Valve controllers for Phoenix Controls low-pressure shut-off venturi valves are determined by the Control Type:

- *Celeris®* valve controllers for low-speed electric applications.
- *Celeris®* valve controller for high-speed electric applications only.

All low-pressure shut-off valves are available in a standard (Option S) design intended for use in critical airflow applications where isolating the HVAC system from the room is necessary or imperative.

Under normal operation, a shut-off valve provides the critical airflow control performance demanded by a modern research facility. In the shut-off mode, it provides isolation of the HVAC system from the room. A typical application example is a laboratory research building using gaseous biodecontamination.

## FEATURES

- All valves include a pressure-independent assembly, factory-calibrated position controller.
- The shut-off sequence can be initiated either locally through a universal input or remotely via the Celeris network - either from the building management system (BMS) or Local Display Unit (LDU).
- The valve can function as a standalone device or in a fully integrated system.
- Celeris valve controllers provide room pressurization, temperature, humidity, occupancy, and emergency control functions.
- Precise airflow control - the factory-calibrated flow rate controller performs accurately throughout its operating range.
- Self-balancing pressure-independent operation - the valve maintains the airflow set point by compensating automatically for static pressure fluctuations in the system.

### Feature/Option EXV/MAV

<table>
<thead>
<tr>
<th>Feature/Option</th>
<th>EXV</th>
<th>MAV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control type</td>
<td>L</td>
<td>M</td>
</tr>
<tr>
<td>Actuator type</td>
<td>Low-speed electric</td>
<td>High-speed electric</td>
</tr>
<tr>
<td>Response time</td>
<td>&lt; 1 minute</td>
<td>&lt; 1 second</td>
</tr>
<tr>
<td>Control platform</td>
<td>Celeris, Theris, Traccel</td>
<td>Celeris</td>
</tr>
<tr>
<td>Failsafe</td>
<td>Fail to last position</td>
<td>NO/NC/LastPosition</td>
</tr>
<tr>
<td>Shut-off mode activation</td>
<td>Local UI or remote via Celeris network</td>
<td>Local UI or remote via Celeris network</td>
</tr>
<tr>
<td>Flow alarm via feedback circuit</td>
<td>✡✔</td>
<td>✡✔</td>
</tr>
<tr>
<td>Flow alarm via pressure switch</td>
<td>Option</td>
<td>Option</td>
</tr>
<tr>
<td>Shut-off function</td>
<td>✡✔</td>
<td>✡✔</td>
</tr>
<tr>
<td>Factory-insulated valve body (standard on supply valve)</td>
<td>Supply valve only</td>
<td>Supply valve only</td>
</tr>
</tbody>
</table>

OSHPD Certified*
This device is certified for OSHPD Seismic Certification Preapproval per 2013 CBC, 2012 IBC, ASCE 7-10, and IEC-ES-AC-156. OSHPD Special Certification number OSP-0290-10.

*N Vertical applications approval pending.

**NVLAP Accreditation**
All venturi valves are characterized on NVLAP Accredited Airstations, Lab Code 200992-0. NVLAP is administered by the National Institute of Standards and Technology (NIST).

**ISO**
Phoenix Controls Designs, Develops, Manufactures, and sells products, systems, and service to control the environment and airflow of critical spaces. Phoenix Controls is registered to ISO 9001:2008.

**Warranty**
Phoenix Controls Warrants all venturi valves against defects in material and workmanship for a period of 5 years. In addition, all other equipment manufactured by Phoenix Controls, such as sash sensors, fume hood monitors, and equipment supplied but not manufactured by Phoenix Controls is covered by a 3 year warranty.
SPECIFICATIONS

Construction [Standard Shut-off (Option S)]
• 16 ga. spun aluminum valve body with continuous welded seam
• Valve bodies available as uncoated aluminum or with corrosion-resistant baked phenolic or PVDF coatings
• Composite Teflon® shaft bearings
• Spring grade stainless steel spring and polyester or PPS slider assembly
• Supply valves insulated with 3/8 (9.5 mm) flexible closed-cell polymer-based foam:
  • Flame/smoke rating 25/50.
  • Density 1.5 lb/ft³ (24.0 kg/m³).

