

# Thermo Forma

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## Models:

### **3670/3671 and 3672/3673**

9.7 cu.ft. and 16.0 cu.ft.  
Laboratory Freezers

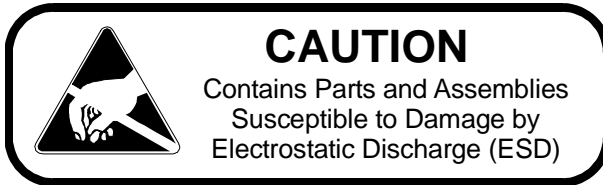
**Manual No. 7003670      Rev. 2**

### **Read this Instruction Manual**

Failure to read, understand and follow the instructions in this manual may 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.*

**Refer to the serial tag on the  
rear cover of this manual**



**NOTE:**

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

<b>MANUAL NO. 7003670</b>			
-	FR-1243	8/28/98	Changes per ECR re: Alarm System deg
-	FR-1126	6/6/97	Revised 3672 electrical schematic heg
2	FR-1114	4/18/97	3671 and 3673 updated to IEC-1010 heg
1	FR-1090	1/30/97	Changed refrigerant on Model 3670, 3671
	12343	7/94	Revised Specifications, Schematics (FLA)
0	- - -	3/94	Original Manual
<b>REV</b>	<b>ECR/ECN</b>	<b>DATE</b>	<b>DESCRIPTION</b>

## GENERAL SAFETY NOTES

The Occupational Safety and Health Administration (O.S.H.A.) has revised Section 1910-147, The Control Of Hazardous Energy (Lockout/Tagout).

Hazardous energy may be: electric, air, hydraulic, water, steam, gravity, spring & all other equally hazardous energy.

This revised regulation, states that you will de-energize all potential sources of energy (may be more than one energy source) prior to performing service or maintenance on any equipment. It also states that a lock shall be placed on the de-energized control, along with a verified test (use of a voltmeter or other equipment) to insure no accidental starts. If you are not familiar with this regulation, review the O.S.H.A. Regulation, Section 1910-147.

In field service, full compliance with this regulation is difficult at best. Troubleshooting must often be performed with hazardous energy applied; therefore extreme caution must be followed during these troubleshooting steps. Only Qualified Personnel Must Perform This Work. This phase of the repair work must be coordinated through the customer's facilities maintenance department or designated person.

When performing service or maintenance as an outside contractor/worker, follow the Outside Work Force's Lockout/Tagout system. Be alert for new types of lockout/tagout devices.

- √ Always use the proper protective equipment (clothing, gloves, goggles etc.).
- √ Always dissipate extreme cold or heat, or wear protective clothing.
- √ Always follow good hygiene practices.
- √ Each individual is responsible for his/her own safety.

For your safety adhere to all DANGER and CAUTION statements.

***Danger: This word is used to call attention to immediate hazards of equipment or conditions which, if not avoided, could result in personal injury, loss of life or property damage.***

***Caution: This word is used to call attention to potential hazards of equipment or conditions which, if not avoided, could result in personal injury, loss of life or property damage.***

## Do You Need Information or Assistance on Thermo Forma Products?

If you do, please contact us 8:00 a.m. to 7:00 p.m. (Eastern Time) at:

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1-888-213-1790

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<http://www.forma.com>

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Our **Sales Support** staff can provide information on pricing and give you quotations. We can take your order and provide delivery information on major equipment items or make arrangements to have your local sales representative contact you. Our products are listed on the Internet and we can be contacted through our Internet home page.

Our **Service Support** staff can supply technical information about proper setup, operation or troubleshooting of your equipment. We can fill your needs for spare or replacement parts or provide you with on-site service. We can also provide you with a quotation on our Extended Warranty for your Thermo Forma products.

Whatever Thermo Forma products you need or use, we will be happy to discuss your applications. If you are experiencing technical problems, working together, we will help you locate the problem and, chances are, correct it yourself...over the telephone without a service call.

When more extensive service is necessary, we will assist you with direct factory trained technicians or a qualified service organization for on-the-spot repair. If your service need is covered by the warranty, we will arrange for the unit to be repaired at our expense and to your satisfaction.

Regardless of your needs, our professional telephone technicians are available to assist you Monday through Friday from 8:00 a.m. to 7:00 p.m. Eastern Time. Please contact us by telephone or fax. If you wish to write, our mailing address is:

Thermo Forma  
Millcreek Road, PO Box 649  
Marietta, OH 45750

International customers please contact your local Thermo Forma distributor.

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## **Section 1 - Receiving**

### **1.1 Preliminary Inspection**

This item was thoroughly inspected and carefully packed prior to shipment and all necessary precautions were taken to ensure safe arrival. Immediately upon receipt, before the unit is moved from the receiving area, carefully examine the shipment for loss or damage. Unpack the shipment and inspect both interior and exterior for any in-transit damage.

### **1.2 Visible Loss or Damage**

If any loss or damage is discovered, note any discrepancies on the delivery receipt and call the delivering carrier and request that their representative perform an inspection. Do not discard any of the packing material and do not move the shipment from the receiving area.

