

# Owner's Manual — Phoenix FireBird

## Installation, Operation and Service Instructions

### *Important Instructions – Read and Save These Instructions*

The FireBird portable, heavy duty electric heater features a built-in 50-amp twist lock receptacle designed to work with standard 30 or 50 amp power sources—select the setting using the HIGH/LOW switch.

At the 50-amp setting, the FireBird produces 31,000 BTU's—that's 360 CFM with a 80°F temperature rise. In an area with below freezing temperatures the FireBird can produce 360 CFM of air over 100 degrees. Using the 30-amp setting the FireBird produces 18,000 BTU's—giving a 46°F temperature rise. Internal temperature cutouts prevent the FireBird from overheating an area while the FireBird's externally located thermostat terminals provide a means to control the heat from anywhere in the drying space.

#### The Phoenix FireBird

- **ETL Certified, UL Listed**
- **30 or 50 Amp operation (18,000 BTU/31,000 BTU)**  
30 Amp = 24 Actual Amp Draw and 46°F Temperature Rise  
50 Amp = 40 Actual Amp Draw and 80°F Temperature Rise
- **Two 8' Power Cords**  
(1 dryer, 1 range) included with unit
- **360 CFM**
- **Multiple air filter options**  
Standard MERV-11, MERV-14
- **Multiple ducting options**  
12" intake, 12" supply
- **Detachable 12" Duct Collar stores in lid with room for power cords**
- **Stainless steel cabinet**



Phoenix FireBird  
PN 4027300

## Table of Contents

Introduction .....	1
<b>1. Specifications</b> .....	2
<b>2. Operation</b> .....	2
2.1 Transporting .....	2
2.2 Electrical Requirements .....	2
2.3 Ducting.....	2
2.4 Power Switch .....	3
2.5 Hour Meter .....	3
2.6 Remote Thermostat Connection .....	3
<b>3. Maintenance</b> .....	3
3.1 Air Filter .....	3
<b>4. Service</b> .....	3
4.1 Technical Description .....	2
4.2 Troubleshooting .....	4
<b>5. Options and Accessories</b> .....	4
<b>6. Wiring Diagram</b> .....	4
<b>7. Service Parts</b> .....	5
<b>8. Warranty</b> .....	6

Serial No. \_\_\_\_\_

Purchase Date \_\_\_\_/\_\_\_\_/\_\_\_\_

Dealer's Name \_\_\_\_\_

***Read the operation and maintenance instructions carefully before using this unit. Proper adherence to these instructions is essential to obtain maximum benefit from your Phoenix FireBird.***

## **WARNING**

- Unit Intended for INDOOR USE ONLY; DO NOT USE OUT-DOORS
- Device is HOT when in use. To prevent burns, avoid skin contact with hot surfaces.
- Use handle when moving device
- Maintain 36" minimum clearance between device outlet and any combustible materials such as furniture, pillows, bedding, papers, clothes and curtains. Keep such items away from sides and rear of device.
- Extreme caution is necessary when device is used by or near children or invalids and whenever device is left operating unattended.
- Always unplug unit when not in use
- DO NOT OPERATE with damaged cord, plug, or after unit malfunctions, has been dropped or damaged in any manner. Return to authorized service facility for adjustment or repair.
- Device not intended for use directly in an area where it may fall into a bathtub or other water container.
- DO NOT run cord under carpeting or other floor covering. Arrange cord away from traffic area and where it will not be tripped over.
- To disconnect device, turn controls off, then remove plug from outlet.
- Connect ONLY to properly grounded outlets.
- DO NOT insert or allow foreign objects to enter any ventilation or exhaust openings as this may cause an ELECTRIC SHOCK or FIRE, or damage the heater.
- To prevent a possible fire, do not block air intakes or exhaust in any manner. Do not use on soft surfaces, like a bed, where openings may become blocked.
- Device has hot and arcing or sparking parts inside. Do not use in areas where gasoline, paint, or flammable liquids are used or stored.
- Use device only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.
- Avoid use of an extension cord because the extension cord may overheat and cause a risk of fire. However, if you have to use an extension cord, the cord shall be No. 6 AWG minimum size and rated not less than 9600 Watts.

