-30°C Laboratory and Plasma Freezers A and D

Installation and Operation

325099H11 Rev. D July 2016

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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. Thermo Fisher Scientific makes no representations or warranties with respect to this manual. In no event shall Thermo be held liable for any damages, direct or incidental, arising from or related to the use of this manual.

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1 Introduction

This manual provides installation and operation instructions for laboratory and plasma freezers with a preset temperature setpoint of -30°C.

The control system, standard on all models, includes:

- Key-operated power and alarm switch
- Preset temperature setpoint
- Digital temperature display with 0.1°C resolution
- Graphic temperature display
- Audible and visual power failure indicators
- Alarm silence, ringback, and automatic reset functions
- SureTemp™ alarm system test

Other standard features include:

- Keyed door locks
- Remote alarm contacts
- CFC-free refrigerant
- CFC-free foamed in-place urethane insulation
- Quiet, Hermetically sealed refrigeration compressors

1.1 Specifications

1.1.1 Environmental Operating Conditions

Pollution degree	2
Installation Category	II
Altitude	2000m MSL (mean sea level)
Humidity	Max 80% - non-condensing
Voltage Tolerance	±10%
Ambient Temperature	15 to 32°C (59 to 90°F)
Product usage	Indoor Use only

1.1.2 Model specifications

Model number	Voltage/Frequency	Amperage	Plug Type	Power Module Plug	Weight Kg (Lbs)	Exterior Dimensions (LxWxH)
430	A: 115 D: 208/230	10 7	5-15 P 6-15 P	IEE C19	96 kg (212 lbs)	28.9 x 24 x 34 in. (73.4 x 61 x 86.4 cm)
1230	A: 115 D: 208/230	12	5-15 P 6-15 P	IEE C19	166 kg (365 lbs)	29.3 x 24 x 73.6 in. (74.3 x 61 x 186.9 cm)
2330	A: 115 D: 208/230	12 8	5-15 P 6-15 P	IEE C19	193 kg (425 lbs)	37.2 x 28 x 79.2 in. (94.5 x 71.1 x 201.2 cm)
3030	A: 115 D: 208/230	15.5 12	5-20 P 6-15 P	IEE C19	263 kg (580 lbs)	37.2 x 34 x 79.2 in. (94.5 x 86.4 x 201.2 cm)
5030	A: 115 D: 208/230	16 12	5-20 P 6-15 P	IEE C19	295 kg (650 lbs)	37.2 x 56.5 x 79.2 in. (94.5 x 143.5 x 201.2 cm)

1.2 Intended Use

Be sure to read this section to determine whether your freezer model is intended for use as a medical device.

Models with the following prefixes are intended for use as medical devices:

FFPF, UFP, JPL

Models with the following prefixes are not intended for use as medical devices and are not int ended for in vitro diagnostic tests:

FFGL, ULT, IUF, JLF

2 Safety Precautions

In this manual, the following symbols and conventions are used:

This symbol used alone indicates important operating instructions which reduce the risk of injury or poor performance of the unit.

WARNING: This symbol indicates potentially hazardous situations which, if not avoided, could result in serious injury or death.

WARNING: This symbol indicates situations where dangerous voltages exist and potential for electrical shock is present.

CAUTION: This symbol, in the context of a CAUTION, indicates a potentially hazardous situation which if not avoided could result in minor to moderate injury or damage to the equipment.

CAUTION: This indicates a situation which may result in property damage.

The snowflake symbol indicates extreme low temperatures and high risk of frostbite. Do not touch bare metal or samples with unprotected body parts.

This symbol indicates a need to use gloves during the indicated procedures. If performing decontamination procedures, use chemically resistant gloves. Use insulated gloves for handling samples and when using liquid nitrogen.

Before installing, using or maintaining this product, please be sure to read this manual and product warning labels carefully. Failure to follow these instructions may cause this product to malfunction, which could result in injury or damage.

