QBD COOLING SYSTEMS INC.
INSTALLATION, OPERATION AND
MAINTENANCE MANUAL FOR COOLERS
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Subject</th>
<th>Page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>General instructions</td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Intended use of the cooler</td>
<td>3</td>
</tr>
<tr>
<td>1.2</td>
<td>Inspection upon delivery</td>
<td>3</td>
</tr>
<tr>
<td>2.0</td>
<td>Electrical safety</td>
<td>4</td>
</tr>
<tr>
<td>3.0</td>
<td>Installation</td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Location and leveling</td>
<td>5</td>
</tr>
<tr>
<td>3.2</td>
<td>External and internal clearances, shelf position and door support brackets</td>
<td>5</td>
</tr>
<tr>
<td>3.3</td>
<td>Castor installation</td>
<td>6</td>
</tr>
<tr>
<td>3.4</td>
<td>Shelf installation</td>
<td>6</td>
</tr>
<tr>
<td>3.5</td>
<td>Electrical supply and connections</td>
<td>7</td>
</tr>
<tr>
<td>3.6</td>
<td>Energy saving tips</td>
<td>7</td>
</tr>
<tr>
<td>3.7</td>
<td>Preparation to move</td>
<td>7</td>
</tr>
<tr>
<td>4.0</td>
<td>Operation, maintenance &amp; service</td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>Operation and maintenance</td>
<td>8</td>
</tr>
<tr>
<td>4.2</td>
<td>Temperature control, fan motor &amp; LED lighting</td>
<td>9-10</td>
</tr>
<tr>
<td>4.3</td>
<td>Wiring diagram</td>
<td>11-12</td>
</tr>
<tr>
<td>4.4</td>
<td>Cooling deck removal and access</td>
<td>13</td>
</tr>
<tr>
<td>4.5</td>
<td>Door removal and access</td>
<td>14-15</td>
</tr>
<tr>
<td>4.6</td>
<td>Preventive maintenance and cleaning instructions</td>
<td>16</td>
</tr>
<tr>
<td>5.0</td>
<td>Guidelines for troubleshooting</td>
<td>17-19</td>
</tr>
</tbody>
</table>

Operation, maintenance and service related information can be accessed online by scanning the adjacent QR code.
1. GENERAL INSTRUCTIONS

1.1 INTENDED USE

QBD’s coolers are designed for storage of beverage products and / or commercial merchandising. Storage of pharmaceutical products, perishable food, scientific material or temperature sensitive product in the cooler is NOT RECOMMENDED.

This cooler is NOT intended for outdoor use or to be subjected to direct sunlight, dampness, high dust levels, extreme heat and / or cold temperature.

1.2 INSPECTION UPON DELIVERY

UNIT INSPECTION UPON DELIVERY: Examine all packaging material for damage when received. Damage to external packaging may have resulted in unit damage. Check packages for all accessories and components, including legs, casters (if applicable) and shelves.

If you received a damaged cooler, refuse the shipment and immediately contact the carrier to report the incident.

All goods are shipped at the customers risk. Return of goods to the factory must have the authorized approval from QBD.

No returns will be accepted after 10 days. Any shortage claims must be made within 5 days of receiving the goods.

If the cooler is tilted during transportation / relocation please allow it to sit for 2 hours in upright position before connecting to power source. Cooler must be run for 24 hours prior to use (i.e. before loading products).
2. ELECTRICAL SAFETY

DANGER

Ensure that a dedicated 3-prong grounded electrical receptacle is available at the intended location of the cooler. Ensure that the electrical branch circuit of the fixed wiring to the dedicated receptacle is protected with a fuse or a circuit breaker having a size in compliance with either the Canadian Electrical Code, Part I, or the National Electrical Code and the local Electrical Code.

For personal safety, this appliance must be effectively grounded at all times. The power cord of this cooler is equipped with a three-prong (grounding) plug which mates with a standard three-prong (grounding) wall outlet (receptacle) to minimize the possibility of electric shock hazard from this cooler.

