



INDUSTRIAL SWIRL FLOW METER(AIR/GAS FLOW METER)

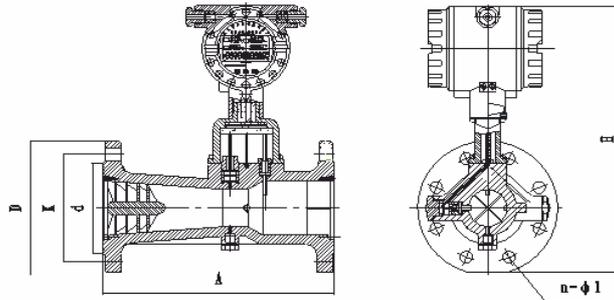
Pressure Temperature Measuring & Control





INDUSTRIAL SWIRL FLOW METER(AIR/GAS FLOW METER)

BT-SFM- S.S.S - size



Swirl flow meter is the new type of flow meter with up to date technique. It integrates flow, temperature and pressure to do volume compensation

Main Characteristics : No remove parts, Anti-corrosion, stable performance, long working life, not need special protection measurement after long working hours. Adopted 16 Bit computer chips ,highly integrated, small volume, good performance. The intelligent flow meter integrates sensor ,micro-processor,pressure and temperature sensor into one part , built-in group to compact the structure , directly measure flow volume, pressure ,temperature and able to carry out volume compensation. Adopted double testing technique to improve the testing signal and to prevent the vibration of pipeline. | Adopted advanced anti-vibration technique to restrain the vibration and disturbing signal from pressure fluctuation. Digital counter displays volume flow, volume flow in standard state, totalized flow ,medium pressure and temperature ,etc .Transmitter outputs frequency pulse ,4-20mA analog signal and RS485 port to connect with computer directly .The distance that signal can be output reaches to 1.2Km . Warning output for variable parameters one of which can be selected by users . Counter can be rotated from 360 angles. Battery operated or extra power supply

Application :

- *Various Gases Measurement
- *Petroleum
- *Chemical Engineering
- *Industrial gases
- *Compressor air measurement

Gas : air, oxygen, nitrogen, coal gas, natural gas, chemical gas

Features:

- No moving parts, wear resistance, structure is simple and fastness
- The allowed working temperature is wide from -20°C to +80°C
- Wide range, High accuracy
- The body Material could be aluminum or Stainless steel as per different pressure requirement
- Pulse signal output, two-wire system 4-20mA current output, RS-485 output





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Technical Data Sheet :

Process Media :

Gas and Air - Swirl flow meter with pressure and temp. Compensations
mass available with Compensations

Material of construction:

Enclosure : Aluminum Alloy / S.S.-316/S.S-304/1Cr18Ni
require

Sensor : Stainless steel 316 / Tantalum

Repeatability : 0.02%

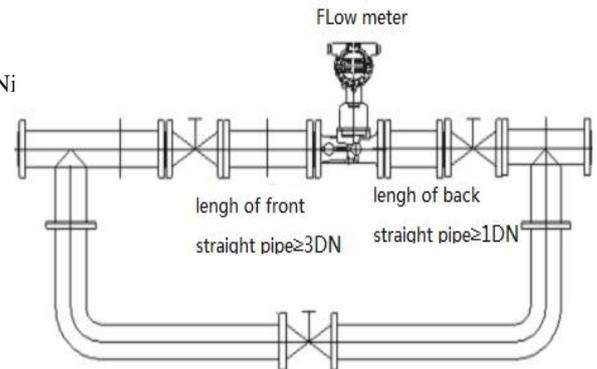
Accuracy : 1% for gas/air

Flow range : 1.0-3600.0 m³/h;

Maximum working pressure : 86Kpa ~ 106Kpa

Fluid & Ambient temperature: -20°C to +80°C

Connection: Flange



1) Battery operated meter :

Power voltage: 3.3 V lithium batteries can be used more than 2 years in a row.

display mode:

Double row Liquid Crystal Display (LCD), as follows:

XXX. X four instantaneous flow (Nm³ / h) or Kg/h

XX. XXXXXX eight cumulative flow (Nm³) or kg

Pressure, temperature reading

Cumulative flow: automatically expand the display precision, the cumulative flow values can be reset.

Power-fail protection: instrument coefficient, the Total flow values ten years is not lost when power supply drop.

Function : Auto test meter for find problem,

2) Display with 4 to 20 mA Output

Power voltage: 24 V DC

Output signal: 4 TO 20 mA

Optional output on demand : RS-485/ ALARM/3 wire pulse output

3) Panel mount flow rate totalizer

Display flow rate and total, many optional output and 24vdc/230vAC power supply



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Flow range :

Model	DN mm	Flow range m ³ /h	PN MPa	Pressure loss kPa	Material
BT-SFM-015	15	0.3~12	1.6 2.5 4.0 6.3	$\Delta P = \rho / 1.205 \times N$	Aluminum
BT-SFM -020	20	1.2~15			
BT-SFM -025	25	2.5~30			
BT-SFM -032	32	4.5~60			
BT-SFM -040	40	7~70			
BT-SFM -050	50	10~130			
BT-SFM -065	65	20~300			
BT-SFM -080	80	30~400			
BT-SFM -100	100	50~800			
BT-SFM -125	125	80~1000			
BT-SFM -125	150	190~1900			
BT-SFM -200	200	240~3600			

