

INSTALLER'S & OWNER'S MANUAL

HVAC INSTALLER: PLEASE LEAVE MANUAL FOR HOMEOWNER



Santa Fe

ADVANCE



P/N 4025699

Designed For Basement and Crawlspace Dehumidification



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

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Table of Contents

Precautions	1
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	4
5.3 Condensate (Water) Removal	4
6. Operation	4
6.1 Humidity Control Adjustment	4
6.2 Defrost Cycle	4
6.3 Blower (Fan) Switch	4
7. Maintenance	5
7.1 Air Filter	5
7.2 Cleaning and Replacement	5
7.3 Removing Filters	5
7.4 Installing Filters	5
8. Service	5
8.1 Technical Description	5
8.2 Troubleshooting	6
9. Accessory/Replacement Parts	6
Condensate Pump Kit	7
Duct Kit Assembly.....	9
Warranty	11

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 dehumidifier.

Read and Save These Instructions

⚠ WARNING! — Indicates the possibility of death or serious injury.

IMPORTANT! — Indicates the possibility of injury or damage to property only.

1. Intended Application

The Santa Fe Advance is intended for installation in crawl spaces 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 56° 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. Registration

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

3. 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 56°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 1/2" W x 19" H
Shipping Size:	39" L x 22" W x 25" H
Unit Weight:	71 lbs
Shipping Weight:	78.5 lbs

4. Unit Assembly

4.1 Installing Feet (Optional)

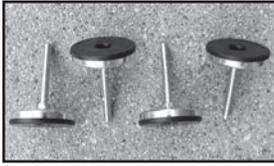


Figure 1: Four leveling feet

Included with your Santa Fe Advance are four leveling feet. It is important to level the unit for proper draining. (See section 5.1.4, Figure 6)

Installing Leveling Feet

See Figures 2 and 2a for installing leveling feet.

1. Lay down a protective pad (pillow, blanket, etc.).
2. Carefully turn unit onto side opposite filter opening and drain port.



Figure 2: Insert leveling feet in locations

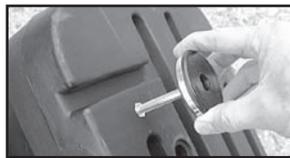


Figure 2a: Screw each leveling foot in ten revolutions

3. Align leveling foot shaft with one of the four threaded hole locations as shown in Figure 2.
4. Screw each leveling foot in ten revolutions.
5. Carefully bring unit to upright position.
6. Level unit for proper drainage as described in section 5.1.4 (Figure 6) of this manual.
7. 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.

4.2 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 5.1.4 regarding proper drainage.

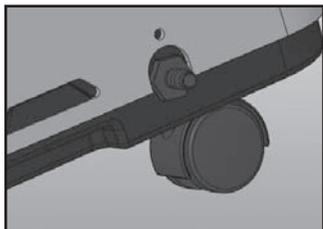


Figure 3: Drain port



Figure 2a: Drain hose position

5. Installation

5.1 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, adjust leveling feet using a crescent wrench or 7/16" open wrench. Move handle end of wrench from left to right to lower one foot. Adjust all four feet 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 4.2 regarding drain hose installation.

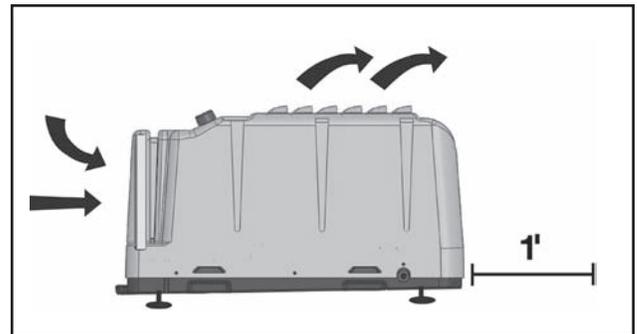


Figure 5: Installing Santa Fe Advance in area with proper clearance.

