

# Cimarec™ Hot Plates

## OPERATION MANUAL AND PARTS LIST

<b>Model #</b>	<b>Top Plate Size</b>	<b>Voltage</b>	<b>Series</b>
HP46515	4" x 4"	120	1067
HP46510	4" x 4"	240	1067
HP46514	4" x 4"	100	1067
HP46825	7" x 7"	120	1070
HP46820	7" x 7"	240	1070
HP46824	7" x 7"	100	1070
HP47135	12" x 12"	120 (20 amp cord set)	1073
HP47135-60	12" x 12"	120 (15 amp cord set)	1073
HP47130	12" x 12"	240	1073
HP47138	12" x 12"	208	1073
HP47134	12" x 12"	100	1073

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## IMPORTANT INFORMATION

This manual contains important operating and safety information. You must carefully read and understand the contents of this manual prior to the use of this equipment.

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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.

Your Thermolyne Cimarec Hot Plate has been designed with function, reliability, and safety in mind. It is your responsibility to install it in conformance with local electrical codes. For safe operation, please pay attention to the alert signals throughout the manual.

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# Warnings

## WARNING

### To avoid electrical shock, always:

1. Use a properly grounded electrical outlet of correct voltage and current handling capacity.
2. Disconnect from power supply before servicing.

### To avoid personal injury:

1. Do not use in the presence of flammable or combustible materials; fire or explosion may result. This device contains components which may ignite such materials.
  2. Replace the top immediately if damaged by etching, scratching or chipping. A damaged top can break in use.
  3. Do not use metal foil on hot plate. Do not use metal containers, sand bath or other insulating material on the hot plate — Top plate can be damaged and shock hazard can exist.
  4. Do not remove or modify grounded power plug. Use only properly grounded outlets to avoid shock hazard. Not rated for use in hazardous atmospheres.
  5. Use caution when heating volatile materials; top surface and element can reach the “Flash Point Temperature” of many chemicals. These hot plates are not explosion proof. Fire or explosion may result. Unit contains components which may ignite such materials.
  6. Use appropriate hand and eye protection when handling hazardous chemicals.
  7. Refer servicing to qualified personnel.
  8. “Caution: Hot Surface. Avoid Contact.” The hot plate will remain hot without visual indication for some time after you have turned its power off.
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Please note the following WARNINGS:

## **WARNING**

This warning is presented for compliance with California Proposition 65 and other regulatory agencies and only applies to the insulation in this product. This product contains refractory ceramic, refractory ceramic fiber or fiberglass insulation, which can produce respirable dust or fibers during disassembly. Dust or fibers can cause irritation and can aggravate pre-existing respiratory diseases. Refractory ceramic and refractory ceramic fibers (after reaching 1000°C) contain crystalline silica, which can cause lung damage (silicosis). The International Agency for Research on Cancer (IARC) has classified refractory ceramic fiber and fiberglass as possibly carcinogenic (Group 2B), and crystalline silica as carcinogenic to humans (Group 1).

The insulating materials can be located in the door, the hearth collar, in the chamber of the product or under the hot plate top. Tests performed by the manufacturer indicate that there is no risk of exposure to dust or respirable fibers resulting from operation of this product under normal conditions. However, there may be a risk of exposure to respirable dust or fibers when repairing or maintaining the insulating materials, or when otherwise disturbing them in a manner which causes release of dust or fibers. By using proper handling procedures and protective equipment you can work safely with these insulating materials and minimize any exposure. Refer to the appropriate Material Safety Data Sheets (MSDS) for information regarding proper handling and recommended protective equipment. For additional MSDS copies, or additional information concerning the handling of refractory ceramic products, please contact the Customer Service Department at Barnstead|Thermolyne Corporation at 1-800-553-0039.