Below are important safety precautions that apply to this product:

- Use this product only in the way described in the product literature and in this manual. Before using it, verify that this product is suitable for its intended use. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- Do not modify system components, especially the controller. Use Thermo Scientific exact replacement equipment or parts. Before use, confirm that the product has not been altered in any way.
- Your unit must be properly grounded in conformity with national and local electrical codes. Never connect the unit to overloaded power sources.
- Disconnect the unit from all power sources before cleaning, troubleshooting, or performing other maintenance on the product or its controls.

WARNING: Do not store flammable materials in this unit.

3 Unpacking

At delivery, examine the exterior for physical damage while the carrier's representative is present. If exterior damage is present, carefully unpack and inspect the unit and all accessories for damage.

If there is no exterior damage, unpack and inspect the equipment within five days of delivery. If you find any damage, keep the packing materials and immediately report the damage to the carrier. ***Do not return goods without written authorization.*** When submitting a claim for shipping damage, request that the carrier inspect the shipping container and equipment.

4 Temperature Monitoring

IMPORTANT NOTE: We recommend the use of a redundant and independent temperature monitoring system so that the freezer can be monitored continuously for performance commensurate with the value of product stored.

5 Installation

CAUTION: Improper operation of the equipment could result in dangerous conditions. Follow all instructions and operate within design limits noted on the dataplate.

5.1 Location

Install the unit in a level area free from vibration with a minimum of 6 inches of space on the sides and rear and 12 inches at the top.Undercounter units require 1 inch of clearance on top.

Do not position the equipment in direct sunlight or near heating diffusers, radiators, or other sources of heat. The ambient temperature range at the location must be 59 to 90°F (15 to 32°C).

5.2 Leveling

The unit must be level. If the unit is out of level, you may need to shim the corners or casters with thin sheets of metal.

5.3 Wiring

Before connecting your freezer to a power source, be sure to check the dataplate for correct voltage. Standard NEMA plugs are provided with all units. Wiring diagrams are attached to the back of the cabinet.

CAUTION: Connect the equipment to the correct power source. Incorrect voltage can result in severe damage to the equipment.

WARNING: For personal safety and trouble-free operation, this unit must be properly grounded before it is used. Failure to ground the equipment may cause personal injury or damage to the equipment. Always conform to the National Electrical Code and local codes. Do not connect unit to already overloaded power lines.

Always connect the equipment to a dedicated (separate) circuit. Electrical codes require fuse or circuit breaker protection for branch circuit conductors. Use time delay fuses for #12 AWG circuits.

5.4 Drawers

Plasma freezers come standard with drawers. Additional drawers are offered as available options.

5.5 Door Seal

Door seal integrity is critical for freezers. A loose fitting gasket allows moist air to be drawn into the cabinet, resulting in quicker frost buildup on the evaporator coil, longer running time, poor temperature maintenance, and increased operation cost.

To check the door seal, complete the following 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.

5.6 Solid Doors

Solid doors stay open if opened 90 degrees. Solid door spring tension cannot be adjusted.

5.7 Final Checks

Before start up, complete the following steps:

1. Make sure that the unit is free of all wood or cardboard shipping materials, both inside and outside.
2. Verify that the unit is connected to a dedicated circuit.

