

# Quest DRY 180

## Installation, Operation and Maintenance Instructions

– Read and Save These Instructions –

*This manual is provided to acquaint you with the dehumidifier so that installation, operation and maintenance can proceed successfully. Ultimate satisfaction depends on the quality of installation and a thorough understanding of this equipment. The dehumidifier is built around tested engineering principles and has passed a thorough inspection for quality of workmanship and function.*



### Quest DRY 180:

- Uses only 6.7 amps of electricity (115 Volt)
- 90 pints water removal per day at 80°F and 60%RH
- Plug-N-Play
- Defrost controls
- Superior air filtration (MERV-11 Standard)
- Auto-Restart after power outages
- Environmentally friendly R410A refrigerant

#### Water Removal Rates (Pints/Day)

<b>90 pints</b>	<b>80°F, 60% (AHAM)</b>
<b>180 pints</b>	<b>86°F, 80%</b>



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## Safety Precautions

Read the installation, operation and maintenance instructions carefully before installing and operating this device. Proper adherence to these instructions is essential to obtain maximum benefit from your Quest *Dry 90* indoor air quality system.

## READ AND SAVE THESE INSTRUCTIONS

- The device is designed to be installed **INDOORS IN A SPACE THAT IS PROTECTED FROM RAIN AND FLOODING.**
- Install the unit with space to access the back or side panels for maintenance and service. **DO NOT INSTALL UNIT WITH THE SERVICE PANELS INACCESSIBLE.**
- Avoid directing the discharge air at people, or over the water in pool areas.
- If used near a pool or spa; be certain there is **NO** chance the unit could fall into the water, be splashed and that it is plugged into a **GFI GROUND FAULT INTERRUPT OUTLET.**
- **DO NOT use the device as a bench or table.**
- **DO NOT** place the device directly on structural members.
- A drain pan **MUST** be placed under the unit if installed above a living area or above an area where water leakage could cause damage



**1. Intended Application for Quest DRY 180**

The Quest Dry 180 is designed to be installed overhead, can be placed on a shelf, or set on the floor for immediate plub and play performance. When extra space is required an optional duct kit is available, which allows the Quest Dry 180 to be placed outside of the structure or room.

**2. Registrations**

The Quest Dry 180 conforms to UL STD 474 and CSA Standard C22.2 No.92.

**3. Specifications**

Part No:	4026237
Electrical:	110-120 VAC, 6.7 Amps, 60 Hz, grounded
Water Removal Capacity:	90 pints/day @ 80°F, 60% RH
Operating Temp. Range:	33°F min., 110°F max.
Air Flow:	220 CFM
Refrigerant Charge:	1 lb. R410A
Filter Size:	12" X 12" X 1"
Size:	34"L X 14 1/2"W X 19 1/2"H
Unit Weight:	67 lbs.
Shipping Weight:	73 lbs.

**4. Unit Assembly**

**4.1 Installing Feet (Optional)**

Included with your Quest Dry 180 are four leveling feet. It is important to level the unit for proper draining. (See section 5.1.4, Figure 6)



**Figure 1: Four leveling feet**

**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.

### CAUTION!

Note: Operating the unit immediately after bringing it to an upright position can possibly damage the compressor. A short amount of time (10 minutes) 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 2a: Drain hose position

## 5. Installation

### 5.1 Location

The Quest Dry 180 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 (8' power cord is provided).
2. Locating near a floor or other suitable drain (8' drain hose included).
3. Do not install the Quest Dry 180 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 Quest Dry 180 drains via a gravity system. 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 level. Failure to level the unit may result in leakage or improper drainage. See Section 4.2 regarding drain hose installation.

