**HOT WATER COILS FOR SINGLE DUCT TERMINALS**

Note: All products are available with pneumatic or analog controls, or enclosure for field mounting of DDC controls.

### HOT WATER COIL

The hot water coil is enclosed in a galvanized steel casing module to match the basic terminal unit.

- Water coil connections: Single circuit is 1/2" OD male solder. Multiple circuit is 7/8" OD male solder.
- Dimensions are in inches.
- Available in 1 and 2 rows.
VAV Terminals/Fan Powered

**TQS**

SERIES FAN CONSTANT VOLUME TERMINALS

- Quiet, Efficient Operation
- Pressure Independent Airflow Control
- Available from 300-3200 cfm Flow Range

**TQP**

PARALLEL FAN CONSTANT VOLUME TERMINALS

- Quiet, Efficient Operation
- Pressure Independent Airflow Control
- Available from 300-2000 cfm Fan Flow Range

**ACCESSORIES**

<table>
<thead>
<tr>
<th>Add for T-Stat and Transformer</th>
<th>Sizes Currently Stocked</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTE 5101 Cooling Only</td>
<td>206, 208, &amp; 210 5 KW</td>
</tr>
<tr>
<td>CTE 5103 Cooling/Heating/Auto Chg</td>
<td>306, 308, &amp; 310 7 KW</td>
</tr>
<tr>
<td>CTE 5104 Cooling w/ Reheat/Aux Ht</td>
<td>312 7 KW</td>
</tr>
<tr>
<td>Transformer 120v to 24v</td>
<td>408 &amp; 410 No Heat</td>
</tr>
<tr>
<td>Transformer 277v to 24v</td>
<td>412 No Heat</td>
</tr>
<tr>
<td></td>
<td>510 &amp; 512 No Heat</td>
</tr>
<tr>
<td></td>
<td>514 &amp; 516 No Heat</td>
</tr>
<tr>
<td></td>
<td>206, 208, &amp; 210 2 Row HWC</td>
</tr>
<tr>
<td></td>
<td>306, 308, &amp; 310 2 Row HWC</td>
</tr>
<tr>
<td></td>
<td>312 2 Row HWC</td>
</tr>
<tr>
<td></td>
<td>408 &amp; 410 10 KW</td>
</tr>
<tr>
<td></td>
<td>412 &amp; 414 (2) 10 KW</td>
</tr>
<tr>
<td></td>
<td>510 &amp; 512 15 KW</td>
</tr>
<tr>
<td></td>
<td>514 &amp; 516 15 KW</td>
</tr>
<tr>
<td></td>
<td>206, 208, &amp; 210 2 Row HWC</td>
</tr>
<tr>
<td></td>
<td>306, 308, &amp; 310 2 Row HWC</td>
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<tr>
<td></td>
<td>312 2 Row HWC</td>
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<tr>
<td></td>
<td>408 &amp; 410 2 Row HWC</td>
</tr>
<tr>
<td></td>
<td>412 &amp; 414 (2) 2 Row HWC</td>
</tr>
<tr>
<td></td>
<td>510 &amp; 512 2 Row HWC</td>
</tr>
<tr>
<td></td>
<td>514 &amp; 516 2 Row HWC</td>
</tr>
</tbody>
</table>

(1) All electric heat is 2-stage.

(2) Size 414 not available with pneumatic controls.

**Note:**
- Analog Controller is Titus TA-1.
- Electric heat is 2-stage.
- Size 414 not available with pneumatic controls.

**Note:**
- Fan Motor 277/1/60
- Electric Heat 460/3/60

All products are available with pneumatic or analog controls, or enclosure for field mounting of DDC controls.
## VAV Terminals/Fan Powered

**MODELS:**
- **TQS**
  - Fan Powered
  - Series Type – Quiet Operation

**TQS**
- Consistent, quiet design
- 2 casings for easy design layout
- Built-in sound baffle for low sound levels, both radiated and discharge
- Pressure independent primary airflow control
- Multi-point inlet velocity sensor with center averaging
- Energy efficient fan motor, permanent split capacitor type, mounted with vibration isolators
- Adjustable SCR fan speed control with minimum voltage stop
- Single point electrical, pneumatic main, and thermostat connections
- Dual density insulation, coated to prevent air erosion, meets requirements of NFPA 90A and UL 181
- 20 gauge, galvanized steel casing
- Rectangular discharge opening is designed for flanged duct connections
- Bottom access panel can be removed for service
- No external sound attenuators are required

