

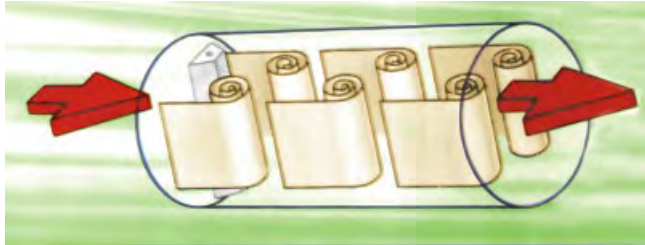


F4001 Vortex Shedding Flow Meter

VF4001-002.00-14/03

Description

F4001 Vortex Shedding Flow Meter is designed according to the principle of Karman Vortex Street, and is widely used to measure liquid, gas, steam flow in the closed pipeline.



Picture 1



Features

- Compact structure
- With DSP transmitter
- No moving parts, high reliability, thus few on-site maintenance is needed
- No direct contact between the sensing element and the medium
- Easy installation and maintenance
- Turndown ratio is up to 1:20
- Low pressure drop and operation cost
- High temperature application

Specification

- Working Pressure: 230psi(16bar)to 4640psi(320bar)
- Medium Temperature: -40 to 572° F(-40 to 300°C)
- Power Supply: 12 to 36VDC
- Ambient Temperature: -13 to 140° F(-25 to 60°C)
- Relative Humidity: 5% to 95%RH
- Atmospheric Pressure: 0.86 to 1.06bar
- Medium: liquid, gas or steam
- Accuracy: $\pm 1\%$ (For liquid), $\pm 1.5\%$ (For gas)
- Output: pulse, 4 to 20 mA, RS485
- Reynolds No. Range: 2×10^4 to 7×10^6 (1" to 4")
 4×10^4 to 7×10^6 (6" to 12")

Application

- Sewage Treatment
- Heat Exchangers, Cooling Systems
- Oil Field Metallurgy
- Chemical Industry, Petrol-chemical Light Industry
- Food Beverage Dispensing
- Pharmaceutical Industry
- Process Control
- Other Field Use

※ The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.



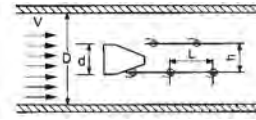
F4001

Vortex Shedding Flow Meter

Principle

If insert a bluff body vertically into the flowing fluid, vortices will be generated alternatively at its sides. These vortices follow together with the fluid to the downstream, and form series vortices (Karman vortex street, see Picture 1). The bluff body which generates vortex is also called as vortex shedder. Experiment proves that frequency of vortex is in directly proportional to flow velocity it can be shown as following formula

$$f = Sr \frac{V}{(1 - \frac{4d}{\pi D}) d}$$



Picture 2 Diagram of vortex formed

- f---Vortex frequency
- d---Width of bluff body which face against the flow
- Sr---Strouhal number
- V---Average flow velocity in the pipe
- D---Inside diameter of pipe

Model Selection

| F4001 — <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | | | | | | | | | |
|---|-----------|------------------|---------|-----------------|-----------------|--------------------|----------------|-------------------|---|
| 0 1 2 3 4 5 6 7 8 | | | | | | | | | |
| Type | 1 Size | 2 Transmitter | 3 PN | 4 Connection | 5 Protection | 6 Output Signal | 7 Indicator | 8 Compensation | Note |
| F4001 | - | | | | | | | | Vortex Flow Meter |
| | 02 | | | | | | | | 1"(25mm) |
| | 04 | | | | | | | | 1 1/2"(40mm) |
| | 05 | | | | | | | | 2"(50mm) |
| | 08 | | | | | | | | 3"(80mm) |
| | 10 | | | | | | | | 4"(100mm) |
| | 12 | | | | | | | | 5"(125mm) |
| | 15 | | | | | | | | 6"(150mm) |
| | 20 | | | | | | | | 8"(200mm) |
| | 25 | | | | | | | | 10"(250mm) |
| | 30 | | | | | | | | 12"(300mm) |
| | CL | | | | | | | | Compact Version for Liquid |
| | CG | | | | | | | | Compact Version for Gas |
| | CH | | | | | | | | Compact Version for High Process Temperature (482° F) |
| | CX | | | | | | | | Compact Version for High Process Temperature (662° F) |
| | RH | | | | | | | | Remote Version (482° F) |
| | RX | | | | | | | | Remote Version (662° F) |
| | 016 | | | | | | | | Nominal Pressure: 230psi(16bar) |
| | 025 | | | | | | | | Nominal Pressure: 360psi(25bar) |
| | 040 | | | | | | | | Nominal Pressure: 580psi(40bar) |
| | 063 | | | | | | | | Nominal Pressure: 910psi(63bar) |
| | 160 | | | | | | | | Nominal Pressure: 2320psi(160bar) |
| | 250 | | | | | | | | Nominal Pressure: 3625psi(250bar) |
| | 320 | | | | | | | | Nominal Pressure: 4640psi(320bar) |
| | | | | W | | | | | Wafer Connection |
| | | | | F | | | | | Flange Connection |
| | | | | | A | | | | General |
| | | | | | B | | | | Explosion-proof |
| | | | | | | F | | | Pulse Output |
| | | | | | | I | | | 4 to 20mA Output |
| | | | | | | R | | | RS485 |
| | | | | | | | O | | Without Indicator |
| | | | | | | | X | | With Indicator(LCD without backlight) |
| | | | | | | | Y | | With Indicator(LCD with backlight) |
| | | | | | | | | O | No temperature and pressure compensation |
| | | | | | | | | T | With temperature and pressure compensation |

Example:F4001-05CL016WBFXO Means:DN:50mm,Compact Version, Measure liquid,Wafer Connection,Nominal Pressure:230psi(16bar), Explosion-proof version,Pulse Output,With local instant and total flow LCD display, No temperature and pressure compensation.

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