6 Control Panel

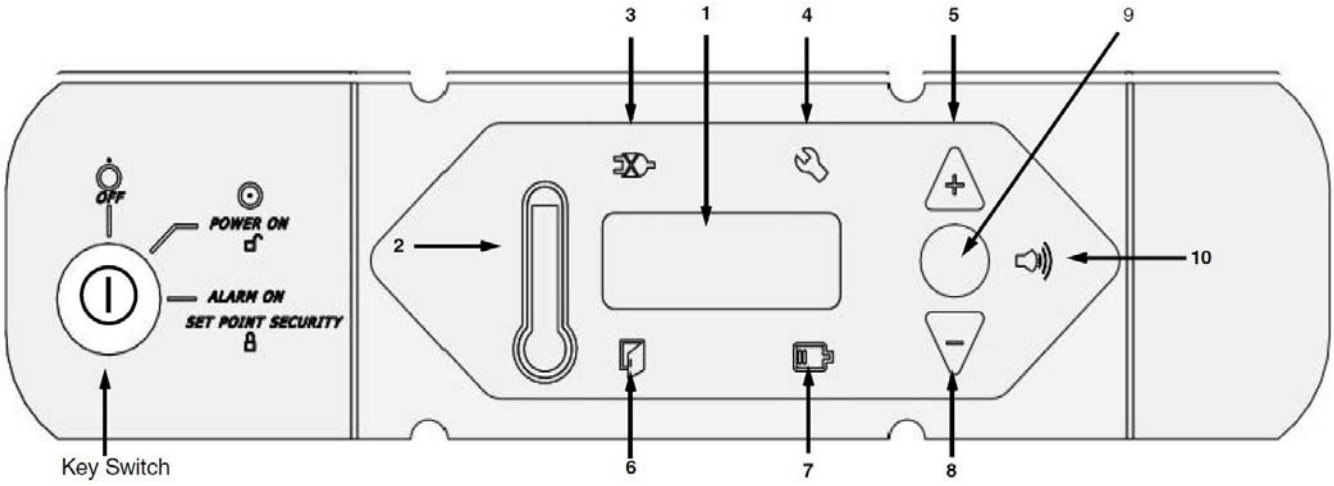

Figure 1. Laboratory Freezer Control Panel

6.1 Control Panel Features

The control panel is located on the top right side of your freezer. You can use the three pushbuttons (#5, #8, and #9 in Figure 1) to change the temperature display (#1) or to adjust temperature and alarm setpoints. The thermometer display (#2) provides a quick visual indicator of current cabinet temperature and alarm conditions.

1. Main temperature display — during normal operation, shows cabinet temperature in degrees Celsius, as measured by the sensor inside the cabinet. You can use the buttons to display other values such as setpoints, and highest and lowest recorded temperatures. The number in the main display flashes when the value can be modified.

2. Thermometer — shows cabinet temperature and alarm conditions. There are 10 horizontal bars: 9 are displayed during normal operation, the tenth (top) bar indicates a warm alarm condition. The number of bars illuminated indicates approximate cabinet temperature. Depending on alarm settings, 4 or 5 bars illuminated indicate that the cabinet is at setpoint. For example, suppose that the cabinet temperature setpoint is -20°C and that the warm and cold alarm setpoints are -16°C and -24°C. Then the number of bars illuminated indicates cabinet temperature as shown in Table 1.

Table 1. Thermometer display on control panel (setpoint -30ºC)

Bars Displayed	Temperature	Bars Displayed	Temperature
bulb only	-34ºC (cold alarm)	6 bars	-28°C
1 bar	-33ºC	7 bars	-27°C
2 bars	-32ºC	8 bars	-26°C (warm alarm)
3 bars	-31ºC	9 bars	-25°C
4 bars	-30ºC (setpoint)	10 bars	-24°C
5 bars	-19ºC		

When cabinet temperature exceeds the warm alarm setpoint, the top bar of the thermometer flashes. When temperature is lower than the cold alarm setpoint, the bulb flashes.When you are in programming mode (described in Table 3) the thermometer shows the setpoint value you are changing.

3. Power failure — illuminated when the main power supply is interrupted. In this case the audible alarm also sounds.

4. Service required — illuminated when the controller is in service programming mode or when simulated warm or cold alarm conditions are failing to occur during an alarm test.

5. Increase —Push button used to increase setpoint values in programming mode and for various display functions.

6. Door ajar — illuminated when the freezer door is open and the alarm is activated, and the key switch is turned to the alarm position.

7. Battery low — illuminated when the backup battery is low.

8. Decrease —Push button used to decrease setpoint values in programming mode and for various display functions.

9. Scan — Push button used to change the main display and for various other functions.

10. Audible alarm — illuminates during warm and cold alarm conditions.

For full descriptions of display, programming, and service functions, refer to the following Tables.