*Model TQS Parallel Unit*

<table>
<thead>
<tr>
<th>Size</th>
<th>Inlet Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>N</th>
<th>W</th>
<th>Filter Size</th>
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<tbody>
<tr>
<td>2, 3</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>8  ¼</td>
<td>13 ¼</td>
<td>14 ¼</td>
<td>14 ¼</td>
<td>8 ¼</td>
<td>17 ¼</td>
<td>11 ¼</td>
<td>4</td>
<td>40 ¼</td>
<td>36 ¼</td>
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<td></td>
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<td>6</td>
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<td>7 ¼</td>
<td>9 ¼</td>
<td>11 ¼</td>
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<td>14</td>
<td>16</td>
<td>14</td>
<td>14</td>
<td>2</td>
<td>2</td>
<td>46 ¼</td>
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<tr>
<td>4</td>
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<td>7</td>
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<td>12</td>
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<td>2</td>
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<td>48 ¼</td>
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<td>7</td>
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<td>48 ¼</td>
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<td>6</td>
</tr>
</tbody>
</table>

*All dimensions are in inches.*
VAV Terminals/Fan Powered

**TQS HOT WATER COIL SECTION STANDARD FEATURES**
- 1/2" copper tubes
- Aluminum ripple fins
- Connections: Male solder; 5/8" for both 1-row and 2-row; left or right hand connections
- Galvanized steel casing
- Flanged duct connection
- Coil is installed at discharge of unit

**Coil Rows**
- 2-Row

---

**ELECTRICAL DATA**

<table>
<thead>
<tr>
<th>Unit Size</th>
<th>Motor HP</th>
<th>277V FLA</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>1/4</td>
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<td>4</td>
<td>1/3</td>
<td>2.9</td>
</tr>
<tr>
<td>5</td>
<td>1/3</td>
<td>3.3</td>
</tr>
</tbody>
</table>

**ADDITONAL ACCESSORIES (OPTIONAL)**
- Induced air filter, 1" thick disposable construction type
- Fan disconnect switch (not available on units with optional electric coils)
- Metal controller cover.

All motors are single phase, 60Hz.
FLA = Full Load Amperage, as tested in accordance with UL 1995.
277V motors are used with 480V 3 Phase coils (four wire wye).
VAV Terminals/Fan Powered

AIRFLOW VS. DOWNSTREAM STATIC PRESSURE

MODELS:
- PTQS
- ATQS
- DTQS

Primary Air Inlet Pressure

PTQS
ATQS
DTQS
**Model TQP Parallel Unit**

<table>
<thead>
<tr>
<th>Size</th>
<th>Inlet</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
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<td>4 1/4</td>
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<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>4 1/4</td>
</tr>
</tbody>
</table>

All dimensions are in inches. Filter size is for unit without attenuator.

* Size 414 not available with pneumatic controls.
VAV Terminals/Fan Powered

**TQP HOT WATER COIL SECTION**

**STANDARD FEATURES**
- 1/2" copper tubes
- Aluminum ripple fins, 10 per inch
- Connections: Male solder, 1 row 5/8", 2 row 5/8"; right hand only
- Galvanized steel casing
- Flanged duct connection
- Coil is installed at induced air inlet

**Coil Rows**
- 2 Row

---

**Supply Voltage**
- 277V / 1 ph / 60 Hz
- 480V / 3 ph / 60 Hz (4 wire wye only)

*Note: R and S are inside dimensions.

---

**TQP ELECTRIC COIL SECTION**

**STANDARD FEATURES**
- Automatic reset thermal cutouts, one per element
- Single point electrical connection
- Positive pressure airflow switch
- Flanged duct connection
- Coil is installed at discharge of unit
- Disconnect switch, door interlock type
- Preset P/E switches with pneumatic units

Note: Coil control box replaces standard terminal unit control box.
All dimensions are in inches.