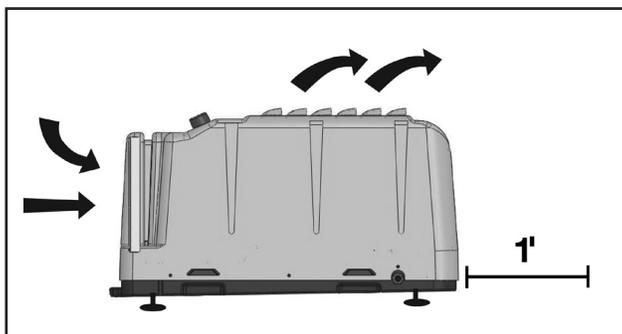


Figure 5: Installing Quest Dry 180 in area with proper clearance.



**5.2 Electrical Requirements**

The Quest Dry 180 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 Quest Dry 180 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.

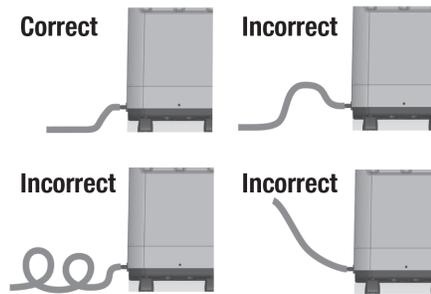


Figure 7: Drain hose position

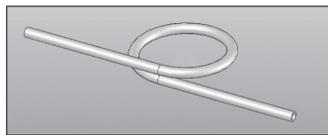


Figure 8: Optimum hose position for draining.

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: The NORMAL setting is recommended



### Approximate Humidity Levels Per Setting

**“Drier”** 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 your dealer are recommended to accurately monitor humidity levels.

Once the dial has been set to the desired level of humidity control, the Quest Dry 180 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 Blower (Fan) Switch

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 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 Quest Dry 180 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 and Replacement

Check filters every three to six months. Clean and/or replace when filters are visibly dirty. See cleaning instructions below.

Replacement filters can be ordered from your dealer or online at [www.Santa-Fe-Filters.com](http://www.Santa-Fe-Filters.com).

The 1/4" 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 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. Refer to Figure 11. Allow the filter to dry completely before reinstalling. Reinstall the filters per the instructions below or on the tag located on the 1/4" pre-filter.



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

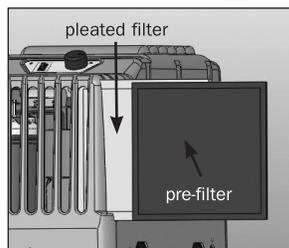


Figure 12: Filter installation.

### ⚠ CAUTION!

**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 Quest Dry 180 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.** 7.4 Installing Filters



**8.1 Technical Description**

The Quest Dry 180 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.

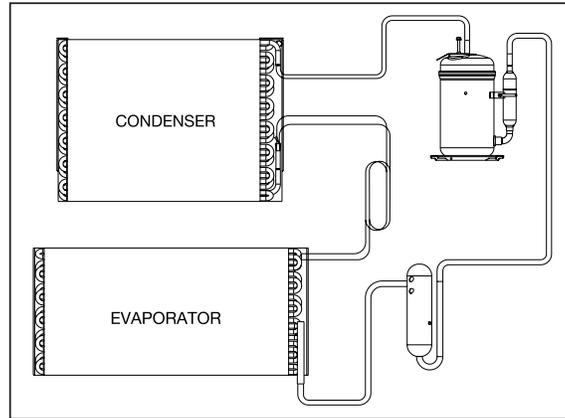


Figure 13: Quest Dry 180 refrigeration system.

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.