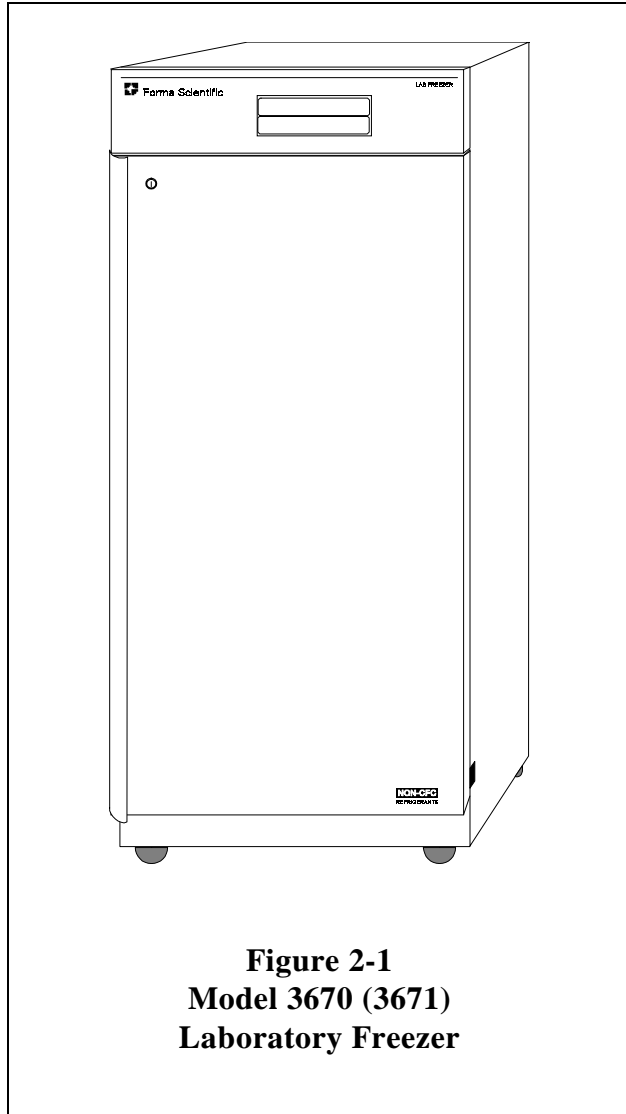
### **1.3 Responsibility for Shipping Damage**

For products shipped F.O.B. Marietta, Ohio, the responsibility of Thermo Forma ends when the merchandise is loaded onto the carrier's vehicle.

On F.O.B. Destination shipments, Thermo Forma's and the carrier's responsibility ends when your Receiving Department personnel sign a free and clear delivery receipt.

Whenever possible, Thermo Forma will assist in settling claims for loss or in-transit damage.

## Section 2 - Installation



### 2.1 Location and Unpacking

Locate the unit on a firm, level surface in an area of minimum temperature fluctuation. Avoid installing the unit near heat-emitting appliances, as heat can shorten component life and cause inefficient refrigeration.

For proper ventilation and air flow, allow at least 4-5 inches of space behind the freezer and 4-5 inches of clear space on both sides. A wall bumper is included to maintain the proper distance behind the freezer (3670/3671 only). See Section 2.2.

Avoid placing the unit in a contaminated area where an excessive amount of dust is present or where chemicals are stored or gases are produced.

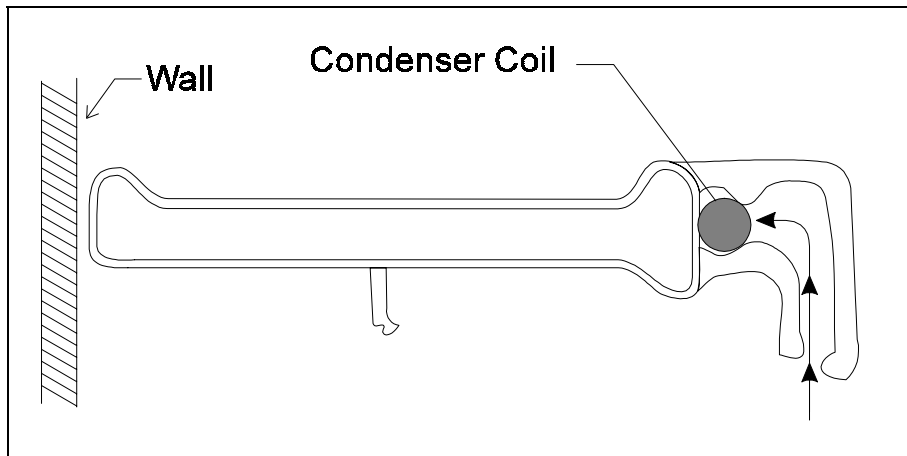
***The freezer should be connected to a grounded, dedicated electric circuit.***

Remove the packing material and open the freezer door for a short time so that air can circulate freely inside.



## 2.2 Installing the Wall Bumper (3670 and 3671 models only)

If the black plastic wall bumper is not in place on the back of the cabinet, attach it onto any convenient space along the center of the condenser coils. Push down and then forward to lock the bumper onto the coil. Refer to Figure 2-2.

