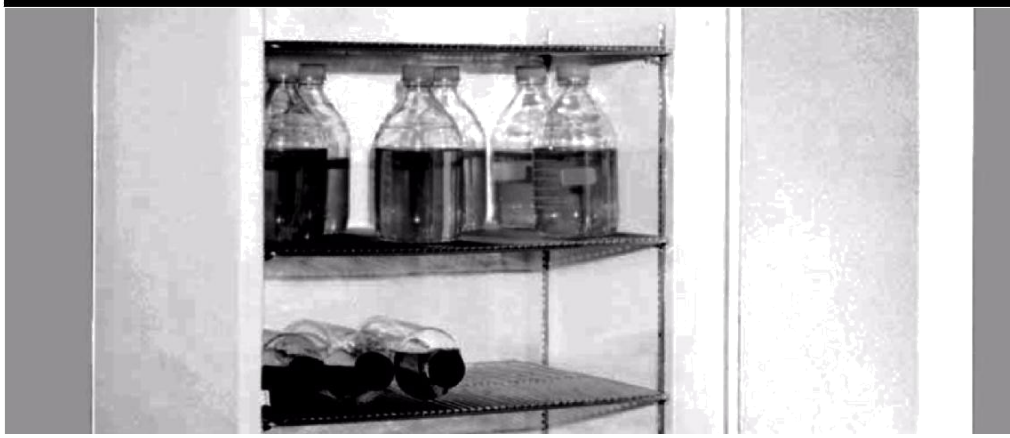
Installation and Operation Manual

Thermo Scientific
Explosion-Proof
Refrigerators and Freezers



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Thermo
SCIENTIFIC

Explosion-Proof Refrigerators and Freezers

Model No:

20ERCETSA, 20EREETSA, 20EFEETSA

20EREETSV, 20EFEETSV, 20ERCETSV

326805H01 Rev. D

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Safety Information

Your satisfaction and safety are important to Thermo 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 apparatus is designed for use in Class I, II or III locations as defined by the National Electrical Code, unless otherwise noted.

Alert Signals

I	ON	
0	OFF	
	Safety Alert	Important operating instructions. To reduce the risk of injury or poor performance of the unit read the user manual before putting the equipment into operation.
	DANGER	Indicates an immediately hazardous situation, which if not avoided, will result in death or serious injury.
	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.
(No Symbol)	CAUTION	(Without Safety Alert Symbol) indicates a situation that may result in property damage.
	Shock Hazard	Use of this equipment involves power supplies which convert line voltage to low voltage power. 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.
	Frost bite/ Low Temperature	Avoid contact with cold freezer surfaces potential for cold burns or skin sticking to cold surfaces.

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.

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

Intended Use

The Refrigerators/Freezers described in this manual are 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	+1°C to +12°C
Freezers	-12°C to -20°C
For 20EFEETSV	-18°C to -28°C

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

WARNING
Only Explosion Proof Units or Flammable Material Storage Units are to be used for the storage of flammable inventory/samples.

Corrosive Materials Requiring Refrigerated or Frozen Storage

- Only use models rated as Corrosion Resistant.
- Corrosion Resistant does not mean Corrosion Proof – Care in storage is still required.
- Store only corrosive reagents/samples which truly need reduced temperature storage.
- Flammable corrosive materials require Flammable Material Storage or Explosion Proof models labeled for the storage of corrosives.
- Containers must be wiped clean of moisture and chemical residue before being introduced into the unit and upon return from use.
- Containers must be sealed with either vinyl tape or Parafilm ®.
- Reagents/samples which release HX (X= F, Cl, Br, I) on contact with moisture (e.g. Acyl halides, Organosilyl halides etc.) are particularly damaging to metals.
- Volatile amines will react with HX depositing salts which will lead to corrosion of metal surfaces.
- Volatile organic acids can exacerbate metal surfaces already compromised, be sure these are securely sealed.
- Refrigerated compartments are cool or cold areas but they are not to dry seal your reagents and samples.
- Bleach solutions release chlorine gas which can react with other volatiles in the cooling chamber or directly attacks metal surfaces.
- Periodically clean the interiors, clean up spills or leaking containers
- Failure to take precautionary actions may lead to damage not covered by warranty claims.

