aobo instrument

2024
PRODUCT
INTRODUCTION

Gas Turbine Flowmeter

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Company Profile

Weifang AOBO Instrument Technology Development Co., Ltd., founded in 2002, with registration capital of 10 million RMB, is a "High-Tech" and "Double-Software Certification" enterprise specialized in "flow measurement and intelligent measurement & control" industry, integrating R&D, production, sales and service.

The company has a core R&D team for computer software and technology, automatic intelligent control, HVAC engineering design and flow measurement. It has the ability to provide customers with specific solutions and complete sets of products according to their different needs, based on years of practical experience. Especially in the heating industry, by the customer's recognition, has a high reputation in the industry.

The products are mainly used in the measurement and control of "steam, liquid, gas, sewage and tap water"; and especially suitable for energy monitoring and energy-saving control in many industries, such as thermal power plants, thermal companies, residential heating, petroleum, chemical industry, papermaking, food, coating, printing & dyeing and HVAC.

Since its foundation, based on self-developed and leading technology, reliable quality, high-quality service and good reputation, our company has been warmly accepted by customers, and become a designated supplier for many central enterprises and listed companies.

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I. Product Overview

ABDT-LWQ series gas turbine flowmeter is a new generation of high-precision and high-reliability gas precision measuring instrument, which is based on the advanced technology of flow meters at home and abroad and has been optimized and designed. It integrates the theories of gas mechanics, fluid mechanics, electromagnetism, etc. and integrates temperature, pressure, flow sensors and intelligent flow totalizer. It has excellent low-pressure and high-pressure metering performance, various signal output modes and low sensitivity to fluid disturbance, and is widely suitable for metering natural gas, coal-based gas, liquefied gas and other gases.

The product has passed the inspection by the national explosion-proof product quality inspection department according to GB3836.2000 Electrical Apparatus for Explosive Gas Atmospheres-- Part 1: General Requirements, GB3836.2-2000 Electrical Apparatus for Explosive Gas Atmospheres-- Part 2: Flameproof Enclosure "d" and GB3836.4-2000 Electrical Apparatus for Explosive Gas Atmospheres-- Part 4: Intrinsic Safety "i". The anti-explosion signs are Exd Ⅱ BT6 (flameproof enclosure) and Exia Ⅱ CT6 (Intrinsic safety). It is suitable for hazardous sites in Zone 0, Zone 1 and Zone 2 (only intrinsic safety) containing explosive gas mixtures of T1~T4 temperature groups in Class IIA, IIB and IIC.

II. Product Features

◆High quality alloy turbine with higher flow stability and corrosion resistance

◆Imported high-quality special bearings with long service life.

◆The metering room is isolated from the ventilation room, thus ensuring the safety of the instrument.

◆It can detect the temperature, pressure and flow rate of the measured gas, automatically track and compensate the flow rate, and display the gas volume accumulation

under the standard state (Pb= 101.325 KPa, Tb=293. 15 K); The temperature and pressure values can be queried in real time.

◆Wide flow range (Qmax /Qmin ≥20:1), good repeatability, high accuracy (up to grade 1.0), small pressure loss, low initial flow, up to 0.6 m3/h

◆Multi-point nonlinear correction of intelligent instrument coefficient

◆Built-in pressure and temperature sensor, with high safety performance, compact structure and beautiful appearance

◆The instrument has explosion-proof and protection functions. The explosion-proof marks are Exd Ⅱ BT6 and Exia Ⅱ CT6, and the protection grade is IP65

◆The system operates with low power consumption, and a 3.6 V10AH lithium battery can be continuously used for more than one year.

◆Instrument coefficient and cumulative flow value will not be lost after power failure for ten years

Header Implementation Function:

1. Interface with temperature/pressure sensor. The temperature can be connected with Pt100 or Pt1000, and the pressure can be connected with gauge pressure or absolute pressure sensor.

2. The output signals are diversified. Two-wire 4-20mA output, three-wire pulse output, equivalent output and 485 communication can be selected according to customer requirements.

