

SFM800 Thermal Gas Mass Flowmeter

Features

1. Adopts patented technology platinum RTD transmitter with high stability.
2. Real mass flowmeter, need no temperature and pressure compensation. It can measure mass flow and standard flow of gas.
3. Measurement range is 500:1 and can be widened according to users' requirement.
4. Can realize measuring small flow in big pipeline, the smallest flow rate can be 0.5Nm/S.
5. With no moving parts, vibration effect is very small and can be ignored.
6. The requirement for straight pipeline is not strict, 1-2D.
7. Has no relation with temperature and pressure of medium.
8. With digital design, complete instrument digital circuit measurement, with accuracy measurement and convenient maintenance.
9. It is not sensitive for tiny particles such as dust, and so on.
10. Can be dismantled online without cutting flow, is easy to maintenance.

Operating Principle

1. The flowmeter is made according to thermal diffusion principle has two designs: the one is based on the principle of constant difference in temperature; the other is based on constant power principle. The two are both based on the same date model: $P/\Delta T=A+B(Q)N$. P-wasted power, ΔT -the temperature difference between two transmitters, Q-mass flow, N-index coefficient, A and B are coefficients related to the thermal property of gas.
2. Principle of constant difference in temperature: ΔT keeps unchanged, wasted power P increases by index function with the increase of flow rate Q.
3. Constant power principle: wasted power keeps unchanged, temperature difference decreases by index function with the decrease of flow rate Q.

Main Technical Parameters

Measurement Range	0.5~100Nm/s
Accuracy	±1.0% reading, ±0.5% full range
Measurement Range Ratio	100: 1 in general (depends on the range of calibration flow)
Pipe Diameter Range	15~8000mm
Applied Range	It is suitable for all kinds of pure gas or mixed gas, gas with dust, sandy, all kinds of corrosive gas.
Environment Temperature Range	-40℃~+85℃ (without display), -30℃~+70℃(with display), humidity<90%RH
Medium Temperature Range	-40℃~+100℃, -40℃~+200℃, -40℃~+350℃
Transmitter Diameter	φ2.5, φ3, φ4
Plug-in Transmitter Feeler Lever Diameter	φ19, φ25
Transmitter Material	316 stainless steel, Hastelloy, Titanium
Feeler Level Material (Protective Sleeve)	316G stainless steel (standard), Hastelloy
Analog Flow Output	Flow: 4-20mADC output, temperature: 4-20mADC, maximum load: 500Ω
Power Supply	Complete Instrument DC24V/AC220V, separated transmitter AC220V
Operating Principle	Plug-in type≤2.5mpa, pipeline type≤4.0mpa
Installation Technical Mode	Plug-in type (clamping hoop), clamping hoop + ball valve, flange connection), pipeline type (flange, thread connection).
Explosion-proof Level	Intrinsic safety, flame-proof type
Protective Level	IP65

Dimension Figure



Inside Nominal Diameter	15	25	40	50	80	100	150	200	250	300
L (mm)	300	300	350	350	450	450	500	600	600	650
H (mm)	300	300	300	300	350	380	400	450	500	550

Ordering Models

Basic Model	Connection Mode	Pipeline Diameter	Structure Style	Power Supply Mode	Medium Temperature	Working Temperature	Accuracy	Illustration
SFM800								Thermal gas mass flowmeter
	F							Pipeline type
	J							Plug-in type
		15~8000						15~8000mm
			L					Integral type
			R					Separated type
								316 stainless steel rotor
				24D				24VDC
				220				220VAC
					A			-20℃~+100℃
					B			-20℃~+200℃
					C			-20℃~+350℃
						F		pulse
						I		4-20mA
						R		RS485, RS232, Modbus
						H		Hart Protocol