

# Owner's Manual — Phoenix Solution LGR Performance Amplifier

## Installation, Operation & Service Instructions

**Read and Save These Instructions**

The new Phoenix Solution LGR Performance Amplifier widens the effective operating range of LGR dehumidifiers, increases grain depression, and improves water removal rates up to 100 percent.

The Solution is a specially designed intercooler that pre-cools the incoming air stream to the LGR dehumidifier. This pre-cooling is the same process that provides LGR dehumidifiers with their leap in performance over conventional dehumidifiers. The Solution is designed to take advantage of outside, unaffected or air conditioned air to provide significant water removal in drying conditions up to 140°F. Therma-Stor testing has revealed an increase in water removal rates and faster drying times using the Solution by utilizing cold outside air.

The Solution improves the grain depression of the dehumidified air. This increases the vapor pressure differential (the key to evaporation) up to 33% and accelerates the drying process. This improves drying times in all classes of water damage but is particularly beneficial in specialty drying applications, such as hardwood floors.



Phoenix Solution  
PN 4026600

<b>The Phoenix Solution LGR Performance Amplifier</b>
<ul style="list-style-type: none"> <li>• Widens the temperature range for LGR performance up to 140°F.</li> <li>• Increases water removal rates up to 100%.</li> <li>• Increases grain depression up to 33% for faster drying of more materials.</li> <li>• Removes BTUs from the affected areas.</li> <li>• Achieves optimal drying conditions in structures with insufficient or without air conditioning.</li> <li>• Drives the grains/lb. in the drying area from the mid 30's to the low 20's.</li> <li>• Enhances the performance of heat based systems when outside grains/lb. or indoor temperatures are high by allowing dehumidification.</li> </ul>



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Specifications subject to change without notice.

## Table of Contents

Introduction .....	1
1. Intended Application .....	2
2. Specifications .....	2
3. Set Up .....	2
3.1 Transporting .....	2
3.2 Installation .....	2
3.3 Ducting .....	3
3.4 Condensate Removal .....	3
3.5 Electrical Requirements .....	4
3.6 Control Switch .....	4
4. Maintenance .....	4
5. Service .....	4
5.1 Technical Description .....	4
5.2 Troubleshooting .....	4
5.3 Blower Replacement .....	4
5.4 Thermostat & Switch Replacement .....	4
6. Options & Accessories .....	4
7. Wiring Diagram .....	5
8. Installation Diagram .....	6
9. Service Parts .....	7
Warranty .....	9

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 Solution performance amplifier.

## **WARNING**

- It is designed to be used **INDOORS ONLY**.
- If used in a wet area, plug it into a **GROUND FAULT INTERRUPTER**.
- **DO NOT** use the Phoenix Solution as a bench or table.
- It must always be used in the upright position.
- The included bracket with engaging tabs must be installed correctly on the dehumidifier that the Phoenix Solution is attached to.
- The Phoenix Solution must be removed from the dehumidifier for transport to and from the job site.
- Automatically operated device.
- Risk of electric shock.
- Can cause injury or death: disconnect all remote electric power supplies before servicing.

## 1 Intended Application

The Solution is a specially designed intercooling head that provides pre-cooling to the dehumidifier's incoming air stream. Just like the pre-cooling feature is the key to the performance leap of LGR dehumidifiers, the Solution can actually double the water removal rate of your LGR in some conditions.

The enhanced efficiency achieved with the Solution practically matches the 1.6 amps required to operate the unit, resulting in a minimal overall power increase.

## 2 Specifications

**Model:** Phoenix Solution (P/N 4026600)

**Electrical:** 110-120 Vac, 1.6 Amps, grounded

**Operating CFM & Temperature Range:**

Primary air stream 300 CFM & 33°F min., 125°F max.

Secondary air stream 230 CFM & 15°F min., 125°F max.

