



## *Installation and Operations Manual*

### Models

BD Style Cabinets

DIP Style Cabinets

BDC (push cart) Style Carts

**C Nelson Manufacturing**

**265 N. Lake Winds Pkwy, Oak Harbor, OHIO**

**419-898-3305**

## NOTE:

- We strongly recommend all preventive maintenance and servicing be performed by qualified HVAC Technicians.
- Unplug unit before Servicing.
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer, or its service agent.
- Component parts shall be replaced with OEM parts only.
- Freezer must be plugged into its own individual electric circuit, which has an amp rating that matches the data tag on the cabinet.
- DO NOT, under any circumstances, cut or remove the ground prong from the power cord. For personal safety, this appliance must be properly grounded. Do not plug into two prong outlets.
- DO NOT, under any circumstances, use adaptor plugs or extension cords.

## Installation and Operating Instructions:

- Use this freezer for its intended purpose as described in this manual.
- NSF standards require cabinet to be installed with casters, 6” legs, or sealed to the floor with an NSF approved silicone sealant.
- Before using the equipment, inspect for freight damage. Refuse delivery if there is any damage.
- Remove the outer packaging CAREFULLY, (cardboard and bubble wrap or Styrofoam corners and clear plastic). Inspect for concealed damage. Again, immediately file a claim with the freight carrier if there is damage.
- Remove the unit carefully from crate.
- The cabinet is intended for indoor use with a store temperature of 75 degrees (F) and 55% relative humidity. Locate the cabinet to avoid direct sunlight, drafts from vents, air conditioning or open doors that will affect the freezers performance.
- The cabinet must be located 3 – 6 inches away from the back wall and the louvers (front and rear) must be clear of any obstructions to ensure proper air flow to the condensing unit.
- If installing paneling in front of freezer- Please take air flow under consideration. Trapped hot discharge air will cause poor performance. It is important to have full opening on the paneling where the louver exists.
  - **NOTE:** Blocking the louvers on the customer or operator side of the cabinet will cause the compressor to overheat and cause poor performance.
- Before your new unit is connected to a power supply, check that the incoming voltage at the outlet is the same as the data tag on the cabinet.
- Plug in the unit, turn the toggle switch “ON”. Allow the freezer to run for at least 24 hours to ensure that it reaches the temperature set point and ensure that the freezer has reached its operating temperature before reloading the cabinet with product.
  - **NOTE:** This is a pre-startup check to ensure the unit is working properly. Remember, our factory warranty does not cover product loss!
- Unit is equipped with a digital temperature controller. The controller is preset for the proper freezer temperature your operation requires.
- If temperature adjustment is desired, the controller may be located behind the louver grill. Unplug the unit before removing the louver. Increase or decrease the temperature in small increments and allow the unit to stabilize. Repeat as needed to achieve desired temperature.
  - **NOTE:** A Wiring Diagram is located inside the condensing unit area.

### CAREL PJEZS0E130

Controls are factory programmed to provide the freezer temperature your operation requires. Allow several hours after initial startup to observe its operation. Setting may be adjusted if desired.

**Note:** The "dot" near the upper left corner indicates that the control is providing power for the compressor to run. The initial temperature shown at startup is room temperature in degrees Fahrenheit.

### To Change the Temperature Setting:

- Press the SET key and hold until the temperature setting displays and begins to flash (2-Sec) THEN RELEASE.
- Use the up & down arrows to select the new temperature desired.
- Press and release the SET key: The display will return to show the temperature of the freezer.

To set desired temperature, pay attention to decimal points. For example, to set controller at 5 degrees, **set to 5.0, NOT .5**

## **OPERATION & CARE OF THE CABINET:**

Do not operate the freezer unless the louver grills are properly secured in place.

Simply plug the freezer into an outlet following the guidelines above. The compressor will run until the freezer shuts off when it reaches the thermometer set point.

Your new C. Nelson Mfg. low temperature cabinet represents the finest in engineering design, quality of material and craftsmanship effort. It will give you many years of trouble-free service with a minimum of attention.

The easy-to-clean exterior surfaces should be wiped off regularly with a lukewarm, mild detergent solution. Do not use any solvent-type cleaners, that could attack the plastic and vinyl parts of the cabinet. Never use abrasive cleansers or scoring pads as these will mar the surface. Never clean the lids or cabinet with steam or extremely hot water. **DO NOT WASH LIDS IN A DISHWASHER.**

From a sanitation standpoint, it is important that the interior of the cabinet also be cleaned periodically. Before cleaning the interior, the unit must be defrosted. See defrost instructions before proceeding. A damp cloth using the same type of lukewarm detergent solution used for the exterior can be used on the interior. After cleaning, wipe the interior of the cabinet dry, replace the lids and plug in the freezer. Wait several hours to ensure that the freezer has reached its operating temperature before reloading the cabinet with product. No oiling of the equipment is required.