Have the wall outlet and circuit checked by a qualified electrician to make sure the outlet is effectively grounded. If there is only an old two-prong wall outlet available, it is the user’s responsibility and obligation to have it replaced with an effectively grounded three-prong wall outlet for protection against potential electrical shock and fire hazard.

- DO NOT USE EXTENSION CORDS, POWER BARS, AND / OR WIRING DEVICE ADAPTERS TO POWER THE COOLER.

- Inspect the cooler power supply cord for any damage prior to use. Do not alter, impact or apply pressure on power cord.

- Don’t access electrical parts & mechanically moving parts in cooler without authorization.

CAUTION

PLEASE DO NOT SPRAY OR IMMERSE ANY ELECTRICAL COMPONENT WITH WATER AND / OR CHEMICALS. DOING SO WILL VOID ALL WARRANTIES.
3. INSTALLATION

3.1 LOCATION & LEVELING — INDOORS ONLY!

- Cooler must be leveled front to back and side to side to ensure optimum performance. Use leg adjust for proper leveling.
- Otherwise, cooler door(s) may not close properly causing the evaporator coil to accumulate frost and / or drain pan may overflow.

3.2 EXTERNAL AND INTERNAL CLEARANCES, SHELF POSITION AND DOOR SUPPORT BRACKETS

- Always maintain following EXTERNAL clearances for ease of installation, door opening and proper air circulation:
  - Top ...................... 2”
  - Hinge Side.......... 1 1/4”
  - Non Hinge Side...... 1/2”
  - Back.................... 3”
- Maintain a clearance of at least 2 feet in front of the grill to ensure free air flow from the refrigeration unit.
- Cooler is designed for freestanding installation only. It should not be recessed or built-in.
- Don’t locate cooler in close proximity to high heat appliances such as fryers, heating ranges and / or heating ducts.
- Minimum INTERNAL clearances required for adequate air circulation inside the cooler. Maintain internal clearance between the beverages and the cooler walls and door(s) as follows:

<table>
<thead>
<tr>
<th>Clearance</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Side wall</td>
<td>1/2</td>
</tr>
<tr>
<td>Rear wall</td>
<td>1/2</td>
</tr>
<tr>
<td>Front glass door and product</td>
<td>1</td>
</tr>
</tbody>
</table>

- MUST REMOVE THE DOOR SUPPORT BRACKET(S) BEFORE INSTALLATION. (Applicable for specific models)
- ALWAYS use the door support brackets during transport and / or changing locations.
3. INSTALLATION

3.3 CASTER INSTALLATION

- Must use transfer plate for caster installation and use shims for proper levelling of the caster wheels. Improper leveling may cause premature unwarranted failure of legs or castors. Also it may result in performance problems (e.g. freeze-up of evaporator coil).

![Transfer plate](image)

**INSTALLATION OF TRANSFER PLATES (Part No. 47-0034-083) IS MANDATORY WHEN INSTALLING ANY CASTERS.**

3.4 SHELF INSTALLATION

- Cooler shelves (flat or gravity) and a bag containing shelf support clips are packed at the factory inside the unit.

- In CD models only, place bottom shelf at top of the base step (return air duct).

![Shelf installation](image)

- Improper shelf clip installation may cause shelf and / or product to fall which could result in personal injury or damage to the cooler. Do NOT place solid packaging on bottom shelf to avoid poor cooling performance.

- Don’t overload the shelves. The cooler is designed to use all the shelves provided. Install in equally spaced configuration. If fewer shelves or a different configuration is required, contact QBD to ensure that shelf overloading will not occur.

