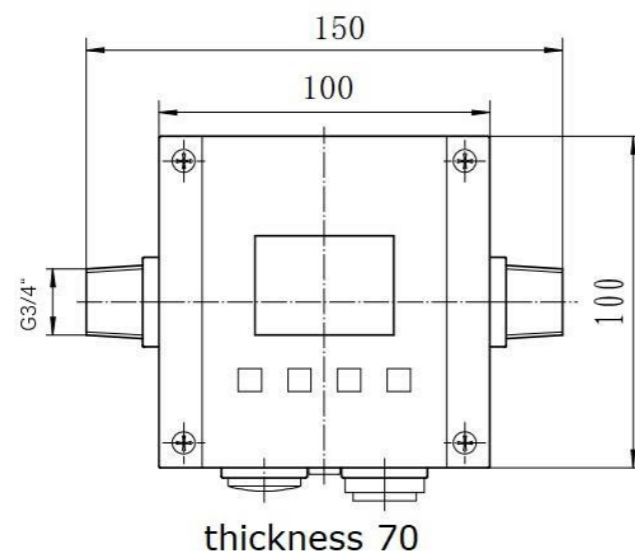


FEATURES

- Compact design suitable for liquids from 10 μ S/cm
- Compact and low cost
- Easy installation and less maintenance
- Minimum flow rate can be as low as 5L/h
- Optional temperature sensor integrated is available
- Bi-directional measurement with independent total counters; Empty pipe detection is integrated
- PEEK liner and optional EPDM seals are available for hygiene measurement
- No movable parts, no mechanical wear and tear
- Threaded connection for easy installation
- Easy operation and various outputs are available
- DC 24V powered with or without display

Nominal Diameter	DN3~DN20
Electrode Material	316L, Hb, Hc, Ti
Lining Material	PEEK
Dielectric Conductivity	$\geq 10\mu\text{S/cm}$, softened water $20\mu\text{S/cm}$
Accuracy Level	$\pm 0.5\%R \sim \pm 1.0\%R$
Flow Range	0.3m/s ~ 10m/s
Ambient Temperature	-10 $^{\circ}\text{C}$ ~ 60 $^{\circ}\text{C}$
Measuring Temperature	-20 $^{\circ}\text{C}$ ~ 100 $^{\circ}\text{C}$
Nominal Pressure	0.6MPa~1.6MPa
Protection Level	IP65、IP67(Blind)
Installation Form	Compact
Shell Material	Aluminum with epoxy
Connection	Threaded, G1/2, G3/4, NPT 1/2 or others, SS304/SS316
Output Signal	frequency/pulse, MODBUS-485 communication
Operating Voltage	24VDC $\pm 20\%$ (19.2V-28.8V)
Current Consumption	< 150mA
Dimension(H \times W \times D)	150*100*70 (mm)

TECHNICAL DRAWINGS



SANITARY MAGNETIC FLOW METER

MODEL SELECTION

Model	Suffix Code									Description
LDGS-	①	②	③	④	⑤	-⑥	⑦	⑧	⑨	Sanitary Magnetic Flow Meter
Diameter	XXXX									Stand for diameter 0010: DN10 0100: DN100
Structure	S									Compact Type with local display
	L									Remote Type; 10 meters cable default
Electrode Material		M								SS316L
		T								Titanium
		D								Tantalum
		H								Hastelloy C
		P								Platinum-Iridium
Signal Output				0						No Output
				1						4-20mA / Pulse
Liner Material					F					PTFE
					A					PFA
Power Supply						-0				110-240V AC
						-1				24V DC (20-36V DC)
						-2				Battery Power Supply
Communication							0			No Communication
							1			Modbus RS485
							2			HART
							3			GPRS
Sensor Grounding							0		No Grounding	
							2			Grounding Electrode
Body Material									S4	Stainless Steel 304



INSERTION MAGNETIC FLOW METER

MODEL SELECTION

Model	Suffix Code							Description
LDGC-	①	②	③	④	-⑤	⑥	⑦	Insertion Magnetic Flow Meter
Diameter	XXXX							Stand for diameter 0100: DN100 3000: DN3000
Structure	S							Compact type
	L							Remote type
Electrode Material		M						SS316L
		T						Titanium
		D						Tantalum
		H						Hastelloy C
		P						Platinum-Iridium
Signal output				0				No Output
				1				4-20mA / Pulse
Power Supply					-0			110-240V AC
					-1			24V DC(20-36V DC)
					-2			Battery Power Supply
Communication						0		No Communication
						1		Modbus RS485
						2		HART
						3		GPRS
Connection							B	Ball Valve Type

LIQUID TURBINE FLOW METER



DESCRIPTION

The liquid turbine flow meter are specially designed for liquid measurement. It operate according to the turbine principle.

APPLICATIONS

- Petrochemical/energy industry
- Hydraulic/lubrication system
- Test systems
- Distilled water
- Clean water
- Food and beverage industry

FEATURES

- Light oil & purity liquid measurement
- Modbus RS485 Communication
- Backlight option
- Working Max Temp.: +150°C
- Unit of GPM, Kg/h, Ft³/h, LPM, BPD, m³/h, Ton/h
- Totalizer reset
- High/low alarm

TECHNICAL DATA

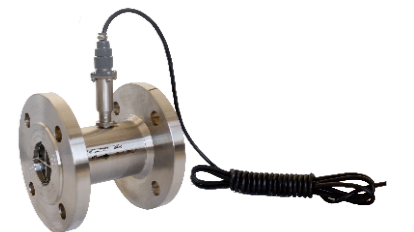
Output	Pulse; 4-20mA	
Accuracy	±1.0 of Rate; ±0.5% of Rate	
Ambient Temp.	- 20...+60 °C	
Fluid Temp.	- 20...+150 °C	
Body Material	SS304; SS316	
Rotor Material	2Cr13; CD4MCu	
Bearing Material	Tungsten Carbide	
Connection	Flange of DIN, JIS, ANSI	DN15- DN 200
	Thread of G, BSP, NPT	DN4- DN 50
	Sanitary Tri- Clamp	DN10- DN100
	Wafer	DN50- DN200
Communication	RS485	
Power Supply	24V DC; Battery; 220V AC	
Protection	IP65	
Explosion Proof	Exd IICT6 Gb	



A - Current Output Type

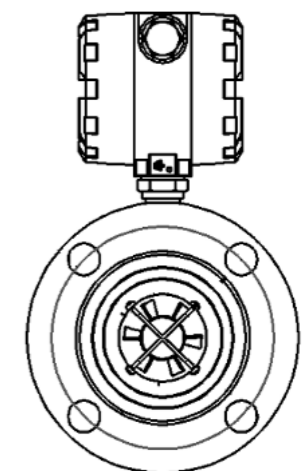
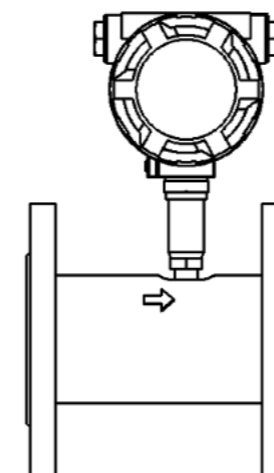


E- Digital Type



N1- Pulse Type

TECHNICAL DRAWINGS



LIQUID TURBINE FLOW METER

MODEL SELECTION

Model	Suffix Code										Description
LWGY-	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	Liquid Turbine Flow Meter
Diameter	XXX										Stand for diameter 004: DN4; 006: DN6 100: DN100; 200: DN200
Converter Type	N1										24V DC; Pulse output; No display
	N2										24V DC; Pulse output; No display; Ex
	A										24V DC; 4-20mA output; No display; Ex
	E1										Battery power supply; No output; Ex ; Digital display
	E2										24V DC; 2/3 wires 4-20mA/ Pulse output; Ex ; Digital display
	E4										24V DC; 0-20mA output; Ex; Digital display
	G										220V AC; 4-20mA output; Ex; Digital display
	FE										FE: Fluidwell E series converter(Refer to page 11)
	FF										FF: Fluidwell F series converter(Refer to page 12)
	Notice:										
Accuracy			10								±1.0% of rate
			05								±0.5% of rate
			02								±0.2% of rate (consult with factory)
Flow Range				S							Standard Range
				E							Extended Range
Body Material						S4					SS304
						S6					SS316
Rotor Material							Cr				2Cr13
							CD				CD4MCu
Explosion Proof								CT			Exd II C T6 Gb
								NA			No explosion proof
Connection										THM	Male thread; Available from DN4...DN50
										THF	Female thread; Available from DN4...DN50
										WAF	Wafer connection
										TRC	DN10- DN 100 (Sanitary type)
										DXX	D16: DIN PN16 Flange; D25: DIN PN25 Flange...
										AXX	A15: ANSI 150# Flange; A30: ANSI 300# Flange...
Temperature										JXX	J10: JIS 10K Flange; J20: JIS 20K Flange...
										T1	-20...+80°C
										T2	-20...+120°C
										T3	-20...+150°C

FLOW RANGE

Diameter (mm)	Standard Range (m³/h)	Extended Range (m³/h)	Max. pressure loss (kPa)
4	0.04-0.25	0.04-0.4	120
6	0.1-0.6	0.06-0.6	80
10	0.2-1.2	0.15-1.5	50
15	0.6-3.6	0.5-5	35
20	0.8-8	0.45-9	35
25	1-10	0.5-10	35
32	1.5-15	0.8-15	35
40	2-20	1-20	35
50	4-40	2-40	35
65	7-70	5-70	25
80	10-100	7-100	25
100	20-200	10-200	25
125	25-250	13-250	25
150	30-300	15-300	25
200	80-800	40-800	25

CORIOLIS MASS FLOW METER



DESCRIPTION

Coriolis mass flow meter directly measures the "mass" of the medium with high accuracy based on the coriolis principle (coriolis force). The accuracy would not be affected by any factors like the temperature, pressure, density, viscosity, etc. And the compensation calculation is not required.

APPLICATIONS

- Gases
- Liquids
- Custody transfer
- Reactor feed ratio
- Density measurement
- Batch control

FEATURES

- U shape design- provides excellent stability and repeatability
- Dedicated ASIC with digital closed-loop control (DLC) improves the performance of gas-liquid flow measurement
- Dynamic vibration balance (DVB) technology enhances system stability
- 2-point temperature compensation and process pressure compensation
- Special configurations for difficult applications (e.g. high temperature)

TECHNICAL DATA

Measuring Tube	SS316L; Hastelloy C	
Pressure	Refer to chart shown above. Special orders would be placed for high pressure	
Medium Temperature	-50°C...+125°C	
	-50°C...+200°C	
	-50°C...+350°C	
	-200°C...+125°C	
Ambient Temperature	-25°C...+60°C(with LCD); -40°C...+85°C (without LCD)	
Flow Rate Accuracy	±0.1%; ±0.2%; ±0.5%	
Density Measurement Accuracy	ERROR: 0.0005g/cm ³ (0.5g/m ³)	
Repeatability	Liquid	≤0.05%
	Gas	≤0.17%
Uncertainty	Liquid	± 0.10%
	Gas	± 0.35%
Output	4-20mA; Pulse	
Communication	RS485; HART; Profibus DP; FF	
Explosion Proof	ExdibIICT6Gb	
Protection	IP67	



V-Type

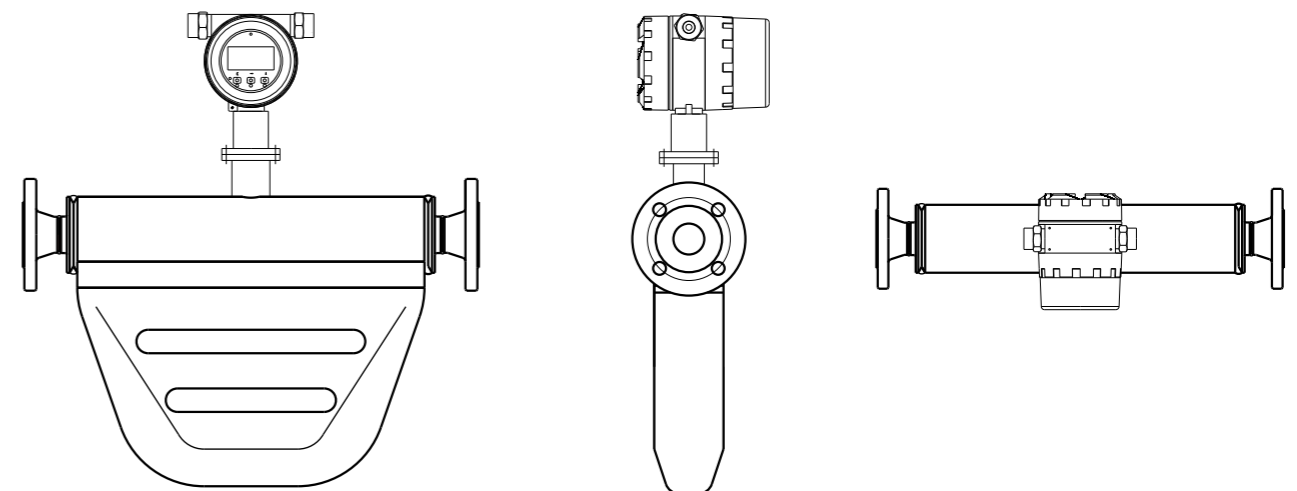


U-Type



U-Type

TECHNICAL DRAWINGS



MODEL SELECTION

Model	Suffix Code											Description
SCM-	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	Coriolis Mass Flow Meter
Type	U											U Type
	V											V Type
Diameter	XXX											Stand for diameter 001: DN1; 250: DN 250
Signal Output	1											4-20mA/0-10KHz
Communication		1										RS485
			2									Hart
				3								PF
					4							FF
						5						None
Temperature Rating					T1							-50...+130°C
					T2							-50...+180°C
					T3							-50...+250°C
					T4							-50...+350°C
Measuring Tube					S6							SS316
					HC							Hastelloy C
					XX							On request
Accuracy Rating					01							±0.1% of rate
					02							±0.2% of rate
					05							±0.5% of rate
					XX							On request
Connection					AXX							ANSI Flange;A15:ANSI 150#;A30:ANSI 300#...
					DXX							DIN Flange;D16:DIN PN16;DN25:DIN PN25...
					JXX							JIS Flange;J10K:JIS 10K;J20K:JIS 20K...
					TRC							Tri-clamp type(Sanitary connection)
					THR							Thread connection (<DN 40)
Body Material					S4							SS304
					S6							SS316
Structure									S			Compact type with local display
									L			Remote display include bracket
Power Supply										0		24V DC
										1		220V AC

FLOW RANGE

U- TYPE

DN	Allowable Flow Range(kg/h)	Normal Flow Range for Accuracy 0.1%(kg/h)	Normal Flow Range for Accuracy 0.2%(kg/h)	Normal Flow Range for Accuracy 0.5%(kg/h)	Stability of Zero Point(kg/h)
10	10-1000	100-1000	70-1000	50-1000	0.03
15	20-3000	300-3000	200-3000	150-3000	0.07
25	80-8000	800-8000	600-8000	400-8000	0.15
40	240-32000	2000-32000	1500-32000	1500-32000	0.9
50	500-50000	3500-50000	2500-50000	2000-50000	1.5
80	800-140000	8000-140000	7000-140000	6000-140000	3.5
100	1500-200000	15000-200000	12000-200000	10000-200000	7
150	5000-500000	50000-500000	35000-500000	28000-500000	17
200	10000-1000000	200000-1000000	120000-1000000	80000-1000000	45
300	25000-2500000	500000-2500000	300000-2500000	200000-2500000	70

V- TYPE

DN	Max. Flow Range(kg/h)	Normal Flow Range for Accuracy 0.1%(kg/h)	Normal Flow Range for Accuracy 0.2%(kg/h)	Normal Flow Range for Accuracy 0.5%(kg/h)	Stability of Zero Point(kg/h)
3	1.2-120	10-120	8-120	6-120	0.004
8	8-800	80-800	55-800	40-800	0.035
10	10-1000	100-1000	70-1000	50-1000	0.045
15	20-3000	300-3000	200-3000	150-3000	0.09
25	80-8000	600-8000	400-8000	300-8000	0.25
40	240-24000	2400-24000	1200-24000	1000-24000	1
50	500-45000	5000-45000	2500-45000	2000-45000	2
80	800-120000	10000-120000	8000-120000	6000-120000	3.5
100	1500-200000	20000-200000	15000-200000	10000-200000	7
150	5000-500000	50000-500000	35000-500000	30000-500000	23
200	10000-1000000	100000-1000000	70000-1000000	50000-1000000	45
250	15000-1500000	150000-1500000	120000-1500000	75000-1500000	70

POSITIVE DISPLACEMENT FLOW METER M SERIES



DESCRIPTION

M series meter is positive displacement meter for liquids. They are designed for liquid metering both in transfer and process control applications. Thanks to their design they are easy to keep and can suit a wide range of applications.

