



# Isotemp General Purpose and Flammable Materials Storage Refrigeration

Catalog No.  
GP Freezer Model 148, 148HK  
FMS Freezer Model 149, 149HK  
FMS Refrigerator Model 152, 152HK

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# Table of Contents

Safety Information .....	3
Alert Signals.....	3
Unpacking .....	4
Visible Loss or Damage.....	4
Concealed Loss or Damage .....	4
Performance Characteristics .....	5
Temperature Ranges .....	5
Temperature Stability .....	5
Electrical Requirements.....	5
Installation .....	6
Selecting a Location .....	6
Leveling The Unit.....	6
Shelves .....	6
Electrical Connection .....	6
Operation .....	8
Initial Startup .....	8
Temperature Control .....	8
Condensate Disposal.....	8
Material Compatibility .....	8
Troubleshooting .....	10
Maintenance .....	11
Cabinet Cleaning .....	11
Condenser .....	11
Replacement Parts.....	11
Warranty .....	12

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# Safety Information

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## Alert Signals



### Warning

Warnings alert you to a possibility of personal injury.



### Caution

Cautions alert you to a possibility of damage to the equipment.



### Note

Notes alert you to pertinent facts and conditions.



### Hot Surface

Hot surfaces alert you to a possibility of personal injury if you come in contact with a surface during use or for a period of time after use.



### Warning

As a routine laboratory precaution, always wear safety glasses when working with this apparatus.

Your satisfaction and safety are important to Fisher Scientific and a complete understanding of this unit is necessary to attain these objectives.

As the ultimate user of this apparatus, it is your responsibility to understand its proper function and operational characteristics. This instruction manual should be thoroughly read and all operators given adequate training before attempting to place this unit 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 unit should be used for its intended application; alterations or modifications will void the Warranty.

This product is not intended, nor can it be used, as a sterile or patient connected device. In addition, this apparatus is not designed for use in Class I, II or III locations as defined by the National Electrical Code, unless otherwise noted.

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# Unpacking

Save all packing material if apparatus is received damaged. This merchandise was carefully packed and thoroughly inspected before leaving our factory.

Responsibility for its safe delivery was assumed by the carrier upon acceptance of the shipment; therefore, claims for loss or damage sustained in transit must be made upon the carrier by the recipient as follows:

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## 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.

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## 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. Should 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 full support of your claim to be compensated for loss from concealed damage.

**DO NOT – FOR ANY REASON – RETURN THIS UNIT  
WITHOUT FIRST OBTAINING AUTHORIZATION**

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# Performance Characteristics

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## Temperature Ranges

151: 3° to 13°C (37° to 55°F)

152: 3° to 13°C (37° to 55°F)

148: -20° to -10°C (-4° to 14°F)

149: -20° to -10°C (-4° to 14°F)

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## Temperature Stability

@ 4 °C ±4 °C

@ -20 °C ±4 °C

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## Electrical Requirements

Models 148, 149, 152:

115 Volts ±10%, 60 Hz, 3.5 Amps

Models 148HK, 149HK, 152HK:

220 Volts +/-10%, 50Hz, 3.5 Amps

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# Installation

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## Selecting a Location

Choose a location for the refrigerator that will provide at least four inches of clearance between the cabinet and any adjacent vertical surface at the sides and four inches at the rear. Twelve inches of clearance is required above the top surface of the refrigerated cabinet. Appropriate electrical power must be available. Locate the refrigerator within eight feet of the power outlet so that no extension cord is required.

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## Leveling the Unit

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

After discarding crating screws and wood base, level the freezer side-to-side and front to back by adjusting the supplied leveling feet (Part Number - SPN105192). The leveling feet can be adjusted so the front of the unit is slightly higher than the rear – this will allow the door to close easily if it is left halfway open.

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## Shelves

Shipped inside each cabinet are four fixed shelves which also serve as part of the evaporator coil.

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## 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, which is located on the interior upper left side. Only plug the unit into a power source that meets these requirements. Low line voltage is often the cause of service complaints. With the



### Caution

Be sure that the power supply is the same voltage that is specified on the refrigerator's data plate.



**Warning**

For personal safety this unit must be properly grounded.



**Caution**

Do not use an extension cord. Use of an ungrounded cord or an overloaded circuit VOIDS the compressor warranty.

unit running, check that the line voltage is within  $\pm 10\%$  of that specified on the data plate.

The power cord of this instrument is equipped with a three prong (grounding) plug (NEMA 5-15P). This plug mates with a standard three prong (grounding) wall receptacle (NEMA 5-15R) to minimize the potential of an electrical shock hazard. The customer should have the wall receptacle and circuit checked by a qualified electrician to verify the receptacle is properly grounded and is connected to a minimum 15 amp service.

**WARNING: DO NOT** under any circumstances cut or remove the third (ground) prong from the power cord. **DO NOT** use a two-prong adapter plug. Where a two-prong wall receptacle is encountered, it is the personal responsibility and obligation of the user to have it replaced with a properly grounded three-prong receptacle.

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# Operation

**Warning**

If the unit is tilted in excess of 30 degrees, do not apply electrical power for a minimum of 12 hours.

**Warning**

Do not heat any substance above a temperature which will cause it to emit toxic fumes—death or severe injury may result.

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## Initial Startup

Turn power on and verify that the condenser fan is running. This model has a condenser fan located on the condensing unit on top of the cabinet.

