

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 transport
- Chemical and petrochemical industries

Special features

- Suitable for liquid, gas and steam flow measurement
- Accuracy up to $\pm 0.5\%$ of actual flow rate with calibration
- 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 pipe 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 advantage of a Venturi tube over other differential-pressure flow meters is its higher pressure recovery and lower upstream and downstream pipe requirements.

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

Flow measurement with low differential pressures

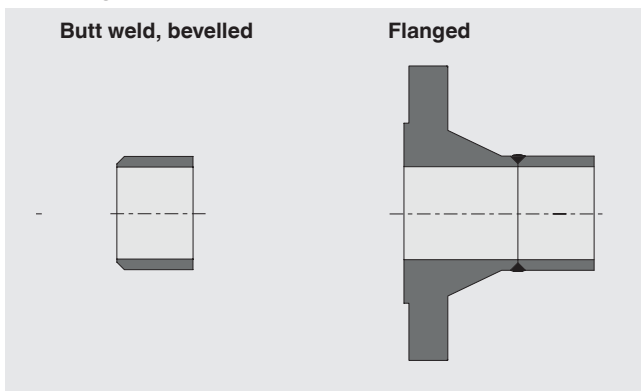
Due to the fact that a major part of the output pressure is recovered, the Venturi tube is particularly suited for measurement in systems where a low permanent pressure loss is required.

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

Specifications

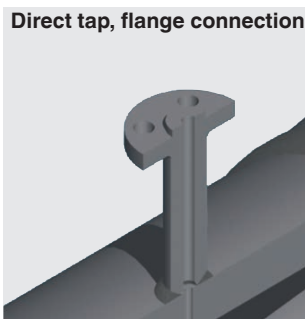
Basic information	
Designs	<ul style="list-style-type: none"> ■ ISO 5167-4 ■ ASME MFC-3M
Nominal size and pipe schedule	<p>All nominal sizes are available in accordance with relevant standards. The pipe schedule must be specified by the customer. Standards cover diameters from 2 ... 48" [50 ... 1,200 mm]. Larger diameters are available on request.</p>
Nominal pressure ratings	Available in accordance with all relevant standards.
Materials	A wide range of materials is available.

Mounting options

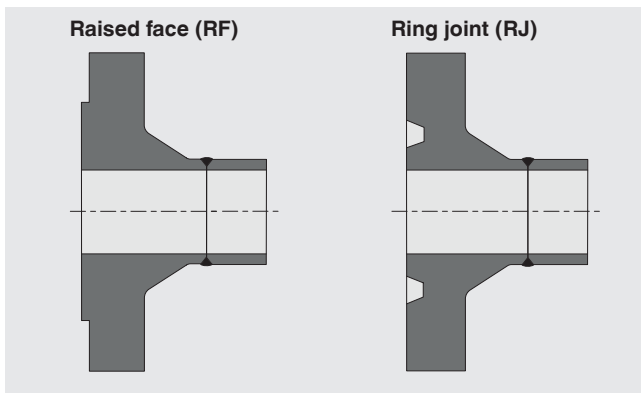


Pressure tappings

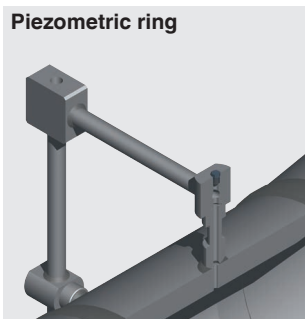
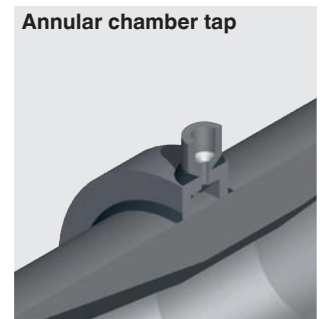
The best solution depends on the application and will be created individually.



