Preso®
Differential Pressure Flow Meters

Venturi Flow Meter

Model VISSL Insert Style Classical

DESCRIPTION

The Venturi Model VISSL (Insert Style Classical Venturi Design) is a Hershel/Classical design differential pressure flow device. The insertion style meter adds only the thickness of the meter center flange to the overall length of the pipe. The 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.

CONFIGURATION

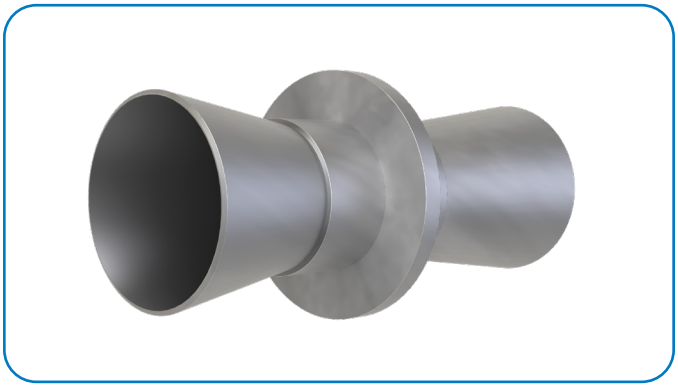
The Venturi flow meter inlet section is cylindrical with a pressure-sensing tap, the same diameter as the incoming pipe section. The tap is followed by a precise convergent section that causes a uniform change in fluid velocity. The cylindrical throat section with a pressure-sensing tap, straight section and exit cone has a precise angle to prevent permanent pressure loss that does not exceed 12% of the generated differential pressure. The beta ratio is determined by the manufacturer according to recognized standards and formulas. The discharge coefficient (Cd) is linear and stable in the operating flow range, has a value above 0.985, and is achieved by adhering to ASME standards.

ACCURACY AND REPEATABILITY

The accuracy of the flow element is within ±0.75% uncalibrated (±0.5% calibrated) with a repeatability of ±0.1% and turndown of 10:1 in the corresponding and appropriate range of Reynolds' Numbers. For custody transfer applications, the Venturi flow meter is wet flow tested by an independent NIST certified laboratory under design operating conditions and piping configurations.

APPLICABLE FLUIDS

Liquids, gases and steam.



BENEFITS

- Low installation and operation costs
- Resists wear, maintenance free (no moving parts)
- Minimal straight pipe distance requirements
- Turndown ratio of 10:1
- Repeatability of ± 0.1%
- Mounts in any position
- Low permanent pressure-loss design

FEATURES

- Provides longevity, reliability and long term performance
- Provides an uncalibrated accuracy of ±0.75% with a repeatability of ±0.1%
- Designed in accordance to ASME and ISO standards
- Offers the highest "As Built" accuracy
- Provides lowest level of permanent pressure loss of any Venturi style, and significantly less than orifice plates
- The insertion style meter adds only the thickness of the flange to the overall length of the pipe length
- Built with standard and unique alloys
- Durable solution for liquids, gas, steam and mixed media
- With minor modifications, the SSL can be transformed into a bi-directional flow meter
- Easily installed in any position with minimal straight pipe requirements (5 pipe diameters upstream and 2 pipe diameters downstream)
- Is also known as "Classical" or "Herschel"