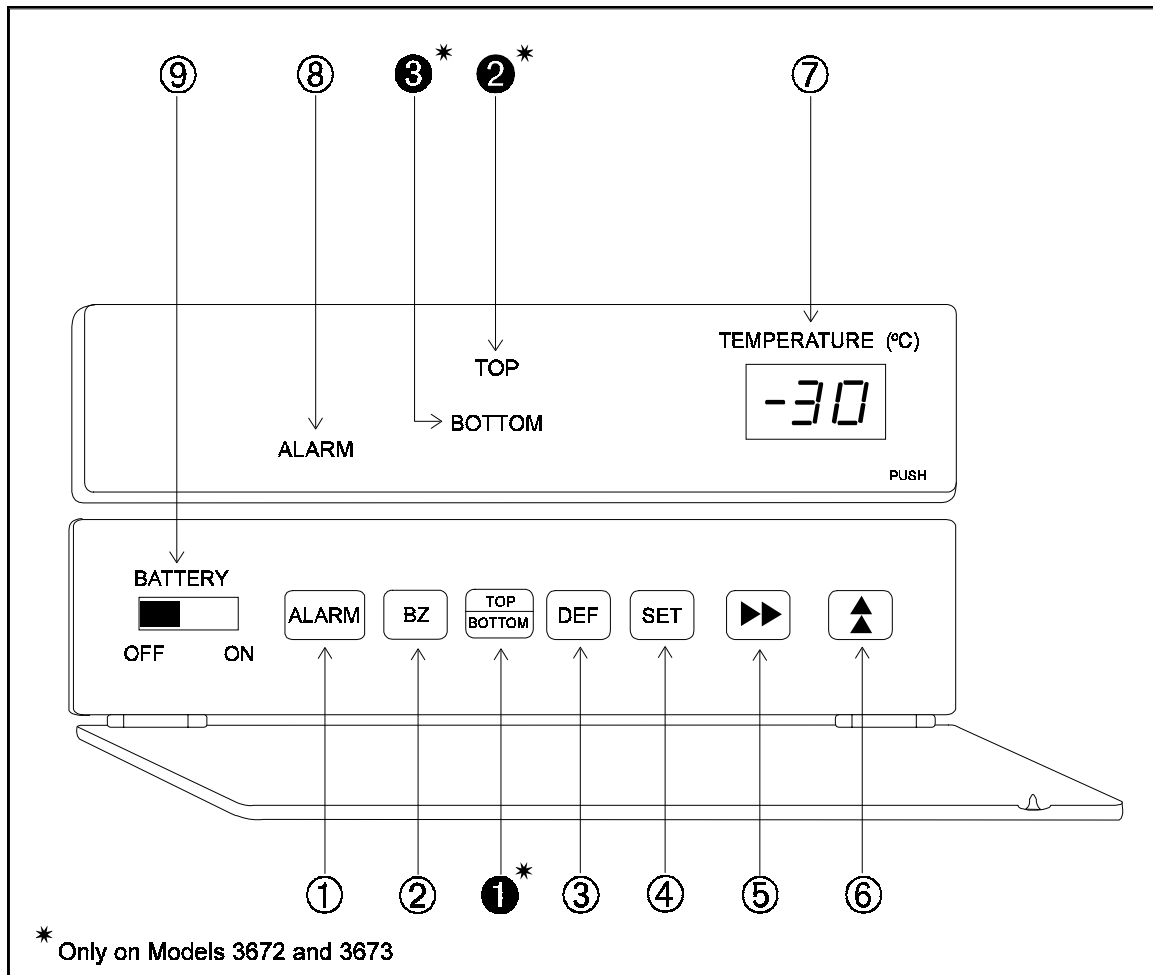


**Figure 2-2  
Installing the  
Wall Bumper**

## 2.3 Key Lock

A key lock is provided to secure the freezer door. The lock is adjacent to the door handle. Two keys are located in the parts bag accompanying this manual.

### Section 3 - Operation



① Alarm Test (ALARM) Tests the audible alarm during freezer operation.

② Alarm Buzzer Stop (BUZ) Silences the audible alarm. Pressing it again reactivates the audible alarm.

③ Defrost (DEF) Pressing this key for five seconds will start the defrosting cycle. Must be pressed again to stop defrosting and return to normal operation.

④ Set (SET) Press to change the operating temperature of the freezer. Pressing again after the temperature is set stores the temperature and returns the numerical display to the actual temperature.

⑤ Digit Shift. (Right Arrow) Pressing this key when in the Temperature Set mode alternates between the left and right digit, causing them to flash. Pressing this key when in the temperature mode locks the temperature setting.

⑥ Numerical Value Shift. (Up Arrow)

This key is used to set the values in the digital display. When used with the Digit Shift key, the value of the right and left digits are set. Use this key to unlock the controls.

⑦ Digital Temperature Display. Shows the present chamber temperature. Used also when setting the system temperature

⑧ Alarm Light. Warns when temperature increases more than 10°C from the set temperature (in either chamber on dual chamber models). Also warns of an electrical power failure.

⑨ Battery Switch. Power source for power failure alarm and memory back-up. To prolong battery life, turn the switch off whenever the freezer is not in use.

**Note:** The following controls and indicating lamps are used only on the dual chamber freezers, Models 3672 and 3673.

① Compartment Select (TOP/BOTTOM). Pressing this key displays the internal temperature of either the top or bottom freezer chamber. It is also used when setting the temperatures for the chambers.

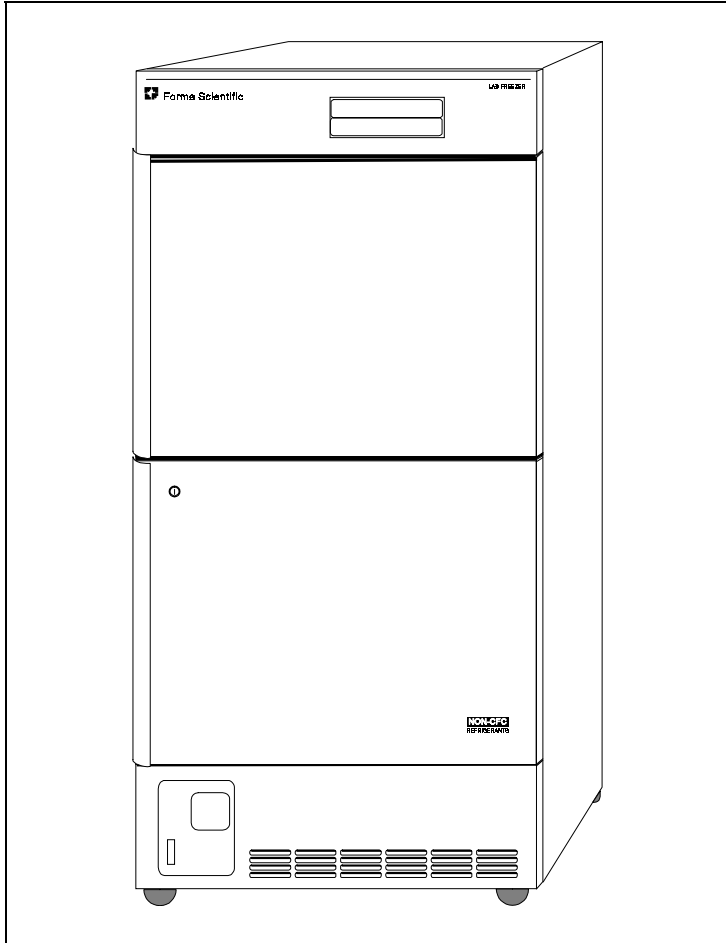
② Top Compartment Lamp (TOP). Indicates that the control panel is serving the top freezer chamber.