# 1 Specifications

**Part No.** 4027300

**Power** User selectable 30/50 A operation  
220/240 VAC  
60 Hz, 1 Phase  
30 Amp = 46°F temperature rise; 18,000 BTUs  
50 Amp = 80°F temperature rise; 31,000 BTUs

**Blower** 360 CFM

**Filters** Pleated Media MERV-11

**Duct Options** Intake – 12" Flex-Duct  
Supply – 12" Flex-Duct

**Warranty** Five years;  
1st year 100% of Parts and Labor

## Dimensions

	Machine	Shipping
Width	20.25"	27.5"
Height	40"	45.25"
Depth	21.4"	25.5"
Weight	90 lb	115 lb

# 2 Operation

## 2.1 Transporting

The Phoenix FireBird must always be upright when transported by vehicle. It may be tipped onto its handle and back for loading and moving by hand. The Phoenix FireBird features a high-impact plastic skid plate which protects the unit while navigating obstacles such as curbs, stairways, and while loading into vehicles.

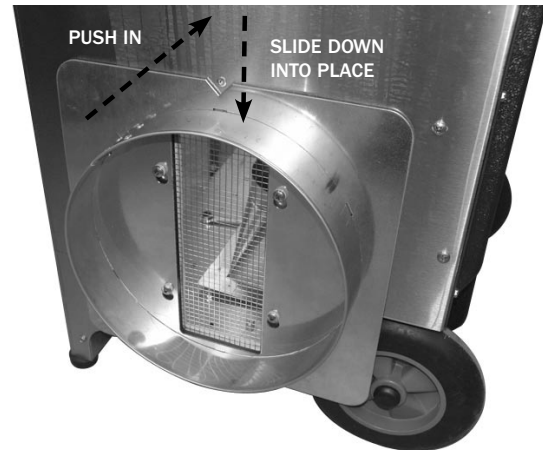
## 2.2 Electrical Requirements

The Phoenix FireBird requires 220/240VAC. The FireBird outlet is 240VAC with ground. When properly installed, it provides a ground connection through the cord to the heater to protect the operator from electric shock. The Phoenix FireBird comes equipped with two 8' long cords for connection to grounded residential range and dryer receptacles. An accessory extension cord is also available (see Accessories).

## 2.3 Ducting

The Phoenix FireBird can be ducted at the inlet, the outlet or both using the included round outlet adapter. The FireBird lid and outlet adapter are designed to accommodate 12" flexible duct. When selecting flexible ducting keep in mind anticipated outlet temperatures. Air temperature increase is typically 50 to 80 degrees F for low and high power settings respectively. Adding ducting decreases airflow which can increase outlet temperatures by up to 20 additional degrees F.

Install the 12" duct adapter by lining up the notch of the adapter with the rivet on the cabinet, then push in the directions shown to engage fasteners.



## 2.4 Power Switch

**Master POWER Switch:** The master power switch located on the back of the FireBird can be used to turn the unit ON, OFF, or set the unit to be controlled by an external thermostat.

When set to ON, the FireBird will energize the blower relay and heater element(s) continuously. In this mode, the heaters are thermostatically limited to 140 degree F incoming air temperature with an automatic switch.

When set to THERMOSTAT, the blower and heater will run when the thermostat terminals (located under the lid) are connected by a switch, remote thermostat, timer, etc.

**HIGH/LOW POWER Switch:** This switch selects either high or low power operation. If this switch is set to HIGH POWER operation, the FireBird MUST be connected to a minimum 50 Amp source.

## 2.5 Hour Meter

The digital hour meter measures the cumulative time that the unit is turned on to tenths of an hour. It stores and displays the total when the unit is unplugged. It resets to zero after 99,999.9 hours of operation.