6.2 Display Functions

Table 2. Control Panel Display Functions

Function	Meaning	Sequence	Display
Normal operation	Default display while freezer is running.	—	Temperature display and control panel thermometer icon show cabinet temperature.
Colde excursion	Show coldest cabinet temperature since last startup or reset.	Press ▽	Display shows coldest logged temperature while button is pressed.
Warm excursion	Show warmest cabinet temperature since last startup or reset.	Press △	Display shows warmest logged temperature while button is pressed.
Mute	Silence audible alarm for.	Press ○ (the Scan button between ▽ and ▽)	Display and thermometer show cabinet temperature, alarm icon continues to flash.
Reset	Return to default display after excursion or alaram condition.	Press △ and ▽ simultaneously,hold for five seconds	Excursion values are reset; temperature display shows cabinet temperature.
Sure Temp Alarm test	Tests alarm system by warming/cooling probe surface; key switch must be in alarm mode	Press △ and ○ simultaneously	Display and thermometer icon show simulated cabinet temperature, alarms flash and sound as appropriate. Alarms clear when test is completed.

6.3 Programming Functions

You can enter programming mode by pressing the Scan button (●) and holding for 5 seconds. Pressing repeatedly scrolls through the available setpoint functions: temperature control setpoint, cold alarm and warm alarm.

Table 3. Setpoint Programming Functions

Function	Programming Sequence
Adjust temperature control setpoint	Enter programming mode by ● pressing and holding for 5 seconds. On release, the current temperature setpoint value flashes in the temperature display; ▽ use and △ to adjust it. Press ● to confirm the new value. The display automatically returns to normal operating mode 30 seconds after the last key entry or after scrolling through all available functions.
Adjust cold alarm setpoint	Enter programming mode by pressing and holding for 5 seconds. On release, the current cold alarm setpoint value flashes in the temperature display; ▽ use △ and to adjust it. The display automatically returns to normal operating mode 30 seconds after the last key entry or after scrolling through both available functions.
Adjust warm alarm setpoint	Enter programming mode and press ● repeatedly until the top of the thermometer is illuminated. The current warm alarm setpoint value then flashes in the temperature display; ▽ use △ and to adjust it. The display automatically returns to normal operating mode 30 seconds after the last key entry or after scrolling through all available functions.

6.4 Service Parameters

You can access service parameters by entering programming mode with the controller key in the Power On position, then pressing ○ for an additional 5 seconds. On release of the button, the display will go blank, then display "SEr" with the service wrench icon illuminated. Then the *firmware checksum* (read-only) will be displayed for about 4 seconds.Pressing ○ repeatedly scrolls through the available service functions. While you are in service mode, the wrench icon is illuminated. For any flashing parameter you can ▽ use △ and to adjust the value.

Table 4. Service Parameters

Parameter	Display	Notes
1. Offset	Value in main display, single bar illuminated in thermometer.	Center air temperature calibration. Default value is 0 (maximum + or - 10.0).
2. Line voltage	Err.	Not available for this model.
3. Network address	nEt (2 sec.); Adr (2 sec.);then value.	Can only be modified by RS-485 communications software.
4. Defrost probe temperature	dEF (2 sec.); Prb (2 sec.); then value.	Display only.

7 Operation

7.1 Temperature Settings

The factory default temperature setting is -30°C for all manual defrost freezers, including enzyme freezers.

To change the factory temperature settings, refer to the instructions in Section 6.3

7.2 Start Up

To start up the freezer, complete the following steps:

1. Plug in the power cord.
2. All freezers except undercounter models have a double pole circuit breaker switch located next to the power inlet. Make sure that is in the ON (“1”) position.
3. Insert the silver colored key in the switch on the control panel and turn the power on, turning the key switch to position 1. The compressor and the evaporator fan should start immediately.
4. Rotate the power switch to the ALARM ON position when the temperature drops below the warm alarm setpoint.
5. If desired, lock the cabinet door using the gold colored key. Place duplicate key copies in a safe place.