③ Bottom Compartment Lamp (BOTTOM). Indicates that the control panel is serving the bottom freezer chamber.

### 3.1 Operating the Freezer Control Panel

Operation	Key	Indication after operation
Plug in the freezer	---	Chamber temperature will flash on the display. Alarm will flash and sound. Pressing BZ button will silence alarm. The alarm and temp will continue to flash until chamber temp reaches within 10°C of set point temperature.
Press the Set key	SET	The left digit of the temperature display will flash
Press the Up Arrow	▲	Press up arrow until digit is reached. Scroll through zero if necessary
Press the Right Arrow	▶▶	The right digit of the temperature display will flash
Press the Up Arrow	▲	Press up arrow until digit is reached. Scroll through zero if necessary
Press Set	SET	Temperature is stored in memory. Display returns to chamber temperature

### 3.2 Operating the Dual Chamber Freezer



Each chamber of the Model 3672/3673 Freezer is operated independently with the exception of a common power source. Changing the controls between Top and Bottom commands the control panel to operate that particular chamber.

Operation	Key	Indication after operation
Press Top	<b>TOP</b>	The "Top" compartment lamp will light. Follow the operating instructions in Section 3.1
Press Bottom	<b>BOTTOM</b>	The "Bottom" compartment lamp will light. Follow the operating instructions in Section 3.1

### 3.3 Locking the Control Panel

Operation	Key	Indication after operation
Press the Right Arrow for five seconds or more.	▶▶	"L O" will appear in the display (Lock is not active)
Press the Up Arrow for five seconds or more.	▲	The right digit of the temperature display will change to "I" (Lock is active)
Press Set	SET	All functions of the control panel are locked except the alarm silence (BUZ)

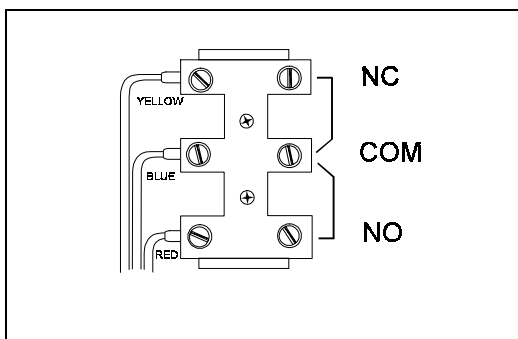
### 3.4 Unlocking the Control Panel

Operation	Key	Indication after operation
Press the Right Arrow for five seconds or more.	▶▶	"L I" will appear in the display (Lock is active)
Press the Up Arrow for five seconds or more.	▲	The right digit of the temperature display will change to "O" (Lock is off)
Press Set	SET	All functions of the control panel are unlocked

### 3.5 Remote Alarm

The alarm activates when the temperature increases more than 10°C from the set temperature (in either chamber on dual chamber models). The operator must make a visual inspection of the chambers to determine which chamber is in alarm. The light also warns of an electrical power failure.

The remote alarm terminal is located behind a metal cover plate on the upper right corner of the back of the freezer cabinet. The cover plate has a rubber hole plug to accommodate the alarm wiring. Removing four phillips screws will allow access to the terminal. The alarm contacts are identified as shown in the Figure 3-1.



**Figure 3-1**  
**Remote alarm contact block terminal descriptions.**

Contact Rating: DC 30V @ 2 amps

AC 125V @ 0.4 amps

**IMPORTANT USER INFORMATION**

**Caution!** Stored product should be protected by an activated alarm system capable of initiating a timely response 24 hours/day. Forma Alarms provide interconnect for centralized monitoring.

### 3.6 Power Failure Alarm

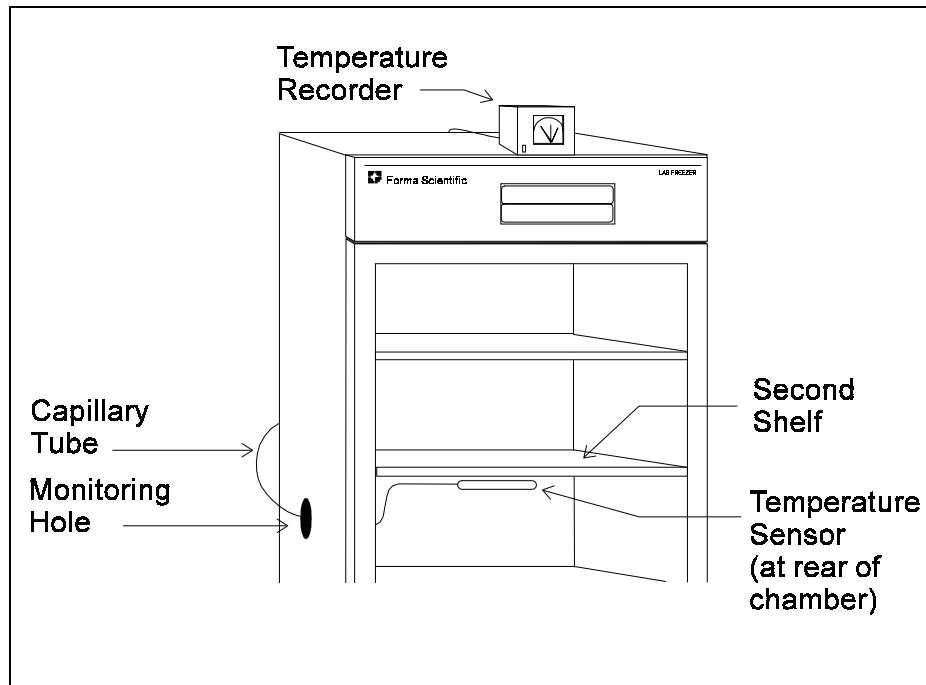
If the electrical power fails or the freezer plug is pulled from the socket, the Alarm light will flash and the audible alarm will sound. The alarm is silenced by pressing the BZ key. The remote alarm contacts also activate.