## 2.6 Remote Thermostat Connection

To connect a remote thermostat, switch, or timer control, first locate the thermostat terminals under the lid of the FireBird. There are 2 spring loaded terminals for connecting thermostat wiring. Any dry-contact switch, thermostat, or other type of control that connects the terminals together will cause the heater to run. The thermostat circuit is low voltage (24VAC). DO NOT CONNECT POWER TO THE THERMOSTAT TERMINALS.

Always press terminal levers to release spring pressure before disconnecting thermostat wiring. Failure to do so will lead to excessive wear on spring loaded terminal connector.

## 3 Maintenance

### 3.1 Air Filter

The Phoenix FireBird is equipped with a pleated fabric air filter that must be checked regularly. The standard filter is a MERV-11 high efficiency filter. Operating the FireBird with a dirty or obstructed filter will reduce airflow eventually causing the heating element to shut off. Installing a clean filter or removing the obstruction to restore airflow will allow the heating element to operate again.

The filter can generally be vacuumed clean several times before needing replacement. Replacement filters can be ordered from the factory or purchased locally if available.

### WARNING

**WARNING: DO NOT operate the unit without the filter or with a less effective filter as the heating coils inside the unit could become clogged and require disassembly to clean.**

## 4 Service

### WARNING

**WARNING: Servicing the Phoenix FireBird with its high voltage circuitry presents a health hazard which could result in death, serious bodily injury, and/or property damage. Only qualified service people should service this unit.**

**Do not operate the unit without the front panel in place. High voltage is present, heater burnout may result.**

### 4.1 Technical Description

The Phoenix FireBird uses a two stage wound nichrome heating element to provide two heat settings depending on application requirements or available power. One element provides low power operation and both elements together provide high power operation. The heating elements and the blower are operated by a 24VAC control circuit and a number of relays and contactors. For safety, there is an air pressure switch that will shut the heating elements off or prevent the heating elements from coming on if airflow is restricted at either the inlet or the outlet. An additional safety switch limits the incoming air temperature to 140°F. This switch shuts off the heating elements and automatically resets when the temperature falls to 100°F.

### 4.2 Troubleshooting

**NOTE: High Power setting requires an external 50A circuit. Connecting to a 30A circuit with unit set to High Power will result in an external circuit breaker trip.**

#### Blower not running

1. Unit unplugged, no power to outlet
2. Power switch not working or set to "THERMOSTAT" and no thermostat connected, or thermostat not calling for heat
3. Blower Relay not operating
4. Wiring fault inside device
5. Defective blower or blower capacitor

