

# BOD REFRIGERATED INCUBATOR

## OWNERS MANUAL



---

# BOD REFRIGERATED INCUBATOR

## Installation, Operation and Maintenance Instructions

---

### TABLE OF CONTENTS

<b>GENERAL</b> .....	<b>3</b>
INTENDED USE .....	3
TECHNICAL SPECIFICATION .....	3
RECEIVING AND SHIPPING DAMAGE HANDLING .....	4
UNPACKING .....	5
WARNINGS AND CAUTIONS .....	6
LOCATION .....	7
INSTALLATION .....	7
ELECTRICAL INSTALLATION .....	8
OPERATION .....	9
<b>PROGRAMMABLE CONTROLLER</b> .....	<b>10</b>
CONTROLLER OVERVIEW .....	10
STARTING UP AND OPERATING THE CONTROLLER .....	11
SETPOINTS SCREENS .....	11
PARAMETERS SCREENS .....	12
QUALITY CONTROL .....	13
SENSOR TEST .....	14
ALARMS .....	14
USB PORT .....	15
<b>MAINTENANCE</b> .....	<b>16</b>
<b>FACTORY WARRANTY</b> .....	<b>17</b>

# GENERAL

---

## INTENDED USE

The BOD Refrigerated Incubator is specifically tailored to the temperature control requirements of water quality and Biological Oxygen Demand testing.

## TECHNICAL SPECIFICATION

Voltage supply: 115Vac 60Hz 1 phase  
Maximum fuse size: 15A  
Total amp draw: 3.5A  
Temperature Range: -10°C\* to 50°C

\*Note: Operation at setpoints near or below freezing requires periodic defrosts to avoid ice buildup in the evaporator and drain tubing. Operation at setpoints below room ambient *may* require intermittent defrosts if ice builds up on the evaporator. Ice buildup will degrade the ability to maintain temperature over time.

## RECEIVING AND SHIPPING DAMAGE HANDLING

Each refrigerator is carefully inspected to meet our high standard quality assurance policy before it ships to you. Unfortunately, shipping damage can happen during transportation to you. There are two general types of shipping damage. The first is **visible damage**. This type of damage includes visible loss, damage, shortage or any external evidence of loss or damage that is visible at time of delivery. **This type of damage must be noted in detail on your delivery receipt. Make sure the driver signs and dates the delivery receipt, acknowledging the damages. We also recommend taking many pictures to demonstrate and document the damaged area(s).** This must happen at the time of delivery or it won't happen at all. Keep a copy for your records and send another to the carrier's damage claims department along with a formal request for an inspection report. Follow up with a phone call. Their contact information can be found on the carrier's web site.

The second type of shipping damage is **concealed damage**. This type of damage will probably not be apparent at time of delivery and may not be discovered until unpacking and inspecting the unit. Remember, time is of the essence here. You should unpack and inspect the unit as soon as possible. Each day that passes reduces the likelihood that the carrier will pay the claim. **As soon as the concealed damage is discovered, stop unpacking and retain all packing materials. Take many pictures to demonstrate and document the concealed damage area(s). Contact the carrier by phone to report the claim.** Note the date and time and person you spoke with. Get a claim number. Follow up with a written letter referencing the claim number and including a formal request for an inspection. Again, consult the carrier's website for specific claim instructions and follow them precisely.



**AS STATED ABOVE, THE CARRIER IS YOUR SOLE SOURCE FOR SATISFACTION OF A DAMAGE CLAIM. UNDER NO CIRCUMSTANCES SHOULD THE MERCHANDISE BE RETURNED TO THE MANUFACTURER. NO RETURNS WILL BE ACCEPTED WITHOUT PRIOR AUTHORIZATION.**

## **UNPACKING**

A fork truck or pallet jack is required! Remove packaging for unobstructed access under the unit.

When using a fork truck, place forks under the unit from the front or rear of the unit. Forks should be set as wide as possible for stability. **DO NOT** place forks in the center of the unit as this is unstable.

When using a pallet jack, align forks directly in front or back of the unit, making sure to avoid the casters. Lift forks to the same height as the top runners supporting the unit. Slide unit straight forward or backward until casters are free from the skid, then lower unit to the floor.

## WARNINGS AND CAUTIONS

- Do not modify cabinet construction or associated equipment assemblies.
- Do not remove labeling or information supplied with the unit.