**Note:** The Battery switch must be On. If the Battery switch is Off during a power failure, the temperature setpoint will default to 30°C.

### 3.7 Installing the Optional Automatic Temperature Recorder

#### a. Models 3670 and 3671

1. Review the instruction sheet provided with the automatic temperature recorder.
2. Install the mounting brackets onto the recorder housing as directed.
3. Using the two phillips screws on the top of the freezer, attach the recorder to the cabinet.
4. Remove the black monitor hole cap from the left side of the cabinet.
5. Route the capillary tube and sensor from the recorder to the back of the freezer and then down the back of the cabinet and around the left side toward the monitor hole. Refer to the illustration on the following page.
6. Pass the temperature sensor through the hole and into the freezer chamber. Make a notch in the hole cap for the sensor capillary tube and replace the cover into the hole.
7. Place the cover over the temperature sensor and attach it to the bottom of the second shelf as shown in the diagrams. Use any of the holes along the back of the shelf which will allow the sensor to be centered along the back wall of the chamber. Use the plastic band provided with the recorder.
8. Position the sensor so the capillary tube will not contact any of the freezer contents. Be sure to not crimp the tube or pinch it shut.



### b. Models 3672 and 3673

Because the top and bottom compartments are independently controlled, two automatic temperature records are required. Review the instructions for installing the recorder on the single chamber freezers (Models 3670 and 3671).

1. Install the top chamber recorder on the top of the cabinet and route the sensor and capillary tube through the monitoring hole into the upper chamber.
2. Notch the black monitoring hole cover and replace it.
3. Install the sensor cover and attach the sensor to the bottom of the second shelf with the plastic band.
4. Make sure the capillary tube is not bent closed and is not touching any of the freezer contents.
  - The bottom recorder is installed in the lower left corner of the freezer frame.
5. Remove the freezer's recorder cover plate and install the recorder.
6. The sensor and capillary tube are routed to and through the monitoring hole in the lower chamber and attached to the rear of the second shelf using the plastic mounting band. Notch and install the hole cover.
7. Make sure the capillary tube is not bent closed and is not touching any of the freezer contents.

## Section 4 - Maintenance

### 4.1 Cleaning

- Clean the freezer once a month. Regular cleaning keeps the unit looking new.
- Use a dry cloth to wipe off small amounts of dirt from the outside and inside of the freezer. If the freezer is very dirty, use a neutral detergent. After cleaning rinse the freezer with distilled water until all traces of the detergent are removed.
- Never pour water onto or into the freezer.
- The compressor and other mechanical parts are sealed and require no lubrication.

### 4.2 Defrosting the Freezer

A plastic ice scraper is provided in the parts bag containing this instruction manual. Use the scraper only to remove softened ice. Do not use it to pry or force ice from the freezer chamber.

1. Move the freezer contents to another low temperature unit.
2. Place the bottom storage container in the bottom of the freezer. Remove the other drawers and clean them separately.
3. Press and hold the DEF button until "dF" is displayed (about 5 seconds).
4. When all of the ice and frost has melted, discard the water accumulated in the freezer and wipe the inside dry with a soft cloth.
5. Press and hold the DEF button until the internal chamber temperature is displayed. Since the chamber temperature is likely above the set point, the alarm and temperature will flash. This is not a malfunction.

**Note:** The freezer will continue in the defrost cycle until the DEF button is pressed. The freezer will not automatically end the defrost cycle.



### Section 5 - Service

Problem	Checking Points
Temperature sensor in the top compartment goes open circuit	Alarm light will flash and "E1" will be displayed on the temperature indicator
Temperature sensor in the top compartment goes short circuit	Alarm light will flash and "E2" will be displayed on the temperature indicator
Temperature sensor in the bottom compartment goes open circuit	Alarm light will flash and "E3" will be displayed on the temperature indicator
Temperature sensor in the bottom compartment goes short circuit	Alarm light will flash and "E4" will be displayed on the temperature indicator
Alarm triggers	Electric power has failed or the freezer's electric cord has been pulled. Too much placed into the freezer at once
Freezer not getting cold enough	Frost on the evaporator Doors opened and closed frequently Back of the freezer touching the wall Freezer over loaded
Noisy operation	Weak flooring beneath freezer Unit not level Something touching the freezer cabinet
Frost on the outside of the freezer	Generated water vapor near the freezer Very humid operating environment

#### Contact the Thermo Forma Dealer

If the unit continues to operate unsatisfactorily, contact the Thermo Forma dealer with the following information:

- Freezer model number
- Serial number
- Date purchased - month and year
- Description of the problem/malfunction