3. It has excellent non-linear correction function which greatly improves the linearity of the instrument;

4. It has the function of software spectrum analysis, which improves the anti-interference and anti-seismic capability of the instrument.

5. With ultra-low power consumption, full performance operation of a dry battery can last for at least one year;

6. The working mode can be automatically switched, with battery power supply, two-wire system and three-wire system;

7. It has self-checking function with rich self-checking information, which is convenient for users to overhaul and debug.

8. It has independent password setting. For parameters, total amount clearing and calibration, it can set passwords of different levels, which is convenient for user to manage.

III.Technical Indicators

1.Measuring range

Nominal diameter (mm)	Standard range(m^3/h)		Conventional withstand voltage rating(MPa)	Special high pressure rating(MPa)	Installation method
DN25	S	5-50	1.6	2.2,4.0	Flange
DN40	S	6-60	1.6	2.2,4.0	Flange
DN50	S1	6-65	1.6	2.2,4.0	Flange
	S2	10- 100			
DN65	S	15-300	1.6	2.2,4.0	Flange
DN80	S1	13-250	1.6	2.2,4.0	Flange
	S2	20-400			Flange
DN100	S1	20-400	1.6	2.5	Flange
	S2	32-650			Flange
DN150	S1	50- 1000	1.6	2.5	Flange
	S2	80- 1600			Flange
DN200	S1	80- 1600	1.6	-	Flange
	S2	125-2500			Flange
DN250	S1	130-2500	1.6	-	Flange
	S2	200-4000			Flange
DN300	S	320-6500	1.6	-	Flange
			1.6		
DN400	S	400-8000	1.6	-	Flange

2.Accuracy grade: 1.0 and 1.5

3.Conditions of use:

Ambient temperature: -20℃~+60℃;

Atmospheric pressure: 86KPa～106KPa;

Medium temperature: -20℃~+80℃;

Relative humidity: 5%～95%

4. Electrical performance index:

Model and specification	Display and output mode	Power supply
ABDT-DYWQ-D	Temperature and pressure sensors are installed in ABDT-LWQ-B (field display type) to automatically compensate and correct the flow under different conditions. The temperature, pressure, battery power and other values can be queried at the same time. It can output high-frequency and low-frequency voltage pulse signals and 4-20mADC two-wire current signals.	a.3.6V10AH lithium battery b.external power DC24V

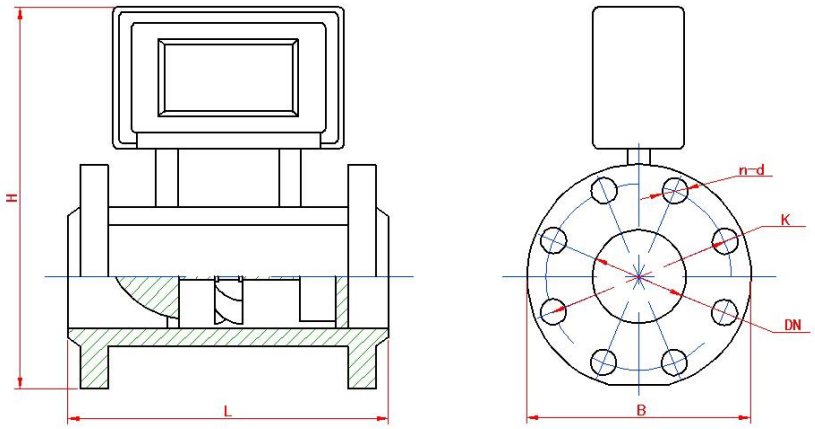
5.Model table:

Specification code		Description
Sign of the factory	ABDT-DYWQ	Factory code
	D	Common type
	F	Precision Type
Media	B	Natural gas
	F	Other
Converter	1	Round header
	2	Square header
Diameter code	2	Diameter 25mm
	4	Diameter 40mm
	5	Diameter 50mm
	6	Diameter 65mm
	8	Diameter 80mm
	10	Diameter 100mm
	15	Diameter 150mm
	20	Diameter 200mm
	25	Diameter 250mm
	30	Diameter 300mm
Table body material	F	Stainless steel 304
	C	Aluminum alloy
Output signal form	A	4-20mA output
	0	Pulse output

Communication interface	1	None
	2	RS485
	3	Special requirements
Working pressure	1	Within 1.0MPA
	2	Within 1.6PMA
	3	Within 2.5MPA
	4	Within 4.0MPA
	5	Above 4.0MPA

6.Outline Dimensions

The appearance of the flowmeter is shown in Figure 1, and the specific dimensions are shown in.



