Air-Cooled Split System Condensing Unit

Model RCS 06F through 20F
6.5 through 20 Tons
R-410A Refrigerant
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Why Use a High Efficiency, Air-Cooled Split System?

- The size ranges offered by Daikin Applied allow you to mix or match components to meet actual job requirements, thus eliminating the need to use oversized or undersized equipment. Equipment sized to meet the actual building load will provide better operating economy, better humidity control, and longer equipment life.
- With an air cooled system, you have no water or sewer connections to make, and no troublesome or costly water treatment.
- An air cooled split system is inherently more efficient than a air cooled chiller system. The air cooled split system has no pump and runs at a higher, more efficient suction pressure.
- Remote mounting of the already quiet condensing unit keeps the compressor and condenser fan noise outside. Vertical discharge fans also contribute to quietness, carrying the noise up and away from the surrounding area.
- Because of the simple design of the Daikin Applied condensing unit, installation is quick, simple, and very little maintenance is required.

NOTE: For further information on a complete air-cooled split system, refer to Catalog 580 (Destiny Indoor Air Handlers).

Nomenclature

RCS – 06 – F – 078 – C

- Agency Listed

<table>
<thead>
<tr>
<th>Rooftop Condensing System</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal capacity (tons)</td>
<td>C = 208/230–3–60</td>
</tr>
<tr>
<td>06 = 6.5</td>
<td>D = 460–3–60</td>
</tr>
<tr>
<td>07 = 7.5</td>
<td>Y = 575–3–60</td>
</tr>
<tr>
<td>10 = 10 (single compressor)</td>
<td></td>
</tr>
<tr>
<td>11 = 10 (tandem compressors)</td>
<td></td>
</tr>
<tr>
<td>12 = 12</td>
<td>Compressor</td>
</tr>
<tr>
<td>15 = 15</td>
<td>078 = 6.5 ton, single</td>
</tr>
<tr>
<td>20 = 20</td>
<td>090 = 7.5 ton, single</td>
</tr>
<tr>
<td>Refrigerant</td>
<td>120 = 10 ton, single</td>
</tr>
<tr>
<td>F = R-410A</td>
<td>125 = 10 ton, tandem</td>
</tr>
<tr>
<td></td>
<td>150 = 12.5 ton, tandem</td>
</tr>
<tr>
<td></td>
<td>160 = 15 ton, tandem</td>
</tr>
<tr>
<td></td>
<td>240 = 20 ton, tandem</td>
</tr>
</tbody>
</table>

NOTE: For larger size units (greater than 20 ton), refer to Catalog 222
Introduction

Daikin McQuay’s Unique Features

1. Louvers
   • Full-face coil louvers for aesthetics and hail protection

2. Durable construction
   • Pre-painted exterior cabinet panels pass 1000-hour ASTM B 117 Salt Spray Test for durability

3. Condenser fans
   • Vertical air discharge for quiet operation

4. Condenser coils
   • Large face area
   • High efficiency enhanced copper tubing
   • All aluminum fin design

5. R410A refrigerant
   • Environmentally friendly
   • Excellent efficiency
   • Insignificant glide making system easier to service

6. Scroll compressors
   • Provide maximum dependability, efficiency and quiet operation
Components

Cabinet
- Galvanized steel with powder coat paint finish. The powder coat paint finish is high gloss, durable and capable of withstanding a 1000 hour salt spray test per ASTM B117.
- Unit is of the frame and panel type construction which allows all access panels to be opened or removed without affecting the structural strength of the unit.
- Fastening screws are also of the 1000 hour type.
- Stamped louver panels offer 100% protection for the condenser coil.

Base Pan
- Galvanized steel with powder coat paint finish.

Compressors
- High efficiency Copeland® scroll compressors.
- Engineered for long life and durability.
- Unloading (50%) is available on 10 to 20 ton models.
- All compressors have inherent high temperature protection.
- Mounted on isolators which reduce vibration and noise.

Condenser Coil
- Constructed with copper tubes and aluminum fins and mechanically bonded to the tubes for maximum heat transfer capabilities.
- Condenser coil assemblies are leak tested up to 450 psig internal pressure.

Refrigerant Connections
- Field sweat joints are made external of the unit and are located close to the ground for a neat looking installation.

Crankcase Heaters
- Standard on 6 – 20 ton models.