- Store products as evenly as possible inside the cabinet to maintain uniform product temperature.
3.5 ELECTRICAL SUPPLY AND CONNECTIONS

The cooler is designed to be plugged into Type 5-15R wall receptacle, which is rated 15A, 125V in the Electrical Code. To protect against potential electrical shock or fire hazard, do NOT tamper with the plug of the power supply cord or plug into a different voltage receptacle or non-grounded receptacle.

All units must be powered at their nominal operating voltages at all times. The voltage should be within 10% of the nameplate voltage rating, as overvoltage or under voltage could damage the cooler. QBD is not responsible for the repair or replacement of failed or damaged components resulting from electrical power failure, incorrect supply voltage, low voltage, or unstable supply voltage. Ensure that the power quality (i.e. the voltage and current harmonics) are within the acceptable industry tolerance.

3.6 ENERGY SAVING TIPS

All QBD coolers are designed and manufactured to perform within the Energy Efficiency guideline by Natural Resources Canada or EPA. The following energy saving tips should be followed for best energy efficiency:

- Maintain a clean cooling deck and clean condenser periodically.
- Maintain clean door seals and avoid prolonged door opening.
- Don’t install the cooler under direct sunlight, damp environment and avoid any heat source in the vicinity.

3.7 PREPARATION TO MOVE

Disconnect the power cord from wall outlet and remove the products. Then clean and dry the interior. Secure all loose items such as shelves by taping them securely in place to prevent damages. For all hinged door coolers install the door support bracket (QBD Part Number 47-0031-968) which was originally shipped with the cooler. If the door support bracket is missing, a new bracket complete with hardware is available from QBD’s Order Desk.
4. OPERATION, MAINTENANCE & SERVICE

4.1 OPERATION AND MAINTENANCE

DANGER

- Disconnect power to unit before cleaning or performing any service
- All repairs must be performed by qualified technician.
- Before replacing a burnt out lamp and / or electrical component, the cooler shall be unplugged in order to avoid contact with a live wire filament. [A burned out lamp may break when being replaced.]
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this cooler.
- Don’t install cooler where storage, handling and / or dispensing flammable and / or explosive material may occur.
- Ensure the doors are removed before disposal of cooler to avoid any accidents.
- Keep plastic packaging material away from children and animals, and dispose them safely and securely.

WARNING

- Use best practices when removing shipping platform and brackets, leveling the cooler, reversing the door and while moving the cooler from one place to another.
- Improper shelf clip installation may cause shelf and / or product to fall which could result in personal injury or damage to cooler.
- Overloading the shelves could result in personal injury or damage to the cooler.
- Maintain a clearance of at least 2 feet from the ceiling for coolers with a top refrigeration module. Do NOT place carton boxes or other objects on top of coolers.

CAUTION

- Cooler must be maintained with a leveled front to back and side to side to ensure optimum performance.
- Maintain a clean cooling deck and / or condenser coil to prevent poor performance and / or component(s) failure.
- Don’t pull, push or apply excessive force on cooling deck when removing or installing in cabinet. Slide the cooling deck in or out gently. (Applicable on CD series only.)
- Ensure the cooler, refrigerant, oil and / or other component(s) are disposed in accordance with local and federal regulations.
- To maintain the average product temperature at 3.3°C (38°F) follow temperature setting as indicated on rating label inside the cooler. Any change in setting could result in poor performance and / or component(s) failure.
- Improper installation of the deck, electrical components and / or cooler may cause poor performance and / or component failure. QBD will not be responsible for equipment or component failure or other damages or losses that arise as a result.
- FAILURE TO COMPLY WITH THE INFORMATION OUTLINED IN THE MANUAL WILL VOID ALL WARRANTIES.
4.2 COLD CONTROL, FAN MOTOR & LED LIGHTING

CAREL COLD CONTROL

- All CD coolers are installed with customized Carel cold control. The normal setting for all CD coolers is at #5.
- This controller is installed with voltage protection, automatic defrost and energy saving logics.

