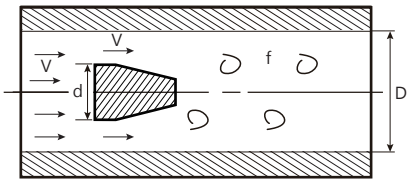
EPV Vortex Flowmeter

Working Principle

The Vortex Flowmeter is designed using the Kármán Vortex principle. It is widely used to measure the flow of gases, vapours, and liquids.
The Kármán Vortex Street is a repeating pattern of swirling vortices caused by a process known as vortex shedding, which results in an unsteady separation of the flow of liquid around shedder bar. Two asymmetrical vortices are produced. The frequency of the vortices is relative to the average velocity of the fluid flowing through and the width of the vortex generator.



Product Features

- Simple structure, no mechanical parts, durable industrial design, high reliability.
- Measures the volumetric flow rate three states: liquid, gas, and steam.
- Minimal pressure loss, wide measurement range, high accuracy.

Application

- Various liquid and gaseous mediums in chemical production process.
- Boiler/steam processes in industries such as textile, food, feed, etc.

Specification

Measuring medium	Liquid / gas / steam (Note 1)
Pipe size	DN25、DN40、DN50、DN65、DN80、DN100
Flow range (Note 2)	Liquid flow rate upper limit: 10m/s; Gas & steam flow rate upper flow rate: 80m/s
Measurement accuracy	Liquid: ±1%
	Gas & steam: ±1% (flow rate: 35m/s); ±1.5% (flow rate: 35~80m/s)
Fluid temperature range	-30~250℃
Ambient temperature range	-30~80℃
Working condition pressure range	-0.1MPa (-1kg/cm2)~Flange rating
Structure	Integrated flange type
Pipe material	SUS304
Junction box material	Aluminum
Protection level	IP67
Power input	10.5~36Vdc
Temperature compensation	Built-in probe PT100
Pressure gauge, provide voltage	12Vdc
Pressure gauge, provide current	50mA
Pressure detection mode	0~5V / 0.5~4.5V / 1~5V
Communication interface	RS-485(Modbus)
Analog output	4~20mA / 0-20mA (Max. Load 700Ω)
Pulse mode	Pulse NO / Pulse NC / Frequency / Vortex Pulse
Pulse specifications	NPN crystal output 32Vdc/200mA

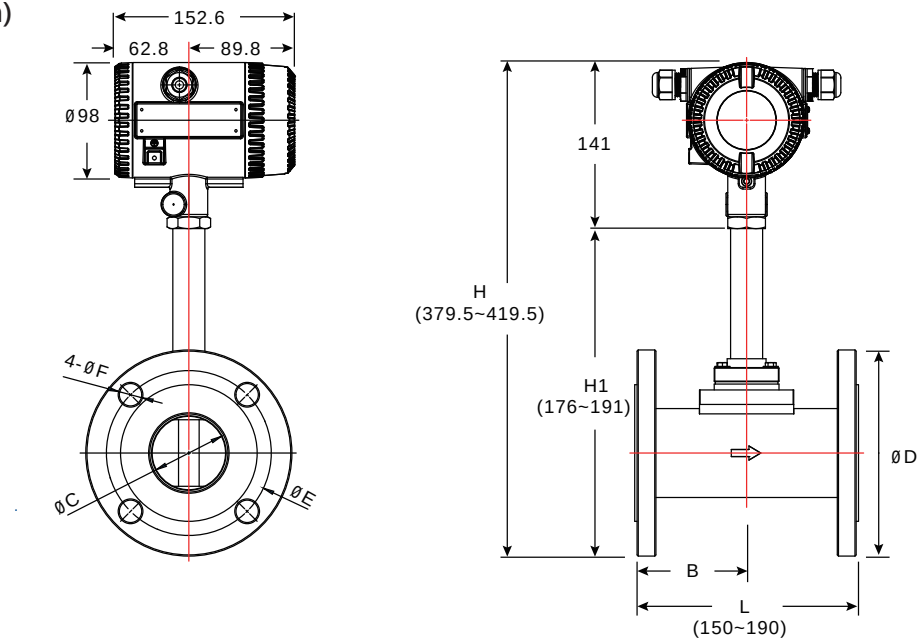
Note 1:
Used only for the pipe full filled with liquid, gas, or steam. Do not use with multiphase liquids and adhesive liquids.

※Multiphase refers to where there are two or more materials of different states of matter (example, liquid & gas) together.

Note 2:
The measurement range will vary depending on the viscosity of the fluid and the Reynolds number.

External Dimensions

(Unit: mm)



Order Information

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⑨⑩⑪ Pipe Diameter

025 : 25mm
040 : 40mm
050 : 50mm
065 : 65mm
080 : 80mm
100 : 100mm

⑫⑬⑭ Connection Specification

A42 : JIS B2220 10K
A45 : JIS B2220 20K
A94 : JIS B2220 40K
C48 : ANSI B16.5 Class 150
C49 : ANSI B16.5 Class 300
D58 : DIN 2501 PN16
D60 : DIN 2501 PN40

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