

Venturi tube

Model FLC-VT-BAR, from bar stock

Model FLC-VT-WS, from welded sheet

WIKA data sheet FL 10.04

Applications

- Power generation
- Oil production and refining
- Water treatment and distribution
- Gas processing and transmission
- Chemical and Petrochemical Industries

Special features

- Suitable for liquid, gas and steam flow measurement
- Accuracy $\leq \pm 0.5\%$ of actual flow rate
- Repeatability of measurement 0.1 %
- Lowest pressure loss in the family of primary flow elements
- Calibration may be performed if required



Fig. top: From bar stock

Fig. bottom: From welded sheet

Description

High pressure recovery and low upstream and downstream requirements

Venturi tubes are reliable, easy to use and low-maintenance. Venturi tubes are particularly suitable for the measurement of clean liquids and gases.

The main advantages of a Venturi tube over other differential pressure flow meters are the higher pressure recovery and the lower upstream and downstream pipe requirements.

At the upstream side, the instrument consists of a gradually decreasing nozzle, through which the medium in a pipe is accelerated. The downstream side is a gradually increasing diffuser section, which enables a high pressure recovery.

Flow measurement with low differential pressures

Due to the fact that a major part of the output pressure is regained, the Venturi tube is particularly suited for measurement in systems with a low pressure differential.

Thanks to the low pressure loss the cost of pumping the medium can be reduced to a minimum.

General data

Design

The design is calculated in accordance with the following standards

- ISO 5167-4
- ASME MFC3

Nominal size and pipe schedule

All nominal sizes are available in accordance with relevant standards.

The pipe schedule must be specified by the customer.

Standards cover diameters from 2 ... 48" (50 ... 1,200 mm), larger diameters are available on request.

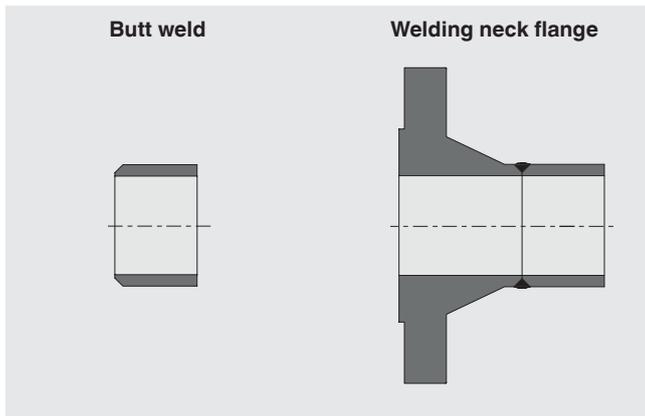
Nominal pressure rating

Available in accordance with all relevant standards.

Materials

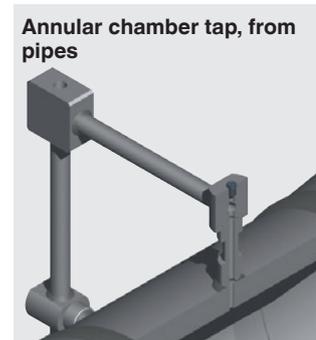
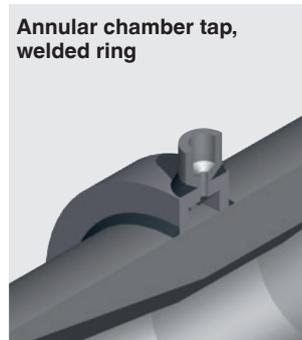
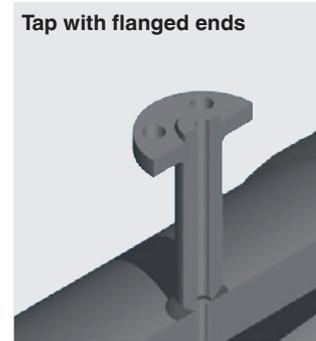
A wide range of materials is available.

Mounting options

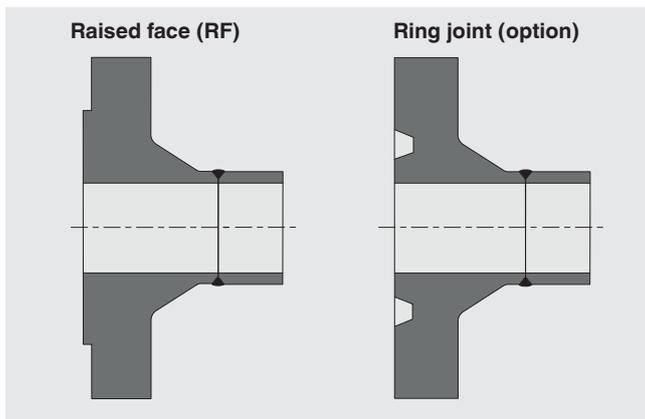


Pressure tapplings

The best solution depends on the application and will be created individually.



