

# INSTALLER'S & OWNER'S MANUAL



**Designed For Superior Basement  
and Crawlspace Dehumidification**



P/N 4033600 • Serial No. \_\_\_\_\_ Install Date: \_\_\_\_\_

Sold by:



**Therma-Stor<sup>®</sup> LLC**

Driven by performance. Powered by design.<sup>™</sup>

4201 Lien Rd • Madison, WI 53704 • TOLL-FREE 1-800-533-7533 • [www.Santa-Fe-Products.com](http://www.Santa-Fe-Products.com)

• [sales@Santa-Fe-Products.com](mailto:sales@Santa-Fe-Products.com) TS-749 12/11

**Thank you for purchasing the Santa Fe Compact. For questions regarding this product or to order parts/accessories, contact your dealer or call TOLL-FREE 1-800-533-7533.**

## Table of Contents

	Precautions .....	2
1.	Intended Application(s) .....	2
2.	Registrations .....	2
3.	Specifications .....	3
4.	Unit Assembly .....	3
4.1	Installing Feet .....	3
4.2	Drain Hose .....	3
5.	Installation .....	3
5.1	Safety Precautions .....	3
5.2	Location .....	3
5.3	Electrical Requirements .....	3
5.4	Condensate (Water) Removal .....	3
5.4A	Lifting Condensate .....	4
5.4B	Condensate Pump Kit .....	4
6.	Operation .....	4
6.1	Humidity Control Adjustment .....	4
6.2	Defrost Cycle .....	4
6.3	Fan Operation .....	4
7.	Maintenance .....	4
7.1	Air Filters .....	5
7.2	Cleaning Pre-filter .....	5
7.3	Pleated Filter .....	5
7.4	Removing Filters .....	5
7.5	Installing Filters .....	5
8.	Service .....	5
8.1	Technical Description .....	5
8.2	Troubleshooting .....	5
8.3	Refrigerant Charging .....	6
8.4	Compressor/Capacitor Replacement .....	6
9.	Replacement Parts/Accessories .....	6
10.	Wiring Diagram .....	6
	Warranty .....	7


## Precautions


- Do not operate the Santa Fe Compact with a cut or frayed power cord.
- Do not unplug the unit by pulling on the cord. Grasp the plug firmly and pull it out of the wall socket or power receptacle.
- Always use a grounded outlet.
- Never operate electrical equipment near or in standing water.
- Do not stick your fingers or other objects through the safety grill.

- When changing filters, do not stick fingers or other objects in the unit.
- Do not restrict airflow in to or out of the unit. This may cause the unit to overheat.
- The unit should never be serviced or cleaned while it is plugged in.
- Do not sit or stand on the unit, or use as a shelf or table.
- Before leaving the unit unattended, ensure children do not have access to the equipment. Do not allow children to play with or near the unit or in its air flow.
- The unit is designed to be installed indoors only.
- No user serviceable components. Contact installer or call 1-800-533-7533 for all repair or warranty needs.

Read the installation, operation and maintenance instructions carefully before installing and using this unit. Proper adherence to these instructions is essential to obtain maximum benefit from your Santa Fe dehumidifier.

### Read and Save These Instructions

 **WARNING!** — This symbol means important instructions. Failure to heed them can result in serious injury or death.

 **CAUTION!** — This symbol means important instructions. Failure to heed them can result in injury or material property damage.

## 1. Intended Application(s)

The Santa Fe Compact is intended for use in crawlspaces or basements; however, the unit can be placed in almost any residential setting where dehumidification is desired. Use in non-residential applications and pool areas may void warranty.

The Santa Fe Compact is designed to operate in temperatures between 49° and 95°F. This unit works most effectively between 56° and 95°.

In order to efficiently control humidity levels, the area in which the dehumidifier is to be operated must be free of water intrusion or excessive fresh (outside) air infiltration. Before installing the Santa Fe Compact, water intrusion and air infiltration problems should be addressed.

## 2. Registrations

The Santa Fe Compact conforms to UL STD 474 and CSA standard C22.2 No. 92.

