3. INSTALL REFRIGERANT PIPING

1. Select suction (S) and liquid (L) line size from the table below.
2. Select refrigerant specialties.
3. Maximum linear line length is 100 ft.
4. Do not bury refrigerant piping underground.

**REFRIGERANT PIPING SIZES - CONDENSING UNITS**

<table>
<thead>
<tr>
<th>UNIT</th>
<th>0-25</th>
<th>25-50</th>
<th>50-75</th>
<th>75-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>S</td>
<td>L</td>
<td>S</td>
<td>L</td>
</tr>
<tr>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
</tr>
<tr>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
</tr>
</tbody>
</table>

**REFRIGERANT PIPING SIZES - HEAT PUMP UNITS**

<table>
<thead>
<tr>
<th>UNIT</th>
<th>0-25</th>
<th>25-50</th>
<th>50-75</th>
<th>75-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>S</td>
<td>L</td>
<td>S</td>
<td>L</td>
</tr>
<tr>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
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<tr>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
</tr>
</tbody>
</table>

**CONDENSING UNIT REFRIGERANT SPECIALTIES PART NUMBERS**

<table>
<thead>
<tr>
<th>LIQUID LINE SIZE (in. OD)</th>
<th>SOLENOID VALVE</th>
<th>SOLVENT COIL</th>
<th>SIGHT GLASS</th>
<th>FILTER DRIER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>EF680033</td>
<td>KM860005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/8</td>
<td>EF680030</td>
<td>KM860004</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**HEAT PUMP UNIT REFRIGERANT SPECIALTIES PART NUMBERS**

<table>
<thead>
<tr>
<th>LIQUID LINE SIZE (in. OD)</th>
<th>SOLENOID VALVE</th>
<th>SOLVENT COIL</th>
<th>SIGHT GLASS</th>
<th>FILTER DRIER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>EF680030 plus EF680030E (below 60')</td>
<td>KM860004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/8</td>
<td>EF680030 plus EF680030E (below 60')</td>
<td>KM860004</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
1. Pipe sizes are based on a 2°F loss for liquid and suction lines.
2. Pipe sizes are based on the maximum linear length, shown for each column, plus a 50% allowance for fittings.
3. Charge units with R-410A in accordance with unit installation instructions.
**PRE START-UP TIPS**

- Read Installation, Start-Up, and Service manual.
- Use start-up checklist.
- Check all wiring connections.
- Open service valves.
- Turn on power for indoor and outdoor sections.
- Energize crankcase heater for 24 hours prior to start-up.
- Make sure compressor(s) can move freely on mounting snubbers or springs.

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**POWER WIRING**

1. Verify that power is off, locked out and tagged off.
2. Route power wiring from disconnect through opening in unit end panel and connect in unit control box as shown on the unit label diagram.

**CONTROL WIRING**

1. Verify that power is off, locked out and tagged off.
2. Transformer wiring:
   - If supply voltage is 208 v or 400 v, move the black wire to the appropriate terminal.
3. Make connections from thermostat to terminal strip (TB) in the outdoor unit.

**TRADE/language/other**

1. After system has been started and allowed to stabilize, adjust refrigerant level, if required, based on the Cooling Charging Chart found on unit and in Installation Instructions.
2. Check superheat at the compressor; superheat should be 8 to 12°F.

**EVACUATION**

Outdoor unit contains a partial factory charge of R-410A, review rating plate for exact charge amount. Opening liquid line ball valve prior to charging will release holding charge.

**INITIAL CHARGING – UNIT OFF**

1. After evacuating the system, fill the liquid line with R-410A (tank upside down), then open both service valves.

**TRIM CHARGE LEVEL**

1. After system has been started and allowed to stabilize, adjust refrigerant level, if required, based on the Cooling Charging Chart found on unit and in Installation Instructions.
2. Check superheat at the compressor; superheat should be 8 to 12°F.

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**LEAK TEST**

1. Pressurize refrigerant piping; do not exceed 150 psi.
2. Check for leaks.

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**WARNING**

Before installing or servicing system, always turn off main power to system and install lockout tag on disconnect. There may be more than one disconnect switch. Electrical shock can cause personal injury.