OWNER'S GUIDE

0120A/CAD Undercounter Freezer

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RECEIVING AND SHIPPING DAMAGE HANDLING

Each freezer is carefully inspected to meet our high standards and quality assurance policy before it ships to you. Unfortunately, shipping damage can happen during transportation. 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 damage.** This must happen at the time of delivery. Send these pictures to the carrier's damage claims department along with a formal request for an inspection report and keep a copy for your records. 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 not be apparent at time of delivery and may not be discovered until unpacking and inspecting the unit. 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. Contact the carrier by phone to report the claim.** Note the date, time and person you spoke with. Get a claim number. Follow up with a written letter referencing the claim number and include 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.**

 For your safety

- DO NOT store any unsealed chemical material in this freezer. 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 freezer. This equipment is not rated for flammable material storage.
- DO NOT operate this equipment in the presence of explosive fumes. This equipment is not rated to be a hazardous locations freezer.

We offer flammable material storage and hazardous locations freezers for your application. Please contact your local sales representative for more information.

RELEASE OF LIABILITY

 Before you start to use this freezer, please take a moment to:

- Connect your remote alarm contacts system, or auto dialer, to the freezer's alarm system (if any).
- If your freezer model does not have an alarm system, you can install your 3rd party alarm into our freezer via the 3/8" access porthole. Please see "Field Monitor Probe Installation" Section.
- DEVELOP AN EMERGENCY BACKUP PLAN. Designate a different freezer for emergency storage of contents in the event this freezer has an unforeseen issue.

IF YOU PLAN TO STORE IRREPLACEABLE AND/OR HIGH VALUE PRODUCTS IN THIS UNIT, TAKE THE PROPER PRECAUTIONS NOW.
The manufacturer's sole obligation under 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 those expressly covered by this warranty.

NO CONSEQUENTIAL DAMAGES. The manufacturer 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 or not on account of refrigeration or mechanical failure.

⚠ California Residents Only:

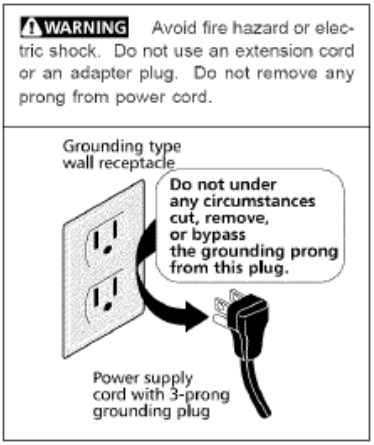
WARNING: This product can expose you to chemicals including chromium which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information go to P65Warnings.CA.gov

ELECTRICAL INFORMATION

- The supply circuit to this cabinet must conform to NEC (National Electrical Code) standards. Consult the cabinet Serial-Data plate for voltage, cycle, phase, and amperage 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 lead to 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.

INSTALLATION

This manual contains instructions for two different models of freezers. Most of the information will overlap between the units. CAD specifics will be noted where need be:

- **CAD Undercounter Freezer**
- **0120A Undercounter Freezer**

Please take a moment to follow the steps below, before using this equipment.

- Find a suitable location to install this freezer
- Level the freezer
- Set up the shelves inside (if applicable)
- Install the optional monitor probe for field installation
- Ready to use

1. SUITABLE LOCATION

Ambient Temperature – Unlike a household freezer, this equipment is designed for scientific / medical applications. Many components are heavy duty and over-sized to meet the ultimate temperature performance. Therefore, the sound generated from the unit's operation may be inconvenient to some people. Please take the operating sound factor into consideration and locate this freezer accordingly.

Please ensure the ambient temperature is climate-controlled, between 65°F to 85°F, in order to achieve the ultimate temperature performance.

Clearance Space – We require 2 to 3 inches of clearance space around the freezer. This allows proper air flow around the unit and ensures easy removal of the unit for annual maintenance and service.

2. LEVELING

Once installed on location, it is critical to level the freezer. Here are a few benefits of a well leveled freezer:

- Moving mechanical parts, such as a fan or compressor, have less chance to fail. These are designed to operate in an upright position.
- Reduced noise.
- Install shelves with included clips.
- Doors closing properly.
- Condensate water flowing out of the freezer properly.

To level this equipment, set a leveler in each corner on the top. If the equipment is not level, adjust either the leveling legs or casters.