Sealing faces for flanged version



Venturi tube, model FLC-VT-BAR, from bar stock

Description

Model FLC-VT-BAR is manufactured from a bar of solid-body material. In this model the convergent sections, i.e. the throat section and the entrance cylinder, are machined from this solid-body material.

Beta ratio

0.4 ... 0.75

Reynolds number

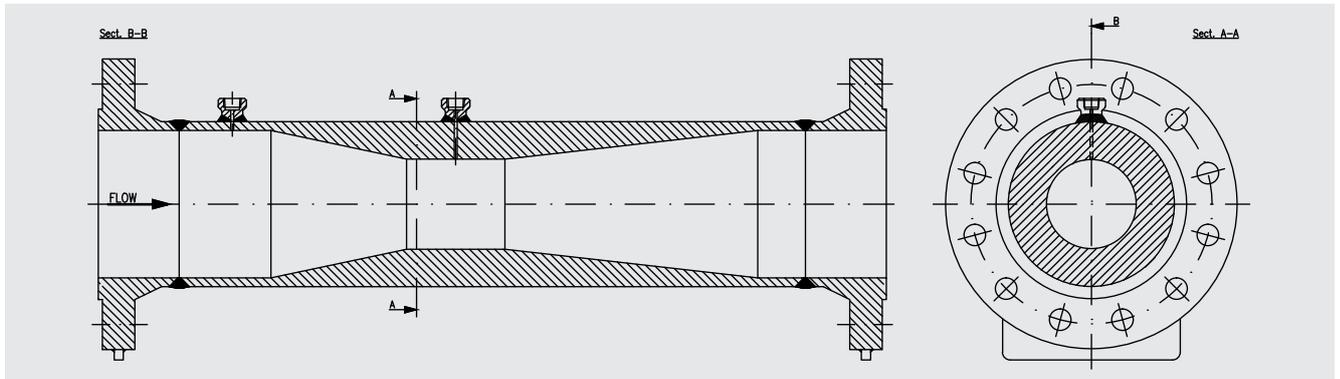
$2 \times 10^5 \dots 1 \times 10^6$

Nominal size

50 ... 250 mm

Accuracy

$\leq \pm 0.5 \%$ of full scale flow rate



Venturi tube, model FLC-VT-WS, from welded sheet

Description

Model FLC-VT-WS is a classical Venturi tube, which is manufactured from welded sheets. For smaller nominal sizes the throat section is machined from a single piece.

Beta ratio

0.4 ... 0.7

Reynolds number

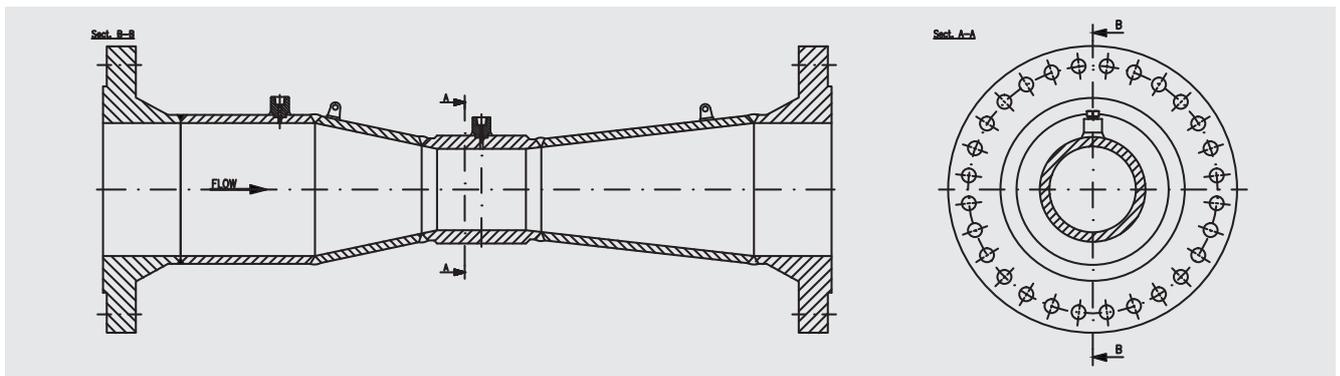
$2 \times 10^5 \dots 1 \times 10^6$

Nominal size

200 ... 1,200 mm

Accuracy

$\leq \pm 1.5 \%$ of full scale flow rate



Ordering information

Model / Nominal size / Pipe schedule / Nominal pressure rating / Sealing face / Pressure tapings / Material

© 06/2013 WIKA Alexander Wiegand SE & Co. KG, all rights reserved.
The specifications given in this document represent the state of engineering at the time of publishing.
We reserve the right to make modifications to the specifications and materials.