## Section 6 - Specifications

### Models 3670 (3671)

<b>Operating Temperature</b>	-15°C to -30°C (5° to -22°F)
<b>Exterior Dimensions</b>	24.1"W x 63.7"H x 29.8"F-B (61.2 cm x 161.8 cm x 75.7 cm)
<b>Interior Dimensions</b>	20"W x 50.8"H x 19.1"F-B (50.8 cm x 129 cm x 48.5 cm)
<b>Drawer Dimensions</b>	Small - 18"W x 5.5"D x 8.5"F-B I.D. (45.7 cm x 13.9 cm x 21.5 cm) Large - 17.5"W X 8.5"D X 15"F-B I.D. (44.4 cm X 21.5 cm X 38.1 cm)
<b>Compressor</b>	1/3 HP
<b>Refrigeration System</b>	Non-CFC refrigerants
<b>Capacity</b>	9.7 cu.ft. (274 liters)
<b>Insulation</b>	Non-CFC foamed-in-place polyurethane
<b>Alarm System</b>	Pre-set 10° above setpoint, 15 min. delay on audible  Nickel-cadmium batteries to power audible alarm, warning light and remote alarm
<b>Electrical</b>	115 VAC, 60 Hz, 1 PH, 1.7 FLA (220 VAC, 50 Hz, 1 PH, 1.2 FLA)
<b>Weight</b>	167 lbs (76 kg)
<b>Option</b>	Automatic Temperature Recorder
<b>Accessories</b> (Included with the unit)	4 large drawers, 1 small drawer, 2 keys
<b>Cooling Efficiency</b>	Center part of freezing compartment -30°C Ambient 32.2°C, no load, out of direct sunlight
<b>Temperature control range</b>	-15°C to -45°C

*Continuing research and improvements may result in specification changes at any time*

**Models 3672 (3673)**

<b>Operating Temperature</b>	-15°C to -30°C (5° to -22°F)
<b>Exterior Dimensions</b>	31.7"W X 70.9"H X 30.5"F-B (80.5 cm X 180 cm X 77.4 cm)
<b>Interior Dimensions</b>	25.8"W X 47.3"H X 23.8"F-B (65.5 cm X 120.1 cm X 60 cm)
<b>Drawer Dimensions</b>	Small - 11.5"W X 5.3"D X 21"F-B I.D. (29.2 cm X 13.4 cm X 53.3 cm) Large - 11.5"W X 9.3"D X 21"F-B I.D. (29.2cm X 23.6cm X 53.3cm)
<b>Compressor</b>	1/2 HP
<b>Refrigeration System</b>	Non-CFC refrigerants
<b>Capacity</b>	16.0 cu.ft. (452 liters)
<b>Insulation</b>	Non-CFC foamed-in-place polyurethane
<b>Alarm System</b>	Pre-set 10° above setpoint, 15 min. delay on audible Nickel-cadmium batteries to power audible alarm, warning light and remote alarm
<b>Electrical</b>	115 VAC, 60 Hz, 1 PH, 2.5 FLA (220 VAC, 50 Hz, 1 PH, 1.4 FLA)
<b>Weight</b>	260 lbs (118 kg)
<b>Option</b>	Automatic Temperature Recorder
<b>Accessories</b> (Included with the unit)	4 large drawers, 6 small drawers, 2 keys

*Continuing research and improvements may result in specification changes at any time*

## Section 7 - Parts List

### Model 3670

Stock #	Description
227831	Compressor
227834	Start Relay
227835	Overload Relay
227832	Start Capacitor
227833	Run Capacitor
227548	Sensor, Thermistor
227549	Control, PCB Assembly
227547	Power Relay
227546	Battery
227545	Power Transformer
	Refrigerant, R-134a oil additive, n-pentane 0.5 oz.

### Model 3671

Stock #	Description
227857	Power Switch / Circuit Breaker
227840	Compressor
227844	Overload Relay
227841	Start Capacitor
227843	Start Relay
227842	Run Capacitor
227548	Sensor, Thermistor
227549	Control, PCB Assembly
227547	Power Relay
227546	Battery
227858	Power Transformer
	Refrigerant, R-134a oil additive, n-pentane 0.5 oz.

**Model 3672**

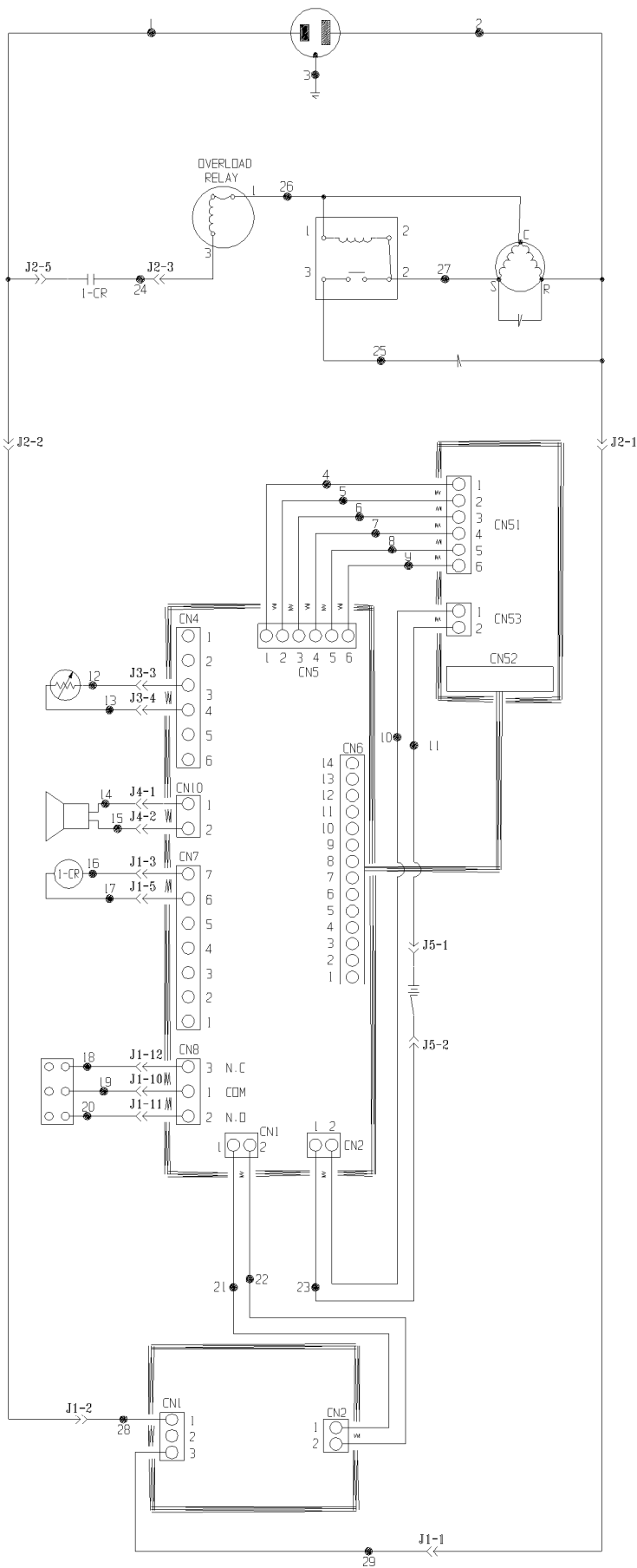
<b>Stock #</b>	<b>Description</b>
227556	Fan Motor
227553	Overload Relay
227554	Start Relay
227582	Compressor
227552	Start Capacitor
227551	Run Capacitor
227580	Sensor, Thermistor
227561	Control, PCB Assembly
227547	Power Relay
227546	Battery
227559	Temp Control Relay
227560	Solenoid
227545	Power Transformer
227860	Solenoid Transformer