Parafilm ® is a registered trademark of Bemis Company, Oshkosh, WI.

Explosion-Proof Refrigerators and Freezers

Overview

Conventional refrigerators and freezers are not suitable for storing flammable materials. Such units have components in their electrical and refrigeration systems that can trigger explosions of flammable air-vapor mixtures inside the unit and/or in the immediate surrounding area.

The Authority having Jurisdiction (AHJ) determines if work areas are designated as a hazardous location with respect to the presence of flammable gases or vapors. Such locations are defined in (National Fire Protection Agency) NFPA 70 Articles 500-501 and OSHA 29 CFR1910.307. Some of these classified areas are expected to experience concentrations of flammable gases and/or vapors at or above their lower flammability limits for extended periods of time.

The construction of our explosion-proof units has been evaluated by Underwriters Laboratories (UL)[1] are suitable for use in classified areas requiring Class I, Groups C and D* protected equipment. The electrical components such as thermostats, wiring, splices, relays and compressor motors on explosion-proof units are safely housed within explosion-proof enclosures and conduit. Compressor surface temperatures have been evaluated and determined to remain below the flash point of materials found in Class I, Groups C and D. All models have heavy-gauge, rigid, steel construction with a durable enamel finish. Interiors have epoxy coated steel construction. Each unit is insulated throughout for energy-efficient operation. These units are ideal for storing ethyl ether, acetone, alcohol, benzene, gasoline, hexane, lacquer solvent vapors, naphtha, along with many other potentially hazardous materials.

WARNING: For FMS and EXP units where flammable materials are stored in the cooling chamber, the cooling chamber is considered a Class I Div1 or Class I Zone 1 hazardous location. Any monitoring devices placed in the cooling chamber must have an intrinsically safe rating from an appropriate certification body, such as UL, CSA, FM etc. (this includes battery or solar powered devices).
Thermocouples for building monitoring systems must be wired through an electrical barrier designed to provide isolation against voltage and current spikes, which could cause a spark resulting in fire or explosion. It is the end user's responsibility to meet these requirements. Thermo Fisher Scientific cannot assist with the selection of devices, recommend, approve or design any device or monitoring circuit.

*The notation Class 1, Groups C and D is an accepted abbreviation for Class 1 Div 1, Groups C and D; Class I Zone 1 Group IIB.

[1] 20xxxxTSV models are not evaluated or certified by UL.

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:

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.

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.

Performance Characteristics

Temperature Ranges

Refrigerator: 1° to 12°C (34° to 54°F)

Freezer: -12° to -20°C (-4° to 10°F)

For 20EFEETSV: -18° to -28°C (-0.4° to -18.4°F)

Electrical Requirements

For 20ERCETSA, 20EREETSA and 20EFEETSA
115 Volts ±10%, 60 Hz, 5.0 Amps

For 20EREETSV, 20EFEETSV and 20ERCETSV
230 Volts ±10%, 50 Hz, 2.0 Amps

INSTALLATION

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.

WARNING
Explosion-proof units do not come with line cords. They require rigid conduit to be run directly in order to seal off the fitting on thermostat housing. This should be done by a licensed electrician and follow all local electrical codes. If any questions pertaining to electrical safety arise, please refer to article 501 of the National Electrical Code.

Electrical

Flammable Material Storage and 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. Explosion-Proof units must be hardwired by a qualified electrician.
Explosion-Proof unit should always be connected to a dedicated power source.

Be Advised

WARNING
UNLESS UNIT IS SPECIFICALLY DESIGNED FOR COMBUSTIBLE OR FLAMMABLE ATMOSPHERES DO NOT USE IN THE PRESENCE OF FLAMMABLE OR COMBUSTIBLE MATERIALS OR EXPLOSIVE GASES. DO NOT USE IN THE PRESENCE OF PRESSURIZED OR SEALED CONTAINERS— FIRE OR EXPLOSION MAY RESULT CAUSING DEATH.

CAUTION
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
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
RISK OF CHILD ENTRAPMENT Before you discard your old refrigerator or freezer:
- Remove door(s).
- Leave the shelves in place so that children may not easily climb inside.

