

## WAFER TYPE VORTEX FLOW METER

### Description

Our NEW **Vortex Plate** Inline Wafer has a universal design which can be used in many types of process fluids including liquids, gases, and steamlines. No matter what the application, from super heated steam to super cold liquids, the same meter and electronics can be applied.

The **Vortex Plate** dual sensor technology produces two independent vortex signals which allows for signal amplification and common mode noise reduction. Our sensors never touch the process fluid. Our crystal sensors are bonded behind a stainless steel wall. The electronics pick up the slightest pressure pulsations through the stainless steel wall generated by the vortices. This design allows our meters to have an extremely wide down while maintaining an almost unlimited upper end with a high pressure rating.

This profile of the **Vortex Plate** is designed for installations to fit between two flanges. Because of its light weight and flange spacing requirements the vortex plate makes it easy for the installer. Because of the thin body the bolt lengths are shorter which allows for a better alignment of flanges and tighter leak free installations. An arrow showing the direction of the flow is machined into the body, which tells the installer the direction in which the meter needs to be installed.

### Product Features

- Our Inline meters can measure Steam, Gases or Liquids.
- Heavy Duty & Maintenance Free Design
- No leak paths
- No moving parts
- No holes to clog
- Slim Meter Body Profile
- No pins or screws to corrode and rust
- Can handle process pressure over 1000 psig
- Can handle process temperature up to 450 °F (standard) and 650 °F (high temp)
- Industry standard two wire 4-20 mA output or pulse signals

### Application Guide

Model	Liquid	Gas	Steam	Temperature Range	Max. Pressure	Line Size	
				°C	Bar	Inch	DN
BVP	Yes	Yes	Yes	-40 to 350	40	1/2" to 12"	15 to 300





## Performance Specification

### Accuracy (linear ranges)

#### Liquid.....+/- 0.5% of flow rate

Test conditions: Water at 18.3 °C , 3.4 bar  
with 10 pipe diameters upstream and 5 pipe diameters downstream

#### Gas.....+/- 1.5% of flow rate

Test conditions: Air 18.3 °C, 1.7 bar  
with 10 pipe diameters upstream and 5 pipe diameters downstream

#### Steam.....+/- 1.5% of flow rate

Test conditions: Saturated Steam at 8.6 bar  
with 10 pipe diameters upstream and 5 pipe diameters downstream

#### Flow Rate

Adjustable from:

1 second

1 minute

1 hour

1 day

#### Analog Output

Calibrated to **0.001mA** of reading

### Repeatability.....+0.25% of flow rate

## Operating Specification and Technical Parameters

All Wetted Parts	1Cr18Ni 9Ti (Stainless Steel)
Environmental Conditions	Ambient Temperature -10 to 60°C , Humidity %5 to %90
Output	4...20 mA,pulse
Communication	RS-485
Power Supply	24V DC,230V AC ops.
Transmission Distance	500 m >
Hazardous Area	Ex d II B T6
Protection	IP65
Display	LCD,rate and total indicator
Units	All engineering Units

## Straight Run Piping Requirements

Straight Run Piping Requirements	Upstream	Downstream
One 90° elbow before the meter	10 D	5 D
Two 90° elbows before the meter	15 D	5 D
Two 90° elbows out of plane before the meter	30 D	5 D
Reduction before meter	10 D	5 D
Regulator or Valve partially closed before meter	30 D	5 D
Tee Connection before meter	30 D	5 D



*“The Fluid Control Expert”*

## Measurable Flow Rates

Water Minimum Maximum Flow Rate										
Size	DN20	DN25	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200
m <sup>3</sup> /h	1 – 10	1,6-16	2,5-25	3,5-35	6,5-68	10-100	15-150	27-275	40-400	80-800

Please consult factory for other pipe sizes.

Saturated Steam Minimum Maximum Flow Rate										
Size	DN20	DN25	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200
ton/h	0,02 – 0,2	0,03-0,3	0,08-0,8	0,13-1,2	0,18-1,8	0,25-2,4	0,4-4	0,7-6,5	1-10	2-20

at 6 bar (g)

Air Minimum Maximum Flow Rate										
Size	DN20	DN25	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200
Nm <sup>3</sup> /h	5,5-50	8,5-70	22-220	36-320	50-480	70-640	130-1100	200-1700	280-2240	580-4960

## Ordering Information

BVP							Description
Media	1						Gas
	2						Liquid
	3						Steam
Line Size		015					DN15 (consult factory)
		020					DN20
		025					DN25
		040					DN40
		050					DN50
		065					DN65
		080					DN80
		100					DN100
		125					DN125
		150					DN150
		200					DN200
		250					DN250
		300					DN300
Display Mounting		L					Local Mounting Display (compact)
		R					Remote Mounting Display (100 m max.)
Fluid Temperature			L				Tmax : 70°C
			M				Tmax : 250°C
			H				Tmax : 350°C
Converter Type				N			Pulse output, without display,24V DC
				A			4-20 mA output, without display ,24V DC
				B			Lithium battery powered,with display,without output
				C			4-20 mA output,with display,24V DC
				C1			RS-485 communication,with display,24V DC
				H			Heat Meter,4-20 mA,Blind converter,panel type display
Protection					N	IP65	
					E	Flame proof ex d II B T6	