Low Ambient Control
- Pressure sensitive fan cycling control allows operation down to 0°F [-17.8°C].

Service Valves
- Standard on liquid and suction lines for all models.

Service Access
- Control box with separate line and control voltages, as well as compressor and other refrigerant controls are accessible through access panels.
- Electrical access cover may be opened or removed without affecting normal operation of the unit.
- Condenser fan motors have molded plugs for easy removal.
- Removable louver panels/end access panel for coil cleaning.

Condensing Section
- Open design permits unrestricted condenser airflow, access to compressors, refrigeration components, piping, and access for roof maintenance.
- High efficiency Copeland scroll compressors.
- 10 – 20 ton units feature dual compressors for redundancy and efficient capacity control.
- Large face area condenser for high operating efficiencies.
- Vertical air discharge minimizes noise.

High Pressure Control
- Manual reset control deactivates system (opens contactor circuit) if abnormally high pressure occurs.

Low Pressure Control
- Automatic reset control deactivates system if abnormally low pressure or refrigerant loss occurs.

Condenser Fan Motors
- Direct drive, single-phase, permanently lubricated PSC motors with inherent thermal overload.

Equipment Ground
- Lug for field connection of ground wire.

Testing
- All units are run-tested at the factory prior to shipment.
- Units are shipped with a nitrogen holding charge.
### Accessories

Accessories (Table 1) can be added to further enhance the unit.

#### Table 1: Accessories

<table>
<thead>
<tr>
<th>Accessory Description</th>
<th>Model Number</th>
<th>Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-short cycle timer kit¹</td>
<td>RXAT-A01</td>
<td>All</td>
</tr>
<tr>
<td>Sight glass</td>
<td>RXAG-A048</td>
<td>6.5 – 15 ton</td>
</tr>
<tr>
<td></td>
<td>RXAG-A020</td>
<td>20 ton</td>
</tr>
<tr>
<td>Liquid Solenoid Valve</td>
<td>RXAV-CD078</td>
<td>6.5 &amp; 7.5</td>
</tr>
<tr>
<td></td>
<td>RXAV-CD120</td>
<td>10, 11, &amp; 12</td>
</tr>
<tr>
<td></td>
<td>RXAV-CD180</td>
<td>15 &amp; 20</td>
</tr>
</tbody>
</table>

¹ Not required when Daikin Applied programmable thermostat is purchased.

### Programmable Thermostat (P/N 113129901)

The commercial setback digital thermostat uses microcomputer technology to provide precise time and temperature control. This thermostat offers the flexibility to design heating and cooling programs that fit building needs. This thermostat is adaptable to most residential 24 volt forced air multi-stage systems with electric or fossil fuel auxiliary and is the ultimate for comfort, convenience, and performance.

### Features

The thermostat can enhance your HVAC system by offering you the following performance features:

- Automatic heat/cool system changeover
- Fossil fuel or electric heat compatible
- Large luminescent display and industry first lighted keypad
- Permanent program memory
- Configuration menu allows keypad selection of options, no additional sub-bases required
- Selectable energy management recovery
- Onboard system and thermostat diagnostics
- Single stage models accept remote indoor sensor
- Staging models accept up to three indoor sensors and offer temperature averaging or weighted average by sensor location and program time

### Typical Connection

Use the terminal output information below to help you wire the thermostat properly for your multi-stage system. Colors shown are typical.

#### Thermostat Terminals (Upper)

<table>
<thead>
<tr>
<th>L</th>
<th>PH</th>
<th>D</th>
<th>SA</th>
<th>SB</th>
<th>SC</th>
<th>OT</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>PH</td>
<td>D</td>
<td>SA</td>
<td>SB</td>
<td>SC</td>
<td>OT</td>
</tr>
<tr>
<td>Malfunction Light</td>
<td>X-10 Module Input</td>
<td>Not Used</td>
<td>Remote Sense A</td>
<td>Remote Sense B</td>
<td>Remote Sense C</td>
<td>Outdoor Sensor</td>
</tr>
</tbody>
</table>