All controls should now be fully operational, the alarm activated, and all visual indicators active.

CAUTION: Use gloves when handling samples to avoid potential frost bite.

Note *Maximum shelf loading is 120lbs per shelf.*

8 Defrost

8.1 Automatic Defrost

The defrosting process on all -30°C freezers initiates automatically in response to a built-in timer.

All models are set for one defrost cycle every six hours. The defrost cycle is 20 minutes. The cycle terminates automatically if during defrost the evaporator coil temperature exceeds 15°C.

9 Alarm Systems

9.1 Operating the Alarm

The alarm system is designed to provide visual and audible warning signals for both power failure and rise in temperature. The alarm is equipped with a battery backup.

Default cold and warm alarm values are -40°C and -20°C. These values may be adjusted, following the instructions in Section 6.3.

The alarm system is activated only when the key switch is turned to the Alarm On position. The audible warning signal sounds when there is a power failure or temperature alarm condition, or when the door is ajar for more than 3 minutes.

The Mute function (pressing the ○ button) allows you to turn off the audio warning without turning off the visual indicators.

To turn off and reset flashing visual alarms, press △ and ▽ simultaneously.

There is also a ringback function after approximately 6 minutes if any alarm condition remains active.

9.2 Local and Remote Alarms

Freezer units can have either a factory-installed local alarm or an optional user-installed remote alarm. Operating and testing procedures are the same for both types of alarm.

The maximum distance between a freezer and a remote alarm depends on the wire gauge used. Refer to Table 5 below.

Table 5. Wire Gauges and Distance to Remote Alarm

Wire Gauge	Total Wire Length (feet)	Distance to Alarm 1/2 Wire Length (feet)
20	530	265
18	840	420
16	1,330	665
14	2,120	1,060
12	3,370	1,685

9.3 Installing a Remote Alarm (Optional)

Remote alarm terminals are located at the rear of the machine compartment. The terminals are: Common , Open on Fail (black, Normally Closed), and Close on Fail (Normally Open).

9.4 Alarm Test

Your freezer is equipped with a SureTempTest™ testing system which automatically tests the alarm probe and electronics. This may eliminate the need for other methods of warming or cooling the probe, such as ice baths.

9.4.1 Theory of Operation

During the alarm test, the temperature sensor is artificially heated by a tiny, built-in thermoelectric heating unit which simulates warm conditions. The electronic control module notes the sensor temperature changes and the control panel displays these changes.

While this alarm testing procedure is very accurate and reliable, the temperature of the refrigerated space does not change during the alarm test.

9.4.2 Alarm Test Procedure

Note *This test automatically advances through all steps and stops.*

1. Verify that the key position is in the Alarm On mode, and that the current warm and cold alarm setpoints are within normal ranges (the warm and cold simulations may not work if the setpoints are set to extreme values).

2. To start the alarm test, press △ and ○ simultaneously. During the test the main display and thermometer bulb will indicate simulated (not actual) cabinet temperature.

3. When simulated temperature exceeds the warm alarm setpoint, the alarm sounds and the alarm icon on the control panel illuminates (#10 in Figure 1).

4. The temperature display begins to drop. After a few seconds, the temperature in the display is back in the operating range.

5. The test is now complete but the alarm continues to sound until the temperature on the display is back in the operating range.

If the simulated alarm conditions do not occur during the first five minutes of the alarm test, the service (wrench) icon illuminates and the test is terminated. You can also terminate the test immediately by turning the key switch to the second (Power On) position. When during the alarm test, the temperature display does not change or the service icon illuminates, check the sensor connections.

After an alarm test has terminated, there is a 10-minute delay before the test can be run again.

10 Chart Recorders

Panel-mounted six inch recorders are standard and factory-installed on all models except for undercounter models, for which free-standing recorders are provided.

Recorder operation begins when the system is powered on.

10.1 Set Up and Operation

To prepare the recorder to function properly, complete the following steps:

1. Open the recorder door to access the recorder.
2. Connect the nine volt DC battery located at the recorder's upper right corner. This battery provides back-up power.
3. Install clean chart paper (refer to Section 10.2 below).
4. Close the recorder door.