DISPLAY DURING NORMAL RUNNING

DISPLAY DURING DEFROST

COMPRESSOR OFF (MANUALLY)

PROBE ERROR

- QBD doesn’t recommend any setting change without prior authorization.
- Cold control is set for beverage storage. Cooler maintains average product temperature of 3.3°C (38°F).
- Cold control follows an automatic defrost cycle every six hours.
- “OFF” message when displayed confirms that the compressor is OFF and will remain OFF unless reset to USE by pushing COLDER / UPPER key for more than 3 seconds.
- Evaporator fan follows a defined logic during compressor OFF cycle and defrost cycle for optimum energy conservation.
ELECTROMECHANICAL COLD CONTROL, FAN MOTOR AND LED LIGHTING

- All DC/PC models (except DC10PT/SL10) are equipped with customized electromechanical cold control and fans.
- **USE OF NON-QBD REPLACEMENT PARTS WILL VOID THE WARRANTY.**

To maintain the average product temperature at 3.3°C (38°F) follow temperature setting as indicated on rating label inside the cooler. Any change in setting could result in poor performance and/or component(s) failure.

*When replacing cold control, ensure the probe is properly installed at the same previous locations. See examples below:*

EXAMPLES OF PROBE LOCATIONS

![EXAMPLES OF PROBE LOCATIONS](image)

Verify the air flow direction and specifications before replacing the fan motor in the cooler.

Incorrect motor selection and/or installation may result in less cooling and/or evaporator freeze-up.

<table>
<thead>
<tr>
<th>Model</th>
<th>Cold Control Part Number</th>
<th>Fan Motor– Evaporator</th>
<th>Fan Motor– Condenser</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC6LP / DC6</td>
<td>47-0430-023*</td>
<td>47-0410-039*</td>
<td>47-0410-037*</td>
</tr>
<tr>
<td>DC7 / DC7 HG</td>
<td>47-0430-023*</td>
<td>47-0410-039*</td>
<td>47-0410-037*</td>
</tr>
<tr>
<td>DC10 / DC12</td>
<td>47-0430-023*</td>
<td>47-0410-024*</td>
<td>47-0410-037*</td>
</tr>
<tr>
<td>PC8</td>
<td>47-0430-093*</td>
<td>47-0410-050* (PSC motor)</td>
<td>47-0410-053* (PSC motor)</td>
</tr>
</tbody>
</table>

*CONTACT FACTORY TO CONFIRM MOST CURRENT PART NUMBERS*

LED LIGHTING

- All coolers are installed with customized LED lighting for adequate illumination of the products, high energy efficiency and convenient replacement option.
- The LED lights installed in QBD’s coolers consume 70% less energy compared to standard lighting.
- Refer to wiring diagrams for reference. All replacement and repair work should be conducted by CERTIFIED ELECTRICIAN.

DISCONNECT POWER TO UNIT BEFORE PERFORMING ANY SERVICE
4.3A Wiring Diagram CD Coolers

NOTE: Above wiring diagram is applicable for all the CD models covered under this manual. Please call QBD service for additional information if required.

Disconnect power to unit before performing any service.
DISCONNECT POWER TO UNIT BEFORE PERFORMING ANY SERVICE
4.4 COOLING DECK REMOVAL AND ACCESS

FOLLOW BELOW STEPS FOR COOLING DECK REMOVAL

1. Loosen Front Grill Screws
2. Remove Locking Screws
3. Slide Up Lift Bar Holder
4. Unplug the Power Cord
5. Rotate Lift Bars Inward to Release CD from Lock Position
6. Slide CD Out By Pulling Lift Bars Towards You

Don’t pull or apply pressure on suction line.

Ensure locking bar is re-positioned when reinstalled.
Maintain clean coil and clear drain lines.
4.5A CD Model Door Removal and Adjustment

To position the door hinges from the right side (factory set) of the cooler to the left:

♦ Unplug the cooler and empty the contents

♦ Make sure you have required hinges for reversing the door. Use a Philips screwdriver to remove the top bracket and shim (optional) while holding the door. Set the bracket aside while continuing to support the door.

