The Taco Zone Sentry® Zone Valve enhances the overall performance of any zone valve system. The unique patented technology in the Zone Sentry utilizes a microcircuit based logic to control a gear driven electronic actuator which drives a ball valve based body design. All this adds up to a zone valve that leads the industry in energy efficiency, flow capacity (Cv), shutoff pressure rating, ease of installation, diagnostic capability and the number of valves (12) that can be use on a standard 40VA transformer.
Zone Sentry® Series

Product Specifications

Max. Operating Pressure .................................. 300 PSI (2100 kPa)
Max. Shutoff Pressure ......................................... 125 PSI (875 kPa)
Max. Ambient Temp. .......................................... 135˚F
Fluid Temp. Range ............................................... 20-220˚F (-7˚-104˚C)
Service .............................................................. Water or Water/Glycol up
to 50% Glycol Close Systems
to Open system — option available
Ball Rotation Speed ............................................. (90˚ turn), Approx. 5 seconds
(Open system — charging)

Electrical Rating ..................................................... 24 VAC, 60Hz, 0.48 Amps
Power Consumption .......................................... 11.4 W, 0.48 Amps
Power Consumption .......................................... 1.44W, 0.06 Amps
Heat Anticipator Setting .................................. 0.5 Amps
End Switch Rating ................................................ 1 Amp @ 24 VAC

Materials of Construction

Actuator:
Body .............................................................. High Performance
Engineered Polymer
Gears .............................................................. High Performance Internally
Lubricated Engineered Polymer

Valve:
Body .............................................................. Forged Brass
Stem .............................................................. Brass
Press Ring ........................................................ Brass
Ball ............................................................... Brass (Chrome Plated)
Seat ............................................................... Modified Teflon®
O-Rings ......................................................... EPDM

Application:
Taco Zone Sentry® zone valves provide on-off, normally open or normally closed
control in closed hydronic systems. (See Geo-Sentry for open system application)
The valves can be used in a wide variety of heating and condensing cooling
applications, primarily designed for use with baseboard, fan coils, radiators,
convectors, air handlers, heat pumps and radiant applications.

Zone Sentry Dimensions: (FOR REFERENCE PURPOSES)

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>A (in.)</th>
<th>B (mm)</th>
<th>C (in.)</th>
<th>D (mm)</th>
<th>E (Sweat/Press) (in.)</th>
<th>F (mm)</th>
<th>G (mm)</th>
<th>H (3-way) (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>3&quot;</td>
<td>76.2</td>
<td>2.375&quot;</td>
<td>60.3</td>
<td>4.125&quot;</td>
<td>104.7</td>
<td>3.06&quot;</td>
<td>77.72</td>
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<tr>
<td>3/4&quot;</td>
<td>3&quot;</td>
<td>76.2</td>
<td>2.375&quot;</td>
<td>60.3</td>
<td>4.125&quot;</td>
<td>104.7</td>
<td>3.12&quot;</td>
<td>79.25</td>
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<tr>
<td>1&quot;</td>
<td>3&quot;</td>
<td>76.2</td>
<td>2.375&quot;</td>
<td>60.3</td>
<td>4.125&quot;</td>
<td>104.7</td>
<td>3.12&quot;</td>
<td>79.25</td>
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</tr>
<tr>
<td>Inverted Flare 3/4&quot;</td>
<td>3&quot;</td>
<td>76.2</td>
<td>2.375&quot;</td>
<td>60.3</td>
<td>3.5&quot;</td>
<td>99.1</td>
<td>3.06&quot;</td>
<td>77.72</td>
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<tr>
<td>1/2&quot;, 3/4&quot;, 1&quot; Press Connect</td>
<td>3&quot;</td>
<td>76.2</td>
<td>2.375&quot;</td>
<td>60.3</td>
<td>4.125&quot;</td>
<td>104.7</td>
<td>3.12&quot;</td>
<td>79.25</td>
</tr>
</tbody>
</table>

*Includes inverted flare fitting  **Less fittings  ***Press Dimension

All models shown are normally closed. Consult factory for additional model numbers

†At 4' per second  (Max. recommended residential flow rate)
**Geo-Sentry®**

**Application:**
The Geo-Sentry® zone valve provides on/off, normally open or normally closed control and is especially suited for use in either open or closed loop geothermal systems with water source heat pumps.

