Sure Instrument ®

TIANJIN SURE INSTRUMENT CO., LTD.

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Products Brochure

E.910/21Rev001

SURE WE ARE,
SURE TO BE BETTER.

TO WORK WITH **INNOVATIVE SPIRIT**
TO DEVELOP **HIGH QUALITY PRODUCTS**
FOR THE MEASUREMENTS OF FLUIDS.

Assembly Workshop

Calibration Device

Impeller Processing Equipment

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.

THE COMPANY

TIANJIN SURE INSTRUMENT is engaged into the design, manufacture and service of measurement and analysis instruments field. With 14 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, 73000m^2 standardized workshops and machining centers, high-precision numerical control machines automated assembling line as well as other equipments.
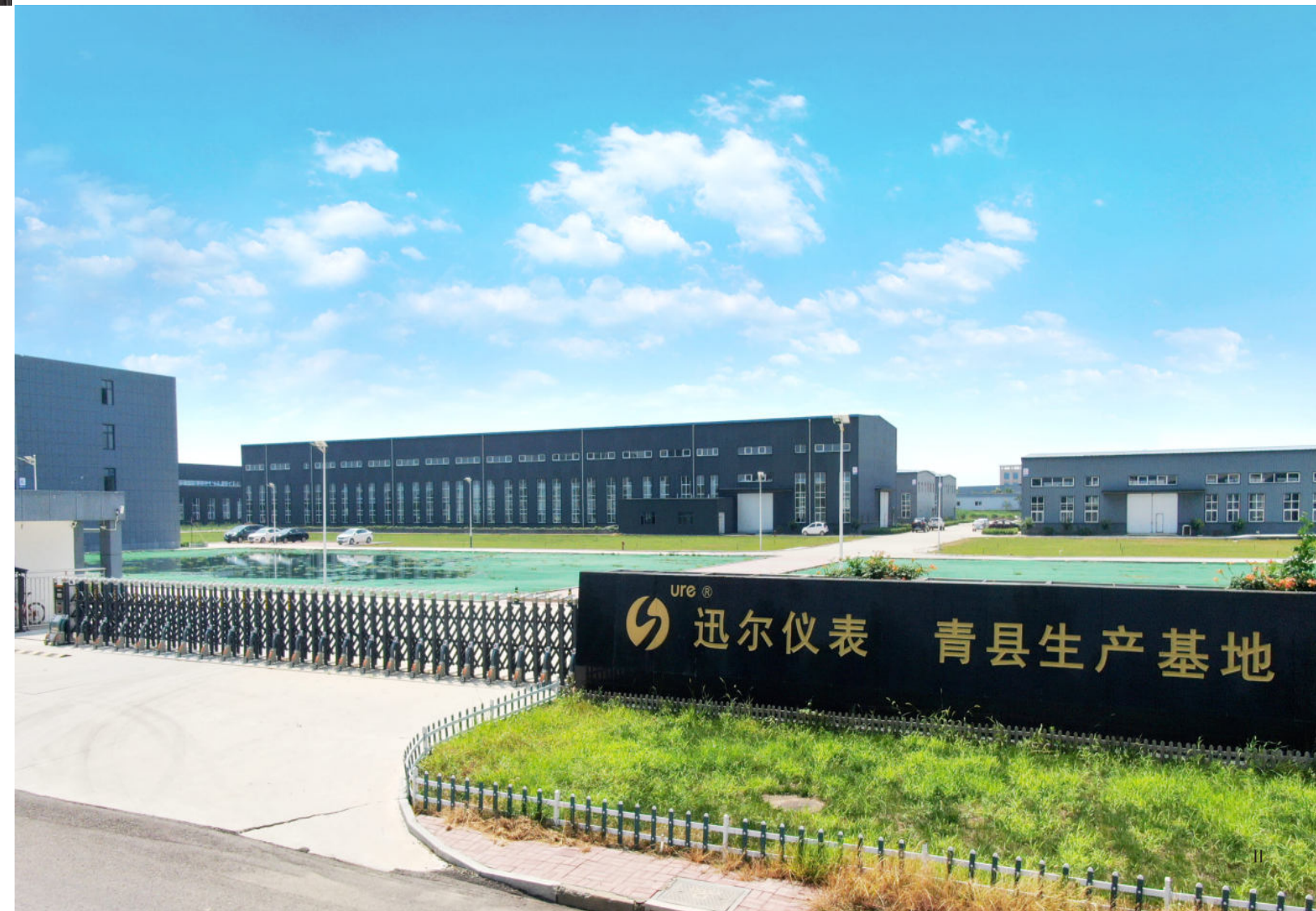
CLAMP ON TYPE FLOW METER
ST SERIES

