H800

Technical Datasheet



Short Description

Classical Venturi tube for flow rate measurement of aggressive and non-aggressive gases and vapours. The H800 is used wherever low pressure loss is essential: depending on the diameter ratio and the opening angle of the diffuser, the permanent pressure loss is only 5 to 15 % of the differential pressure. Compared with all other differential pressure devices, shorter straight lengths are required – $2.5 \times D$ inlet and $1 \times D$ outlet are sufficient.

Identification

Product name	H800
Type	Classical Venturi tube
Design basis	DIN EN ISO 5167-4
Document status	12.11.2026

Design Data and Measuring Range

Nominal pressure	PN 6 to PN 400
Nominal diameter	DN 50 to DN 1000
Throat diameter d	10 to 800 mm
Diameter ratio	$\beta = d/D$, installation lengths refer to $\beta = 0.6$
Flow range	approx. 0.1 L/min up to approx. 10,000 m^3/h, individual design possible
Differential pressure range	standard approx. 1 to 20 mbar, individual design possible
Permanent pressure loss	5 to 15 % of the differential pressure, depending on the diameter ratio and the opening angle of the diffuser
Accuracy (deviation from the characteristic curve)	max. 0.35 % of reading from 1 mbar differential pressure, individual design possible

The throat diameter d is calculated from the specified operating data in accordance with the applicable standards and regulations and is documented in the calculation data sheet; calculation and design are part of the scope of delivery. The accuracy of an individual measuring point follows from design and calibration – we state it in the factory or DAkkS calibration certificate.

Construction and Design

Structure	inlet cylinder, inlet cone, cylindrical throat, outlet cone (diffuser)
Types of construction	with machined inlet cone, inlet cylinder and throat, or with a rough inlet cone welded from sheet steel
Throat	normally machined to achieve the required surface roughness and manufacturing tolerances. Depending on the nominal diameter also unmachined
Cross section	predominantly circular. In special cases rectangular – then made exclusively of sheet metal
Identification	name plate on the upstream side with +, tag number, PN, D, d and material
High-pressure tap (DP+)	at a distance of $D/2$ upstream of the inlet cone
Low-pressure tap (DP–)	in the throat
Pressure tapping	single tapping holes in the pipe wall. For larger nominal diameters, interconnection via a piezometer ring is recommended
Tapping sockets	12 mm socket with G1/8" female thread or according to customer specification

Installation

Mounting	between flanges or welded in
Pipeline orientation	horizontal, vertical or inclined
Straight inlet length	minimum $2.5 \times D$
Straight outlet length	minimum $1 \times D$
Sealing face types	smooth (DIN 19206-1), male and female (DIN 19206-2), lens (DIN 19206-3). According to API and ANSI with smooth face or as ring-type joint (RTJ)

Materials and Material Testing

Base materials	welded construction of steel or stainless steel
Special materials	possible. The application must be assessed individually, in particular for high temperatures and aggressive media
Material testing	inspection certificates for the materials used, e. g. according to EN 10204, on request

Standards and Regulations

Design basis	DIN EN ISO 5167-4 (classical Venturi tube)
Calculation rules	VDI/VDE 2041
Sealing faces	DIN 19206-1 to -3, API, ANSI
Material certificates	EN 10204

Installation Lengths

DN	WELDED IN	FLANGED
50	250	300
100	500	550
200	950	1050
300	1400	1550
400	1900	2050
500	2400	2600

DN	WELDED IN	FLANGED
600	2800	3000
700	3300	3500
800	3800	4000
900	4250	4500
1000	4700	5000

Overall length L in millimetres, for the welded-in and the flanged version. Guide values: due to the fixed opening angles of the inlet and outlet cones, the overall length depends mainly on the throat diameter d; the table refers to a mean diameter ratio $\beta = 0.6$. Binding dimensions are given in the calculation data sheet for your design.

Ordering Information

Every Venturi tube is calculated for the individual measuring task. For design and quotation we require:

- Flow range(s)
- Gas type(s)
- Pipe nominal diameter(s)
- Material
- Operating conditions (pressure and temperature)
- Permissible pressure drop
- Measurement accuracy
- Ambient conditions

DESIGN AND ADVICE

For the design of your measuring point please contact us at **+49 7157 5387-0** or **info@tetratec.de**.