**Model 3673**

<b>Stock #</b>	<b>Description</b>
227857	Power Switch / Circuit Breaker
227859	Fan Motor
227854	Overload Relay
227853	Start Relay
227850	Compressor
227851	Start Capacitor
227852	Run Capacitor
227580	Sensor, Thermistor
227561	Control, PCB Assembly
227547	Power Relay
227546	Battery
227559	Temp Control Relay
227560	Solenoid
227858	Power Transformer
227861	Solenoid Transformer

POWER CONNECTION  
 115V, 1Ø, 60Hz, 1.7FLA

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OVERLOAD RELAY  
227835  
 START RELAY  
227834  
 COMPRESSOR  
227831  
 RUN CAPACITOR  
227833  
 START CAPACITOR  
227832

THERMISTER SENSOR  
227548  
 CONTROL PCB  
ASSEMBLY  
227549

POWER RELAY  
227547  
7

BATTERY  
227546

POWER TRANSFORMER  
227545

Electrical Schematic  
 Forma Model:  
 3670 Freezer

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 68 106  
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WIRE NUMBER	COLOR
1	BLACK
2	WHITE
3	GREEN/YELLOW
4	WHITE
5	BLACK
6	RED
7	ORANGE
8	YELLOW
9	BLUE
10	BLACK
11	BROWN
12	BLACK
13	BLACK
14	BLACK
15	RED
16	PINK
17	ORANGE
18	YELLOW
19	BLue
20	RED
21	YELLOW
22	YELLOW
23	RED
24	LIGHT BLUE
25	BLUE
26	PINK
27	YELLOW
28	RED
29	RED

<b>NOTES:</b>	
<input checked="" type="checkbox"/> Denotes Terminal Strip Connection	Parts List Reference Number
1-CR Last Relay Number	<input type="checkbox"/> Assembly
Last Terminal Number	<input type="checkbox"/> Panel
25 Last Wire Number	<input type="checkbox"/> Refrigeration
	<input type="checkbox"/> Wiring

CUSTOMER APPROVAL/REFERENCE	
APPROVED BY	_____
APPROVING FIRM	_____
DATE OF APPROVAL	_____
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**Forma Scientific**

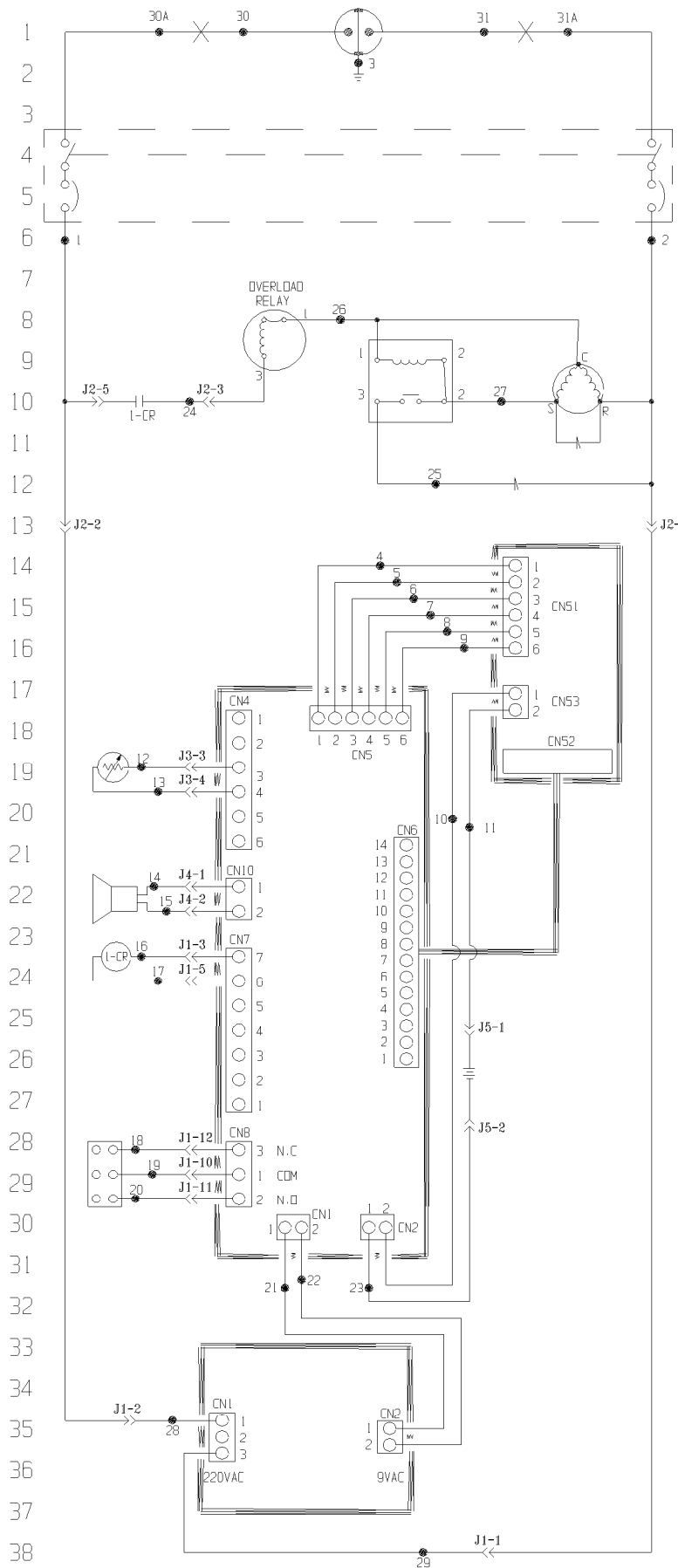
REV. 040 MARZETTA, DINO 40750 TREVISO, 34153M  
 TEL. PRIN. USA 800-940-9200, DINO 041-379-4783

