Horizon™ Ice Machine Installation Instructions for Remote Condensing Unit

HCD700R
HCD/HMD/HCF/HMF1000R ___
HCD/HMD/HCF/HMF1400R ___
HCD/HMD/HCF/HMF1650R ___
(See model number configurator on page 2 for details.)

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208264
Stock Module Identification Plate
Service No.
Module No.
Product

REFRIGERANT
MODEL
MOTOR COMPRESSOR THERMALLY PROTECTED

Easton Pennsylvania
FULL LOAD AMPS
MAX. BRANCH CIRCUIT FUSE SIZE
MIN. BRANCH CIRCUIT AMPACITY
DESIGN PRESSURE HIGH SIDE AMPS
AMPS
VOLTS
PRODUCT CORPORATION
SERIAL NO
PHASE
CHARGE
LOW SIDE
PART NO
PSIG
THE USA
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R
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HZ
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U

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To ensure proper performance, ease of service and warranty coverage, it is critical that you follow the requirements detailed in this manual. If you cannot meet these requirements or have questions, call our technical service group at 877.612.5086 for installation support.

Position condenser unit as shown above, with clearances noted above.
Site layout:

- Outdoor ambient temperature range: –20 F to 120 F (–29 C to 49 C)
- Installation with condenser unit elevations above 20’ (6.1 m) require an S-trap at the midpoint of the rise ➊
- Maximum line rise must not exceed 35’ (10.7 m) ➋
- Maximum line set length must not exceed 100’ (30.5 m) ➌
- Maximum line drop must not exceed 15’ (4.6 m) ➍

Note: 1000/1400/1650 units only:

HCD1000/1400/1650 condensing units contain a liquid to suction line heat exchanger. To maintain optimum liquid refrigerant sub-cooling from the heat exchanger, the entire liquid line should be insulated separately from the suction line.
2.1 Install condensing unit

- Level unit
- Securely attach base of unit using holes found in base plate

2.2 Electrical requirements

Horizon Remote Single-Phase
- 208-230/60/1
  - 700 - 15A circuit
  - 1000 - 15A circuit
  - 1400 - 30A circuit
  - 1650 - 50A circuit

Horizon Remote 3-Phase
- 208-230/60/3
  - 1000 - 15A circuit
  - 1400 - 25A circuit
  - 1650 - 35A circuit

- Refer to wiring schematic located in condenser unit electrical box

**CAUTION**

- Electrical disconnects required within 10’ (3 m) for all hard wired connections
- Install in accordance with NEC and local electrical codes
2.3 Electrical connections at contactor

1-Phase
POWER SUPPLY
230-60-1

- - - - - - - - - -
L3 | T3
L2 | T2
L1 | T1

GRD || I

CRANK CASE
HEATER

ELECTRICAL
DISCONNECT

- - - - - - - - - -
L1 | L1
L2 | L2
L3 | L3

T1 | T1
T2 | T2
T3 | T3

* Electrical disconnects required within 10’ (3 m) for all hard wired connections.
* Install in accordance with NEC and local electrical codes.

3-Phase
POWER SUPPLY
230-60-3

- - - - - - - - - -
L3 | T3
L2 | T2
L1 | T1

GRD || I

CRANK CASE
HEATER

ELECTRICAL
DISCONNECT

- - - - - - - - - -
L1 | L1
L2 | L2
L3 | L3

T1 | T1
T2 | T2
T3 | T3

* Electrical disconnects required within 10’ (3 m) for all hard wired connections.
* Install in accordance with NEC and local electrical codes.

2.4 Condensing unit refrigeration line-set connection point

700/1000/1400:
5/8" suction
3/8" liquid

1650:
7/8" suction
1/2" liquid*

* For 1650 units only, the liquid line service valve outlet port requires a 1/2” to 3/8” reducer.
Refrigeration line installation

3.1 Refrigeration line installation: 7/8" suction / 3/8" liquid line (1650)
5/8" suction / 3/8" liquid line (700, 1000, 1400)

**CAUTION**
- The installer of the refrigeration line set must be USA Government Environmental Protection Agency (EPA) certified in proper refrigeration handling and service procedures
- A qualified person must perform all roof or wall penetration
- Do not form unwanted traps in refrigeration lines. A service loop is not considered an oil trap.
- Never coil excess refrigeration tubing
- The compressor oil rapidly absorbs moisture. Minimize the exposure of the refrigeration system by not releasing the condenser unit or evaporator unit holding charge until all line connections are finished and the system is ready for evacuation.
- HCD1000/1400/1650 condensing units contain a liquid to suction line heat exchanger. To maintain optimum liquid refrigerant sub-cooling from the heat exchanger, the entire liquid line should be insulated separately from the suction line.