⚠ CAD Undercounter Freezer

We recommend the CAD unit to be installed level with no tilt in any direction.

⚠ Undercounter Freezer

We recommend the freezer be installed level with no tilt in any direction.

3. Set Up Shelves

If the shelves require installation, ensure the shelves are securely mounted and level.

4. (OPTIONAL) MONITOR PROBE FOR FIELD INSTALLATION

Each freezer is equipped with a 3/8" probe access port hole for your independent probe installation. The port hole is generally located on the back of your freezer. Simply remove the white caps, run your probe through, and seal the hole with electrical putty to prevent air from getting into the chamber.

⚠ DO NOT RUN YOUR PROBE THROUGH THE DOOR GASKET.

This may cause serious condensation and/or a frozen evaporator issue. The port hole is specifically designed to allow installation of monitor probes.

5. READY TO USE

Once you ensure the electrical service is adequate and Steps 1 through 3 are followed, the freezer is ready for use. Simply plug the power cord into the wall outlet.

This freezer is factory set to run at its ultimate temperature performance. There should be no need to adjust the temperature settings.

CAD UNIT SPECIFICS:

- ⚠ After powering on freezer, wait 36 hours before loading product to ensure optimal temperature stability.
- ⚠ Do not attempt to remove the interior airflow plenum - damage to components or reduced unit performance may result.
- ⚠ Any attempt to disassemble or alter the factory installed airflow plenum without specific authorization from the manufacturer's technical service department will void the warranty.

OPERATION

Temperature Controller System

Product Description

The digital microprocessor temperature controller is designed to provide temperature control of the freezer. The controller also provides a constant readout of the sample temperature inside of the unit. A keypad allows the user to easily select the display units, set point, and differential set point.

⚠ **Please Note: The digital temperature controller has been factory set and tested to allow your unit to operate at its desired temperature cycle.**

Adjusting the settings on the controller will alter these factory settings.

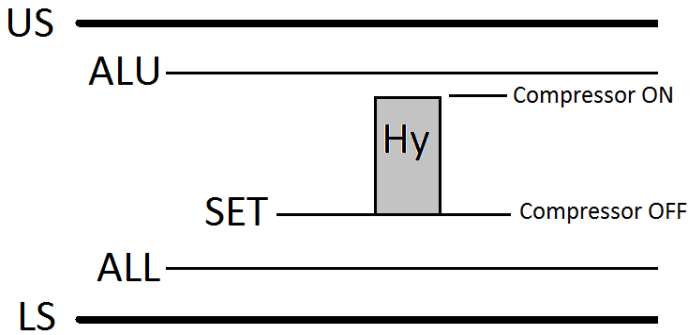
⚠ **For the CAD Undercounter freezer: Do not change the controller settings without contacting Technical Service Department - (800) 648 4041. Improper controller setting will compromise temperature security**



CHECK TEMPERATURE HISTORY

MAX TEMP: Press and release the [UP] button. The display will show the maximum temperature ever reached since the last reset.
MIN TEMP: Press and release the [DOWN] button. The display will show the minimum temperature ever reached since the last reset.
RESET MAX AND MIN TEMPS: Press and hold the [SET] button for more than 3 seconds, while the maximum or minimum temp is displayed. (rSt message will be displayed).
CHECK THE SET POINT: Press and release [SET] button. The display will show the current set point value.

Operation



During normal operation, the freezer's compressor will turn on and off to maintain the correct temperature in the storage chamber.

For this controller, the point where the compressor is turned off is called "SET POINT". The point where the compressor is turned on is calculated by adding the value of "SET POINT" and "Hy" (temp differential).

For example, if you wish to maintain the operation temperature between 3°C and 7°C, you would have "SET" = 3°C, and "Hy" = 4°C.

"ALU" is the high temp alarm point, and "ALL" is the low temp alarm point. Both alarm settings will alert users when the freezer's temperature is out of range via visual alarm, audible alarm and remote alarm contact.

"US" is the upper setting limit, and "LS" is the lower setting limit. Both limit settings will prevent users from accidentally adjusting the "SET", "ALU", or "ALL" values outside this range.