Badger Meter

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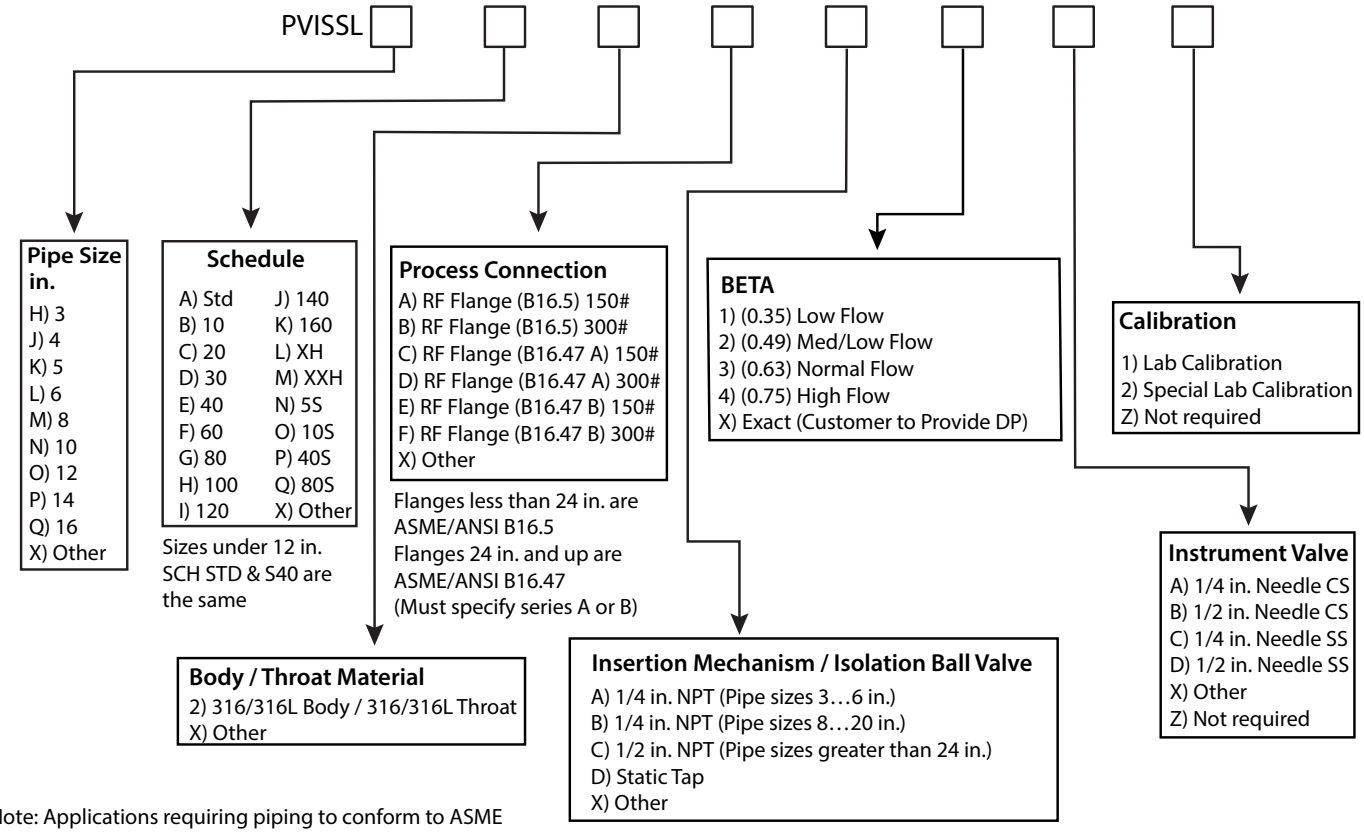
Product Data Sheet

SPECIFICATIONS

Applications	Liquids, gases and steam
Pipe Sizes	3…36 in. (76.20…914.40 mm)
Temperature Range	Up to 1500° F (816° C)
Pressure Range	Limited by flange rating
Pressure Loss	3% of maximum DP
Flow Range	0.25…220,000 GPM (0.95…832,790 LPM)
Accuracy	±0.75% uncalibrated; up to 0.5% calibrated
Repeatability	±0.1%
Turndown Ratio	10:1
Instrument Connections	NPT, Static Tap
Standard Beta Ratios	–10 –20, –38, –65 Exact sizing available to provide custom beta ratios

PART NUMBERING CONSTRUCTION



Note: Applications requiring piping to conform to ASME B31.1, B31.3, or require non-destructive examination please contact Preso for pricing

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