APPLICATIONS

- Check of loading/unloading operations of fuel and petrochemical products in fuel bulk plants and/or refineries
- Wine manufacturer
- Oil and gas plant

FEATURES

- Excellent stepless adjusting mechanism allow a micro adjustment of the meter
- High accuracy and repeatability over the widest range of flow; superior accuracy at constant flow
- Low maintenance, no metal-to-metal contact in measuring chamber. long life service
- Low pressure loss, a true gravity flow meter
- Accuracy regardless of pressure fluctuations, temperature variation, viscosity
- Choice of aluminum, cast iron and stainless steel materials of construction

TECHNICAL DATA

Model	M-40-1	M-50-1	M-80-1	M-100-1	M-150-1
Size	40mm / 1-1 / 2"	50mm / 2"	80mm / 3"	100mm / 4"	150mm / 6"and 100mm / 4"for option
Flow Range	25~250L / min	55~550L / min	115~1150L / min	170~1700L / min	300~3000L / min
Volume Per Revolution	0.309L	0.681L	1.839L	5.102L	14.87L
Max.Pressure	10Bar				
Accuracy	± 0.2%				
Repeatability	≤ 0.07%				
Standard Measurement	Liter / US Gallon / IMP Gallon				
Dimension	51×46×49cm	51×46×49cm	62×54×57cm	76×64×72cm	80×65×90cm
Net Weight	23kg	26kg	40kg	70kg	130kg
Gross Weight	25kg	28kg	47kg	93kg	180kg
Package	1pc / Strong Yellow Paper Carton			1pc / Wooden Case	

Remark:4" or 6" available for option for M-150-1 (6") meter



M-50-KX-1

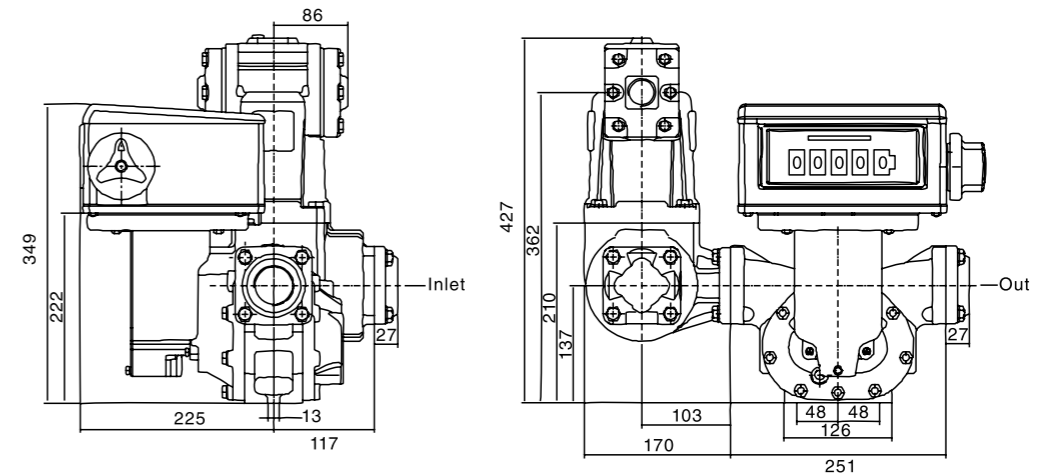


M-50-NX-1

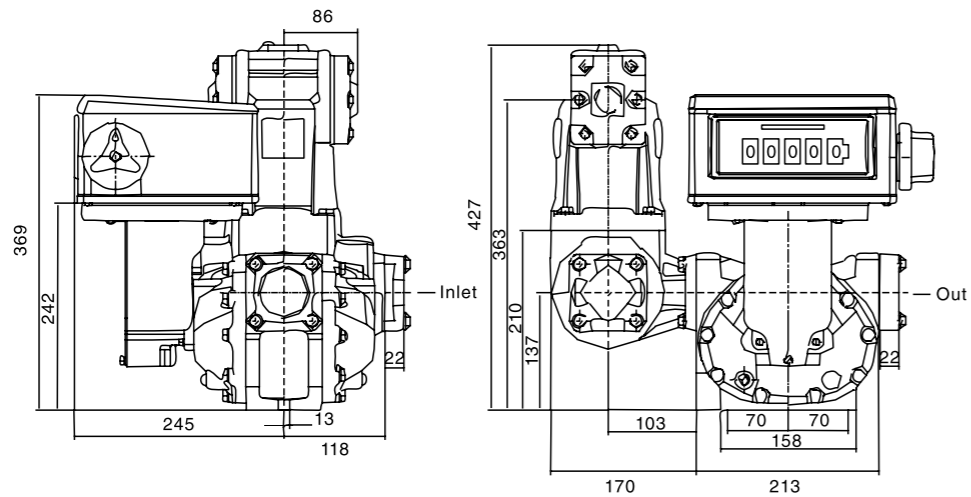


M-80-G-1

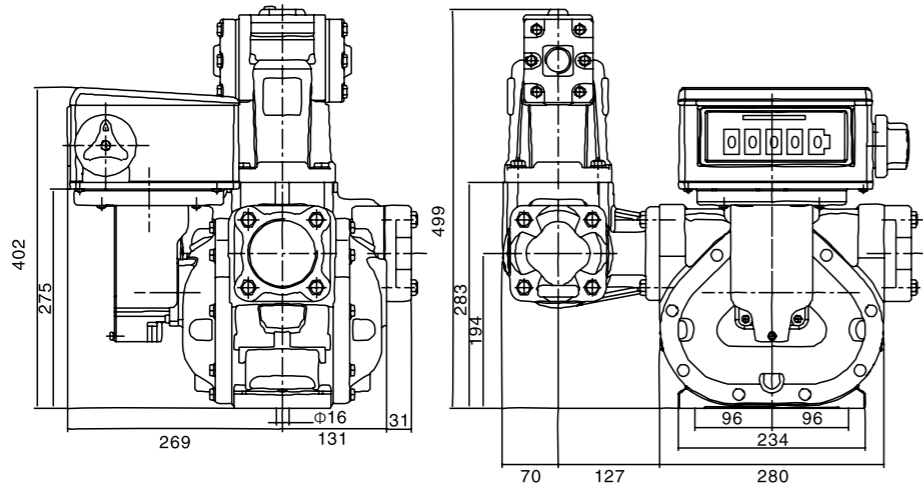
TECHNICAL DRAWINGS



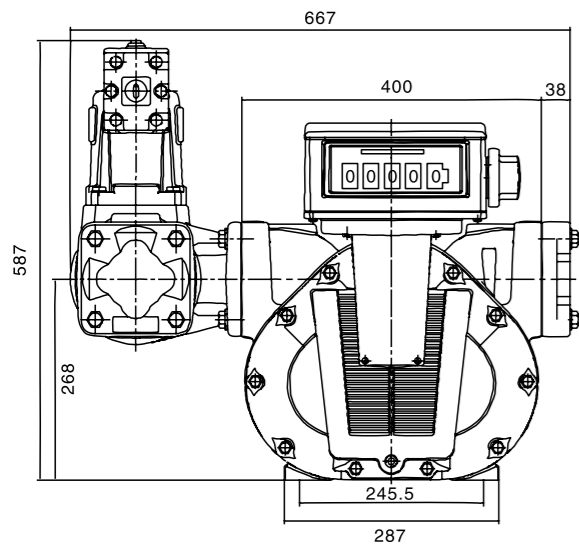
M-40-1 Meter Dimension



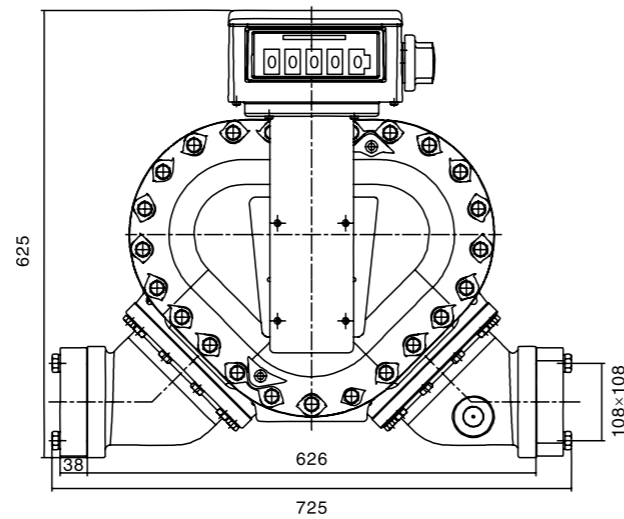
M-50-1 Meter Dimension



M-80-1 Meter Dimension



M-100-1 Meter Dimension



M-150-1 Meter Dimension

MODEL DESCRIPTION

M-50-CX-1

TYPE	NORMAL CAPACITY	MODEL ACCESSORIES	AIR CHECK VALVE	MATERIALS OF CONSTRUCTION
M	50	C	X	1
M METER	40 60GPM	A THRUP... SEE CHART OF ACCESSORY COMBINATIONS BELOW	BLANK NO AIR CHECK OR DIFFERENTIAL VALVE X EITHER AIR CHECK OR DIFFERENTIAL VALVE Y EITHER AIR CHECK OR DIFFERENTIAL VALVE PLUS TEMPERATURE VOLUME COMPENSATOR	SEE "METER MATERIALS OF CONSTRUCTION CHARTS CLASS 1 THRU 20
GLQ STRAINER	50 100GPM			
V VALVE	80 200GPM			
K CHECK VALVE	100 350GPM			
FL AIE ELIMINATOR	150 600GPM			

MODEL ACCESSORIES

	NO STRAINER NO AIR ELIMINATOR NO VALVE	STRAINER NO AIR ELIMINATOR NO VALVE	STRAINER AIR ELIMINATOR NO VALVE	NO STRAINER NO AIR ELIMINATOR VALVE	STRAINER NO AIR ELIMINATOR VALVE	STRAINER AIR ELIMINATOR VALVE
COUNTER NO PRINTER NO PRE-SET						
COUNTER PRINTER NO PRE-SET						
COUNTER PRE-SET NO PRINTER						
COUNTER PRINTER PRE-SET						
NO COUNTER NO PRINTER NO PRE-SET						

OVAL GEAR FLOW METER



DESCRIPTION

It is a kind of light volume flow meter of which the point wheel has cumulative count and zero.

APPLICATIONS

- Mining industry
- Middle and small oil depot
- Shipyard
- Oil storehouse
- Diesel fuel
- Crude oil
- Gasoline

FEATURES

- Spiral rotor rotates evenly with low vibration
- Wide measurement range and good repeatability
- High Accuracy up to $\pm 0.2\%$
- Not sensitive to the viscosity change
- Higher viscosity liquids measurement
- Easy installation, straight pipe is not necessary

TECHNICAL DATA

Diameter (mm)	Flow Range (m ³ /h)		Flow Range (m ³ /h)
	Viscosity: 3-200mPa.s		
	$\pm 0.5\%$ Accuracy	$\pm 0.2\%$ Accuracy	Viscosity: 200-2000mPa.s
8	0.03-0.3	0.06-0.3	/
10	0.1-0.6	0.15-0.6	0.04-0.2
15	0.25-1.5	0.3-1.5	0.15-1
20	0.5-3	0.6-3	0.3-1.5
25	1-6	1.2-6	0.6-3
40	2.5-15	3-15	1.5-10
50	4-24	4.8-24	2.4-15
65	6-40	8-40	4-20
80	8-50	10-50	5-26
100	16-100	20-100	10-50
150	32-190	38-190	19-100
200	54-340	68-340	34-190

MODEL SELECTION

Model	Suffix Code							Description
LC-	①	②	③	④	⑤	⑥	⑦	Oval Gear Flow Meter
Diameter	XXX							010: DN10 100: DN100 200: DN200
Converter Type	M0							Mechanical Display; No Output
	M1							Mechanical Display; Pulse Output; 24V DC
	M2							Mechanical Display; 4-20mA Output; 24V DC
	B							LCD Display; No Output; Battery
	L1							LCD Display; Pulse Output; 24V DC
	L2							LCD Display; 4-20mA Output; 24V DC
Totalizer			Y					Yes
			N					None
	Accuracy			02				$\pm 0.2\%$ of rate
Structure				05				$\pm 0.5\%$ of rate
					S			Standard Type
					T			High Temperature Type(280°C)
					V			High Viscosity Type(3000 mPa.s)
Body Material						CI		Cast Iron
						CS		Cast Steel
						S4		SS304
						S6		SS316
Connection							DXX	D16: DIN PN16 Flange; D25: DIN PN25 Flange...
							AXX	A15: ANSI 150# Flange; A30: ANSI 300# Flange...
							JXX	J10: JIS 10K Flange; J20: JIS 20K Flange...
							THR	Thread Connection (stainless steel only)

GEAR FLOW METER

SF SERIES



DESCRIPTION

Gear flow transmitter belongs to a kind of volumetric flow transmitter and can be used for measuring volume and flow precisely. The flowing medium makes the gear engage and rotate. Under the flowing effect of fluid, pressure difference is formed between the inlet and outlet of instrument. One pair of gears can rotate freely without the need of power supply. The empty cavity between gears is filled with liquid, which is discharged through rotation. The liquid flowing through instrument and liquid flow can be known through measuring the number of revolutions of gear.