CODE	DESCRIPTION	FACTORY SETTING
SET	Temp set point (compressor off point)	0120A -18°F 0120CAD -22°F
Hy	Temp differential between compressor start and stop (NOT RECOMMENDED TO CHANGE)	6°F
ALL	Low temp alarm point	-28°F
ALU	High temp alarm point	14°F
Lod	Screen display choice (air or sample probe)	P4

Change the set point (compressor turn-off point)

Press and hold the [SET] button until °C or °F icon starts blinking. Press the [UP] or [DOWN] button to change the setting to the desired value. Then, press the [SET] button once to confirm the new setting.

Change other settings

Press and hold both the [SET] and [DOWN] buttons at the same time until "Hy" appears on the display.

Press the [UP] or [DOWN] button to scroll through the different settings. Press the [SET] button to enter the setting. Press the [UP] or [DOWN] button to change the value. Press the [SET] button once to confirm the new setting. The display will show the next setting.

At any time, press and hold both the [SET] and [UP] buttons to exit the settings mode, or simply leave the display alone for 10 seconds.

If there is any question or concern, please feel free to contact our Technical Service Department - (800) 648 4041.

Advanced Settings – for service technician only

⚠ ATTENTION: This section is for service technicians or experienced users only. Altering the following settings can result in a malfunction or inaccurate temperature readout.

Air and Sample Temperature Display

The controller has the capability to display either the air or sample temperature readout. For normal operation, the sample-simulated temperature (P4) is displayed to

provide users the content temperature. For the actual operation, the air temperature (P1) is used to control the compressor's cycle.

The "Lod" setting allows you to display either the air (P1) or sample (P4) probe readings. Press and hold both the [SET] and [DOWN] buttons at the same time until "Hy" appears on the display.

Press the [UP] or [DOWN] button until "Lod" appears. Press the [SET] button to enter the setting. Press the [UP] or [DOWN] button to toggle between the air temp "P1" or the sample temp "P4". Press the [SET] button once to confirm the new setting. The display will now show the temperature probe reading you have selected.

 **We strongly recommend the "Lod" setting remain "P4" for normal operation. This allows the user to see the sample-simulated temperature and the controller will alert when the sample temp is out of range.**

Calibration / Offset

The "OT" setting allows you to change the air probe's calibration.
The "O4" setting allows you to change the sample probe's calibration.

To properly determine the Calibration/Offset value for a probe:

1) Please be sure you have a NIST traceable and calibrated thermometer.
2) Place your thermometer's probe next to our sensor accordingly, air vs. air, or sample vs. sample.
3) Let the probe and chamber settle for 30 minutes to 1 hour to obtain an accurate reading.
4) Enter a value into the "ot" or "o4" setting to have the temperature controller reading match the calibrated thermometer reading.

For more advanced settings, please contact our Technical Service Department for assistance - (800) 648 4041

QUICK TROUBLESHOOTING GUIDE

Check these items before calling for service

PROBLEM:	POSSIBLE CAUSE / SOULTIONS:
Unit does not run	• Electrical circuit is not 110-120V 60Hz. • The power cord is not plugged in. • No power at electrical outlet. Check to make sure breaker is not tripped or fuse is not blown. Additionally, ensure unit is not plugged

	into a Ground Fault Circuit Interrupter (GFCI) type of outlet.
Unit does not maintain proper temperature	• Check the room temperature. We recommend the freezer should be placed in an air-conditioned room between 65°F to 85°F. If the room temp is too warm, the freezer may not be able to maintain the proper interior temp. • Door is not closed properly. • Amount of stored product is overloaded. • Product is pushed against rear wall or interrupting the proper freezer air circulation. For the proper air circulation, place products evenly on each shelf. Do not push against the freezer's rear or side walls. • Evaporator is blocked by frost or ice. Remove products, unplug the freezer power cord, and allow the unit to defrost. If the problem still exists, call for service. • 3rd party thermometer is placed incorrectly. For proper temperature monitoring, the thermometer should be place in the middle of freezer. **PLEASE NOTE**! Prior to shipment, each freezer has been calibrated and tested at proper temperature range.
Appliance runs too long	• Prolonged door openings. • Control set too cold. • Room temperature is high, which will make the unit work harder to keep cool.
Temperature of external wall surface is warm	• The exterior walls can be as much as 30 degrees warmer than room temperature due to the embedded condenser coils. This is normal when the unit is operating.
Compressor noise	• Compressor may be overheated. Please check the room temp and ensure the range is within 65°F to 85°F. If the problem still exists, call for service. • Ensure proper spacing around freezer to allow the unit to "breath".