**Duct Connections:** 4" x 10" rectangular exhaust

8" round intake

**Size:** 19" high x 19-1/2" wide x 19-1/2" deep

**Weight:** 40 lbs

## 3 Operation

### 3.1 Transporting

The Phoenix Solution is designed to be carried by the recessed handles built into the front and rear of the unit. Multiple Solutions may be stacked for transport on a suitable cart. Transporting the Phoenix Solution as it is attached to a dehumidifier is **NOT RECOMMENDED**.

### 3.2 Installation

The top of the Phoenix Solution is designed to accept the filter and top cover from the Phoenix 200 MAX or Phoenix 200 HT that it is mounted on. The Phoenix Solution is designed to engage the spring clips found on the Phoenix 200 MAX and 200 HT dehumidifiers. An additional bracket with engaging tabs (1 included) must be installed on the dehumidifier to secure the front of the Phoenix Solution chassis.



Figure 1: Bracket installed in Phoenix HT using existing fasteners. Note tabs bent down between plastic heat exchanger panels. 200 MAX installation is similar



Figure 2: The front of the Solution has four slots to engage the tabs on the dehumidifier bracket. The top two slots are for use when installing on a Phoenix 200 HT and the bottom two are for use on a Phoenix 200 MAX.



Figure 3: Solution slides forwards and engages clips on side of dehumidifier.

### 3.3 Ducting

A detachable rectangular duct ring is supplied to allow 10" round lay-flat duct to be attached to the Phoenix Solution outlet. Lay-flat plastic ducting is available. See accessories table section 6. To attach ducting to a ring, put the plastic duct end through the ring center and roll the duct end outward so that it overlaps the outside of the ring. The duct and ring may then be quickly attached to the Phoenix Solution by snapping the ring over the three screws at the blower outlet.

### 3.4 Condensate Removal

In applications where the temperature of the secondary air stream is significantly below the dew point of the primary air stream, condensation may occur inside the Solution's heat exchanger. A drip pan underneath the heat exchanger, along with the mounting bracket secured in the dehumidifier, direct condensate into the dehumidifier's drain pan for removal.

### 3.5 Electrical Requirements

The Phoenix Solution plugs into a common grounded outlet on a 15 Amp circuit. It draws 1.6 Amps with the blower running. If used in a wet area, a ground fault interrupter (GFI) is required. If an extension cord is required, it must be a minimum 14 gauge conductor rating if it is 25' or less. Longer extension cords require a minimum 12 gauge conductor rating.

### 3.6 Control Switch

The Solution includes a three position power switch located on the back of the device. The center position is "OFF", the bottom position is "ON", and the top position is "THERMOSTAT". Switching the unit "ON" will cause the blower to run continuously. Switching the unit to "THERMOSTAT" will prevent the Solution from over-cooling the room by shutting the blower off if the room falls below 70°F. Note that on the "THERMOSTAT" setting, the blower will not come on until the primary air stream heats up above 80°F.

## 4 Maintenance

Any accumulated debris can be removed from the inlet of the Solution by inserting a vacuum cleaner head into the 8" inlet.

## 5 Service

### 5.1 Technical Description

The Phoenix Solution uses an air-to-air heat exchanger and a secondary air stream (air supplied from a location other than the area being dried) to pre-cool the air drawn into a Phoenix dehumidifier. It does this with a thermostatically controlled impeller type air mover. The thermostat is a common bi-metallic switch with its sensing element in the process or primary air stream (supply air to dehumidifier). The thermostat is set to turn the impeller on when the process air temperature increases to 80°F. The thermostat will turn the impeller off when the process air cools to 70°F. Alternatively, the power switch can be set to run the blower continuously if desired.

### 5.2 Troubleshooting

**Blower not running when set to "ON"**

1. No power to unit
2. Loose connection in blower circuit
3. Obstruction prevents impeller rotation
4. Defective Blower

**Thermostat warm but blower doesn't run when set to "THERMOSTAT"**

1. No power to unit
2. Thermostat not working - replace
3. Loose connection in blower circuit
4. Obstruction prevents impeller rotation
5. Defective Blower

### 5.3 Blower Replacement

The motorized impeller has a PSC motor and internal thermal overload protection. If defective, the complete assembly must be replaced.