# Specifications

## 4" X 4"

Model Number	HP46510	HP46514	HP46515
<b>Overall Dimensions IN (CM)</b>			
Width	6.25" (15.9 cm)	6.25" (15.9 cm)	6.25" (15.9 cm)
Height	4.8" (12.4 cm)	4.8" (12.4 cm)	4.8" (12.4 cm)
Depth	6.5" (16.5 cm)	6.5" (16.5 cm)	6.5" (16.5 cm)
<b>Top Plate</b>			
Width	4.125" (10.5 cm)	4.125" (10.5 cm)	4.125" (10.5 cm)
Height	1" (2.5 cm)	1" (2.5 cm)	1" (2.5 cm)
Depth	4.125" (10.5 cm)	4.125" (10.5 cm)	4.125" (10.5 cm)
Weight lbs (kg)	4.75 lbs (2.2 kg)	4.75 lbs (2.2 kg)	4.75 lbs (2.2 kg)
<b>Electrical Ratings</b>			
Volts	240	100	120
Amps	1.5	3.75	3.1
Watts	375	375	375
Freq.	60	50/60	60
Phase	1	1	1
Max. Temp. °F (°C)	1000°F (538°C)	1000°F (538°C)	1000°F (538°C)

## 7" X 7"

Model Number	HP46820	HP46824	HP46825
<b>Dimensions IN (CM)</b>			
<b>Overall</b>			
Width	9" (22.9 cm)	9" (22.9 cm)	9" (22.9 cm)
Height	5" (12.7 cm)	5" (12.7 cm)	5" (12.7 cm)
Depth	9.6" (24.4 cm)	9.6" (24.4 cm)	9.6" (24.4 cm)
<b>Top Plate</b>			
Width	7.125" (18.1 cm)	7.125" (18.1 cm)	7.125" (18.1 cm)
Height	1" (2.5 cm)	1" (2.5 cm)	1" (2.5 cm)
Depth	7.125" (18.1 cm)	7.125" (18.1 cm)	7.125" (18.1 cm)
Weight lbs (kg)	6.2 lbs (2.8 kg)	6.2 lbs (2.8 kg)	6.2 lbs (2.8 kg)
<b>Electrical Ratings</b>			
Volts	240	100	120
Amps	4.6	11.0	9.2
Watts	1100	1100	1100
Freq.	60	50/60	60
Phase	1	1	1
Max. Temp. °F (°C)	1000°F (538°C)	1000°F (538°C)	1000°F (538°C)

## 12" X 12"

Model Number	HP47130	HP47138	HP47135 & -60	HP47134
<b>Overall Dimensions IN (CM)</b>				
Width	14.25" (38.2 cm)	14.25" (38.2 cm)	14.25" (38.2 cm)	14.25" (38.2 cm)
Height	5.9" (14.9 cm)	5.9" (14.9 cm)	5.9" (14.9 cm)	5.9" (14.9 cm)
Depth	14.75" (37.5 cm)	14.75" (37.5 cm)	14.75" (37.5 cm)	14.75" (37.5 cm)
<b>Top Plate</b>				
Width	12.125" (30.8 cm)	12.125" (30.8 cm)	12.125" (30.8 cm)	12.125" (30.8 cm)
Height	1.25" (3.1 cm)	1.25" (3.1 cm)	1.25" (3.1 cm)	1.25" (3.1 cm)
Depth	12.125" (30.8 cm)	12.125" (30.8 cm)	12.125" (30.8 cm)	12.125" (30.8 cm)
Weight lbs (kg)	11.6 lbs (5.3 kg)			
<b>Electrical Ratings</b>				
Volts	240	208	120	100
Amps	12	13.9	13.5	16.5
Watts	3100	2900	1620	1650
Freq.	60	50/60	60	50/60
Phase	1	1	1	1
Max. Temp. °F (°C)	1000°F (538°C)	1000°F (538°C)	700°F (370°C)	700°F (370°C)

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# Introduction



## NOTE

You should always keep a vessel filled with liquid on the top plate when the hot plate is heating up and cooling down to avoid damage to the top plate or to the heating element.