Moisture collects inside	• Door gasket is not sealing properly. Check for debris, cracks, and items passing through door at the gasket. • The freezer is facing a doorway or is underneath of air conditioning vent. Relocate the unit or redirect air vent. • Too many door openings. Minimize time door is open. • Hot, humid weather increases condensation. • Make sure there is a water trap (U-shaped loop) in the drain tube near the compressor. This will "trap" a small amount of water in the loop and prevent air from entering the chamber through the tube.
Moisture collects on outside surface	• Hot, humid weather increases condensation. • As humidity decreases, moisture will disappear.
Odor inside the unit	• Interior needs to be cleaned. See section on maintenance and cleaning in this manual. • Make sure product containers are tightly sealed to prevent leakage.
Door will not close	• The unit is not level. Refer to the Leveling section of this manual. • Check for dirt and debris in door seal or items passing through the door seal.

MOISTURE DURING THE SUMMER SEASON

The amount of moisture, condensation and high humidity related issues increase during the summer. In most cases, these issues will self-resolve when the weather cools down. Please note, a refrigeration system will NOT generate moisture or water but simply condenses the moisture that is already in the chamber. Keeping the unit in an air conditioned, low humidity space, will resolve many issues. Other things you should check:

1. Location of the freezer (See Quick Troubleshooting Guide above)

2. Door sealing and frequency of door opening events (See Quick Troubleshooting Guide above)
3. Ensure there is a water trap (U-shaped loop) in the drain tube near the end. This will "trap" a small amount of water in the loop and prevent air from entering the chamber through the tube.

BEFORE CALLING THE MANUFACTURER'S TECHNICAL SUPPORT DEPARTMENT, please have the unit's model and serial number ready, as well as the problem description. The model and serial number is located on the serial tag on the interior left upper wall of the unit.

HYDROCARBON SERVICE NOTES

According to U.S. Code of Federal Regulation 40 Part 82, this freezer employs a natural refrigerant, specifically hydrocarbon, R290 or R600a.

Due to the nature of hydrocarbon refrigerant, mechanical repairs, such as recharging the refrigerant or compressor replacement, should only be carried out by a certified refrigeration technician.

The safety of this equipment is listed by Underwriter Laboratory (UL) under Standard 471, Section SB – "natural refrigerant".

CLEANING AND MAINTENENANCE

CLEANING

PART	CLEANING AGENTS	TIPS AND PRECAUTIONS

Interior and Door Liners	**Soap and water Baking soda and water**	**Use 2 tablespoons of baking soda in 1 quart of warm water. Be sure to wring excess water out of sponge or cloth before cleaning around controls, lights or electrical parts.**
Door Gaskets	**Soap and water**	**Wipe gaskets and their mating surfaces with a clean, soft cloth**
Shelves	**Soap and water**	**Do not wash removable shelves in dishwasher**
Exterior and Handles	**Soap and water Non-Abrasive Glass Cleaner**	**Do not use commercial household cleaners, ammonia, or alcohol to clean handles. Use a soft cloth to clean smooth handles. Do not use a dry cloth to clean smooth handles.**

Clean the glass with a mild detergent and water on a soft cloth or sponge. Rinse with water and wipe dry.

For swinging door units, pay particular attention to the gasket and its mating surfaces. Any debris buildup on these can cause air leaks into the compartment resulting in condensation and reduced efficiency.

CAD Undercounter Freezer

⚠ Warning: Do not attempt to remove the interior airflow plenum on the CAD Undercounter freezer - damage to components or reduced unit performance may result. Any attempt to disassemble or alter the factory installed airflow plenum without specific authorization from the manufacturer's Technical Service Department will void the warranty.

FACTORY WARRANTY POLICY

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, for a period of two (2) years. 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 each and every provision contained herein, and all other Notices and Terms provided to Purchaser by Horizon Scientific, Inc., which are hereby incorporated.

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.

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 or not on account 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 particular purpose.

NO IMPLIED WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE. There are no other warranties, express, implied, or statutory, except the two (2) year warranty as described above. These warranties are exclusive and in lieu

of all other warranties, including implied warranty and merchantability of fitness for a particular 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, NEGLECT, 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 freezer, 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 Scientific, Inc. in order for the warranty to be honored.