For Indoor Use Only

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**Product Specifications**

- Max. Operating Pressure: 300 PSI (2100 kPa)
- Max. Shutoff Pressure: 125 PSI (875 kPa)
- Max. Ambient Temp.: 24V 135˚F / Multi-Volt 150˚F
- Fluid Temp. Range: 20-220˚F (-7˚-104˚C)
- Service: Open and closed systems
- Fluids: Water
  - Up to 25% Ethanol
  - Up to 25% Methanol
  - Up to 50% Glycol
  - Steam 15 psi max.
- Ball Rotation Speed: (90˚ turn), Approx. 5 seconds (After charge time)
- Electrical Rating: 24 VAC, 60Hz, 0.48 Amps
- Power Consumption: 11.4 W, 0.48 Amps
- Power Consumption: 1.44 W, 0.06 Amps
- Heat Anticipator Setting: 0.5 Amps
- End Switch Rating: 1 Amp @ 24 VAC

**Materials of Construction**

- **Actuator:**
  - Body: High Performance Engineered Polymer
  - Gears: High Performance Internally Lubricated Engineered Polymer

- **Valve:**
  - Body: Forged Brass
  - Stem: Brass
  - Press Ring: Brass
  - Ball: Brass (Chrome Plated)
  - Seat: Modified Teflon®
  - O-Rings: EPDM

**Geo-Sentry Dimensions:** (FOR REFERENCE PURPOSES)

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>A (Sweat)</th>
<th>B</th>
<th>C (Threaded)</th>
<th>D (Threaded)</th>
<th>E (Sweat)</th>
<th>F</th>
<th>G (3-way)</th>
<th>H (3-way)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>3&quot; 76.2</td>
<td>2-3/8&quot; 60.3</td>
<td>4-1/8&quot; 104.7</td>
<td>3-1/16&quot; 77.8</td>
<td>3-1/8&quot; 79.3</td>
<td>3-3/4&quot; 95.3</td>
<td>1-9/16&quot; 39.7</td>
<td>2-5/16&quot; 58.7</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>3&quot; 76.2</td>
<td>2-3/8&quot; 60.3</td>
<td>4-1/8&quot; 104.7</td>
<td>3-1/8&quot; 79.3</td>
<td>3-1/16&quot; 77.8</td>
<td>3-1/8&quot; 79.3</td>
<td>3-5/16&quot; 84.1</td>
<td>1-9/16&quot; 39.7</td>
</tr>
<tr>
<td>1&quot;</td>
<td>3&quot; 76.2</td>
<td>2-3/8&quot; 60.3</td>
<td>4-1/8&quot; 104.7</td>
<td>3-1/8&quot; 79.3</td>
<td>3-1/8&quot; 79.3</td>
<td>3-7/8&quot; 98.4</td>
<td>3-7/8&quot; 98.4</td>
<td>1-7/8&quot; 47.6</td>
</tr>
</tbody>
</table>

**NPT Models Normally Closed**

- 2-Way: V050T2GZAZA024Q4A1
- 2-Way: V050T3G1ZA024Q4A1
- 3-Way: V075T2GZAZA024Q4A1
- 3-Way: V075T3G1ZA024Q4A1
- 3-Way: V100T2GZAZA024Q4A1
- 3-Way: V100T3G1ZA024Q4A1

**Materials of Construction**

- **Actuator:**
  - Body: High Performance Engineered Polymer
  - Gears: High Performance Internally Lubricated Engineered Polymer

