R-448A
Scroll Series
Refrigeration System
Scroll Series Refrigeration Systems

Condensing Units
Refrigerant

General Information

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASHRAE #</td>
<td>R-448A</td>
</tr>
<tr>
<td>Class</td>
<td>HFC / HFO</td>
</tr>
<tr>
<td>Refrigerant Type</td>
<td>Zeotropic blend</td>
</tr>
<tr>
<td>Typical Lubricant</td>
<td>POE (polyol ester) Oil</td>
</tr>
<tr>
<td>Replaces</td>
<td>R-22, R-404A</td>
</tr>
</tbody>
</table>
Scroll Series Refrigeration Systems – Condensing unit

Compressors

Scroll Compressors

- 3/4 – 13 H.P.
- Air cooled/water cooled applications
- 3 models – PR, PC, and PCL
  - PR – Preassembled Remote; nitrogen charge
  - PC – Pre-Charged for use up to 50’ line set
  - PCL – Pre-Charged for use with provided line set
Condenser Coils
Check Valve
Check Valve

Non Return Check Valve

- Prevents reversal flow
- Prevents condenser flooding
- Directional flow with refrigerant
Pressure Controls
Pressure Controls

Low Pressure Safety Control

- Low temp – freezer
- Adjustable
- Braze in cap tube
- Cut-in 15 psi
- Cut-out 1 psi
- Blue wires
Pressure Controls

Low Pressure Safety Control

- Medium temp – cooler
- Non adjustable
- Braze in cap tube
- Cut-in 24 psi
- Cut-out 12 psi
- Red wires
Pressure Controls

Low Pressure Safety Control

- Medium temp – cooler
- Non adjustable
- Braze in
- Cut-in 24 psi
- Cut-out 12 psi
- Red wires
Pressure Controls

Low Pressure Safety Control

- Medium temp – cooler
- Non adjustable
- Braze in
- Cut-in 24 psi
- Cut-out 12 psi
- Red wires
Pressure Controls

High Pressure Safety Control

- Non adjustable
- Braze in
- Cut-in 325 psi
- Cut-out 425 psi
- Orange wires
Pressure Controls

High Pressure Safety Control

- Non adjustable
- Braze in
- Cut-in 325 psi
- Cut-out 425 psi
- Orange wires
Low Ambient Controls

Headmaster Control

Fan Cycle Control
Low Ambient Controls

Headmaster Control

- Three ports
- PSI rating 210
- Non adjustable
Low Ambient Controls

Headmaster Control

- Three ports
- PSI rating 210
- Non adjustable
Low Ambient Controls

Fan Cycle Control

- Non Adjustable
- Braze in
- Cut-in 235 psi
- Cut-out 150 psi
- Yellow wires
Low Ambient Controls

Fan Cycle Control

- Non Adjustable
- Braze in
- Cut-in 235 psi
- Cut-out 150 psi
- Yellow wires
Evaporator Coils
Evaporator Coils

Refrigerant Distributor

Nozzle and Retainer Ring
Evaporator Coils
Operating Pressures
Operating Pressures

Medium Temp – Cooler (35 °F)

- Suction pressure 50-55 PSI
- Use PT chart for proper discharge pressures
- If applicable, reference low ambient control settings
- Recommended Superheat 6-10
Operating Pressures

Low Temp – Freezer (-10 °F)

- Suction pressure 10-14 PSI
- Use PT chart for proper discharge pressures
- If applicable, reference low ambient control settings
- Recommended Superheat 4-8
Q - Is there a sub-cooling loop added to your condenser coil?
   A – Yes.

Q – When is that sub-cooling loop used?
   A – Continuously.

Q – Why did you add a sub-cooling loop?
   A – To gain evaporator BTU capacity with R448 refrigerant.