

VORTEX FLOW METER

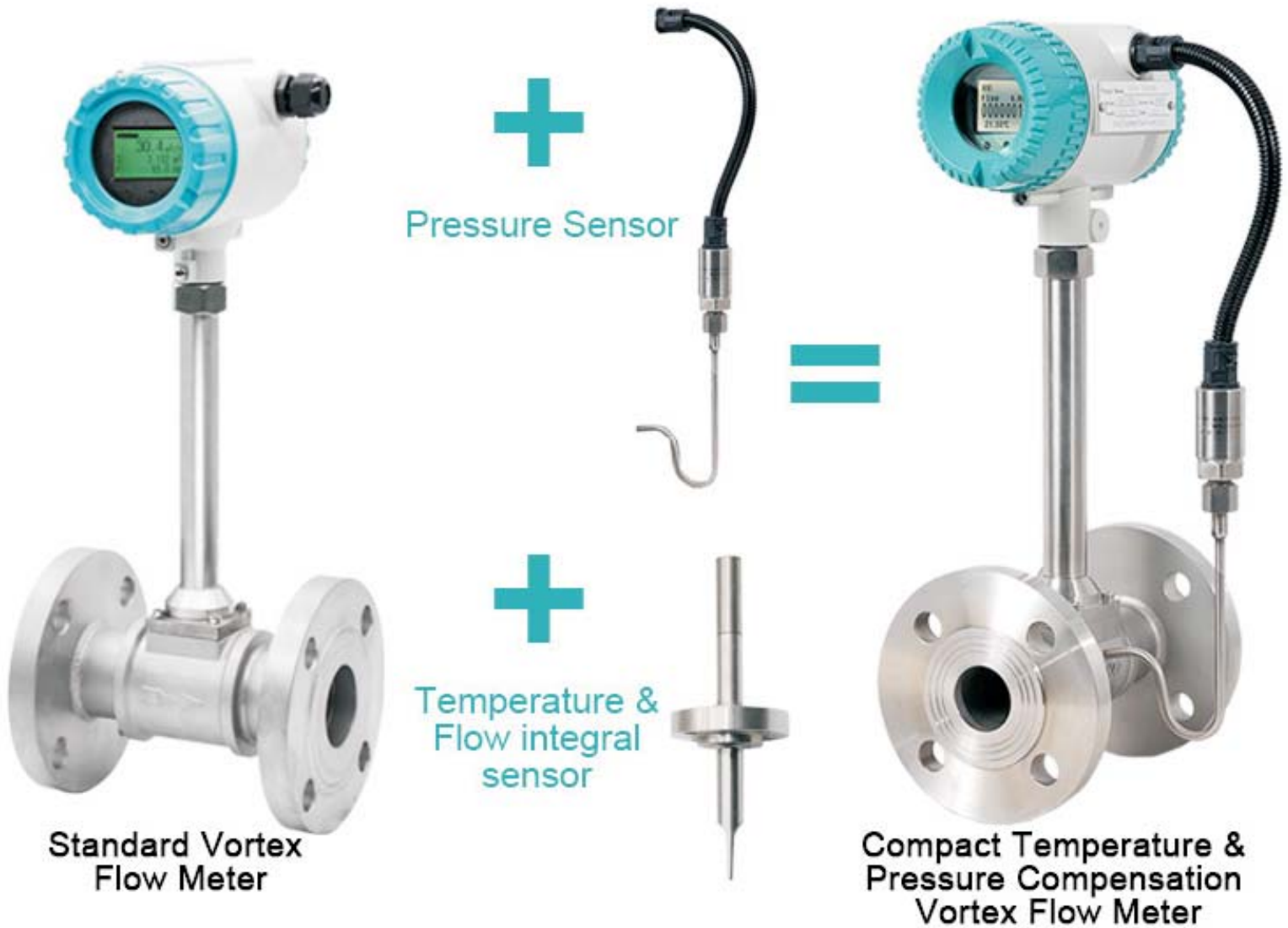


APPLICATIONS

- (Non-)conductive liquids, gases, saturated and superheated steam
- Gross/net heat metering of steam and hot water
- Monitoring of compressor output and evaluation of Free Air Delivery (FAD)
- Industrial gases (natural gas, nitrogen etc.)
- Compressed air systems
- Thermal oils, Desalinated water etc.