1. Unplug the power cord
2. Turn unit upside down and remove three impeller assembly mounting screws from the bottom of the unit
3. Turn unit right side up and remove four impeller assembly mounting screws from the back of the unit and two from the side near the impeller exhaust opening
4. Lift impeller assembly out of unit
5. Remove four screws holding impeller bracket to impeller orifice panel
6. Remove the fasteners holding the impeller and impeller power cord to the impeller bracket
7. Reverse the above procedure for reassembly

### 5.4 Thermostat & Switch Replacement

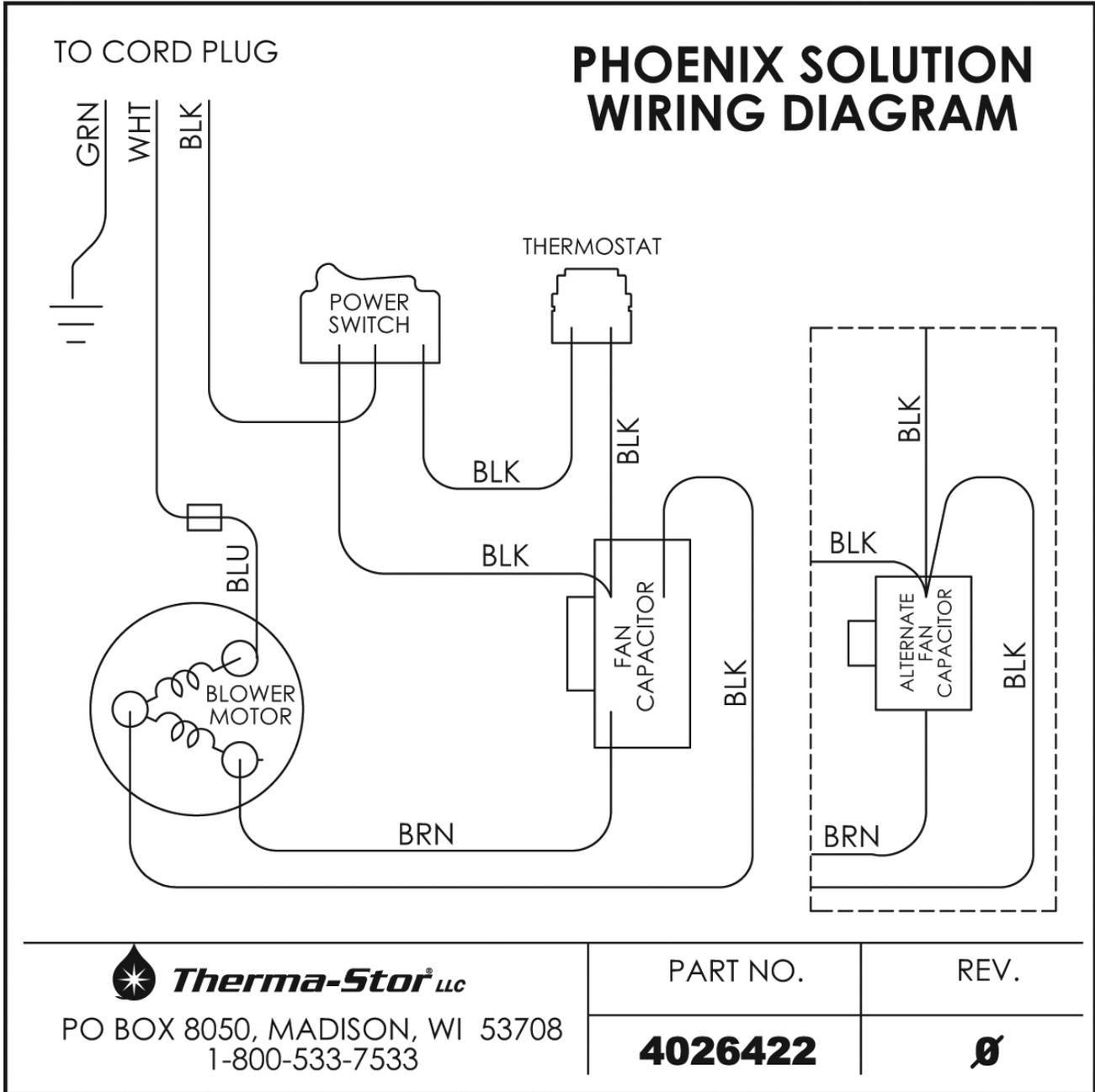
Remove the blower assembly as described for replacing the blower. Disconnect defective components and replace.