#### Thermostat Terminals (Lower)

<table>
<thead>
<tr>
<th>System</th>
<th>E</th>
<th>C</th>
<th>R</th>
<th>W3/A¹</th>
<th>W²</th>
<th>E²/P</th>
<th>W¹</th>
<th>Y²</th>
<th>Y¹</th>
<th>B</th>
<th>O</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-Stage</td>
<td>No Function</td>
<td>24 Volt (Common)</td>
<td>24 Volt (Hot)</td>
<td>Heat Mode 3rd Stage</td>
<td>Heat Mode 2nd Stage</td>
<td>No Function</td>
<td>Heat Mode 1st Stage</td>
<td>Cool Mode 2nd Stage</td>
<td>Cool Mode 1st Stage</td>
<td>Energized in Heat and Off Mode</td>
<td>Energized in Cool Mode</td>
<td>Blower/Fan Energized on call for Cool (and heat if configured to Electric Heat)</td>
</tr>
</tbody>
</table>

¹ Use a wirenut to extend from the leads provided in the unit to the thermostat.
² W1, W2, Y2 are optional depending upon size/options.
General Rooftop Applications

Units are intended for use in normal heating, ventilating, and air conditioning applications. Consult your local Daikin Applied sales representative for applications involving operation at high ambient temperatures, high altitudes, non-cataloged voltages, and for job specific unit selections that fall outside of the range of the catalog tables.

For proper operation, units should be rigged in accordance with instructions stated in IM 962 (6 to 20 ton units). Follow factory check, test and start procedures explicitly to achieve satisfactory start-up and operation (refer to IM 962).

Unit Location

A structural engineer must verify that the roof has adequate strength and ability to minimize deflection.

Unit condenser coils should be located in an area that will avoid contact with any heated exhaust air.

Allow sufficient space around the unit for maintenance/service clearance. Refer to Figure 2 for recommended clearances. Consult your Daikin Applied sales representative if available clearances do not meet minimum recommendations. Where code considerations (such as the NEC) require extended clearances, those codes take precedence.

Service Clearance

Allow recommended service clearances for units as shown in Figure 2. Provide a roof walkway along the sides of the unit for service and access to controls and components. Contact your Daikin Applied sales representative for service requirements less than those recommended.

Unit Wiring

All units require three phase, 60 Hz, 208/230, 230, 460, or 575 volt power supply. All units include branch circuits and short circuit protection and are available with a power block.

All wiring must be installed in accordance with the National Electric Code (NEC) and local codes.

Figure 2: RCS 06F – 20F Service Clearances
### Physical Data

#### Unit Capacity and Physical Data

**Table 2: RCS 06F – 20F Physical Data**

<table>
<thead>
<tr>
<th>Model</th>
<th>RCS</th>
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<tbody>
<tr>
<td></td>
<td>06F Single</td>
</tr>
<tr>
<td><strong>Capacity and Weight</strong></td>
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<tr>
<td>Capacity (tons) [kW]</td>
<td>6.5 [22.9]</td>
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<tr>
<td>Number of circuits</td>
<td>1</td>
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<tr>
<td><strong>Compressor</strong></td>
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</tr>
<tr>
<td>Quantity</td>
<td>1</td>
</tr>
<tr>
<td>Type</td>
<td>Scroll</td>
</tr>
<tr>
<td>RPM</td>
<td>3500</td>
</tr>
<tr>
<td><strong>Condenser Fans</strong></td>
<td></td>
</tr>
<tr>
<td>Quantity</td>
<td>1</td>
</tr>
<tr>
<td>Type</td>
<td>PSC</td>
</tr>
<tr>
<td>RPM</td>
<td>1075</td>
</tr>
<tr>
<td><strong>Condenser Coil</strong></td>
<td></td>
</tr>
<tr>
<td>Quantity</td>
<td>1</td>
</tr>
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<td>Rows</td>
<td>1-1/2</td>
</tr>
<tr>
<td>Fins per inch</td>
<td>20</td>
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<tr>
<td>Fins/tubes</td>
<td>Aluminum/Copper</td>
</tr>
<tr>
<td><strong>Cabinet</strong></td>
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<tr>
<td>Sheet metal</td>
<td>Galvanized</td>
</tr>
<tr>
<td>Gauge (nominal) top</td>
<td>20</td>
</tr>
<tr>
<td>Sides</td>
<td>20</td>
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<tr>
<td>Base rails</td>
<td>14</td>
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<tr>
<td><strong>Refrigerant Connection</strong></td>
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### Gross Capacity and Power

