Variable air volume (VAV) control schemes are commonly used for fume hoods, general exhaust, and room supply air. For typical fume hood applications, high-speed (< 1 second speed of response) actuation is required. The Celeris® valve controller interfaces with our current fume hood monitors for control and monitoring. Celeris controllers also provide room-level control functions in either standalone or integrated systems.

For Tracking Pair control (non-VAV applications where make-up air control and an interface with the fume hood monitors are not required) Celeris controllers with low-speed electric actuation offers an economical solution for room-level ventilation, pressurization, temperature and humidity control in either standalone or integrated systems.

**FEATURES**

<table>
<thead>
<tr>
<th>FEATURE/OPTION</th>
<th>VAV (EXV/MAV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control type</td>
<td>L</td>
</tr>
<tr>
<td>Actuator type</td>
<td>Low-speed</td>
</tr>
<tr>
<td>Flow feedback signal</td>
<td>✔ ✔ ✔</td>
</tr>
<tr>
<td>Failsafe</td>
<td>Yes</td>
</tr>
<tr>
<td>Factory-insulated valve body</td>
<td>Last</td>
</tr>
<tr>
<td>Field-adjustable flow</td>
<td>✔</td>
</tr>
<tr>
<td>Flow alarm via feedback</td>
<td>✔</td>
</tr>
<tr>
<td>Flow alarm via pressure</td>
<td>Option</td>
</tr>
<tr>
<td>Low noise diffuser construction†</td>
<td>✔</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.

*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.

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†Phoenix Controls venturi valves are designed to reduce sound over all frequencies, but significantly target the lower bands (125-500 Hz) to help eliminate the need for silencers.

*The pneumatic actuator is not available for the 14-inch valve at this time.
SPECIFICATIONS

Construction
- 16 ga. spun aluminum valve body with continuous welded seam
- Valve bodies available as uncoated aluminum (Class A) with corrosion-resistant baked phenolic (Class B and C) or with PVDF coatings for more chemical intense applications (Class D)
- 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 is 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 0.6"-3.0" WC (150-750 Pa) drop across valve
- Volume control accurate to ±5% of airflow command signal
- No additional straight duct runs needed before or after valve
- Available in flows from 35-10,000 CFM (60-16,990 m³/hr)
- Response time to change in command signal:
  - <1 second (control type M and N)
  - <1 minute (control type L)
- Response time to change in duct static pressure: <1 second

Pneumatic Actuation
(Not available with the 14-inch valve)
- 20 psi (-0/+2 psi) with a 20 micron filter main air required
- Compressor sizing: Phoenix Controls Venturi Valves are not continuous air-consuming devices. For compressor sizing, use:
  - single and dual valves: 10 scim
  - triple and quad valves: 20 scim

Sound
Designed for low sound power levels to meet or exceed ASHRAE noise guidelines.

Power
24 Vac (±15%) @ 50/60 Hz

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

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

I/O
Available for connecting field devices:
- 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 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

* Not applicable to CVV series.

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
- **D** = Body and cone with PVDF coating; hardware with PVDF or baked-on epoxy phenolic coating; PFA-coated 316 stainless steel shaft; see Note 7

**NUMBER OF VALVE BODIES**

- **F** = Single valve body with welded circular flange
- **1** = One valve body no flange
- **2** = Two valve bodies as one unit (dual); 10", 12", and 14" valves only

**VALVE SIZE**

- **08** = 8" valve (7.88"/200 mm actual diameter)
- **10** = 10" valve (9.67"/246 mm actual diameter)
- **12** = 12" valve (11.84"/301 mm actual diameter)
- **14** = 14" valve (13.88"/333 mm actual diameter)

**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 trip at 0.3" WC

**VALVE DESIGN**

- **A** = Conical-shaped diffuser

**FLOW/PRESSURE OPERATING RANGE FOR STANDARD VALVE DESIGNS**

<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>M</strong> = Medium Pressure</td>
<td></td>
<td>35-700 (60-1185)</td>
<td></td>
</tr>
<tr>
<td>08&quot;</td>
<td>50-1000 (85-1895)</td>
<td>100-2000 (170-3390)</td>
<td></td>
</tr>
<tr>
<td>10&quot;</td>
<td>90-1500 (155-2545)</td>
<td>180-3000 (310-5090)</td>
<td></td>
</tr>
<tr>
<td>12&quot;</td>
<td>200-2500 (340-4245)</td>
<td>400-5000 (680-8490)</td>
<td></td>
</tr>
</tbody>
</table>

NOTES:

1. Construction D is ONLY available in single-body valves (Number of Bodies = F or I) WITHOUT square flanges (Options SFB or SFX). Rectangular plates can be purchased as special products to field assemble two, three or four single-body round-flanged valves into multi-body configurations. For sizes 08, 10, and 12 only.

2. Celeris Hood valves cannot have Low Speed actuators (Control Type = L or I).

3. Option REI: Remote Electronics, Indoor installations ONLY. The distance to the valve controller is limited to:
   - 75 feet (22.8 meters) of pneumatic tubing for pneumatic actuators (Control Type = N).
   - 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).

4. Option REO: Remote Electronics, Outdoor installations ONLY. Limited to PNEUMATICALLY actuated valves ONLY (Control Type = N). HORIZONTAL orientation ONLY.
   - Includes sealed Vpot, small weather-resistant NEMA 3R box mounted on base channel for others to connect Vpot cables, and a valve controller in an enclosure that has been disconnected from the base channel and shipped in the same box as the valve.
   - Maximum distance between remote mounted enclosure and valve is 75 feet (22.8 meters) (maximum allowable length of pneumatic tubing). 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 WRE: Weather Resistant Electronics, outdoor installations. Applies to ELECTRICALLY actuated valves with sufficient IP ratings only; Control = I or M for single-body valves; Control = L or M 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-inch single-body valves, WRE must ALSO be ordered with Control Type L in place of the standard Control Type (L).
   - When used in High-Speed Electric applications, standard actuators are sufficient (Control Type = 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’s specifications.