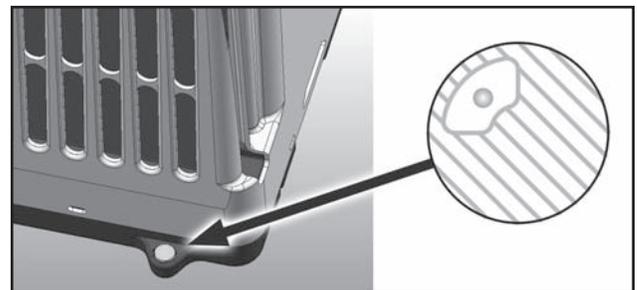


Figure 6: Level bubble should be in indicator area for proper drainage.

5.2 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.

5.3 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.

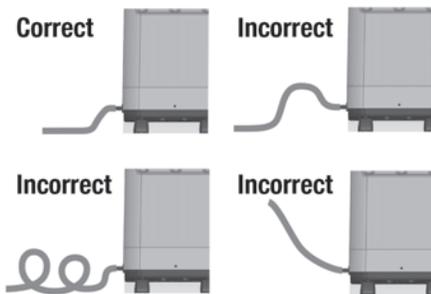


Figure 7: Drain hose position



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” to 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 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 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.

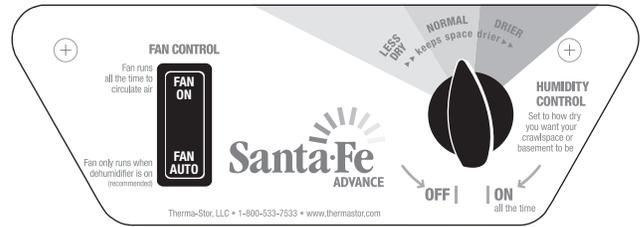


Figure 9: Dial shown in recommended position.

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 setting 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.”

6.2 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.

6.3 Electrical Requirements



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

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.

7.1 Air Filter

The Santa Fe Advance ships with a standard MERV-11 65% 1" pleated fabric filter and a 1/4" 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.

7.2 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.



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

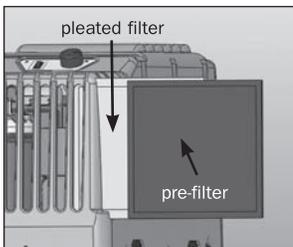


Figure 12: Filter installation.

IMPORTANT!

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

7.3 Remove Filters

1. Gently remove the 1/4" 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.

7.4 Installing Filters

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 1/4" 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.

8. Service

⚠ 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.

8.1 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

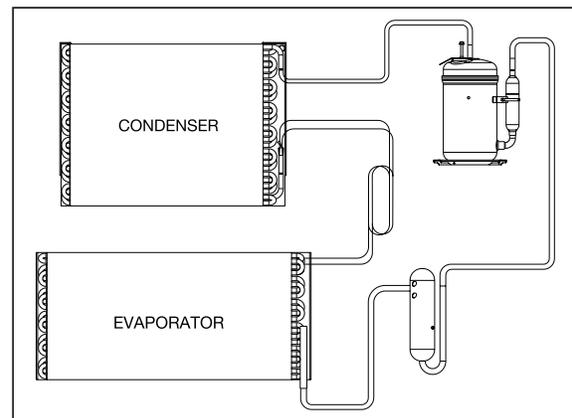


Figure 13: Santa Fe Advance refrigeration system.

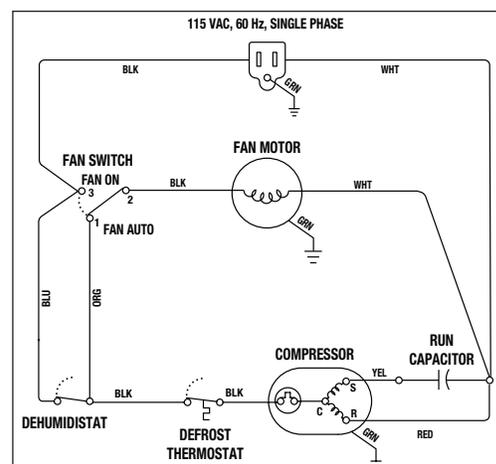


Figure 14: Wiring diagram.