Part numbers of the hinges are as follows:

- Bottom left hinge: 47-0090-015
- Bottom right hinge: 47-0090-013
- Top left hinge: 47-0090-014
- Top right hinge: 47-0090-012

♦ Open the door slightly and lift it up firmly. The spring will be released at the bottom.

♦ Place the door on a flat non-scratching surface and interchange the door’s top and bottom pivot pins

♦ Remove the front grill to access the bottom bracket. Remove the bottom bracket (fig 1)

♦ Install the new bottom hinge at bottom left corner (fig 2)

♦ Install the door by inserting bottom pivot pin into bronze bushing in the bottom bracket and install the top bracket on the left hand side while supporting the door. (fig 3)

♦ Re-install the door spring and align spring blade into the slot of bottom bracket. (fig 4)

♦ Re-install the front grill

♦ Remove the QBD logo from bottom of the door and refit at the right hand top corner of the door

♦ Check door gasket for proper sealing and alignment
**4.5B DC Model Door Reversal**

To change the door hinges from right to left side of the cooler

1. Unplug the cooler and empty it.
2. Don’t remove the leveling legs.
3. Use a Philips type screwdriver to remove the top bracket while holding the door. If there is a shim under the bracket, remove it as well. Set the bracket aside while continuing to support the door.
4. Open the door slightly and lift it firmly. The spring will be released at the bottom.
5. Follow below table:

<table>
<thead>
<tr>
<th><strong>DC6LP, DC6, DC7, DC7HG</strong></th>
<th><strong>DC10, DC12</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tilt the cooler approximately 6” to the back and block the lower front section to create enough space to proceed to</td>
<td>Lay the cooler on its side and remove front wheels in order to get access to bottom hinge. Proceed to step 6.</td>
</tr>
</tbody>
</table>

6. Remove the bottom bracket and shims if applicable.
7. Remove the bronze inserts from the bottom bracket and transfer it to the other opening in the hinge.

**USEFUL TIP : Easier to order and install a new insert.**

8. Follow below table:

<table>
<thead>
<tr>
<th><strong>DC6LP, DC6, DC7, DC7HG</strong></th>
<th><strong>DC10, DC12</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Relocate the bottom bracket to the left side. Remove the front block and rest the cooler in the upright position. Don’t alter the door handle.</td>
<td>Reinstall the front wheels. Ensure front wheels spacers are positioned at the back of the bottom bracket to keep the wheels leveled. Rest the cooler in the upright position. Don’t alter the door handle.</td>
</tr>
</tbody>
</table>

9. Remove the door and place it on a flat and smooth (non scratching) surface. Interchange the top and bottom pivot pins.
10. Remove the bronze insert from the top bracket and transfer it to the other hole in the hinge.

**USEFUL TIP : Easier to order and install a new insert.**

11. Remove all the plastic screw plugs (caps) on the left side and reinsert them to cover the holes on the right side.
12. Reinstall the door by positioning the lower pivot pin into the hole of the bottom bracket with the bronze insert. Attach the top left hand hinge to the top pivot pin and screw bracket to the cabinet.
13. Tilt cooler back (similar to step 5). Position the spring under the bottom bracket and turn the spring counter clockwise for one full turn (for models DC6/7) or two and half turns (for models DC10/12) and attach the spring to the slot in the pivot pin. Remove and reposition any label and graphic if required.
14. Check door gasket for proper sealing and alignment.
4.6 PREVENTIVE MAINTENANCE AND CLEANING INSTRUCTIONS

Interior-Exterior Cleaning (Cabinet)

CAUTION

Disconnect power to unit before cleaning or performing any service.

Never use acids, chemical thinner, gasoline, benzene or the like for cleaning any part of the cooler. Boiling water or benzene may deform or damage plastic parts.