**Warning: Electric Shock Hazard. Do Not Remove top electrical cover.** Contact a qualified service representative.



**WARNING:** This product can expose you to chemicals including chromium which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



### **For your safety:**

- DO NOT store any unsealed chemical material in this cabinet. Corrosive fumes from chemical material can linger inside of the chamber and cause serious damage to the refrigeration coils. Storing unsealed chemical material in this equipment will void the factory product warranty.
- DO NOT store or use gasoline, or other flammable liquid in this cabinet. This equipment is not rated to be a flammable material storage.
- DO NOT operate this equipment in the presence of explosive fumes.
- This equipment is not rated as a hazardous locations storage cabinet.
- This unit must be properly installed and located in accordance with the Installation Instructions before it is used.
- Do not overload shelves with heavy products, which increases the likelihood of items falling and causing injury.
- Do not touch the hot surfaces when the unit is at high temperatures.
- Keep fingers out of the “pinch point” areas; clearances between the doors and between the doors and cabinet are necessarily small; be careful closing doors.
- The controller automatically switches power to devices such as the light circuit, heaters, or evaporator fans. Always unplug before making repairs.
- While cleaning condenser coil, care should be taken when lifting the canopy to prevent the canopy from falling.

### **SPECIFIC TO HYDROCARBON REFRIGERATION (R-290/R600a) ONLY:**



**DANGER** - Risk of fire or explosion - flammable refrigerant. Do not puncture refrigerant tubing or use mechanical devices to defrost refrigerator. To be repaired only by trained service personnel.

- **CAUTION** - Risk of fire or explosion – flammable refrigerant. Consult repair manual/owner’s guide before attempting to service this product. All safety precautions must

be followed.

- CAUTION - Risk of fire or explosion – flammable refrigerant. Dispose of properly in accordance with federal or local regulations
- CAUTION - Risk of fire or explosion if refrigerant tubing is punctured; follow handling instructions carefully
- CAUTION - Proper ventilation must be provided, and all ventilation openings kept free of obstruction

## LOCATION

The cabinet should be located within reach of an outlet that has an appropriate power supply as listed above with a protective earth ground. The outlet should be easily accessible when installation is complete as this is the only method for powering off the equipment. The refrigeration system located at the top of the cabinet requires free air access for proper operation. Allow a minimum four-inch clearance on the top of the cabinet. The floor of the permanent location where the cabinet is located should be level. An uneven floor may prevent the unit casters from rolling or locking properly and may result in rocking or tipping of the cabinet. Do not stack items on top of the unit. Vibration during shipping and handling may loosen mechanical connections. Check all connections during installation.

This unit has been designed for optimal operation in indoor environments only 18 to 26°C (65 to 78° F), <70%RH environments. Performance may be impacted if used in other environmental conditions.

## INSTALLATION

**Door Alignment** – Verify that the door is level and opens and closes easily. If adjustment is needed, the bolts for the top hinge bracket may be loosened and moved to properly align the door.

**Product Storage Setup** – The cabinet comes standard with 5 wire shelves. Pilasters are factory installed that allow user to select spacing between each shelf.

### Shelf Installation and Repositioning

1. During initial unpacking, remove wire shelves and shelf clips in plastic bag from the bottom of the unit
2. Position shelf clips at the desired heights, ensuring same horizontal height for each shelf.
3. Hook the top of the shelf clip into the pilaster slot, then squeeze to snap bottom tab into place.
4. Clips must fit tightly into the pilaster and not rattle or come loose when wire shelf is added.
5. Position the wire shelf so that all 4 corners are properly supported.
6. To reposition, remove wire shelf, relocate clips per instructions above, and replace wire shelf in new location.

**Remote Alarms Contacts** - The remote alarm contacts terminal block is located at the back of the cabinet. Terminals are labeled NC (normally closed), COM (Common), and NO (normally open). Terminal connections are rated for class II circuits only per NEC table 11(A). (Limited power source less than 30vac 8 Amp. max, see applicable notes in NEC). End user is responsible for proper field installation.

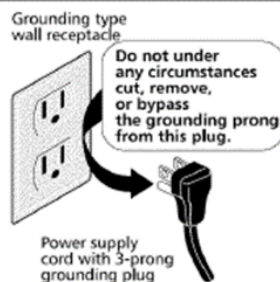
## ELECTRICAL INSTALLATION

Check the proposed external power outlet/supply to be used to ensure that the voltage, phase and current carrying capacity of the circuit from the electrical panel correspond to the requirements of the cabinet.