Remark

1.Precision:is confirmed after temperature and pressure compensation

2.Standard condition P = 101.325KPa T=293.15K

3.Application condition

Ambient temp. -30°C +65°C

Humidity 5% 95%

Medium temp. -20°C +80°C

Air pressure 86KPa 106KPa



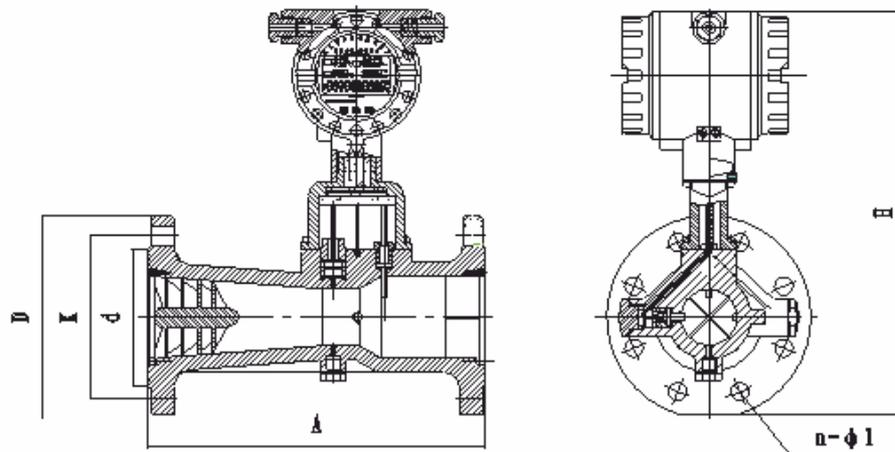
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Dimension and size

Please refer to the following pic and table, flowmeter is flange connection.

Flange standard :GB/T9112 9113-2000



Model	DN	Pressure MPa	A	H	D	K	n×d	
BT-SFM -020A	20	1.6、 2.5、 4.0、 6.3	160	305	105	75	4-φ14	
BT-SFM -025A	25	1.6、 2.5、 4.0、 6.3	180	315	115	85	4-φ14	
BT-SFM -032A	32	1.6、 2.5、 4.0、 6.3	200	330	140	100	4-φ18	
BT-SFM -050A	50	1.6、 2.5、 4.0	232	355	165	125	4-φ18	
BT-SFM -050B		6.3		365	180	135		
BT-SFM -080A	80	1.6、 2.5、 4.0	330	390	200	160	8-φ18	
BT-SFM -080B		6.3		400	215	170		
BT-SFM -100A	100	1.6	410	410	220	180	8-φ18	
BT-SFM -100B		2.5		420	235	190		8-φ22
		4.0		420	235	190		
BT-SFM -150A	150	1.6	580	470	285	240	8-φ22	
BT-SFM -150B		2.5		490	300	250		8-φ26
		4.0		490	300	250		
BT-SFM -200A	200	1.6	700	525	340	295	12-φ22	
		2.5		540	360	310	12-φ26	
		4.0		550	375	320	12-φ30	

Flow range code : A: Small range : B: Large range



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Range of Measurable Air Flow Rate at Selected Process Pressures

Model Code	Flow Rate Limits	Minimum and Maximum Measurable Flow Rate in Nm ³ /h									
		0 MPa	0.1 MPa	0.2 MPa	0.4 MPa	0.6 MPa	0.8 MPa	1 MPa	1.5 MPa	2 MPa	2.5 MPa
BT-SFM - 020	min.	1.2	1.7	2.1	2.6	3.1	4	4.9	7.2	9.4	11.6
	max.	15	30	45	74	104	134	163	237	311	385
BT-SFM - 025	min.	2.5	3.5	4.3	5.5	6.5	8.4	10.3	14.9	19.5	24.2
	max.	30	60	89	149	208	267	326	474	622	771
BT-SFM - 032	min.	4.5	6.3	7.7	9.8	11.7	15.1	18.5	26.8	35.2	43.5
	max.	60	119	178	298	416	534	652	949	1245	1541
BT-SFM - 050	min.	10	14	17.1	21.9	26	33.5	41	59.6	78.1	96.7
	max.	130	258	386	645	901	1157	1413	2055	2697	3339
BT-SFM - 080	min.	30	41.9	51.3	65.6	78.1	100.6	123.1	178.8	234.4	290
	max.	400	795	1187	1983	2772	3560	4349	6324	8299	10274
BT-SFM - 100	min.	50	69.8	85.4	109.4	130.2	167.7	205.2	297.9	390.6	483.3
	max.	800	1590	2373	3967	5544	7120	8697	12647	16598	20548
BT-SFM - 150	min.	190	265.2	324.6	415.6	494.8	637.3	779.8	1132.1	1484.4	1836.7
	max.	1900	3776	5637	9421	13166	16911	20656	30037	39419	48801

- At standard conditions STP (25°C. 1atm)
- Pressure listed is at process temperature of 25°C.