APPLICATIONS

- Resin and glue
- Hydraulic oil, lubricating oil and grease
- Fuel oil
- Printing ink and asphalt
- Liquid nitrogen, refrigerant and solvent
- Edible oil, fish oil and food canning
- Fluid quantitative control system

FEATURES

- As a kind of new volumetric flow transmitter, the round gear flow transmitter is used for measuring the flow or instantaneous flow of the liquid inside pipeline precisely, either in a continuous or discontinuous manner.

TECHNICAL DATA

Model	Scope of Measurement I/H	K Coefficient P/L	Max. Pressure (Bar)		Temp.	Accuracy	Interface
			Aluminum Alloy	Stainless Steel			
SF04	0.6-50	4780	150	400	-15-80°C	+/- 0.5% (Range: 1:10) +/- 1.0% (Range: 1:100)	G1/4
SF04A	5-200	4780	150	400	-15-80°C		G1/4
SF06	10-500	2468	150	400	-15-80°C		G1/2
SF10	50-1200	1280	150	400	-15-80°C		G1/2
SF15	200-3000	126.75	150	400	-15-80°C		G3/4
SF25	1000-12000	61.1	150	400	-15-80°C		G1
SF32	2000-20000	59.9	150	400	-15-80°C		M35*1.5

TECHNICAL DRAWINGS



Fig. 1 Thread Connection



Fig. 2 Quick Hoop Connection



Fig. 3 Cutting Sleeve Connection

MODEL DESCRIPTION

Model	Suffix Code					Description
SF	①	②	③	④	⑤	Gear Flow Meter
Diameter	2					DN2
	4					DN4
	6					DN6
	10					DN10
	15					DN15
	20					DN20
	25					DN25
Sealing	F					FKP
	PP					PP
Connection Mode			1			Thread
			2			Flange
			3			Sanitary
			4			Cutting Sleeve
Signal Output				P		Impulse output
				I		4-20 mA
				RS		RS485
Texture					1	Stainless steel
					2	Aluminum alloy
					3	PP

PERFORMANCE PARAMETERS

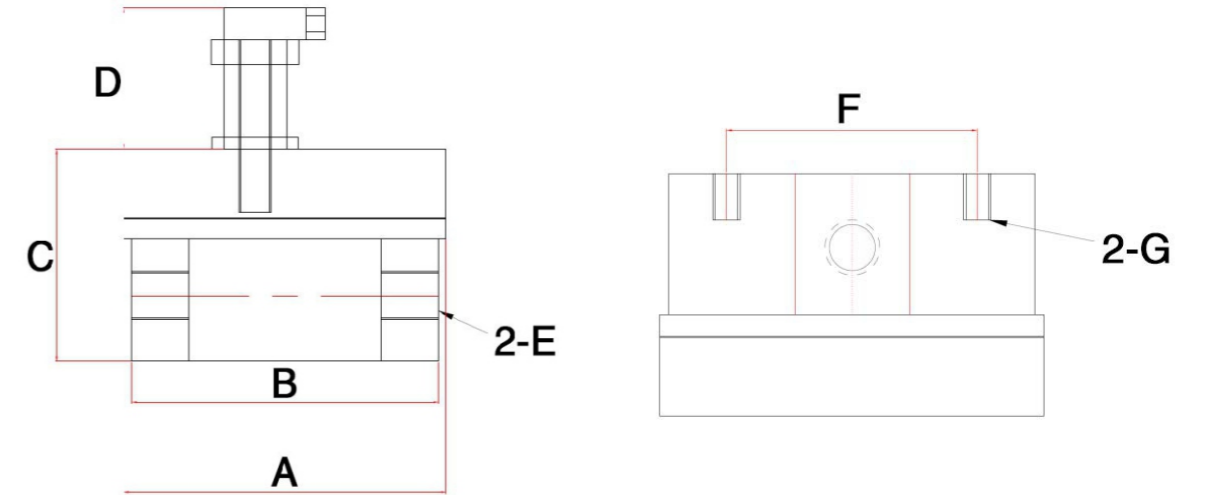


Fig. 5 Outline Drawing

		In mm						
Model	Size	A	B	C	D	E	F	G
SF02	Φ83	80	50	70	G1/4	40	M6	
SF04/04A	Φ83	80	50	70	G1/4	55	M6	
SF06	Φ83	80	62	70	G1/2	55	M6	
SF10	Φ83	80	62	70	G1/2	55	M6	
SF15	Φ113	110	86	70	G3/4	90	M6	
SF25	Φ158	140	85	70	G1	110	M8	
SF32	Φ218	160	100	70	M35*1.5	180	M8	

The sizes are above are for the standard products. We also accept customization based on the customers' site demand.

CLAMP ON TYPE FLOW METER

ST SERIES



DESCRIPTION

The ST is very unique in its structural design. It uses a circular magnetic steel to achieve automatic connection during installation. It takes only 2-3 minutes to complete the whole process from installation to measurement. It also adopts the current popular OLED display, which makes it easy to read in low light conditions.

APPLICATIONS

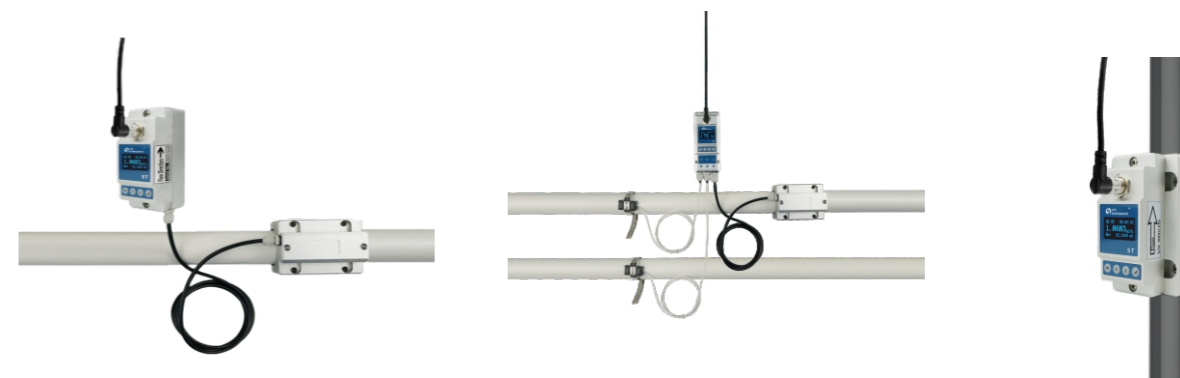
- Various acids, alcohols, chemical solvents, alcohol, beverage water, Coca-Cola water, etc.
- ST is widely used in the production process flow measurement and monitoring.

FEATURES

- With the world's most advanced time measurement chip (time resolution of SOps), Has developed a new generation of stable ST series "Easy Test™" flow meters
- The flow meter is stuck on the outside of the tube, no additional pipe changes are required
- No expertise required, installation and measurement can be done according to the operating instructions
- No moving parts, no pressure loss, can be installed without stopping production

TECHNICAL DATA

Model	ST
Flow Range	0.1 m/s~5.0 m/s
Accuracy	±2.0%
Repeatability	0.8%
Pipe Size	φ6.35 ~ φ90
Data Storage	Daily, monthly, and Annual. Flow Totalizer
Analog Output	4~20mA, Maximum load: 600Ω
Alarm Output	OCT, Upper and lower limit alarm function (optional)
Communication	RS485, support Mod bus communication protocol
Power Supply	24 VDC
Cable Length	2.0m
Keypad	Four light touch buttons
Screen	OLED 128*64 display screen
Units	Metric and imperial units are available, Cubic Meters(m ³), Liters(L), USA Gallons(GAL)/hour, /min, Default unit setting: m ³ /h
Totalizer	Six bit digit
Piper Material	Stainless steel pipe, carbon steel pipe, copper pipe, plastic pipe
Case Material	Aluminum alloy
Environment Temp.	0°C~50°C(32° F~122° F)
Medium Temp.	0°C~50°C(32° F~122° F)
Environment Humidity	0-95% relative humidity, without condensation
IP Grade	IP54

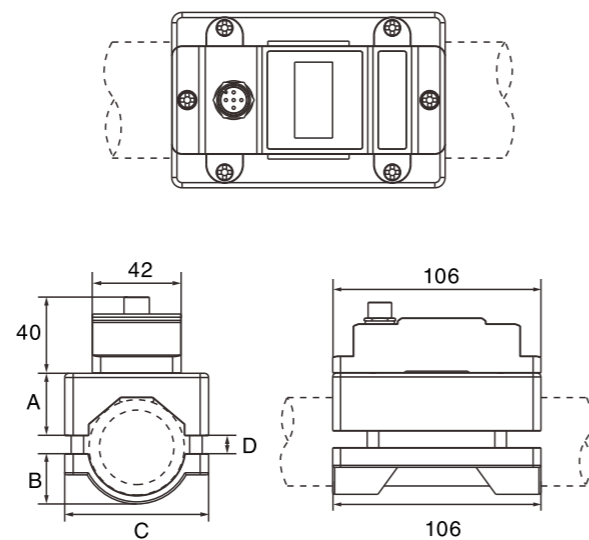


PIPING SPECIFICATION(COMPACT TYPE)

Model	ST-φ 6.35	ST-φ 9.53	ST-φ 12.7	ST-φ 15	ST-φ 20	ST-φ 25
OD	6.35mm	9.53mm	12.7mm	15mm	20mm	25mm
DN	-	DN8	-	DN10	DN15	DN20
NB	-	1/4"	-	3/8"	1/2"	3/4"
Min pipe	-	9.5mm	12mm	14.5mm	16.5mm	25mm
Max pipe	-	10.4mm	13.1mm	15.4mm	23mm	28mm
Model	ST-φ 32	ST-φ 40	ST-φ 50	ST-φ 63	ST-φ 75	ST-φ 90
OD	32mm	40mm	50mm	63mm	75mm	90mm
DN	DN25	DN32	DN40	DN50	DN65	DN80
NB	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Min Pipe	32mm	38mm	48mm	58mm	72mm	80mm
Max Pipe	35mm	45mm	54mm	64mm	78mm	92mm

TECHNICAL DRAWINGS(COMPACT TYPE)

Model	A(mm)	B(mm)	C(mm)	D(mm)	
				Min	Max
ST-φ 6.35	-	-	-	-	-
ST-φ 9.53	-	25.5	42	0/φ 9.53	1/φ 10.4
ST-φ 12.7	-	26.8	42	0/φ 12	1/φ 13.1
ST-φ 15	-	29	42	0/φ 14.5	1/φ 15.4
ST-φ 20	25	10	58	1/φ 16.5	7.5/φ 23
ST-φ 25	25	15	58	1/φ 25	4/φ 28
ST-φ 32	28.5	18.5	58	1/φ 32	4/φ 35
ST-φ 40	29.5	24	68	1/φ 38	9/φ 45
ST-φ 50	36	27	78	1/φ 48	7/φ 54
ST-φ 63	41	32	91	1.5/φ 58	8.5/φ 64
ST-φ 75	46.5	40	105	1/φ 72	7/φ 78
ST-φ 90	51.5	43	119	1/φ 80	13/φ 92

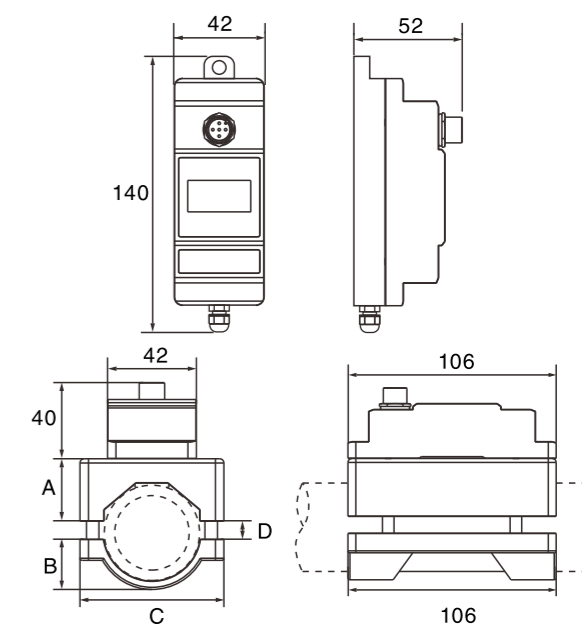


PIPING SPECIFICATION(REMOTE TYPE)

Model	ST-φ 6.35	ST-φ 9.53	ST-φ 12.7	ST-φ 15	ST-φ 20	ST-φ 25
OD	φ 6.35	φ 9.53	φ 12.7	φ 15	φ 20	φ 25
ID	4mm	8mm	-	10mm	15mm	20mm
DN	-	DN8	-	DN10	DN15	DN20
NB	-	1/4"	-	3/8"	1/2"	3/4"
Model	ST-φ 32	ST-φ 40	ST-φ 50	ST-φ 63	ST-φ 75	ST-φ 90
OD	φ 32	φ 40	φ 50	φ 63	φ 75	φ 90
ID	25mm	32mm	40mm	50mm	65mm	80mm
DN	DN25	DN32	DN40	DN50	DN65	DN80
NB	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"

TECHNICAL DRAWINGS(REMOTE TYPE)

Model	A(mm)	B(mm)	C(mm)	D(mm)	
				Min	Max
ST-φ 6.35	-	-	-	-	-
ST-φ 9.53	25	10	58	1.5/φ 9.53	6/φ 14.03
ST-φ 12.7	25	10	58	1/φ 12.7	6/φ 17.7
ST-φ 15	25	10	58	1/φ 12.7	6/φ 17.7
ST-φ 20	25	10	58	1/φ 16.5	7.5/φ 23
ST-φ 25	25	15	58	1/φ 25	4/φ 28
ST-φ 32	28.5	18.5	58	1/φ 32	4/φ 35
ST-φ 40	29.5	24	68	1/φ 38	9/φ 45
ST-φ 50	36	27	78	1/φ 48	7/φ 54
ST-φ 63	41	32	91	1.5/φ 58	8.5/φ 64
ST-φ 75	46.5	40	105	1/φ 72	7/φ 78
ST-φ 90	51.5	43	119	1/φ 80	13/φ 92



ULTRASONIC FLOW METER

DS116 SERIES



DESCRIPTION

Wall-mounted ultrasonic flow meter is a state-of-the-art universal transit-time flow meter designed using FPGA chip and low-voltage broadband pulse transmission.