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(m³), Liters(L), USA Gallons(GAL)/hour, /min, Default unit setting: m³/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

Remote Type
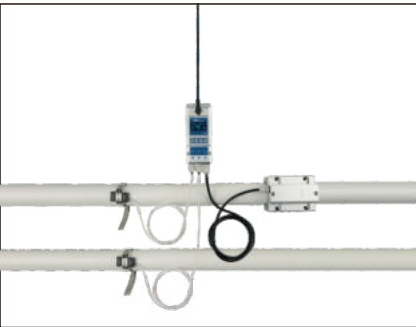
Heat Meter

Compact Type

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

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(COMPACT TYPE)

Model	A(mm)	B(mm)	C(mm)	D(mm) Min	D(mm) 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
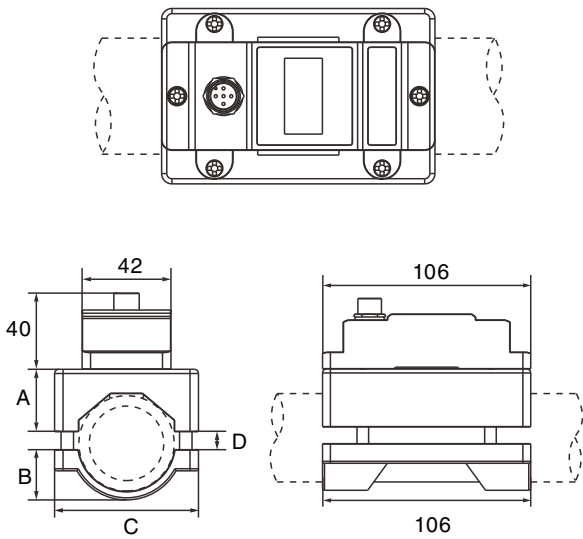
TECHNICAL DRAWINGS(REMOTE TYPE)

| Model	A(mm)	B(mm)	C(mm)	D(mm) Min	D(mm) 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
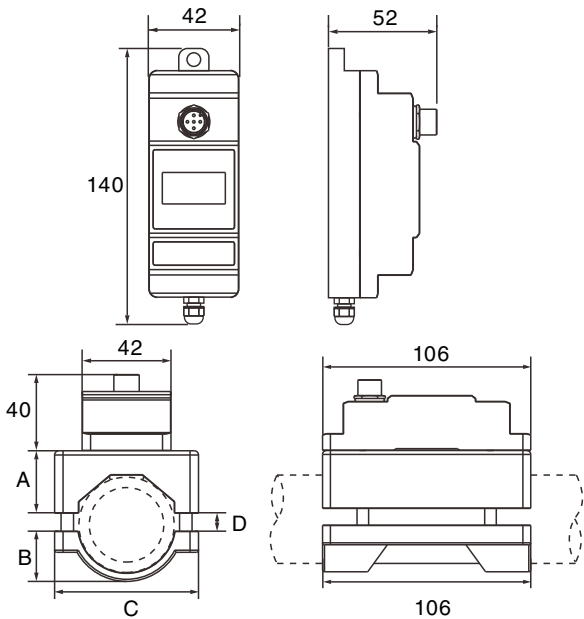
INSTALLATION STEPS

01 Clean the Tube

Make sure no dirt, paint, or other stains on the surface of the tube.

02 Install the Bracket
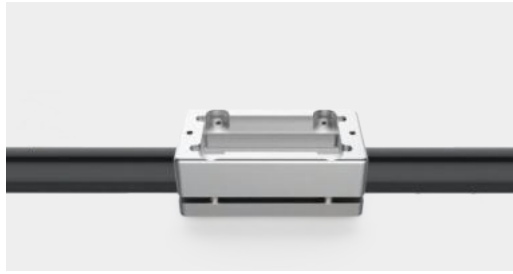
Align flow meter to the pipe position, Install screw on top part of the bracket, the bottom part of the bracket will automatically connect with the top part.

03 Install ST

Take the cover off the sensor, put the flow meter into Upper bracket, and tighten two M4 screws.

