



CardinalHealth™

REF

**CHV07CPSA
CHV05RPSA
CHV05CPSA**

General Purpose Laboratory Refrigerators and Freezers

Installation and Operation

IMPORTANT Read this instruction manual. Failure to follow the instructions in this manual can result in damage to the unit, injury to operating personnel and poor equipment performance.

CAUTION All internal adjustments and maintenance must be performed by qualified service personnel.

Material in this manual is for informational purposes only. The contents and the product it describes are subject to change without notice. Cardinal Health makes no representations or warranties with respect to this manual. In no event shall Cardinal Health be held liable for any damages, direct or incidental, arising from or related to the use of this manual.

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1. Models

The table below shows the units covered in this operation and installation manual by model number.

REFRIGERATOR - FREEZER	REFRIGERATOR
CHV07CPSA	CHV05RPSA
CHV05CPSA	

2. Safety Information

It is your responsibility to understand the proper function and operational characteristics of the unit. This instruction manual should be thoroughly read and all operators must be trained before attempting to place these units in service. Awareness of the stated cautions and warnings, and compliance with recommended operating parameters together with maintenance requirements are important for safe and satisfactory operation. The units should be used for its intended application, alterations or modifications will void the Warranty.

These products are not intended, nor can they be used, as a sterile or patient connected device. In addition, these units are not designed for use in Class I, II or III locations as defined by the US National Electrical Code, unless otherwise noted.

I

ON

0

OFF

Alert Signals



Safety Alert: Important operating instructions. To reduce the risk of injury or poor performance of the unit, read the user manual before operation.



WARNING: Indicates an immediately hazardous situation, which if not avoided, will result in death or serious injury.



CAUTION: Indicates an immediately hazardous situation, which if not avoided, may result in minor to moderate injury.



WARNING: Avoid contact with cold freezer surfaces potential for cold burns or skin sticking to cold surfaces.



WARNING: Use of this symbol involves risk of electric shock.

Do not modify or use power supplies other than OEM equipment. Connection of the power supply may require a properly grounded receptacle. Potential for electrical shock or equipment damage exists if precautions are not followed.

NOTE: Notes alert you to pertinent facts and conditions.



DANGER RISK OF CHILD ENTRAPMENT

Before you throw away your old refrigerator or freezer:

- Take off doors.
- Leave the shelves in the place so that children may not easily climb inside.



WARNING: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



WARNING: Units are charged with hydrocarbon refrigerant (R600a). Only qualified service personnel should service this unit.



WARNING: Risk of fire or explosion. Flammable refrigerant used. To be repaired only by trained service personnel. Do not puncture refrigerant tubing.



WARNING: No equipment that uses an open flame should be placed inside the refrigerator. This will harm the unit, hamper functionality and compromise your safety.



WARNING: Risk of fire or explosion. Flammable refrigerant used. Do not use mechanical devices to defrost the unit.



WARNING: This product can expose you to chemicals including Nickel (Metallic) which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov

NOTE: Nickel is a component in all stainless steel and some other metal components.

3. Intended Use

The General Purpose refrigerator / freezer described in this manual is for professional use only.

These products are intended for use in research for the storage of samples or inventory in the following temperature ranges:

Refrigerators 33.8°F to 53.6°F (+1°C to +12°C)

Freezers 4°F to 10.4°F (-20°C to -12°C)

These units are not considered as medical devices and have therefore not been registered with a medical device regulatory body (e.g. FDA): that is, these have not been evaluated for the storage of samples for diagnostic use or for samples to be re-introduced to the body.

NOTE: Do not store corrosive materials in these units. Any damage which occurs due to storage of corrosives will not be covered under warranty claims.

4. General Purpose Refrigerator & Freezer

These are general purpose units available in all refrigerators and freezers.

MODEL CHV07CPSA - 7.1 Cu. ft.

22in. Wide, Refrigerator and Freezer

Features:

- Refrigerator:
3 Adjustable Shelves
- Freezer:
1 Adjustable Shelf
- Manual defrost
- White Color

MODEL CHV05RPSA - 5.5 Cu. ft.

23.63in. Wide, Under-counter Refrigerator

Features:

- Three adjustable shelves
- Adjustable thermostat
- Magnetic door gasket
- White Color
- Key lock
- One glass shelf
- Adjustable leveling legs in the front

MODEL CHV05CPSA- 5 Cu. ft.