#### Table 3: RCS 06F–20F Gross Capacity and Power

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>06F</td>
<td>kW*</td>
<td></td>
<td>5.0</td>
<td>5.2</td>
<td>5.4</td>
<td>5.7</td>
<td>6.0</td>
<td>6.3</td>
<td>6.6</td>
<td>7.0</td>
<td>7.3</td>
</tr>
<tr>
<td></td>
<td>kW</td>
<td></td>
<td>4.9</td>
<td>5.2</td>
<td>5.4</td>
<td>5.7</td>
<td>6.0</td>
<td>6.3</td>
<td>6.6</td>
<td>7.0</td>
<td>7.3</td>
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<tr>
<td>07F</td>
<td>kW*</td>
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<td>5.0</td>
<td>5.2</td>
<td>5.5</td>
<td>5.8</td>
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<td>6.7</td>
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<tr>
<td></td>
<td>kW</td>
<td></td>
<td>4.5</td>
<td>5.2</td>
<td>5.5</td>
<td>5.8</td>
<td>6.1</td>
<td>6.4</td>
<td>6.7</td>
<td>7.0</td>
<td>7.4</td>
</tr>
<tr>
<td>10F</td>
<td>kW*</td>
<td></td>
<td>5.0</td>
<td>5.3</td>
<td>5.5</td>
<td>5.8</td>
<td>6.1</td>
<td>6.4</td>
<td>6.7</td>
<td>7.1</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>kW</td>
<td></td>
<td>4.5</td>
<td>4.9</td>
<td>5.1</td>
<td>5.3</td>
<td>5.6</td>
<td>5.8</td>
<td>6.0</td>
<td>6.2</td>
<td>6.5</td>
</tr>
<tr>
<td>11F</td>
<td>kW*</td>
<td></td>
<td>5.0</td>
<td>6.3</td>
<td>6.6</td>
<td>6.9</td>
<td>7.2</td>
<td>7.6</td>
<td>8.0</td>
<td>8.4</td>
<td>8.9</td>
</tr>
<tr>
<td></td>
<td>kW</td>
<td></td>
<td>4.5</td>
<td>4.9</td>
<td>5.1</td>
<td>5.3</td>
<td>5.6</td>
<td>5.8</td>
<td>6.0</td>
<td>6.2</td>
<td>6.5</td>
</tr>
<tr>
<td>12F</td>
<td>kW*</td>
<td></td>
<td>5.0</td>
<td>6.3</td>
<td>6.6</td>
<td>6.9</td>
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<td></td>
<td>kW</td>
<td></td>
<td>4.5</td>
<td>4.9</td>
<td>5.1</td>
<td>5.3</td>
<td>5.6</td>
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<td>6.0</td>
<td>6.2</td>
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<td>kW*</td>
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<td>6.9</td>
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<td>7.6</td>
<td>8.0</td>
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<tr>
<td></td>
<td>kW</td>
<td></td>
<td>4.5</td>
<td>4.9</td>
<td>5.1</td>
<td>5.3</td>
<td>5.6</td>
<td>5.8</td>
<td>6.0</td>
<td>6.2</td>
<td>6.5</td>
</tr>
<tr>
<td>20F</td>
<td>kW*</td>
<td></td>
<td>5.0</td>
<td>6.3</td>
<td>6.6</td>
<td>6.9</td>
<td>7.2</td>
<td>7.6</td>
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<td>8.4</td>
<td>8.9</td>
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<tr>
<td></td>
<td>kW</td>
<td></td>
<td>4.5</td>
<td>4.9</td>
<td>5.1</td>
<td>5.3</td>
<td>5.6</td>
<td>5.8</td>
<td>6.0</td>
<td>6.2</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td>kWh*</td>
<td></td>
<td>4.9</td>
<td>5.2</td>
<td>5.4</td>
<td>5.7</td>
<td>6.0</td>
<td>6.3</td>
<td>6.6</td>
<td>7.0</td>
<td>7.3</td>
</tr>
</tbody>
</table>

Note:
* kW = total kilowatts.
Mbh = gross capacity x 1000 Btu/h.
All values are at approximately 20°F [11.1°C] subcooling.
Data includes 25 feet (7.62 m) of recommended vapor and liquid lines.
Unit Capacities