Note *The recorder may not respond until the system reaches temperatures within the recorder's range.*

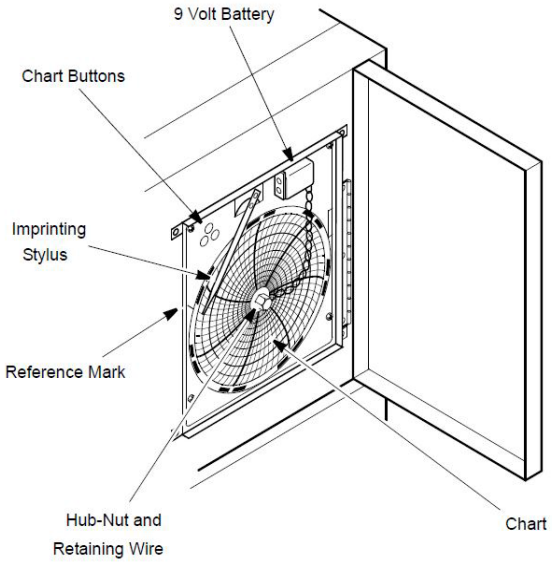

Figure 2. Six Inch Chart Recorder

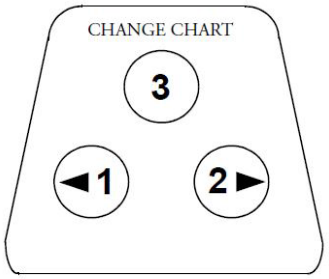

Figure 3. Pressure Sensitive Chart Buttons

10.2 Changing Chart Paper

To change the chart paper, complete the following steps:

1. Locate the pressure sensitive buttons at the front, upper left of the recorder panel.

2. Press and hold the change chart button (#3 on the upper left of the panel) for one second. The pen will move off the scale.

3. Unscrew the center nut, remove the old chart paper, and install new chart paper. Carefully align the day and time with the reference mark on the recorder panel (a small groove on the left side of the panel, shown in Figure 2).

4. Replace the center nut and hand tighten. Press the change chart button again(#3) to resume temperature recording.

10.3 Power Supply

The recorder normally uses AC power when the system is operating. If AC power fails, the LED indicator on the recorder flashes to alert you to a power failure. The recorder continues sensing cabinet temperature and the chart continues turning for approximately 24 hours with back-up power provided by the nine-volt battery.

The LED indicator glows continuously when main power is functioning and the battery is charged.

When the battery is low, the LED flashes to indicate that the battery needs to be changed.

10.4 Calibration Adjustment

This recorder has been accurately calibrated at the factory and retains calibration even during power interruptions. If required, however, adjustments can be made as follows:

1. Run the unit continuously at the control setpoint temperature. Continue steady operation for at least two hours to provide adequate time for recorder response.

2. Measure cabinet center solution temperature with a calibrated temperature monitor.

3. Compare the recorder temperature to the solution temperature. If necessary, adjust the recorder by pressing the left (#1) or right (#2) chart buttons for five seconds.

Note *The stylus does not begin to move until the button is held for five seconds.*

11 Drawers

11.1 Removing the Drawers

Larger models

To remove the drawers in 23 ft^3 and larger models, complete the following steps (refer to Figure 4):

1. Pull the drawer toward you until the slides are fully extended.

2. Lift the back of the drawer to disengage the mounting tabs from the slots on the slides.

Note *The drawers fit snugly between the slides. Push the back of the drawer from underneath to remove the drawer.*

3. Raise the back of the drawer almost to a vertical position and disengage the front mounting clips from the slides.

5 and 12 Cu. Ft. models

To remove the drawers on 5 and 12 cu.ft. models, depress the hooks located on both sides of the drawers (about 1/3 of the way back) and slide the drawers up and out.