Note:shows the appearance of temperature and pressure compensation instrument.

The sensor parts of all types of instruments with the same caliber and the height dimensions of the whole machine are consistent.

Model	Diameter (mm)	L	B	H	K	n	d	Bolt specifications	Conventional withstand voltage(MPa)
ABDT-LWQ-25	25	200	115	335	85	4	Φ14	M12×50	1.6
ABDT-LWQ-40	40	200	150	365	110	4	Φ18	M16×55	
ABDT-LWQ-50	50	200	165	365	125	4	Φ18	M16×60	
ABDT-LWQ-65	65	240	185	395	145	4	Φ18	M16×65	1.6
ABDT-LWQ-80	80	240	200	395	160	8	Φ18	M16×70	
ABDT-LWQ-100	100	300	220	415	180	8	Φ18	M16×80	
ABDT-LWQ-150	150	450	285	495	240	8	Φ22	M20×80	1.6
ABDT-LWQ-200	200	600	340	528	295	12	Φ22	M20×90	
ABDT-LWQ-250	250	300	403	585	355	12	Φ26	M24×90	
ABDT-LWQ-300	300	350	460	668	410	12	Φ26	M24×100	
ABDT-LWQ-400	400	600	580	1000	525	16	Φ30	M27×150	

IV. Selection of Flowmeter

1.When selecting the type, the user should reasonably select the type and specification of the flowmeter according to the nominal pressure of the pipeline, the highest pressure of the medium, the temperature of the medium, the composition of the medium, the flow range and the signal output requirements.

2.In order to optimize the service performance of the flowmeter, the flow rate range of the flowmeter should be within (20%~80%) Qmax.

3.The signal output mode of flowmeter when leaving the factory: working condition pulse signal output (three-wire system), standard flow signal (IC card) output or RS-485 communication output. If other output functions are required, please explain them when ordering.

4.Examples of type selection

It is known that the actual working pressure of a certain gas supply pipeline is (gauge pressure) 0.8 MPa~ 1.2 MPa, the medium temperature range is -5 ℃ ~ +40 ℃ , and the gas supply volume is 3000~8000Nm3/h (standard flow rate). Without considering the natural gas composition, it is required to determine the specification and model of the flowmeter.

Analysis: The flow range given in Table 1 of the instruction is the working condition flow range, while the flow range given in this example is the standard condition flow range. Therefore, the standard condition flow must be converted into the working condition flow according to the gaseous equation before selecting the appropriate caliber.

The gaseous equation is as follows:

$$Q_b = Q \cdot \frac{P \cdot T_b}{P_b \cdot T} \cdot \frac{Z_b}{Z_g} = Q \cdot C \cdot F_Z^2$$

Where: Q_b —— standard condition flow，m^3/h；

Q —— working condition flow，m^3/h；

C_* —— conversion factor；（Look up Table a. The data in the table are only for reference during selection and conversion）

$F_z = \sqrt{\frac{Z_b}{Z_g}}$ ——The gas compression factor is calculated according to SY/T 6143-1996 standard of China National Petroleum Corporation.

The data in Table b are for reference only. The data are calculated according to the true relative density of natural gas Gr=0.600 and the molar fractions of nitrogen and carbon dioxide are both 0.00. When the medium pressure is lower than 0.5MPa, they can be estimated according to Zb/Zg= 1. 00.