- The supply circuit to this cabinet must conform to NEC (National Electrical Code) for major electrical appliances, which requires a dedicated circuit. A dedicated electrical circuit is one that serves a single appliance or electrical fixture. Consult the cabinet Serial-Data plate for voltage, cycle, phase, and amp requirements before making connection.
- SUPPLY VOLTAGE SHOULD NOT VARY MORE THAN 5% FROM SERIAL PLATE RATINGS.
- DO NOT connect this equipment to a GFI (Ground Fault Interrupt) circuit.
- **Do not use an extension cord or any multi-outlet strip or plug.**  
Using such devices can lead to insufficient power and component failure, such as the compressor or starting components.
- If the power cord is damaged, it should be replaced immediately by an authorized service technician.

Be sure your unit is properly grounded. Use the 3-prong plug provided into a 3-prong grounded outlet. Unless the above grounding method is followed, you are not protected against severe or lethal shock in the event of a short circuit of an electrical component or wiring of the unit.

**WARNING** Avoid fire hazard or electric shock. Do not use an extension cord or an adapter plug. Do not remove any prong from power cord.





## OPERATION

The BOD Refrigerated Incubator maintains a stable temperature environment within the chamber through PID control. For temperature setpoints just above ambient or colder, cooling effect from the compressor will be balanced with heating to maintain temperature. For warmer setpoints, temperature is maintained via heating only, with compressors only activated when chamber temperature is significantly above the desired setpoint.

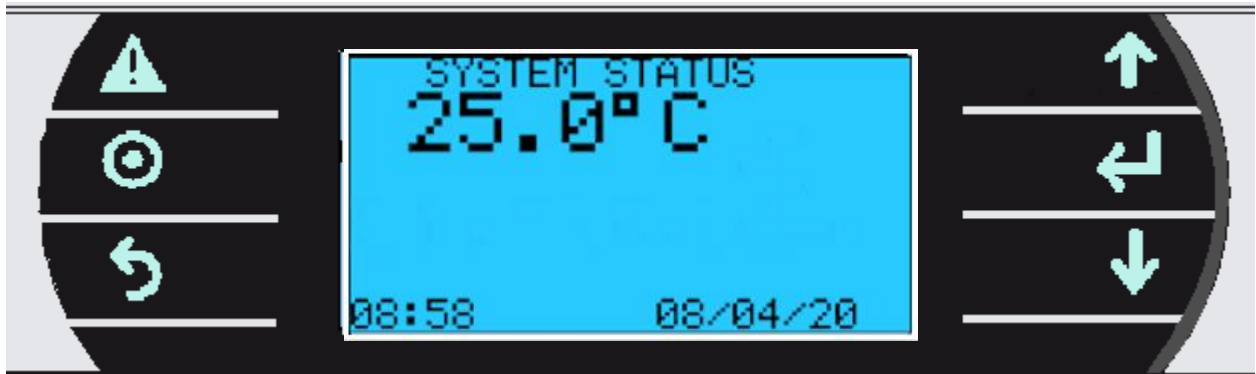
Operation at setpoints below room ambient *may* require intermittent defrosts if ice builds up on the evaporator. For temperature setpoints below freezing, periodic defrost cycles are required. Without regular defrosts, ice buildup will degrade the ability to maintain temperature over time. The controller provided DEFROST setting will remove ice from the evaporator at regular intervals, but the drain tube must be manually defrosted to avoid ice buildup at the drain.

Due to the wide variation of temperature setpoints available, it may be necessary to adjust the air temperature reading at your particular setpoint to more accurately reflect the actual temperature. See the Air Temperature Offset screen, and the Quality Control section of the manual for more details on adjusting the temperature readings.

# PROGRAMMABLE CONTROLLER

## CONTROLLER OVERVIEW

### FRONT PANEL VIEW



### KEY FUNCTIONS



**ALARM KEY:** Displays active alarms, alarm history, acknowledge alarms, and clear alarms. Back lit when an alarm is active.