- **Valve:**
  - Body: Forged Brass
  - Stem: Brass
  - Press Ring: Brass
  - Ball: Brass (Chrome Plated)
  - Seat: Modified Teflon®
  - O-Rings: EPDM

**NPT Models Normally Closed**

- 2-Way: V050T2GZAZA024Q4A1
- 2-Way: V050T3G1ZA024Q4A1
- 3-Way: V075T2GZAZA024Q4A1
- 3-Way: V075T3G1ZA024Q4A1
- 3-Way: V100T2GZAZA024Q4A1
- 3-Way: V100T3G1ZA024Q4A1

Consult factory for additional model numbers

**Valve Size**

<table>
<thead>
<tr>
<th>2-Way</th>
<th>3-Way</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>1/2&quot; 3-way</td>
</tr>
<tr>
<td>V050T2GZAZA024Q4A1</td>
<td>V050T3G1ZA024Q4A1</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>3/4&quot; 3-way</td>
</tr>
<tr>
<td>V075T2GZAZA024Q4A1</td>
<td>V075T3G1ZA024Q4A1</td>
</tr>
<tr>
<td>1&quot;</td>
<td>1&quot; 3-way</td>
</tr>
<tr>
<td>V100T2GZAZA024Q4A1</td>
<td>V100T3G1ZA024Q4A1</td>
</tr>
</tbody>
</table>

**2-Way CV (Kv) / Ft of Pipe Equiv.**

- 1/2": 4.9 (4.3) / 9.5 (Max. recommended residential flow rate)
- 3/4": 10.3 (8.9) / 8.4 (Max. recommended residential flow rate)
- 1": 8.9 (7.7) / 47.4 (Max. recommended residential flow rate)

**Close-Off Pressure (kPa):**

- 1/2": 0-125 psi (0-862 kPa)
- 3/4": 0-125 psi (0-862 kPa)
- 1": 0-125 psi (0-862 kPa)

**3-Way CV (Kv) / Ft of Pipe Equiv.**

- 1/2": 1.5 (1.3) / 111 (Max. recommended residential flow rate)
- 3/4": 3.3 (2.8) / 82 (Max. recommended residential flow rate)
- 1": 3.0 (2.6) / 411 (Max. recommended residential flow rate)

**NOTE:** Geo-Sentry is also available with Multi-Volt actuator.
**Potable Water Zone Sentry® (≤.25% Lead)**

### Application:
The Taco Potable Water Zone Sentry zone valve is available in a 2-way sweat configuration with either a normally open or normally closed actuator. Some typical installations would include a combination domestic water and hydronic heating system, culinary installation or water shut off to a potable system.

For Indoor Use Only

---

### Product Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Operating Pressure</td>
<td>≤300 PSI (2100 kPa)</td>
</tr>
<tr>
<td>Max. Shutoff Pressure</td>
<td>≤125 PSI (875 kPa)</td>
</tr>
<tr>
<td>Fluid Temp. Range</td>
<td>33-220°F (1-104°C)</td>
</tr>
<tr>
<td>Service</td>
<td>Potable Water</td>
</tr>
<tr>
<td>Ball Rotation Speed</td>
<td>(90° turn), Approx. 5 seconds</td>
</tr>
<tr>
<td>Electrical Rating</td>
<td>24 VAC, 60Hz, 0.48 Amps</td>
</tr>
<tr>
<td>Power Consumption (Charging)</td>
<td>11.4 W, 0.48 Amps</td>
</tr>
<tr>
<td>Power Consumption (Power On)</td>
<td>1.44W, 0.06 Amps</td>
</tr>
<tr>
<td>End Switch Rating</td>
<td>1 Amp @ 24 VAC</td>
</tr>
</tbody>
</table>

### Materials of Construction

#### Actuator:
- Body: High Performance Engineered Polymer
- Gears: High Performance Internally Lubricated Engineered Polymer

