

ANF388 Thermal Gas Mass Flowmeter



Measure Principle

The thermal gas mass flow meter is an instrument that measures gas flow using the principle of thermal diffusion. The sensor consists of two reference-grade thermal resistors (RTDs). One is the velocity sensor RH, and the other is the temperature sensor RMG that measures the temperature change of the gas. When the two RTDs are placed in the measured gas, one sensor RH is heated, and the other sensor RMG is used to sense the temperature of the measured gas. As the gas flow rate increases, the airflow takes away more heat, and the temperature of the sensor RH decreases. The thermal mass flow meter uses thermal measurement to measure the flow rate by measuring the molecular mass taken away by the split molecules. Because it uses thermal measurement, the measurement results will not be affected by changes in gas temperature and pressure.

Specification

Overview

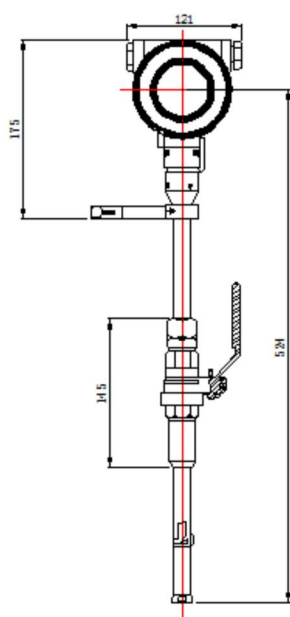
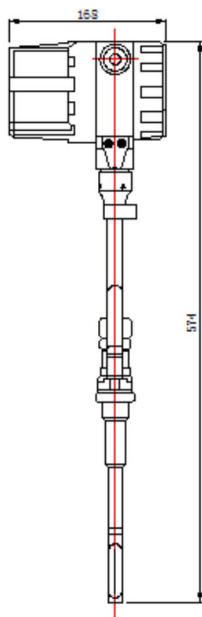
ANF388 thermal gas mass flow meter is designed based on the principle of heat diffusion. The instrument uses the constant temperature difference method to accurately measure the gas. It has the advantages of small size, high degree of digitization, easy installation, and accurate measurement. The mass flow meter is a relatively accurate, fast, reliable, efficient, stable, and flexible flow measurement instrument. It will be more widely used in the fields of petroleum processing and chemical industry. It is believed that it will show great potential in promoting flow measurement. The mass flow meter cannot control the flow. It can only detect the mass flow of the gas and output the flow value through analog voltage, current or serial communication.



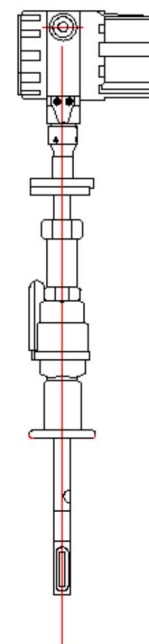
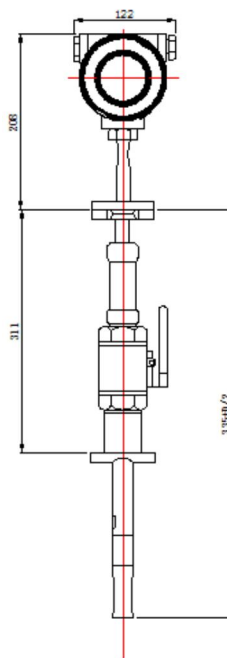
Measuring Medium	Various gases (except acetylene gas)
Diameter Range	DN10mm ~ DN4000mm
Flow Rate Range	0.1Nm/s ~ 100Nm/s (Nm/s is the flow rate under standard conditions (1 atmosphere, 4 degrees Celsius)).
Accuracy	±1%, 2.5%
Working Temperature	Sensor: -40°C~ +220°C; Converter: -20°C~ +45°C
Working Pressure	Medium pressure ≤ 1.6MPa (plug-in type) (>1.6MPa full pipe type) Special pressure can be customized
Power Supply	Integrated type (DC 24V or AC220V ≤ 18W) Separated type (AC220V ≤ 19W)
Response Speed	1s
Output Signal	4mA ~ 20mA DC (photoelectric isolation, maximum load 500Ω), pulse, RS485 (photoelectric isolation), HART protocol
Alarm	1 channel ~ 2 Normally open contact of relay, 10A/220V/AC, 5A/30V/DC
Structural Form	Plug-in and full-tube
Pipeline Material	Carbon steel, stainless steel, plastic, etc.
On-site Display	LCD display
Display Content	Mass flow, standard volume flow, cumulative flow, standard time, cumulative running time, standard flow rate, etc.
Protection Level	IP65
Sensor Material	Stainless steel (316)