## 3. Specifications

<b>Part Number:</b>	4033600
<b>Blower:</b>	190 CFM @ 0.0" WG
<b>Power:</b>	580 watts @ 80°F and 60% RH
<b>Supply Voltage:</b>	115 volt – 1 phase - 60 Hz
<b>Current Draw:</b>	5.1 Amps
<b>Energy Factor:</b>	2.4 L/kWh
<b>Operating Temp.:</b>	49°F Min., 95°F Max.
<b>Sized for:</b>	Up to 1600 Sq. Ft. - Typical
<b>Minimum Performance at 80°F and 60% RH</b>	
Water Removal:	70 Pints/Day
Efficiency:	5.0 Pints/kWh
<b>Air Filter:</b>	MERV-8
Efficiency:	Standard 65% Efficient, ASHRAE Dust Spot Test
Size:	9" x 11" x 1"
<b>Power Cord:</b>	9', – 110-120 VAC, Ground
<b>Drain Connection:</b>	3/4" Threaded MPT
<b>Drain Hose:</b>	5-8" ID x 8'

### Santa Fe Dimensions

	Unit	Shipping
Width:	12"	15"
Height:	12"	17"
Length:	21"	25"
Weight:	55 lbs	65 lbs

## 4. Unit Assembly

### 4.1 Installing Feet

Included with your Santa Fe Compact are four leveling feet. It is important to level the unit for proper draining. Do not install the feet if you are using the optional hang kit.

### Adjusting Leveling Feet

1. Lay down a protective pad (pillow, blanket, etc.).
2. Carefully turn unit onto side.
3. Install leveling feet and adjust to the desired position.
4. Carefully bring unit to upright position.
5. Repeat steps 1-4 until unit is capable of proper drainage as described in section 5.2.3 of this manual.
6. Wait a minimum of 10 minutes before operating.

### **!** CAUTION!

Note: Operating the unit immediately after bringing it to an upright position can possibly damage the compressor. A minimum of 10 minutes is needed to allow the compressor oil to return to it's reservoir for lubrication.

### 4.2 Drain Hose

Install the threaded drain hose fitting into the lower right hand side, on the front of the machine. Place drain hose end on drain port until fully seated. Refer to Section 5.2.3 regarding proper drainage.

## 5. Installation

### 5.1 Safety Precautions

- Do not install the Santa Fe Compact with the intake or exhaust of the unit within 1' of a wall or other obstruction.
- Do not place the unit where curtains or debris can be drawn onto the intake and restrict airflow.
- Do not operate in standing water or place the unit near open water.

### 5.2 Location

The Santa Fe Compact can be installed in a variety of locations to meet the dehumidification needs, but should be installed directly in the area to be dehumidified. Other considerations include:

1. Providing access to a 115 VAC power outlet (9' power cord is provided).
2. Locating near a suitable drain (8' drain hose included).
3. The unit is designed to operate while level. If the unit is placed on an unlevel surface, refer to section 4.1. Failure to level the unit may result in leakage or improper drainage.
4. The unit should be hung from the floor joists if there is any possibility of flooding. A flooded unit is not covered by warranty.

### **!** WARNING!

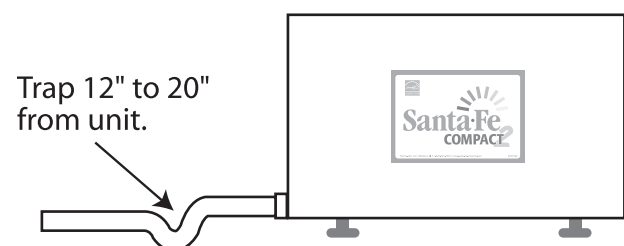
### 5.3 Electrical Requirements

The Santa Fe Compact plugs into a common grounded outlet on a 110-120 VAC 15-Amp circuit. While operating, it draws 5.1 amps @ 80°F, 60% RH and 4.5 amps @ 70°F, 50% RH. Use of a ground fault circuit interrupter (GFCI) protected circuit is recommended. The unit should not be used in areas prone to flooding.

### 5.4 Condensate (Water) Removal

The Santa Fe Compact drains via a gravity system - it is not able to push condensate (water) uphill. The drain hose must run flat or downhill toward the drain location. Be sure the hose is not kinked or otherwise restricted so that water can pass through it. Improper hose installation may result in water leakage.

To increase the efficiency of the unit, position the hose to create a "trap". By creating a trap, it will hold a small amount of water. Position the trap on the hose approximately 12" - 20" away



from the unit. Check hose regularly to ensure water is draining properly. If floor drain is not easily accessible, a condensate pump kit with a 20' hose is available. Refer to page 6 for ordering accessories.

## **⚠ CAUTION!**

A trap in the drain line is preferred, but not required for the unit to drain properly. Local codes may require a trap.