♦ Unplug the cooler and remove all products and shelves.
♦ Wipe inside of the cooler with damp cloth and mild non-abrasive detergent. Then dry with soft cloth.
♦ Avoid using abrasive materials, scouring powders or aggressive spray cleaners which may damage the painted surfaces of the cooler.
♦ Clean the door gasket(s) and shelves with mild detergent and dry with soft cloth.
♦ To help prevent odors, leave open box of baking soda inside the cooler and replace every three months.
♦ Wipe exterior of the cooler with a soft cloth dampened with soapy water. Make sure the cooler is completely dry before installing shelves.

CAUTION

PLEASE DO NOT SPRAY OR IMMERSE ANY ELECTRICAL COMPONENT WITH WATER AND / OR CHEMICALS. DOING SO WILL VOID ALL WARRANTIES.

“LTC” (Lint Tolerant Condenser) cleaning procedure:

Remove all dust and debris from condenser coil by using a wand type duster, soft brush, vacuum cleaner or compressed air if available.

Failure to keep condenser coil clean and unobstructed at all times will result in inefficient or poor cooling. It may also cause damage (s) to the cooler and void the warranty.

Once all necessary servicing and / or cleaning have been carried out, reverse the above procedures to reinstall the cooling deck. Please make sure you connect the power supply, lift the handles, install the locking bar and fasten the two screws (CD coolers only).
## 5. GUIDELINES FOR TROUBLE-SHOOTING

<table>
<thead>
<tr>
<th>Issue</th>
<th>Symptoms</th>
<th>Solution 1</th>
<th>Solution 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressor will not start / no hum</td>
<td>Line disconnect switch open</td>
<td>Check power from outlet. Unplug and re-plug the unit, replace fuse.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overload protector tripped</td>
<td>Replace the overload</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control stuck in open position</td>
<td>Repair or replace control</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control off due to cold location</td>
<td>Check the control probe location</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improper or loose wiring</td>
<td>Check wiring against diagram</td>
<td></td>
</tr>
<tr>
<td>Compressor will not start / hums but trips on overload</td>
<td>Improper wiring</td>
<td>Check wiring against diagram</td>
<td>Find out the reason &amp; correct</td>
</tr>
<tr>
<td></td>
<td>Low voltage</td>
<td>Replace the start failed capacitor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Start capacitor defective</td>
<td>Replace the failed relay</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relay failed</td>
<td>Replace compressor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compressor motor has a winding open</td>
<td>Replace compressor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal mechanical problem in the compressor</td>
<td>Add crankcase heater and / or accumulator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Liquid refrigerant in compressor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compressor starts but does not switch off from start winding</td>
<td>Improper wiring</td>
<td>Check wiring against diagram</td>
<td>Find out the reason &amp; correct</td>
</tr>
<tr>
<td></td>
<td>Low voltage</td>
<td>Replace relay</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relay failed</td>
<td>Replace capacitor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Run capacitor failed</td>
<td>Check for over charge or condenser blockage / condenser fan failure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excessive high discharge temperature</td>
<td>Replace compressor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compressor failed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 5. GUIDELINES FOR TROUBLE-SHOOTING