Calculation: ① When the medium pressure is the lowest (0.8MPa) and the temperature is the highest (+40℃) (in the peak period of gas supply), it shall have the maximum standard volume flow rate (FZ can be temporarily ignored when selecting the type, and the local atmospheric pressure is 101.325 kPa):

that is, m^3/h $Q_{max} = Q_{b_{max}} \frac{P_b}{P} \cdot \frac{T}{T_b} = 8000 \times \frac{101.325}{101.325 + 800} \times \frac{273.15 + 40}{293.15} = 965.472$

Or use the following formula for estimation (where, C* is the conversion factor, see Appendix Table a):

$$Q_{max} = \frac{Q_{bmax}}{C} = \frac{8000}{8.33} = 960.38 \ m^3/h$$

② When the medium pressure is the highest (1.2MPa) and the temperature is the lowest (-5℃) (at the bottom of gas supply), it shall have the minimum standard volume flow rate:

that is, $Q_{min} = 3000 \times \frac{101.325}{101.325 + 1200} \times \frac{273.15 \quad 5}{293.15} = 213.51 m^3/h$ or use the following formula to estimate:

$$Q_{min} = \frac{Q_{bmin}}{C} = \frac{3000}{14.0} = 214.3 \ m^3/h$$

Selection: From the above estimation results, it is known that the flow range of the flowmeter to be selected is (213.5~965.472) m3/h. According to Table 1, the flowmeter model to be selected is ABDT-LWQ- 150.

The value of conversion coefficient C* calculated according to the gaseous equation

℃ PRE / TEMP		MPa													
		0.01	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
TEMP (℃)	-20	1.27	1.70	2.30	2.87	3.34	4.02	4.59	5.16	5.73	6.30	6.87	7.44	8.02	8.59
	-15	1.25	1.70	2.26	2.82	3.38	3.94	4.50	5.06	5.62	6.18	6.74	7.30	7.86	8.42
	-10	1.22	1.66	2.21	2.76	3.31	3.86	4.41	4.96	5.51	6.60	6.61	7.16	7.71	8.26
	-5	1.20	1.63	2.17	2.71	3.25	3.79	4.33	4.87	5.41	5.95	6.49	7.03	7.57	8.11
	0	1.18	1.60	2.13	2.66	3.19	3.72	4.25	4.78	5.31	5.84	6.37	6.90	7.43	7.96
	5	1.16	1.57	2.09	2.61	3.13	3.65	4.17	4.69	5.21	5.73	6.25	6.77	7.29	7.81
	10	1.14	1.55	2.06	2.57	3.08	3.59	4.10	4.61	5.12	5.63	6.14	6.66	7.17	7.68
	15	1.12	1.52	2.02	2.52	3.03	3.53	4.03	4.53	5.03	5.54	6.04	6.54	7.04	7.54
	20	1.10	1.49	1.99	2.48	2.97	3.47	3.96	4.45	4.95	5.44	5.93	6.43	6.92	7.42
	25	1.08	1.47	1.95	2.44	2.92	3.41	3.89	4.38	4.86	5.35	5.84	6.32	6.81	7.29