APPLICATIONS

- Ultra-pure liquids
- Potable water
- Chemicals
- Raw sewage
- Reclaimed water
- Cooling water
- River water
- Plant effluent





FEATURES

- The transmitter's protection IP65, and the sensor's protection IP68
- Positive and negative flow measurement, cumulative flow
- 50000 hours test without trouble
- Traffic statistics by period
- Keyboard key life is more than 200,000 times
- RS485 communication interface, 4-20mA current signal, pulse output, MODBUS protocol

TECHNICAL DATA

Flow Range	±0.03ft/s- ±20ft/s (±0.01 m/s- ±6 m/s)
Accuracy	±1% of measured value
Pipe Size	Clamp-on: (25mm- 1200mm)
Pipe material	Carbon steel, stainless steel, PVC
Output	OCT Pulse output: 0- 5000Hz. Analog output: 4- 20mA, max load 750Ω
Communication Interface	RS485; Modbus
Power Supply	10-36V DC/ 1A
Keypad	16(4×4)key with tactile action
Display	20×2 lattice alphanumeric, back lit LCD
Temperature	Transmitter: 14°F...122°F (+10°C...+50°C) Transducer: 32°F...176°F (-10°C...+80°C)
Humidity	Up to 99% RH, non- condensing
Protection	Transmitter: PC/ ABS, IP65
	Transducer: Encapsulated design, IP68
Transducer cable	Standard cable length:30ft(9m)
Weight	Transmitter: approximately 0.7kg Transducer: approximately 0.4kg (One set weight is 7kg after package)

CONFIGURATION

Transmitter	PC/ABS, IP65		
Transducer	Encapsulated design, IP68		
Transducer Cable	Standard cable length: 30ft(9m)		
Weight	Transmitter: approximately 0.7 kg; Transducer: approximately 0.4kg		
			
Transmitter	Transducer	Pipe Strips	Coupling Compound

ULTRASONIC FLOW METER

PS116 SERIES



DESCRIPTION

Hand-held ultrasonic flow meter is a state-of-the-art universal transit-time flow meter designed using FPGA chip and low-voltage broadband pulse transmission.

APPLICATIONS

- Ultra-pure liquids
- Potable water
- Chemicals
- Raw sewage
- Reclaimed water
- Cooling water
- River water
- Plant effluent

FEATURES

- The design is compact, lightweight, and easy to carry
- Calculate positive and negative flow and cumulative measurement
- Add SD card data automatic storage function, data will never be lost again
- Rechargeable battery and universal power supply design
- Advanced modular integrated design, independent menu operation, large-screen LCD backlight 4 lines display
- Particularly suitable for on-site flow detection for various pressure requirements
- Transmitter protection level: IP54
- Sensor protection level: IP68

TECHNICAL DATA

Flow Range	±0.03ft/s - ±20ft/s (±0.01 m/s - ±6 m/s; 12m/s optional)
Accuracy	±1% of measured value
Pipe Size	Clamp- on: (25mm - 1200mm)
Pipe Material	Carbon steel, stainless steel, PVC
Output	Analog output; 4- 20mA, max load 750Ω
SD Card	Storage: 1 GB
	Max: 512 files
	Interval: 5- 60 seconds
Power Supply	11.1V rechargeable Lithium Battery Power
Keypad	Tactile Keys
Display	3.5 inch TFTblack and whitescreen (320× 240) backlit LCD
Temperature	Transmitter: -10 °C...+50 °C
	Transducer: 0 °C...+80 °C
Humidity	Up to 99% RH, non- condensing
Protection	NEMA 13, IP54
	Encapsulated design, IP68
Weight	Transmitter: approximately 1.0 kg One set weight is 10kg after package



ULTRASONIC LEVEL METER



DESCRIPTION

Ultrasonic level flow meter is engineered to measure the depth of liquid.

APPLICATIONS

- Chemical
- Metallurgical
- Electricity
- Oil
- Water treatment

FEATURES

- Smart sensors, RS485 communication
- Using special anti-corrosion material
- Blank and threshold voltage can be adjusted
- Built-in automatic temperature compensation
- The advanced echo analysis algorithm enables the sensor to adapt to various applications.

TECHNICAL DATA

Maximum Measurable Distance (Depending on the model)	(1)05m; (2)10m; (3)15m; (4)20m; (5)25m; (6)30m; (7)40m; (8)50m; (9)60m
Accuracy	±0.5% of Rate
Resolution	1mm
Frequency	40 KHz
Signal Output	4-20mA
Communication	RS485(Optional)
Power Supply	220V AC / 24V DC
Case Material	PA6/ABS
Blind Area	0.2-0.9m
Maximum Load	750Ω
Ambient Temperature	-20°C...+55°C
Protection	Transmitter: IP 65
	Probe: IP 68

MODEL SELECTION

Model	Suffix Code							Description
ULM-	①	②	③	④	⑤	⑥	⑦	Ultrasonic Level Meter
Distance	XX							05: 5m 10: 10m 15: 15m 60: 60m
Power Supply		AC DC						220V AC 4 wires only 24V DC 4 wires as default; 2 wires is optional
Structure			S L					Compact Type with local display, max 2 relay output Remote Type: 10m cable default; 4 wires only, max 4 relay output
Communication				1 2				None RS485, under 4 wires connection
Relay Output					1 2 3			None One Relay Output Two Relay Output
Probe Material						AB PV PT		ABS as default PVDF PTFE
Explosion Proof							CT NA	Ex d IIC T6 Gb No Explosion Proof

GAS TURBINE FLOW METER



DESCRIPTION

The gas turbine flow meters are specially designed for use in natural gas, and other fluid measurement. And the volume and mass flow rate are available.

APPLICATIONS

- Natural gas transmission and distribution network
- Petrochemical industry
- Urban gas industry
- Electric power industry
- Gas skids
- LNG gas station

FEATURES

- Temperature & pressure compensation
- Digital absolute pressure transmitter
- Segment LCD, displays normally at -30°C
- Integrated movement
- Communication: Modbus RS485
- Simultaneous display flow rate, total flow volume, pressure and temperature

TECHNICAL DATA

Model	D2; D4; E	D5
Ambient Temp.	-20°C ~ +60°C	
Fluid Temp.	-30°C ~ +80°C	
Accuracy	±1.0% of Rate; ±1.5% of Rate	
Humidity	5%~90%	
Pressure	86~106Kpa	
Power Supply	DC24V / DC3.6V Battery	
Power Consumption	<2.4W / <2mW	
Protection	IP65	
Explosion Proof	ExialICT4 Ga	
Out	Pulse; 4-20mA	
Rotor Material	Aluminum Alloy; Plastic ABS	
Diameter	DN50~DN150	DN50~DN200
Fluid Temp.	-20°C ~ +80°C	-30°C ~ +80°C
Body Material	SS304; SS316; Cast Steel (DN50-DN200)	Cast Aluminum



D2-Compensation



D4-Compensation

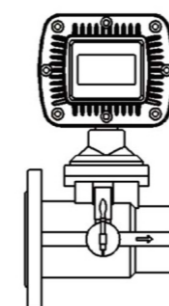


D5-Compensation

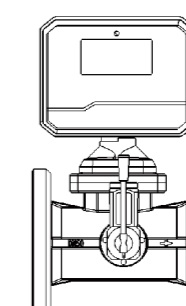
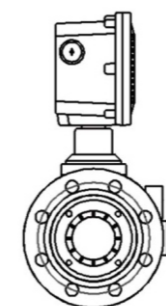


E-Non-Compensation

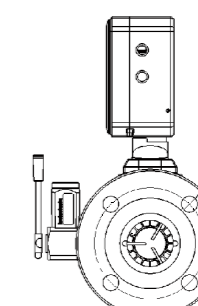
TECHNICAL DRAWINGS



D4-Compensation



D5-Compensation



MODEL SELECTION

Model	Suffix Code								Description	
LWQ-	1	2	3	4	4	5	6	7	8	Gas Turbine Flow Meter
Diameter	XXX									Stand for diameter 020: DN20; 050: DN50 100: DN100; 400: DN400
Converter Type	E1									Battery power supply; No output; Ex; Digital display
	E2									24V DC; 2- wire 4-20mA/ Pulse output; Ex; Digital display
	E4									24V DC; 0-20mA/ Pulse output; Local display; Ex; Digital display
	D2									24V DC; 2/ 3 wires 4-20mA/ Pulse output; Digital display; Temperature & Pressure Compensation; RS 485
	D4									24V DC; 4-20mA/ Pulse output; Modbus RS485; Digital display Temperature & Pressure Compensation
	Notice:									1) Modbus RS485 is optional for E2, E4, D4, D2 2) Battery Power(24V DC + Battery) is optional for E2, E4, D2, D4 3) D4 converter only configures with cast structure 304 body sensor
Accuracy			10							±1.0% of rate
			15							±1.5% of rate
Flow Range				S						Standard Range: S;S1; S2 optional
Body Material					S4					SS304
					S6					SS316
					CS					Cast structure 304 for D4 only
Rotor Material							AA			Aluminum Alloy
Explosion Proof								BT		Exd II BT6 Gb
								NA		None
Connection									THM	Male Thread; Available from DN25...DN50
									THF	Female Thread; Available from DN25...DN50
									DXX	DN16: DIN PN16 Flange; D25: DIN PN25 Flange...
									AXX	A15: ANSI 150# Flange; A30: ANSI 300# Flange...
									JXX	J10: JIS 10K Flange; J20: JIS 20K Flange...

FLOW RANGE

Diameter (mm/inch)	Code	Flow Range (m³/h)	Max Pressure loss (kPa)	Connection
25(1")	S	4-40	1.5	Flange/ Thread
40(1.5")	S	6-65	1.5	
50(2")	S	7-70	0.5	
	S1	10-100	1.0	
65(2.5")	S2	16-160	1.0	Flange
	S	15-200	1.0	
80(3")	S1	13-250	1.0	
	S	20-400	2.5	
100(4")	S1	20-400	1.5	
	S	32-650	1.0	
125(5")	S	40-800	1.3	
	S	50-1000	1.0	
150(6")	S1	80-1600	2.0	
	S	80-1600	0.5	
200(8")	S1	130-2500	1.0	
	S	130-2500	0.5	
250(10")	S1	200-4000	1.5	
	S	200-4000	1.0	
300(12")	S	320-6500	1.0	
350(14")	S	400-8000	1.5	
400(16")	S	650-13000	2.0	

Note: 1. The maximum pressure loss is the pressure loss value when the flowmeter is working at the maximum flow point, the medium is air, and the normal temperature state.

GAS ROOTS FLOW METER

SIL

PCEC



DESCRIPTION

Gas roots flow meter is a positive displacement, rotary type gas meter designed for continuously measuring and indicating the accurate measurement of gas in a pipeline.

APPLICATIONS

- Gas pressure regulation station
- Civil boiler
- Propane
- Nitrogen
- Any non-corrosive gas medium

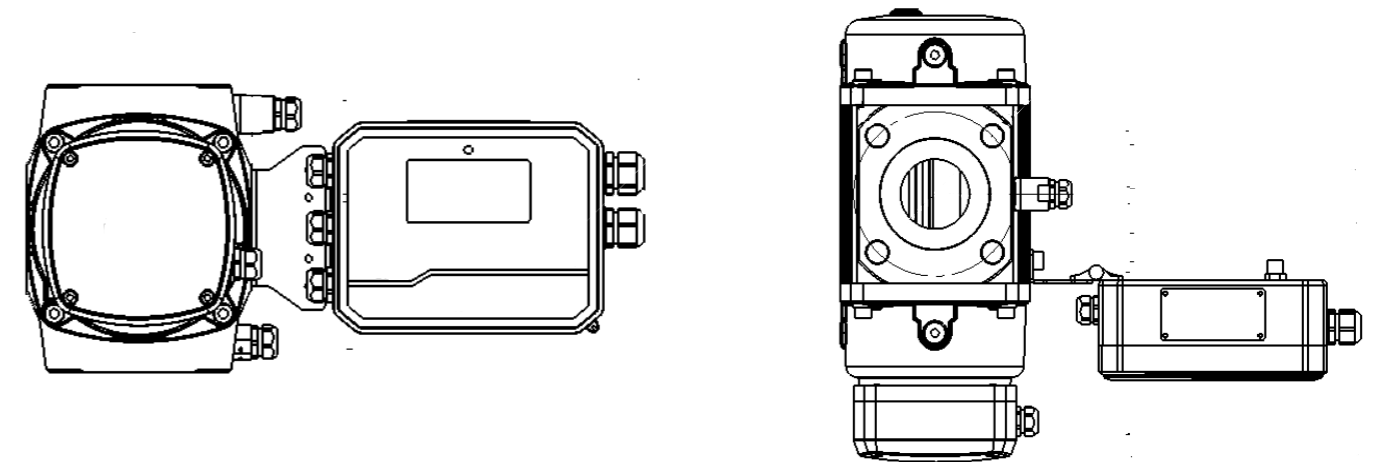
FEATURES

- Using advanced microcomputer technology and high-performance integrated chips
- Powerful in function and superior in performance
- Circuit adopt surface installation process, strong anti-interference capability
- Anti-dismantle and compact in structure design, anti-dismantle
- Adopt advanced micro power technology, low energy consumption, dual power available
- Running for more than five years with built-in battery
- Real-time data storage function
- With fault self-diagnosis and alarm function

TECHNICAL DATA

Diameter	DN25: Thread DN40~DN100: Flange
Accuracy	± 1.5%R (± 1%R Please contact supplier)
Material	Body: Cast aluminum Rotor: Aluminum alloy Converter: Cast aluminum
Medium Temp.	-20°C~+80°C
Ambient Temp.	-20°C~+60°C
Humidity	5%~90%
Pressure	86~106Kpa
Power Supply	A: External DC 24V, ±15%, 4-20mA, pulse, RS485 B: Internal 3.6 V DC lithium battery
Power Consumption	External: < 2.4W Internal: < 2mW
Output	Pulse; 4-20mA; IC card; alarm
Communication	RS485
Storage	Month; day; hour;
Explosion Proof	ExiallCT4 Ga
Protection	IP65

TECHNICAL DRAWINGS



MODEL SELECTION

Model	Suffix Code						Description
LLQ-	①	②	③	④	⑤	⑥	Gas Roots Flow Meter
Diameter	XXX						025: DN25 100: DN100 200: DN200
Flow Range	Q-XX						Refer to table
Converter Type	N						Basic Meter: Mechanical display without output
	C						Digital display; Temperature and pressure compensation; Pulse; 4-20mA; Modbus RS485; Control signal for IC card
	D						Digital Display; Automatic Temperature and pressure compensation Standard output: 4-20mA/ Pulse / Control signal for IC card Optional: Modbus RS485
Accuracy			10				±1.0% of rate
			15				±1.5% of rate
Pressure Rate				WP1			1.0 Mpa
				WP2			1.6 Mpa
Connection					DXX		D10: DIN PN 10 Flange as default D16: DIN PN16 Flange optional