Operating Range
• 32-122 °F (0-50 °C) ambient
• 10-90% non-condensing RH

Performance
• Pressure independent over a 0.3" - 3.0" WC (75 - 750 Pa) drop across valve
• Volume control accurate to ±5%, 5 CFM of airflow command signal throughout normal operating range
• No additional straight duct runs needed before or after valve
• Available in flows from 35 - 2000 CFM (60 - 3398 m³/hr)
• Shut-off leakage: See charts on pages 3 through 4

Power
• 24 Vac (±15%) @ 50/60 Hz
• Response time:
  • < 1 minute (control type L)
  • < 1 second (control type M)

Power Consumption
Singles/Duals per valve
• Low-speed Electric: 10 VA
• High-speed Electric: 70 VA

Notes:
1. All power consumption VA ratings are based on fully-loaded I/O.

VAV Controller
I/O:
• 3 universal inputs accepts volt, mA, ohms or NTC 2 or 3 thermistor signals
• 1 digital input
• 2 analog outputs provide volt or mA signals
• 1 digital output (Type C, 1 amp @ 24 Vac/Vdc)
• Input accuracy
  • Voltage, current, resistance: ±1% full scale
• Output accuracy:
  • 0 to 10 Vdc: ±1% full scale into 10 kΩ minimum
  • 4 to 20 mA: ±1% full scale into 500 Ω ±0/-50 Ω

Room-Level Communications
FTT-10, 78 KB, bus topology, LonTalk™ network

Building-Level Communications
TP-1250, 1.2 MB, bus or tiered topology, LonTalk™ network

Regulatory Compliance
• RoHS
• FCC
  This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
  1. This device may not cause harmful interference.
  2. This device must accept any interference received, including interference that may cause undesired operation.
• EU Contact Address:
  Honeywell GmbH
  Boebinger Str. 17
  71101 Schoenaich
  Germany

Teflon is a registered trademark of DuPont Company.
LonWorks is a registered trademark of Echelon Corporation.
**MAV A 12 L - S ME H O - PSL**

**FLOW/PRESSURE OPERATING RANGE**

- **L** = Low pressure; pressure independent over a range of 0.3 to 3.0" WC (75 to 750 Pa), associated pressure switch trips at 0.2" WC; see Note 5.
- **See the Flow/Pressure Operating Range for Shut-Off Valves table below.**

<table>
<thead>
<tr>
<th>Designation</th>
<th>Size</th>
<th>Operating Range in CFM (m3/hr)</th>
<th>Pressure Drop Across Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Single</td>
<td>Dual</td>
</tr>
<tr>
<td><strong>08&quot;</strong></td>
<td></td>
<td>32-450 (60-675)</td>
<td></td>
</tr>
<tr>
<td><strong>10&quot;</strong></td>
<td></td>
<td>50-450 (85-760)</td>
<td>100-900 (170-1520)</td>
</tr>
<tr>
<td><strong>12&quot;</strong></td>
<td></td>
<td>95-950 (155-1525)</td>
<td>180-1800 (310-3050)</td>
</tr>
<tr>
<td><strong>14&quot;</strong></td>
<td></td>
<td>200-1000 (340-1695)</td>
<td>400-2000 (680-3390)</td>
</tr>
</tbody>
</table>

**NOTES:**

1. 8-inch shut-off valves (Design = S or L) are only available as uncoated (Construction = A).
2. Celeris hood valves cannot have low-speed actuators (Control Type = I or L).
3. Option WRE: Weather Resistant Electronics, outdoor installations. Applies to ELECTRICALLY actuated valves with sufficient IP ratings only (Control = I or M only for single-body valves; Control = L or M only for multi-body valves). HORIZONTAL orientation ONLY.
   - Includes sealed Vport and large weather-resistant IP65 box mounted on base channel that houses the controller and all electric connections to/from it.
   - When used in High-Speed Electric applications for 08", 10", and 12" single-body valves, WRE must ALSO be ordered with Control Type = L (IP64 actuator) in place of the standard Control Type L.
   - When used in High-Speed Electric applications, standard actuators are sufficient (Control Type = E or M) since they are IP56 actuators.
   - REQUIRES use of a dog house enclosure, provided by others, to protect valve from the elements and maintain temperature and humidity conditions within Phoenix specifications.
4. Option REI: Remote Electronics, indoor installations ONLY. The distance to the valve controller is limited to:
   - 40 inches (1 meter) of 18 gauge cable for high-speed electric actuators (Control Type = M).
   - 150 feet (45.7 meters) of 22 gauge cable for low-speed electric actuators (Control Type = L or I).
5. Low-pressure standard shut-off (Design = S) valves are not available in Orientation = U (vertical upflow).