23.63in. Wide, Under-counter Refrigerator / Freezer

Features:

- Two adjustable shelves
- Adjustable thermostat
- Magnetic door gasket
- White Color
- Key lock
- Adjustable leveling legs in the front

Product Specification

	CHV07CPSA	CHV05RPSA	CHV05CPSA
Refrigerator Chamber Dimensions H x W x D in. (cm)	36.5 x 17.5 x 17 (92.7 x 44.5 x 43.2)	27.75 x 20 x 17.5 (70.5 x 50.8 x 44.5)	19.5 x 20.5 x 17 (49.5 x 52.1 x 43.2)
Freezer Chamber Dimensions H x W x D in. (cm)	10.38 x 15.5 x 16 (26.4 x 39.4 x 40.6)	N/A	5 x 19 x 11.5 (12.7 x 48.3 x 29.2)
Exterior Dimensions H x W x D in. (cm)	56.63 x 21.5 x 21.75 (144 x 54.6 x 55.2)	33.5 x 23.63 x 23.5 (85.1 x 60.02 x 59.69)	33.5 x 23.63 x 23.5 (85.1 x 60.02 x 59.69)
Electrical Characteristics Volts/Hz, Amps	115 / 60, 1	120 / 60, 0.8	120 / 60, 1.2
Refrigerator Temperature Range °F (°C)	33.8° to 53.6° (1° to 12°)	33.8° to 53.6° (1° to 12°)	33.8° to 53.6° (1° to 12°)
Freezer Temperature Range °F (°C)	-4° to 10.4° (-20° to -12°)	N/A	-4° to 10.4° (-20° to -12°)
Net Weight lbs. (kg)	89 (40.5)	86 (39)	93 (42)
Shipping Weight lbs. (kg)	100 (45)	95 (43)	101 (46)

NOTE: Amps listed are at normal run mode, starting amps may be higher.

5. Unpacking and Inspection



CAUTION: DO NOT REMOVE, under any circumstance, the grounding prongs from the 3-prong power cord supplied with all units.



CAUTION: DO NOT USE electrical extension cords that may result in voltage loss and possible hazardous operation.

Unpacking

This should be inspected upon delivery. When received, carefully examine for any shipping damage before unpacking. If damage is discovered, the delivering carrier should both specify and sign for the damage on your copy of the delivery receipt.

Visible Loss or Damage

Note any external evidence of loss or damage on the freight bill, or express receipt, and have it signed by the carrier's agent. Failure to adequately describe such external evidence of loss or damage may result in the carrier's refusing to honor your damage claim. The form required to file such a claim will be supplied by the carrier.

NOTE: Failure to request an inspection of damage within a few days after receipt of shipment absolves the carrier from any liability for damage. You must call for a damage inspection promptly.

Concealed Loss or Damage

Concealed loss or damage refers to loss or damage, which does not become apparent until the merchandise has been unpacked and inspected. If either occur, make a written request for the carrier's agent within 15 days of the delivery date; then file a claim with the carrier since the damage is the carrier's responsibility.

If you follow the above instructions carefully, we will guarantee our support of your claim to be compensated for loss from concealed damage.

DO NOT, FOR ANY REASON RETURN THIS UNIT WITHOUT FIRST OBTAINING AUTHORIZATION.

6. Operating Conditions

The units described in this manual are classified for use as stationary equipment in a Pollution Degree 2 and Over Voltage Category II environment.

These units are designed to operate under the following environmental conditions:

- Indoor use
- Altitude up to 2,000 m (6512 ft.)
- Maximum relative humidity 65%, non-condensing
- Temperatures: 59°F to 90°F (15°C to 32°C)
- Main supply voltage fluctuations should not exceed by $\pm 10\%$ of the nominal voltage.

7. Installation

Selecting a Location

Choose a location for the CHV07CPSA (Refrigerator and Freezer) that provides a clearance of 12 in. at the top, 4 in. at the rear and 4 in. on each side.

Choose a location for the CHV05RPSA (Under-counter Refrigerator) / CHV05CPSA (Under-counter Refrigerator / Freezer) that provides a clearance of 4 in. on each side.

Appropriate electrical power must be available. Locate the refrigerator / freezer within eight feet of the power outlet so that no extension cord is required. Attach the refrigerator / freezer to the facility's electrical supply as directed by the National Electrical Code.

Leveling the Unit

This refrigerator / freezer must be level in order to provide adequate condensate drainage as well as proper door alignment and operation. The refrigerator/freezer should be in its final operating location and set so that it is firmly positioned on the floor.

