North American Venturi is an accurate and repeatable flow meter with proven performance.

North American 8631 Venturi Meters are used for measuring low pressure air flow in combustion systems. Typically deployed on higher-capacity systems, they are an economical and highly efficient alternative to orifice plates. Venturi meters can recover as much as 88% of their operating pressure differential compared with the 48% recovery of an orifice plate having the same beta ratio. This low permanent pressure loss can greatly reduce fan power consumption and provide significant payback over the life of a combustion system.

8631 Venturis are simple, robust and require less time to commission. They are a practical alternative to the pitot tube arrays or probe devices that can be difficult to set up, characterize and maintain.

8631 Venturis are supplied pre-assembled as a complete package which includes an all-fabricated venturi based on the ISO 5167-4 standard. The venturi shell is fabricated from carbon steel with fabricated plate ANSI or DIN bolt circle flanged end connections. They are available in 10" through 40" pipe sizes for design air flow rates of approximately 13,500 to 1,900,000 standard cubic feet per hour (362 to 51,000 normal cubic meters per hour).

8631 Venturis can be configured with ANSI or DIN flanged end connections, a highly-accurate low range transmitter, a temperature sensor, raincap and pressure switch options. They can be installed on the inlet or the outlet side of a combustion air blower. They can be installed indoors or outdoors. When installed outdoors on the inlet side of the blower they must be configured with the rain cap option.

8631 Venturis come with a data sheet calculated from the ISO Venturi flow equation providing flow versus differential pressure data at standard and at given conditions. A range of standard 8631 Venturi sizes facilitates selection.

SPECIFICATIONS

Venturi Meter

- Design Fluid Duty: Ambient Air
- Materials of Construction: Carbon Steel Fabrication, Epoxy Coating, Stainless Steel, Fittings and Tubing
- Sizes: 10"-40" NPS - I.D. equal to schedule 10 pipe (where applicable); *flange type dœs not effect I.D*
- End Connections: Specify ANSI or DIN flanged; ANSI flanges are ASME B16.5 Class 150 for sizes 10"-24" and ASME B16.47 Series B Class 150 for sizes 26"-40", DIN flanges are ISO 7005-1 PN10
- Maximum Fluid Temperature: 180°F
- Maximum Ambient Temperature: 185°F
- Design inlet Pressure: -2 psig to 2 psig
- Standard Flow Accuracy: 3%-5% for inlet duct flow at 200,000 to 2,000,000 Reynolds Number *(Re)*
- Turndown Flow Accuracy: 4%-6% for *Re* between 60,000 to 199,999
- High Turndown Flow Accuracy: 4.5%-6.5% for *Re* between 40,000 to 59,999 (accuracy cannot be estimated for flow streams at lower *Re* numbers)
- Flow Accuracy for Calibrated 8631 Venturi: 1% at points of calibration
- Installation: Horizontal or Vertical (vertical design is for down flow only)
- Inlet option: Rain Cap - Bird Screen - inlet bell (required when no upstream piping is used)
- Standard Beta Ratio 0.7