Explosion-Proof Refrigerator and Freezer Installation

IMPORTANT: PLEASE READ CAREFULLY
This unit is for free standing installation only. The appropriate materials and wiring methods must be used in order to comply with current NFPA No. 70 NEC. for Class I, Group C and Group D; Class I Zone 1 Group IIB Hazardous Locations and Local Codes.

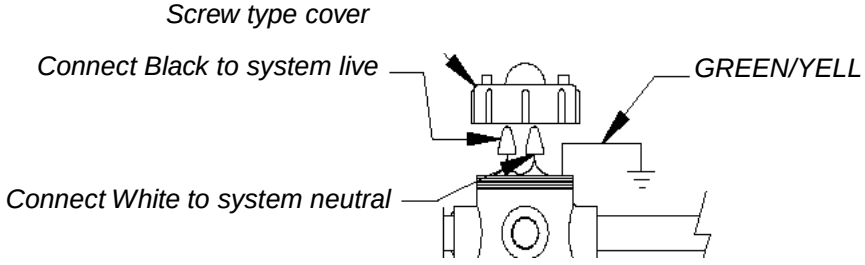
Determine the total amount of current presently being used by other apparatus connected to the circuit that will be used by this unit. It is critical that this added current must not exceed the rating of the fuse or circuit breaker in use.

The Explosion-Proof Refrigerator/Freezer is supplied with a special junction box located on the rear of the unit.

The National Electrical Code (NEC) must be referred to for proper fusing and service conductor size and type.

Power to the unit must be supplied using permanent wire connections, as a line cord is not provided. The service conductors should be connected to the three conductors inside the junction box by a qualified electrician.

The refrigerator/freezer must be connected to a single phase system with ground. The circuit live is connected to the refrigerator/freezer black while the white connects to the system neutral and green/yellow conductor is grounded.



After all connections are made, carefully fold up the conductors inside the junction box and thread the lid onto it.

Electric Connection Check Points

- Have proper connections been made at the junction box?
- Is the junction box lid fastened tightly to the junction box?
- Are all wire connections secure?
- Are the service conductor sizes adequate to carry rated load?
- Is the unit properly grounded?
- Is the unit connected to a properly fused branch circuit?

How to Seal Killark® Box Conduit with Fiber and Sealing Compound to Help Protect Against Explosions (Explosion-Proof Units Only):

The purpose of the procedure that follows is to build fiber rope dams on the left and right hubs of the horizontal conduit. The fiber rope dams will surround conduit wiring that is housed inside the horizontal conduit. When both the left and right fiber rope dams have been pressed into place, sealing compound is poured between the two and forms into an airtight plug. All of this is done in order to prevent the very real threat of gas entering the Killark box and a resulting serious explosion.

After the unit wires have been pulled through the horizontal conduit the following procedure is required:

- Turn power off at the circuit breaker before proceeding.
- Place a small amount of sealing compound granules, enclosed, into a clean mixing vessel. Add small amounts of water while stirring until a thick paste is formed, then carefully continue adding smaller amounts of water until a thick gravy consistency is achieved—NOT WATERY. Discard any material that becomes too stiff to use. Never attempt to restore workability by stirring in more water.
- Locate silver Killark box, back/top-center of unit.
- Unscrew conduit domed-cover.

Note: KILLARK ® is a registered trademark of Hubbell Incorporated, Shelton, CT, USA.

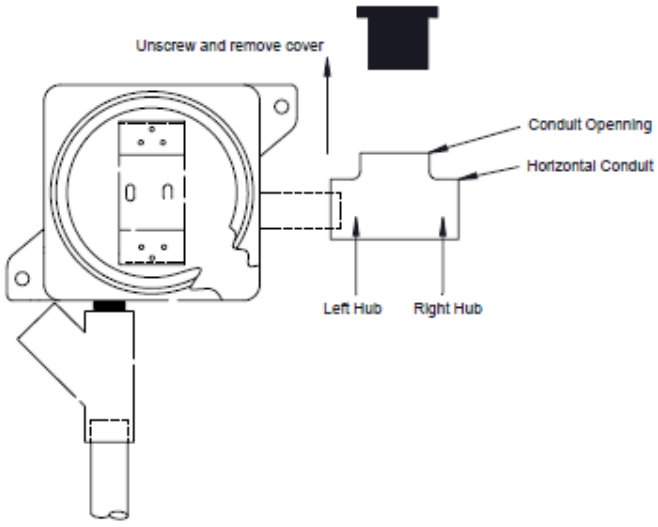


Figure 1: Sealing the Killark Box

Note: Wires must be kept separated as shown in the diagrams.

