



H800 venturi tubes are used for flow rate measurement of aggressive and non-aggressive gases, steams and fluids, especially if low pressure loss is indicated.

Technical Description

Construction and Design:

The H800 consists of an inlet cylinder, an outlet cone which is being followed by a cylindrical neck and the outlet cone. Classical venturi tubes are being carried out in several types of construction corresponding to the make of their inner surface. You differentiate between either venturi tubes with treated inlet cone, inlet cylinder and neck or venturi tubes with rough, with welded (steel panel) inlet cone. Depending on the nominal diameter the neck is either treated or not.

Venturi tubes are welded constructions out of steel or high-grade steel with predominantly rounded cross section. In particular cases angular cross sections are possible; those are exclusively manufactured out of rolled plate. Positive and negative pressure tapping takes place in the tube wall each through one or several single bores. When having bigger nominal diameters it is recommendable to connect them with a circuit.

Advantages:

Classical venturi tubes have little pressure losses depending on the make of the inlet cone and the opening angle. In contrary to all other DP-flow elements only short upstream paths are needed. When having venturi tubes which are big and completely out of steel panel the weight is much lower than comparable venturi tubes.

Differential-Pressure Measurement:

The DP+ pressure tap is normally placed $D/2$ before the inlet cone and DP- tap is within the throat.

Sealing surface type:

The installation takes place with weld in or between flanges. The types of sealing are smooth (DIN 19206 part 1), nose- and tongue (DIN 19206 part 2) and lens (DIN 19206 part 3). According to API- and ANSI-regulations as smooth make and as ring-joint-gasket (RTJ).

Materials:

Manufacturing is possible in different usual and other special materials. When selecting the material special consideration has to be taken for high given temperatures and aggressive materials.

Material Certificates:

Material certificates i.e. according to EN 10204 can be supplied for the used materials.

Specifications

Nominal Pressure:

PN 6 up to PN 400

Nominal Diameter:

DN 50 up to DN 1000

Bore Diameter d:

The calculation of the bore diameter will be done from the supplied data considering the relevant standards and regulations and is part of the scope of deliveries. As a standard the neck will be treated mechanically to achieve the required coarse values and accuracy.

Pressure Loss:

The remaining pressure loss depends on the opening ratio and the opening angle and is approx. 5-15% of dP.

Pressure Taps:

12 mm pipe with G1/8"l or acc. customer specification.

Identification:

On inlet side marked: +, Tag-No., PN, D, d and material.

Installation:

Between flanges and welded in on horizontal, vertical or diagonal pipelines.

Installation Lengths

Due to the determined opening angles of inlet and outlet cones the overall-length depends mainly on the restriction diameter d. Following table of installation lengths are guiding data and refer to a mean opening ratio $\beta = 0.6$.

Straight In- and Outlet Sections:

Minimum requirement 2.5 x D in- and 1 x D outlet.

Nominal Diameter DN	Weld in Overall-length L	Flansh in Overall-length L
50	250	300
100	500	550
200	950	1050
300	1400	1550
400	1900	2050
500	2400	2600
600	2800	3000
700	3300	3500
800	3800	4000
900	4250	4500
1000	4700	5000

Ordering Information

Please determine for quotation request

- Flow range(s)
- Gas type(s)
- Pipe nominal diameter
- Material
- Operation condition pressure / temperature
- Allowed pressure loss
- Accuracy
- Environment conditions