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

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

9. Optional Accessories

- 4025845 Condensate pump kit
- 4026055 Duct connection kit
- 4026607 Leveling casters set (4)
- 4025322 Digital humidity meter

9.1 Replacement Parts

- 4025568 Pleated Air Filter .88" x 11.75" x 11.75"
- 4025831 Pre-Filter
- 4021495 Control Knob
- 4025577 Hose, PVC, Clear, .625" diameter, 8' long
- 4026450 Leveling Feet
- 4025569 Adapter, .625" Hose x .75" MNPT

SANTA FE ADVANCE CONDENSATE PUMP INSTALLATION



Optional Accessory: Condensate Pump Kit

P/N 4025845

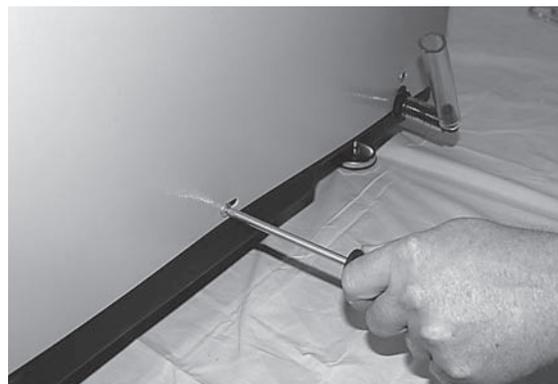


Note: Before attaching pump assembly, ensure that the dehumidifier has leveling feet installed on bottom of unit. If your unit has casters, you will need order a set of leveling feet. Call 1-800-533-7533 and ask for Part Number 4026450. These will be needed for additional height. The mounting bracket is not to be used as a support bracket for the dehumidifier.

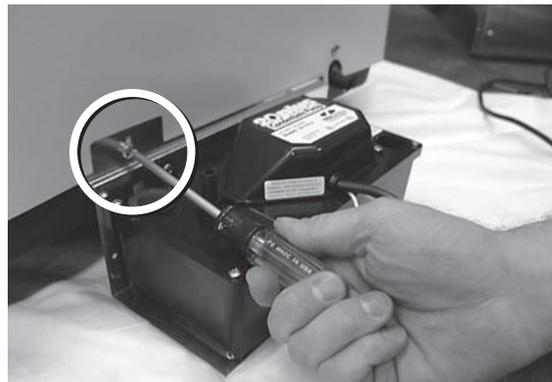
Step 1. Make sure leveling feet are installed. If you need to order another set, call 1-800-533-7533, and ask for Part Number 4026450.



Step 2. Remove middle top cover screw located on the drain port side. Do not discard this screw. It will be used to attach the mounting bracket in the next step.



Step 3. Align mounting bracket of condensate pump with the dehumidifier screw hole. Reinstall screw that was removed in step 2.



Step 4. Remove the 7" hose from the plastic bag and install this hose from the condensate pump onto the adaptor as indicated. Make sure that the hose fully covers the adaptor barbs on the unit.



SANTA FE ADVANCE CONDENSATE PUMP INSTALLATION

Step 5. Attach the 20' drain hose to the condensate pump and route it to a floor drain.



Plug in the condensate pump and the assembly is completed.


Santa Fe
ADVANCE
Optional Accessory: Duct Kit
P/N 4026055



Santa Fe Advance Duct Kit Assembly Instructions

Do not drill any pilot holes into the plastic housing. You may damage the internal components. When installing screws, be careful not to strip. Lightly tighten screws.

ATTACHING COLLARS

Step 1. Position collar on a flat surface with tabs up.



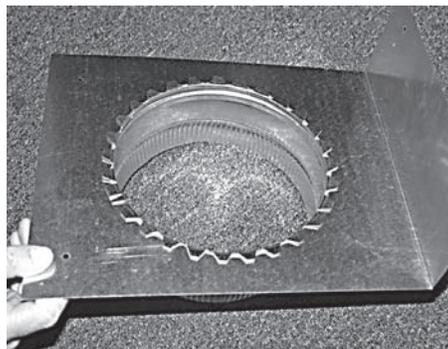
Step 2. Position collar into large hole. Press firmly so that tabs of collar go through the plenum hole



Step 3. Press down firmly on the sheet metal plenum. Lock the collar in position by bending the collar tabs outwards and flatten



Step 4. All collar tabs are flattened. Repeat steps 1 – 4 for top duct assembly.



Instructions continued on next page →

Santa Fe Advance Duct Kit Assembly Instructions Continued

Screw pan head 10-16 x 1/2 @ 8 locations after the rear flange has been secured. Drive these 2 screws into the plastic housing.