#### Valve:
- Body: Forged Brass
- Stem: Brass
- Press Ring: Brass
- Ball: Brass (Chrome Plated)
- Seat: Modified Teflon®
- O-Rings: Viton

### Potable Water Zone Sentry® Dimensions: (FOR REFERENCE PURPOSES)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Valve Size</th>
<th>Valve Type</th>
<th>A (in.)</th>
<th>B (in.)</th>
<th>C (in.)</th>
<th>D (in.)</th>
<th>E (in.)</th>
<th>F (in.)</th>
<th>G (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V050C2D2Z4Q4A1</td>
<td>1/2&quot;</td>
<td>2-way Sweat</td>
<td>3.0&quot;</td>
<td>76.2</td>
<td>2.375&quot;</td>
<td>60.3</td>
<td>4.125&quot;</td>
<td>104.7</td>
<td>3.06&quot;</td>
</tr>
<tr>
<td>V075C2D2Z4Q4A1</td>
<td>3/4&quot;</td>
<td>2-way Sweat</td>
<td>3.0&quot;</td>
<td>76.2</td>
<td>2.375&quot;</td>
<td>60.3</td>
<td>4.125&quot;</td>
<td>104.7</td>
<td>3.12&quot;</td>
</tr>
</tbody>
</table>

### Valve Size

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>Cv (Kv) / Ft. of Pipe Equiv.**</th>
<th>Close-Off Pressure (kPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>4.9 (4.3) / 9.5</td>
<td>0-125 psi (0-862 kPa)</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>10.3 (8.9) / 8.4</td>
<td>0-125 psi (0-862 kPa)</td>
</tr>
</tbody>
</table>

**At 4’ per second  (Max recommended residential flow rate)
**Application:**

One valve takes the place of many. The Multi-Volt Zone Sentry will accept input voltages between 120 and 277VAC 50/60Hz. The Multi-Volt Zone Sentry zone valve is designed for use in hydronic HVAC systems, primarily in fan coils and air handlers or other HVAC systems where a quality line voltage zone valve is required. The Multi-Volt Zone Sentry can be installed in both heating and cooling applications and is available in a normally closed or normally open configuration.

---

**Product Specifications**

- Max. Operating Pressure: 300 PSI (2100 kPa)
- Max. Shutoff Pressure: 125 PSI (875 kPa)
- Max. Ambient Temp: 150°F
- Fluid Temp. Range: 0-220°F (-7˚-104˚C)
- Service: Closed systems
- Optional open system configuration available
- Water/Water and glycol up to 50%

- Seat Leakage: Drop-Tight Close-Off
- Electrical Rating: 120 VAC to 277VAC, 1Ph, 50/60Hz
- Power Consumption: 4 Watts (Charging)
- Power Consumption: 1.5 Watts (Power On)
- Max. Duty Cycle: 1 Cycle/Minute

**Materials of Construction**

**Actuator:**
- Body: High Performance Engineered Polymer
- Gears: High Performance Internally Lubricated Engineered Polymer

**Valve:**
- Body: Forged Brass
- Stem: Brass
- Press Ring: Brass
- Ball: Brass (Chrome Plated)
- Seat: Modified Teflon®
- O-Rings: EPDM

**NOTE:** The Multi-Volt actuator is available on all versions of Zone Sentry

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**Multi-Volt Zone Sentry® Dimensions: (FOR REFERENCE PURPOSES)**