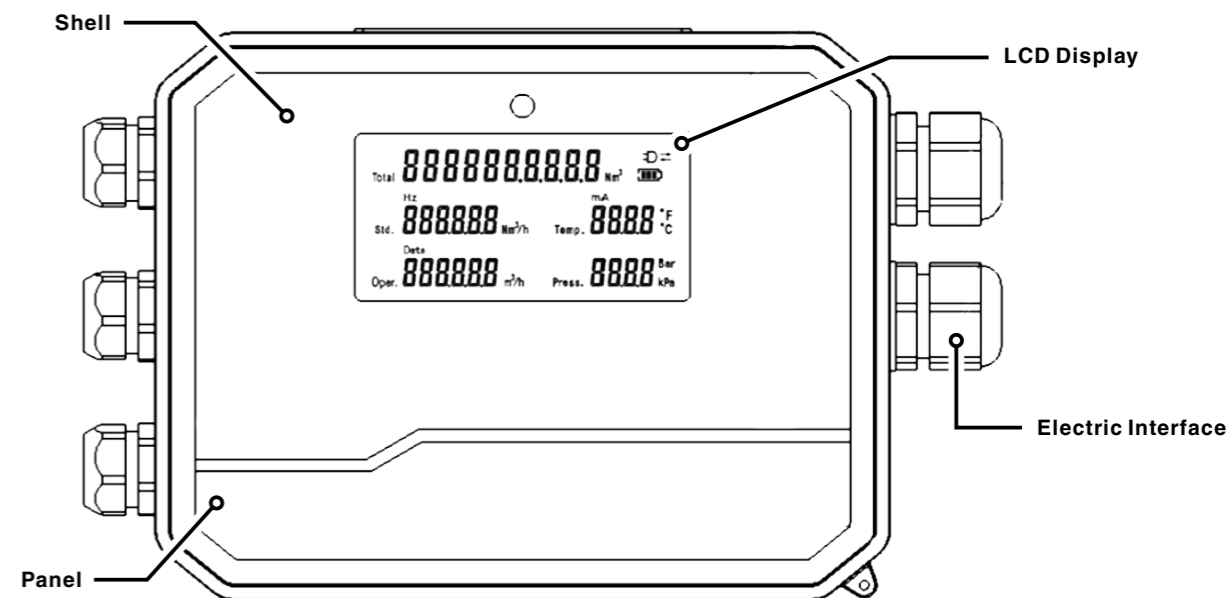
FLOW RANGE

Nominal Diameter	LLQ Size	Qmax (m³/h)	Qmin (m³/h)	Pressure (Mpa)	Pressure Loss (pa)	Connection	Accuracy	Flow Ratio	Material
DN25	LLQ-16	16	0.26	1.6	300	Flange/Thread	±1.5%	60:1	Aluminum Alloy
	LLQ-25	25	0.42	1.6	300	Flange/Thread	±1.5%	60:1	
DN40	LLQ-40	40	0.4	1.6	110	Flange	±1.5%	100:1	
	LLQ-65	65	0.65	1.6	100	Flange	±1.5%	100:1	
DN50	LLQ-65	65	0.65	1.6	100	Flange	±1.5%	100:1	
	LLQ-110	110	0.92	1.6	145	Flange	±1.5%	120:1	
DN80	LLQ-240	240	3	1.6	320	Flange	±1.5%	80:1	
DN100	LLQ-240	240	3	1.6	350	Flange	±1.5%	80:1	
	LLQ-450	450	3.75	1.6	545	Flange	±1.5%	120:1	

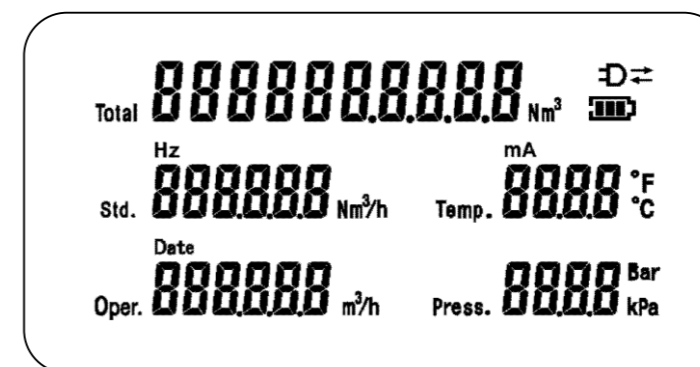
Note: ±1% of Accuracy can be made as customization, inquiry it please .

STRUCTURE

Converter Structure



Interface Display Diagram



Symbol	Description
	Power Display
	Displayed when connected to 24V external power supply or loop power supply
	1. RS485 communication symbol, ← for sending display, → for receiving display 2. Enter the correct password and prompt the logo

VORTEX FLOW METER

SIL

PCEC

HART
COMMUNICATION PROTOCOL

Ex

CE



DESCRIPTION

The vortex flow meter is engineered for metering, measurement and control of most steam, gas and liquid flow for a very unique medium versatility, high stability and high reliability with no moving parts, simple structure and low failure rate.

APPLICATIONS

- Boiler industry(Steam measurement)
- Compressed air industry
- Textile industry
- Paper Industry
- Heating industry
- Metallurgical industry plastics processing

FEATURES

- No moving parts inside, easy installation and maintenance
- Digital filter amplifier with wider measurement range and better anti-interference performance
- Wide flow ratio up to 33 : 1
- High Accuracy up to $\pm 0.2\%$ optionally
- Max temperature up to $+420^\circ\text{C}$
- Inline and Insertion type for option
- Integrated and remote transmitter for option
- Power-off record function
- CE and calibration certificate
- The remote type supports pressure and temperature compensation

TECHNICAL DATA

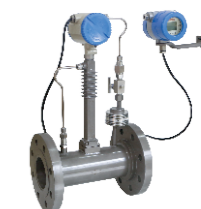
Diameter	DN15- DN700 (DB Type)			
	DN10- DN 500 (DA Type)			
	DN200- DN2000 (Insertion Type)			
Accuracy	Liquid: $\pm 1.0\%$ of rate		Gas and steam: $\pm 1.5\%$ of rate ($\pm 1.0\%$ of rate is only for DA Type optional)	
Body Material	SS304		SS316	
Process Temp.	T1: $-20^\circ\text{C}\dots+100^\circ\text{C}$	T2: $-20^\circ\text{C}\dots+250^\circ\text{C}$	T3: $-20^\circ\text{C}\dots+300^\circ\text{C}$	T4: $-20^\circ\text{C}\dots+420^\circ\text{C}$
Ambient Temp.	$-10\dots+50^\circ\text{C}$			
Connection	Flange; wafer; thread; tri-clamp			
Protection	IP65; IP68			
Power supply	24 V DC and battery for option			
Communication	RS485; HART			
Output	4-20mA; Pulse			



DA- Compact Type

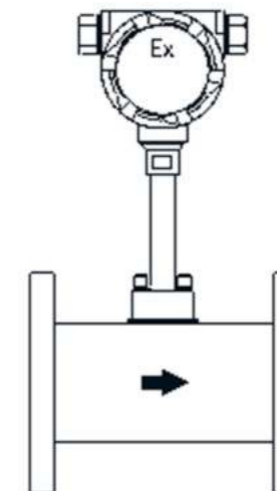
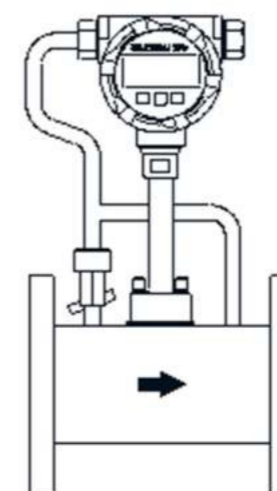


DB- Compact Type



DA- Remote Type

TECHNICAL DRAWINGS



MODEL SELECTION

Model	Suffix Code								Description
LUGB-	①	②	③	④	⑤	⑥	⑦	⑧	Vortex Flow Meter
Fluid	L								Liquid
	G								Gas / Air
	S								Steam
Diameter	XXX								Stand for diameter 015: DN15; 050: DN50 100: DN100; 300: DN300
Structure	S								Compact type
	L								Remote type
Converter Type	C								Fluid: liquid; 24V DC; 4-20mA / Pulse output; Digital display; Ex
	V								24V DC; 4-20mA / Pulse output (V type is only for Gas/ Steam application) No compensation
	DB								24V DC; 4-20mA output/ Pulse; Temperature & Pressure Compensation; 3 wires for option
	DA								24V DC; 4-20mA output/ pulse; Temperature & Pressure Compensation; Digital display; $\pm 1.0\%$ accuracy; max 420°C ; Ex;3 wires for option
	Notice:								Dual power (24V DC+Battery) is optional for C, V , D series
Body Material				S4					SS304
				S6					SS316
Explosion Proof				BT					ExdIIBT6
				CT					Exiall CT1- CT6
				NA					No explosion proof
Connection				WAF					Wafer connection
				DXX					D16: DIN PN16 Flange; D25: DIN PN25 Flange...
				AXX					A15: ANSI 150# Flange; A30: ANSI 300 # Flange...
				JXX					J10: JIS 10K Flange; J20: JIS 20K Flange...
				XXX					Insertion; Thread; Tri- clamp
Temperature				T1					-20...+100°C
				T2					-20...+250°C
				T3					-20...+300°C
				T4					-20°C...+420 °C (only for DA type)

FLOW RANGE

Density (kg/m ³)	Liquid Measurement										Qmax (Unit:m ³ /h)
	500	600	700	800	900	1000	1200	1400	1600	1800	
Diameter	Different density fluid, the mini flow rate Qmin(Unit:m ³ /h)										(Unit:m ³ /h)
DN15	0.66	0.55	0.52	0.41	0.4	0.39	0.33	0.31	0.29	0.26	4.5
DN20	1.27	1.1	1.08	0.99	0.88	0.66	0.64	0.62	0.59	0.57	8
DN25	1.43	1.32	1.21	1.16	1.1	0.99	0.9	0.84	0.78	0.75	12
DN32	2.09	1.98	1.87	1.78	1.72	1.65	1.6	1.49	1.32	1.1	20
DN40	3.85	3.52	3.3	3.08	2.86	2.51	2.42	2.31	2.2	2.09	32
DN50	5.17	4.73	4.29	4.07	3.96	3.85	3.3	3.08	2.86	2.75	50
DN65	7.81	7.15	6.93	6.82	6.71	6.6	5.5	4.95	4.62	4.4	84
DN80	12.1	11	10.56	10.12	10.01	9.9	8.8	8.36	7.7	6.6	127
DN100	22	19.8	18.7	17.6	16.5	15.4	14.3	13.2	11	9.9	198
DN125	30.8	28.6	27.5	26.4	25.3	24.2	23.1	22	19.8	15.4	310
DN150	57.2	55	49.5	46.2	39.6	35.2	33	30.8	28.6	22	445
DN200	108.9	96.8	85.8	77	68.2	62.7	58.3	55	47.3	38.5	791
DN250	202.4	181.5	165	143	121	97.9	88	79.2	74.8	60.5	1237
DN300	275	242	220	198	176	140.8	132	121	107.8	84.7	1780

FLOW RANGE

Gas/ Air Measurement													
Density (kg/m ³)	0.5	0.8	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	12	20	Qmax
Diameter	Different density fluid, the mini flow rate Qmin (Unit:m ³ /h)												Unit: (m ³ /h)
DN15	5.28	3.85	3.52	3.08	2.97	2.86	2.75	2.64	2.53	2.42	2.31	2.2	38
DN20	9.02	7.26	5.5	5.28	5.17	4.95	4.73	4.4	4.29	4.18	4.07	3.3	67
DN25	11	9.9	8.69	8.36	7.92	7.59	7.26	6.82	6.49	5.94	5.5	4.95	100
DN32	28.6	19.8	15.4	14.52	14.08	13.42	13.2	12.87	12.32	11.99	11.11	9.9	170
DN40	41.8	27.5	22	20.9	19.8	18.7	17.6	16.5	15.4	14.3	13.2	11	300
DN50	52.8	44	34.1	31.9	30.8	28.6	25.3	24.2	23.1	22	19.8	13.2	500
DN65	88	72.6	58.3	49.5	48.4	46.2	44	41.8	38.5	33	28.6	19.8	780
DN80	143	110	88	83.6	77	72.6	68.2	63.8	55	50.6	41.8	30.8	1200
DN100	198	176	132	121	110	99	88	77	68.2	61.6	52.8	38.5	2000
DN125	308	275	209	187	171.6	159.5	148.5	132	110	99	83.6	60.5	2900
DN150	418	341	308	286	264	242	220	198	176	154	121	93.5	4100
DN200	880	660	550	528	473	440	418	396	363	330	297	220	7500
DN250	1100	968	869	803	748	682	649	572	528	462	440	330	12500
DN300	1430	1309	1254	1166	1078	990	902	836	770	682	638	440	16500

FLOW RANGE

Saturated Steam Measurement													
Mpa	0.1	0.2	0.3	0.4	0.5	0.6	0.8	0.9	1	1.2	1.6	2	Unit
°C	120	134	144	152	159	165	175	180	184	192	204	215	
Kg/m ³	1.12	1.67	2.19	2.68	3.18	3.67	4.62	5.16	5.63	6.67	8.52	10.57	
Diameter (mm)	Different steam density corresponding with flow range												kg/h
15	Qmin	3.85	5.67	7.41	9.12	11	12.54	15.95	17.93	19.36	22.55	29.37	
	Qmax	35	51.5	67.4	83	100	115	146	163	176	205	268	329
20	Qmin	6.84	10.07	13.09	16.17	19.58	22.44	28.49	32.01	34.43	40.04	52.25	64.35
	Qmax	62.2	91.6	120	147	178	204	259	291	313	365	476	586
25	Qmin	10.68	15.73	20.46	25.3	30.69	34.98	44.55	49.94	53.79	62.59	81.73	100.54
	Qmax	97.1	143	187	230	279	318	405	454	489	569	743	914
32	Qmin	17.49	25.63	33.66	41.47	50.27	57.42	72.93	81.95	88.11	102.63	133.1	163.9
	Qmax	159	234	306	378	457	522	664	745	802	933	1218	1499
40	Qmin	25.3	36.3	47.3	58.3	70.4	80.3	102.3	110	121	143	187	231
	Qmax	300	440	575	710	860	980	1250	1400	1500	1750	2280	2810
50	Qmin	38.5	38.5	57.2	69.3	83.6	96.8	122.1	137.5	143	165	220	275
	Qmax	550	460	680	845	1020	1170	1480	1670	1800	2100	2730	3360
65	Qmin	64.9	95.7	125.4	150.7	182.6	209	264	303.6	326.7	379.5	495	605
	Qmax	790	1160	1520	1835	2222	2540	3230	3620	3970	4620	6030	7422
80	Qmin	98.45	144.1	189.2	233.2	282.7	319	407	451	495	572	748	924
	Qmax	1195	1760	2300	2800	3400	3900	4900	5580	6000	6999	9100	11000
100	Qmin	0.15	0.22	0.3	0.36	0.44	0.51	0.64	0.72	0.77	0.9	1.1	1.43
	Qmax	1.87	2.75	3.6	4.43	5.36	6.12	7.78	8.73	9.4	11	14.3	17.6
125	Qmin	0.24	0.35	0.46	0.56	0.68	0.78	1	1.1	1.21	1.41	1.84	2.2
	Qmax	2.91	4.29	5.62	6.91	8.37	9.56	12	13.6	14.7	17	22.3	27.4
150	Qmin	0.35	0.51	0.66	0.81	0.99	1.13	1.44	1.62	1.74	2.02	2.64	3.26
	Qmax	4.2	6.18	8.09	9.96	12	13.8	17.5	19.6	21.1	24.6	32.1	39.5
200	Qmin	0.62	0.9	1.19	1.45	1.76	2.01	2.56	2.87	3.09	3.61	4.71	5.8
	Qmax	7.5	11	14.4	17.7	21.4	24.5	31.1	35	37.6	43.7	57.1	70.3
250	Qmin	0.96	1.41	1.85	2.2	2.76	3.16	4	4.5	4.84	5.61	7.36	3.02
	Qmax	11.6	17	22	27.6	33	38	48	54	58.7	68	89	110
300	Qmin	1.38	2.04	2.66	3.28	3.97	4.54	5.78	6.48	6.97	8.12	10.56	12.98
	Qmax	16.7	24.7	32	39	48	55	70	78	84	98	128	158

SWIRL FLOW METER

SIL



DESCRIPTION

The swirl flow meter has a combined function of flow capacity, temperature, pressure measuring.

