

LSD Liquid Precession Flowmeter

Overview

Liquid Precession Flowmeter (also known as Liquid Swirlmeter) with advantages of wide flow, great shock resistance, no moving parts, long life, strong adaptability and high precision, etc. Widely used in food, pharmacy, chemical industry, oil and other industries, it is the first choice of liquid measurement in the environment with no viscosity and with strong noise.

Features

1. No removable parts, abrasion proof, stable and reliable, long service life, long-term operation without special maintenance, able to measure a variety of liquid media, in particular non-viscosity, such as water, gasoline.
2. Use 16-bit computer chip, high integration, small size, good performance, powerful overall instrument function.
3. Use dual detection technique which can effectively improve the strength of the detection signal, and to suppress the interference caused by the vibration of the line.
4. Use domestic leading intelligent vibration resistance technology which effectively suppresses interference signals caused by the vibration and pressure fluctuations.
5. Use Chinese characters, English dot matrix display with more display digits, easy and intuitive to read.
6. Various output ways: pulse, equivalent, analog signals (two-wire 4 ~ 20mA, three-wire 4 ~ 20mA and four-wire 4 ~ 20mA), RS485, Hart protocol and so on.
7. If it is necessary, can input pressure and temperature signals to display the pressure and temperature of the liquid.
8. With high accuracy, up to 0.5%, and good repeatability.
9. Overall instrument is with low-power consumption, with inside battery power supply, or external power supply.
10. A variety of materials, measurable for special liquid, such as liquid chlorine with red copper material.

Operating Principle

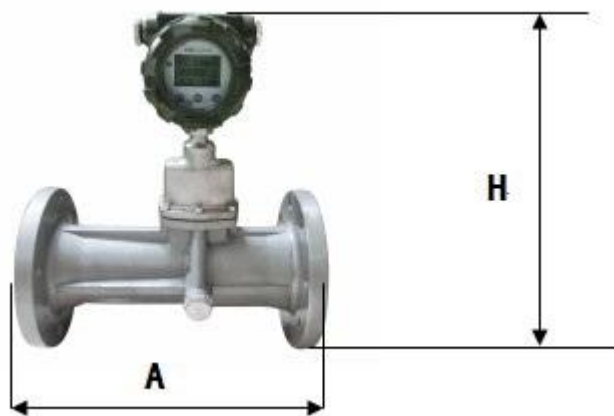
Flow profile of flow sensor is similar to molded lines of venturi tube. Placed a set of guide vane in screw type at the inlet side, when fluid enters the flow sensor, the fluid will generate vigorous swirling flow forced by guide vane. When the fluid enters the diffuse section, vortex flow is subject to the influence of the reflux, begins to make the second rotation, to form vortex precession phenomenon in the gyro type. The precession frequency is proportional to the

size of the flow, from the influence caused by physical properties and density of the fluid, detection device measured the fluid precession frequency of the secondary rotation which can get good linearity over a wider flow range. Signal is amplified, filtered, shaped by preamplifier and converted to the pulse signal which is proportional to velocity, the detection signals are all sent to the microprocessor to get integrating processing, and finally, on the LCD display shows the measurement results (instantaneous flow, cumulative flow, temperature and pressure data).

Main Technical Parameters

Inside Nominal Diameter DN (mm)	Flow Range m ³ /h	Operating Pressure (MPa)	Accuracy Level	Repeatability
20	0.2~3	1.6 2.5 4.0 6.3 10 16 25 42	0.5 1.0	Less than 1/3 of absolute value of the basic error limit.
25	0.6~8			
32	0.8~15			
40	1.0~18			
50	2.5~30			
65	3.0~36			
80	6.0~70			
100	10~100			
150	20~250			
200	40~500			

Dimension Figure



Flowmeter boundary dimension and installing boundary dimension.

Inside Nominal Diameter DN (mm)	Nominal Pressure (MPa)	Boundary Dimension (mm)		Connecting Method	Materials of Meter Body
		Length A (P≤10MPa)	Height H	Thread Flange Clamp	Cast steel Stainless steel Copper, etc.
20	1.6, 2.5	160	360		
25	4.0, 6.3 10, 16	180	370		

32	25, 42	200	400		
40		200	400		
50		230	400		
65		230	400		
80		330	438	Flange Clamp	
100		410	470		
150		580	550	Flange	
200		700	630		

Ordering Models

Basic Model	1	2	3	4	5	Illustration
	Signal Output	Nominal Pressure	Inside Nominal Diameter	Materials	Accuracy	
LSD						Procession Flowmeter
	0					Frequency Impulse
	1					Two-wire system 4-20mA current
	2					Three-wire system 4-20mA current
	3					RS485 communication interface
	4					Hart protocol
		016~420				1.6~42Mpa
			020~200			Inside nominal diameter 20~200mm
				CZG		Cast steel
				C304		Stainless steel 316
				C316		Stainless steel 316
				C316L		Stainless steel 316L
				CCU		Copper
					A	0.5
					B	1.0
					C	1.5