

**New
Product Information**



**A New Vortex Generation
for liquids, gas and steam**

Vortex Meter Series VTX 2

Designed for process measurement:

- extremely robust
- excellent metrological characteristics
- outstanding compensation of vibrations
- insensitively against pulsations, pressure pushes and temperature shocks
- with intelligent electronics



Sensors



Measuring Principle

When a fluid (liquid, gas or steam) meets an obstructive body with a certain minimum flow velocity the fluid can only follow the contour of this body up to a particular point, after which it curls up to form a vortex. This happens in turn on either side of the bluff body. The vortices (eddies) travel downstream, forming the „Kármán Vortex Trail“. The Vortex meter series VTX is equipped with a trapezoidal bluff body which induces a precise detachment of the vortices with high repeatability. Liquids, gases and steam can be measured equally well.

Both the dimensions of the bluff body and its specially defined separation or leading edge (contour) guarantee the frequency of the vortices to be proportional to the flow velocity of the fluid. The vortices detaching from the bluff body energize a vortex frequency, thus causing both velocity and pressure alterations which are detected by sensor and converted to output signals (either 4 - 20 mA or pulses). This is carried out by an electronic converter with both an auto - adaptive and microprocessor controlled filtration of the sensor signal.



Technical Data

Accuracy	Gas / steam : $\pm 1,5\%$ of measured value Liquids : $\pm 1,0\%$ of measured value
Repeatability	$\pm 0,15\%$ of measured value
Operating temperature.	-40°C bis +270 °C standard -200 °C bis +450 °C special design
Ambient temp..	-40°C bis +70 °C
Process connection	Sandwich: DN 15 to 300; PN 10 to 40; Class 150 and 300. Flange: DN 15 to 300; PN 40; Class 150 and 300.
Electrical connection	Power supply 14 - 30 VDC 2 - wire - technology, 4-20 mA, HART or pulses (without HART) and pulse output acc. NAMUR (scalable)
Materials	Bluff body: 1.4571 Housing: 1.4404 Gaskets: Viton, Graphit Electronic housing: casted aluminium
Safety class	EEx ia IIC T6 acc. ATEX 100a (EEx d in preparation)
EG-declaration of conformity	acc. EMV-guideline 89/336/EWG EN 50081-1 / EN 50082-2 and NAMUR NE 21

Ranges

DN	Gas / Steam [m³/h]		Liquids [m³/h]	
	lower value	upper value	lower value	upper value
15	2	25	0,4	8
25	5	130	1,0	20
40	10	330	2,5	50
50	15	560	4	80
80	40	1600	6	180
100	60	2300	10	300
150	130	5300	20	600
200	250	9400	40	1200
250	400	16000	80	1800
300	500	20000	120	2500

Nominal width > DN 300
on request available

Benefits of the Vortex Meter Series VTX

A highly reliable sensor ...

- excellent metrological characteristics
- outstanding compensation of vibrations
- insensitively against pulsations, pressure pushes and temperature shocks
- high fluid temperature capability
- rugged design and service-free
- with a piezoelectric sensor
- no thin diaphragms
- high flexibility in applications
- at change of the sensor no recalibration necessary

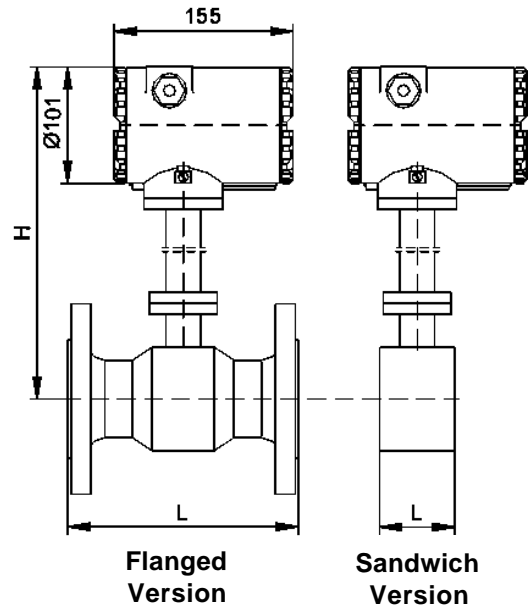
Main dimensions

Sandwich-Version

DN	L	H
15	65	335
25	65	335
40	65	340
50	65	340
80	65	350
100	65	365
150	90	400
200	120	430
250	140	460
300	160	500

Flange-Version

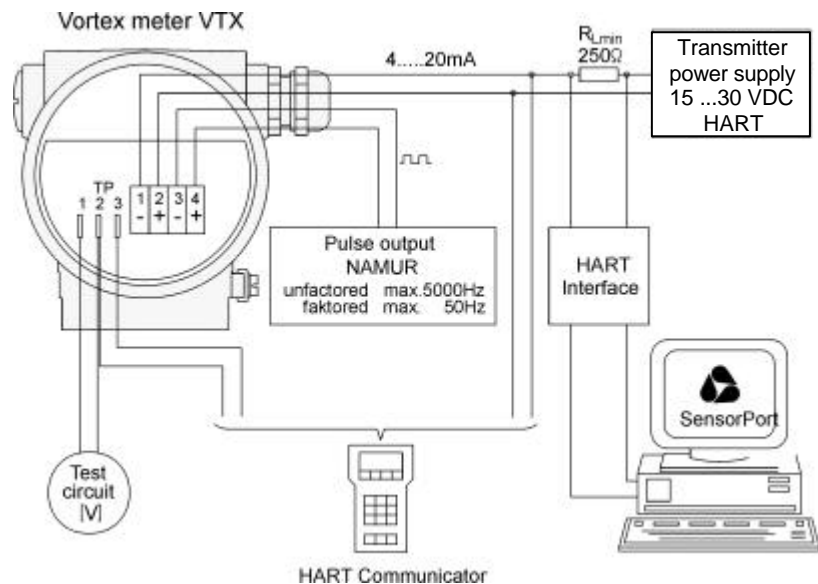
DN	L	H
15	150	335
25	150	335
40	150	340
50	150	340
80	200	350
100	200	365
150	200	400
200	300	430
250	400	460
300	450	500



... and modern electronics with communication module

- with auto - adaptive and digital signal treatment
- in 2 - wire - technology
- with 3 simultaneously independently of each other useful signals (analogue, digital and pulses)
- 4 - 20 mA - output or pulses (scaled for remote counter or unscaled with vortex frequency)
- with built in display and keys for configuration and easy service
- with HART - Protocol
- modern, user-friendly software tool available

Connecting shemata



Subject to technical changes without notice