---

**ELECTRICAL DATA**

**FLA** = Full Load Amperage, as tested in accordance with UL 1995.

277 voltage motors are used with 480 volt / 3 phase coil (4 wire wye).

---

### Motor Ratings

<table>
<thead>
<tr>
<th>Unit Size</th>
<th>Motor Horsepower</th>
<th>Motor Amperage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>277/1/60</td>
<td>FLA</td>
</tr>
<tr>
<td>2</td>
<td>⅛</td>
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<td>2.2</td>
</tr>
<tr>
<td>4</td>
<td>⅛</td>
<td>2.9</td>
</tr>
<tr>
<td>5</td>
<td>⅛</td>
<td>3.2</td>
</tr>
</tbody>
</table>
Inlet Total TITUS II, IIA TITUS TA1 Analog
Size cfm Pneumatic Controller Electronic Controller

<table>
<thead>
<tr>
<th>Inlet Size</th>
<th>Total cfm Range</th>
<th>TITUS II, IIA Pneumatic Controller</th>
<th>TITUS TA1 Analog Electronic Controller</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Minimum</td>
<td>Maximum</td>
</tr>
<tr>
<td>6</td>
<td>0-500</td>
<td>*80-330</td>
<td>150-500</td>
</tr>
<tr>
<td>10</td>
<td>0-1400</td>
<td>*230-925</td>
<td>415-1400</td>
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<tr>
<td>14</td>
<td>0-3000</td>
<td>*450-1800</td>
<td>840-3000</td>
</tr>
<tr>
<td>16</td>
<td>0-4000</td>
<td>*580-2350</td>
<td>1100-4000</td>
</tr>
</tbody>
</table>

* Factory cfm settings (except zero) will not be made below this range because control accuracy is reduced. On pressure dependent units, minimum cfm is always zero and there is no maximum.

---

**PRIMARY AIR CFM RANGES**

**PRIMARY AIR INLET PRESSURES • PTQP, ATQP, DTQP**

**REQUIRED MINIMUM INLET STATIC PRESSURE, INCHES WG.**

**MODELS: PTQP, ATQP, DTQP • AIRFLOW VS. DOWNSTREAM STATIC PRESSURE**

---

No Coil or with Electric Coil
1 Row Water Coil
2 Row Water Coil
CONTROLLER FEATURES

- Multi-point, center averaging velocity sensor for accuracy
- Platinum/ceramic flow through transducer for reliability
- Snaptrack mounting for easy serviceability
- One model handles all standard control strategies
- Pressure independent VAV damper control
- Constant or intermittent fan stage sequencing
- Operates up to three stages of reheat
- Controls 0–10 Vdc proportional hot water valves
- Controls 24 Vac on/off auxiliary heat
- Automatic changeover capability
- Temperature setback available

THERMOSTAT FEATURES

- Contains all adjustments for easy balancing
- Bi-metallic temperature indicator
- Minimum, maximum, and auxiliary flow limit adjustments
- Live velocity readout terminal
- Tamper-proof cover with hidden setpoint sliders

ACTUATOR FEATURES

- 24 Vac tri-state damper actuator
- Rugged construction
- No stall design featuring magnetic clutch
- Linkage release button
- 50 in.-lb. minimum torque rating
- 5 minute full stroke time

CONTROLLER FEATURES

- Accurate control over a duct velocity range of 0-3000 fpm
- Operates at low system pressures; as effective at 0.03" Ps as at 6.0" Ps
- Pressure independent
- Reset span remains constant regardless of maximum and minimum cfm adjustments; the factory set 5 psi span is adjustable from 3 -10 psi to match any thermostat
- Reset start point is adjustable from 3–13 psi to work with accessories such as reheat coils (factory setting is 8 psi)
- Thermostat switch changes the action from direct acting to reverse acting without additional calibration; no additional relays required—great for quick retrofit installation
- Damper switch changes the operation of the control from normally open to normally closed without re-calibration; no additional relays required
- All adjustments are made with a hex shanked knob stored in the face of the TITUS II controller
- Operates on a control air pressure of 15–25 psi
- Control air consumption is no more than 1.2 scfh