Valve controllers for Phoenix Controls medium-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.

Medium-pressure shut-off valves are available in two valve designs: standard (Option S) and lower leakage (Option L). Both designs are intended for use in critical airflow applications, where isolating the HVAC system from the room is necessary. 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 low-leakage isolation of the HVAC system from the room; for example in a laboratory research building space 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.

**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.

*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 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).

**Construction [Low-leakage Shut-off (Option L)]**
- Same construction as S Valve Design
- Cone gasket material in Class A, Class B, and Class C is Viton
- Seal wheel material is polypropylene

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

**Performance**
- Pressure independent over a 0.6" - 3.0" WC (150 - 750 Pa) drop across valve
- Volume control accurate to ±5% of airflow command signal throughout normal operating range
- No additional straight duct runs needed before or after valve
- Available in flows from 35 - 2600 CFM (60 - 2888 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/Dual per valve. All power consumption VA ratings listed here are based on fully-loaded I/O.
  - Low-speed Electric: 10 VA
  - High-speed Electric: 70 VA

**VAV Controller**
- I/O:
  - 3 universal inputs. Accepts volt, mA, ohms or NTC 2 or 3 thermistor signals.
  - 1 digital input
  - 2 analog outputs. Provides 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
  - Boeblinger Str. 17
  - 71101 Schoenaich
  - Germany

Teflon is a registered trademark of DuPont Company.
LonWorks is a registered trademark of Echelon Corporation.
**ORDERING GUIDE**

**VALVE FAMILY**

EXV = Celeris exhaust valve

MAV = Celeris supply valve (comes standard with insulation)

**VALVE CONSTRUCTION**

- **A** = Body and cone uncoated aluminum; uncoated 316 stainless steel shaft
- **B** = Body and cone with baked-on phenolic coating; PFA-coated 316 stainless steel shaft
- **C** = Body and cone with baked-on phenolic coating; hardware with titanium or baked-on epoxy phenolic coating; PFA-coated 316 stainless steel shaft

**NUMBER OF VALVE BODIES**

- **F** = Single valve body with welded circular flange
- **G** = Single valve body with welded flange
- **H** = Two valve bodies as one unit (dual): 10", 12", and 14" valves only

**VALVE SIZE**

- **08** = 8" valve (7.88/200 mm actual diameter); see Note 1
- **10** = 10" valve (9.67/246 mm actual diameter)
- **12** = 12" valve (11.84/301 mm actual diameter)
- **14** = 14" valve (13.88/353mm actual diameter); see Note 2

**FLOW/PRESSURE OPERATING RANGE**

See Flow/Pressure Operating Range table below. (M = Medium pressure operation; pressure independent over a range of 0.6 to 3.0" WC (150 to 750 Pa), associated pressure switch trips at 0.3" WC)

**VALVE OPTIONS**

- **EVI** = Exhaust valve with insulation blocks and insulation
- **IBO** = Insulation blocks only, no insulation
- **PSL** = Pressure switch, low limit
- **REI** = Remote electronics - indoor applications only; see Note 5
- **WRE** = Weather resistant electronics - outdoor applications, electric actuation only; see Note 4
- **SFB** = Square flanges on both ends of single-body valves
- **SFX** = Single square flange mounted on either the exhaust inlet or supply discharge

**FAIL-SAFE POSITION**

- **C** = Normally closed
- **O** = Normally opened
- **Z** = Fails to last position

**VALVE ORIENTATION**

- **H** = Horizontal
- **U** = Vertical upflow
- **D** = Vertical downflow

**VALVE CONTROLLER DESIGNATION**

- **E** = Electronic controller
- **H** = Hood exhaust valve with pressure switch; see Note 3

**CONTROL TYPE**

Pneumatic actuation is not available on standard or low-leakage shut-off valves

- **I** = IP54 low-speed electric; only available on single-body valves in sizes 0, 10, and 12" single-body valves. WRE must also be ordered with Control Type = I (IP54 actuator) in place of the standard Control Type L.
- **L** = Low-speed electric
- **M** = High-speed electric

**VALVE DESIGN**

- **S** = Standard shut-off valve (metal-on-metal seal); see Note 1
- **L** = Low leakage shut-off valve (gasketed seal); see Notes 1, 2

**FLOW/PRESSURE OPERATING RANGE FOR SHUT-OFF VALVE DESIGNS S AND L**

<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><strong>M</strong> = Medium Pressure</td>
<td></td>
<td></td>
<td>0.6-3.0&quot; WC (150-750 Pa)</td>
</tr>
<tr>
<td>08&quot;</td>
<td>35-600 (60-1015)</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>10&quot;</td>
<td>50-850 (85-1440)</td>
<td>100-1700 (170-2880)</td>
<td></td>
</tr>
<tr>
<td>12&quot;</td>
<td>90-1300 (155-2205)</td>
<td>180-2600 (310-4410)</td>
<td></td>
</tr>
<tr>
<td>14&quot;</td>
<td>200-1600 (340-2715)</td>
<td>400-3200 (680-5430)</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

1. 8-inch shut-off valves (Design = S or L) are only available as uncoated (Construction = A).
2. 14-inch valves are currently not available as low-leakage shut-off (Design = L).
3. Celeris hood valves cannot have low-speed actuators (Control Type = L or I).
4. 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 Vpot and large weather-resistant IP65 box mounted on base channel that houses the controller and all electric connections to/from it.
   - When used in Low-Speed Electric applications for 08", 10", and 12" single-body valves, WRE must also be ordered with Control Type = I (IP54 actuator) in place of the standard Control Type L.
   - 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.
5. 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).