

Vortex Type FLOW METER

vFlow 500 SERIES

DN15 - 300



1. Introduction

The **vFlow 500 series** vortex flow meter is suitable for measuring flow of steam, gasses and low viscosity liquids in industrial applications. The technologies behind the meter is based on the Karman Vortex Street and Strouhal Number.

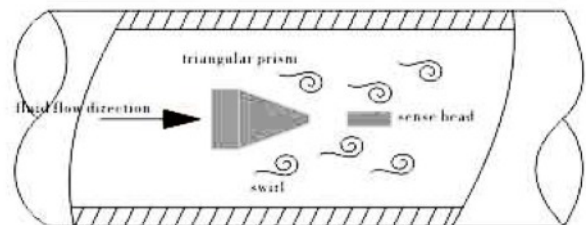
The flow will alternately generate vortices when passing by a bluff body that is inserted inside the meter body. The bluff body is a piece of material with a broad, flat front that extends vertically into the flowstream. Flow velocity is proportional to the frequency of the vortices. Flowrate is calculated by multiplying the area of the pipe times the velocity of the flow.

2. Features

- Detecting element does not touch with flow medium
- No moving parts, wear resistance, simple structure
- Widest temperature range from -40°C to +350°C
- Wide range, high accuracy
- Pulse signal output or tw-wire system 4-20mA current signal output
- Ex-proof Class: ExIIICT6

3. Application

- Petroleum industry
- Chemical industry
- Heat supply industry



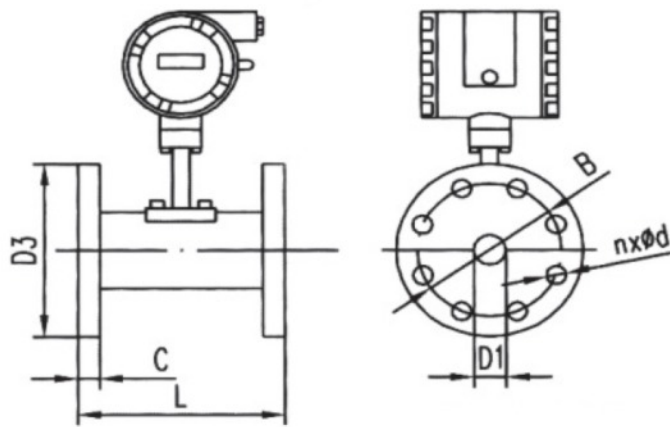
$$F = Sr * V / (1 - 1.27 * d / D)$$

$$Q = 3600 * F / K$$

$$M = Q * \rho$$

- F - Vortex frequency
- Sr - Strouhal number
- V - Fluid flow rate (m/s)
- d - width of Vortex meter internal triangular prism
- D - Vortex meter inner diameter (m)
- Q - Instantaneous volume flow rate (m³/h)
- K - Meter coefficient (pulse number/m³)
- M - Instantaneous quality flow rate (kg/h)
- Fluid density (kg/m³)

4. Dimensions



Pipe size (mm)	Inner diameter D1 (mm)	Length L (mm)	Flange outer diameter D3 (mm)	Center distance of bolt hole (mm)	Flange thickness C (mm)	Bolt hole diameter d (mm)	Screw quantity n (mm)
15	15	170	150	110	18	18	4
20	20	170	150	110	18	18	4
25	25	170	150	110	18	18	4
32	32	170	155	115	18	18	4
40	40	190	160	120	18	18	4
50	50	190	165	125	20	18	4
65	65	220	185	145	20	18	4
80	80	220	200	160	20	18	8
100	100	240	220	180	22	18	8
125	125	260	250	210	22	18	8
150	150	280	285	240	24	22	8
200	200	300	240	295	26	22	12
250	250	360	405	355	28	26	12
300	300	400	460	410	32	26	12

5. Technical Specification

Basic Parameter		
Measured Medium	Liquid, Gas, Steam	
Medium Temperature	-40~+200°C; -40~+280°C ; -40~+350°C	
Nominal Pressure	1.6MPa; 2.5MPa; 4.0MPa (Other pressure can be customized)	
Accuracy	±1.0%, ±1.5%	
Measuring range ration	1:8 - 1:30 (Standard air condition as reference)	
Flow range	Liquid: 0.4-7.0m/s; Gas: 4.0-60.0m/s; Steam: 5.0 - 70.0m/s	
Material	1Cr18Ni9Ti	
Reynolds number	Normal $2 \times 10^4 - 7 \times 10^6$	
Resistance coefficient	$Cd \leq 2.6$	
Vibration acceleration allowed	$\leq 0.2g$	
Ex-proof class	IP65 ExialICT6 Ga	
Ambient condition	Ambient temperature	-40°C - 65°C (Non display on site); -20°C - 55°C (Display on sitre)
	Relative humidity	$\leq 5\% \sim 93\%$
	Pressure	86-106kPa
Power supply	12-24VDC or 3.6V battery powered	
Signal output	Pulse frequency singal 2-3000Hz, Low level $\leq 1V$, high level $\geq 6V$	
	Two-wire system 4-20mA signal (isolated output), Load ≤ 500	

6. Order Information

Model Number, Example and Option								Description
V-500	- I	- DN40	- 2	- PN16	- 1	- 1	- C	
Calculator Type	I							Integrated Type
	S							Separate Type
Pipe Size	DNXX							Please specify a size (DN15 - 300)
Medium Type		1						Liquid
		2						Common gas
		3						Saturated steam
		4						Superheated steam
		5						Other
Pressure Range		PN16						1.6MPa
		PN25						2.5MPa
		S						Special, please clarify
Output Interface Option		1						RS485 / Modbus *
		2						Pulse *
		6						Others please specify
Power Supply		D						12~24VDC
		B						Battery Supply ***
Special remark		blank						Common
		B						Explosion-proof
		W						Temperature compensation
		Y						Pressure compensation
		Z						Temperature-pressure compensation

* External power required for communication

*** For display monitoring

Example:

V-500-I-DN40-2-PN16-1-D means Vortex meter sized 40mm, 1.6MPa pressure, Modbus RS485, 12~24VDC

NOTE



Address:
40 E Main Street,
Newark DE, 19711 USA



Phone:
(302) 246 1338
Fax:
(302) 246 1339



Email:
sales@ppkinetics.com