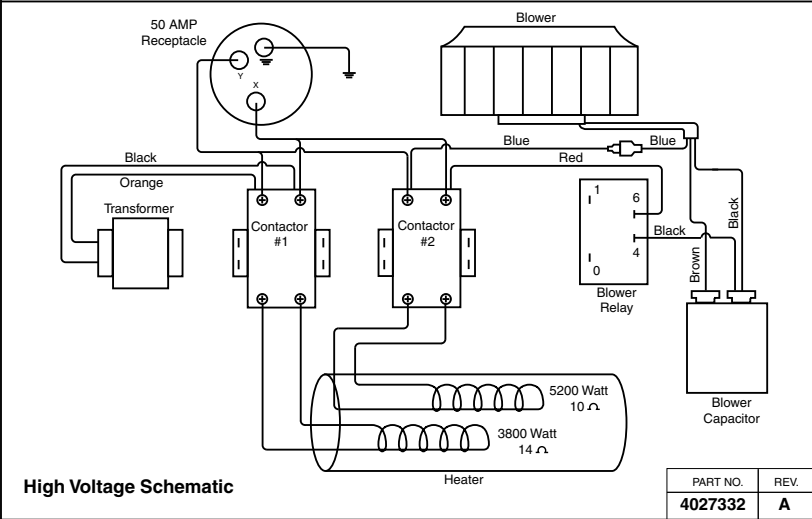
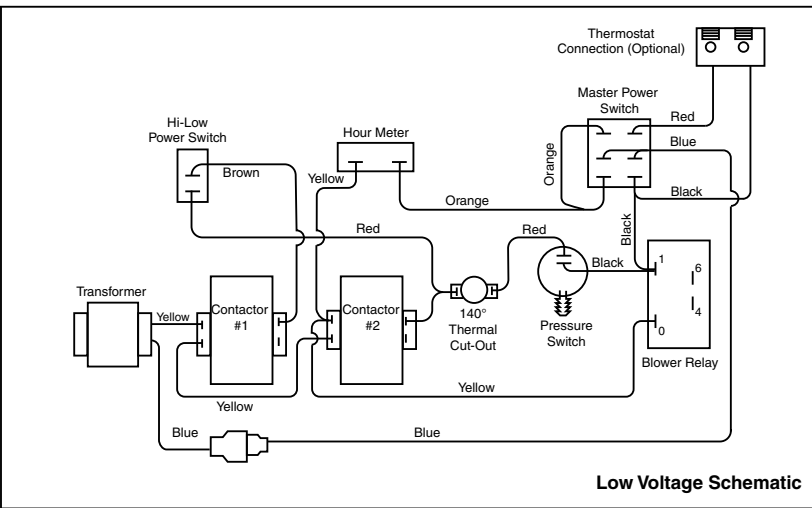
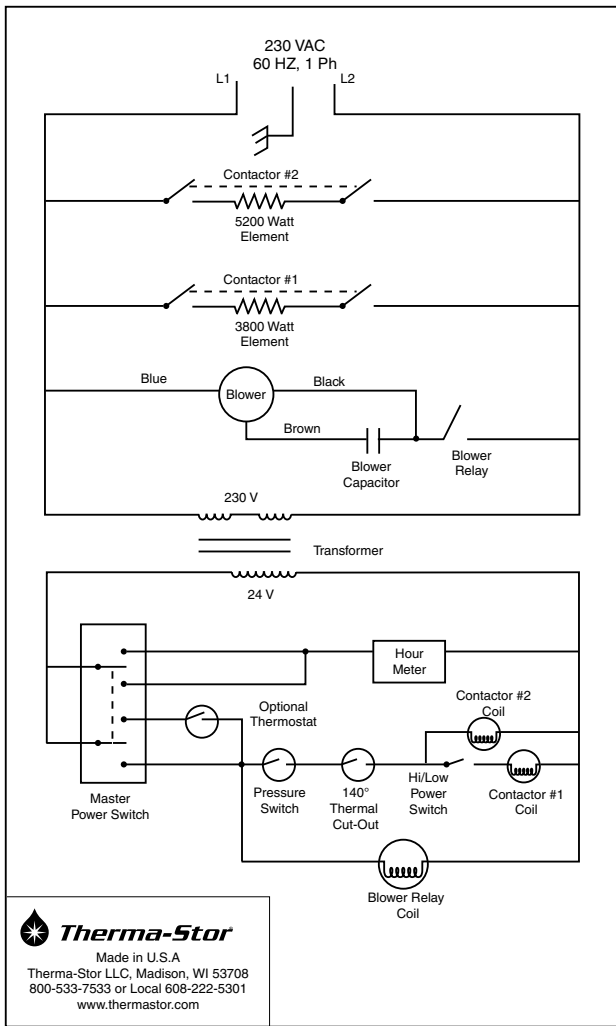
#### Blower running but no heat

1. Airflow restricted at inlet or outlet
2. High temperature limit reached (140°F)
3. Heating contactor(s) not operating
4. Wiring fault inside device
5. Defective heating element, pressure switch, or temperature limit switch

## 5 Options and Accessories

4024750	12" x 25' Intake Flex Duct
4024969	16" x 20" x 2" Pleated Media MERV-8
4021475	16" x 20" x 2" Standard Pleated Media MERV-11
4022164	16" x 20" x 2" Optional Pleated Media MERV-14
4027326	25' Cord Kit
4027327	Thermostat Kit
4024440	Kestrel 3000 Multi-Meter