Use care to keep the pipe assembly as flat to the floor as possible. Kinks and/or humps will prevent proper drainage. Install a 3/4" male nominal pipe thread adapter to the drain pan. It is necessary to assemble your own drain pipe assembly utilizing 3/4" PVC pipe to get the condensate to a floor or other drain. Pipe is commonly available in 10' lengths from building supply, plumbing or hardware stores. Grade of pitch should be 1" per 10'.

### **5.4A Lifting Condensate**

A condensate pump may be installed if lift is required to dispose of condensate.

### **5.4B Condensate Pump Kit**

A condensate pump kit is available for use with the Santa Fe Compact and provides 15' of lift. Condensate is automatically pumped to a remote location when the water level in the pump's reservoir rises to close the float switch. The pump also contains a safety float switch. The white leads from this switch extend from beneath the pump cover. This switch should be installed in series with the field wire that connects the blue (#5) lead from the Santa Fe Compact to the control panel. If the pump fails, this switch opens the compressor control circuit and stops water production before the reservoir overflows. The Santa Fe Compact will not dehumidify until this switch closes.



Condensate Pump Kit (4030113) shown installed. Available from your dealer or Thermo-Stor. Call 1-800-533-7533.

## **6. Operation**

### **6.1 Humidity Control Adjustment**

The humidity control is an adjustable switch that turns the dehumidifier on and off. It turns on when the relative humidity (RH) rises to the dial set point. It turns off when the RH is within  $\pm 5\%$  of the set point.

### **Approximate Humidity Levels Per Setting**

- "Dry"** 35% to 45% Relative Humidity
- "Normal"** 45% to 55% Relative Humidity  
(Recommended for most applications)
- "Humid"** 55% to 65% Relative Humidity

The dehumidifier will run continuously until the RH is reduced to the humidity control dial setting. It is not recommended to set the humidity control to "dry" in rooms under 65°; doing so will result in long periods of ineffective dehumidifier run time.

To turn unit on, turn the humidity dial clockwise to the recommended "NORMAL" position and set fan control to "FAN AUTO." To turn the unit off, turn the humidity dial counter clockwise to the "OFF" position and set fan control to "FAN AUTO."



**The Humidity Alert™ (4026208) is available to accurately monitor humidity levels. Please contact your dealer or call 1-800-533-7533 to order.**

### **6.2 Defrost Cycle**

This product includes a defrost thermostat. This feature prevents internal damage caused by excessive frost forming within the unit. When the unit is experiencing excessive frost the system will stop dehumidifying and the fan will run until normal operating conditions are present.

### **6.3 Fan Operation**

Turning the fan switch "FAN ON" will cause the unit's internal blower to run continuously, whether the unit is dehumidifying or not. This function is desirable if the unit is used for air circulation or filtration. Turning the fan switch to "FAN AUTO" will cause the unit's internal blower to run only while the unit is dehumidifying.

## **7. Maintenance**

### **⚠ CAUTION!**

**NOTE: Do not operate the unit without the proper filters. The heat exchange coils inside the unit could become clogged, resulting in a loss of effectiveness and/or efficiency and may require disassembly to clean.**

### **7.1 Air Filters**

The Santa Fe Compact is equipped with a standard MERV-8 65% 1" pleated fabric filter and a 1/4" aluminum framed pre-filter. Operating the unit with a dirty or obstructed filter will reduce dehumidifier capacity and efficiency, and may cause the compressor to cycle on and off unnecessarily.

## 7.2 Cleaning Pre-filter

Check filter every six months. Clean and/or replace when filters are visibly dirty. Replacement filters can be ordered from your dealer or by calling 1-800-533-7533.

The 1/4" washable pre-filter should not be discarded. Inspect for debris, dirt, or other obstructions. Wash the 1/4" pre-filter every time the 1" pleated fabric filter is replaced. To clean the 1/4" pre-filter, remove filter from the unit, rinse the 1/4" pre-filter in water with the water flowing through the aluminum support mesh side. Allow the filter to dry completely before reinstalling. Reinstall per section 7.5.

## 7.3 Pleated filter

Replace filter every six months per section 7.4-7.5. To order filters contact your dealer or call 1-800-533-7533.

### **CAUTION!**

**NOTE: Failure to follow filter handling instructions may result in improper function of the dehumidifier and cause premature filter wear or unit damage.**

## 7.4 Removing Filters

1. Remove the 1/4" pre-filter by gently pulling on the bottom of the filter frame.
2. Remove the 1" pleated fabric filter by gently pulling on the bottom of the filter frame.



