Preso®
Differential Pressure Flow Meters

Venturi Flow Meter

Model VILPL Insert Style Low Pressure Loss

DESCRIPTION

The Preso Venturi Model VILPL (Insert Style Low Pressure Loss) flow meter is a differential pressure flow measurement device. The all 316 stainless steel construction provides excellent corrosion and temperature resistance, while the short form style allows for added plant design flexibility. The Low Pressure Loss design has over 35 years of proven field performance in a wide variety of applications. The reduced costs of operating are inherent with the design. Low installation costs are due to short laying length.

CONFIGURATION

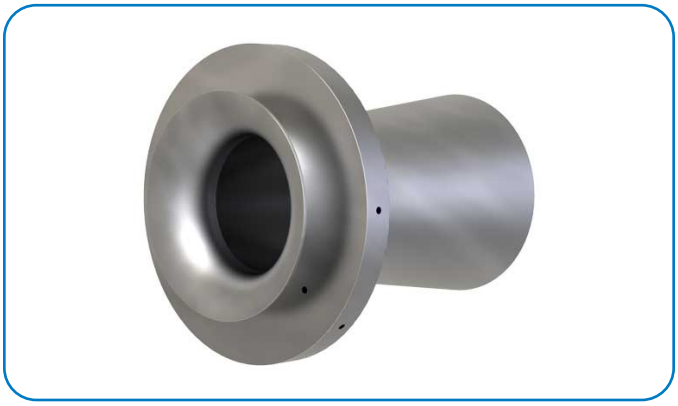
The Venturi flow meter inlet section is cylindrical with a pressure-sensing tap, the same diameter as the incoming pipe section. The tap is followed by a precise convergent section that causes a uniform change in fluid velocity. The cylindrical throat section, with a pressure-sensing tap, straight section 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 ±3% 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

- Lowest pressure loss (3% of DP maximum)
- Low cost
- Resists wear, maintenance free (no moving parts)
- Custom fit lay length and end connections
- 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 ±3% (±0.5% calibrated) with a repeatability of ±0.1%
- Designed in accordance with ASME and ISO standards
- Offers the highest "As Built" accuracy
- Flow is restricted for the shortest period of time
- Built with standard and unique alloys
- LPL is a durable solution for liquids, gas, steam and mixed media
- Easily installed in any position with minimal straight pipe requirements (5 pipe diameters upstream and 2 pipe diameters downstream)

Badger Meter

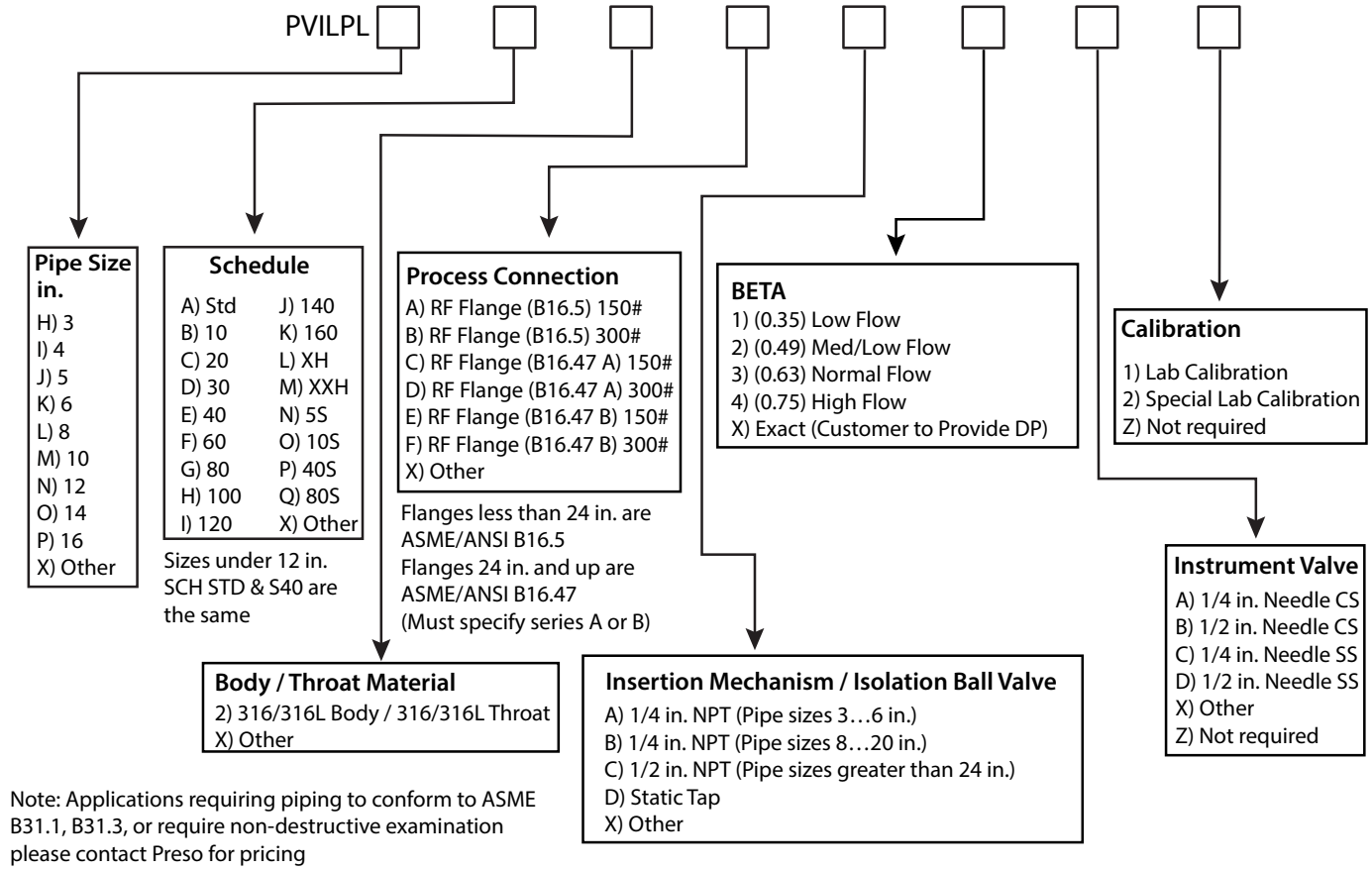
VEN-DS-00797-EN-05 (August 2021)

Product Data Sheet

SPECIFICATIONS

Applications	Liquids, gases and steam
Pipe Sizes	3…60 in. (76.20…1524.00 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	±3% of reading uncalibrated; up to 0.5% of reading 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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