Venturi Tubes & Venturi Nozzles

Data sheet : **VENTURI/2012**

- **Classical Venturi Tubes**
- **Venturi Nozzles**
- **Calculation, Design and Manufacture to BS EN ISO 5167:1**
- **Fabricated from Plate or Machined from Bar/Forgings**
- **Flanged or Weld-In Construction**
- **Range of Material Grades**
- **Pipe Sizes from 50 mm to 1200 mm**
- **Calibration Service on Request**

General Description

There are two common types of Venturi tube - the Venturi Nozzle, and the Classical (Herschel) Venturi. Both feature a convergent inlet section and a divergent outlet section. The classical Venturi convergent section is a simple truncated cone, whereas for the Venturi nozzle, the inlet contour matches that of the ISA 1932 flow nozzle.

The major advantage of the Venturi over orifice plates and flow nozzles is in the area of pressure recovery. Typically, unrecovered pressure is in the region of 10 - 30% of measured DP as opposed to 40 - 90% for an orifice plate (depending on beta ratio). Although the cost of a Venturi can be comparatively high, where pumping costs are important the initial outlay can be warranted.

Another advantage of the Classical Venturi over the other differential pressure producers is that the requirements for upstream and downstream straight pipe lengths are somewhat less onerous.

Materials

Venturi tubes and Venturi nozzles can be supplied in a wide range of material grades.

Machined devices can be manufactured from barstock, or forgings. Standard materials include ASTM A182 F316 & F304 Stainless Steels, ASTM A182 F11 & F22 Chromium Steels and ASTM A105 Carbon Steel

Standard materials for fabricated devices are ASTM A240 316/L Stainless Steel and Carbon Steel.

We are experienced in machining and welding exotic materials, including Hastelloy®, Inconel®, Incoloy® and Duplex Stainless Steels.

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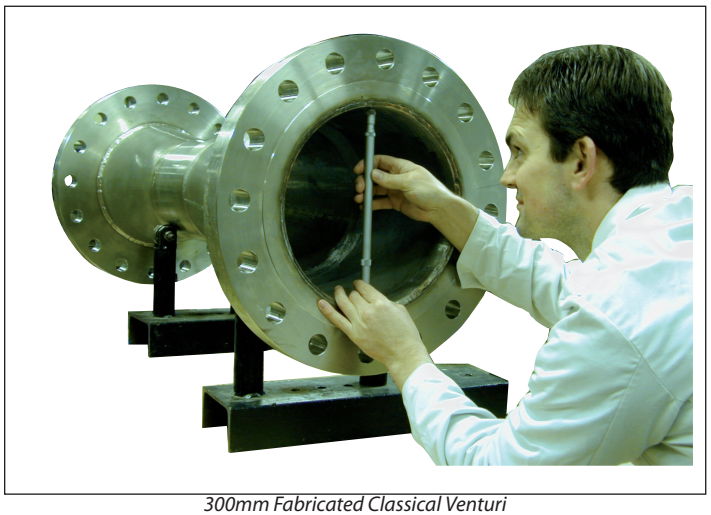
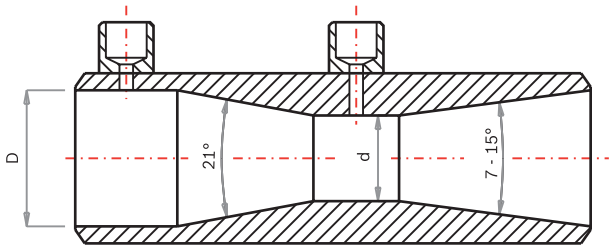


300mm Fabricated Classical Venturi

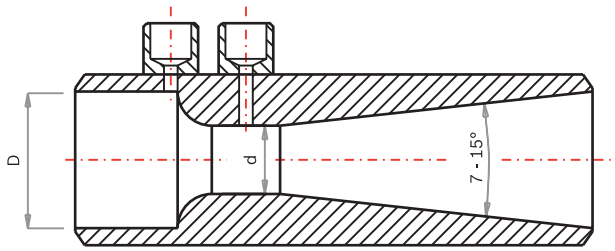
Dimensions

The basic design of the two types of device are shown below.

CLASSICAL VENTURI (MACHINED)

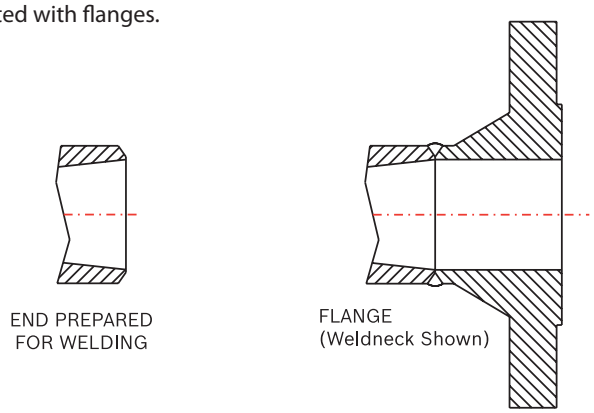


VENTURI NOZZLE (MACHINED)



End Connections

Venturis are available with ends prepared for welding into the pipeline, or fitted with flanges.



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