Compact temperature & pressure compensation vortex flow meter (OPTIONAL)



Temperature and pressure compensation can choose one or two options



FEATURES

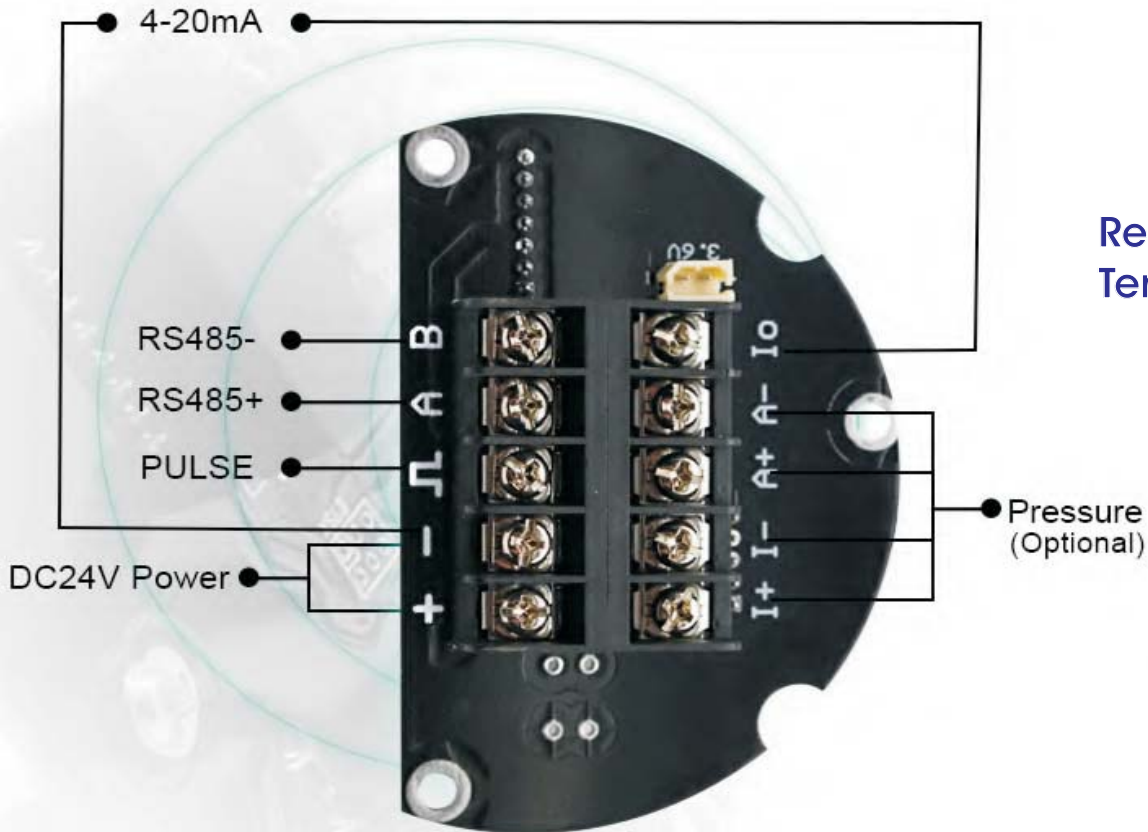


Low Power Consumption
LCD Display

- Instantaneous Flow
- Total Flow
- Frequency, Density, Temperature, Current or Percentage

Explosion Proof

Anti-Vibratinn, Anti-Interference Digital Circuit Board



WORKING PRINCIPAL

Vortex steam flow meter measure fluid velocity adopting a principle of operation referred to as the Karman Vortex effect.

Vortex flow meter utilizes robust piezoelectric elements to detect Karman vortex frequency behind a shedder bar. It is able to provide real-time data for mass flow, volume flow, temperature, pressure and frequency with one instrument and one process connection of either wafer- or flange-type.

While the fluid passing through the swirl generator(triangular prism, also called shedder bar), it will generate swirl due to the acceleration of partial flow rate. The swirl will arise alternatively in two swirl lines, which is called Karman swirl.

The frequency of Karman swirl depends on the size of shedder bar and flow rate of fluid, which will be indicated by the below formulas:

$$F = sR * v \quad (1 - 1.27 * d/D) \quad Q = 3600 * F/K \quad M = Q * P$$

F.....The releasing frequency of Karman vortex (Hz)

Sr.....Strouhal number (unit: dimensionless)