**PROGRAM KEY:** Allows access to set points and main control parameters.



**ESCAPE KEY:** Returns to the main menu (SYSTEM STATUS).



**DOWN KEY:** Decreases parameter values and scrolls through screens.



**ENTER KEY:** Moves the cursor between parameter fields and confirms the set data.



**UP KEY:** Increases parameter values and scrolls through screens.

## STARTING UP AND OPERATING THE CONTROLLER

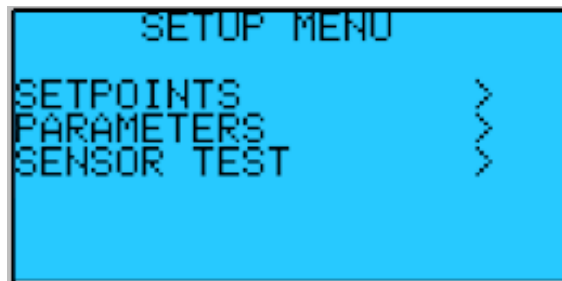
During initial power-up of the device, the controller will trigger a power reset alarm. This is a normal function used to register each time power is restored to the controller after a power loss. Clear the alarm by pressing the alarm key until “no more active alarms, press enter to clear”, then press enter.

Status Screens: From the default display, press up or down arrows to scroll through the status screens.

- Main Screen: Default view indicating product temperature, date, and time
- Air temperature
- Current Setpoint

Setup Menu

Pressing the  Program key will display the following screen.



To access the setpoints, parameters, and sensor test sub-menus, press the enter key to move the cursor, then press up or down key to enter the desired sub-menu.

### SETPOINTS SCREENS

From the setpoints sub-menu, when the cursor is in the top-left of the screen, press up or down arrows to scroll through the various setpoints screens.

- Temperature Setpoint: Select value -10.0C to +50.0C
- Air Temperature Alarms:
  - The High and Low Air Temperature alarms provide an early warning prior to the product temperature alarm. Air temperature alarms should be set to allow for fluctuation from door openings during normal operation. High ambient temperature and heavy door use may require a longer alarm delay. The ALARM DELAY is the amount of time in seconds that the temperature must be above or below the alarm set point for the alarm to activate.
    - High Alarm (default = 60C)
    - Low Alarm (default = -20C)
    - Alarm Delay (default = 120 sec)
- Product Temperature Alarms:
  - These alarm points are specifically for the product simulator bottle and should indicate the desired temperature limits of the stored product.

- High Alarm (default = 60C)
- Low Alarm (default = -20C)
- Alarm Delay (default = 0 sec)
  
- Door Ajar Alarm
  - Allows for door alarm settings to be adjusted or disabled.
    - Door Alarm (default = Enabled)
    - Alarm Delay (default = 60 sec)
  
- Defrost Settings
  - These settings will be applicable only to setpoints that may lead to frozen evaporator coils. DEFROST enables or disables the defrost function. FORCE DEFROST manually activates a defrost cycle that will automatically terminate once conditions are reached. MAX. DF TIME is the maximum time duration of one defrost cycle, if not terminated by reaching the set temperature. MIN DF TEMP is the air temperature required to terminate a defrost cycle. A defrost will not be activated if the air temperature is above this minimum defrost temperature.
    - Defrost (default = Disabled)
    - Force defrost – (default = off) Note: When activated, display will switch to “on” for 2 seconds, then return to “off”
    - Max DF Time (default = 5 min)
    - Min DF Temp (default = 2.0°C)
  
- Defrost schedule
  - Only applicable if Defrost is enabled. Sets the clock-based schedule for defrosts that will repeat daily.
    - Default settings of 00:00, 06:00, 12:00, 18:00, 23:59, 23:59 result in 4 defrosts per day at 6-hour intervals.
    - Set any unused selections to the same time as the first or last defrost you wish to occur. Setting each of the selections to the same time will result in 1 defrost per day at the selected time.

## PARAMETERS SCREENS

From the Parameters sub-menu, when the cursor is in the top-left of the screen, press up or down arrows to scroll through the various parameters' screens.

- Current Date/Time – set date and time, used by schedule and alarm logging.
  
- Audible alarm setting – adjust the tone and ring-back.
  - TONE: The sound of the audible alarm can be any of these: constant, intermittent slow or intermittent fast, RING-BACK: Time in minutes between dismissing an alarm and when it resounds if the alarm condition is still present
    - Tone (default = Constant)
    - Ring-back (default = 20 min)
  
- Air Temp Calibrate
  - OFFSET: Allows calibration for the Air Temperature Sensor. ACTUAL: Displays the current sensor reading after offset is applied.