## 6 Options & Accessories

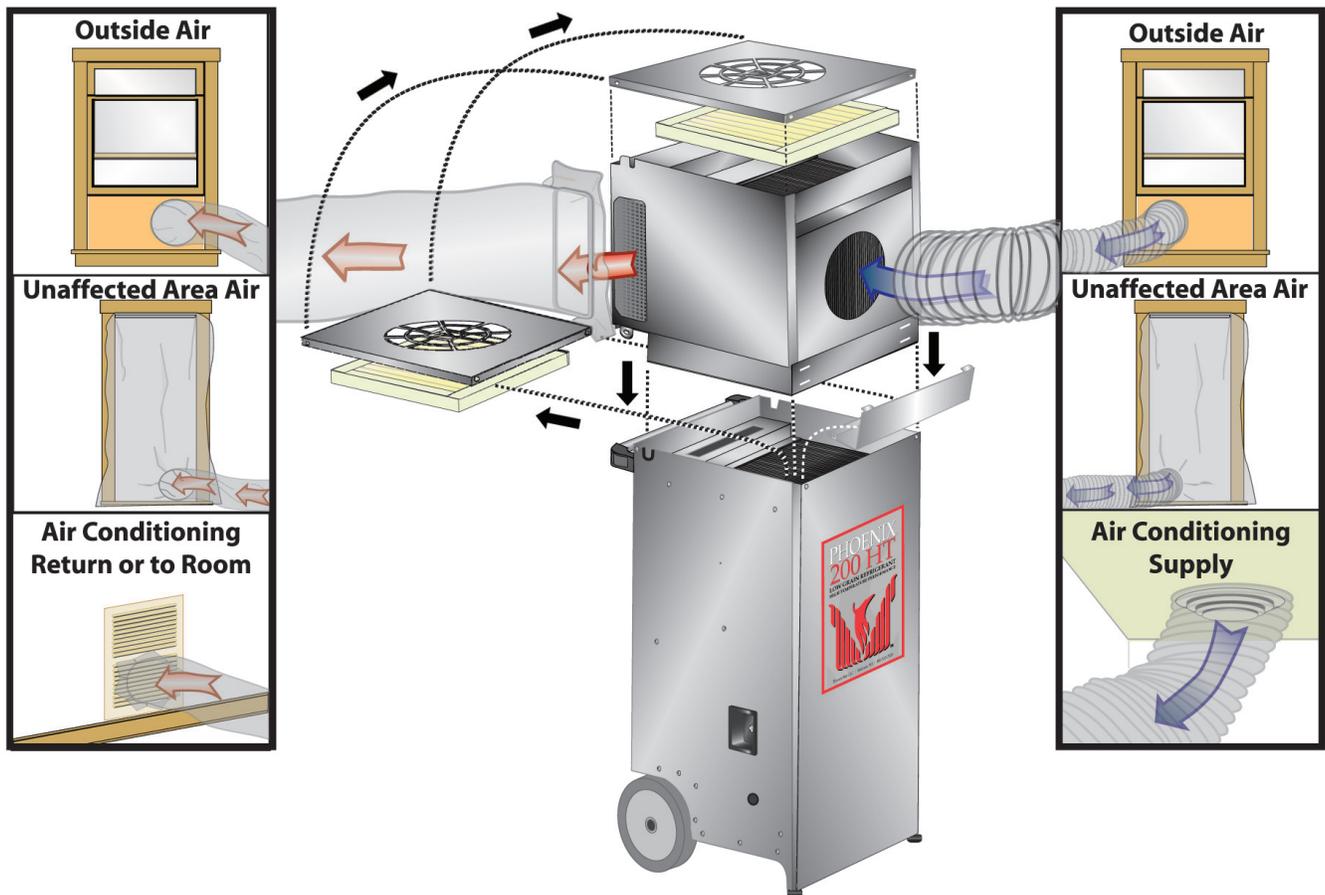
4020177	8" Insulated Intake Flex Duct x 25'
4024935	Lay-Flat Duct 10" Round x 250' Roll
4022537	Lay-Flat Duct 10" Round x 500' Roll
4026410	Solution Dehumidifier Mounting Brackets