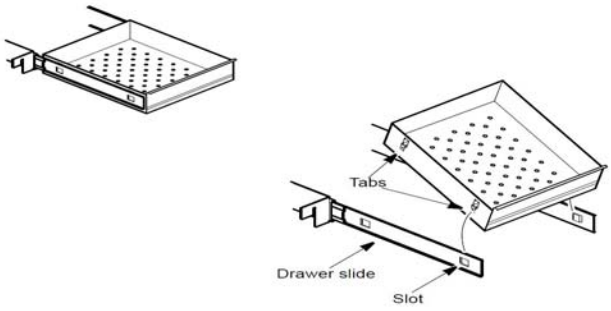

Figure 4. Drawer Removal (Upright Models)

11.2 Reinstalling the Drawers

To reinstall the drawers in 23 cu.ft. models and larger, complete the following steps (refer to Figure 4):

1. Pull both drawer slides toward you until the slides are fully extended.

2. Position the drawer between the slides and with the back facing end raised at a 45 degree angle, insert the front mounting clips into the slots on front of the slides.

3. Push the back of the drawer down between the slides and insert the drawer tabs into the back slots.

Note *The drawers fit snugly between the slides. Push on the back of the drawer from the inside to insert the drawer tabs completely into the slots. Make sure both drawer tabs are aligned with the slots on the slides before pushing the drawer down between the slides.*

11.3 Changing Drawer Position

The drawer slides are adjustable to higher and lower positions in the cabinet. You can position these slides in the vertical slots which are spaced at one-inch intervals.

Drawer slides have a small wire safety clip at the front pilaster which prevents the slides from falling when the drawers are removed. To change the position of the drawer slides, complete the following steps:

1. Locate the safety clip.

2. Slip a small screwdriver under the bottom of the wire clip and pry the clip out toward the inside of the freezer.

3. Lift up the slide at the front. The slide is free to move from the front pilaster.

4. The drawer slide must be removed from the rear pilaster at approximately a 45 degree angle toward the center of the cabinet.

5. Pull the slide toward the front of the cabinet.

6. Reposition the slide to the desired vertical slot.

7. Replace the safety clip.

CAUTION: Drawer slides do *not* require lubrication. Additional lubricant could impede movement of the drawers when the lubricant is cold.

12 Cleaning

12.1 Cleaning the Drawers

To clean the drawers, use a solution of water and a mild detergent. Rinse the drawers and wipe them dry with a soft cloth.

For instructions on removing and reinstalling drawers, refer to Section 10.

12.2 Cleaning the Condenser

CAUTION: Condensers should be cleaned at least every six months. In heavy traffic areas, condensers load with dirt more quickly. Failure to keep the condenser clean can result in equipment warm-up or erratic temperatures.

WARNING: Be sure to disconnect the unit from main power before cleaning the condenser.

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

In all models, the condenser is located in the top machine compartment. To clean the condenser:

1. Disconnect the power.
2. Remove the top front grill.
3. Use a vacuum cleaner with hose and brush attachments to clean the front face of the finned surface.
4. Clean up any loose dust and replace the front grill.
5. Reconnect the power.

13 Troubleshooting

WARNING: Troubleshooting procedures involve working with high voltages which can cause injury or death. Troubleshooting should only be performed by trained personnel.

This section is a guide to troubleshooting equipment problems.

Table 6. Troubleshooting Procedures

Problem	Cause	Solution
Unit does not operate or Power Failure Indicator is on.	Power supply	Check that the cord is securely plugged in. All models except undercounter models have a double pole circuit breaker located next to the power inlet. Make sure that it is in the ON (“1”) position. Try cycling the switch to OFF (“0”) then ON (“1”). Plug another appliance into the outlet to see if it is live. If the outlet is dead, check the circuit breaker or fuses.
Temperature fluctuates.	Cold control	Make sure that the cold control is set correctly. Refer to Section 6.
	Condenser	Make sure the condenser is clean. Refer to Section 12.2.
Unit warms up.	Door is open	Make sure the door is completely closed.
	Warm product recently loaded in unit	Allow ample time to recover from loading warm product.
	Power supply	Check for proper voltage to the unit. If there is no voltage to the unit, call an electrician.
	Compressor	If the compressor is not running, check if the unit has a power failure alarm. If the power failure alarm light is on, have an electrician check for proper voltage to the unit. If the compressor is running, open the door and look through the slotted air intake in the bottom of the evaporator cover to see if icing is present on the evaporator. If icing is present and there is no air flow behind evaporator, call technical service for assistance. The evaporator fans may be inoperative. If the compressor is running and there is air flow behind the evaporator, contact an authorized service provider or call the technical support hot line for assistance.