- Offset (default = 0.0)
- Prod. Temp Cal.
  - OFFSET: Allows calibration for the Product Temperature Sensor. ACTUAL: Displays the current sensor after offset is reading.
    - Offset (default = 0.0)

## **QUALITY CONTROL**

The following is a recommended procedure for quality control of this cabinet. If other regulations require control in excess of this procedure, the more stringent guidelines should apply.

### *ACTUAL TEMPERATURE*

The display temperatures should be validated on start-up and periodically thereafter to assure that the unit is performing to the requirements. Validation can be accomplished by utilizing a NIST (National Institute of Standards and Technology) traceable thermometer.

The air temperature can be validated by placing the thermometer on the shelf at the center of the chamber, so the thermometer is not in direct contact with any metal surfaces. The displayed Air Temperature should read within  $\pm 1^{\circ}\text{C}$  of the NIST Thermometer. If the displayed Air Temperature is out of range enter an offset in the Air Temperature Calibration screen.

Next place the NIST Thermometer in a buffered medium that simulates the product being stored (such as water or a closed cardboard box). Locate the buffered thermometer in the center of the unit. Allow the buffered medium and thermometer temperature to equalize before comparing the displayed product temperatures and thermometer reading. The displayed Product Temperature should read within  $\pm 1^{\circ}\text{C}$  of the NIST Thermometer. If the displayed Product Temperature is out of range enter an offset in the Product Temperature Calibration screen.

## SENSOR TEST

The Sensor Test feature is used to validate via simulation the High and Low Temperature Alarms for the product temperature sensor. This test allows for the alarm function and timing to be verified without physically removing the sensor from the simulator bottle.

P1 LO TEMP TEST: Product sensor low temperature alarm test.

P1 HI TEMP TEST: Product sensor high temperature alarm test.

When the test is active the temperature display will begin to rise for the high temperature alarm tests and fall for the low temperature alarm tests. The temperature will continue to rise or fall until the displayed temperature reaches the product alarm settings, at which point the controller will trigger the audible and visual alarms. The Alarm History Screen will log the temperature, time, and date that the alarm occurred. If the alarm point is not reached within 3 minutes of activating the Alarm Test, the test will automatically end the test and return the temperature display to the actual reading.

Press the ENT key to move the cursor to the NO TEST SELECTED data field. Use the Up or Down arrow key to scroll through the tests. When the correct test is displayed press the ENT key to start the test. Press the ESC key to return to the System Status screen.

When the Alarm test is active, "Test Active" should display on the sensor test menu. To end a test, change the selection to NO TEST SELECTED and press the ENT key to end the test.

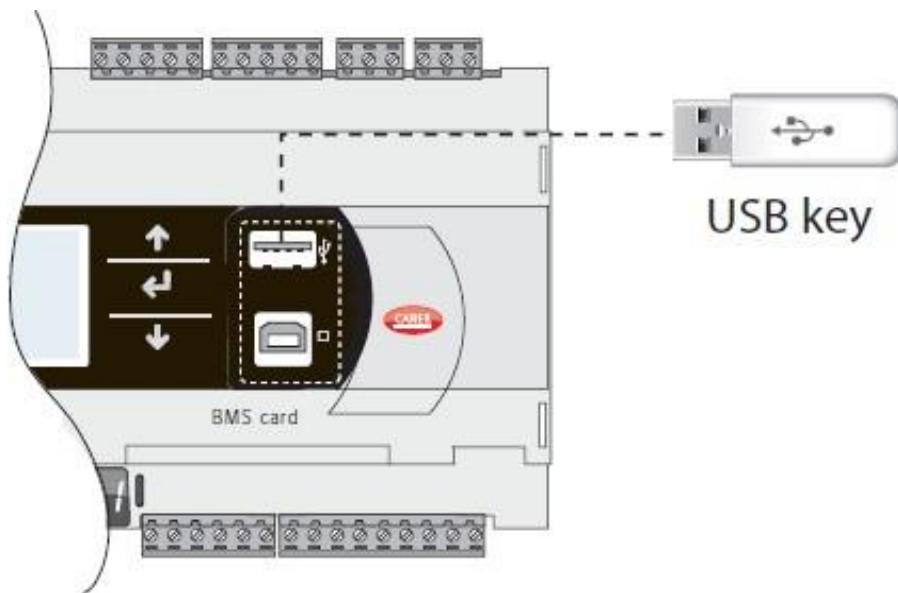
## ALARMS

During normal operation, should an alarm occur, the ALARM button will **glow red**, and an **audible buzzer** will sound to indicate the presence of the alarm. Pressing the ALARM button once will silence the buzzer for the period of time set by the RING-BACK. If the alarm is still active after the RING-BACK time has expired the buzzer will sound again. Pressing the ALARM button again will bring up the first alarm screen. Successive presses of the ALARM button will bring up each alarm screen in sequence until the final screen indicating "NO MORE ALARMS, PRESS ENTER TO CLEAR ALARM". Pressing the ENTER button on the final screen then returns you to the screen that was being displayed when the alarm sounded. Most alarms are self-explanatory.

