



# Explosion-Proof Refrigerators and Freezers

Model No.

3560A  
3560-1A  
3566A  
3566-1A  
3552A  
3552-1A

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# Safety Information

## 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.



**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.

Your satisfaction and safety are important to us 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.

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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

Freezers: -20° to -12°C (-4° to 10°F)

Refrigerators: 2° to 10°C (36° to 50°F)

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## Temperature Stability

@4°C: +4°C

@-20°C: +4°C

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## Electrical Requirements

3560A, 3566A, 3552A: 115 Volts, 60 Hz, 5.0 Amps

3560-1A, 3566-1A, 3552-1A: 220 Volts, 50 Hz, 5.0 Amps

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# Installation

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## Selecting a Location

Choose a location for the refrigerator that will provide at least three inches of clearance between the cabinet and any adjacent vertical surface at the sides and four inches at the rear. Four inches of clearance is required above the top. Appropriate electrical power must be available. Attach the refrigerator to the facility's electrical supply as directed by the [National Electrical Code Article 440](#).

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## Leveling the Unit

This 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. 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 door's exterior. Only supply this unit with an electrical 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  $\pm 10\%$  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.



### Caution

Do not under any circumstances, attach a line cord to this unit. This refrigeration equipment is intended for a hard-wire connection to the facility power supply.

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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.

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## **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.

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## **Temperature Control**

To adjust the interior temperature down, simply turn the thermostat knob clockwise. The adjustment knob is located behind the front cover of the blue temperature control unit that is on the top exterior on the cabinet. Remove the two screws with a flat blade screw driver for access. 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 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 temperature control up or remove power to the unit 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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270 Madison Ave.  
New York, NY 10016

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# Maintenance

**Caution**

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, or paint thinner that could be harmful to plastic materials, door gasket and/or painted surface.

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## Cabinet Cleaning

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.

The exterior of the cabinet should be cleaned occasionally. A mild detergent and lukewarm water or 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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# 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 1-800-553-0039.

<b><u>Symptom</u></b>	<b><u>Probable Cause</u></b>	<b><u>Action</u></b>
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	Disconnect power. Allow refrigeration system time to equalize, then try again. If problem persists, call for service.
Insufficient Cooling	Thermostat set too high	Reduce thermostat setting
	Unit frosted	Defrost unit

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# 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 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 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.

For the name of the authorized Thermo Scientific product dealer nearest you or any additional information, contact us:

2555 Kerper Blvd., Dubuque, Iowa, 52004-0797

Phone: 563-556-2241 or 1-800-553-0039

Fax: 563-589-0516

E-mail: [mkt@thermofisher.com](mailto:mkt@thermofisher.com)

Web: [www.thermo.com](http://www.thermo.com)