

Please refer to page 3 for detailed selection



FPT70

Anti Blocking And Wear-resistant Leather Tube Flow Sensor

Product Description

The anti blocking and wear-resistant pitot tube flow sensor is a differential pressure flowmeter based on the pitot static pressure tube principle, designed and manufactured in accordance with the standards of ISO7145 "Measurement of fluid flow in circular cross-section closed pipelines - Measurement method of velocity at a point in the cross-section" and ISO3966 "Measurement of fluid flow in closed pipelines - Velocity area method of pitot static pressure tube". It is particularly suitable for flow measurement of high dust, wind powder mixture, high flow rate, high flow rate or corrosive media.

Scope of application

The anti blocking and wear-resistant pitot tube flow sensor is suitable for harsh flue gas duct conditions containing dust, particulate matter, and oil pollution, and is widely used for measuring flue gas volume in metallurgy, cement, power plants, boilers, and waste incineration plants. Can be applied to dust removal pipelines, hot air stoves, kilns, coal mine ventilation pipelines, and chemical waste gas pipelines. Wear resistant probes resist media erosion and self-cleaning structures are not easily clogged by dust accumulation. Suitable for complex media with high temperature and high dust, coupled with differential pressure transmitters to achieve stable wind measurement, meeting the needs of industrial environmental protection online monitoring and ventilation wind pressure measurement.

Features

- Low pressure loss, low operating cost, and significant energy-saving effect compared to throttling devices such as orifice plates.
- Simple structure, easy installation and maintenance.
- The anti blocking and wear-resistant skin tube flow sensor is installed at the top of the center position inside the sensor's full pressure and static pressure tube, with a stainless steel or ceramic anti blocking vibration rod installed. The vibration rod can scrape off the accumulated dust inside the tube and blow it away with the airflow under the kinetic energy generated by the impact of the fluid, ensuring that the measurement hole will not be blocked and achieving intrinsic anti blocking.
- The anti blocking and wear-resistant skin tube flow sensor can use high-purity corundum alumina Al_2O_3 material casing. Due to the excellent high temperature resistance and mechanical strength of corundum, it is difficult to cut even with diamond grinding wheels, ensuring long-term continuous and stable measurement of the flow sensor in high-speed and high concentration coal powder airflow.
- High temperature resistant materials are selected, with a maximum medium temperature of 900 °C.
- Effectively solving special situations such as blockage, adhesion, corrosion, and wear, expanding the application scope.



Measuring principle

The Pitot static pressure tube principle is widely used in the aerospace industry, such as testing and inspection in aircraft wind tunnels, and aerodynamic testing of aircraft engines. The anti blocking and wear-resistant pitot tube flow sensor is installed at the center of the pipeline. The pressure point in the upstream direction measures the total pressure of the fluid, and the pressure point on the downstream side of the sensor measures the static pressure of the fluid. According to the pitot static pressure tube principle, the flow rate at the pressure point is proportional to the differential pressure value, and the flow rate of the fluid is calculated accordingly.

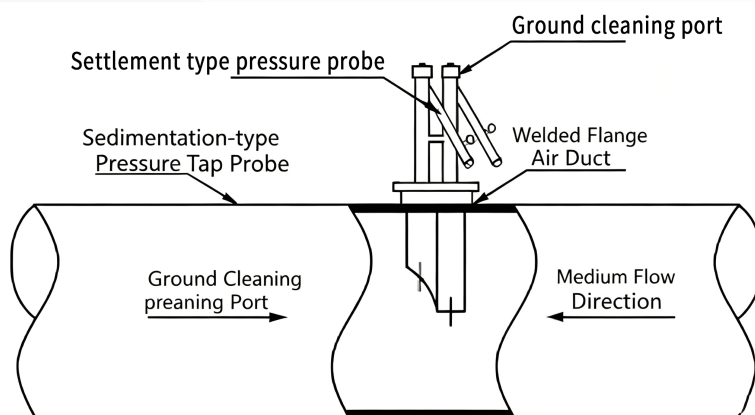
$$V=K\sqrt{\frac{2\Delta P}{\rho}}$$

V: Flow velocity at pressure tapping m/s

K: Flow coefficient

ΔP : Differential pressure kPa

ρ : Density of measured medium kg/m³



Technical indicators

Measurement accuracy	±1.5%	Turndown ratio	10:1
Repeatability accuracy	±0.1%	Adapt to pipelines	DN100 round or square tube
Work pressure	0~30Kpa~160Kpa	Straight pipe section	Front straight pipe section 3D, rear straight pipe section 1D
Operating temperature	-40°C~900°C	Scope of application	High concentration dust, adhesive and corrosive gases

FPT70 Anti blocking and Wear resistant Pitot Tube Flow Sensor - Selection and Composition

Example of Selection **FPT70**

A	B	S(10/7)	C	E	G	K	M
1	2	3	4	5	6	7	8

1 Product series	A	Mean Velocity Tube (Bar-type) Flow Sensor Series
2 Model	B	Anti-clogging and wear-resistant Pitot tube flow sensor
3 Pipeline dimensions	S()	Outer diameter/inner diameter (mm)
4 Pipeline Material	C	Stainless steel 304 or stainless steel 316
	D	carbon steel
5 pipeline directions	E	Horizontal direction
	F	vertical direction
6 types of media	G	Pure gas
	H	Smoke or gas containing a small amount of impurities
	J	Dirty gas, containing a lot of dust or tar, etc
7 types of connectors	K	Standard form
	L	Configure the anti blow interface
8 Sensor Material	M	304 stainless steel
	N	316L stainless steel
	O	Anti corrosion material
	P	Wear resistant material
	Q	Other materials

Instructions:

The FPT70 equal velocity tube (bar type) anti blocking and wear-resistant pitot tube flow sensor has an outer diameter of 10mm and an inner diameter of 7mm. The pipeline material is stainless steel 304 or 316, and the pipeline direction is horizontal. The medium type is pure gas, the joint type is standard, and the sensor material is 304 stainless steel.

Product Certification

Compliance and approval; Rod Weige flowmeter meets key standards and certifications for process measurement technology; Thus ensuring the highest reliability in such settings;