

MEMS gas mass flowmeter

For low flow gas applications



Manual control Valve (Optional)

I Product Introduction

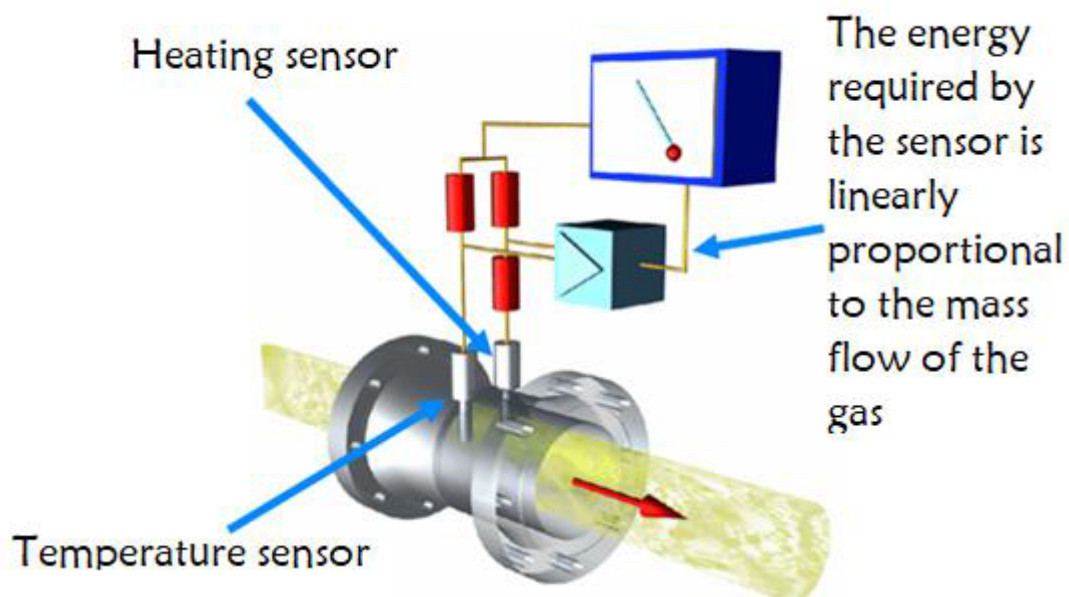
The micro gas mass flowmeter is specially designed for the measurement and process control of all kinds of small flow gases. This series of sensors are manufactured using advanced micro-electro-mechanical system (MEMS) flow sensing chips, suitable for a wide range of clean gases. Unique packaging technology enables them to be used in all pipe diameters with low cost, easy installation, no need for temperature and pressure compensation, and can replace traditional displacement or differential pressure flowmeters.

II Product Features

- Using micro-electromechanical system (MEMS) flow sensing chip, the sensor has the characteristics of high precision, high sensitivity and strong anti-interference.
- The zero stability of the sensor is greatly improved than that of the common thermal flowmeter.
- High wide range ratio, and full range has high precision and repeatability.

- Compared with the traditional mechanical instrument, the pressure loss is greatly reduced and the energy consumption is reduced.
- The response speed can reach millisecond level.
- LCD display instantaneous flow and cumulative flow, clear and intuitive, easy to read.

III、 Working principle



- The MEMS sensor consists of two patch platinum resistors, one measuring the temperature of the gas in the pipe and the other heated by an electric current, keeping the temperature difference between the two thermal resistors constant.
- As the gas flows through the thermal resistance, there is a cooling

effect. As the flow rate increases, the cooling effect increases and the sensor power required to keep the temperature difference between the two thermal resistors constant increases.

- The power added to the heating resistance is proportional to the mass flow rate

IV Performance indicators

accuracy (%)	+ 2.0 + 0.2 (FS)	Medium temperature (° C)	- 10 ~ 55
Range (L/min scale)	0- 200.	Pressure loss (Pa)	2000 or less
Response time (ms)	50- 1000.	Humidity	<95%RH(no frost, no icing)
Maximum working pressure (Mpa)	1.0	Connect	NPT1/2 (outer teeth)
Working power supply	15v- 24v 100mA	Overall power consumption	< 2.4 W.
Output mode	4- 20mA, pulse (Optional)	Method of communication	RS485 (Modbus Protocol)
display	Instantaneous flow, cumulative flow	Calibration	Air (20C, 101.325kPa)

Note 1, in order to ensure the measuring accuracy of the flowmeter, it is necessary to preheat for one minute before use;

V Mechanical dimensions