## 7.5 Installing Filters

1. Angle the top of the filter and gently slide 1" pleated filter into filter slot. Do not force. If resistance is felt, check alignment for obstructions or debris inside the filter housing.
2. Angle the top of the filter and gently slide 1/4" pre-filter in front of 1" pleated filter. Do not force. If resistance is felt, check alignment for obstructions or debris inside the filter housing.

## 8. Service

### **WARNING!**

**Servicing the Santa Fe Compact, with its high pressure refrigerant system and 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.**

## 8.1 Technical Description

The Santa Fe Compact uses a refrigeration system similar to an air conditioner's to remove heat and moisture from incoming air and add heat to the air that is discharged. Hot, high pressure refrigerant gas is routed from the compressor to the condenser coil. The refrigerant is cooled and condensed by giving up its heat to the air that is discharged from the dehumidifier. The refrigerant liquid then passes through capillary tubing which cause the refrigerant pressure and temperature to drop. It next enters the evaporator coil where it absorbs heat from the incoming air and evaporates.

The evaporator operates in a flooded condition, which means that all the evaporator tubes contain liquid refrigerant during normal operation. A flooded evaporator should maintain constant pressure and temperature across the entire coil, from inlet to outlet. The mixture of gas and liquid refrigerant enter the accumulator after leaving the evaporator coil. The accumulator prevents any liquid refrigerant from reaching the compressor. The compressor evacuates the cool refrigerant gas from the accumulator and compresses it to a high pressure and temperature gas to repeat the process.

## 8.2 Troubleshooting

### **FOR THE HOMEOWNER:**

■ **If the unit does not work properly, please check the following:**

- **Is the unit unplugged?**
- **Is power to outlet on? (check switch, if applicable)**
- **Is circuit breaker tripped?**
- **Is humidity control set? (turn to "ON")**
- **Is air flow restricted? (check air filters and grill)**

**If none of the above, call dealer or 1-800-533-7533.**

### **FOR THE INSTALLING PROFESSIONAL:**

■ **No dehumidification. Neither blower, nor compressor run with fan switch AUTO.**

1. Unit unplugged or no power to outlet, circuit breaker tripped.
2. Humidity control set to "Humid" setting.
3. Loose connection in internal wiring.
4. Humidity control is defective.
5. Defective compressor relay.

■ **No dehumidification. Compressor does not run but blower runs with fan switch AUTO and humidity control turned to ON.**

1. Defrost thermostat open, ambient temperature too low.
2. Loose connection in compressor circuit.

# SANTA FE COMPACT INSTALLER'S AND OWNER'S MANUAL

3. Defective compressor overload.
4. Defective compressor or compressor run capacitor.

■ **Blower runs with fan switch AUTO but compressor cycles on & off.**

1. Low ambient temperature and/or humidity causing unit to cycle through defrost mode.
2. Defrost thermostat defective.
3. Defective compressor overload.
4. Defective compressor.
5. Dirty air filter(s) or air flow restricted.

■ **Blower does not run with fan switch in either position. Compressor runs briefly but cycles on and off.**

1. Loose connection in blower circuit.
2. Obstruction prevents impeller rotation.
3. Defective blower.
4. Defective blower switch.

■ **Evaporator coil frosted continuously, low dehumidifying capacity.**

1. Dirty air filter or air flow restricted.
2. Defrost thermostat defective.
3. Low refrigerant charge.

If none of the above has fixed the issue, call your dealer service department or 1-800-533-7533.

## 8.3 Refrigerant Charging

If the refrigerant charge is lost due to service or a leak, a new charge must be accurately weighed in. If any of the old charge is left in the system, it must be recovered before weighing in the new charge. Refer to the unit nameplate for the correct charge weight and refrigerant type.

## 8.4 Compressor/Capacitor Replacement

This compressor is equipped with a two terminal external overload and a run capacitor, but no start capacitor or relay.

### ⚠ CAUTION!

**CAUTION-ELECTRICAL SHOCK HAZARD: Electrical power must be present to perform some tests. These tests should be performed by a qualified service person.**