	30	1.06	1.44	1.92	2.40	2.88	3.35	3.83	4.31	4.78	5.26	5.74	6.22	6.69	7.17
	35	1.05	1.42	1.89	2.36	2.83	3.30	3.77	4.24	4.71	5.18	5.65	6.12	6.58	7.05
	40	1.03	1.40	1.86	2.32	2.78	3.25	3.71	4.17	4.63	5.09	5.56	6.02	6.48	6.94
	45	1.01	1.38	1.83	2.29	2.74	3.19	3.65	4.10	4.56	5.01	5.47	5.92	6.38	6.83
	50	1.00	1.35	1.80	2.25	2.70	3.15	3.59	4.04	4.49	4.94	5.38	5.83	6.28	6.73
℃ PRE / TEMP		MPa													
		0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.20	1.40	1.60	2.00	2.50	3.00	4.00
	-20	9.16	9.73	10.3	10.9	11.4	12.0	12.6	14.9	17.2	19.4	24.0	29.7	35.4	46.9
	-15	8.98	9.54	10.1	10.7	11.2	11.8	12.3	14.6	16.8	19.1	23.6	29.1	34.8	46.0
	-10	8.81	9.36	9.91	10.5	11.0	11.6	12.1	14.3	16.5	18.7	23.1	28.6	34.1	45.1
	-5	8.65	9.19	9.72	10.3	10.8	11.3	11.9	14.0	16.2	18.4	22.7	28.1	34.5	44.3
	0	8.49	9.20	9.55	10.1	10.6	11.1	11.7	13.8	15.9	18.0	22.3	27.6	32.9	43.4
	5	8.33	8.86	9.38	9.90	10.4	10.9	11.5	13.5	15.6	17.7	21.9	27.1	32.3	42.1
	10	8.19	8.70	9.21	9.72	10.2	10.7	11.3	13.3	15.3	17.4	21.5	26.6	31.7	41.9
	15	8.05	8.55	9.05	9.55	10.1	10.6	11.1	13.1	15.1	17.1	21.1	26.1	31.1	41.2
TEMP	20	7.91	8.40	8.90	9.39	9.88	10.4	10.9	12.8	14.8	16.8	20.7	25.7	30.6	40.5
	25	7.78	8.26	8.75	9.23	9.72	10.2	10.7	12.6	14.6	16.5	20.4	25.2	30.6	39.8
(℃)	30	7.65	8.12	8.60	9.08	9.56	10.0	10.5	12.4	14.3	16.2	20.1	24.8	30.1	39.1
	35	7.52	7.99	8.46	8.93	9.40	9.87	10.3	12.2	14.1	16.0	19.7	24.4	29.6	38.5
	40	7.40	7.87	8.33	8.79	9.25	9.71	10.3	12.0	13.9	15.7	19.4	24.0	29.1	37.9
	45	7.29	7.47	8.20	8.65	9.11	9.56	10.3	11.8	13.7	15.5	19.1	23.7	28.6	37.3
	50	7.17	7.62	8.07	8.52	8.96	9.11	9.86	11.7	13.4	15.2	18.8	23.3	27.8	36.7

Note:

1. The values in the table are calculated based on the local atmospheric pressure of 101.325KPa;

2. Pressure is gauge pressure

Fz value of gas compression factor

Fz TEMP ℃ / P Gauge MPa	30	35	40	45	50	55	60	65	70	75
0.50	1.0048	1.0046	1.0043	1.0041	1.0039	1.0036	1.0034	1.0032	1.0031	1.0029
1.00	1.0097	1.0092	1.0087	1.0082	1.0077	1.0073	1.0069	1.0065	1.0061	1.0058
1.50	1.0147	1.0138	1.0130	1.0123	1.0116	1.0109	1.0103	1.0097	1.0091	1.0086
2.00	1.0197	1.0185	1.0174	1.0164	1.0154	1.0145	1.0137	1.0129	1.0121	1.0114
2.50	1.0247	1.0231	1.0217	1.0204	1.0192	1.0181	1.0170	1.0160	1.0151	1.0142
3.00	1.0297	1.0278	1.0261	1.0245	1.0230	1.0216	1.0203	1.0191	1.0180	1.0169
3.50	1.0347	1.0325	1.0305	1.0286	1.0268	1.0252	1.0236	1.0222	1.0208	1.0196
4.00	1.0397	1.0372	1.0348	1.0326	1.0305	1.0286	1.0269	1.0252	1.0236	1.0222
4.50	1.0447	1.0418	1.0391	1.0366	1.0343	1.0321	1.0301	1.0282	1.0264	1.0247
5.00	1.0497	1.0464	1.0434	1.0405	1.0379	1.0355	1.0332	1.0311	1.0291	1.0272
5.50	1.0547	1.0510	1.0476	1.0444	1.0415	1.0388	1.0363	1.0339	1.0317	1.0297
6.00	1.0596	1.0555	1.0517	1.0483	1.0450	1.0420	1.0393	1.0367	1.0343	1.0320
6.50	1.0644	1.0599	1.0558	1.0520	1.0485	1.0452	1.0422	1.0394	1.0368	1.0343
7.00	1.0692	1.0643	1.0598	1.0557	1.0519	1.0483	1.0451	1.0420	1.0392	1.0365
7.50	1.0738	1.0686	1.0637	1.0593	1.0552	1.0514	1.0478	1.0446	1.0415	1.0387
8.00	1.0748	1.0727	1.0675	1.0627	1.0583	1.0543	1.0505	1.0470	1.0438	1.0407