Electrical Connection

Determine the total amount of current presently being used by other apparatus connected to the circuit that will be used by this refrigerator. It is critical that this added current demand and other equipment on this circuit not exceed the rating of the fuse or circuit breaker in use.

The frequency and nominal voltage requirements for the unit are specified on the data plate. Supply this unit with an electrical source that meets these requirements only. Low line voltage is often the cause of service complaints. With the unit running, check that the line voltage is within $\pm 10\%$ of that specified on the data plate.



CAUTION: Be sure the voltage supplied to the refrigerator / freezer is equal to that specified on the data plate.



WARNING: For personal safety, this unit must be properly grounded before use.

General Purpose units must be connected to a grounded outlet matching the nameplate and / or the information furnished in this manual. If you are not sure about the outlet, you should contact a qualified electrician for assistance.

The Unit should always be connected to a dedicated power source.



WARNING: DO NOT REMOVE, under any circumstance, the grounding prongs from the 3-prong power cord supplied with all units.



WARNING: DO NOT USE electrical extension cords, it may result in voltage loss and possible hazardous operation.

Reversing the Front Door (CHV05RPSA)

1. Remove bolts and plugs using a screwdriver.
2. Unscrew the bolts connecting the upper hinges to the upper platform. Remove the upper platform by first pulling it forward and then lifting it upwards.
3. Remove the door by unscrewing the bolts in the upper hinges.
4. Remove the buffer by unscrewing the bolts on both of its sides.
5. Break off the part behind the buffer through which the lower hinges pass using a knife or your hands
6. Remove the lower hinge and mount it on the other side tightening its bolts.
7. Remove the hole plugs of the door handle with a knife.
8. Fit the hole plugs of the door handle to the other side.
9. Fit the buffer to its place.
10. Mount the door to its place.
11. Fit the upper hinges into their places - do not tighten the bolts, but leave them loose.
12. Adjust the vertical and parallel position of the door to the line of sight, then tighten the bolts of the upper hinges.
13. Fit the upper platform into its place.
14. Fit the bolts connecting the upper hinges and the upper platform but, do not tighten them.
15. Adjust the upper platform until it is level, then tighten the bolts in operations.
16. Fit the plugs of the upper platform.

Be Advised



WARNING: Storage by user of any materials in the product that may cause a deterioration of the product shall be deemed to constitute abnormal and improper usage of the product for purposes of this warranty.



WARNING: Before connecting the final power supply, check the electrical characteristics of the unit nameplate to see that it is in agreement with the power supplied. In addition, power should be wired to the unit according to the electrical schematic and all applicable codes. Only qualified electricians should work on the electrical portion of any unit installation.



CAUTION: Solutions used to clean coils or neutralize bacteria growth must not be corrosive to metals (enamel-coated steel) and materials used in the maintenance of this cause damage. Use a soft cloth and warm water to clean.

8. Operation



CAUTION: Do not use in the presence of flammable or combustible materials or explosive gases. Fire or explosion could result, causing death or severe injury.

Start-Up Procedure

For CHV07CPSA: Rotate the control knob clockwise to lower the temperature and counterclockwise raise it. Because the markings on the dial do not indicate specific temperatures, use them as reference points only for any future setting of the temperature.

For CHV05RPSA and CHV05CPSA: Turn the knob clockwise from the STOP (0) position toward the higher numbers for colder temperatures. Higher settings on the knob (higher numbers) mean lower temperatures (colder) in the refrigerator.

On the coldest settings, temperatures in some spots inside the refrigerator cabinet may drop below 32°F. Use higher thermostat settings only when required or recommended.

To check chamber temperature, place a dial thermometer on a shelf in the center of the chamber. Initially, rotate the temperature control knob to an arbitrary setting. Allow approximately 2 hours for the temperature to initially stabilize. Check the temperature and compare with the dial setting.

Adjust dial further to reach the desired operating temperature. After chamber initially stabilizes, allow 1/2 to 1 hour for the chamber temperature to stabilize after subsequent temperature adjustments.

If the room thermostat is turned below 60°F at night, consider setting the temperature control one step colder. It should be left at this setting for the nighttime period; return temperature control to original setting when the room thermostat is returned to its normal setting.

Restart Procedure

If unit is unplugged or turned off, allow 3 minutes before restarting or plugging it back in.