Figure 3: RCS 06F R410A Unit Capacities

Figure 4: RCS 07F R410A Unit Capacities
**Figure 5: RCS 10F R410A Unit Capacities**

**Figure 6: RCS 11F R410A Unit Capacities**
Performance Data

Figure 7: RCS 12F R410A Unit Capacities

Figure 8: RCS 15F R410A Unit Capacities
Figure 9: RCS 20F R410A Unit Capacities
**Dimensional and Weight Data**

**Figure 10: RCS 06F and 07F Dimensions and Weights**

![RCS 06F and 07F Dimensions and Weights Diagram]

**Table 4: RCS 06F and 07F Operating Weights**

<table>
<thead>
<tr>
<th>RCS model</th>
<th>Total weight lbs. [kg]</th>
<th>Corner weight lbs. [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>07F</td>
<td>318 [144]</td>
<td>53 [24.0]</td>
</tr>
</tbody>
</table>

**Figure 11: RCS 10F and 11F Dimensions and Weights**

![RCS 10F and 11F Dimensions and Weights Diagram]

**Table 5: RCS 10F and 11F Operating Weights**

<table>
<thead>
<tr>
<th>RCS model</th>
<th>Total weight lbs. [kg]</th>
<th>Corner weight lbs. [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>10F</td>
<td>501 [228]</td>
<td>123 [53.9]</td>
</tr>
<tr>
<td>11F</td>
<td>586 [266]</td>
<td>144 [65.3]</td>
</tr>
</tbody>
</table>
**Dimensional and Weight Data**

**Figure 12: RCS 12F Dimensions and Weights**

![RCS 12F Dimensions and Weights Diagram]

**Table 6: RCS 12F Operating Weights**

<table>
<thead>
<tr>
<th>RCS model</th>
<th>Total weight lbs. [kg]</th>
<th>Corner weight lbs. [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>12F</td>
<td>650 [293]</td>
<td>160 [72.0] 171 [78.0] 154 [70.0] 165 [75.0]</td>
</tr>
</tbody>
</table>

**Figure 13: RCS 15F – 20F Dimensions and Weights**

![RCS 15F – 20F Dimensions and Weights Diagram]

**Table 7: RCS 15F and 20F Operating Weights**

<table>
<thead>
<tr>
<th>RCS model</th>
<th>Total weight lbs. [kg]</th>
<th>Corner weight lbs. [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>15F</td>
<td>746 [338.0]</td>
<td>183 [83.0] 196 [89.0] 177 [80.0] 189 [86.0]</td>
</tr>
<tr>
<td>20F</td>
<td>952 [432.0]</td>
<td>234 [106.0] 251 [114.0] 226 [103.0] 241 [110.0]</td>
</tr>
</tbody>
</table>
## Power Wiring

### Table 8: RCS 06F – 20F Electrical Data

<table>
<thead>
<tr>
<th>Model</th>
<th>RCS</th>
<th>06F</th>
<th>07F</th>
<th>10F</th>
<th>11F</th>
<th>12F</th>
<th>15F</th>
<th>20F</th>
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</thead>
<tbody>
<tr>
<td><strong>Compressor Motor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage</td>
<td></td>
<td>208/230</td>
<td>460</td>
<td>575</td>
<td>208/230</td>
<td>460</td>
<td>575</td>
<td>208/230</td>
</tr>
<tr>
<td>Phase and hertz</td>
<td></td>
<td>3 – 60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of compressors</td>
<td></td>
<td>Single</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td><strong>Operating Current</strong></td>
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<tr>
<td>Rated load amps (each)</td>
<td>224</td>
<td>10.6</td>
<td>7.7</td>
<td>25.0</td>
<td>12.2</td>
<td>9.0</td>
<td>30.1</td>
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<td>Locked rotor amps (each)</td>
<td>149</td>
<td>75</td>
<td>54</td>
<td>164</td>
<td>100</td>
<td>78</td>
<td>225</td>
<td>114</td>
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<td><strong>Condenser Fan Motors</strong></td>
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<tr>
<td>Voltage</td>
<td></td>
<td>208/230</td>
<td>460</td>
<td>575</td>
<td>208/230</td>
<td>460</td>
<td>575</td>
<td>208/230</td>
</tr>
<tr>
<td>Phase</td>
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<td></td>
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<tr>
<td>Full load amps (each)</td>
<td>2.2</td>
<td>1.3</td>
<td>1.0</td>
<td>2.2</td>
<td>1.3</td>
<td>1.0</td>
<td>2.4</td>
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<td><strong>System characteristics</strong></td>
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<td>Unit full load amps²</td>
<td>24.6</td>
<td>11.9</td>
<td>8.7</td>
<td>27.2</td>
<td>13.5</td>
<td>10.0</td>
<td>34.9</td>
<td>19.5</td>
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<td>Minimum circuit ampacity</td>
<td>31.0</td>
<td>15.0</td>
<td>11.0</td>
<td>34.0</td>
<td>17.0</td>
<td>13.0</td>
<td>43.0</td>
<td>24.0</td>
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<td>Maximum fuse size (amps) or HACR circuit breaker ampacity³</td>
<td>50</td>
<td>25</td>
<td>15</td>
<td>50</td>
<td>25</td>
<td>20</td>
<td>60</td>
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<td>Disconnect size</td>
<td>60</td>
<td>30</td>
<td>30</td>
<td>60</td>
<td>30</td>
<td>30</td>
<td>60</td>
<td>40</td>
</tr>
</tbody>
</table>