3	FR-1090	01-29-97	BKH	PDK			REVISED REFRIGERANT TO R134A
2	FR-712	6-16-94	JAS	PDK	LON		CHANGED FLA TO 4.0 FROM 3.0
1	FR-569	6-18-93	AT	AT	LON		CHANGED FLA TO 3.0 FROM 2.4
0	N/A	1-15-93	AT	AT	LON		RELEASED FOR PRODUCTION
REV	ECR NO.	DATE	BY	CAD	APPD	DESCRIPTION OF REVISION	
DATE	1-15-93	DWN	AT	CAD	AT	APPD	LON
SCALE	NONE						
CUSTOMER							
JOB TITLE 3670 FREEZER							
DWG TITLE ELECTRICAL SCHEMATIC							
LOCATION				JOB NUMBER		DRAWING NUMBER	
FREEZERS						3670-70-0-D	

**Electrical Schematic**  
**Forma Model:**  
**3670 Freezer**

**3670-70-0-D Rev. 3**  
**Page 2 of 2**

POWER CONNECTION  
 220VAC, 1 $\phi$ , 2W, 50Hz, 1.2FLA



LINE CORD  
 430017

MAIN POWER SWITCH/  
 CIRCUIT BREAKER, 10A  
 227857

OVERLOAD RELAY  
 227044

START RELAY  
 227843

COMPRESSOR  
 227840

RUN CAPACITOR, 5 $\mu$ F  
 227842

START CAPACITOR, 30 $\mu$ F  
 227841

THERMISTOR SENSOR  
 227548

CONTROL PCB  
 ASSEMBLY  
 227549

POWER RELAY  
 227547 10

BATTERY, 6VDC NiCd  
 227546

POWER TRANSFORMER  
 227858

Electrical Schematic  
 Forma Model:  
 3671  
 Upright Freezer  
 3671-70-0-D Rev. 3  
 Page 1 of 2









## **THERMO FORMA STANDARD PRODUCT WARRANTY**

The Warranty Period starts two weeks from the date your equipment is shipped from our facility. This allows for shipping time so the warranty will go into effect at approximately the same time your equipment is delivered. The warranty protection extends to any subsequent owner during the first year warranty period.

During the first year, component parts proven to be defective in materials or workmanship will be repaired or replaced at Thermo Forma's expense, labor included. Installation and calibration are not covered by this warranty agreement. The Thermo Forma Service Department must be contacted for warranty determination and direction prior to performance of any repairs. Expendable items, glass, filters and gaskets are excluded from this warranty.

Replacement or repair of components parts or equipment under this warranty shall not extend the warranty to either the equipment or to the component part beyond the original warranty period. The Thermo Forma Service Department must give prior approval for return of any components or equipment. At Thermo Forma's option, all defective parts must be returned to Thermo Forma postage paid and replacement parts are shipped FOB destination.

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Thermo Forma shall not be liable for any indirect or consequential damages including, without limitation, damages relating to lost profits or loss of products.

Your local Thermo Forma Sales Office is ready to help with comprehensive site preparation information before your equipment arrives. Printed instruction manuals carefully detail equipment installation, operation and preventive maintenance.

If equipment service is required, please call your Thermo Forma Service Office at 1-888-213-1790 (USA and Canada) or 1-740-373-4763. We're ready to answer your questions on equipment warranty, operation, maintenance, service and special application. Outside the USA, contact your local distributor for warranty information.



## THERMO FORMA INTERNATIONAL DEALER WARRANTY

The Warranty Period starts two months from the date your equipment is shipped from our facility. This allows for shipping time so the warranty will go into effect at approximately the same time your equipment is delivered. The warranty protection extends to any subsequent owner during the first year warranty period. Dealers who stock our equipment are allowed an additional six months for delivery and installation, provided the warranty card is completed and returned to the Thermo Forma Service Department.

During the first year, component parts proven to be defective in materials or workmanship will be repaired or replaced at Thermo Forma's expense, labor excluded. Installation and calibration are not covered by this warranty agreement. The Thermo Forma Service Department must be contacted for warranty determination and direction prior to performance of any repairs. Expendable items, glass, filters and gaskets are excluded from this warranty.

Replacement or repair of components parts or equipment under this warranty shall not extend the warranty to either the equipment or to the component part beyond the original warranty period. The Thermo Forma Service Department must give prior approval for return of any components or equipment. At Thermo Forma's option, all defective parts must be returned to Thermo Forma postage paid and replacement parts are shipped FOB destination.

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Thermo Forma shall not be liable for any indirect or consequential damages including, without limitation, damages relating to lost profits or loss of products.

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