## 9. Replacement Parts

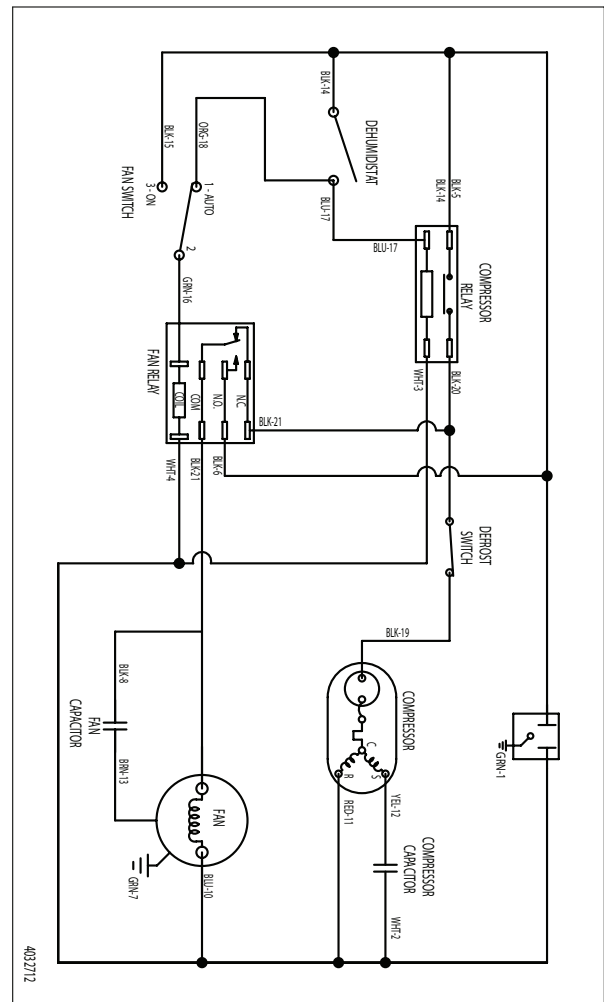
4025560	On/Off Switch
1970010	25A Relay
4027163	15A Relay
4029568	Compressor Overload
4021495	Control Knob
4025577	Clear Hose
4026221	Leveling Foot
4029567	Compressor
4027172	Humidity Control
4031917	Run Capacitor
4025569	Hose Adaptor

4029594	Fan Capacitor
4029595	Coil Set
4031384	Impeller
4031376	Defrost Thermostat

## Accessories

4027168	Pre-Filter
4029748	MERV 8 Filter
4030421	MERV 8 Filter 4 Pack + 1 Pre-Filter
4027418	MERV 11 Filter 4 Pack + 1 Pre-Filter
4030113	Pump Kit
4029907	Caster Kit
4029908	Hang Kit
4030426	Duct Kit, Supply & Return
4030203	Duct Kit, Supply Only
4030204	Duct Kit, Return Only
4027415	8" Flex Duct 25'
4020177	8" Insulated Flex Duct 25'
4020175	Dehumidistat

## 10. Wiring Diagram





## Limited Warranty

**Limited Warranty.** Therma-Stor, LLC ("Therma-Stor") warrants as follows: (i) the Santa Fe Compact dehumidifier ("Product") will be free of material defects in workmanship or materials for a period of one (1) year ("One-Year Warranty") following the date of initial purchase of such Product by an original customer purchasing from Therma-Stor or an authorized reseller ("Customer"); and (ii) the Product's condenser, evaporator, and compressor will be free of material defects in workmanship or materials for a period of five (5) years following the date of initial purchase of such Product by a Customer.

**Limitation of Remedies.** CUSTOMER'S SOLE AND EXCLUSIVE REMEDY UNDER THE ABOVE LIMITED WARRANTY AND THERMA-STOR'S ENTIRE LIABILITY THEREUNDER, SHALL BE, AT THE SOLE OPTION OF THERMA-STOR, REPLACEMENT OR REPAIR OF SUCH PRODUCT OR ITS COMPONENTS ("COMPONENTS") BY THERMA-STOR OR THERMA-STOR'S AGENTS ONLY. REFRIGERANT, PIPING, SUPPLIES, TRANSPORTATION COSTS, LABOR COSTS INCURRED IN REPAIR OR REPLACEMENT OF SUCH COMPONENTS ARE NOT INCLUDED. THIS DISCLAIMER AND EXCLUSION SHALL APPLY EVEN IF THE EXPRESS WARRANTY AND LIMITED REMEDY SET FORTH HEREIN FAILS OF ITS ESSENTIAL PURPOSE. CUSTOMER ACKNOWLEDGES THAT NO REPRESENTATIVE OF THERMA-STOR OR OF ITS AFFILIATES OR RESELLERS IS AUTHORIZED TO MAKE ANY REPRESENTATION OR WARRANTY ON BEHALF OF THERMA-STOR OR ANY OF ITS AFFILIATES OR RESELLERS THAT IS NOT IN THIS AGREEMENT. Notwithstanding the above, during the term of the One-Year Warranty only, Therma-Stor will provide, free of charge to Customer, all Components and labor (except costs related to removal and installation of Product) required to fulfill its obligations under such One-Year Warranty.

