

# Quest CDG 74

## 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.*



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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 CDG 74.

## 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. Provide vibration isolation in order to minimize operational vibration and/or noise.
- 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
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified person in order to avoid a hazard.

## 1. Specifications

Part No.	4034760
Power	5.5 amps, 110-120 VAC, Grounded
Water	75 pints/day @ AHAM (80°F, 60%)
Cord	25' 14ga power cord
Process Air	150 CFM without external ducting
Refrigerant	1 lb, 4 oz. R410a
Charge	
Operating	33°F to 110°F
Range	
Filter	12" x 12" x 1" Pleated Media MERV-8
Duct	
Options	Outlet – 10" Lay-Flat
Warranty	Five years; 1st year 100% of Parts and Labor 2nd-5th year 100% of Parts of sealed refrigeration system.
Size	30" high x 20" wide x 17" deep
Weight	82 lbs
Patents	7,246,503 8,938,981

## 2. Operation

Place dehumidifier inside structure, place condensate hose into a drain, or a very large container, and turn on. To decrease drying times, make sure all windows and doors are closed to the outside and seal off the wet area from any unaffected areas.

### 2.1 Transporting

The Quest CDG 74 features a high-impact roto-molded housing which protects the unit airways, and while loading into vehicles. It is recommended the units are properly secured for transport. The Quest CDG 74 must always be upright when transported by vehicle. It may be tipped onto its handle and back for loading and moving by hand.

### 2.2 Location

**Note the following precautions when locating the Quest CDG 74:**

- It is designed to be used **INDOORS ONLY**.
- If used in a wet area, plug it into a **GROUND FAULT INTERRUPTER**.

- **DO NOT** use the Quest CDG 74 as a bench or table.
- It must always be used in the upright position.
- The air inlet on top and the front outlet must be at least 1 foot from walls and other obstructions to air flow.
- If the humid area is very large, dehumidification can be improved by adding an outlet duct to circulate air to stagnant areas (see Sec. 2.5).

### 2.3 Electrical Requirements

The Quest CDG 74 plugs into a common grounded outlet on a 15 amp circuit. It draws 5.5 amps at 80°F, 60% RH. If used in a wet area, a ground fault interrupter (GFI) is required. If an extension cord is required, it must have a minimum of 14 gauge conductors if 25 feet long or less and 12 gauge conductors if greater than 25 feet long.

### 2.4 Condensate Removal

The Quest CDG 74 is equipped with an internal condensate pump to remove the water that is condensed during dehumidification. This allows the condensate to be pumped up to 20 feet with the attached hose. If the condensate must be pumped more than 20 feet above the unit, a second pump must be added to relay the condensate. The condensate pump automatically purges when the reservoir is full. Use the PURGE button to manually remove condensation.

### 2.5 Ducting

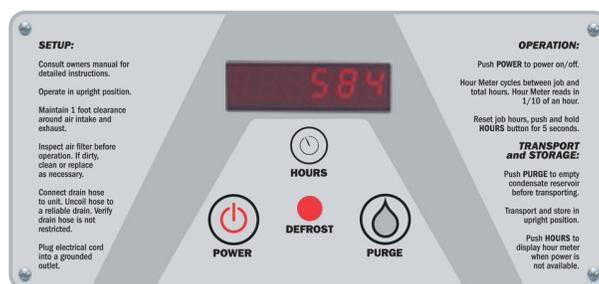
A wire duct collar is supplied to allow 10" lay-flat duct to be attached to the Quest CDG 74 outlet. Lay-flat plastic ducting is available; see accessories table page 6. To attach ducting to the wire duct collar, put the plastic duct end through the collar center and roll the duct end outward so that it overlaps the outside of the collar. The duct and collar may then be quickly attached to the Quest CDG 74 by snapping the collar over the four exhaust tabs.

### 2.6 Defrost Cycle

If the low side refrigerant temperature drops due to excessive frost formation on the evaporator coil and below the temperature set point, the thermistor activates the solid-state control and defrost light. The compressor is cycled off and on by the thermistor temperature measurement. The air mover will continue to run, causing air to flow through the evaporator coil and melt the ice when the compressor is off. When the air temperature and/or humidity increases, the evaporator temperature will rise and the thermistor will end the defrost cycle at the temperature set point.

### 2.6 POWER Button

Press the POWER button to turn the dehumidifier on or off. When starting the dehumidifier the display will show the accumulated hours. Press the POWER button again to turn the dehumidifier off. The display will also power off.



Quest CDG 74 control board.

## 2.8 Pump Purge Button

During normal operation the pump automatically cycles when the reservoir is full. Press the PURGE button to remove condensate manually from the reservoir. There are several ways to manually remove water from the reservoir:

1. Press the PURGE button once and the pump will run for 20 seconds
2. Press and hold the PURGE button and the pump will run for up to 30 seconds
3. Press the PURGE button while the dehumidifier is powered off and the pump will run for 30 seconds.