To order, contact Therma-Stor LLC at 1-800-533-7533.

# 7 Wiring Diagram



## 8 Installation



### Simple Set-Up

1. Remove Top and Filter from 200 Max or 200 HT.
2. Attach Solution mounting bracket to LGR.
3. Set the Solution into the top of the LGR and slide into the mounting bracket captures.
4. Place Filter and Top on the Solution.
5. Find the coolest air source from outside, the unaffected area or air conditioning.
6. Duct as shown in drawing.
7. Plug units in and turn "On/Thermostat". The Phoenix Solution will boost the performance of your LGR dehumidifier in nearly every condition, and will dramatically widen the temperature range for significant water removal.

The Solution is a specially designed intercooling head that provides pre-cooling to the dehumidifier's incoming air stream. Just like the pre-cooling feature is the key to the performance leap of LGR dehumidifiers, the Solution can actually double the water removal rate of your LGR in some conditions.

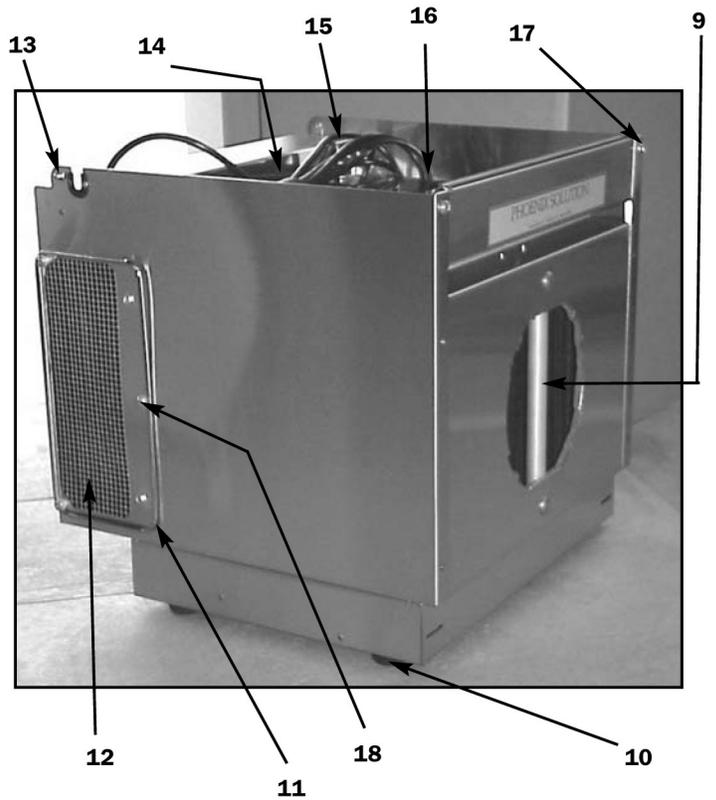
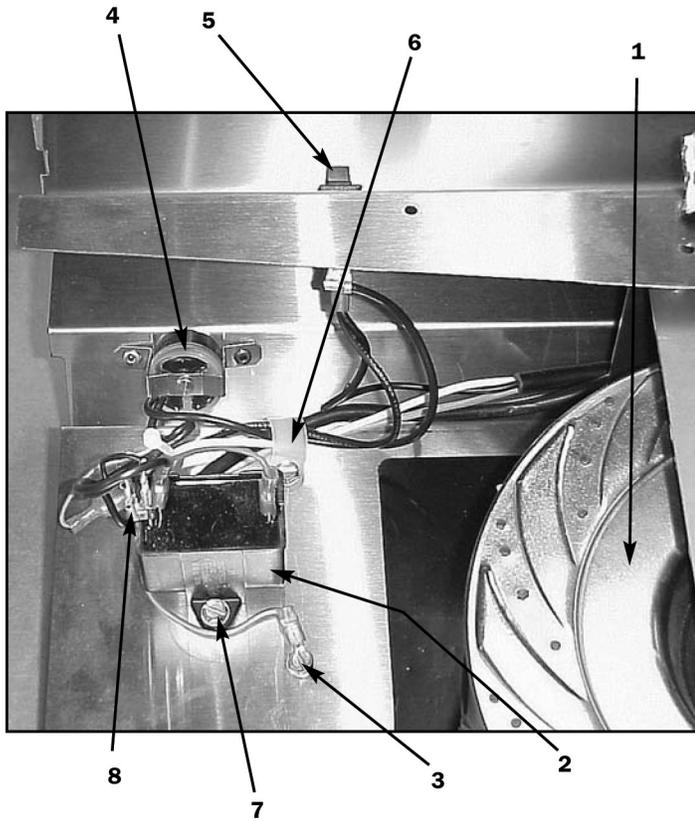
The enhanced efficiency achieved with the Solution practically matches the 1.6 amps required to operate the unit, resulting in a minimal overall power increase.