**Disclaimer of Warranties.** EXCEPT FOR ABOVE LIMITED WARRANTY, WHICH IS THE SOLE AND EXCLUSIVE WARRANTY PROVIDED WITH RESPECT TO THE PRODUCT AND ITS COMPONENTS, THERMA-STOR HEREBY DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

**Warranty Limitations.** The foregoing limited warranty extends only to a Customer and shall be null and void upon attempted assignment or transfer. A "defect" under the terms of the limited warranty shall not include problems resulting from Customer's or Customer's employees', agents', invitees' or a third party's misuse, improper installation, improper design of any system in which the Product is included, abuse, lack of normal care, failure to follow written instructions, tampering, improper repair, or freezing, corrosion, acts of nature or other causes not arising out of defects in Therma-Stor's workmanship or material. If a Product or Component is replaced while under warranty, the applicable limited warranty period shall not be extended beyond the original warranty time period. The limited warranty does not cover any costs related to changes to a Product or Component that may be required by any codes, laws, or regulations that may become effective after initial purchase of the Product by Customer.

**Customer Responsibilities.** As a further condition to obtaining warranty coverage hereunder, the Customer must send a valid warranty claim to Therma-Stor such that Therma-Stor receives such claim prior to the end of the applicable warranty period. Therma-Stor shall have no obligation hereunder with respect to any claim received by Therma-Stor after the expiration of the applicable warranty period. As a further condition to obtaining warranty coverage hereunder, the Customer must present forms of invoices evidencing proof of purchase of a Product. If such invoices do not clearly indicate the date of initial purchase by a Customer, the applicable Product's date of manufacture will be used instead of the date of initial purchase for the purpose of calculating the commencement of the applicable warranty period. Warranty service must be performed by Therma-Stor or a servicer authorized by Therma-Stor. In order to obtain warranty service, the Customer should call Therma-Stor at 1-800-533-7533 and ask for the Therma-Stor Products Service Department, which will then arrange for applicable warranty service. Warranty service will be performed during customary, daytime working hours. If the Product must be shipped for service, Customer shall be solely responsible for properly packaging the Product, for all freight charges, and for all risk of loss associated with shipment.

**Limitation of Liability.** IN NO EVENT SHALL THERMA-STOR, IN CONNECTION WITH THE DESIGN, SALE, INSTALLATION, USE, REPAIR, REPLACEMENT OR PERFORMANCE OF ANY PRODUCT, COMPONENT, PART THEREOF OR WRITTEN MATERIAL PROVIDED THEREWITH, BE LIABLE, TO THE EXTENT ALLOWED UNDER APPLICABLE LAW, UNDER ANY LEGAL THEORY FOR ANY SPECIAL, DIRECT, INDIRECT, COLLATERAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. NOTWITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, THE SOLE AND EXCLUSIVE LIABILITY OF THERMA-STOR, REGARDLESS OF THE NATURE OR THEORY OF THE CLAIM, SHALL UNDER NO CIRCUMSTANCES EXCEED THE PURCHASE PRICE OF THE PRODUCT, COMPONENT OR PART UPON WHICH THE CLAIM IS PREMISED.

**Applicable Law and Venue.** ANY ARBITRATION, ENFORCEMENT OF AN ARBITRATION OR LITIGATION RELATED TO THE PRODUCT WILL BE BROUGHT EXCLUSIVELY IN DANE COUNTY, WISCONSIN, AND CUSTOMER CONSENTS TO THE JURISDICTION OF THE FEDERAL AND STATE COURTS LOCATED THEREIN, SUBMITS TO THE JURISDICTION THEREOF AND WAIVES THE RIGHT TO CHANGE VENUE. CUSTOMER FURTHER CONSENTS TO THE EXERCISE OF PERSONAL JURISDICTION BY ANY SUCH COURT WITH RESPECT TO ANY SUCH PROCEEDING.

**Miscellaneous.** If any term or condition of this Limited Warranty is found by a court of competent jurisdiction to be invalid, illegal or otherwise unenforceable, the same shall not affect the other terms or conditions hereof or thereof or the whole of this Limited Warranty. Any delay or failure by Therma-Stor to exercise any right or remedy will not constitute a waiver of Therma-Stor to thereafter enforce such rights.



1-800-533-7533. | [www.santa-fe-products.com](http://www.santa-fe-products.com)