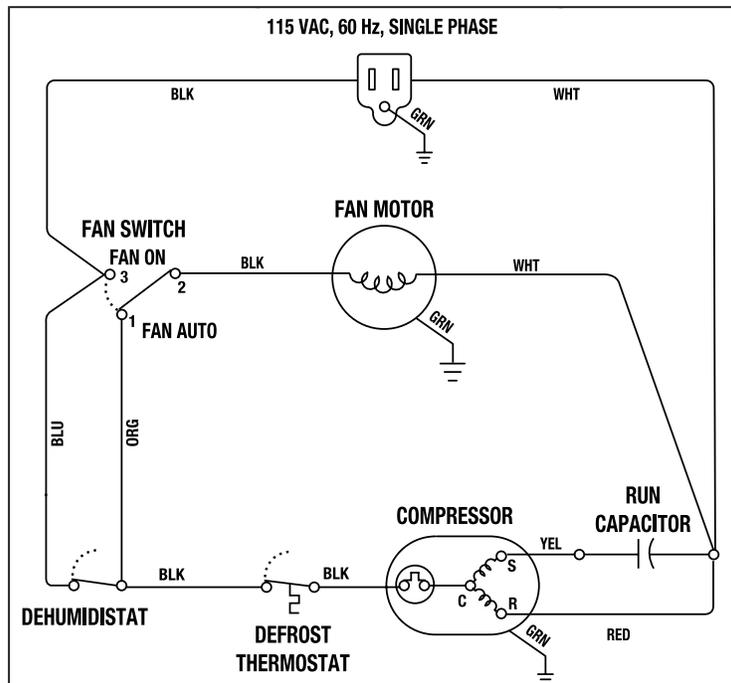


Figure 14: Wiring Diagram.



## 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)



**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
4026221	Leveling Feet

**9.2 Service Parts**

4025561	Blower Assembly
4034147-02	Coil Assembly
4029168	Compressor
4029169	Compressor Overload
4025741	Defrost Thermostat
4021648	Defrost Control Mounting Clip
4025560	Fan Switch
4029510	Filter Drier
4021469	Humidity Controller
4033032-05	Run Capacitor

**For more information on the Quest Dry 180, call 1--877-420-1330 or visit our website at [www.QuestHYDRO.com](http://www.QuestHYDRO.com)**



Quest Dry 180 Condensate Pump Installation

# Pump Kit

Part No. 4025845

**Parts Included:**

<sup>3</sup>/<sub>8</sub>" x 20 ft hose



Condensate Pump assembled to bracket

**Tools Required: Phillips Screwdriver**

**⚠ CAUTION!** Before installing pump kit, disconnect dehumidifier from electrical power and disconnect drain hose if previously installed.

*Note: The (2) white wires located at the top of the condensate pump are overflow safety trip wires (optional). These wires are not live or hot wires until connected to the dehumidifier or another automatic cut off device. Only a certified electrician is qualified to connect the safety trip wires to your Therma-Stor dehumidifier. Attaching the overflow safety trip wires to your Therma-Stor dehumidifier will cut power to the dehumidifier if the pump motor should fail and the secondary float switch trips (this process is optional and not necessary on every install). You may also use other low voltage (24 volt) cut off devices that do not involve an electrician. Please contact Therma-Stor if you have any additional questions.*

*Note: Before attaching pump assembly, ensure that the dehumidifier has leveling feet installed on the bottom of the unit.*

**Step 1.** Make sure leveling feet are installed.

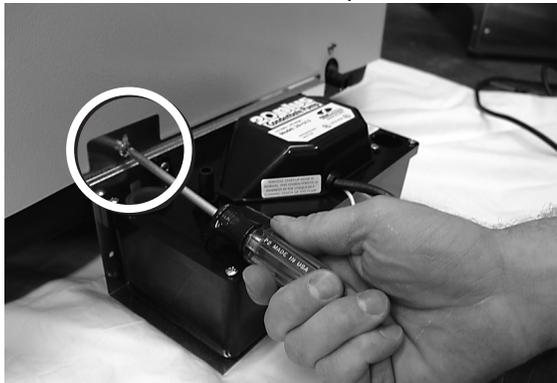


**Step 2.** Remove middle top cover screw located on the drain port side. Do not discard this screw. It will be used to attach the mounting bracket in the next step.



