



Venturi nozzles are used in all kind of applications where pressure loss – and therefore energy loss – has to be avoided.

- For flow-rate measurement in aggressive and non-aggressive gases and steam.
- Two different designs available

Technical Description

Venturi nozzles are devices composed of a tapered inlet with a rounded profile, a cylindrical throat and a diffuser (outlet cone). The positive measurement is performed through a single bores, the negative measurement is usually carried out through 4 bores that access a ring chamber.

The venturi nozzle is a welded construction consisting either of medium carbon steel or high-quality steel with flanges on both sides. Both, a coating of plastic for the media-contacting surface and a complete construction out of plastic, are possible.

Comparing orifice plates with venturi nozzles the remaining pressure loss for venturi nozzles is about 80% less and the rounded profile is less sensitive than the feather edge of an orifice.

Specifications

Nominal Pressure

Standard: PN 6 up to PN 100

Nominal Width

Standard: DN 50 up to DN 800

Installation Length (L)

DN	Installation Length L	
	Type A	Type B
50	120	170
65	140	200
80	160	220
100	200	270
125	230	300
150	260	350
200	320	400
250	400	500
300	450	600

Bore Diameter

The bore diameter is carefully calculated by the data supplied considering the relevant standards and regulations and is part of the scope of delivery.

Pressure Loss

The remaining pressure loss depends on the opening ratio $\beta = d^2/D^2$ and is approx. 10-15% of dP; you will find this information in the calculation data-sheet.

Pressure Taps

One pressure tap at the input and one at the smallest profile. On special requirements more than 2 pressure taps or flushing connections are possible.

Materials

Mild steel	RSt37-2
Stainless steels	15Mo3
Carbon steel	C22.8, X6CrNiTi1810
Heat resistant steels	16Mo3
Plastics	(PP, PVC), 13CrMo45

Identification

According to DIN 19205 or ANSI on the outer \varnothing of the tube, additionally with the charge no. and inspector's stamp.

Approvals

Production and check go along with the relevant guidelines such as TRD, "AD-Merkblatt" and customer-specifications. Material certificates according to EN 10204 3.1 A and B.

Special Features

Design A

Pushed-on end-flanges and seal-welded. Application up to max. 300°C. Negative pressure-tapping through a ring-chamber.

Design B

End-flanges pre-welded, transmission test inspection of circumferential weld is possible. Application up to max. 450 °C. Negative pressure-tapping through single bore.

Ordering Information

The ring chamber orifice plate will be optimized to the customer specifications. For an offering we need the following data:

- Flow range(s)
- Gas type(s)
- Orifice nominal width(s)
- Installation length
- Seal type
- Material
- Operating conditions (pressure and temperature)
- Permitted pressure drop
- Accuracy
- Ambient conditions

Material certifications for material testings according to the guidelines of EN 10204 can be delivered on request.

Accessories

Condensate vessels and shut-off valves welded-on or separately.