APPLICATIONS

- Natural gas measurement
- Mashgas measurement
- Oil and gas plant
- Biochemical pool

FEATURES

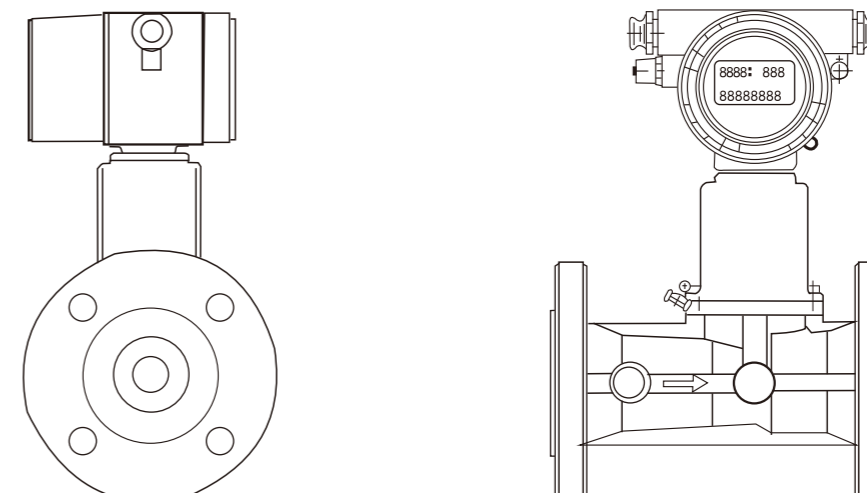
- No mechanical moving parts with longer life-time
- Requires no special maintenance even after long-time operation
- Dual detect technique to effectively increase detecting signal intensity and reduce obstruction caused by pipeline vibration
- Vibration-proof techniques to effectively suppress vibration and undesired signal caused by pressure oscillation
- Gauge head of the flow meter can rotate by 360 degree
- Low flow starting point
- Oxygen and compressed air measurement

TECHNICAL DATA

Accuracy	±1.5% of rate; ±1.0% of rate
Ambient Temp.	- 30...+65°C
Fluid Temp.	- 20...+80°C
Power Supply	24V DC±15%; 3.6V Lithium Battery
Power Consumption	External: <2W
Relative Humidity	5%- 95%
Output	4-20mA; Pulse; RS485
Connection	Flange; thread
Protection	IP65



TECHNICAL DRAWINGS



MODEL SELECTION

Model	Suffix Code							Description
LUX-	①	②	③	④	⑤	⑥	⑦	Swirl Flow Meter
Fluid	G							Gas / Air
Diameter	XXX							Stand for diameter 020: DN20; 050: DN50 100: DN100; 300: DN300
Structure		S						Compact type
Converter Type			B					Battery power supply; No output; Ex; Digital display Temperature & Pressure Compensation
			U					24V DC; 2/3 wires 4-20mA output; RS485; Digital display Temperature & Pressure Compensation
			H					24V DC; 3-wire 4-20mA output; Hart; Digital display Temperature & Pressure Compensation
Body Material				S4				SS304
				S6				SS316
				CA				Cast Aluminum
Explosion Proof						BT		ExdIIBT6
						NA		No explosion proof
Connection							DXX	D16: DIN PN16 Flange; D25: DIN PN25 Flange...
							AXX	A15: ANSI 150# Flange; A30: ANSI 300# Flange...
							JXX	J10: JIS 10K Flange; J20: JIS 20K Flange...
							THR	Thread connection ≤ DN50

FLOW RANGE

Diameter (mm)	Flow Range (m ³ /h)
15	0.3-9
20	1.2-15
25	2.5-30
32	4.5-60
40	6-100
50	10-150
65	20-280
80	28-400
100	50-800
125	100-1500
150	150-2250
200	360-3600
250	400-4000
300	500-5000

VARIABLE AREA FLOW METER



DESCRIPTION

The most common design of variable area meter is the cone-and-float type, which is also known as a rotameter.

APPLICATIONS

- Gas supply equipment
- Electric power
- Petroleum
- Chemical
- Metallurgy
- Pharmaceutical industry

FEATURES

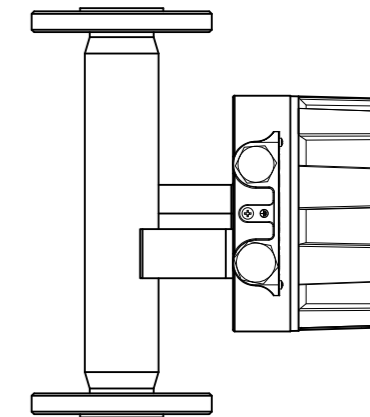
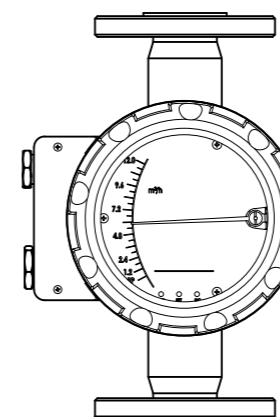
- Mechanical display and LCD display
- The short-stroke design allows the measurement of high flow rate using a relative short metering tube
- Special application is for hazardous or aggressive fluid, for high temperature and high pressure rates
- All stainless steel design provides a safe measurement of a variety of liquids, gases and steam. The measuring section can be equipped with a heating jacket
- Support vertical installation

TECHNICAL DATA

Measuring Range	0.03m ³ /h- 3000m ³ /h
Accuracy	Liquid: 1.5%; Gas: 2.5%
Pressure Rating	DN15- DN50< 4.0 Mpa; DN 80- DN 200< 1.6 Mpa (common) DN15- DN 50< 32 Mpa; DN 80 - DN 200< 16 Mpa (special)
Pressure Loss	7kpa - 70kPa
Medium Temp.	SS304: -40°C...+100°C; PTFE:0°C...+100°C; High temp.: +110°C...+450°C
Viscosity	DN15: <5mPa.s; <30mPa.s DN25: <250mPa.s DN50- DN150: <300mPa.s
Ambient Temp.	Pointer type: -40°C...+100°C Remote Type: -40°C...+85°C (liquid crystal is not damage); -30°C...+80°C (liquid crystal is able to operate)
Electrical Interface	Cable pling: 1/2 NPT; M2×1.5
Power Supply	4-20mA, 24V DC(12V DC- 32V DC) 2 wires system Alarm Type: 4- 20mA, 24V DC(18V DC- 28V DC) 4 wires system 85- 265V AC 50Hz Battery:3.6V@7.5AH
Protection	IP65
Explosion Proof	ExialICT1-6; ExdIIBT1-6



TECHNICAL DRAWINGS



VARIABLE AREA FLOW METER

FLOW RANGE

Diameter	Flow Segment	Water (L/h)		Air (m ³ /h)	Pressure Loss (kPa)
		Material (SS304; SS316; SS316L)	Material (PTFE)	20°C @ 1 atm (Standard)	60/66
DN15	1A	1.0- 10	*	0.03- 0.3	6.8
	1B	1.6- 16	*	0.05- 0.5	6.8
	1C	2.5- 25	1.6- 16	0.07- 0.7	6.8
	1D	4.0- 40	2.5- 25	0.12- 1.2	6.8
	1E	6.3- 63	4.0- 40	0.18- 1.8	7
	1F	10- 100	6.0- 60	0.3- 3	7.2
	1G	16- 160	10- 100	0.48-4.8	7.8
	1H	25- 250	16- 160	0.7-7	9
	1I	40- 400	25- 250	1.2- 12	12
	1J	63- 630	40- 400	1.8- 18	13
	1K	100- 1000	*	3- 30	16
DN25	2A	30- 300	*	1.4- 14	3.8
	2B	63- 630	400	2.1- 21	3.8
	2C	100- 1000	630	3- 30	4.2
	2D	160- 1600	1000	4.8- 48	5.7
	2E	250- 2500	1600	7- 70	6
	2F	320- 3200	*	10- 100	6.6
	2G	400- 4000	2000	13- 130	7.8
	2H	500- 5000	2500	15- 150	8.8
	2I	630- 6300	3200	18- 180	10.3
	2J	1000- 10000	*	*	16
	DN50	3A	400- 4000	*	13- 130
3B		630- 6300	400- 4000	18- 180	4.7
3C		1000- 10000	630- 6300	30- 300	6
3D		1600- 16000	1000- 10000	50- 500	6
3E		2000- 20000	1600- 16000	60- 600	6.5
3F		2500- 25000	*	70- 700	7
DN80	4A	1000- 10000	*	*	6
	4B	1600- 16000	*	50- 500	6.8
	4C	2500- 25000	1600- 16000	70- 700	7
	4D	4000- 40000	2500- 25000	120- 1200	13
	4E	6300- 63000	4000- 40000	180- 1800	15
DN100	5A	4000- 40000	*	120- 1200	6.5
	5B	6300- 63000	4000- 40000	180- 1800	6.5
	5C	8000- 80000	6000- 60000	250- 2500	20
	5D	10000- 100000	*	300- 3000	22
DN150	6A	8000- 80000	*	250- 2500	22
	6B	10000- 100000	*	300- 3000	50
	6C	15000- 150000	*	*	60
DN200	7A	15000- 150000			50
	7B	20000- 200000	* Contact for customization		70

MODEL SELECTION

Model	Suffix Code									Description
SH250-	①	②	③	④	⑤	⑥	⑦	⑧	⑨	Variable Area Flow Meter
Diameter	XXX									015: DN15 100: DN100 200: DN200
Converter Type	N									Mechanical Display; No Output
	A1									Mechanical Display; 0-1000Hz Output
	A2									Mechanical Display; 4-20mA Output; 24V DC
	B									LCD Display; No Output; Battery
	C									LCD Display; Pulse Output; 24V DC
D										LCD Display; 4-20mA+Pulse Output; 24V DC power supply
	Notice:									RS485 and Hart are optional for C and D converter
Flow Range			XX							Refer to the Flow Range Table
Fluid				L						Liquid
				G						Gas
Material					S4					Body and Float: SS304
					S6					Body and Float: SS316
					SF					Body: SS304; Float: PTFE
					SL					Body: 316L; Float: 316L
					XX					
Installation						H				Horizontal Installation
						V				Vertical Installation
Structure							1			Standard Structure
							2			Heat Insulation
							3			Damper for gas measurement
							4			High Temperature
							5			High Pressure
Explosion Proof								NA		Safety Field without Ex-proof
								BT		ExdIIBT1-6
								CT		ExialICT1-6
Connection									DXX	D16: DIN PN16 Flange; D25: DIN PN25 Flange...
									AXX	A15: ANSI 150# Flange; A30: ANSI 300# Flange...
									JXX	J10: JIS 10K Flange; J20: JIS 20K Flange...
									WAF	Wafer
									THR	Thread (Diameter <= DN 250)
									TRC	Tri - clamp (Diameter <= DN 50)

THERMAL GAS MASS FLOW METER



DESCRIPTION

The thermal mass flow meter is designed on the basis of thermal dispersion, and adopts method of constant differential temperature to measuring gas flow. It has advantages of small size, easy installation, high reliability and high accuracy.

APPLICATIONS

- Compressed air/ gas
- Combustion air flow
- Natural gas
- Greenhouse gas emissions

FEATURES

- Measuring the mass flow or volume flow of gas
- Do not need to do temperature and pressure compensation in principle with accurate measurement and easy operation
- The meter also can be used for gas leak detection
- Good vibration resistance and long service life
- No moving parts and pressure sensor in transducer, no vibration influence on the measurement accuracy
- Easy installation and maintenance
- Digital design, high accuracy and stability
- Configuring with RS485 or HART interface to realize factory automation and integration

TECHNICAL DATA

Measuring Medium	Various gases (Except the acetylene)
Diameter	DN10- DN4000
Velocity	0.1-100 Nm/s
Accuracy	±1.0%; ±2.5%
Working Temperature	Sensor: -40°C...+200°C Transmitter: -20°C...+45°C
Working Pressure	Insertion sensor: medium pressure ≤ 1.6MPa Flange sensor: medium pressure ≤ 1.6MPa Special pressure please contact supplier
Power Supply	Compact type: 24V DC or 220V AC, Power consumption ≤ 18W Remote type: 220V AC, Power consumption ≤ 19W
Response Time	1s
Output	4-20mA; Pulse
Communication	RS485 and HART
Alarm Output	1-2 line Relay, Normally Open state, 10A/220V/AC or 5A/30V/DC
Sensor Type	Standard Insertion, Hot-tapped Insertion and Flange
Construction	Compact and Remote
Pipe Material	Carbon steel, stainless steel, plastic, etc.
Display	4 lines LCD Mass flow, Volume flow in standard condition, Flow totalizer, Date and Time, Working time, and Velocity, etc.
Protection	IP65
Body Material	SS304; SS316
Explosion Proof	EXdIICTGb



Remote Type



Thread Type



Insertion Type

MODE SELECTION

Model	Suffix Code							Description
STG-	①	②	③	④	⑤	⑥	⑦	Thermal Mass Flow Meter
Structure	S							Compact Type
	L							Remote Type
Diameter	Round Pipe	15						DN15
		20						DN20
		25						DN25
	
	Square Pipe	2000						DN2000
		25*25						25*25
		50*50						50*50
		100*100						100*100
		
		2000*2000					2000*2000	
Body Material			S4					SS304 Material
			S6					SS316 Material
Temperature				T1				-40... +100°C
				T2				-40... +150°C
				T3				-40... +200°C
Communication					1			RS485
					2			HART
Power Supply						1		24V DC
						2		220V AC
Connection							DXX	D16: DIN PN16 Flange; D25: DIN PN25 Flange...
							JXX	A15: ANSI150# Flange; A30: ANSI 300# Flange...
							AXX	J10: JIS10K Flange; J20: JIS 20K Flange...
							I	Insertion Type
							T	Thread Type
Explosion Proof							BT	ExdIIBT4
							NA	None

FLOW RANGE

100:1 ratio under 100% full scale range

Nominal Diameter(mm)	Air (Nm ³ /h)	Nitrogen (N ₂) (Nm ³ /h)	Oxygen (O ₂) (Nm ³ /h)	Hydrogen(H ₂) (Nm ³ /h)
15	65	65	32	10
25	175	175	89	28
32	290	290	144	45
40	450	450	226	70
50	700	700	352	110
65	1200	1200	600	185
80	1800	1800	900	280
100	2800	2800	1420	470
125	4400	4400	2210	700
150	6300	6300	3200	940
200	10000	10000	5650	1880
250	17000	17000	8830	2820
300	25000	25000	12720	4060
400	45000	45000	22608	7200
500	70000	70000	35325	11280
600	100000	100000	50638	16300
700	135000	135000	69240	22100
800	180000	180000	90432	29000
900	220000	220000	114500	37807
1000	280000	280000	141300	49120
1200	400000	400000	203480	69172
1500	600000	600000	318000	101520
2000	700000	700000	565200	180480

The flow rate in standard condition: The flow rate is in the condition of 20°C temperature and 101.325kPa pressure.

