



## VENTURI TUBE



**EUREKA  
INDUSTRIAL  
EQUIPMENTS  
PVT. LTD.**

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**DESCRIPTION:**

Venturi tube is a device made up of an entrance cylinder connected to conical convergent cone, a cylindrical throat & a divergent section. The internal surface of the device is cylindrical & concentric with the pipe centerline.

Eureka's VEN series is suitable for measuring liquid, gases as well as steam flow. Since there is no sharp edge or protrusions in the flow section, the venturi offers a very low pressure loss & high measurement accuracy.

The typical geometry of venturi offers a good repeatability & pressure recovery. Thus it reduces operating costs & also reduces straight length requirement.

Typically the convergent angle is fixed to 21deg. Divergent angle can be varied between 7° - 15° without any effect on the pressure loss & discharge coefficient.

**APPLICATIONS:**

- STEEL PLANT
- GAS PROCESSING & TRANSMISSION
- SUGAR INDUSTRY
- POWER PLANT
- OIL & GAS INDUSTRY

**FEATURES:**

- Can be used for fluids containing dust or suspended particles.
- Short upstream & downstream length required.
- Less susceptible to erosion.
- Low permanent pressure loss & high pressure recovery.
- No maintenance since no moving parts.
- Easy installation procedure

**DESIGN & MANUFACTURING STANDARD:**

- ISO-5167 part IV

**NOMINAL SIZES AVAILABLE:**

- Diameters 50mm to 1200mm, as specified by standards for respective type  
For larger sizes please consult Eureka representative.

**MODELS AVAILABLE:**

- MACHINED TYPE
- FABRICATED TYPE

**PRESSURE TAPPING:**

- Throat taps

**MATERIALS:**

Selection based on temperature & process conditions. Available materials are:

- For Machined type: Any forged material. E.g. SA.105, SS316, Inconel, Monel, Duplex Stainless Steel.
  - For Fabricated type: Material in the form of plates. E.g. IS2062, IS.2002, SA516Gr.60/70, SS316, UNS31803, etc.
- Other materials are available on request

**ORDERING INFORMATION:**

SERIES	MOC OF VENTURI	LINE SIZE	VENTURI TYPE	FLANGE RATING TYPE	FLANGE MATERIAL
VENTURI	IS 2062 → P1	50	MACHINED → M FABRICATED → F	NA - BWE	NA - NOT APPLICABLE SA105 - CS SA182F316 - S6 SA182F304 - S4
	IS2002 → P2	80		150# - WN/SO/SW - RF/RTJ	
	SA516 GR. 70 → P3	.		300# - WN/SO/SW - RF/RTJ	
	SA105 → F1	.		600# - WN/SO/SW - RF/RTJ	
	SS316 → P4 (Plate) / F2 (Forge)	.		900# - WN/SO/SW - RF/RTJ	
	SS304 → P5 (Plate) / F3 (Forge)	1200		1500# - WN/SO/SW - RF/RTJ 2500# - WN/SO/SW - RF/RTJ	

\*\* - Please specify wall thickness for non standard schedule.  
Note 1: Default pipe schedule will be Sch. STD  
Note 2: Required testing to be mentioned separately.

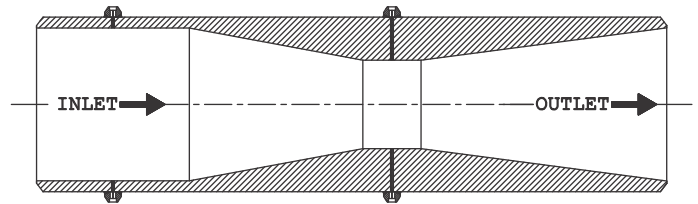
**MACHINED TYPE VENTURI:**

Machined venturi is manufactured by machining the inner profile from a solid forged bar. This is a single piece construction.

The end connection can be either BWE or Flanged, as per requirement.

Size limits 50mm to 250mm.  
Uncertainty in discharge coefficient ± 1%  
ReD  $2 \times 10^5$  to  $1 \times 10^6$   
 $\beta$  0.4 to 0.75

Pressure tapping can be either through adaptor OR through piezometric ring. Piezometric ring uses the principle of averaging the readings.  
The ring is manufactured from forging.



**FABRICATED TYPE VENTURI:**

This type of venturi is fabricated from the sheets. Venturi is fabricated in different parts namely Inlet cylinder, convergent cone, throat & divergent cone. Then all these separately fabricated parts are welded together to form the complete assembly.

The end connection can be either BWE or Flanged, as per requirement.

Size limits : 250mm to 1200mm.  
Uncertainty in discharge coefficient : ± 1.5%  
ReD :  $2 \times 10^5$  to  $2 \times 10^6$   
 $\beta$  : 0.4 to 0.7

Pressure tapping can be either through direct tapping OR through piezometric ring. Piezometric ring uses the principle of averaging the readings.  
The ring is fabricated from channel or pipe.