14 Warranty Statement

Domestic Warranty • 24 Months Full Warranty Parts and Labor
International Warranty • 24 Months Full Warranty for Parts Only.

During the first twenty four (24) months from shipment, Thermo Fisher Scientific Inc, through its authorized Dealer or service organizations, will at its option and expense repair or replace any part found to be non-conforming in material or workmanship. Thermo Fisher Scientific Inc reserves the right to use replacement parts, which are used or reconditioned. Replacement or repaired parts will be warranted for only the unexpired portion of the original warranty.

This warranty does not apply to damage caused by (i) accident, misuse, fire, flood or acts of God; (ii) failure to properly install, operate or maintain the products in accordance with the printed instructions provided, (iii) causes external to the products such as, but not limited to, power failure or electrical power surges, (iv) improper storage and handling of the products, (v) use of the products in combination with equipment or software not supplied by Thermo Fisher; or (vi) installation, maintenance, repair, service, relocation or alteration of the products by any person other than Thermo Fisher or its authorized representative. To obtain proper warranty service, you must contact the nearest authorized service center or Dealer. Thermo Fisher Scientific, Inc's own shipping records showing date of shipment shall be conclusive in establishing the warranty period. At Thermo Fisher's option, all non-conforming parts must be returned to Thermo Fisher postage paid and replacement parts are shipped FOB Thermo Fisher's location.

Limitation of Liability

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THERMO FISHER SHALL NOT BE LIABLE FOR ANY INDIRECT OR CONSEQUENTIAL DAMAGES INCLUDING, WITHOUT LIMITATION, DAMAGES TO LOST PROFITS OR LOSS OF PRODUCTS.

WEEE Compliance

WEEE Compliance. This product is required to comply with the European Union's Waste Electrical & Electronic Equipment (WEEE) Directive 2012/19/EU. 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 our 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/

Great Britain

WEEE Konformittät. Dieses Produkt muss die EU Waste Electrical & Electronic Equipment (WEEE) Richtlinie 2012/19/EU erfüllen. Das Produkt ist durch folgendes Symbol gekennzeichnet. Thermo Fisher Scientific hat Vereinbarungen getroffen mit Verwertungs-/Entsorgungsanlagen in allen EU-Mitgliederstaaten und dieses Produkt muss durch diese Firmen widerverwetet oder entsorgt werden. Mehr Informationen über die Einhaltung dieser Anweisungen durch Thermo Scientific, dieVerwerter und Hinweise die Ihnen nützlich sein können, die Thermo Fisher Scientific Produkte zu identizfizieren, die unter diese RoHS. Anweisungfallen, finden Sie unter www.thermo.com/

Deutschland

Conformità WEEE. Questo prodotto deve rispondere alla direttiva dell' Unione Europea 2012/19/EU in merito ai Rifiuti degli Apparecchi Elettrici ed Elettronici (WEEE).
È marcato col seguente simbolo.Thermo Fischer 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/

Italia

Conformité WEEE. Ce produit doit être conforme à la directive euro-péenne (2012/19/EU) 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 Fisher Scientific qui peuvent aider le détection des substances sujettes à la directive RoHS sont disponibles sur www.thermo.com/

France

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:

Thermo Scientific products are backed by a global technical support team ready to support your applications. We also offer cold storage accessories, including remote alarms, temperature recorders and validation services. Visit www.thermoscientific.com or call:

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