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## Temperature Control

To adjust the interior temperature down, simply turn the thermostat knob clockwise. For operation above an altitude of 3000 ft., have the thermostat adjusted by a technician.

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## Condensate Disposal

The condensate drain is at the center rear of the interior floor. The condensate drain tube is connected to this drain and is attached to the left front bottom of the unit behind the front sheet metal. Unhook and place the drain tube into a suitable pan and remove the drain plug. Turn the power to the unit to the off position (O) and allow the unit to defrost.

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## Material Compatibility

The interior cabinet of this unit is constructed of epoxy-coated steel. Care must be exercised when determining which chemicals may be stored in the refrigerator and freezer sections and which type of storage materials should be employed.

ABS Plastic deteriorates when exposed to, but not limited to, the following:

Aliphatic Hydrocarbons; Aromatic Hydrocarbons; Fully and Partially Halogenated Hydrocarbons; Alcohols Monohydric; Phenols; Ketones; Esters; Ethers; Organic Acids (concentrates and dilute); and Concentrated Oxidizing Acids. This information is taken from Plastics Edition 8 Thermoplastics and Thermosets published by D.A.T.A. and The International Plastics Selector, Inc.

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Aluminum Alloys are susceptible to corrosion when exposed to but not limited to most inorganic acids, bases and salts with a pH outside of their passive range of pH 4 to 9. It is also important to recognize that the compatibility of aluminum alloys with mixtures of organic compounds cannot always be predicted from their compatibility with each of the compounds. For example, some aluminum alloys are corroded severely in mixtures of carbon tetrachloride and methyl alcohol, even though they are resistant to each compound alone. This information is taken from Corrosion and Corrosion Protection Handbook Second Edition

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# Troubleshooting

This table is intended to assist in resolving user-correctable Refrigerator problems by relating symptoms to their likely causes. If service beyond the scope of this table is required, contact your nearest Fisher Scientific Service Office.

<u>Symptom</u>	<u>Probable Cause</u>	<u>Action</u>
Does Not Run	Unit Unplugged	Plug in Unit
	Blown fuse or tripped circuit breaker	Check fuse or circuit breaker at breaker box
Runs Continuously	Frost buildup on refrigeration coils	Defrost unit
Clicking Sound	The compressor is equipped with a thermal protector. This device shuts off the compressor when it becomes too hot. A clicking sound occurring about every 30 seconds indicates this protector is working	Unplug unit for 1 hr. Plug in and try running again. If the unit doesn't begin to run, call for service.
Insufficient Cooling	Thermostat set too high	Reduce thermostat setting
	Unit frosted	Defrost unit

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# Maintenance



## **Warning**

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



## **Caution**

Do not use any type of abrasive such as steel wool, or fluids such as gasoline, Naphtha, and thinner. These materials could be harmful to aluminum, plastic materials, door gasket, and painted surfaces.

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## Cabinet Cleaning

The cabinet interior should be cleaned frequently. Any spilled liquid should be wiped off immediately. Stains resulting from some spills can be permanent if not quickly removed. The most convenient time to clean the interior is after defrosting. The cabinet exterior should be cleaned occasionally. A mild detergent and lukewarm water or a solution of bicarbonate of soda (1 tablespoon per gallon of water) is recommended for cleaning the interior and exterior of the cabinet. All surfaces should be rinsed and thoroughly dried.

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## Condenser

The condenser coil is located behind the sides and rear exterior panel. These surfaces may be warm to the touch. This is necessary to the operation of the refrigeration equipment and is normal.

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## Replacement Parts

Replacement starter kit for Model HK (220V) only:  
SPN106706

For technical service, call 1-800-943-2006

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# Warranty

Laboratory instruments and equipment manufactured by Fisher Scientific Company L.L.C. – Laboratory Equipment Division (hereinafter called “the Company”) are warranted only as stated below.

Subject to the exceptions and upon the conditions specified below, the Company agrees, at its election, to correct by repair, by replacement, or by credit to the purchaser, any defect of materials or workmanship which develops within one year (13 months for refrigerator and freezer products) from the date of purchase by the original purchaser by the Company or by an authorized dealer of the Company provided that investigation or factory inspection by the Company discloses that such defect developed under normal and proper use

**The exceptions and conditions mentioned above are the following:**

- a. The Company makes no warranty concerning components or accessories not manufactured by it, such as tubes, batteries, etc. However, in the event of the failure of any component or accessory not manufactured by the Company, the Company will give reasonable assistance to the purchaser in obtaining from the respective manufacturer whatever adjustment is reasonable in the light of the manufacturer’s own warranty.
- b. The Company shall be released from all obligations under its warranty in the event repairs or modifications are made by persons other than its own service personnel or authorized dealer personnel unless such repairs by others are made with the written consent of the Company.
- c. **THE COMPANY MAKES NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, EITHER IN FACT OF BY OPERATION OF LAW,...STATUTORY OR OTHERWISE.**
- d. The above warranty and the above obligations to repair, replace, or credit are complete and exclusive and the Company expressly disclaims liability for lost profits or for special, indirect, incidental, consequential, or exemplary damages of any nature whether attributable to contract, warranty, negligence, strict liability, or otherwise even if the Company has been advised of the possibility of such damages.
- e. Representations and warranties made by any person, including dealers and representatives of the Company, which are inconsistent or in conflict with the foregoing warranty shall not be binding upon the Company unless reduced to writing and signed by an officer of the Company.



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