HFM900 Liquid Turbine flowmeter

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Overview:

HFM900 Turbine flow sensor (hereinafter referred to as the sensor) is based on the principle of torque balance and belongs to the speed flow meter. The sensor has the characteristics of simple structure, light weight, high precision, good repeatability, sensitive response, easy installation and maintenance, etc. It is widely used in petroleum, chemical industry, metallurgy, water supply, paper making and other industries, and is an ideal instrument for flow measurement and energy saving.

Sensor and display instrument matching use, suitable for measuring closed pipe and stainless steel 1Cr18Ni9Ti, 2Cr13 and corundum Al2O3, carbide does not corrode, and no fiber, particles and other impurities of the liquid. If it is matched with the display instrument with special functions, it can also carry out quantitative control, excessive alarm, etc. The explosion-proof type (ExmIIT6) of this product is selected, which can be used in the environment with explosion danger.

The sensor is suitable for the medium with viscosity less than 5×10-6m2/s at the working temperature. For the liquid with viscosity greater than 5×10-6m2/s, the sensor should be used after solid liquid calibration.

If the user needs a special form of sensor, can negotiate the order, need explosion-proof sensor, in the order to explain.

Features

The sensor is cemented carbide bearing thrust type, which not only ensures accuracy, improves wear resistance, but also has the characteristics of simple structure, firm and convenient disassembly and assembly.

Principle

The fluid flows through the sensor housing, because the impeller blade and the flow direction have a certain Angle, the impulse of the fluid makes the blade have a rotational torque, after overcoming the friction torque and fluid resistance, the blade rotates, the speed is stable after the

torque balance, under certain conditions, the speed is proportional to the flow rate, because the blade has magnetic conduction, It is in the signal detector (composed of permanent magnetic steel and coil) in the magnetic field, the rotating blade cutting magnetic field line, periodically changing the magnetic flux of the coil, so that both ends of the coil induction of electrical pulse signal, this signal through the amplifier amplification shaping, the formation of a certain amplitude of continuous rectangular pulse wave, can be far to the display instrument, showing the fluid instantaneous flow or total amount. Within a certain flow range, the pulse frequency f is proportional to the instantaneous flow rate Q of the fluid flowing through the sensor, and the flow equation is as follows.

$Q = 3600 \times \frac{f}{k}$, f - Pulse frequency [Hz]

k -- Meter coefficient [1/m3] of the sensor, given by the check sheet. If [1/L] is a unit

Q -- Instantaneous flow rate of fluid (working condition) [m3/h]

3600 -- conversion factor

The meter coefficient of each sensor is filled in the verification certificate by the manufacturer, and the k value is set into the matching display meter, which can show the instantaneous flow and cumulative total.

Parameters:

Aperture Diameter	DN4-DN200
Flange Standard	Meet GB/T9119-2000standard ,other standards can be customized
Rated Pressure Grade	DN4～DN20,6.3MPa; DN25～DN80, 2.5MP, DN100~200, 1.6Mpa
Impeller material	Bidirectional steel impeller, SS316L can customize
Ingress Protection	IP65
Accuracy Grade	0.5 grade/1.0 grade
Medium Temperature	-10～80℃
LCD display	No display or LCD display selected
Supply Voltage	Voltage +5-24VDC, current: ≤10mA.; battery supply selected
Output	Pulse, Current 4～20mA, customized for RS485 and HART (can select no output signal)
Environment temperature	-20～＋55℃

Ordering Guide:

Type	HFM900	+5-24DCV Power supply, no display, pulse output				
	HFM900A	24VDC power supply, no display,4~20mA output signal				
	HFM900B	Battery power supply, field LCD display, no output signal				
	HFM900C	Field display /4~20mA output,24VDC power supply				
		Size	Pressure	Connection way	Accurate	
Nominal diameter		DN4	6.3Mpa	Thread	1.0 Grade	4mm，Normal flow range0.04~0.25m³/h
		DN6	6.3Mpa	Thread	1.0 Grade	6mm，Normal flow range0.1~0.6m³/h
		DN10	6.3Mpa	Thread	1.0 Grade	10mm，Normal flow range0.2~1.2m³/h
		DN12	6.3Mpa	Thread	0.5Grade	12mm，Normal flow range0.2~2m³/h
		DN15	6.3Mpa	Thread, can change to flange	0.5Grade	15mm，Normal flow range0.6~6m³/h
		DN20	6.3Mpa	Thread, can change to flange	0.5Grade	20mm，Normal flow range0.7~7m³/h
		DN25	2.5Mpa	Thread, can change to flange	0.5Grade	25mm，Normal flow range1~10m³/h
		DN32	2.5Mpa	Thread, can change to flange	0.5Grade	32mm，Normal flow range1.5~15m³/h
		DN40	2.5Mpa	Thread, can change to flange	0.5Grade	40mm，Normal flow range2~20m³/h
		DN50	2.5Mpa	Flange	0.5Grade	50mm，Normal flow range4~40m³/h
		DN65	2.5Mpa	Flange	0.5Grade	65mm，Normal flow range7~70m³/h
		DN80	2.5Mpa	Flange	0.5Grade	80mm，Normal flow range10~100m³/h
		DN100	2.5Mpa	Flange	0.5Grade	100mm，Normal flow range20~200m³/h
		DN125	1.6Mpa	Flange	1.0 Grade	125mm，Normal flow range25~250m³/h
		DN150	1.6Mpa	Flange	1.0 Grade	150mm，Normal flow range30~300m³/h
		DN200	1.6Mpa	Flange	1.0 Grade	200mm，Normal flow range80~800m³/h
Explosion proof			N			No need
			E			Ex-proof type
Others					H	High temperature type, more than 120C
					B7	RS485 output
					B8	Hart output
					N	No extra requirement