Sealing faces for flanged version



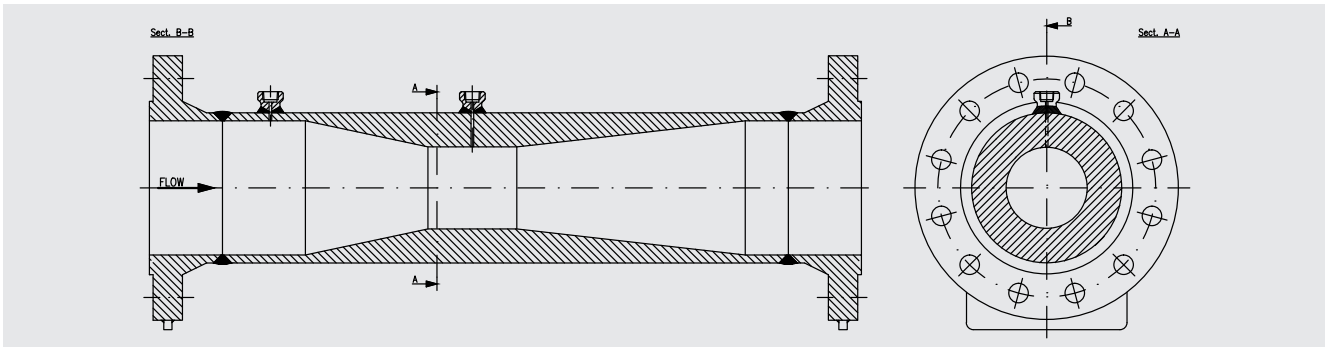
Other sealing faces on request



Other pressure tappings on request

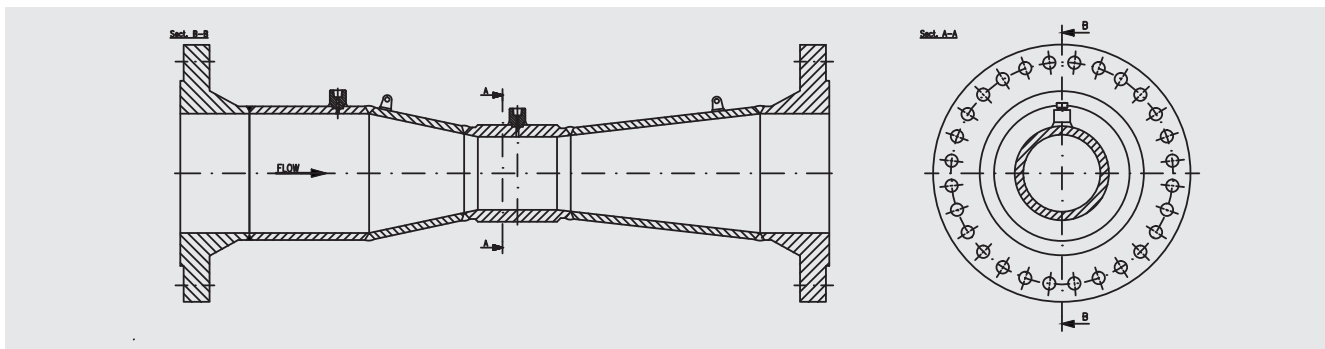
Venturi tube, model FLC-VT-BAR, from bar stock

Description	The model FLC-VT-BAR is manufactured from bar stock. The internal profile of this model is obtained by machining.
Internal profile	<ul style="list-style-type: none"> ■ As cast ■ Machined ■ As cast with machined upstream and convergent section <p>The respective limits of use vary depending on the selected internal profile.</p>
Nominal size	50 ... 800 mm [2 ... 31.5 in]
Beta ratio	0.3 ... 0.75
Reynolds number	$2 \times 10^4 \dots 3.2 \times 10^6$
Accuracy	0.7 ... 3 % of the provided discharge coefficient



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 can be machined from a round bar.
Nominal size	200 ... 1,200 mm [7.9 ... 47.2 in]
Beta ratio	0.4 ... 0.7
Reynolds number	$4 \times 10^4 \dots 1 \times 10^6$
Accuracy	1,5 ... 3 % of the provided discharge coefficient



Ordering information

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

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