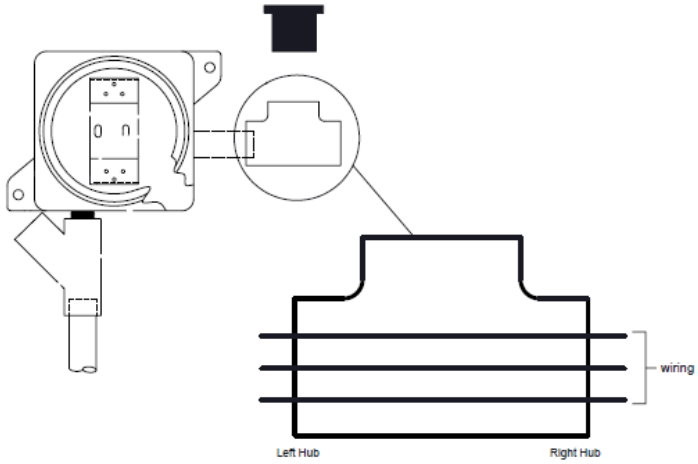
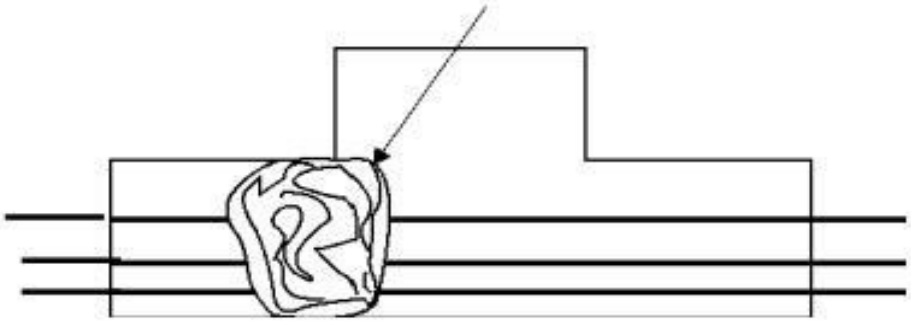
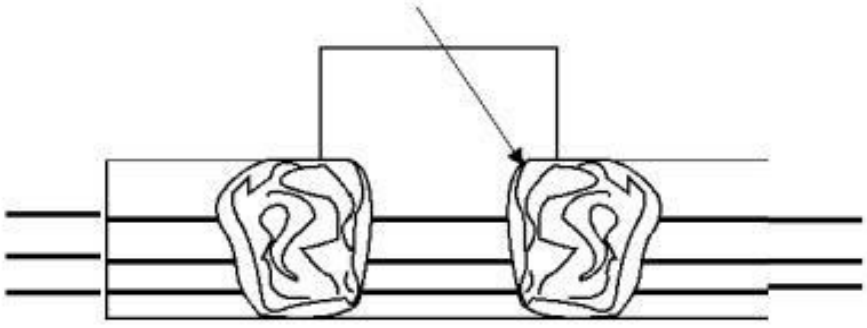


Figure 2: Horizontal Conduit, Cutaway

- Insert fiber rope material down into horizontal conduit opening. Pressing down firmly, work the material into the left hub and—most importantly—being sure the material COMPLETELYSURROUNDS THE WIRING, from the top to the bottom, completely blocking this end of the horizontal conduit.