The primary air stream inlet on top must be at least 1 foot from walls and other obstructions to air flow. The secondary air stream on the front and side must be ducted from and to an area other than the area being dried. Care should be taken to separate the secondary air source connection points to avoid recirculation through the Solution.

# 9 Service Parts

Item	Description	Qty	Part Number
1	Impeller	1	4025076
2	Capacitor	1	4025224
3	#10 Mounting Screw	14	1007200
4	Thermal Switch	1	4026416
5	Power Switch	1	4026610
6	Cable Clamp	1	1979212
7	#8 Mounting Screw	1	1027265
8	2 to 1 Terminal Adapter	1	4026414
9	Tubular Handle	1	4026399

Item	Description	Qty	Part Number
10	Feet	4	4024073
11	Duct Wire	1	4024078
12	Blower Screen	1	4020555
13	Snap Button	2	4024083
14	Velcro Cord Wrap	1	4025629
15	Power Cord	1	4026398
16	Heat Exchanger	1	4021472
17	Nylon Washer	2	4022000
18	Nylon Shoulder Washer	3	4024922
(NS)	Duct Collar		4023875



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## Phoenix Solution LRG Performance Amplifier Limited Warranty

**Warrantor:**

Therma-Stor LLC  
4201 Lien Rd  
Madison, WI 53704  
Telephone: 1-800-533-7533

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

**Year One:** Therma-Stor LLC warrants that, for one (1) year the Phoenix Solution LGR Amplifier 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 upon request, by use of the warranty card or other reasonable and reliable means. The end-user is responsible for normal care. This warranty does not cover any defect, malfunction, etc. resulting from misuse, abuse, lack of normal care, corrosion, freezing, 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 Solution LGR Amplifier 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 Solution LGR Amplifier is out of service while awaiting covered warranty service).

UPON THE EXPIRATION OF THE WRITTEN WARRANTY APPLICABLE TO THE PHOENIX SOLUTION LGR AMPLIFIER 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 SOLUTION 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.

**Legal Rights:** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