# 6 Wiring Diagram



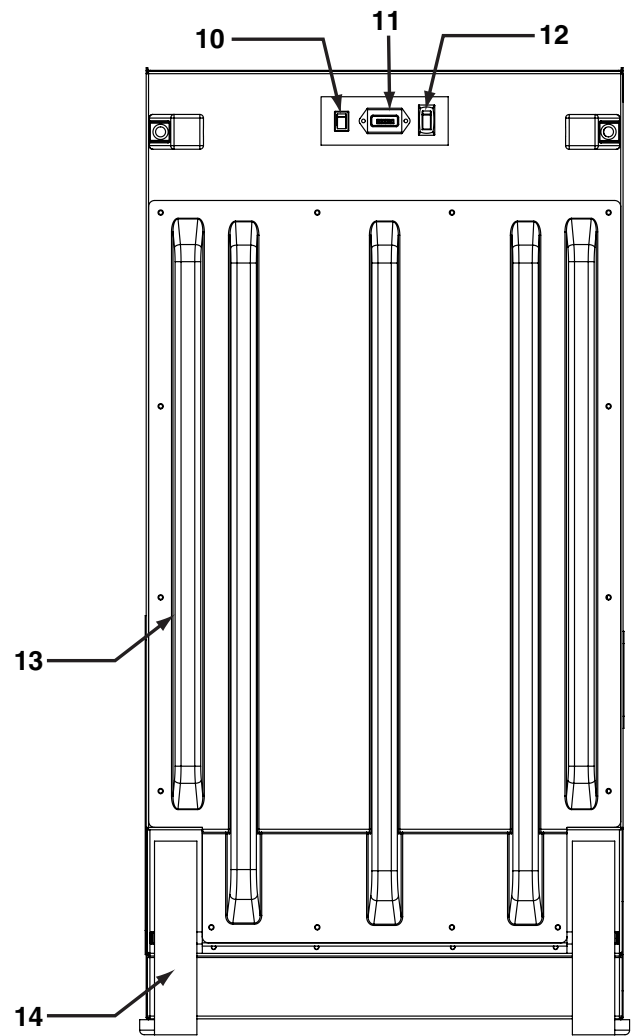
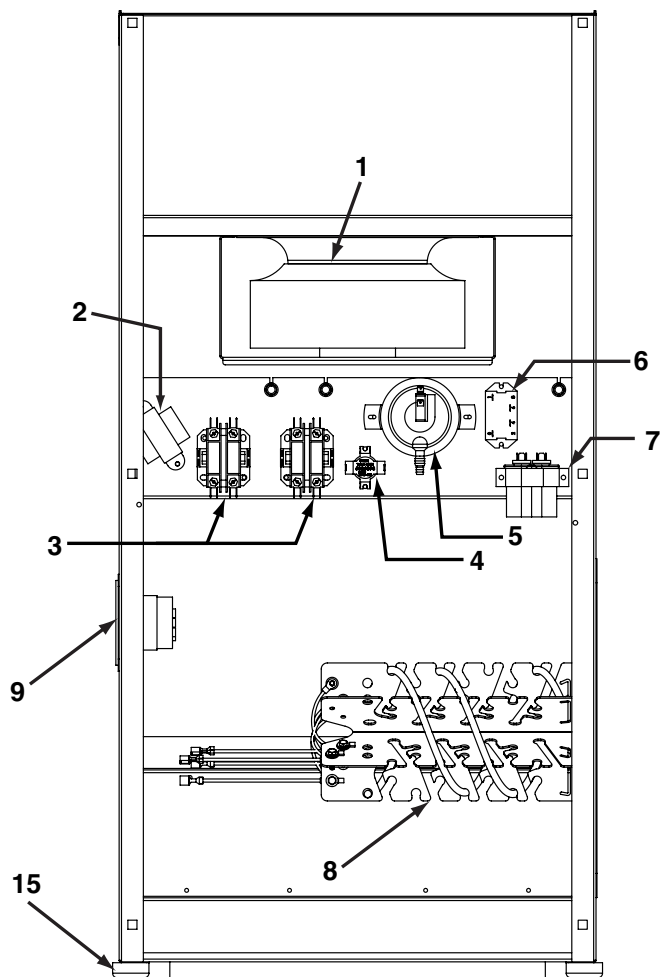
**Therma-Stor**  
 Made in U.S.A.  
 Therma-Stor LLC, Madison, WI 53708  
 800-533-7533 or Local 608-222-5301  
 www.thermastor.com

PART NO.	REV.
4027332	A

Specifications subject to change without notice.