## **DEFROSTING & PREVENTIVE MAINTENANCE OF THE CABINET:**

**Defrosting:** There is not an automatic defrost built into these freezers. The freezer should be defrosted every 2-4 weeks or as needed to avoid excessive frost build-up. Excessive frost build-up significantly degrades the freezers performance and reduces operating efficiency.

To defrost the unit, remove the lids and the product. Unplug the unit or turn the temperature control to the "OFF" position. When the cabinet has warmed up, any remaining frost accumulation may be scraped off the walls **CAREFULLY** with a plastic or wood scraper. Never use a sharp or pointed metal scraper since it could damage the finish or possibly pierce the walls or refrigerant tubing.

Wipe the interior of the cabinet dry. This would be a good time to clean the interior of the cabinet per the instructions provided in OPERATION & CARE OF THE CABINET.

After the interior of the cabinet is dry, replace the lids and plug in the unit and/or turn the temperature control to the “ON” position. Wait several hours to ensure that freezer has reached its operating temperature before reloading the cabinet with product.

**Cleaning Condenser:** The freezer’s condenser should be cleaned every 6-months by a qualified HVAC technician. To clean the condenser, unplug the unit before removing any louvers. Once the louvers are removed, vacuum dust and debris from the coils and louvers using a soft brush attachment. Never use a sharp or pointed tool to clean condenser coils to avoid risk of puncturing tubing. Vacuum the condenser tunnel. Replace the louvers. Plug in the unit and ensure that the temperature control is in the “ON” position.

## GENERAL TROUBLE SHOOTING GUIDE FOR CERTIFIED TECHNICIANS

The following guide deals with common performance issues related to the entire line of cabinets, such as electrical problems of the unit, plugged cap tubes, moisture, etc.

<b>Problem</b>	<b>Probable Cause</b>	<b>Remedy</b>
Condensing unit will not start and fan will not start	<ol style="list-style-type: none"> <li>1. Power cord is disconnected or no voltage at source<sup>1</sup></li> <li>2. Blown fuse or tripped circuit breaker<sup>1</sup></li> <li>3. Control stuck in “On” position</li> <li>4. Loose wire on temperature control</li> </ol>	<ol style="list-style-type: none"> <li>1. Verify power cord is OK and check voltage at outlet with a voltmeter. Voltage must be +/- 10% of name plate voltage<sup>1</sup></li> <li>2. Replace fuse or reset circuit breaker. Check power at outlet with voltmeter. If circuit is overloaded, reduce load or use another circuit<sup>1</sup></li> <li>3. Replace</li> <li>4. Check/tighten all connections</li> </ol>
Compressor Unit will not start, but fan motor starts	<ol style="list-style-type: none"> <li>1. Loose wire on compressor connections</li> <li>2. Low voltage<sup>1</sup></li> <li>3. Start Capacitor bad</li> <li>4. Relay bad</li> <li>5. Defective compressor</li> </ol>	<ol style="list-style-type: none"> <li>1. Check and tighten all compressor connections</li> <li>2. Measure voltage at compressor with a voltmeter. Voltage must be +/- 10% of name plate voltage<sup>1</sup></li> <li>3. Replace</li> <li>4. Replace</li> <li>5. Replace</li> </ol>
Condensing Unit starts but short cycles	<ol style="list-style-type: none"> <li>1. Overload defective</li> <li>2. Defective thermostat</li> <li>3. Check capillary tube</li> <li>4. Low voltage</li> <li>5. Defect in compressor winding</li> <li>6. Loose connections on control or compressor housing</li> <li>7. Low refrigerant level</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace</li> <li>2. Replace</li> <li>3. Replace capillary tube and filter drier</li> <li>4. Correct problem</li> <li>5. Replace Compressor</li> <li>6. Check and tighten all electrical connections</li> <li>7. Check pressure/leak and, as necessary, charge with the proper amount of refrigerant as shown on name plate<sup>2</sup></li> </ol>
Compressor operates continuously, too warm	<ol style="list-style-type: none"> <li>1. Low refrigerant level</li> <li>2. Poor ventilation</li> <li>3. Room temperature is too warm</li> <li>4. Excessive frost build-up</li> <li>5. Plugged condenser</li> <li>6. Fan motor not running or too noisy</li> <li>7. Fan blade unbalanced or loose</li> <li>8. Dirty condenser</li> <li>9. Weak compressor</li> <li>10. Check Capillary Tube</li> </ol>	<ol style="list-style-type: none"> <li>1. Check for leaks and, as necessary, charge with the proper amount of refrigerant as shown on name plate<sup>2</sup></li> <li>2. Ensure 3 – 6” clearance from walls for air flow</li> <li>3. Adjust room temperature to achieve 75 degrees (F) and 55% RH</li> <li>4. Defrost and clean cabinet</li> <li>5. Clean Condenser</li> <li>6. Replace fan motor</li> <li>7. Replace</li> <li>8. Clean</li> <li>9. Replace</li> <li>10. Replace Capillary Tube and Filter Drier</li> </ol>