## CAUTION

Not recommended for use in highly corrosive atmospheres. Corrosive fumes and spills may damage case and internal components.

## Intended Use

The Cimarec hot plates are general purpose heating devices intended for laboratory procedures requiring temperatures from 150°C to 538°C (HP47135, HP47135-60 and HP47134 range from 120°C to 370°C). A vessel with a flat bottom is recommended for ideal heat transfer. Do not use aluminum foil, metal containers, or vessels with a rim around the bottom as these could cause damage to the hot plate.

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# Operation



## WARNING

“Caution: Hot Surface. Avoid Contact.” The hot plate will remain hot without visual indication for some time after you have turned its power off.

The control maintains a set temperature of the hot plate by turning the power on and off over short time intervals. The greater the percentage of time the power is on, the higher the temperature. At the high position, power is on continuously and maximum temperature is obtained. From the “off” position, the knob may be turned either to the right or left. For fast heat-up, turn the knob to high position. When the desired temperature is reached, reduce the setting to the point where the temperature will be maintained. The pilot light is always on when the power is on.



## CAUTION

Gross weight of items placed on top of hot plates should not exceed 25 lbs. on the 7" X 7" and 12" X 12" models and 10 lbs. on the 4" x 4" models.



## NOTE

This unit contains materials which may emit a slight odor or smoke during initial operation. This will dissipate within a few minutes and will not effect the operation or performance of the hot plate.



## CAUTION

When turning the control off, be sure the knob is in the “off” position and the indicator light is out.



## CAUTION

Keep top surface clean. Use a non-abrasive cleaner. Alkali spills, hydrofluoric acid spills or phosphoric acid spills may damage top. Unplug unit and remove spills promptly. Do not immerse unit for cleaning.

# Replacement Parts



## WARNING

To avoid electrical shock, always disconnect from power supply before servicing.

Refer servicing to qualified personnel.

**Model Types:** HP46500, HP46800, HP47100

**Product Name:** Cimarec Hot Plates

Key Number Figures 1 & 2	4" x 4" Series 1067	7" x 7" Series 1070	12" x 12" Series 1073	Description
	Part #	Part #	Part #	
1	PT464X1	PT467X1	PT470X1	Top plate only
2	EL691X1	EL694X1	EL472X1A	Element, 120 volt
	EL691X2	EL694X2	EL472X2A	Element, 230/240 volt
	~	~	EL472X3A	Element, 208 volt
	EL1066X1	EL1069X1	EL472X4A	Element, 100 volt
3	CNX60	CNX60	CNX60	Control, 100/120 volt
	CNX61	CNX61	CNX61	Control, 208/230/240 volt
4	KB1072X1A	KB1072X1A	KB1072X1A	Knob
	CR622X2A	CR640X3A	CR607X1	Cord set, 100 volt
	CR622X2A	CR640X1A	CR612X5A, 20 amp	Cord set, 120 volt
	~	~	CR612X8A, 15 amp	Cord Set, 120V (-60 models)
	~	~	~	~
5	~	~	CR612X7A	Cord set, 208 volt
	CR622X1A	CR640X2A	CR612X4A	Cord set, 240 volt
	PLX108	PLX108	PLX108	Pilot light, 100/120 volt
	PLX109	PLX109	PLX109	Pilot light, 208/230/240 volt