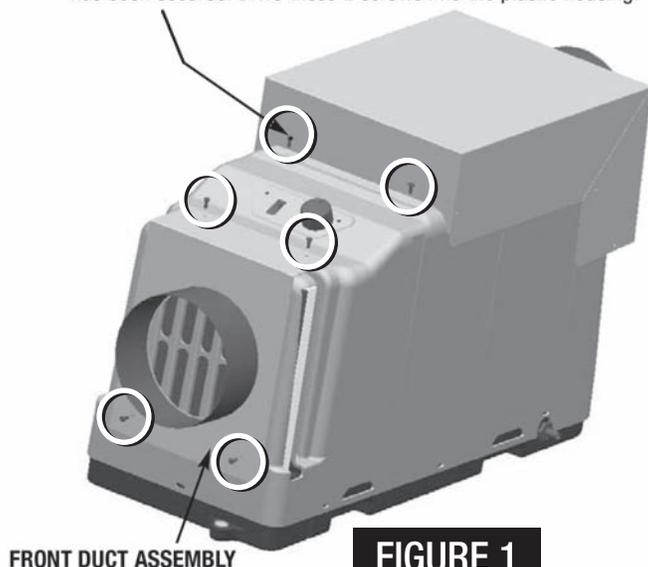


FIGURE 1

TOP DUCT ASSEMBLY

Screw pan head 10-16 x 1/2 for top duct assembly drive in these two screws first.

Back flange to be flush against the plastic housing.

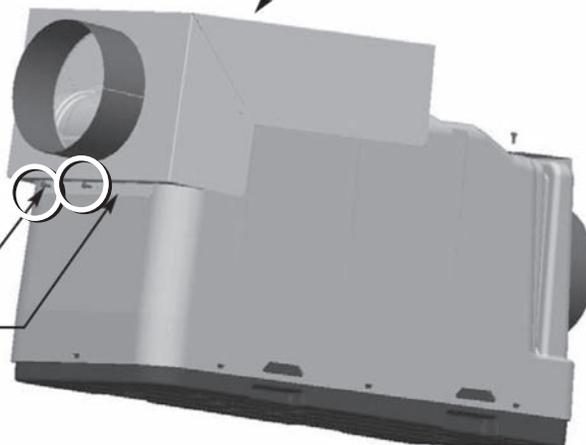


FIGURE 2

FRONT DUCT ASSEMBLY

1. Check sealing foam on the front duct assembly. Ensure that none has come loose.
2. Place front duct assembly on the intake side of the dehumidifier.
3. Center the front duct assembly. Ensure the sealing foam makes contact around the plastic intake grill surface. Sealing foam should not cover any of the inlet portion of the intake grill.
4. **DO NOT DRILL PILOT HOLES FOR SCREWS. You will risk possibly damaging the internal components.** Using the through holes provided in the top duct assembly, screw in the four 10-16 X 1/2 screws directly into the plastic housing (see Figure 1 — screws indicated in white circle). Be careful not to strip loose. Lightly tighten screws. Do this in all four through hole locations.

TOP DUCT ASSEMBLY

1. Check sealing foam on the top duct assembly. Ensure none has come loose.
2. Place top duct assembly, ensure the sealing foam makes contact around the plastic surfaces.
3. Center the top duct assembly, ensure the sealing foam makes contact around the plastic surfaces.
4. Ensure the rear flange of the top duct assembly is seated flush against the back of the plastic housing. See Figure 2.
5. **DO NOT DRILL PILOT HOLES FOR SCREWS. You will risk possibly damaging the internal components.** Using the through holes provided in the top duct assembly, secure back flange of the top duct assembly first. Drive two 10-16 X 1/2 screws directly into the plastic housing. After the back flange has been secured, drive in the last two screws (located on the top) into the plastic housing using the same procedure.
6. Start unit and check for any air leaks around the perimeter of the ducts.
7. If any leaks are found, seal leak with foil tape.



Dehumidifier 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 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 DEHUMIDIFIER 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 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.



Therma-Stor[®] LLC

PO Box 8680 • Madison, WI 53708

Phone: 608-222-5301 • Fax: 608-222-1447

Web: www.thermastor.com • Email: sales@thermastor.com

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