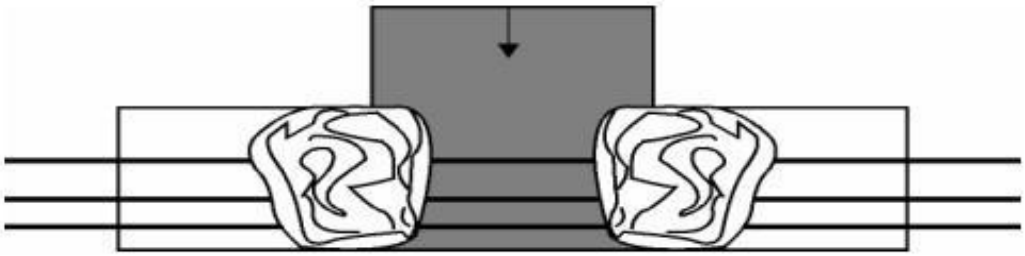


- Insert fiber rope material down into horizontal conduit opening. Pressing down firmly, work the material into the right hub and—most importantly—being sure the material COMPLETELYSURROUNDS THE WIRING, from the top to the bottom, completely blocking this end of the horizontal conduit.



- Pour sealing compound down in between the two fiber rope dams filling the remaining space. Pour slowly, being careful not to trap air bubbles. Immediately wipe off any spilled sealing compound.
- Screw conduit domed-cover back onto conduit opening.

NOTE: INITIAL SETUP OF SEALING COMPOUND WILL OCCUR IN APPROXIMATELY 30 MINUTES HOWEVER, THE SEALING COMPOUND REQUIRES A MINIMUM OF 8 HOURS ABOVE 32ºF TO DEVELOP SUFFICIENT STRENGTH TO WITHSTAND EXPLOSIONS.



Note: Wires must be kept separated as shown in the diagram before addition of the sealing compound.

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

Selecting a Location

Choose a location for the refrigerator/freezer that will provide a clearance of 4 in. at the top, 8 in. at the rear and 3 in. at 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 Article 440.

WARNING
For personal safety this unit must be properly grounded.

Leveling the Unit

The 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.

Locate the two front leveling legs taped among the packing materials. Screw these legs into the front holes on the bottom of the freezer. The back of the refrigerator/freezer rests on two fixed supports. Adjust the front legs enough to lift the cabinet up off of the floor. Place a leveling tool on top of the refrigerator/freezer first side to side, then front to back. Turn leg counter clockwise to raise a corner.

Wiring

General purpose units use 15 or 20 amp power cords. They are rated for 115 volts, AC, 60 Hz. Do not use extension cords, and always use a three prong grounded wall outlet. Figure 3 shows standard NE service cord plugs and wall outlets used for our refrigerators and freezers.

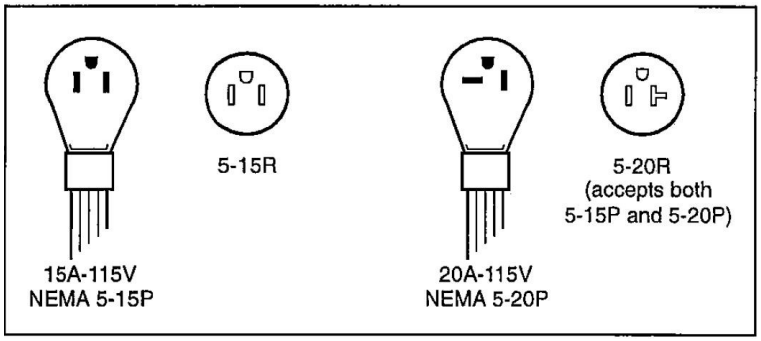


Figure 3. NEMA Plugs and Receptacles

Shelves

Shipped inside each cabinet are four fixed shelves which also serve as part of the evaporator coil on freezer models. For the refrigerator models, out of the four shelves, one shelf is a sheet metal shelf & others are wired shelves are fixed. For Corrosion resistant models all shelves are steel shelves.

CAUTION
Do not use an extension cord. Use of an ungrounded cord or an over-loaded circuit VOIDS the compressor warranty.

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 interiors 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 unit running, check that the line voltage is within ±10% of that specified on the data plate.

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.

The power cord on this product is equipped with a three-prong (grounding plug appropriate for the voltage, current, and location for which it was designed. The plug will mate with a standard grounding outlet of the corresponding configuration to minimize the potential of an electrical shock hazard. It is the customer's responsibility to have the wall receptacle and supply circuit checked by a qualified electrician to verify that they are appropriate for the power requirements of the product, that they match the supplied plug, and that they are properly grounded and have over-current protection.

