

MVF-2901

Marmonix Remote type vortex flow meter

Overview:

Marmonix Remote type vortex flow meter MVF-2901 is used in numerous branches of industry to measure the volume flow of liquids, gases and steam. Applications in the chemicals and petrochemicals industries, for example, in power generation and heat-supply systems involve widely differing fluids: saturated steam, superheated steam, compressed air, nitrogen, liquefied gases, flue gases, carbon dioxide, fully demineralized water, solvents, heat-transfer oils, boiler feed water, condensate, etc.

Advantages :

Vortex flow meter body is robust and universally applicable for liquids, gases and steam, optimized for steam applications.

For gases measurement, if the gas temperature and pressure change a lot, pressure and temperature compensation will be a must, vortex flow meter could add temperature and pressure compensation.

To protect the sensor, vortex flow meter choose embedded sensor, with 4 piezo-electric crystal encapsulated inside the sensor, which is our own patent.

There is no moving parts, no abrasion, and non-wearing parts inside the vortex flow meter sensor, fully welded SS304 body (SS316 selectable).

With patented sensor and flow sensor body, vortex flow meter could eliminate drift & vibration influence from great aspect in the working site while compare with other flow meters.

Apart from electromagnetic flow meter and ultrasonic flow meter could work as flow meter and BTU meter, add the temperature sensor and totalizer, vortex flow meter could also work as BTU meter and measure steam or hot water energy.

Requires very few power consumption: 24 VDC, 15 Watts maximum;

In gas measurement, vortex flow meter could achieve high accuracy $\pm 0.75\% \sim \pm 1.0\%$ of reading (gas $\pm 1.0\%$, liquid $\pm 0.75\%$); which could use in custody transfer, while the metal tube rotameter or orifice plate usually use for process control.

With a variety of signals outputs and selection, such as 4-20mA, pulse with HART or pulse with RS485 are selectable.

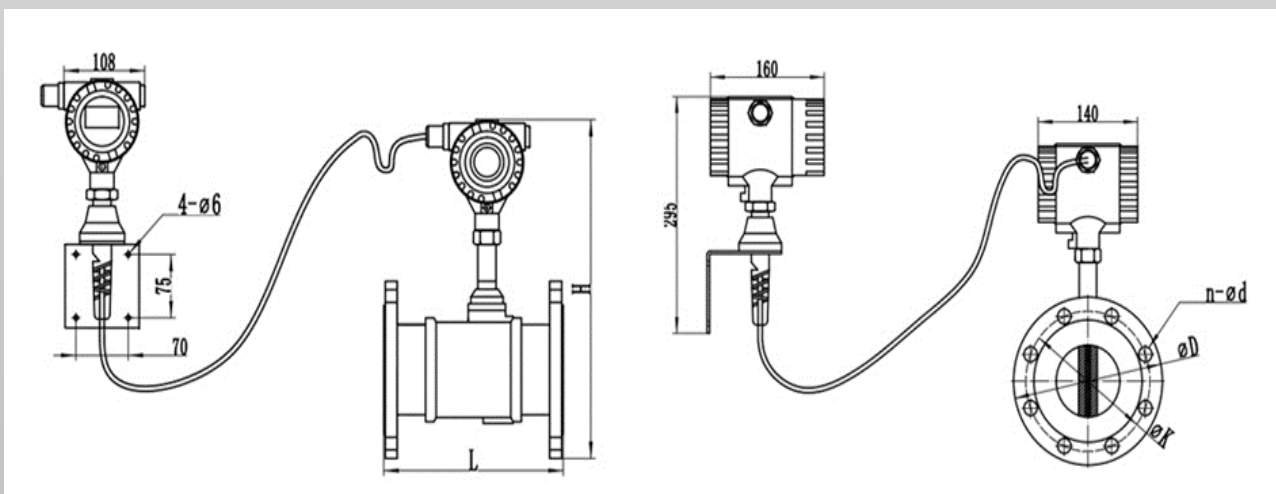
In the electronic device of measuring flow, vortex flow meter is the only one could resist wide temperature range up to highest temperature 350°C , digital flow meter highest process temperature.



MODEL SELECTION

Measured Medium	Liquid, Gas, Steam
Medium Temp	-40°C~+200°C; -40°C~+280°C; 40°C~+350°C
Nominal Pressure	1.6MPa;2.5MPa;4.0MPa(Other pressure can be custom,need consult supplier)
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	$Cd \leq 2.6$
Vibration Acceleration Allowed	$\leq 0.2g$
IIEP 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: $\leq 85\%$ Pressure:86kPa-106kPa
Power Supply	12-24V/DC or 3.6V battery powered
Signal Output	Pulse frequency signal 2-3000Hz, Low level $\leq 1V$, high level $\geq 6V$ Two-wire system 4-20 signal (isolated output), Load ≤ 500

Structure



Size (mm)	Liquid(Reference medium: normal temperature water, m ³ /h)		Gas(Reference medium:20℃, 101325pa condition air, m ³ /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

Caliber (mm)	L	H	D	K	n	d
15	170	440	95	65	4	14
20	170	446	105	75	4	14
25	170	450	115	85	4	14
32	170	463	140	100	4	18
40	190	465	150	110	4	18
50	190	470	165	125	4	18
65	220	487	185	145	4	18
80	220	500	200	160	8	18
100	240	533	220	180	8	18
125	260	560	250	210	8	18
150	280	608	285	240	8	22
200	300	640	340	295	12	22
250	360	705	405	355	12	26
300	400	408	460	410	12	26

APPLICATION

Vortex flow meter is professional in measuring non-conductive liquids, gases, saturated and superheated steam, especially for steam measurement trade settlement.

Except work as flow meter, vortex flow meter can also work as heat meter to measure the Gross/net heat of steam and hot water.

Vortex flow meter usually monitor the compressor output and evaluation of Free Air Delivery (FAD)

There has lots of Industrial gases, such as natural gas, nitrogen gas, liquefied gases, flue gases, carbon dioxide etc, all could use vortex flow meter.

In many factories, compressed air monitoring is very important, vortex flow meter also could use for process control.

Besides the different gases measurement, vortex flow meter could also used for light oil or any purified water such as thermal oils, Desalinated water, demineralized water, RO water, boiler feed water, condensate water etc.

In the Chemicals and petrochemicals industries, there also has lots of gases or liquid could use vortex flow meter for monitoring.

Installation

The installation of vortex flow meter has higher requirements, to guarantee the better accuracy and working properly. Vortex flow meter installation should keep away from the electric motors, big frequency converter, power cable, transformers, etc.

Do not install in the position where there has bends, valves, fittings, pumps etc, which could cause flow disturbances and influence the measurement.

The front straight pipe line and after straight pipe line should follow below suggestion