The unit of flow rate is optional: Nm³/h, Nm³/min, L/h, L/min, t/h, t/min, kg/h or kg/min.

The reduction formula of flow rate in working condition and flow rate in standard condition:

$$Q_s = \frac{0.101325 + P}{0.101325} * \frac{273.15 + 20}{273.15 + t} * Q_n$$

Q_s: The flow rate in standard condition (Nm³/h).

Q_n: The flow rate in working condition (m³/h).

t: The medium temperature in working condition (°C).

p: The medium pressure in working condition (Gauge pressure, MPa).

TEMPERATURE TRANSMITTER


SIL


DESCRIPTION

A temperature transmitter is an electrical instrument that interfaces a temperature sensor to measurement or control device. (eg. PLC, DCS, PC)

APPLICATIONS

- Water supply
- Chemical fiber
- Rubber plastic
- Boiler, Cooling
- Food & Beverage
- HVAC system and automatic control

TECHNICAL DATA

Sensing Element	J, K, E, T, Pt100, Cu50 temperature sensor
Material	SS304; SS316; SS316L
Temp. Range	-200...+600 °C
Output	4-20mA 2 wires
Communication	HART
Power Supply	24V DC (12-36V)
Accuracy	±0.5%; ±1.0%
Diameter of Protect Tube	Stainless steel Ø 16mm, Ø 20mm, (optional)
Insert Length(L)	30mm < L < 500mm
Electrical Connector	Terminal block, DIN (IP65)

MODEL SELECTION

Model	Suffix Code													Description
ST-	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	Temperature Transducer/Transmitter
Temperature Element	Z													Thermal resistance
	R													Thermocouple
		P												PT100 resistance
		C												CU50 resistance
Thermocouple Type														Platinum-rhodium 30-Platinum-rhodium: B thermocouple
		PR30												Platinum-rhodium 10-Pt:S thermocouple
		PR10												Ni- CrNiCrSi-NiSi: K thermocouple
		N												Ni-Cr- Copper-nickel alloy: E thermocouple
		E												Iron- Copper-nickel alloy: J thermocouple
		F												Cooper- Copper-nickel alloy: T thermocouple
		C												Output basic physical properties (standard)
Output			0											4-20mA
			B											4-20mA with HART protocol
			B1											Assemble
Structural Style														Armour
														Single
Thermo Wires Number														Pair
														Wear-resistant thermocouple(resistance)
Wear-resistant Type														No fixed device
														Thread fixed; M27×2 or G3/4"; (Nominal pressure, 10MPa)
Install Fixed Form														Loose type flange (moveable)
														Fixed flange; (Nominal pressure, 6.4MPa)
														Fixed thread taper protection tube M33×2 or G1"; (Nominal pressure,30MPa)
														Special on request
Junction Box Form														Column type
														Standard
														Splash proof
														Water proof
														Explosion proof
														With meter head
Diameter of Protection Tube														Ø16
														Ø12
														Ø20
														Ø3; 4: Ø4; 5: Ø5; 6: Ø6
Anti-corrosive														Anti-corrosive thermocouple (resistance)
														1Cr18Ni9Ti
														SS316L
Material of Protection Tube														Corundum
														Ceramic
														PTFE
														Special
Specs. of Display Head														M1 0-100% linear meter
														M3 3 1/2 LCD indicator
														M4 3 1/2 LED indicator
														M5 4 or 5 bits LCD intelligent indicator
Explosion Proof														I Intrinsically safe type iaICT6
														D Flameproof safe dIIBT4

PRESSURE TRANSMITTER


SIL


DESCRIPTION

Pressure transmitter is designed to work well under various conditions which is combined with the solid state integrated technological and isolate diaphragm technology.

APPLICATIONS

- Petroleum, Chemical industry
- Electric power, Water supply
- OIL & GAS, Plastic industry
- Ocean and etc.

TECHNICAL DATA

Pressure Range	0-10kPa, 0-100KPa, 0-10bar, 0-1000MPa		
Accuracy	±0.1 %; ±0.2 %; ±0.5 %		
Power Supply	24V DC (12-36V DC)		
Pressure Type	Gauge Pressure (G), Absolute Pressure(A), Sealed Pressure(S), Negative Pressure(N).		
Process Connection	G1/2, M20* 1.5~ 1/4NPT, 1/2 NPT, Customized		
Electrical Connector	Cable, Terminal Block		
Signal Output	4-20mA (1-5V); 4-20mA with HART Protocol; 0-10mA (0-5V); RS 485		
Compensation Range	-10...+70 °C		
Operation Temperature	-40...+60°C (+150°C, +250°C, +350°C optional)		
Maximum Pressure	Measurement Upper Limit	Overland	Long Term Stability
	<50 KPa	2-5 Times	<0.5%FS / Year
	≥50 KPa	1.5-3 Times	<0.2% FS / Year

Note: When range < 1KPa, only no corrosion or weak corrosive gas can be measured.

MODEL SELECTION

Model	Suffix Code									Description
PT-	①	②	③	④	⑤	⑥	⑦	⑧	⑨	Pressure Transmitter
Measurement range (Actual value)										clients provide
	0									±0.05%
Accuracy	1									±0.1%
	2									±0.2%
	5									±0.5%
Measurement Type	A									Absolute pressure
	G									Gauge pressure (or Seal pressure or Negative pressure)
Pressure Connection		2								M20* 1.5-20 Male
		6								G1/2- 20 Male
		9								On request
Electrical Connection		1								Lead Cable IP 65
		2								Hirschmann/ DIN IP 65
		3								Aviation plug/ Bendix connector IP 65
		4								Terminal Block M20* 1.5 Female IP65
		5								Gland cable IP67
		6								Waterproof plug GX12-5, M12-5 IP67
		7								Lead Cable IP 68
	9								On request	
Signal Output		E								4-20mA (1-5V)
		S								4-20mA Intelligent type with HART protocol
		I								0-10mA (0-5)
		V								0-20mA (0-10)
		R								RS485
		F								4-20mA + RS485
	T								On request	
Power Supply			2							24V DC
			5							220V AC, 50Hz
			9							On request
Spec of Display Indicators				M3						3 1/2 LCD Display
				M4						3 1/2 LCD Display
				M5						4bits or 5 bits LCD intelligent display
				M7						4 bits LCD display
				M8						4 bits LED display
				MB						Intelligent 4 bits LED indicator
			MH						Intelligent 4 bits LWD indicator, with 2-year relay alarm	
Explosion Proof				N						Standard
				I						Intrinsically safe type ExdIICT6
				D						Flameproof safe ExdIIBT4

THERMAL FLOW SENSOR



DESCRIPTION

BL-FRC series electronic thermal flow switch, based on the thermal principle, enclosed in a closed probe contains two resistors, one of which is heated as the sense resistor and the other is not heated as the base quasi-resistance, when the medium flows, the heat on the heating resistor is taken away, and the resistance value is changed.

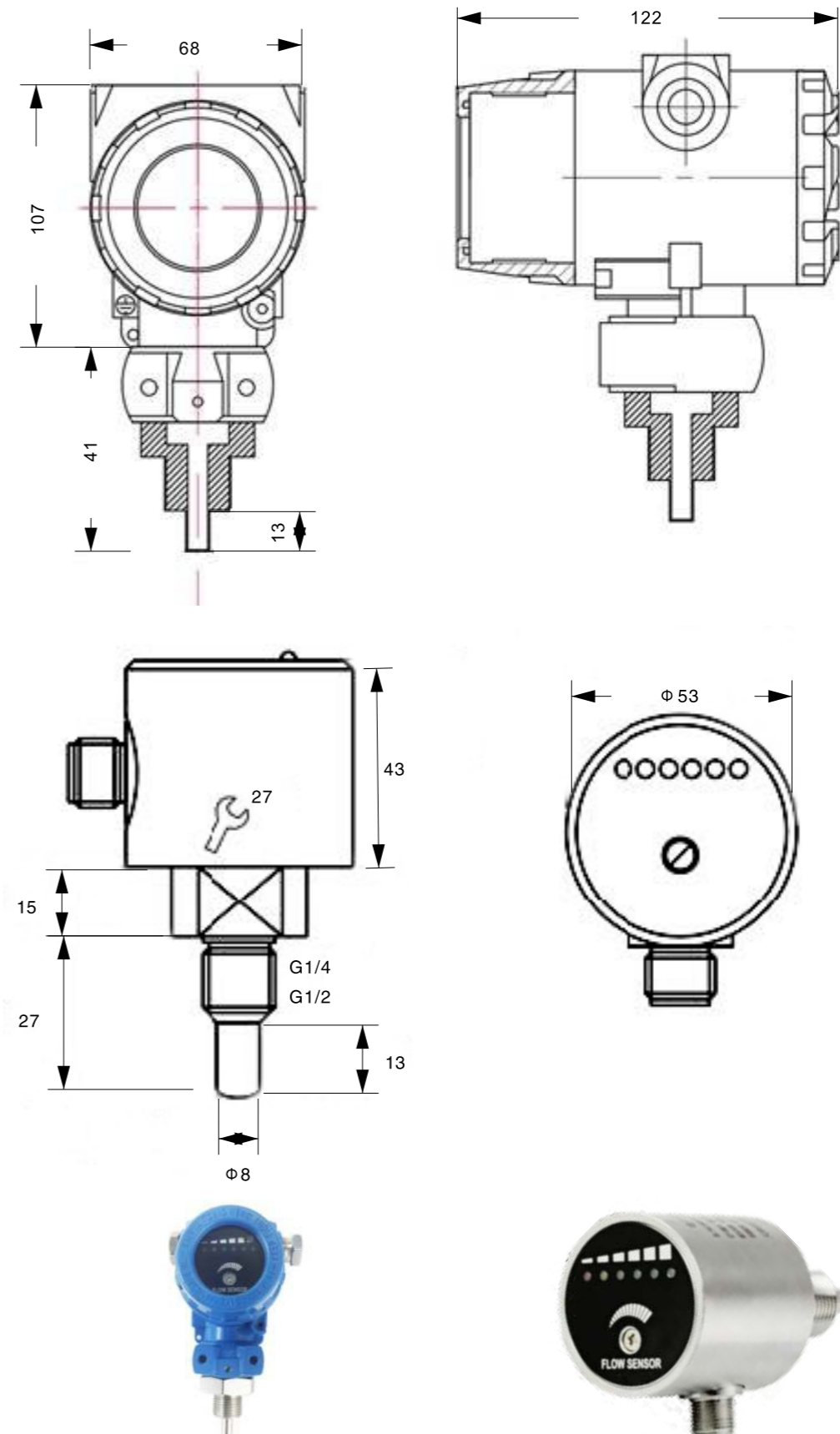
APPLICATIONS

Primarily suitable for pneumatic and hydraulic systems, it can be used for shut-off monitoring of circulating water, cutting fluids and lubricating oils, as well as idling protection of pumps.

FEATURES

The unique tapered probe design prevents the entanglement of the winding in the media. Full waterproof case body design, unique waterproof adjustment knob, can be adjusted without disassembling the sealing screw, it is more reliable. Applicable to a wide range of pipe diameters, free to adjust the set point, optional anti-corrosion type, withstand voltage up to 100Bar, the indicator light directly shows the flow, optional relay, analog output or analog, switch output integrated output. BL-FRC series electronic thermal flow switch can monitor the liquid flow in the pipeline in real time, no moving parts, maintenance-free, easy to install, one model is used for a variety of pipe diameter requirements, provide switching output, and adopt 6 The LED display the fluid flow rate status in real time, enabling the following monitoring functions: media flow, reduced/ increased flow rate; media presence/absence; media flow/stationary; monitoring fluid flow rate within the pipe, shut-off monitoring or preventing pump idling. It is widely used in petrochemical, electric power, metallurgy, steel mills, paper making, food processing, water treatment, battery factories and other industries. Gas-liquid dual-purpose, for pneumatic and hydraulic systems, for shut-off monitoring of circulating water, cutting fluids and lubricants, and idling protection of pumps.

TECHNICAL DRAWINGS



Explosion-proof Type

Non-explosion proof Type

TECHNICAL DATA

Setup range	1...150cm/s (water)
	3...300cm/s (oil)
	20...2000 (air)
Signal output	NPN
	PNP
	Relay
	Analog (4...20mA)
Power supply	24V ± 20% DC
	24V ± 20% DC
Power	Max. 400mA (PNP or NPN type) up to 1A @ 48VAC/DC Power (relay type)
No-load current	Up to 80mA
Flow indication	LED
Setting method	Potentiometer setup
Withstand voltage range	100bar
Medium temperature change	≤4°C/s
Response time	1...13s, typical value 2s
Initialization time	About 8s
Electrical protection	Reverse phase
	Short circuit
	Overload protection
Protection class	Ip67
Medium temperature	-20...+100°C
Ambient temperature	-20...+80°C
Storage temperature	-20...+100°C
Wiring method	M12 connector
Repeatability	±2%
Material of Probe	Stainless steel housing

MODEL SELECTION

Model Code				Selection	
BL-FRC					
Type	A				Insertion type
	B				Display type
	C				Pipe online type
Connection	G1				Interface Thread G1/2" (Insertion type)
	G2				Interface Thread G1/4" (insertion type)
	H1				Male connection (on pipeline)
	H2				Flange connection (on pipeline)
Power		G			24V DC ± 20%
Output			P		PNP output (ON+OFF (SPDT))
			N		NPN output (ON+OFF (SPDT))
			C		Relay output (ON + OFF (SPDT))
			A		4-20mA
Material			S4		SS304
			S6		SS316
Flow Switch			E		Explosion-proof type
			N		Non-explosion proof type
Connection			C		Connector type
			Z		Along with wire cable
Optional accessories - for connector type					
ZI04-		/	/		Selection
	ZL				M12 four core cable connector
	SL				Self-wiring M12 with cable connector
Material			PU		PUR material
Wire Cable			2		2m
			5		5m
			10		10m
Connector Type			Z		Straight line
			W		Curved line

(Note: The relay type requires 5-core output!)

TOTALIZER



DESCRIPTION

Multi-functional integrated flow totalizer supports flow temperature, pressure compensation, trade settlement, power records and data stored.

APPLICATIONS

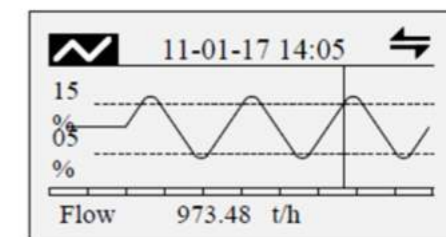
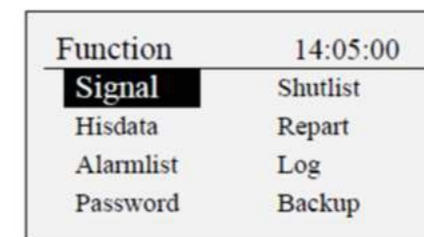
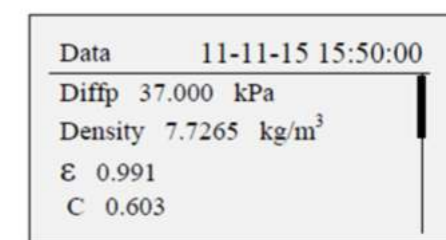
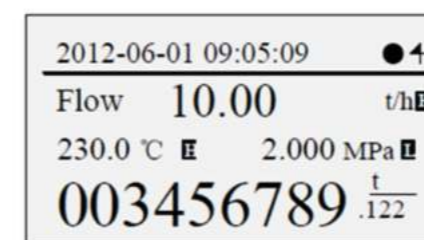
- Along using with flow meter, function sync.