Door Seal

To check the door seal, complete the steps:

1. Open the door.
2. Insert a strip of paper (a couple of inches wide) between the door gasket and the cabinet flange and close the door.
3. Slowly pull the paper strip from the outside. You should feel some resistance.
4. Repeat this test at 4 inch intervals around the door. If the door does not seal properly, replace the gasket.

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 on 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.

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.

Initial Startup

This unit is not equipped with a power switch. Turn the applicable facility circuit breaker off during installation. Simply turn power on the facility's circuit that supplies the unit.

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.

Condensate Disposal

For EF models

The condensate drain is at the centre 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.

For ER models

Equipped with a drain pan that collects condensate during manual defrost. This drain pan takes advantage of the heat generated by the compressor to evaporate condensate water, so there is no need to empty the pan during each defrost cycle.

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.
Cordura Companies
9889 Willow Creek Road P.O. Box 26637
San Diego, California 92126.

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 Customer Service at 1-800-438-4851.

Symptom	**Probable Cause**	**Action**
Does Not Run	Unit Unplugged	Plug in
	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

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.

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.

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.

One Year Limited Warranty

This Thermo Scientific product is warranted to be free of defects in materials and workmanship for one (1) year 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 labour 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 or 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 Thermo Scientific 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.

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1-866-9-THERMO

WEEE Compliance

Great Britain

WEEE Compliance. This product is required to comply with the European Union's Waste Electrical & Electronic Equipment (WEEE) Directive 2002/96EC. It is marked with the following symbol. Thermo Fisher Scientific has contracted with one or more recycling/disposal companies in each EU Member State, and this product should be disposed of or recycled through them. Further information on Thermo Fisher Scientific compliance with these Directives, the recyclers in your country, and information on Thermo Scientific products which may assist the detection of substances subject to the RoHS Directive are available at **www.thermo.com/**

Deutschland

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Italian

Conformità WEEE. Questo prodotto deve rispondere alla direttiva dell' Unione Europea 2002/96EC in merito ai Rifiuti degli Apparecchi Elettrici ed Elettronici (WEEE). È marcato col seguente simbolo.Thermo Fisher Scientific ha stipulato contratti con una o diverse società di riciclaggio/smaltimento in ognuno degli Stati Membri Europei. Questo prodotto verrà smaltito o riciclato tramite queste medesime. Ulteriori informazioni sulla conformità di Thermo Fisher Scientific con queste Direttive, l'elenco delle ditte di riciclaggio nel Vostro paese e informazioni sui prodotti Thermo Scientific che possono essere utili alla rilevazione di sostanze soggette alla Direttiva RoHS sono disponibili sul sito **www.thermo.com/**

French

Conformité WEEE. Ce produit doit être conforme à la directive européenne (2002/96EC) des Déchets d'Equipements Electriques et Electroniques (DEEE). Il est marqué par le symbole suivant. Thermo Fisher Scientific s'est associé avec une ou plusieurs compagnies de recyclage dans chaque état membre de l'union européenne et ce produit devraitêtre collecté ou recyclé par celles- ci. Davantage d'informations sur laconformité de Thermo Fisher Scientific à ces directives, les recycleurs dans votre pays et les informations sur les produits Thermo Scientific qui peuvent aider le détection des substances sujettes à la directive RoHS sont disponibles sur **www.thermo.com/**

Important

For your future reference and when contacting the factory, please have the following information readily available:

Model Number: _____

Serial Number: _____

Date Purchased: _____

The above information can be found on the dataplate attached to the equipment. If available, please provide the date purchased, the source of purchase (manufacturer or specific agent/ rep organization), and purchase order number.

IF YOU NEED ASSISTANCE:

SALES DIVISION

Phone: 828/658-2711 800/252-7100

FAX: 828/645-3368

LABORATORY PARTS and SERVICE

Phone: 800/438-4851

FAX: 828/658-2576

TECHNICAL SUPPORT

Phone: 800/438-4851

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