During normal operation, when no alarms are active, pressing the ALARM button will display the Alarm History screen. The ALARM HISTORY screen will display the last alarm that has occurred. The controller will store the last 100 alarms that have occurred. To view the Alarm History Log, press the ENT button to move the cursor to the alarm #. Using the UP and Down Arrow buttons scroll through the stored alarms.

Each alarm will display the date and time of the alarm along with the product temperature (P1) when the alarm occurred.

## USB PORT



The USB port is intended for flash drives (USB key) only.

The USB port may be used to:

1. Download Application (re-program controller)
2. Upload Application (copy program to another controller)
3. Upload data files for troubleshooting or technical service.

Contact technical service for assistance using the USB port.

# MAINTENANCE



**Observe all Warning Labels. Disconnect power supply(s) to eliminate injury from electrical shock or moving parts when servicing equipment.**

## PERIODIC CLEANING

Disconnect power source, including optional duplex power cord if equipped, before servicing or cleaning.

- Never use abrasive cleaners or instruments (steel pads, wire brushes, etc.) on stainless steel interior or powder coated exterior.
- Never use acid-based cleaners, which will damage the stainless finish. Warm soapy water is best, but if cleaning solution is required, use only alkaline based cleaners.
- Avoid chlorides during cleaning which could damage the stainless-steel finish. Chlorides are commonly found in hard water, salts, and household or industrial cleaners. If cleaners with chlorides are used, rinse with clean water and dry thoroughly.
- Gaskets should be cleaned only with warm soapy water. Cleaning products could damage gaskets or cause them to brittle over time. Never use tools which could cut or tear the gasket.
- Drain lines to evaporator pan should be inspected for blockage or leaks.

Cleaning of the condenser every 3 months will aid the heat transfer characteristics of the refrigeration system and increase its efficiency. Dust, dirt, and lint may accumulate on the tubes and grid of the condensing unit. These or other obstructions may affect the flow of air through the condenser, thereby lowering the efficiency of the system. A soft bristle can be used to loosen these particles that are attached to the tubes and grid so that they may be removed with a vacuum cleaner. The condensing coil is located at the top of the unit, behind the front cover, in front of the compressor. **Important: Failure to keep the condenser coil clean and clear of obstructions could result in temperature loss and damage to the compressor.**

All moving parts have been permanently lubricated and will generally require no maintenance.

### **Technical Service contact:**

Telephone: 1.800.648.4041 (Option 5)

Fax: 1.843.821.8051

### **Replacement Parts contact:**

Telephone: 1.800.648.4041 (Option 4)

Fax: 1.843.821.8051



## FACTORY WARRANTY

Horizon Scientific, Inc. warrants to the original purchaser every new Horizon Scientific, Inc. refrigerated unit, the cabinet and all parts thereof, to be free from defects in material or workmanship, when such unit is installed, used, and maintained in accordance with provided instructions. The warranty period starts two weeks from the date of shipment from Horizon Scientific, Inc. This two-week period allows ample shipping time so that the warranty will go into effect at approximately the same time your equipment is delivered. Unless subject to prior written agreement with Horizon Scientific, Inc., this warranty does not allow for any warranty start deferment greater than two weeks from date of shipment due to a delayed installation and/or start-up. By purchasing any product from Horizon Scientific, Inc., you and any entity for which you are purchasing acknowledge and agree to every provision contained herein, and all other Notices and Terms provided to Purchaser by Horizon Scientific, Inc., which are hereby incorporated.

### FACTORY WARRANTY POLICY

Under this warranty, Horizon Scientific, Inc., through its authorized service organizations, will repair, or at its option, replace any part found to contain a manufacturing defect in material or workmanship without charge to the owner for parts and service labor. Replacement or repaired parts will be warranted for only the unexpired portion of the original warranty. Horizon Scientific, Inc. will not assume any shipping or cartage costs for parts under warranty. These costs shall be paid by the customer.