How to Save Energy

- Be sure to follow location suggestions as mentioned in Installation.
- Wipe moisture from glassware or other materials before placing them in a unit.
- Don't overcrowd the unit. Too many items can increase electrical energy demand in order to keep everything cool.
- Close the door as soon as possible in hot, humid weather.
- Make certain that the door is closed tightly.
- As soon as frost has accumulated to 1/4 in., defrost.
- Keep containers covered, when possible, to reduce moisture buildup.
- Set operating temperature no colder than necessary for the items being refrigerated.

Safety Tips



After a unit is in operation, do not touch the cold surfaces, particularly when hands are damp. Skin may adhere to the cold surfaces.

We recommend handling samples by wearing gloves to avoid frost bite.



Never disconnect your unit by pulling the power cord. Always grip the plug securely and pull straight out from the outlet.



Do not use a power cord that shows cracks or abrasions. Have a qualified electrician repair or replace damaged cords immediately.

9. Maintenance



CAUTION: When servicing the unit, disconnect from the electrical power source.



CAUTION: Refer servicing to qualified personnel.

Cleaning the Unit

Before beginning cleaning unit follow these instruction listed below:

- Disconnect power cord from its outlet.
- Set the temperature control to the OFF position.
- The unit designs permit easy and rapid cleaning and should not take more than a few minutes. Remember to wear protective gloves to prevent frost bite, especially when removing items from freezer units.
- Do not use abrasive scouring powders, waxes, solvents, furniture polish, undiluted detergents or cleansers containing petroleum products on the surfaces of units.

Cleaning Interior / Exterior / Door Gaskets

A solution of mild soap / detergent and lukewarm water can be used for cleaning the interior, exterior and door gaskets with a soft, clean cloth. Rinse with clean water and dry thoroughly before reconnecting and turning on the unit.

The cabinet interior should be cleaned frequently. Any spilled liquid should be wiped off immediately since stains resulting from some spills could be permanent if not quickly removed. The most convenient time to clean the interior is after defrosting.

Cleaning the Condenser

With forced-fan vented units, remove the screws that mount the grill to the unit. Pull temperature control knobs straight out this will expose condenser for cleaning.

These surfaces may be warm to the touch. The condenser should be cleaned before becoming clogged with dirt / dust. Construction or other dirt causing environments may significantly increase the required frequency. The condenser should be cleaned at least once a year.



CAUTION: Never clean around the condensers with your fingers. Some surfaces are sharp.

Manual Defrost Procedure

Use the following procedure to defrost manually:

- Rotate the temperature control knob to the OFF setting or zero position according to the model.
- Disconnect the power cord from its outlet.
- Remove contents of the unit. It is suggested to wrap contents in paper and then in a heavy blanket to maintain temperature of items, especially those removed from a freezer. Wear protective gloves to prevent frost bite when handling cold items.
- Open door and allow free circulation of ambient air.
- To speed the process, place pan of warm water inside the chamber.
- Wipe out the interior.
- Replace the contents.
- Reconnect the power cord to outlet and set temperature control to desired operating temperature.



CAUTION: Do not use any sharp instruments, blade or scraper to remove ice and frost on refrigerator or freezer surfaces because of the very real danger of puncturing the cooling coil.



CAUTION: Do not use any electrical devices to defrost the unit.

When frost accumulates to 1/4 in. or more, the operating efficiency of the unit will be affected.

All laboratory refrigerators feature automatic defrosting and in normal conditions no manual defrosting is required. However, in certain conditions (e.g. when the refrigerator is very full or when any new items are stored in the refrigerator) frost may form on the rear wall of the equipment as the compressor must run for long periods of time. As automatic defrosting takes place while the compressor is not running, the refrigerator may not defrost completely before the compressor restarts. In these instances, some manual defrosting may be required.

Before manually defrosting the cabinet, make sure the power lead is disconnected from the mains. With cold wall refrigerator, condensation may form on the interior of the cabinet and may require periodic wipe down with an absorbent cloth.

In high usage and/or high ambient scenarios, excessive ice may form on the inner back wall of the refrigerator and in the worst case or sudden power cut-off event, drain pan might overflow. Hence it is recommended to defrost frequently and collect any build up ice from inside in a container and safely dispose in the sink. If the drain pan has over flowed, empty the pan and dry up the wet regions around before next restart.

Transportation and Storage

Use all required local facility procedures and PPE while transporting and storing the product.

10. Troubleshooting

This section is a guide to troubleshoot general operational problems.