Dimension(Unit: mm)

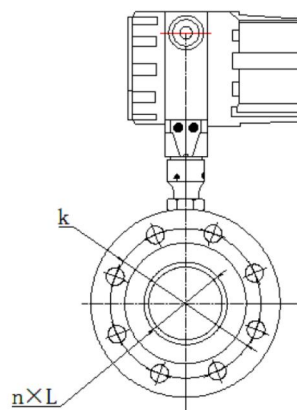
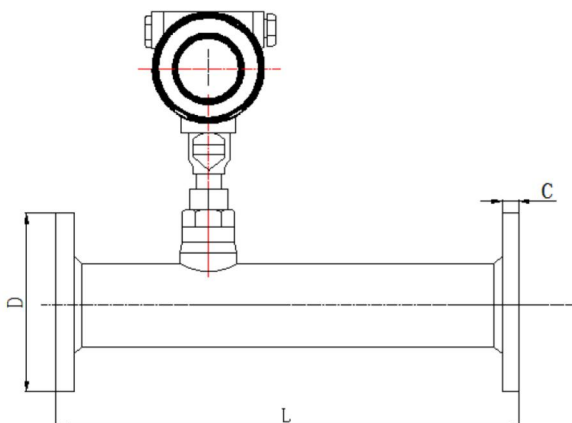
Simplified plug-in type



Standard plug-in type



Flange full pipe type



GB /T9119-2000 PN1.6MPa(16bar) Flat and panel type flat welded steel pipe flange (Unit: mm)

Nominal Diameter	Flange Outer Diameter	Center Hole Diameter	Screw Hole	Thread Specification	Sealing Surface		Flange Thickness	Instrument Installation Length
					d	f		
DN	D	K	N×L		d	f	C	L
15	95	65	4×14	M12	46	2	14	280
20	105	75	4×14	M12	56	2	16	280
25	115	85	4×14	M12	65	2	16	280
32	140	100	4×18	M16	76	2	18	350
40	150	110	4×18	M16	84	2	18	350
50	165	125	4×18	M16	99	2	20	350
65	185	145	4×18	M16	118	2	20	400
80	200	160	8×18	M16	132	2	20	400
100	220	180	8×18	M16	156	2	22	500

Selection Guide

Parameter	code	Description	Remarks
Model	ANF388	Thermal Gas Mass Flowmeter	
Separator	-		
Structure	B	Standard plug-in type	
	C	Simplified plug-in type	
	F	Flange full pipe type	
	L	Threaded connection type	
Separator	-		
Diameter (mm)	XXX	DN10 ~ DN4000 (Pipe Inner Diameter)	
Separator	-		
Material	M1	304	
	M2	316	
	C	Anti-corrosion coating	
	D	Other materials	
Separator	-		
Pressure Rating	S	1.6MPa	
	M	2.5MPa	
	L	4.0MPa	
	T	Other pressure levels	
Separator	-		
Temperature	T1	-40°C~ +200°C	
	T2	High temperature type can be customized	
Separator	-		
Output Signal	E1	4 ~ 20mADC	
	R1	RS485	
	M	Pulse	
	H	HART	
Separator	-		
Power Supply	V1	24VDC	
	Vc	220VAC	
Separator	-		
Display	J	Integrated on-site display	
	S	Separated display	
Selection examples: ANF388-C-150-M1-S-T1-E1-V1-J			