**Note:**
1. Each compressor
2. Conditions at 45° suction and 95° ambient
3. Local codes take precedent over recommended fuse size
Figure 14: RCS 06F, 07F, and 10F Wiring Diagram
Electrical Data

Figure 15: RCS 11F – 20F Wiring Diagram

Components:
- AH: Supply Fan
- CC: Compressor Contactor
- CCH: Crankcase Heater
- COMP: Compressor
- CT: Control Transformer
- DISC: Disconnect Switch
- F: Fan Motor Contactor
- FCC: Fan Cycle Control
- GND: Ground
- HR: Heater Relay As Needed
- HPC: High Pressure Control
- LPC: Low Pressure Control
- MS: Metal Strip
- OFM: Outdoor Fan Motor
- RC: Run Capacitor
- TB: Terminal Block
- TH: Thermostat Heating
- TDC: Time Delay Control
- THM: Motor Safety Thermostat
- TOR: Thermal Overload Relay
- WIRE NUT

Notes:
1. Replacement wire & fuses must be the same type & size as original.
2. Unit must be permanently grounded and conform to N.E.C. and local codes.
3. Maximum inrush va not to exceed 92 va.
4. Minimum wire size based on 75 degrees C insulation copper wire.

Wiring Information:
1. Line Voltage
   - Factory Standard
   - Field Installed
2. Low Voltage
   - Factory Standard
   - Field Installed
3. Replacement wire must be the same size and type of insulation as original (105°C min.)

Warning:
- Cabinet must be permanently grounded and conform to I.E.C., N.E.C. (C.E.C. Canada) and local codes as applicable.

Wire Color Code:
- BK: Black
- O: Orange
- BR: Brown
- P: Purple
- BL: Blue
- R: Red
- G: Green
- W: White
- Y: Yellow
- GY: Gray
- YW: Yellow

Wiring Schematic
Condensing Unit
208-230, 460, 575, 3 PH, 50 & 60 Hz
380, 3 PH, 60 Hz

90-42663-08-03
Part 1: General

1.01 Summary:
   A. Section includes design, performance criteria, refrigerants, and installation requirements for air cooled split condensing units

1.02 References
   A. ARI-365 Commercial and Industrial Unitary Air Cooled Condensing Units
   B. ANSI / ASHRAE 15 Safety Standard for Refrigerated Systems

1.03 Submittals
   A. Submit Shop drawings and product data in accordance with the specifications.
   B. Submittals shall include the following:
      1. Dimensioned drawings with required clearances and location of all field connections.
      2. Summary of all auxiliary utility requirements, such as electricity, water, compressed air, etc. Summary shall indicate quality and quantity of each required utility.

1.04 Qualifications
   A. Qualifications: Equipment manufacturer must specialize in the manufacture of the type of products specified and have five years experience with similar equipment and refrigerant offered.
   B. Regulatory Requirements: Comply with the codes and standards specified.
   C. Manufacturer’s plant must be ISO Registered.

