

INSTALLER'S & OWNER'S MANUAL

HVAC INSTALLER: PLEASE LEAVE MANUAL FOR HOMEOWNER



Santa·Fe™ COMPACT

**Designed For Superior Basement
and Crawlspace Dehumidification**



P/N 4029900 • Serial No. _____ Install Date: _____

Sold by:



Therma-Stor® LLC

Driven by performance. Powered by design.™

P.O. Box 8680 Madison, WI 53708 • TOLL-FREE 1-800-533-7533 • www.thermastor.com • sales@thermastor.com

© 2009 Therma-Stor LLC • Manual P/N TS-TS-602

Thank you for purchasing the SANTA FE COMPACT. Should you have any questions regarding this product, contact your dealer or call TOLL-FREE 1-800-533-7533.

Table of Contents

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

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.
- No user serviceable components. Contact installer or call


1-800-533-7533 for all repair or warranty needs.

- 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.

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 40° 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. Registration

The SANTA FE COMPACT conforms to UL STD 474 and CSA standard C22.2 No. 92.

3. Specifications

Part Number:	4029900
Blower:	170 CFM @ 0.0" WG
Power:	580 watts @ 80°F and 60% RH
Supply Voltage:	115 volt – 1 phase - 60 Hz
Current Draw:	5.1 Amps
Energy Factor:	2.37 L/kWh
Operating Temp.:	45°F Min., 95°F Max.
Sized for:	Up to 1600 Sq. Ft. - Typical
Minimum Performance at 80°F and 60% RH	
Water Removal:	70 Pints/Day
Efficiency:	5.0 Pints/kWh
Air Filter:	MERV-8
Efficiency:	Standard 65% Efficient, ASHRAE Dust Spot Test
Size:	9" x 11" x 1"
Power Cord:	9', – 110-120 VAC, Ground
Drain Connection:	3/4" Threaded MPT
Drain Hose:	5-8" ID x 8'

Santa Fe Dimensions

	Unit	Shipping
Width:	12"	15"
Height:	12.25"	17"
Depth:	22"	25"
Weight:	55 lbs	65 lbs

4. Unit Assembly

4.1 Adjusting Feet

Included with your SANTA FE COMPACT are four leveling feet. It is important to level the unit for proper draining.

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 5.1.3 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

Place drain hose end on drain port until fully seated. Refer to Section 5.1.3 regarding proper drainage.

- 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. Installation

5.1 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.

! WARNING!

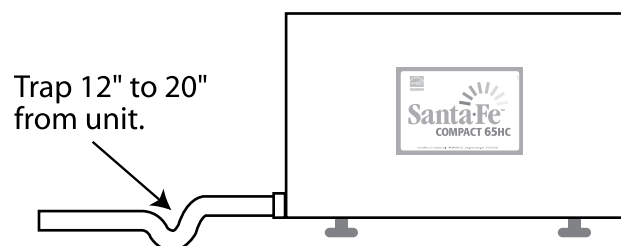
5.2 Electrical Requirements

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.

5.3 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 5 for ordering accessories.

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 and timed defrost function. 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 to 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 filter door by pressing on snap button and pulling on top of door.
2. Remove filter by pulling on tab located on the side of the filter.

7.5 Installing Filters

1. Slide the filter in from the side. Push the filter all the way in.
2. To re-install filter door:
 1. Insert bottom tab of filter door into the slot on the side of the cabinet. (The slot is located below the filter access opening)
 2. bring the door up and over the snap button until the button pops through the hole in the filter door.

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)**
- **Is the "check drain" light on? (see section 5.3)**

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

FOR THE HVAC 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.

■ **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.
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.

■ **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 loose or defective.
3. Low refrigerant charge.