### Quest Dry 180 Condensate Pump Installation

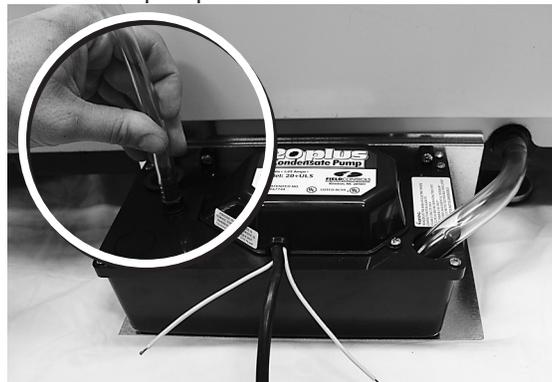
**Step 3.** Align mounting bracket of condensate pump with the dehumidifier screw hole. Reinstall screw that was removed in step 2.



**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.



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



*Note: Do not exceed 10 feet vertically when pumping to a drain above the unit.*

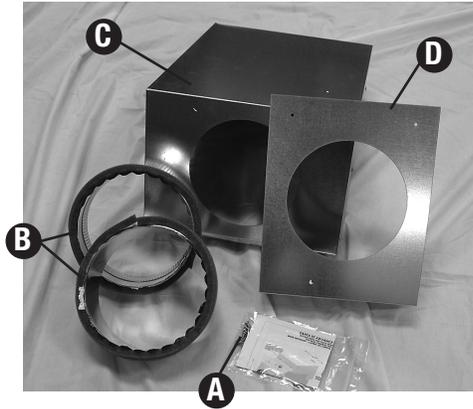
**Step 6.** Plug the pump and dehumidifier cords into an outlet that is protected with a GFCI device on its circuit.



Quest Dry 180 Duct Kit Assembly

# Duct Kit

Part No. 4026055



**Parts Included:**

- A. Pan Head Screws, 10-16 x 1/2" (8)
- B. 8" Duct Collars (2)
- C. Top Duct Assembly (1)
- D. Front Duct Assembly (1)

**Tools Required: Cordless Drill with Phillips Head**

**CAUTION!** 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.



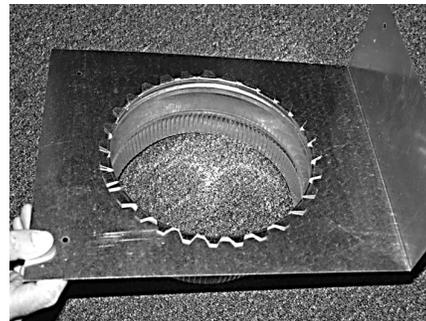
**Step 2.** Position collar into large hole of front duct assembly. Press firmly so that tabs of collar go through the plenum hole.



**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.** Flatten all collar tabs to secure. Repeat steps 1 – 4 for top duct assembly.



OVER  
→



### Quest Dry 180 Duct Kit Assembly Continued

## FRONT DUCT ASSEMBLY

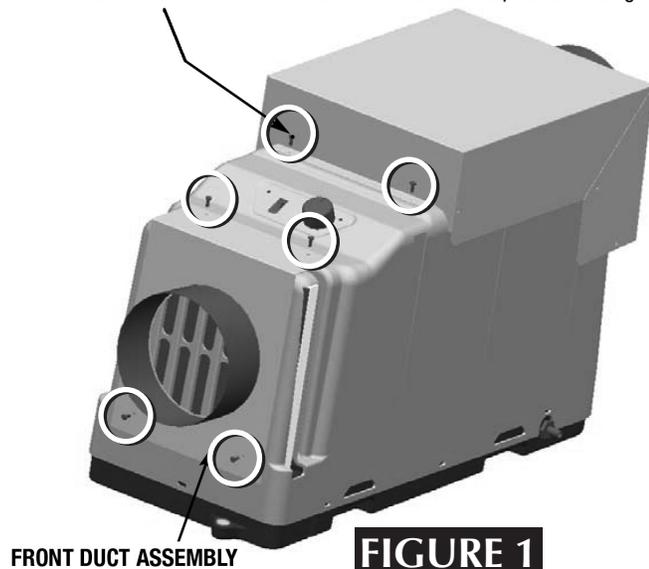
**Step 1.** Check sealing foam on the front duct assembly. Ensure that none has come loose.

