

# Owner's Manual

## Santa Fe Advance Dehumidifier

Includes Safety & Operating Instructions  
and Warranty Information



Santa Fe Advance  
P/N 4025699



**READ AND SAVE THESE INSTRUCTIONS**

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## Precautions

- Do not operate the unit 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 grills.
- Do not restrict airflow into or out of the unit. This may cause the unit to overheat.
- 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 Santa Fe Advance 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 Santa Fe Advance 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 Advance dehumidifier.

## READ AND SAVE THESE INSTRUCTIONS

### **WARNING**

This symbol indicates the possibility of death or serious injury.

### **IMPORTANT**

This symbol indicates the possibility of injury or damage to property only.

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## 1 Intended Application for Santa Fe Advance

The Santa Fe Advance is intended for installation in crawlspaces or basements that experience short- or long-term high humidity conditions; however, the attractively designed unit can be placed in almost any residential setting where dehumidification is desired. Use in non-residential applications and pool areas will void warranty.

The Santa Fe Advance is designed to operate in temperatures between 55° and 95°F. Temperatures outside of these ranges may affect dehumidifier performance.

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

## 2 Registrations

The Santa Fe Advance conforms to UL STD 474 and CSA Standard C22.2 No.92.

## 2 Specifications

Model:	Santa Fe Advance (P/N 4025699)
Electrical:	110-120 VAC, 6.35 Amps @ 80°F, 60% RH, 60 Hz, grounded
Capacity:	90 pints/day @ 80°F, 60% RH
Operating Temp:	Between 55°F and 95°F Max
Air Flow:	240 CFM without external restriction Refrigerant Charge: 1 lb, 8 oz R22
Unit Size:	33" L x 14.5" W x 19" H
Shipping Size:	38" L x 18" W x 21.5" H
Unit Weight:	71 lb
Shipping Weight:	78.5 lb

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## 3 Unit Assembly

### 3.1 Installing Casters (Optional)

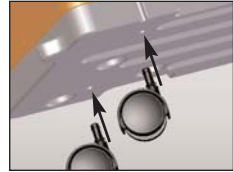
Included with your Santa Fe Advance are four casters for easy mobility of the unit. Casters are packed in one of the styrofoam trays in the shipping box as shown in Figure 1. See Figures 2 and 2a for installing casters.



**Figure 1:** Casters in packing tray.



**Figure 2:** Insert casters in locations.



**Figure 2a:** Push caster in until fully seated.

#### Installing Casters

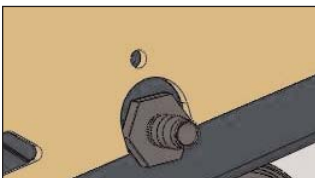
1. Lay down a protective pad (pillow, blanket, etc.).
2. Carefully turn unit onto side opposite filter opening and drain port.
3. Align caster shaft with holes as shown in Figure 2.
4. Press casters into holes until fully seated.
5. Carefully bring unit to upright position.
6. Wait 10 minutes before operating.

## **!** IMPORTANT

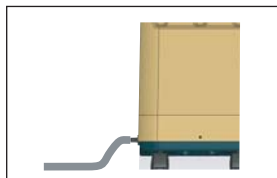
**Note: Operating the unit immediately after bringing it to an upright position can possibly damage the compressor. A short amount of time is needed to allow the oil to return to its reservoir for lubrication.**

### 3.2 Drain Hose

Take drain hose off of drain port. With scissors, cut one inch off of hose end to eliminate dented area. Place drain hose end on drain port until fully seated. Refer to Section 4.3 regarding proper drainage.



**Figure 3:** Drain port.



**Figure 4:** Drain hose position.

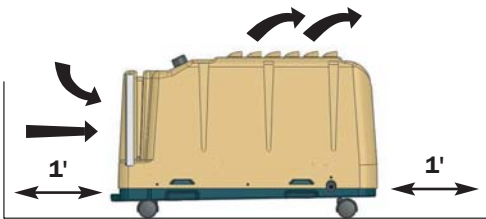
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## 4 Installation of Unit

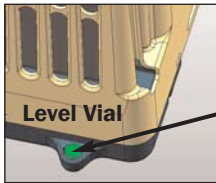
### 4.1 Location

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

1. Providing access to a 115 VAC power outlet (10' power cord is provided).
2. Locating near a floor or other suitable drain (8' drain hose included).
3. Do not install the Santa Fe Advance 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. Refer to Figure 5.
4. The Santa Fe Advance drains via a gravity system. A level indicator has been included near the intake of the unit. To ensure the unit will drain properly, the unit should be positioned so the level bubble appears in the non-shaded area of the level indicator as shown. Refer to Figure 6. If the unit is placed on an unlevel surface, place shims underneath the unit until bubble in the level dial is in the correct position. Failure to level the unit may result in leakage or improper drainage. See Section 3.2 regarding drain hose installation.