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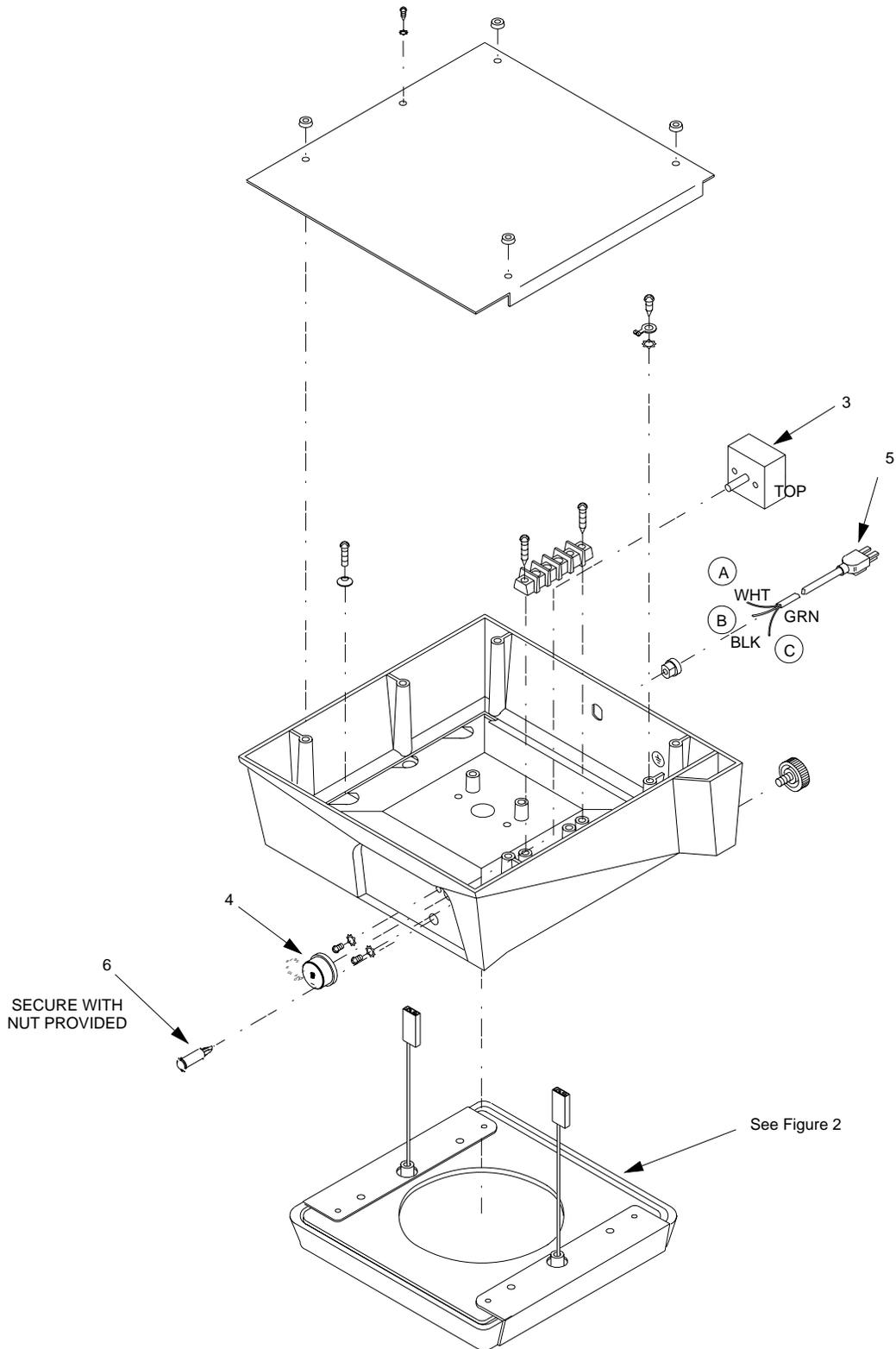
# Ordering Procedures

Please refer to the Specification Plate for the complete model number, serial number, and series number when requesting service, replacement parts or in any correspondence concerning this unit.

All parts listed herein may be ordered from the **Barnstead|Thermolyne** dealer from whom you purchased this unit or can be obtained promptly from the factory. When service or replacement parts are needed we ask that you check first with your dealer. If the dealer cannot handle your request, then contact our Customer Service Department at 319-556-2241 or 800-553-0039.