Fz TEMP ℃ / P Gauge MPa	-20	-15	-10	-5	0	5	10	15	20	25
0.50	1.0088	1.0083	1.0078	1.0073	1.0069	1.0065	1.0061	1.0058	1.0054	1.0051
1.00	1.0180	1.0169	1.0159	1.0149	1.0140	1.0132	1.0124	1.0117	1.0110	1.0103

1.50	1.0276	1.0258	1.0242	1.0227	1.0213	1.0200	1.0188	1.0176	1.0166	1.0156
2.00	1.0375	1.0351	1.0328	1.0307	1.0287	1.0269	1.0252	1.0237	1.0222	1.0209
2.50	1.0479	1.0446	1.0416	1.0389	1.0363	1.0340	1.0318	1.0298	1.0280	1.0263
3.00	1.0587	1.0546	1.0508	1.0473	1.0441	1.0412	1.0385	1.0360	1.0337	1.0316
3.50	1.0700	1.0649	1.0602	1.0560	1.0521	1.0485	1.0453	1.0423	1.0396	1.0370
4.00	1.0818	1.0756	1.0699	1.0648	1.0602	1.0506	1.0521	1.0486	1.0454	1.0425
4.50	1.0941	1.0866	1.0799	1.0739	1.0685	1.0635	1.0591	1.0550	1.0513	1.0479
5.00	1.1069	1.0980	1.0902	1.0831	1.0768	1.0712	1.0660	1.0614	1.0571	1.0533
5.50	1.1201	1.1089	1.1006	1.0926	1.0853	1.0789	1.0730	1.0678	1.0630	1.0587
6.00	1.0339	1.1218	1.1113	1.1021	1.0939	1.0866	1.0800	1.0741	1.0688	1.0640
6.50	1.0480	1.1342	1.1222	1.1117	1.1025	1.0943	1.0870	1.0805	1.0746	1.0693
7.00	1.1624	1.1467	1.1332	1.1214	1.1111	1.1020	1.0943	1.0867	1.0803	1.0745
7.50	1.1770	1.1593	1.1442	1.1311	1.1197	1.1097	1.1008	1.0929	1.0859	1.0796
8.00	1.1917	1.1719	1.1551	1.1407	1.1282	1.1172	1.1075	1.0990	1.0913	1.0845

V. Installation and Use

5.1 Installation of flowmeter

Before installation, the pipeline shall be purged clean to prevent residual iron filings from affecting the normal operation of the flowmeter.

Before installation, when the turbine is blown with tiny air flow, if the turbine can rotate flexibly without irregular noise, the flowmeter can be installed and used.

When installing the flowmeter, a sealing gasket shall be added between the flange and the pipeline flange.

A filter should be installed in front of the flowmeter. It is strictly prohibited to directly connect the filter with the flowmeter.

Flange ball valves shall be added before and after the flowmeter is installed.

There should be no protrusions at the inner diameter of the pipe at the flange joint.

During the installation of the flowmeter, it is strictly prohibited to directly carry out electric welding at the inlet and outlet flanges to avoid burning out the internal parts of the flowmeter.

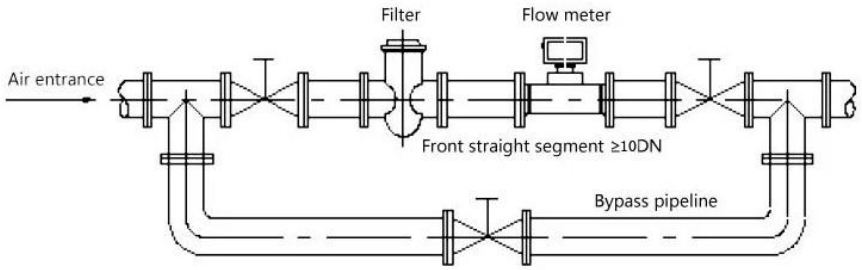
The flowmeter shall be installed in a place that is convenient for maintenance and free from strong electromagnetic field interference, mechanical vibration and thermal radiation.