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

9. Replacement Parts

4028096	Defrost Timer
4025560	On/Off Switch
4029739	Float Switch
1970010	25A Relay
4027163	15A Relay
4029568	Compressor Overload
4029738	Indicator Light
4021495	Control Knob
4025577	Clear Hose
4029581	Leveling Foot
4029567	Compressor
4021469	Humidity Control
4027164	5MFD Capacitor
4027165	35MFD Capacitor
4025569	Hose Adaptor
4029594	6MFD capacitor

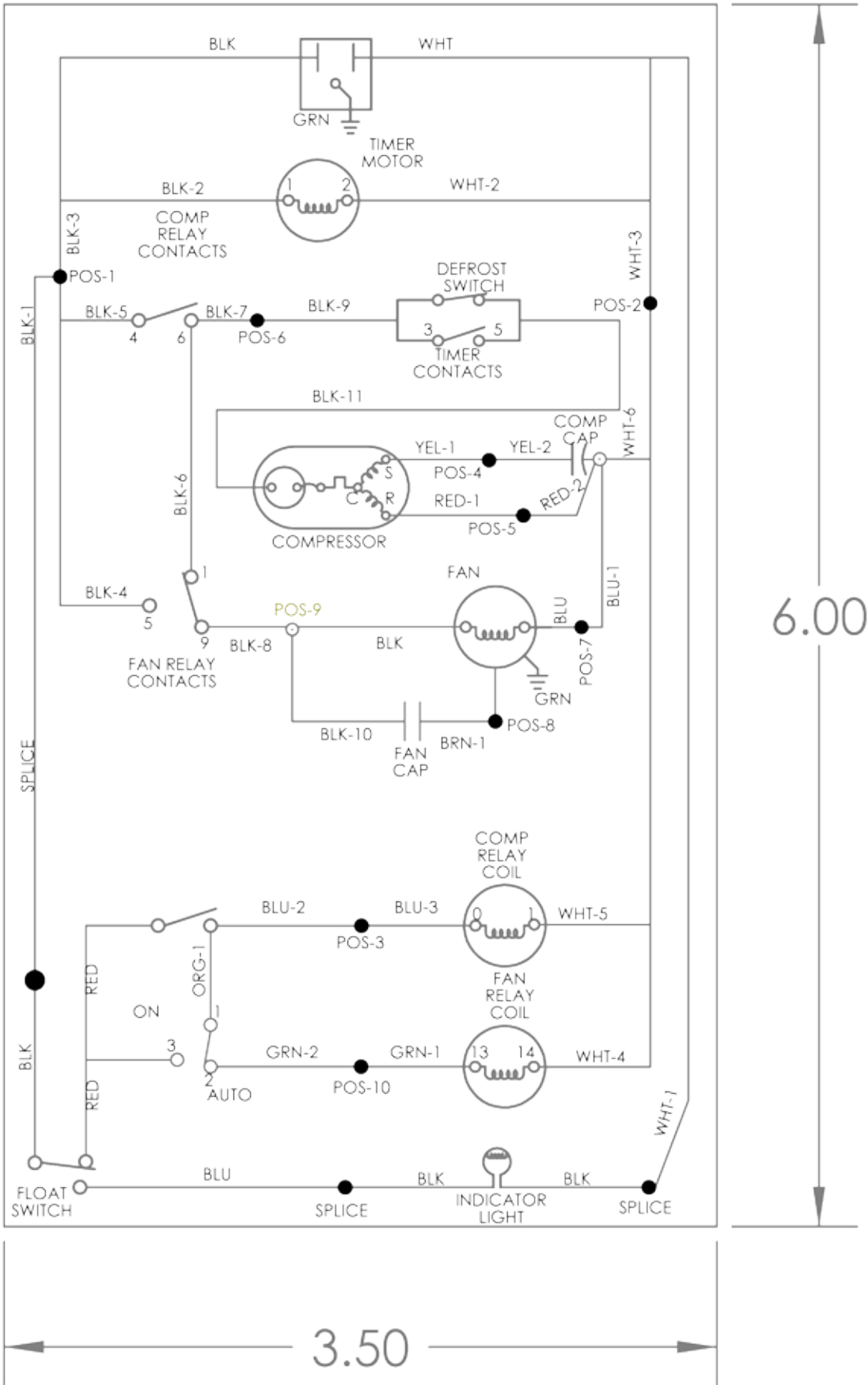
Accessories

4027168	Pre-Filter
4029748	MERV 8 filter
4030113	Pump Kit
4029907	Caster Kit
4029908	Hang Kit
4029909	Duct Kit
4027415	8" Flex Duct
4020177	8" Flex Duct (Insulated)
4020175	Dehumidistat

**Contact your dealer or call
1-800-533-7533.**

Notes:

10. Wiring Diagram





Santa Fe™ Limited Warranty

COMPACT

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.