<table>
<thead>
<tr>
<th>Malfunction</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
</table>
| Compressor starts and runs but short  | • Excess current passing through overload  
| cycles on the overload protector     | • Low / unstable voltage  
|                                      | • Overload failed  
|                                      | • Capacitor fault  
|                                      | • Excessive discharge  
|                                      | • Suction pressure too high  
|                                      | • Compressor overheating  
|                                      | • Compressor electrical     | • Check wiring diagram for wrong connections of electrical components  
|                                      |                                                                            | • Check voltage supply  
|                                      |                                                                            | • Replace overload  
|                                      |                                                                            | • Replace capacitor  
|                                      |                                                                            | • Check for over charge or condenser blockage / condenser fan failure  
|                                      |                                                                            | • Check refrigerant charge  
|                                      |                                                                            | • Replace compressor     |
| Units runs OK but short cycles       | • Overload protection  
|                                      | • Incorrect thermostat setting     | • Check the wiring  
|                                      |                                                                            | • Replace the overload  
|                                      |                                                                            | • Change the thermostat setting if required     |
| Warm temperature                     | • Too low control setting  
|                                      | • Inadequate air circulation    | • Reset the controller to colder setting  
|                                      |                                                                            | • Improve air movement     |
| Blowing Fuse                         | • Power cord is cut and grounding out  
|                                      | • Defective compressor  
|                                      | • Defective overload  
|                                      | • High Voltage  
|                                      | • Low Voltage   | • Replace power cord  
|                                      |                                                                            | • Replace compressor  
|                                      |                                                                            | • Replace overload  
|                                      |                                                                            | • Correct voltage condition  
|                                      |                                                                            | • Ensure cooler plugged into dedicated supply with properly sized circuit. (Correct voltage condition) |
5. GUIDELINES FOR TROUBLE-SHOOTING

<table>
<thead>
<tr>
<th>Malfunction</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suction line frosted</td>
<td>• Evaporator fan not working&lt;br&gt;• Overcharged system</td>
<td>• Determine reason or replace if required&lt;br&gt;• Correct the charge</td>
</tr>
<tr>
<td>Leaking water</td>
<td>• Very humid conditions&lt;br&gt;• Blocked drain&lt;br&gt;• Door not sealed properly / top door seal</td>
<td>• Clear blocked drains&lt;br&gt;• Repair/replace door gaskets, realign/ seal doors</td>
</tr>
<tr>
<td>Evaporator freeze up</td>
<td>• Temperature controller set too cold&lt;br&gt;• Blocked/restricted air flow&lt;br&gt;• Defective evap motor/ running at low speed&lt;br&gt;• Blocked drain&lt;br&gt;• Low refrigerant charge&lt;br&gt;• Open door or door not sealed properly&lt;br&gt;• Defective or open gasket on cooling deck&lt;br&gt;• Deck not in locked position.</td>
<td>• Adjust to higher temperature setting (lower number)&lt;br&gt;• Remove source of blockage&lt;br&gt;• Replace evap motor&lt;br&gt;• Clear blocked drain&lt;br&gt;• Repair/recharge system&lt;br&gt;• Repair/seal air leaks. Replace defective or damaged gasket&lt;br&gt;• Lock deck in position and secure with locking bar</td>
</tr>
<tr>
<td>Controller mis-communication</td>
<td>• Internal controller failure&lt;br&gt;• Voltage spike</td>
<td>• Replace controller &amp; probe</td>
</tr>
</tbody>
</table>

CONTACT QBD:
QBD Cooling Systems Inc.
31 Bramsteele Rd, Brampton, Ontario, Canada L6W 3K6
TECHNICAL SERVICE
Toll Free: 1-800-663-3005 Phone: 905-459-0709
FAX: 905-459-1478 info@qbd.com www.qbd.com
QBD CONTACT INFORMATION

General Manager
Safder Jaffer
1-800-663-3005 x-201
Direct Office – 905-459-6944
safder@qbd.com

Order Desk – Equipment and Parts Support
Angela Gnanabakthan
1-800-663-3005 x-239
angela@qbd.com

Product Engineer, Technical Support and Service School Trainer
Keith Woods
1-800-663-3005 x-228
Cell: 416-884-0117
keith@qbd.com

Technical Support and Service School Coordinator
Jessie Tan
1-800-663-3005 x-259
jessiet@qbd.com

QBD Cooling Systems Inc.
31 Bramsteele Rd. Brampton, Ontario, Canada L6W 3K6
Toll Free: 1-800-663-3005  Main Phone: 905-459-0709
Fax: 905-459-1478  info@qbd.com  www.qbd.com