Compressor operates continuously, too cold	<ol style="list-style-type: none"> <li>1. Thermostat controller set incorrectly</li> <li>2. Thermostat stuck in closed position</li> <li>3. A short in the wire harness or compressor cord</li> <li>4. Thermostat improperly located</li> </ol>	<ol style="list-style-type: none"> <li>1. Follow Temperature Adjustment guidelines</li> <li>2. Check pressure and, as necessary, charge with the proper amount of refrigerant as shown on name plate<sup>2</sup></li> <li>3. Replace</li> <li>4. Call C. Nelson</li> </ol>
Wide temperature variations	<ol style="list-style-type: none"> <li>1. Improper refrigerant level<sup>2</sup></li> <li>2. Defective Thermostat</li> <li>3. Plugged Capillary Tube</li> </ol>	<ol style="list-style-type: none"> <li>1. Check pressure and, as necessary, charge with the proper amount of refrigerant as shown on name plate<sup>2</sup></li> <li>2. Replace</li> <li>3. Replace Capillary Tube and Filter Drier</li> </ol>
Frosted Suction Valve	<ol style="list-style-type: none"> <li>1. Too much refrigerant<sup>2</sup></li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust charge and pressure to the proper amount of refrigerant as shown on name plate<sup>2</sup></li> </ol>
Noisy Unit	<ol style="list-style-type: none"> <li>1. Fasteners loose</li> <li>2. Fan Noise</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair as required</li> <li>2. Replace fan motor if bearings show signs of wear or replace fan blade if unbalanced or mounting hole is worn</li> </ol>
Led Lights	<ol style="list-style-type: none"> <li>1. Lights not On</li> <li>2. Lights are dim or not lighting up</li> </ol>	<ol style="list-style-type: none"> <li>1. Check connector to Led Light strip, Check Led Lights on/off Switch</li> <li>2. Check incoming voltage at connector end, must be 12 volts. Check Transformer Check the light strip</li> </ol>

## LIMITED WARRANTY

C. Nelson Manufacturing Company warrants, for a period of (12) months from original shipment from its factory, all products manufactured to be free from inherent defects in workmanship and materials, and will replace without charge, f.o.b. Oak Harbor, Ohio, a part or parts returned, transportation charges prepaid (customer pays freight), which our inspection proves to be thus defective.

C. Nelson warrants for a period of (5) years from original shipment from its factory, prorated insulation integrity, leaks in any internal tubing, and leaks or failures of cold plates installed by the factory. C. Nelson will repair or replace, at its option, based on the depreciated value of the equipment over a 5-year period.

This warranty shall not apply to any of our products, repaired or altered outside of our factory in any way so as, in our judgment, to affect its reliability, nor to any product which has been subject to misuse, negligence, or accident, nor shall this warranty apply to any product installed or connected otherwise than in accordance with instructions furnished. This warranty does not cover refrigerant expense or labor incidental to the replacement of parts under this warranty.

This warranty does not cover consequential damages, including but not limited to loss of product, loss of use or any other consequential damages resulting from any warranty claims against C. Nelson Mfg. Co.

The return of parts or complete product for any reason must be made with our prior consent, and the return of such parts must be made with transportation charges prepaid.

**THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PRODUCT.**

## WARRANTY GUIDELINES AND PROCEDURES

Contact the C. Nelson Manufacturing Service Department, which can be reached at 419-898-3305, with request for warranty coverage. The Service Department will need the model number and serial number of the cabinet to initiate any warranty request.

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This warranty does not cover refrigerant expense or labor incidental to the replacement of parts under this warranty. This warranty does not cover consequential damages, including but not limited to loss of product, loss of use or any other consequential damages resulting from any warranty claims against C. Nelson Mfg. Co. The return of parts or complete product for any reason must be made with our prior consent, and the return of such parts must be made with transportation charges prepaid.

Arbitration: Any claim by buyer for breach of warranty or otherwise relating to the delivery of defective goods hereunder will be submitted to an independent mediator knowledgeable in the area in which the dispute arose, prior to the filing of any complaint by Buyer. If the parties are unable to resolve the dispute through mediation, then the dispute will be settled by arbitration in Cleveland, Ohio under the Commercial Rules of the American Arbitration Association in effect at the time of such claim. The award of the arbitrators will be final, binding and non-appealable. The cost of any arbitration, including the fees and expenses of the arbitrators, will be paid by the losing party.

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