LUGB-J Plug-in Vortex Flowmeter

Overview

Plug-in Vortex Flowmeter is a plug-in flowmeter of point velocity type, measurable for the diameter of pipeline which is larger than 300mm, and it is an extension of the vortex flowmeter product line.

Features

1. No removable parts, abrasion proof, stable and reliable, long service life, long-term operation without special maintenance, well-adapted. It is 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 on 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

Plug-in Vortex Flowmeter uses detector of small diameter vortex flowmeter to be a measuring head, via plug-in mechanism, the measuring head is mounted to a particular part of cross section in a measured large pipe (average or maximum velocity point), measuring the flow rate of that part (point), according to the velocity distribution in the pipeline, geometry parameters of instrument and pipe to deduce the flow values in the pipeline.

Its flow calculation formula is: $qv = f / k$ $K = KO / (\alpha\beta\gamma A)$

qv = volume flow under working state $m3 / s$

f = vortex flowmeter output signal frequency HZ

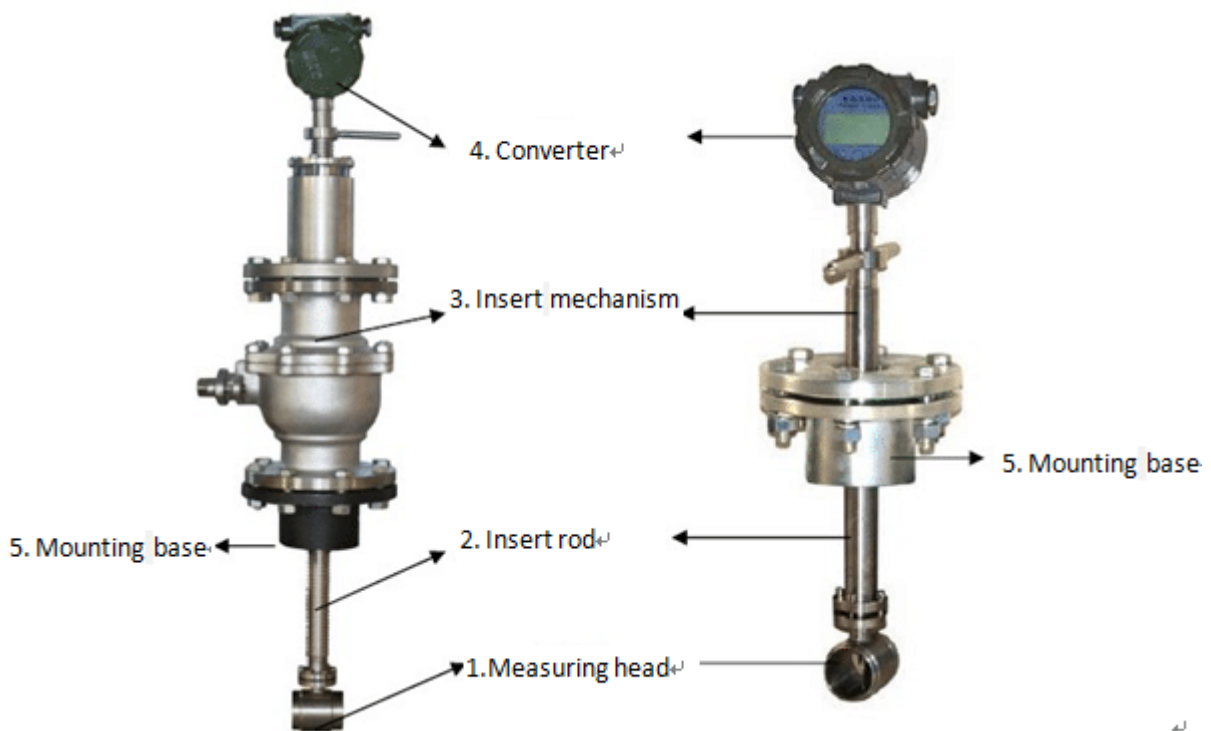k = meter factor of insertion vortex flowmeter m^{-3}

k_o = meter factor of measuring head m^{-3}

α = block coefficient   β = velocity distribution coefficient   γ = interference factor   A = cross sectional area of measuring pipe m^2

Main Technical Parameters

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

Dimension Figure

4. Converter
3. Insert mechanism
5. Mounting base
2. Insert rod
1. Measuring head
5. Mounting base

Ordering Models

LUCB-J	Plug-in Vortex Flowmeter	
Convertor Type	Ⅰ	Ordinary type
	Ⅱ	Chinese and English first generation digital type
	Ⅲ	Chinese and English second generation digital type
	Ⅳ	No convertor, only pulse amplifier
Insertion Structure	A_1	With ball valve
	A_1	With no ball valve
Measured Medium	B_1	Normal temperature liquid
	B_2	High temperature liquid
	B_3	Normal temperature gas
	B_4	High temperature gas
	B_5	Saturated vapor
	B_6	Superheated vapor
	Z	Temperature and pressure compensation
Inside Nominal Diameter	D350~2000	D350~2000mm
Nominal Pressure	P0.6~P4.0	0.6mpa~4.0mpa
Operating Environment	B	Explosion-proof type
	P	Ordinary type
Output Signal	E_1	Pulse or equivalent
	E_2	Two-wire system 4-20mA
	E_3	Three-wire system 4-20mA+pulse
	E_4	RS485 interface，Mudbus
	E_5	232 interface，Mudbus
	E_6	Hart protocol+4-20mA output