1.05 Delivery and Handling
   A. Condensing units shall be delivered to the job site assembled and charged with a holding charge of dry nitrogen.
   B. Comply with the manufacturer’s instructions for rigging and handling equipment.

1.06 Warranty
   A. The refrigeration equipment manufacturer’s initial warranty shall be within 12 months from start-up or 18 months from shipment, whichever occurs first. The warranty shall provide for repair or replacement due to material and workmanship that proves defective within the above period, excluding refrigerant.

1.07 Maintenance
   A. Include instructions for installation, maintenance and service.
   B. Maintenance of the units shall be the responsibility of the owner and performed in accordance with the manufacturer’s instructions.

Part 2: Products

2.01 Acceptable Manufacturers
   A. Basis of design: Daikin Applied
   B. (Approved Equal)

2.02 Unit Description
   A. Provide and install as shown on the plans factory-assembled, air-cooled scroll compressor, R410A condensing units in the size and quantity specified. Each unit shall consist of hermetic scroll compressor air-cooled condenser section.
   B. The complete unit shall be UL listed.

2.03 Design Requirements
   A. General: Provide a complete condensing unit as specified herein and as shown on the drawings. The unit shall be in accordance with the standards referenced in section 1.02 and any local codes in effect.
   B. Performance: Refer to the schedule of performance on the drawings.
2.04 Condensing Section (Scroll)

A. Air Cooled Condenser
   1. Exterior panels shall be constructed of pre-painted steel with a 1000-hour ASTM B117 salt spray test.
   2. The condensing section shall be open on the sides and bottom to provide access and to allow airflow through the coils. Condenser coils shall be constructed with 3/8” copper tubing mechanically bonded to aluminum fins for maximum heat transfer. Each condenser coil shall be factory leak tested with high-pressure air under water.
   3. Condenser fans shall be direct drive, propeller type designed for low tip speed, vertical air discharge, and include service guards. Fan blades shall be constructed of steel and riveted to a steel center hub. Condenser fan motor shall be direct drive, single phase permanently lubricated “PSC” motors with inherent thermal overload.
   4. Unit shall have standard pressure controls that cycle the condenser fan motors to maintain condensing pressures for operation down to 0°F ambient.
   5. Unit shall be equipped with full-face louvers for hail protection.

B. Scroll Compressors
   1. Unit shall have heavy-duty Copeland scroll compressors.
   2. Compressor shall be equipped with thermal overload protection.
   3. Compressors shall be isolated with resilient rubber isolators to decrease noise transmission.
   4. Compressor circuit shall be complete with low pressure control, liquid line shut off valve, and manual reset high pressure safety switch.

C. Refrigerant Circuit: Capped connections shall be external to the unit providing for field connection of refrigerant piping.

D. Unit shall have a liquid line and suction line service valve.

2.05 Controls

A. Unit shall be equipped with a 24 V terminal strip for field supplied and installed controls.

2.06 Electrical

A. All wiring shall comply with UL requirements. The unit shall be provided with a factory wired weatherproof control panel. Unit shall have a single point power terminal block for main power connection. A terminal board shall be provided for low voltage control wiring.

B. Unit shall be equipped with low voltage transformers and motor starters.

Part 3: Execution

3.01 Installation

A. Install in strict accordance with manufacturer’s requirements, shop drawings, and contract documents.

B. Adjust and level unit in alignment on supports.

C. Coordinate electrical installation with electrical contractor.

D. Coordinate controls with control contractor.

3.02 Start-Up

A. Install proper charge of refrigerant and oil.

B. Provide testing and starting of machine, and instruct the owner in its proper operation and maintenance.
**Daikin Applied Training and Development**

Now that you have made an investment in modern, efficient Daikin Applied equipment, its care should be a high priority. For training information on all Daikin Applied HVAC products, please visit us at www.DaikinApplied.com and click on training, or call 540-248-9646 and ask for the Training Department.

**Warranty**

All Daikin Applied equipment is sold pursuant to its standard terms and conditions of sale, including Limited Product Warranty. Consult your local Daikin Applied Representative for warranty details. Refer to Form 933-430285Y. To find your local Daikin Applied Representative, go to www.DaikinApplied.com.

**Aftermarket Services**

To find your local parts office, visit www.DaikinApplied.com or call 800-37PARTS (800-377-2787). To find your local service office, visit www.DaikinApplied.com or call 800-432-1342.

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