



Classical Venturi

for Flow Measurement – CV Series

Description

The Classical Venturi flow meter design provides longer lasting accuracy and lower permanent pressure loss than orifice and nozzle style meters, reducing maintenance and operating costs. The Classical Venturi meter design is suitable for flow rate measurement of clean liquids, gases, and steam, particularly if low pressure loss is desired. The Classical Venturi flow meter restricts the flow at its throat, increasing the velocity of the fluid, and measures the pressure difference of the unrestricted flow and restricted flow. The meter's throat can be designed to meet the flow measurement application optimizing the meter's accuracy and permanent pressure loss.

Common Materials

- Carbon Steel
- Stainless Steel
- Chrome Moly

Other Available Materials

- Aluminum
- Tantalum
- Duplex S/S
- Hastelloy
- Monel
- Zirconium
- 321 SS
- Titanium

Applications

- Steam and Water
- Hydrocarbon, Liquids and Gas Process
- Water Treatment and distribution
- Oil production and refining
- Chemical and Petrochemical industry
- High Velocity Process

Special Features

- Extended product life with no moving parts
- Lower susceptibility to erosion
- Widely used for high pressure and high temperature steam flow and liquid flow
- Useful for flow measurement at high velocities
- Turndown ratio of 10:1, 20:1, 50:1 and greater can be achieved depending on the specific model and design of the meter as well as the type of secondary instrumentation system utilized
- Repeatability of $\pm 0.1\%$
- Mounts in any position
- Designed per ASME MFC-3M, ISO 5167-4 & PTC 19.5 standards
- NSF-61 (Potable Water) approved coatings upon request

Model Types

- CVE – Classical, Venturi, Eccentric
- CVF – Classical, Venturi, Flanged
- CVW – Classical, Venturi, Butt Weld Ends
- CVI – Classical, Venturi, Insert

Line Size: 2 to 48 inches. Larger sizes are available

Head loss % of Differential: 10 to 25 percent

Basic Accuracy (% of Total): (Calibrated) ± 0.25 (Uncalibrated) ± 0.75 to 1.50%

Minimum pipe Reynolds number: Must be greater than 200,000 for basic accuracy. Consult PFS for lower Reynolds use

Required Straight Piping: Consult PFS for required US & DS piping based on your specific application

Beta Range: 0.30 through 0.75

Useful Service Life: Medium to Long

Warranty: 25 Years

Service Functional Limits (Municipal): Clean liquids, gases, and steam

Service Functional Limits (Industrial): Dirty fluids if equipped with rem seals