FEATURES

- Totalizer reset
- 4-20mA/pulse/Frequency/Relay
- Temperature(PT100,PT1000) and pressure signal
- Unit of kg/h, LPM, m³/h, Km³/h
- 240V AC/ 24V DC
- U driver storage
- High/Low Alarm output

MODEL SELECTION

Model	Suffix Code								Description
FX2000F-	①	②	③	④	⑤	⑥	⑦	⑧	Totalizer
Flow Signal Input	01								4-20mA(24V DC)
	02								Frequency(0...10000Hz)
	03								Pulse
Temperature Signal Input	NA								No Output
	04								4-20mA
	05								Thermal Resistance(PT100<-200~650°C>)
	06								Thermal Resistance (PT1000<0~300°C>)
Pressure Signal Input			NA						None
			07						4-20mA
Alarm Output				NA					None
				08					One Line Alarm
				09					Two Lines Alarm
Communication					NA				None
					10				Modbus- RS485
					11				RS232
Power Supply for Sensor						NA			None
						1P			One channel
						2P			Two channel
Power Supply							AC		110-240V AC
							DC		24V DC
USB Storage								NA	None
								U	U Driver(4GB)



BATCH CONTROLLER



DESCRIPTION

SURE INSTRUMENT is the officially appointed strategic partner for FLUIDWELL in China.

APPLICATIONS

- Beverage manufacturer
- Wine manufacturer
- Oil and gas plant
- Biochemical pool

FEATURES

- Five control inputs for remote START, HOLD, RESUME, keypad lock and external alarm
- 7 large digits for actual value, flow rate, total and 10 smaller digits for present value accumulated total and batch count
- Selectable on- screen engineering units; volumetric & mass
- Power requirements: 24V DC/ 110 - 230 V AC
- Sensor supply: 8.2/ 12/ 24V DC
- No- flow monitoring
- Automatic overrun correction
- RS 232/ RS 485 communication

MODEL SELECTION

Model	Suffix Code								Description
N410-	1	2	3	4	5	6	7	8	Batch Controller
Input Signal	P								NPN, open collector, reed-switch, active pulse signals
Communication	CB								RS232 communication - Modbus RTU
	CH								RS485 communication- 2wire- Modbus RTU
	CX								None
Panel Mount Front Enclosure	HB								Aluminum front panel - IP67(NEMA4X)
Additional Input Signal			IR						Remote control input to start, hold, reset, keypad lock and external alarm
Digital Output Signals					OR				2 field replaceable, mechanical relays(NO-NC) and 1 passive transistor output
Power Requirements						PG			24V DC and 110-230V AC, both with sensor supply
Hazardous Area							XX		Safe areas only
Other Options								ZS	PNP input signal instead of NPN input signal
								ZX	None



TURBIDITY & SS SENSOR



DESCRIPTION

The Turbidity sensor consists of a light source and a light detector (photo detector). Incident light is scattered by the particles in the sample, and the scattered light is measured by the detector. The Sensor uses a long life near infrared LED (880nm) and the 90° scattered light method in accordance with ISO 1027/ EN 27027 to assure accurate turbidity values.

APPLICATIONS

- Urban wastewater treatment (inlet/outlet controls)
- Sanitation network
- Industrial effluent treatment
- Surface water monitoring
- Drinking water

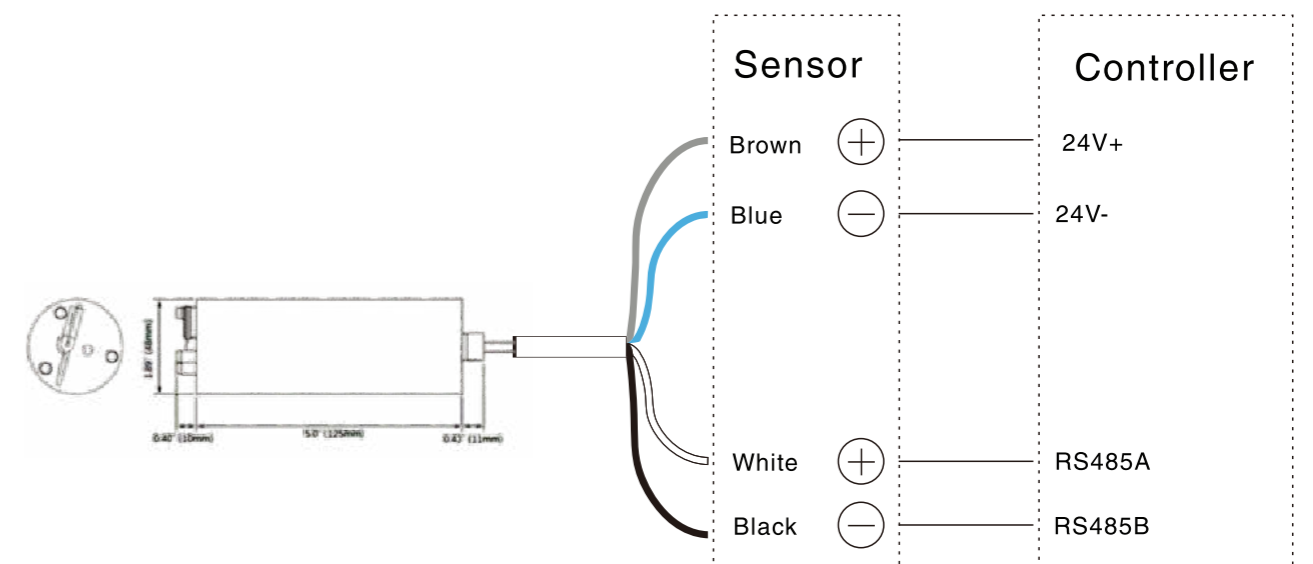
FEATURES

- High-precision testing, accuracy up to $\pm 1\%$
- Strong anti-interference ability, powerful memory function
- Non-contact measurement, no pressure drop
- Large measuring range
- LCD display

TECHNICAL DATA

Principle	Near infrared LED (880nm) and 90° scattered light method in accordance with ISO 1027/EN 27027
Range	0- 500NTU; 0- 4000NTU
	0.00- 3000mg/L; 50g/L
Resolution	0.01- 1NTU; 0.01- 1mg/L
Unit	NTU; FTU; ppm; mg/L; g/L
Accuracy	< $\pm 1\%$ FS (Turbidity)
	< $\pm 5\%$ FS (SS)
Repeatability	$\pm 2\%$ FS
Operate Temp.	0°C...+50°C
Store Temp.	-10°C...+60°C
Protection	IP68
Pressure	5bar
Material	SS316L, Sapphire Glass
Communication	Modbus RS485
Power Supply	24V DC from controller
Consumption	At regular operation: 50mA(Max)
	At cleaning operation: 240mA(Max)
Auto-Cleaning	Automatic wiper cleaning system

WIRING CONNECTION



FLUORESCENCE DISSOLVED OXYGEN



DESCRIPTION

The dissolved oxygen sensor utilizes lifetime-based optical fluorescence sensor technology to provide an extremely stable, precise and low maintenance dissolved oxygen sensor. It does not require membranes, stirring, and cleaning and allows deployment for many months without need for re-calibration.

APPLICATIONS

- Wastewater treatment plant
- Enterprise emission treatment
- Water treatment
- Hydrologic monitoring
- Drinking water

FEATURES

- High precision and accuracy.
- Measure absolute oxygen concentrations without field calibrations
- Integrates with Smart Sensor technology "Plug & Play"
- No membrane, stirring/flow, or cleaning required
- Ultra-rugged construction - SS316L, Titanium options
- Sapphire sensor window - extremely scratch resistant
- All of the optics and electronics are solid-state with no moving parts
- Optical sensor is not damaged by ambient light, unlike other luminescent DO technologies
- Low sensitivity to fouling
- Fast response time

TECHNICAL DATA

Measuring Principle	Optical measuring by luminescence
Range	0.00-20.00ppm; 0.00-20.00mg/l, 0-200%
Resolution	0.01
Accuracy	±1mg/L; ±0.1ppm; ±1%
Respond Time	T90<60s
Operation Temp.	0°C...+50°C
Storage Temp.	-10°C...+60°C
Protection Rating	Immersible; IP68
Pressure	5 Bar
Material	SS316L; Titanium as option
Communication	Modbus RS485
Power	24V DC(18- 36V DC)
Dimension	Dia.1.42" & 8.27" Length

CONTROLLER



01/ 02 Channel Input

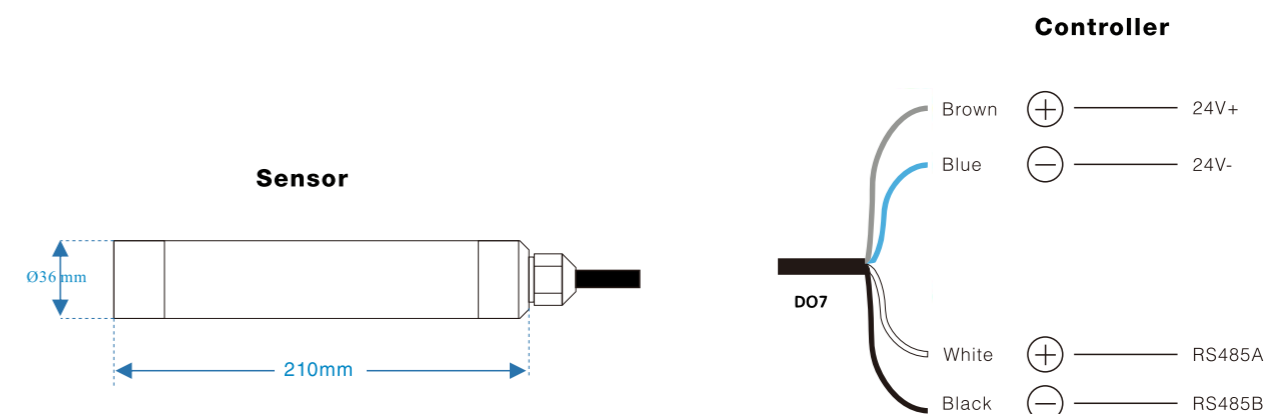


04/06/08 Channel Input



Portable Type

WIRE CONNECTION



IN-SITU SPECTRA ANALYZER



DESCRIPTION

Spectrometer probes use standardized spectral algorithms taking in to account the complete absorption spectrum of the water for determination of organic sum parameters such as COD, TOC, BOD and DOC.

APPLICATIONS

- Drinking water quality control alarm system
- Waste water effluent monitoring analysis of trends early detection of disposal(fingerprint)
- Process water process monitoring in industrial facilities control of water treatment

FEATURES

- Online multi- parameter spectrometry
- Smallest mechanical scale
- Xenon Flash light, 50 years life
- Optical path length: 2,5,10,20 and 35mm
- Stainless steel measuring head, saltwater- proof
- Pre- calibration and advance calibration
- Fully integrated air pressure cleaning
- No chemical need, No secondary pollution
- Support online calibration

TECHNICAL DATA

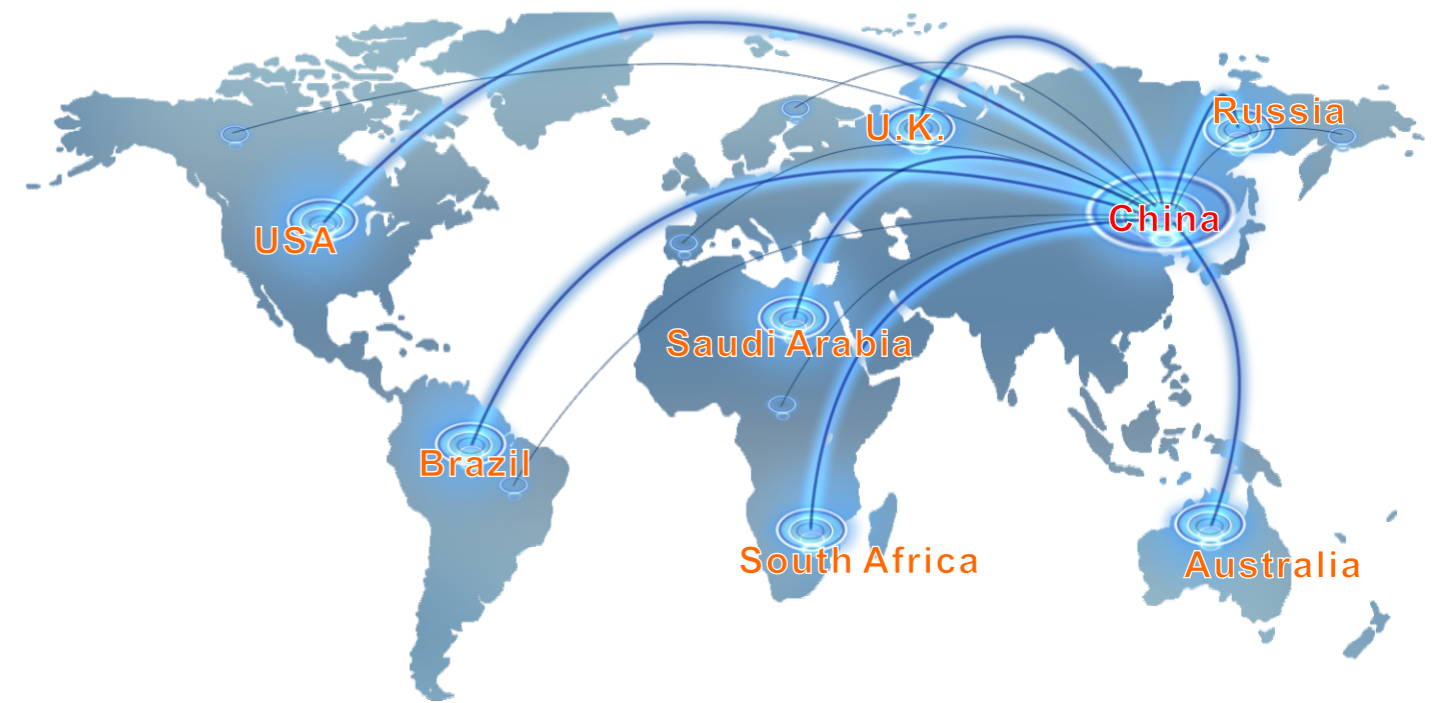
System	UV-Vis Spectrum (190-720nm)
Measuring Principle	Spectral analysis
Optical Path Length	2/5/20/35mm
Light Source	Xenon flash light
Accuracy	+0.2% of reading
Resolution	+0.5% of scale
Temperature Range	-10°C...+50°C



WIRING CONNECTION



Connector of cable							
pins	1	2	3	4	5	6	7
Function	Sc12- 24V	DC12-24	TA	TB	RA	RB	--
Color of wire	Red	Black	Orange	Blue	Brown	Green	Grey
Color Code							



***SURE WE ARE
SURE TO BE BETTER***