

# METHANE FROM FLARING TOOLKIT



## Vortex Flow Meter

How do I measure flow? > [Vortex Flow Meter](#)

Vortex flow meters can be used for a wide range of fluids including liquids, gases, and steam.

Vortex meters are essentially frequency meters, as they measure the frequency of vortices that are generated by a bluff body in the process line, which is known as “vortex shedding”.

### How it Works

In a vortex flowmeter an obstruction in the flow path acts as a bluff body, this is sometimes known as a ‘shedder bar’. This ‘shedder bar’ forces the fluid to separate and form alternating areas of low pressure on the downstream side of the bar. These low pressure vortices cause a small sensing element either behind or within the shedder bar to oscillate back and forth at a specific frequency. The frequency of these vortices is directly

proportional to the velocity of the fluid flowing past the bar and thus the volumetric flow rate of the fluid can be determined.

IMAGE TO FOLLOW

#### Advantages

- ✓ Stable long-term accuracy and repeatability
- ✓ Applicable for a wide range of process conditions
- ✓ Vortex meters can be used for liquids, gases, and steam
- ✓ Low cost of installation and maintenance
- ✓ Low wear (relative to turbine flow meters)
- ✓ Available for a wide variety of pipe sizes

#### Limitations

- ✗ The bluff body is a potential restriction to flow in the flare system
- ✗ Decrease in measurement accuracy in case of contamination of bluff body
- ✗ Not suitable for very low flow rates
- ✗ High sensitivity to pulsation of the measured gas flow, reduces reliability
- ✗ Minimum length of straight pipe is required upstream and downstream of the vortex meter

#### Go Deeper

- [Emerson](#)
- [Yokogawa](#)
- [Endress & Hauser](#)

## Case study

No case study available at this time.

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## How do I measure flow?



Flow: Ultrasonic & Sonar Clamp-on Flow Meters



Flow: Coriolis Flow Meter



Flow: Ultrasonic Flow Meter



L2F Optical Flow Meter



Flow: Scintillation Optical Flow Meter