**WARNING**
- This unit contains an R404A holding charge

1. Make and connect line set run from the condensing unit to the evaporator unit with all specifications found in the installation specifications section. Do not overheat shut off valves on the condenser unit or evaporator unit.
2. Leak check field joints via the evaporator unit service valves.
3. Evacuate line set via the evaporator unit service valves.
4. Determine required charge size based on the model and line length.

<p>| R404A Ice Machine Charge Specifications |
|------------------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|</p>
<table>
<thead>
<tr>
<th>Line Run</th>
<th>Charge 700R</th>
<th>Charge 1000R</th>
<th>Charge 1400R</th>
<th>Charge 1650R</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 50' (0 - 15.2 m)</td>
<td>8 lb (4.9 kg)</td>
<td>8 lb (4.9 kg)</td>
<td>11 lb (4.9 kg)</td>
<td>13 lb (5.9 kg)</td>
</tr>
<tr>
<td>50 - 75' (15.2 - 22.9 m)</td>
<td>9 lb (5.4 kg)</td>
<td>9 lb (5.4 kg)</td>
<td>12 lb (5.4 kg)</td>
<td>14 lb (6.4 kg)</td>
</tr>
<tr>
<td>75 - 100' (22.9 - 30.5 m)</td>
<td>10 lb (5.9 kg)</td>
<td>10 lb (5.9 kg)</td>
<td>13 lb (5.9 kg)</td>
<td>15 lb (6.8 kg)</td>
</tr>
<tr>
<td>100' + (30.5 m+)</td>
<td>not recommended – consult factory</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Open the liquid line service valve and suction line service valve on the evaporator unit and condenser unit.
6. Open the liquid line valve on the receiver, then the suction line valve on the compressor unit.
7. Liquid charge unit through liquid line shut off valve on the evaporator unit or receiver valve on the condensing unit.
8. Isolate the refrigerant tank from high pressure side on the system.
9. Turn on power to condensing unit and evaporator unit.
10. Complete system charge through low pressure side.
11. Insulate entire suction line including shut off valves to prevent condensation.
Please remove the condenser enclosure top to access the following parts:

- Left and right brackets (not interchangeable)
- Hail hood
- 1/4 x 20 x 1/2 hex head screw (10)

1. Locate the left bracket (1) and install using two supplied screws (2).
2. Locate the right bracket (3) and install using two supplied screws (4).

1) Adjust the top LEFT screw until the pointer is set to 10 (the differential).
2) Adjust the top RIGHT screw until the pointer is set to 20 (the cut-in).
3. Install hail hood (5) to brackets using the remaining six screws (6).

   **Note:** The bottom hole in the bracket is not used when mounting the hail hood (7).

---

### Start up and test

6.

### NOTICE

Ice machine MUST be cleaned and sanitized prior to operation!

Consult Operation and Service Manual provided with ice machine for cleaning and sanitizing instructions.

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### 6.1 Verify operation

- Turn dispenser power ON if applicable
- Check current draw of compressor to verify correct electrical operation
- Put a piece of ice on bin thermostat or hold a cup under the shuttle actuator on the bin/dispenser to verify that the evaporator unit shuts OFF; condensing unit pumps down and shuts off.
- After shut off, restart the ice machine

<table>
<thead>
<tr>
<th>Horizon Condenser Unit Compressor Amperage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single-Phase</strong></td>
</tr>
<tr>
<td>Model Number</td>
</tr>
<tr>
<td>700R</td>
</tr>
<tr>
<td>1000R 00168054</td>
</tr>
<tr>
<td>1400R 00178640</td>
</tr>
<tr>
<td>1650R 00973925</td>
</tr>
<tr>
<td><strong>3-Phase</strong></td>
</tr>
<tr>
<td>Model Number</td>
</tr>
<tr>
<td>1000R 00990200</td>
</tr>
<tr>
<td>1400R 00990218</td>
</tr>
<tr>
<td>1650R 00990226</td>
</tr>
</tbody>
</table>

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