## 7 Service Parts

Item	Description	Qty	Part No.
1	Blower	1	4027304
2	Transformer	1	4027307
3	Contactors	2	4027306
4	Thermal Switch	1	4026898
5	Pressure Switch	1	4027305
6	Blower Relay	1	4022484
7	5mf Capacitor	1	4027315
8	Heating Element	1	4027317
9	Flanged 50A Inlet	1	4027308
10	Master Power Switch	1	4027310
11	Hour Meter	1	4021597
12	High/Low Power Switch	1	4027314
13	Skidplate	1	4025691
14	Wheel	2	4025676
15	Foot	2	4024073



## Phoenix FireBird Limited Warranty

**Warrantor:**

Therma-Stor LLC  
PO Box 8680  
Madison, WI 53708  
Telephone: 1-800-533-7533

**Who Is Covered:** This warranty extends only to the original end-user of the Phoenix FireBird, and may not be assigned or transferred.

**Year One:** Therma-Stor LLC warrants that, for one (1) year the Phoenix FireBird will operate free from any defects in materials and workmanship, or Therma-Stor LLC will, at its option, repair or replace the defective part(s), free of any charge.

**End-User Responsibilities:** Warranty service must be performed by a Servicer authorized by Therma-Stor LLC. If the end-user is unable to locate or obtain warranty service from an authorized Servicer, he should call Therma-Stor LLC at the above number and ask for the Therma-Stor Service Department, which will then arrange for covered warranty service. Warranty service will be performed during normal working hours.

The end-user must present proof of purchase (lease) upon request, by use of the warranty card or other reasonable and reliable means. The enduser is responsible for normal care. This warranty does not cover any defect, malfunction, etc. resulting from misuse, abuse, lack of normal care, corrosion, tampering, modification, unauthorized or improper repair or installation, accident, acts of nature or any other cause beyond Therma-Stor LLC's reasonable control.

**Limitation and Exclusions:** If any Phoenix FireBird part is repaired or replaced, the new part shall be warranted for only the remainder of the original warranty period applicable thereto (but all warranty periods will be extended by the period of time, if any, that the Phoenix FireBird is out of service while awaiting covered warranty service).

UPON THE EXPIRATION OF THE WRITTEN WARRANTY APPLICABLE TO THE PHOENIX FireBird OR ANY PART THEREOF, ALL OTHER WARRANTIES IMPLIED BY LAW, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL ALSO EXPIRE.

ALL WARRANTIES MADE BY THERMA-STOR LLC ARE SET FORTH HEREIN, AND NO CLAIM MAY BE MADE AGAINST THERMA-STOR LLC BASED ON ANY ORAL WARRANTY. IN NO EVENT SHALL THERMA-STOR LLC, IN CONNECTION WITH THE SALE, INSTALLATION, USE, REPAIR OR REPLACEMENT OF ANY PHOENIX FireBird OR PART THEREOF BE LIABLE UNDER ANY LEGAL THEORY FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES INCLUDING WITHOUT LIMITATION WATER DAMAGE (THE END-USER SHOULD TAKE PRECAUTIONS AGAINST SAME), LOST PROFITS, DELAY, OR LOSS OF USE OR DAMAGE TO ANY REAL OR PERSONAL PROPERTY.

Some states do not allow limitations on how long an implied warranty lasts, and some do not allow the exclusion or limitation of incidental or consequential damages, so one or both of these limitation may not apply to you.

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