Prior to returning any materials to **Barnstead|Thermolyne Corp.**, please contact our Customer Service Department for a "Return Goods Authorization" number (RGA). Material returned without a RGA number will be refused.

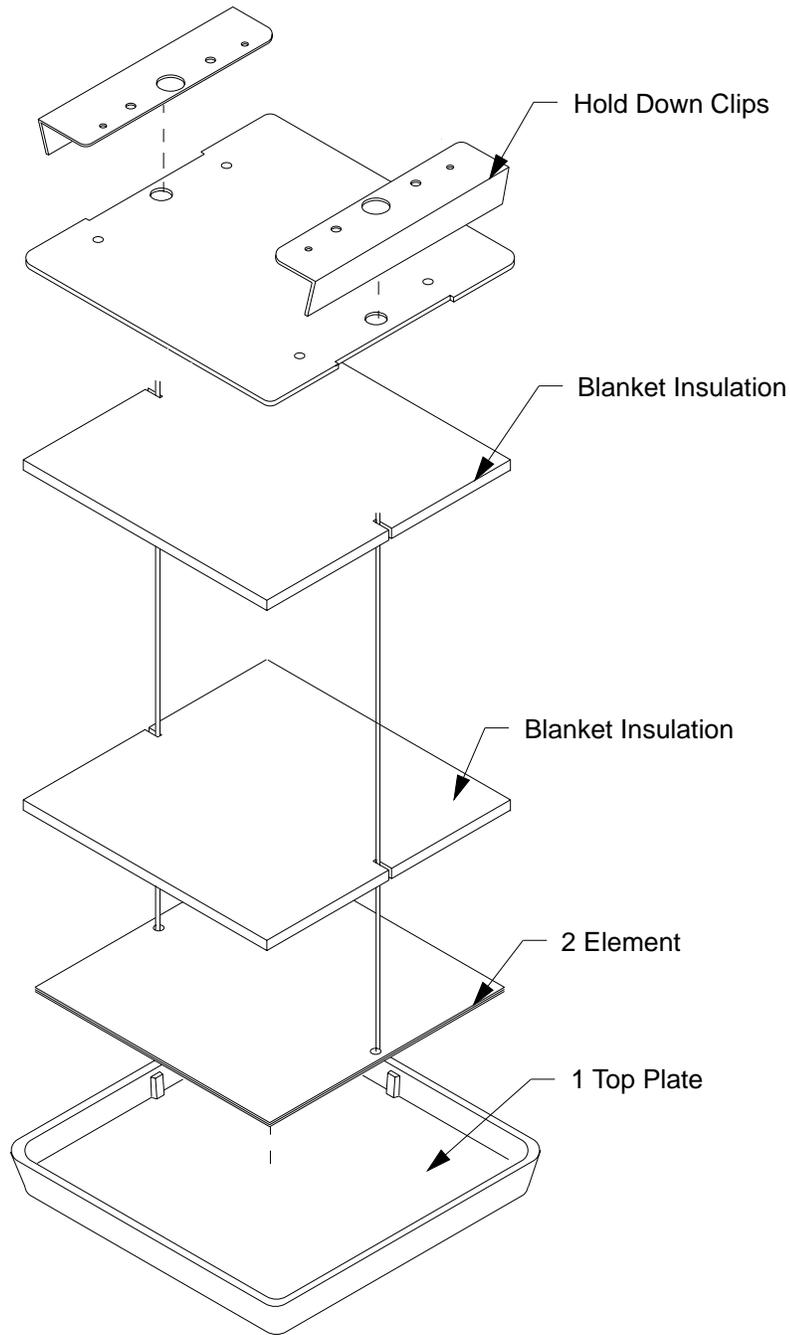
# Exploded View



**Exploded View For 7 X 7 Model  
Figure 1**

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# Exploded View Top Plate Assembly