**Step 2.** Place front duct assembly on the intake side of the dehumidifier.

**Step 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.

**Step 4. DO NOT DRILL PILOT HOLES FOR SCREWS. You will risk possibly damaging the internal components.** Using the through holes provided in the front 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.

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.



## TOP DUCT ASSEMBLY

**Step 1.** Check sealing foam on the top duct assembly. Ensure none has come loose.

**Step 2.** Place top duct assembly, ensure the sealing foam makes contact around the plastic surfaces.

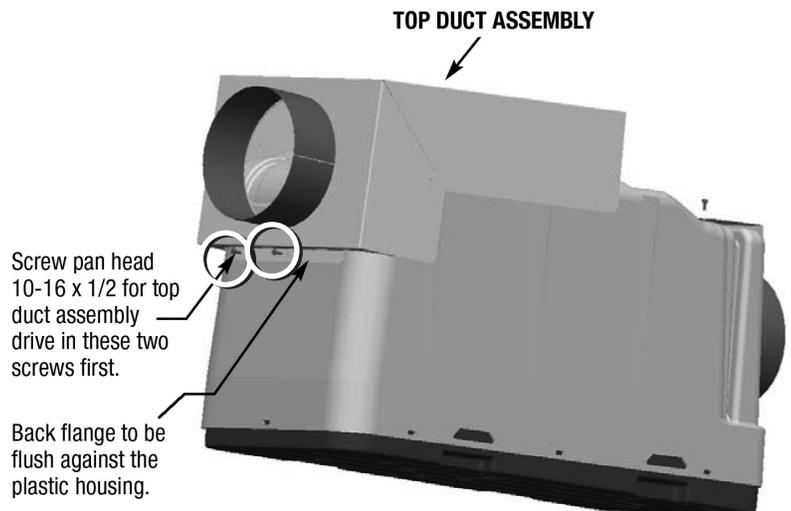
**Step 3.** Center the top duct assembly, ensure the sealing foam makes contact around the plastic surfaces.

**Step 4.** Ensure the rear flange of the top duct assembly is seated flush against the back of the plastic housing. See Figure 2.

**Step 5. DO NOT DRILL PILOT HOES 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.

**Step 6.** Start unit and check for any air leaks around the perimeter of the ducts.

**Step 7.** If any leaks are found, seal leak with foil tape.



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.



## Quest *DRY 180* Dehumidifier Limited Warranty

**WARRANTOR:**

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

**WHO IS COVERED:** This warranty extends only to the original end-user of the Quest *Dry 180* dehumidifier, and may not be assigned or transferred.

**FIRST YEAR WARRANTY:** Therma-Stor LLC warrants that, for one (1) year the Quest *Dry 180* dehumidifier will operate free from any defects in materials and workmanship, or Therma-Stor LLC will, at its option, repair or replace the defective part(s), free of any charge.

**SECOND THROUGH FIFTH YEAR WARRANTY:** Therma-Stor LLC further warrants that for a period of five (5) years, the condenser, evaporator, and compressor of the Quest *Dry 180* 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:** Warranty service must be performed by a Servicer authorized by Therma-Stor LLC. If the end-user is unable to locate or obtain warranty service from an authorized Servicer, he should call Therma-Stor LLC at the above number and ask for the Therma-Stor LLC 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 or other reasonable and reliable means. The end-user is responsible for normal care. This warranty only applies to residential applications and does not cover any defect, malfunction, etc. resulting from misuse, abuse, lack of normal care, corrosion, freezing, tampering, modification, unauthorized or improper repair or installation, accident, acts of nature or any other cause beyond Therma-Stor LLC's reasonable control.

**LIMITATIONS AND EXCLUSIONS:** If any Quest *Dry 180* 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 Quest *Dry 180* Dehumidifier is out of service while awaiting covered warranty service).

UPON THE EXPIRATION OF THE WRITTEN WARRANTY APPLICABLE TO THE Quest *Dry 180* 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 Quest *Dry 180* 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.