04 Connect the Cable

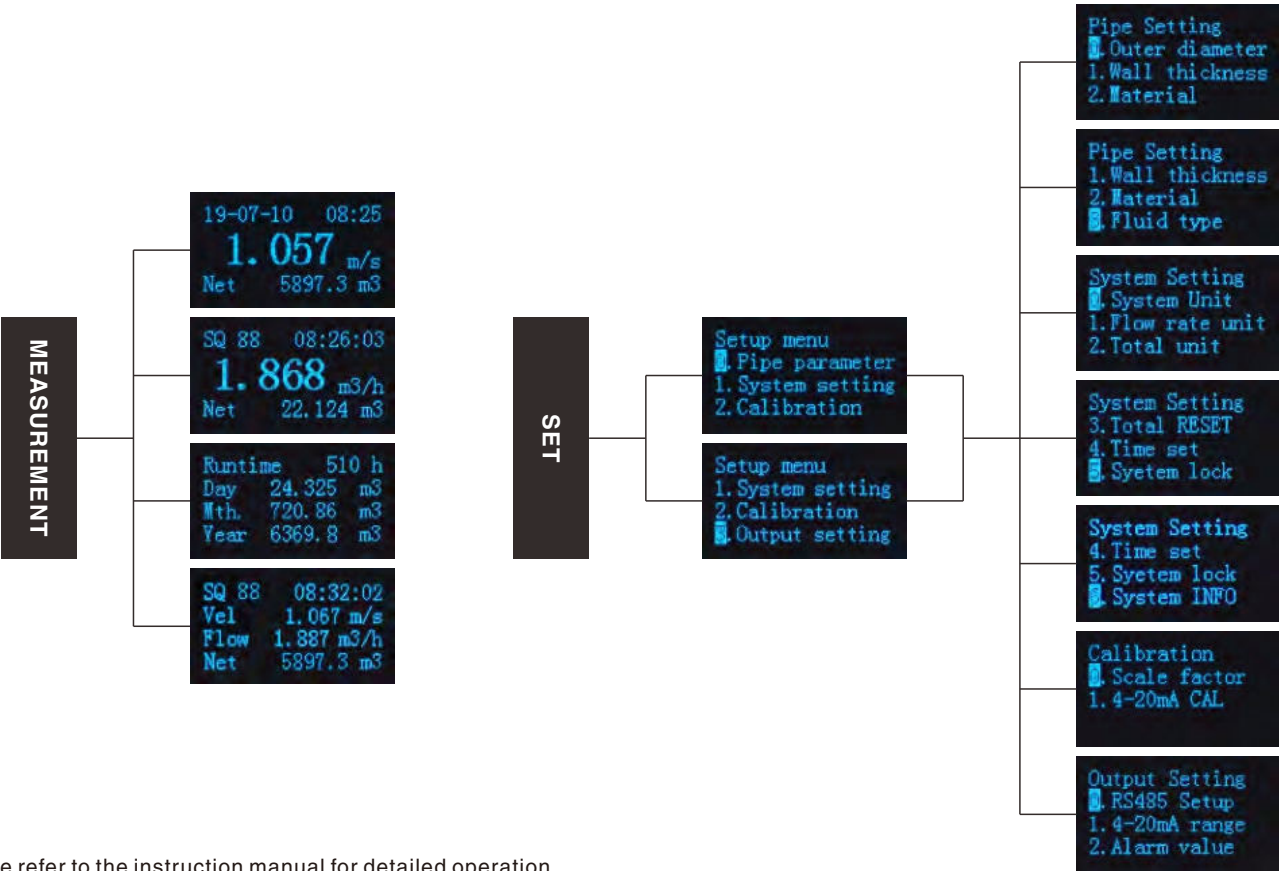Take out the cable, connect it to the socket, and tighten up.

05 Run the ST

Please refer to the manual for cable connection; Power on and see if the Sq≥50 which indicates that the measurement has been stable.

ST SETTING

Special instructions:
ST, which is designed for different pipe diameter and materials, will be set in standard setting before it leaves the factory. There is no need to reset.

- DC Power and Output
- OLED Display Screen
- Keypad Area
- Mounting Screw

DISPLAY MENU

```
19-07-10   08:25
1.057 m/s
Net    5897.3 m3
```

```
SQ 88   08:26:03
1.868 m3/h
Net    22.124 m3
```

```
Runtime    510 h
Day   24.325  m3
Mth.  720.86  m3
Year  6369.8  m3
```

```
SQ 88   08:32:02
Vel    1.067 m/s
Flow  1.887 m3/h
Net   5897.3 m3
```

MEASUREMENT

SET

```
Setup menu
0.Pipe parameter
1.System setting
2.Calibration
```

```
Setup menu
1.System setting
2.Calibration
3.Output setting
```

```
Pipe Setting
0.Outer diameter
1.Wall thickness
2.Material
```

```
Pipe Setting
1.Wall thickness
2.Material
3.Fluid type
```

```
System Setting
0.System Unit
1.Flow rate unit
2.Total unit
```

```
System Setting
3.Total RESET
4.Time set
5.Syetem lock
```

```
System Setting
4.Time set
5.System lock
6.System INFO
```

```
Calibration
0.Scale factor
1.4-20mA CAL
```

```
Output Setting
0.RS485 Setup
1.4-20mA range
2.Alarm value
```

Please refer to the instruction manual for detailed operation

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