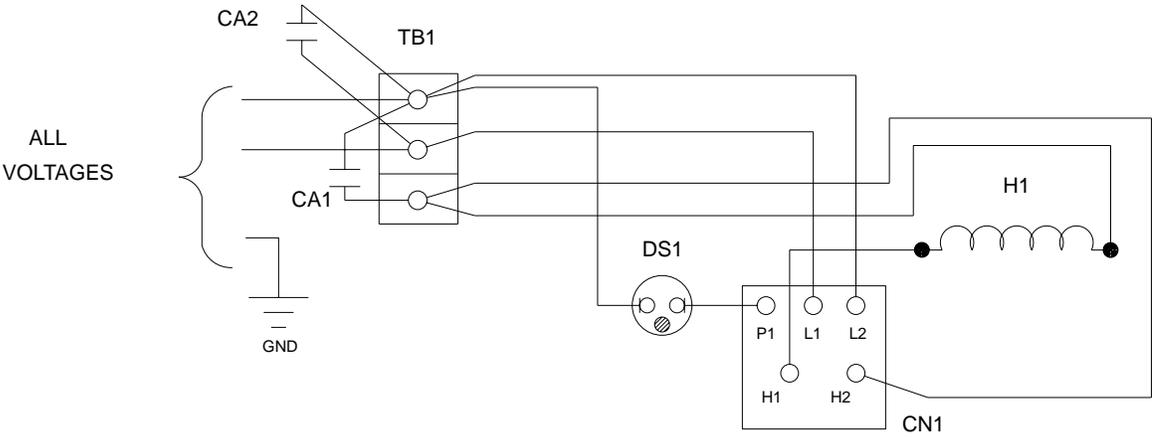


*Exploded View  
Top Plate Assembly for 7 X 7 Model  
Figure 2*

# Wiring Diagram

## DIAGRAM COMPONENT LIST

REF. NO.	DESCRIPTION
CA1	CAPACITOR
CA2	CAPACITOR ASS'Y
CN1	CONTROL
H1	HEATING ELEMENT
DS1	PILOT LIGHT, HEAT
TB1	TERMINAL BLOCK







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# One Year Limited Warranty

**Barnstead|Thermolyne Corporation** warrants that if a product manufactured by **Barnstead|Thermolyne** and sold by it within the continental United States or Canada proves to be defective in material or construction, it will provide you, without charge, for a period of ninety (90) days, the labor, and a period of one (1) year, the parts, necessary to remedy any such defect. Outside the continental United States and Canada, the warranty provides, for one (1) year, the parts necessary to remedy any such defect. The warranty period shall commence either six (6) months following the date the product is sold by **Barnstead|Thermolyne** or on the date it is purchased by the original retail consumer, whichever date occurs first.

All warranty inspections and repairs must be performed by and parts obtained from an authorized **Barnstead|Thermolyne** dealer or **Barnstead|Thermolyne** (at its own discretion). Heating elements, however, because of their susceptibility to overheating and contamination, must be returned to our factory, and if, upon inspection, it is concluded that failure is not due to excessive high temperature or contamination, warranty replacement will be provided by **Barnstead|Thermolyne**. The name of the authorized **Barnstead|Thermolyne** dealer nearest you may be obtained by calling 1-800-446-6060 (319-556-2241) or writing to:

**Barnstead|Thermolyne**  
P.O. Box 797  
2555 Kerper Boulevard  
Dubuque, IA 52004-0797  
USA  
FAX: (319) 589-0516  
E-MAIL ADDRESS: [mkt@barnstead.com](mailto:mkt@barnstead.com)

**Barnstead|Thermolyne's** sole obligation with respect to its product shall be to repair or (at its own discretion) replace the product. Under no circumstances shall it be liable for incidental or consequential damage.

THE WARRANTY STATED HEREIN IS THE SOLE WARRANTY APPLICABLE TO **Barnstead|Thermolyne** PRODUCTS. **Barnstead|Thermolyne** EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR USE.

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