Flowmeters should not be used in occasions where flow is frequently interrupted and there is strong pulsating flow or pressure pulsation.

When the flowmeter is installed outdoors, the upper part shall have a cover to prevent rainwater immersion and sun exposure from affecting the service life of the flowmeter.

The flowmeter must be installed horizontally, and the direction of fluid flow should be consistent with the direction marked on the shell. There should be a straight pipe section of not less than 10Dn upstream of the flowmeter and a straight pipe section of not less than 5Dn behind the meter.

In order not to affect the normal delivery of fluid, it is recommended to install the bypass pipe as shown in Figure 2, and the bypass pipe valve must be closed during normal use.



During pipeline construction, telescopic pipes or bellows should be installed to avoid serious stretching or fracture of flowmeter.

It is required to ensure that the connection between the pipeline and the inlet and outlet of the flowmeter is coaxial, and prevent washers and welds from protruding into the pipeline,otherwise the flow profile will be disturbed;

When external power supply is used, the flowmeter must have reliable grounding, but it shall not share the ground line with the strong power system. During pipeline installation or maintenance, the ground wire of the electric welding system shall not be overlapped with the flowmeter.

When the pipeline is installed and the sealing pressure test is carried out, attention should be paid to the maximum pressure that the flowmeter pressure sensor can bear (i.e. the maximum pressure of the medium on the verification certificate) so as not to damage the pressure sensor.

5.2 Use of Flowmeter

Precautions

Maximum leak detection pressure of medium and low pressure meters: ≤1.0Mpa, and the leak detection pressure of temperature and pressure compensation shall not exceed 3

times of the upper limit value of the pressure sensor. The high-pressure case shall be checked for leakage at 1.2 times the rated flow rate.

The following provisions shall be observed during leak detection after installation and during installation and use:

①Close the outlet valve and the intake valve first.

②Slightly open the air outlet valve, then slowly open the air inlet valve to make the meter start slowly, and then slowly open the air outlet valve to reach the normal operation state, to prevent sudden start and damage to the meter core.

③When stopping gas, the outlet valve shall be closed, and then the intake valve shall be closed. The above regulations shall be observed every time the gas is started.

After the flowmeter is installed and used, fasteners such as bolts, screws and nuts shall not be touched at will to avoid risks such as air leakage and damage.

VI. Common Fault Handling

No.	Fault description	Causes		Solution
1	No display of the smart header	Dead battery		Replace the battery
2	Only cumulative flow is displayed in the smart header,but no instantaneous flow is displayed Judgment:blow air into the inlet and observe whether the turbine rotates.	Rotate	There are Impurities such as iron filings on the Turbine blades.	Gently wipe
		Do not rotate	The movement is too dirty and the Transmission is blocked.	Clean movement and replace bearing

VII. Transport and Storage

1.The flowmeter shall be packed into a solid wooden box (carton can be used for small caliber instruments). It is not allowed to move freely in the box. It shall be handled with care and rough loading and unloading is not allowed.

2.The storage location shall meet the following conditions:

1). Rain-proof and moisture-proof.

2). Not subject to mechanical vibration or impact.

3). The temperature range is -20℃~ +55℃.

4). The relative humidity is not more than 80%.

5). The environment does not contain corrosive gases.

VIII. Precautions for Unpacking

1.After unpacking, check whether the documents and accessories are complete according to the packing list.

The packing documents include:

one instruction

one certificate of verification

2.Observe whether the sensor is damaged due to transportation for proper handling.

3.It is hoped that the user will properly keep the “Verification Certificate” and do not lose it, otherwise the instrument coefficient cannot be set!

IX. Instructions for Ordering

When ordering turbine flow sensors, users should pay attention to selecting appropriate specifications according to the nominal diameter, working pressure, working temperature,flow range, fluid type and environmental conditions of the fluid.

Contact

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