V.....Medium flow rate (m/s)

d.....The width of triangle prim

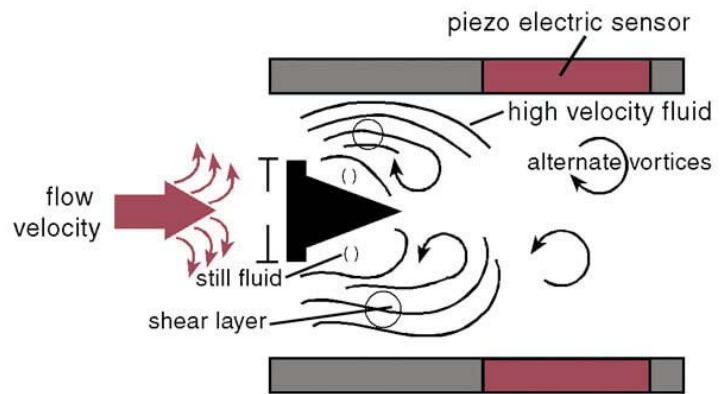
D.....Vortex meter inner diameter (m)

Q.....Instantaneous volume flow rate (m3/h)

K.....Vortex meter coefficient (unit pulse number/m3)

M.....Instantaneous quality flow rate (kg/h)

P.....Fluid density (kg/m3)



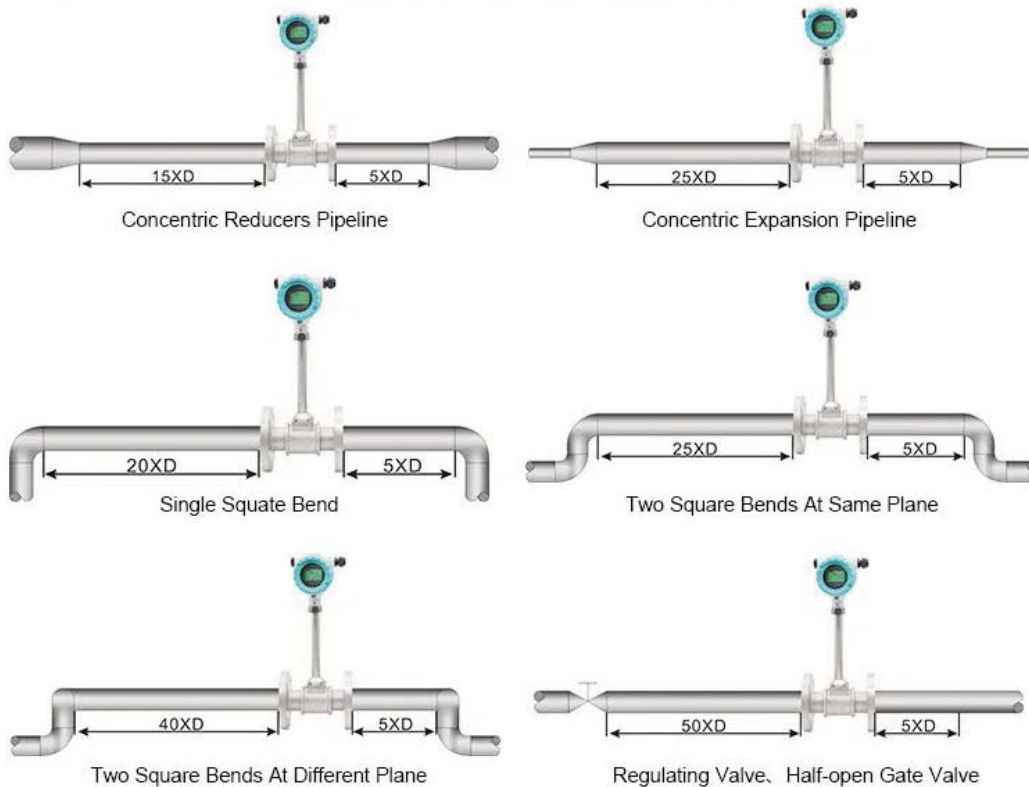
TECHNICAL PARAMETER

Measured Medium	Liquid , Gas , Steam
Medium Temperature	-40 C ~ +200 C ; -40 C ~ +280 C ; -40 C ~ +350 C ;
Nominal Pressure	1.6 Mpa;2.5Mpa;4.0Mpa;6.4Mpa (**As per Customer)
Accuracy	1.0%(Flange) , 1.5% (Insertion)
Measuring Range Ratio	1:10 (Standard Air Condition as reference) , 1:15 (Liquid)
Flow Range	Liquid:0.4-7.0m/s ; Gas: 4.0-60.0m/s ; Steam : 5.0-70.0m/s
Specifications	DN15-DN300(Flange), DN80-DN2000(INSERTION), DN15-DN100 (THREAD) , DN15-DN300 (WAFER), DN15-DN100 (SANITARY)
Material	SS304 (STANDARD) , SS316 (OPTIONAL)
Pressure Loss Coefficient	Cd d 2.6
Vibration Acceleration Allowed	d 0.2 g
IEP ATEX	II 1G Ex ia IIC T5 Ga
Ambient Condition	Ambient Temp: -40 C - 65 C (Non-explosion proof Site); -20 C - 55 C (Explosion Proof Site) Relative Humidity : d 85% Pressure: 86kPa - 106kPa
Power Supply	12-24 V/DC or 3.6V Battery Powered
Signal Output	Pulse Frequency Signal 2-3000 Hz. Low Level d 1 V, High Level e 6V Two Wire System 4-20Ma Signal isolated Output. Load d 500 &