### ADDITIONAL COMPRESSOR WARRANTY

In addition to the standard warranty, Horizon Scientific, Inc. warrants its hermetically and semi-hermetically sealed compressors to be free from defects in both material and workmanship under normal use and service in addition to the standard warranty period. Compressors determined by Horizon Scientific, Inc. to have been defective within this extended time period will, at Horizon Scientific, Inc.'s option, be either repaired or replaced with a compressor or compressor parts of similar design and capacity.

The compressor warranty applies only to hermetically and semi-hermetically sealed parts of the compressor and does not apply to any other parts or components, including, but not limited to, cabinet, paint finish, temperature control, refrigerant, metering device, driers, motor starting equipment, fan assembly or any other electrical components.

Horizon Scientific, Inc.'s sole obligation under this warranty is limited to either repair or replacement of parts, subject to the additional limitations below.

This warranty neither assumes nor authorizes any person to assume obligations other than expressly covered by this warranty.

**NO CONSEQUENTIAL DAMAGES.** Horizon Scientific, Inc. is not responsible for economic loss; profit loss; or special, indirect or consequential damages, including without limitation, losses or damages arising from contents spoilage claims whether because of refrigeration failure, electrical failure, power failure, or compressor failure. HORIZON SCIENTIFIC, INC.'S MAXIMUM CUMULATIVE LIABILITY RELATIVE TO ALL CLAIMS AND LIABILITIES, INCLUDING OBLIGATIONS UNDER ANY INDEMNITY, WHETHER OR NOT INSURED, SHALL NOT EXCEED THE COST OF THE PRODUCT(S) GIVING RISE TO THE CLAIM OR LIABILITY.

**WARRANTY IS NOT TRANSFERABLE.** This warranty is not assignable and applies only in favor of the original purchaser/user to whom delivered. Any such assignment or transfer shall

void the warranties herein made and shall void all warranties, express or implied, including any warranty of merchantability of fitness for a purpose.

**NO IMPLIED WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE.** There are no other warranties, express, implied, or statutory, except the standard warranty and the additional compressor warranty as described above. These warranties are exclusive and in lieu of all other warranties, including implied warranty and merchantability of fitness for a purpose. There are no warranties which extend beyond the description on the face hereof, whether based on contract, warranty, tort (including negligence), strict liability, indemnity, or any other legal theory, and whether arising out of warranties, representations, instructions, installations, or non-conformities from any cause. Purchaser further acknowledges that the purchase price of the Product reflects these warranty terms and remedies.

**ALTERATION, NEGLIGENCE, ABUSE, MISUSE, ACCIDENT, DAMAGE DURING TRANSIT OR INSTALLATION, FIRE, FLOOD OR OTHER EXTERNAL CAUSES.**

Horizon Scientific, Inc. is not responsible for the repair or replacement of any parts that Horizon Scientific, Inc. determines have been subjected after the date of manufacture to alteration, neglect, abuse, misuse, accident, damage during transit or installation, fire, flood or other external causes. It does not apply to defects resulting from failure to properly install, operate or maintain the product in accordance with the printed instructions provided, or damage caused by the storage of any corrosive material that comes in contact with the interior or exterior portions of the cabinet, or the use of spark producing equipment or containers (such as galvanized or carbonized steel containers) that come in contact with any interior portion of the cabinet.

**OUTSIDE U.S./CANADA.** This warranty does not apply to, and Horizon Scientific, Inc. is not responsible for, any warranty claims made on products sold or used outside the United States and Canada.

**CHOICE OF LAW/VENUE.** The laws of the State of South Carolina shall govern the validity, interpretation and enforcement of this warranty, regardless of conflicts of law principles. Purchaser agrees that proper venue for any action to enforce the terms of this warranty shall be the Dorchester County District Courts, South Carolina. Purchaser submits the jurisdiction of such courts over the Purchaser and the subject matter of any such action. Any action for breach of these warranty provisions must be commenced within one (1) year after that cause of action has accrued.

**WARRANTY CLAIMS.** To obtain prompt warranty service, simply contact the manufacturer at 800-648-4041. Horizon Scientific, Inc.'s shipping records showing date of shipment shall be conclusive in establishing the warranty period. All claims should include model number of the refrigerator, the serial number of the cabinet, proof of purchase, date of installation, and all pertinent information supporting the existence of the alleged defect. Any repairs must be authorized by Horizon for the warranty to be honored.