ABOUT VENTURI VALVES

Top hospitals, universities, and research facilities across the globe trust Triatek’s Venturi air valves to protect its occupants from dangerous airborne pathogens and chemicals.

Triatek’s Venturi valves maintain the desired airflow regardless of duct pressure. This is accomplished with a cone and spring-loaded piston inside the cone. As the duct pressure increases, the spring compresses and pushes the cone further into the shell. This mechanism keeps the volumetric flow rate constant as air travels through the valve and duct pressure varies.

Triatek Venturi valves utilize fast-acting electric actuators that provide a rapid response to changing conditions. This rapid response ensures the airflow is maintained which is critical in areas requiring a specific threshold of air flow in order to protect individuals from airborne chemicals or particulates.

FEATURES AND OPTIONS

- Low and medium pressure constant volume valves
- Low and medium pressure partially closed valves
- Low and medium pressure shut-off valves
- Valves available in 8”, 10”, 12”, and 14” diameters
- Available with Heresite® or Kynar® coatings
- Constant flow control
- Dependable and easy to install
- Available with fast-acting or standard-acting electronic actuators
- Fully pressure independent
- Factory calibrated airflow
- Field adjustable
- Low pressure drop
- Can be ganged for increased flow
- Maintenance-free
- Valves can be calibrated for vertical or horizontal positioning
DETAILED OPTIONS

Aluminum or Stainless Steel - Typical Venturi valves are made of aluminum, but stainless steel is the material of choice for environments with highly corrosive or dangerous chemicals in the air stream.

Heresite - Heresite® is a brown phenolic coating baked on exposed aluminum to minimize corrosion. Heresite coatings provide resistance to a wide range of corrosives (reference the Triatek website for a full list of coatings).

Kynar/PVDF - Kynar®/PVDF provides excellent chemical resistance, high levels of purity, and superior mechanical properties. It is often used as a lining or protective barrier in applications in which Heresite® is not sufficient.

Thermal Insulation - Often used for supply valves, thermal insulation decreases energy costs by reducing thermal losses.

Constant Volume or Actuated - Constant volume Venturi valves are used for biosafety cabinets, constant volume fume hoods, ventilated cabinets, and outside air regulation. Actuated valves are used in systems that adapt to a dynamic environment.

Medium or Low Pressure - Medium pressure Venturi valves (0.6” to 3” wc) allow for higher flows for a given valve size, while Low Pressure Venturi Valves (0.3” to 3” wc) require a smaller pressure drop across the valve for maintaining a constant flow.

Partially Closed or Shut-Off - Partially closed Venturi valves allow for higher flows for a given valve size, while Shut-Off Venturi Valves allow the valve to close completely for equipment not currently in use, leading to energy savings.

Horizontal or Vertical - Customers should specify how the valve will be situated in the duct work, as vertically mounted valves are calibrated differently.

Size - Triatek offers 8”, 10”, 12” and 14” diameter valves for a variety of applications.

Ganged Valves - Valves can be ganged together to increase flow.
### Venturi Valve Overview

**Specifications**

- **Aluminum Shell Thickness**: 0.060" (1.524mm)
- **Stainless Steel Shell Thickness**: 0.040" (1.016mm)
- **Accuracy**: +/- 5% or 10 cfm; whichever is greater

**Internal Assembly Construction Materials**

- Stainless steel shaft and struts with Teflon® bearings
- Stainless steel shell and struts with Kynar® bearings

**Triatek Venturi Valve Flow Rates (CFM)**

<table>
<thead>
<tr>
<th>Size</th>
<th>Length</th>
<th>Width</th>
<th>Clearance Height</th>
<th>Min. Flow</th>
<th>Max. Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot;</td>
<td>2.00</td>
<td>6.00</td>
<td>17.50</td>
<td>0.4</td>
<td>3.0</td>
</tr>
<tr>
<td>10&quot;</td>
<td>2.50</td>
<td>8.00</td>
<td>22.50</td>
<td>3.0</td>
<td>20.0</td>
</tr>
<tr>
<td>12&quot;</td>
<td>3.00</td>
<td>9.00</td>
<td>27.50</td>
<td>7.0</td>
<td>40.0</td>
</tr>
<tr>
<td>14&quot;</td>
<td>3.50</td>
<td>10.00</td>
<td>32.50</td>
<td>12.0</td>
<td>60.0</td>
</tr>
</tbody>
</table>

**Notes:**

- Flow rates are subject to change without notice.
- Stainless steel Venturi valve data sheet for more information.
- Vertical “up” low pressure valves maintain flow from 0.4” to 3” wc.
- Vertical “up” flow and “down” flow applications please consult the factory for more information.
- Flanged valves cannot be ganged.
- Belimo actuators are available upon request.
- Flows for non-stainless medium pressure, partially closed valves. See stainless steel Venturi valve data sheet for more information.
- Constant volume valve applications must have a specified flow.

**Part Number Guide**

- **# OF VALVES**
  - 0 = 1 Valve
  - 2 = 2 Valves
  - 3 = 3 Valves
  - 4 = 4 Valves

- **DIAMETER**
  - 8 = 8”
  - 10 = 10”
  - 12 = 12”
  - 14 = 14”

- **SHELL/COATING**
  - A = Aluminum/None
  - H = Aluminum/Heresite
  - K = Aluminum/Kynar
  - S = 316 Stainless Steel/None

- **THERMAL INSULATION**
  - N = No Insulation
  - T = Thermal Insulation

- **ACTUATOR**
  - FA = Fast-acting
  - CV = Constant Volume
  - S = Special Order Actuator

- **TYPE**
  - PC = Partially Closed
  - SS = Standard Shut-off
  - FS = Full Shut-off

- **PRESSURE RANGE**
  - M = Medium
  - L = Low

- **ORIENTATION**
  - H = Horizontal
  - V = Vertical

- **COUPLING**
  - N = No Coupling
  - F = Flanged
  - D = Duct Band Clamp

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