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<tr>
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</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>2-5/8&quot;</td>
<td>66.6</td>
<td>2-3/8&quot;</td>
<td>60.3</td>
<td>4-7/8&quot;</td>
<td>123.8</td>
<td>3-3/4&quot;</td>
<td>95.3</td>
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<td>3-1/8&quot;</td>
<td>79.4</td>
<td>3-3/4&quot;</td>
<td>95.3</td>
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<td>1-9/16&quot;</td>
<td>39.7</td>
<td>2-5/16&quot;</td>
<td>58.7</td>
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<tr>
<td>3/4&quot;</td>
<td>2-5/8&quot;</td>
<td>66.6</td>
<td>2-3/8&quot;</td>
<td>60.3</td>
<td>5&quot;</td>
<td>127</td>
<td>3-7/8&quot;</td>
<td>98.4</td>
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<td>3-1/8&quot;</td>
<td>79.4</td>
<td>3-5/16&quot;</td>
<td>84.1</td>
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<td>1-9/16&quot;</td>
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<td>2-5/8&quot;</td>
<td>66.6</td>
<td>2-3/8&quot;</td>
<td>60.3</td>
<td>5&quot;</td>
<td>127</td>
<td>3-7/8&quot;</td>
<td>98.4</td>
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<td>3-7/8&quot;</td>
<td>98.4</td>
<td>1-7/8&quot;</td>
<td>47.6</td>
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<td></td>
<td></td>
<td></td>
<td>2-5/16&quot;</td>
<td>58.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NPT Models Normally Closed**

- V050T2AZALNVE2A1 1/2" 2-way
- V075T2AZALNVE2A1 3/4" 2-way
- V100T2AZALNVE2A1 1" 2-way

**NPT Models Normally Closed**

- V050T3A1ZALNVE2A1 1/2" 3-way
- V075T3A1ZALNVE2A1 3/4" 3-way
- V100T3A1ZALNVE2A1 1" 3-way

**2-Way NPT Models**

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>2-Way NPT Models</th>
<th>3-Way NPT Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>V050C2A2ZALNVE2A1</td>
<td>V050C3A1ZALNVE2A1</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>V075C2A2ZALNVE2A1</td>
<td>V075C3A1ZALNVE2A1</td>
</tr>
<tr>
<td>1&quot;</td>
<td>V100C2A2ZALNVE2A1</td>
<td>V100C3A1ZALNVE2A1</td>
</tr>
</tbody>
</table>

**2-Way Cv (Kv) / Ft of Pipe Equiv.**

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>2-Way Cv (Kv) / Ft of Pipe Equiv. *</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>1.5 (1.3) / 411</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>1.5 (1.3) / 411</td>
</tr>
<tr>
<td>1&quot;</td>
<td>1.5 (1.3) / 411</td>
</tr>
</tbody>
</table>

**3-Way Cv (Kv) / Ft of Pipe Equiv.**

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>3-Way Cv (Kv) / Ft of Pipe Equiv. *</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>3.0 (2.6) / 411</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>3.0 (2.6) / 411</td>
</tr>
<tr>
<td>1&quot;</td>
<td>3.0 (2.6) / 411</td>
</tr>
</tbody>
</table>

**For Indoor Use Only**

*At 4' per second (Max. recommended residential flow rate).*

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**Charging**

- Valve Size: 1/2" 2-way
- V050T2AZALNVE2A1
- V050C2A2ZALNVE2A1

- Valve Size: 3/4" 2-way
- V075T2AZALNVE2A1
- V075C2A2ZALNVE2A1

- Valve Size: 1" 2-way
- V100T2AZALNVE2A1
- V100C2A2ZALNVE2A1
Ease of Installation / Operation:
The Zone Sentry is the most technologically advanced zone valve ever made. It’s also simple to install and operate. The valve can be installed in any direction, in any orientation except for chilled water installations (see Figure B). Furthermore, the actuator can be mounted to the valve body in either direction (see Figure A). Before installing the valve body please note removal clearances (see Figure C). Snap-in quick connects on the back of the valve make for a simple, secure and fast wiring hook-up. A green LED light shows full functionality of the valve’s operation and thermostat status. Under a no power situation the manual override button located on the top of the valve allows the ball to be rotated up to 90° and is also marked with a slot to indicate the position of the valve.