**Figure 5:**  
Installing Santa Fe Advance  
in area with proper clearance.



**Figure 6:** Level bubble should be in  
indicator area for proper draining of  
unit.

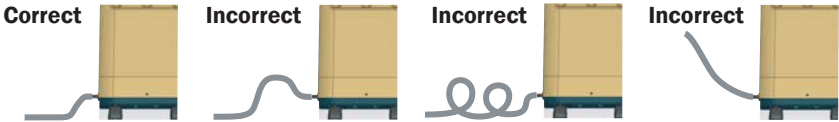
### 4.2 Electrical Requirements

The Santa Fe Advance plugs into a common grounded outlet on a 15-Amp circuit. While operating, it draws less than 7 amps @ 80°F, 60% RH and less than 6 amps @ 75°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.

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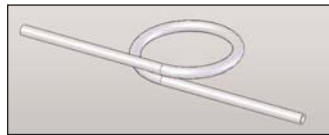
### 4.3 Condensate (Water) Removal

The Santa Fe Advance 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.



**Figure 7:** Drain hose position.

**Figure 8:** Optimum hose position for draining.

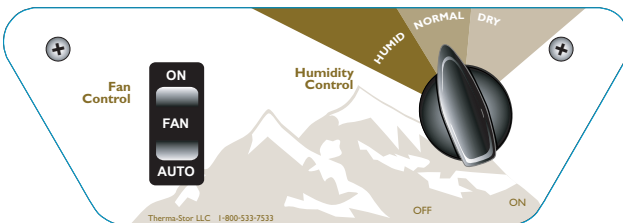


To increase the efficiency of the unit, position the hose to create a “trap” as shown in Figure 8. By creating a trap, it will hold a small amount of water. Position the trap on the hose approximately 12" - 20" away from the unit. Check hose regularly to ensure it is clear and water is draining properly.

If floor drain is not easily accessible, a condensate pump kit with a 20' hose is available. Refer to page 12 for ordering accessories.

## 5 Operation

### 5.1 Humidity Control Adjustment



**Figure 9:** Dial shown in recommended position.

The humidity control is an adjustable switch that turns the dehumidifier on and off. It turns on when the relative humidity of the air in which it is located rises to the dial set point. It turns off when the RH drops 5% below the set point.

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## 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 relative humidity (RH) is reduced to the humidity control dial setting. There is no benefit to set the humidity control to “dry” in rooms under 65°. Doing so will result in long periods of ineffective dehumidifier run time.

Quality humidity meters are available from Therma-Stor and are recommended to accurately monitor humidity levels. Please call 1-800-533-7533 to order.

Once the dial has been set to the desired level of humidity control, the Santa Fe Advance will maintain the same percentage of relative humidity regardless of room temperature.

To turn the unit off, position the humidity dial to the far left and set fan control to “auto.”

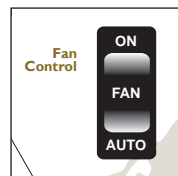
## 5.2 Defrost Cycle

An automatic defrost thermostat is attached to the refrigerant tubes inside the unit. It will automatically shut the compressor off if excessive frost forms on the evaporator coil. The blower will continue to run, causing air to flow through the evaporator coil and melt the ice. When the ice has melted, the evaporator temperature will rise and the thermostat will automatically restart the compressor. During this process, cool air may be coming out of the unit.

## 5.3 Blower (Fan) Switch

Turning the fan switch “**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 “**AUTO**” will cause the unit’s internal blower to run only while the unit is dehumidifying.



**Figure 10:** Blower fan switch.



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## 6 Maintenance

### ! IMPORTANT

**NOTE: Do not operate the unit without the proper filter or with a less effective filter. 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.**

#### 6.1 Air Filter

The Santa Fe Advance ships with a 1" pleated fabric filter and a ¼" aluminum framed pre-filter installed. 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.

#### 6.2 Cleaning & Replacement

Check filters every six months. Clean and/or replace when filters are visibly dirty. See cleaning instructions below. Replacement filters can be ordered from Therma-Stor by calling 1-800-533-7533.

The ¼" washable pre-filter should not be discarded. Inspect the pre-filter for debris, dirt, or other obstructions at the same time the 1" pleated fabric filter is checked. Wash the ¼" pre-filter every time the 1" pleated fabric filter is replaced. To clean the ¼" pre-filter, remove filter from the unit, rinse the ¼" pre-filter in water with the water flowing through the aluminum support mesh side. Refer to Figure 11. Allow the filter to dry completely before re-installing. Reinstall the filters per the instructions below or on the tag located on the ¼" pre-filter.



**Figure 11:** Pre-filter rinsed in water, mesh side up.

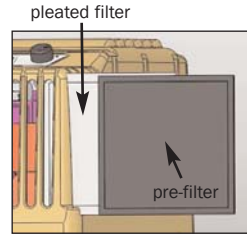
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# ! IMPORTANT

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

## 6.3 Remove Filters In This Order Only:

1. Gently remove the ¼" pre-filter by pulling on the tab attached to the filter.
2. Gently remove the 1" pleated fabric filter by pulling it out of the unit.



