



# Venturi Tube

Model : SVT



**SeoJin Instech Co., Ltd.**

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# SVT

## Venturi Tube

SVT



### Introduction

The Venturi tube is characterized by its tapered inlet and diverging outlet. This design greatly reduces head loss to the system when compared to an orifice plate.

In fact, the Venturi can handle 25% to 50% more flow than an orifice for comparable larger line size.

The Venturi is well suitable for dirty fluids since there are no places for dirt to build up in the tube.

Traditionally, the Venturi tube has been used on low pressure gas flow, water and waste applications.

Venturi tubes are generally constructed with a system of pressure taps which project radially into the pipe and feed into a common chamber known as a piezometer ring. This multiple tap arrangement provides an average pressure reading over the entire circumference of the element. As a result, the need for long pipe runs is eliminated. A general rule is that a venturi tube requires only half the upstream and downstream runs of an orifice plate.

The discharging coefficient of the Venturi is constant and predictable to 1% for pipe Reynolds Numbers greater than 100,000. Venturi elements are not as reliable at lower Reynolds Numbers. The Venturi tube is a relatively high cost device. However, low pumping costs and reduced piping requirements can make it cost effective.

### Features

- Can be used on slurries and dirty fluids.
- Short upstream piping required.
- Low installation costs.
- Lower susceptibility to erosion.
- High pressure recovery.
- Low permanent pressure loss.
- Extended product life with no moving parts.
- Vertical or horizontal installation.
- No moving parts, simple configuration,
- Maintenance-free.
- Availability in 2 to 48 inch sizes, larger sizes available upon request.
- Available in all ANSI ratings. (depending on line size)
- Available in wide variety of materials.



### Prevents

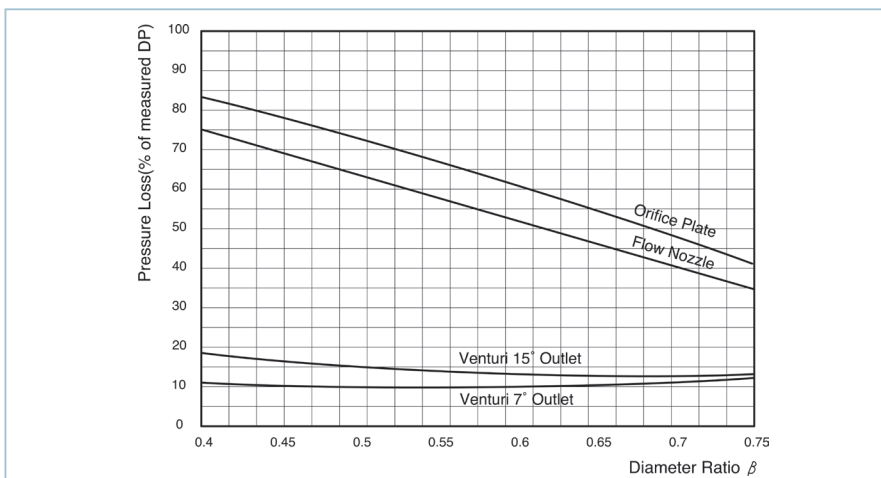
#### Limitations

Pipe size and Reynolds Number limitations are shown in the table below, in accordance with BS EN ISO 5167:1

Device	Pipe Inside Diameter (mm)		Reynolds Number	
	Min	Max	Min	Max
Fabricated Venturi	200	1200	$2 \times 10^5$	$2 \times 10^5$
Machined Venturi	50	250	$2 \times 10^5$	$2 \times 10^5$
Fabricated Nozzle	65	500	$1.5 \times 10^5$	$2 \times 10^6$

## Unrecovered Pressure Loss

The graph below shows the advantage of Venturi tubes and Venturi nozzles over orifice plates and flow nozzles. Pressure loss is expressed as a percentage of the measured differential pressure.



## Special Requirements

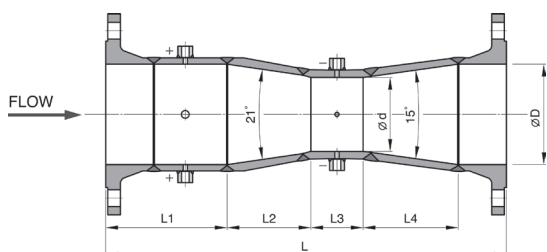
For applications requiring high accuracy flow measurement, Venturi tubes can be individually calibrated, using water, air or natural gas, to obtain accurate discharge coefficients for the device over a range of Reynolds Number.

We can also offer 'in-house' testing including dye-penetrant inspection, hydrostatic pressure testing, radiographic inspection, magnetic particle inspection and positive material identification.

### Model Type

#### Fabricated Flange Type

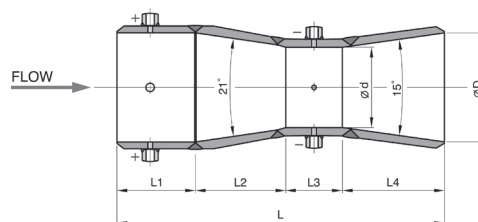
Available in size 6" and larger



SVT-A

#### Fabricated Weld-On Type

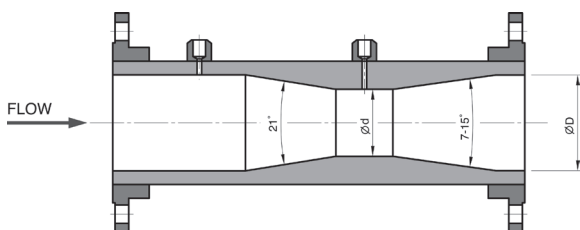
Available in size 6" and larger



SVT-B

#### Machined Flange Type

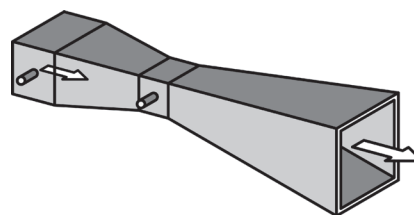
Available in size 6" and larger



SVT-C

#### Rectangular Type

Available in size 6" and larger



SVT-F

## Ordering Information

### VENTURI TUBE

SVT - A 1 A 1 A 1 A

#### OPTION

A = Other  
B = None

#### BOSS SIZE

1 = Carbon Steel  
2 = 304LSS  
3 = 316LSS  
4 = etc.

#### FLANGE MATERIAL

A = Carbon Steel  
B = 304LSS  
C = 316LSS  
D = etc.

#### FLANGE RATING

1 = JIS 10K  
2 = JIS 20K  
3 = JIS 30K  
4 = ANSI #150  
5 = ANSI #300  
6 = ANSI #600  
7 = ANSI #900  
8 = etc.

#### BODY MATERIAL

A = Carbon Steel  
B = 304LSS  
C = 316LSS  
D = etc.

#### LINE SIZE

1 = 15A (1/2")  
2 = 20A (3/4")  
3 = 25A (1")  
4 = 40A (1-1/2")  
5 = 50A (2")  
6 = 65A (2-1/2")  
7 = 80A (3")  
8 = 100A (4")  
9 = 125A (5")  
10 = 150A (6")  
11 = 200A (8")  
12 = etc.

#### TYPE

A = Fabricated Flanged  
B = Fabricated Weld-On  
C = Machined Flanged  
D = Machined Weld-On  
E = Rectangular Flanged  
F = Rectangular Weld-On

■ When placing an order, selected ordering number should be indicated on the purchase order sheet.



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■ Specifications subject to change without notice