SYMPTOM	PROBABLE CAUSE	ACTION
Unit Does Not Run	Unit unplugged.	Plug in unit.
	Blown fuse or tripped circuit breaker.	Check fuse or circuit breaker at breaker box.
	Temperature control knob is turned to OFF.	Turn temperature control knob to ON.
Runs Continuously	Frost build up on refrigeration coils.	Defrost unit.
	Dust or lint build-up on condenser.	Clean the condenser with a dry brush or vacuum.
	Door gasket worn out.	A leak around the door gasket will allow cold air to escape. This causes unit to work harder than necessary to maintain cold temperatures. Re-seat or replace the gasket if worn.
	Temperature too low.	This may cause unit to run continuously. Check optimum running temperature.
	Ambient temperature over 109°F (43°C).	Is the ambient air over 109°F (43°C), or the units located close to heat sources? If possible, move to a different location.
	Door opening frequency is high.	An unusually high frequency of door openings and closings can increase operating load. Unit will stabilize as these are decreased.
Noise Problems	Contents of unit set too close and rattling against each other.	Rearrange contents as needed.
	Hissing or gurgling noise is caused by refrigerating fluid circulating.	This is normal.
	Unit is not level on floor.	Check the level of unit.
	Fan noise.	Airflow can cause this. This is normal.

11. Wiring Diagram

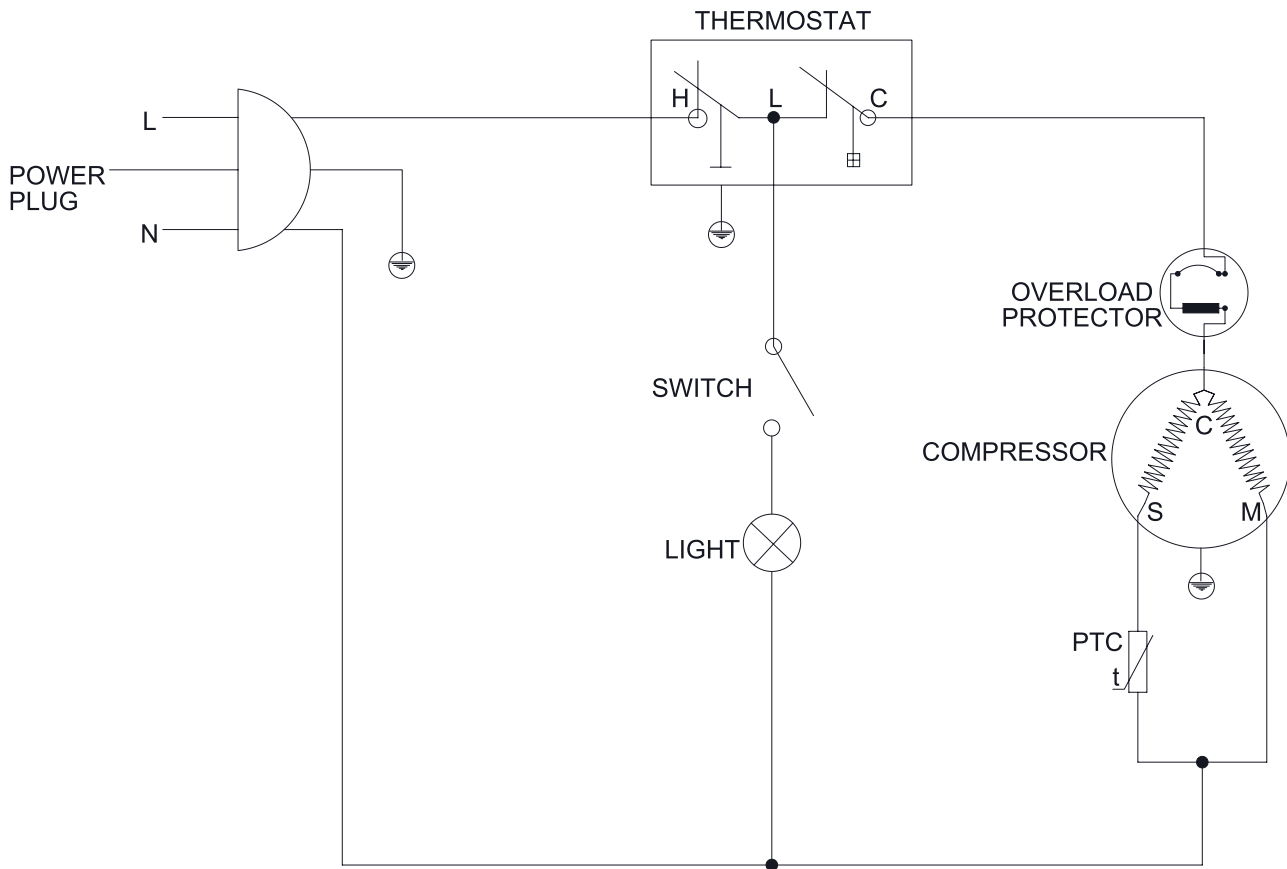


Figure 1. Wiring diagram for CHV07CPSA

12. End of Life Care

Be sure to follow local regulations when disposing of an old unit. Some suggestions are listed below:

1. Remove items and defrost unit. Be sure to clean up any biological safety hazards.
2. Remove the cabinet door to help prevent entrapment inside of a unit.
3. Have a certified technician remove the refrigerant and compressor, then drain the compressor and oil from the system. Disposal of the unit should be done by following local regulations.

Replacement Parts

To obtain replacement parts information and pricing, please call the Customer Service Department at 800-438-4851 and have the unit's model, serial and code numbers available.

This information is located on data plates on the rear of the unit or on the upper left side of the interiors.

Ordering Procedures

Refer to the Specification Plate for the complete model number, serial number and series number when requesting service, replacement parts or in any correspondence concerning this unit.

All parts may be ordered from the dealer from whom you purchased this unit or can be obtained promptly from the factory. When service or replacement parts are needed we ask that you check first with out dealer. If the dealer cannot handle your request, then contact our Customer Service Department at 800-438-4851.

Prior to returning any materials, please contact our Customer Service Department for a "Return Materials Authorization" number (RMA). Material returned without an RMA number will be refused.

13. Warranty

13 Month Limited Warranty

This product is warranted to be free of defects in materials and workmanship for one (13) months from the first to occur of (i) the date the product is sold by the manufacturer or (ii) the date the product is purchased by the original retail customer (the "Commencement Date"). Except as expressly stated above, the MANUFACTURER MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO THE PRODUCTS AND EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF DESIGN, MERCHANT ABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

An authorized representative of the manufacturer must perform all warranty inspections. In the event of a defect covered by the warranty, we shall, as our sole obligation and exclusive remedy, provide free replacement parts to remedy the defective product. In addition, for products sold within the continental United States or Canada, the manufacturer shall provide free labor to repair the products with the replacement parts, but only for a period of ninety (90) days from the Commencement Date.

The warranty provided hereunder shall be null and void and without further force of effect if there is any (i) repair made to the product by a party other than the manufacturer or its duly authorized service representative, (ii) misuse (including use inconsistent with written operating instructions for the product), mishandling, contamination, overheating, modification or alteration of the product by any customer or third party or (iii) use of replacement parts that are obtained from a party who is not an authorized dealer of products.

Heating elements, because of their susceptibility to overheating and contamination, must be returned to the factory and if, upon inspection, it is concluded that failure is due to factors other than excessive high temperature or contamination, the manufacturer will provide warranty replacement. As a condition to the return of any product, or any constituent part thereof, to the factory, it shall be sent prepaid and a prior written authorization from the manufacturer assigning a Return Materials Number to the product or part shall be obtained.

IN NO EVENT SHALL THE MANUFACTURER BE LIABLE TO ANY PARTY FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR ANY DAMAGES RESULTING FROM LOSS OF USE OR PROFITS, ANTICIPATED OR OTHERWISE, ARISING OUT OF OR IN CONNECTION WITH THE SALE, USE OR PERFORMANCE OF ANY PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE), ANY THEORY OF STRICT LIABILITY OR REGULATORY ACTION.

14. Regulatory Compliance

Product Safety

Product Testing

This product family has been tested to applicable product safety standards by Underwriters Laboratories (UL), which is a Nationally Recognized Test Laboratory (NRTL). The product bears the following mark:



Hydrocarbon Refrigerants

According to U.S. Code of Federal Regulation 40 Part 82, this freezer employs the natural hydrocarbon refrigerant R600a. Because of the nature of hydrocarbon refrigerants, for mechanical repair, such as recharge 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 UL471, section SB – “natural refrigerant”.

Additional Regulations and Markings

This product is not marked with a CE marking, as it does not operate in the voltage range to be sold to the EU Member States or European Economic area (EEA). Please reach out to the manufacturer for questions regarding any additional regulatory conformity.

Contact Information

Cardinal Health™ products are backed by a global technical support team ready to support your applications. We offer cold storage accessories, including remote alarms, temperature recorders and validation services.

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