FLOW RANGE

Size (mm)	Liquid (Reference Medium; Normal Temperature Water m /h)		Gas (Reference Medium: 20 C, 101325pa Condition air, m /h)	
	Standard	Extended	Standard	Extended
15	0.8 ~ 6	0.5 ~ 8	6 ~ 40	5 ~ 50
20	1 ~ 8	0.5 ~ 12	8 ~ 50	6 ~ 60
25	1.5 ~ 12	0.8 ~ 16	10 ~ 80	8 ~ 120
40	2.5 ~ 30	2 ~ 40	25 ~ 200	20 ~ 300
50	3 ~ 50	2.5 ~ 60	30 ~ 300	25 ~ 500
65	5 ~ 80	4 ~ 100	50 ~ 500	40 ~ 800
80	8 ~ 120	6 ~ 160	80 ~ 800	60 ~ 1200
100	12 ~ 200	8 ~ 250	120 ~ 1200	100 ~ 2000
125	20 ~ 300	12 ~ 400	160 ~ 1600	150 ~ 3000
150	30 ~ 400	18 ~ 600	250 ~ 2500	200 ~ 4000
200	50 ~ 800	30 ~ 1200	400 ~ 4000	350 ~ 8000
250	80 ~ 1200	40 ~ 1600	600 ~ 6000	500 ~ 12000
300	100 ~ 1600	60 ~ 2500	1000 ~ 10000	600 ~ 16000
400	200 ~ 3000	120 ~ 5000	1600 ~ 16000	1000 ~ 25000
500	300 ~ 5000	200 ~ 8000	2500 ~ 25000	1600 ~ 40000
600	500 ~ 8000	300 ~ 10000	4000 ~ 40000	2500 ~ 60000

TYPICAL INSTALLATION



MODEL SELECT

Vortex Flow Meter Sensot Model Described as:

SIL-GB2-X-X-XXX-X

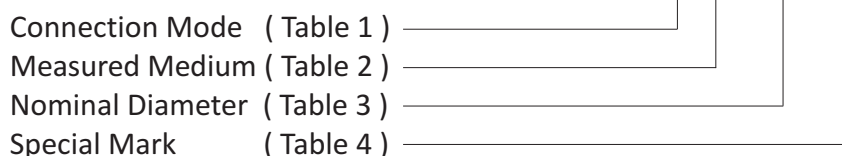


Table 1: CONNECTION MODE				
Connection Mode	Flange	Wafer	Insertion	Others
Mark No.	1	2	3	4

Table 2: MEASURED MEDIUM					
Measured Medium	Liquid	Common Gas	Saturated Steam	Superheated Steam	Others
Mark No.	1	2	3	4	5

Table 3: Nominal Diameter																			
Flange / Wafer Type																			
Size	15	20	25	32	40	50	65	80	100	125	150	200	250	300					
Mark No.	150	200	250	320	400	500	650	800	101	125	151	201	251	301					
Insertion Type																			
Size	100	125	150	200	250	300	350	400	500	600	700	800	900	1000	1200	1400	1600	1800	2000
Mark No.	100	125	151	201	251	301	351	401	501	601	701	801	901	120	122	142	162	182	202

Table 4: Special Mark								
Format	Common	Standard Signal Output	Intrinsically Safe / Explosion Proof	On Site Display	High Temp. (350 C)	Temperature Compensation	Pressure Compensation	Temperature & Pressure Compensation
Mark No.	None	M	B	X	G	W	Y	Z

OTHER PRODUCTS & SOLUTIONS



ONLINE MOISTURE ANALYZER



PRESSURE SENSOR



REFRACTOMETER



RADAR LEVEL SENSOR



MELT PRESSURE SENSOR



WIRELESS & IOT DEVICE



SENSORS



VISION SYSTEMS



FLOW SENSORS

STACK INDUSTRY

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