**Figure 12:**  
Filter installation.

## 6.4 Installing Filters In This Order Only:

1. 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. Gently slide ¼" pre-filter to left of 1" pleated filter. Do not force. If resistance is felt, check alignment for obstructions or debris inside the filter housing.

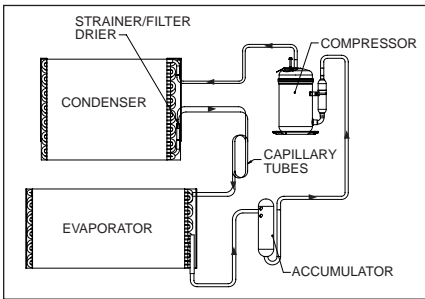
## 7 Service

### ! WARNING

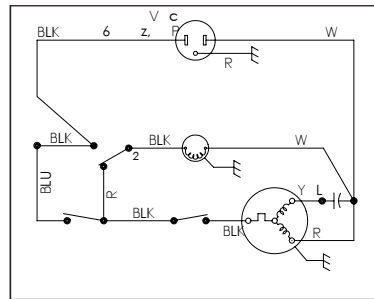
**WARNING: Servicing the Santa Fe Advance with its high pressure refrigerant system and high voltage circuitry presents a health hazard which could result in death, serious bodily injury, and/or property damage. Only qualified service people should service this unit.**

### 7.1 Technical Description

The Santa Fe Advance 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.



**Figure 13:** Santa Fe Advance refrigeration system.



**Figure 14:** Wiring diagram.

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.

## 7.2 Troubleshooting

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.

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## 7.2 Troubleshooting (continued)

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 the service department at 1-800-533-7533.

## 8 Accessory/Replacement Parts

4025568	Pleated Air Filter .88" x 11.75" x 11.75"
4025831	PreFilter
4021495	Control Knob
4025577	Hose, PVC, Clear, 0.50" diameter, 8' long
4025741	Thermostat, Defrost Control
4025564	Casters
4025571	Level Vial
4025322	Humidity Meter
4025569	Adapter, 1/2 Hose x 3/4 MNPT

**To order, contact your distributor or call 1-800-533-7533.**

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## Santa Fe Advance Dehumidifier Limited Warranty

### WARRANTOR:

Therma-Stor LLC  
PO Box 8050  
Madison, WI 53708

Telephone: 1-800-533-7533

**WHO IS COVERED:** This warranty extends only to the original residential end-user of the Santa Fe Advance dehumidifier, and may not be assigned or transferred.

**FIRST AND SECOND YEAR WARRANTY:** Therma-Stor LLC warrants that, for two (2) years after date of original purchase the Santa Fe Advance Dehumidifier will operate free from any defects in materials and workmanship. Therma-Stor LLC's exclusive obligation under this warranty will be to supply, without charge, a replacement for the dehumidifier which is found to be defective within a two (2) year period from date of purchase and which is returned not later than thirty (30) days after said two (2) year period to Therma-Stor LLC, Madison, WI together with proof of purchase of the dehumidifier.

**THIRD THROUGH FIFTH YEAR WARRANTY:** Therma-Stor LLC further warrants that for a period of five (5) years, the condenser, evaporator, and compressor of the Santa Fe Advance dehumidifier will operate free of any defects in material or workmanship, or Therma-Stor LLC, at its option, will repair or replace the defective part(s), provided that all labor and transportation charges for the part(s) shall be borne by the end-user.

**END-USER RESPONSIBILITIES:** If warranty service is to be performed on the Santa Fe Advance, a technician authorized by Therma-Stor LLC must perform such service. If the End-user is unable to locate or obtain warranty service from an authorized technician, he should call Therma-Stor LLC at the above number and ask for the 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, receipt, invoice or other reasonable and reliable means. The end-user is responsible for normal care. This warranty only applies to residential applications, and is void if the Santa Fe Advance Dehumidifier is used in commercial and/or industrial applications including but not limited to water treatment facilities and industrial process applications. This warranty is void if the Santa Fe Advance is used in any swimming pool application. This warranty does not cover any defect, malfunction, etc. resulting from misuse, abuse, lack of normal care, corrosion, freezing, flooding, tampering, modification, unauthorized or improper repair or installation, accident, acts of nature or any other cause beyond Therma-Stor LLC's reasonable control.

**LIMITATIONS AND EXCLUSIONS:** If any Santa Fe Advance Dehumidifier 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 Santa Fe Advance Dehumidifier is out of service while awaiting covered warranty service).

UPON THE EXPIRATION OF THE WRITTEN WARRANTY APPLICABLE TO THE SANTA FE ADVANCE HUMIDIFIER 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 SANTA FE ADVANCE DEHUMIDIFIER 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.

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