Phoenix Controls **Valve Upgrade Kits** provide migration from constant volume (Accel II bodies only), PxV, base upgradable, analog, and Celeris® valves to the latest Celeris® and Traccel® (certain sizes/vintages only) generation of digital valves. Upgrades engender substantial energy and operational savings as well as enhanced functionality. Upgrading the valves is non-invasive and can be done without removing the valve from the duct work.

- Upgrade kits provide all the necessary hardware to upgrade legacy valves.
- A three-year warranty covers all upgrade components.
- Infrastructure for the new digital networks can be configured first then phased in when advantageous to facility scheduling.

**ENERGY BENEFITS**

Moving to Celeris 2 and Traccel technology provides enhanced control with energy management features previously unavailable. Upgrade will provide all the features included in the Celeris 2 and Traccel platforms.

- Enhanced occupied, stand-by (LON only), timed bypass, and unoccupied control
- Advanced temperature control including cascade control, thermal anticipatory or BTU compensation control (C2 only), temperature sensor averaging (LON only), primary and auxiliary reheat/cooling control, and chilled beam control
- Indoor Air Quality Control (IAQ) lowers standard air changes per hour based on air quality; while maintaining work environment safety
- Automatic GEX shut-off in lab spaces can be configured for energy savings (requires replacing GEX valve with a shut-off valve) (C2 only)
- Hibernation mode that allows hood valves to be driven to the minimum valve flow when not in use (may require fume hood monitor upgrade to FHM631 or Sentry-SE) (C2 only)
- Usage based controls to reduce hood flows (C2 only)

**OPERATIONAL BENEFITS**

Upgrading to Celeris 2 and Traccel supports facility goals for reduced operating costs and more sustainable control programs. Valve upgrade kits help facilities work within their annual maintenance budgets and allow scheduled, phased-in retrofits.

- The Celeris 2 and Traccel platforms create a more flexible system for adding devices such as sensors or switches as your facility grows
- Expedites point integration from valves or other devices on the network to the BMS, reducing the complexity of BMS programming
- Gives operations staff better troubleshooting tools for managing or monitoring devices
- Enables maximum benefits of Phoenix Controls digital devices and their features:
  - Pressure monitors and display devices
  - Advanced control sequences like active pressure control, temperature control, and demand based ventilation
- Leverage new front end solutions such as Supervisor and Portal for data analysis and energy savings

<table>
<thead>
<tr>
<th>Control Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Low-Speed Floating Point (IP54) Electric For temperature control on standalone supply valves; tracking pair valves in offices, alcoves, and vivariums to maintain minimum air flow, temperature, and space pressurization or offset.</td>
</tr>
<tr>
<td>N</td>
<td>Digital Pneumatic (C2 only) For high-speed fume hood containment in laboratories using pneumatically controlled actuators.</td>
</tr>
<tr>
<td>M</td>
<td>Digital High-Speed Electric (C2 only) For high-speed fume hood containment in laboratories using electrically controlled actuators.</td>
</tr>
</tbody>
</table>
SPECIFICATIONS

Applicability
• VAV valves: Hourglass (from 1/1/1990) and Accel II bodies
• CV valves: Accel II bodies only

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

Performance
• Volume control accuracy: Equivalent to or better than valve being upgraded
• Pressure independent over 0.6"-3.0" WC (150-750 Pa) drop across valve for medium pressure, 0.3"-3.0" WC (75-750 Pa) for low pressure
• Available with flows based on original valve ordered. See Legacy Valve Flow/Pressure Operating Range table below.
• Response time to change in command signal:
  • <1 second (control type M and N)
  • <1 minute (control type I)
• Response time to change in duct static pressure: <1 second

Pneumatic Actuation (excluding TracCEL)
• 20 psi (-0/+2 psi) with a 20 micron filter main air required
• Compressor sizing: Accel valves are not continuous air-consuming devices. For compressor sizing, use:
  • Single and dual valves: 10 scim
  • Triple and quad valves: 20 scim

Power Consumption
Singles/Duals per valve
• Low-speed electric:
  • All Celeris, TracCEL SO, TracCEL EO: 10 VA
  • TracCEL TP, TracCEL TX: 12 VA
• High-speed Electric: 70 VA (see Note 2)
• Pneumatic: 10 VA

Notes:
1. All power consumption VA ratings listed here are based on fully-loaded I/O except for floating point reheat actuators.
2. Requires dedicated 100 VA transformer.

I/O (Celeris 2 and TracCEL LON)
Available for connecting field devices:
• 3 universal inputs. Accepts volt, mA, ohms or NTC 2 or 3 thermistor signals. TracCEL TX has 5 universal inputs
• 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

I/O (TracCEL BACnet)
• See TracCEL® BACnet® Controllers Product Data Sheet (MKT-0242)

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

LEGACY VALVE FLOW/PRESSURE OPERATING RANGE

<table>
<thead>
<tr>
<th>Valve Body/Size</th>
<th>Low Pressure</th>
<th>Medium Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Flow Operating Range in CFM (m³/hr)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Accel I</strong> (Hourglass)</td>
<td><strong>Accel II</strong> (Conical Shaped Diffuser)</td>
</tr>
<tr>
<td></td>
<td>Standard Flow</td>
<td>&quot;HIF&quot; Option</td>
</tr>
<tr>
<td>Single 8&quot;</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Single 10&quot;</td>
<td>60-550 (105-930)</td>
<td>n/a</td>
</tr>
<tr>
<td>Single 12&quot;</td>
<td>165-1050 (280-1780)</td>
<td>n/a</td>
</tr>
<tr>
<td>Single 14&quot;</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Dual 10&quot;</td>
<td>120-1100 (205-1860)</td>
<td>n/a</td>
</tr>
<tr>
<td>Dual 12&quot;</td>
<td>330-2100 (565-3560)</td>
<td>n/a</td>
</tr>
<tr>
<td>Dual 14&quot;</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Triple 12&quot;</td>
<td>495-3150 (845-5340)</td>
<td>n/a</td>
</tr>
<tr>
<td>Triple 14&quot;</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Quad 12&quot;</td>
<td>660-4200 (1125-7120)</td>
<td>n/a</td>
</tr>
<tr>
<td>Quad 14&quot;</td>
<td>n/a</td>
<td>n/a</td>
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</table>