Always manually purge the water reservoir before transport or storage. Turn off the power and allow the plugged in dehumidifier to rest 15 minutes before the final purge.

## 2.9 Hour Meter

The digital hour meter displays the amount of time the dehumidifier has been turned on to the tenth of an hour. The hour meter continuously cycles between total machine hours and job hours every 3 seconds. Hours are stored in memory even when the unit is unplugged. The previous totals will be displayed next time the unit is powered on.

## 2.10 HOURS Button

Pressing the HOURS button displays the hour meter when the unit is turned off but plugged into power. To reset job hours, press and hold the HOURS button for 5 seconds when the unit is operating.

## 2.11 DEFROST Light

The DEFROST light turns on when the unit is in defrost cycle and indicates when the compressor is off.

# 3 Maintenance

## 3.1 Air Filter

The Quest CDG 74 is equipped with a pleated media air filter that must be checked regularly. The standard filter is a MERV-8 high efficiency filter. Operating the unit with a dirty filter will reduce the dehumidifier's capacity and efficiency and may cause the compressor to cycle off and on unnecessarily. Quest recommends changing the filter with each grow cycle.

## IMPORTANT

**IMPORTANT: DO NOT operate the unit without the filter or with a less effective filter as the coils inside the unit could become clogged and require disassembly to clean.**

## 3.2 Storage

There are three issues to consider when the Quest CDG 74 is stored between uses. The first two issues occur when water trapped in the unit and condensate pump, and the third occurs when the unit is stored with a dirty filter. If standing water is left in the unit, the condensate pump can be damaged when temperatures fall below freezing and/or biological growth can occur. Biological growth can also be caused from storing the CDG 74 with a dirty filter.

The effect of the trapped water can be greatly reduced if precautions are taken to remove as much water as possible before storage. In addition, biological growth can be prevented if the filter is replaced before storage.

To reduce the chance of damaging the condensate pump from water freezing:

1. Use the pump PURGE button to reduce the water level in the reservoir.
2. Walk out the condensate to drain it completely.

To reduce biological growth, always store the unit with a new filter and add a biofungicide that is approved for use with copper, aluminum, polyethylene, and ABS plastic to the condensate pump. Please note that you must remove the front housing from the CDG 74 first before adding the biofungicide to the pump.

To Flush:

1. Run the condensate hose to a sanitary sewer drain.
2. Plug the unit in but do not turn it on.
3. Use the PURGE button to remove the chemical in the pump. Run the pump until it runs dry
4. Walk out the hose to drain it completely
5. Replace the filter

## 4 Service

### **⚠️ WARNING**

**WARNING:** Servicing the Quest CDG 74 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.

### **⚠️ CAUTION**

**CAUTION:** Do not operate unit without the front housing in place.

#### 4.1 Technical Description

The Quest CDG 74 uses a refrigeration system similar to an air conditioner's to remove heat and moisture from incoming air and to 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 about to be discharged from the unit. The refrigerant liquid then passes through a filter/drier and 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 compressor after leaving the evaporator coil. The compressor evacuates the cool refrigerant gas from the accumulator and compresses it to a high pressure and temperature to repeat the process.

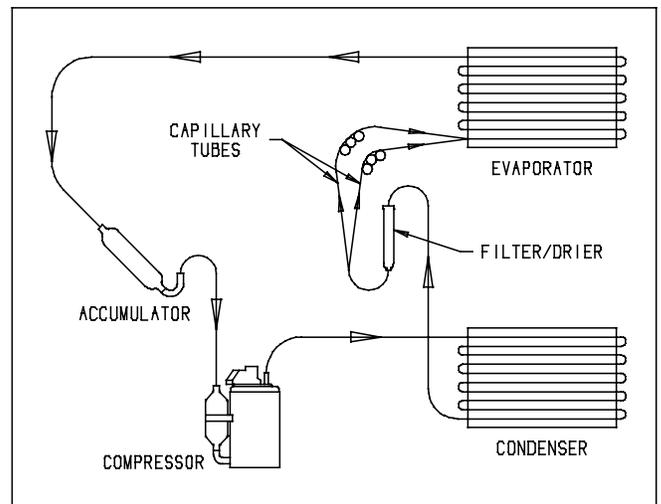


Figure 2: Refrigeration system of Quest

## 4.2 Troubleshooting

**No dehumidification, neither hour meter display nor compressor run and POWER button does not turn ON.**

1. Unit unplugged or no power to outlet
2. Defective control board
3. Loose connection in internal wiring

**No dehumidification, neither hour meter display nor compressor run with POWER button ON.**

1. Defective control board
2. Loose connection in internal wiring

**Some dehumidification, air mover runs continuously but compressor only runs sporadically.**

1. Unit is in defrost cycle, DEFROST light on
2. Defrost thermistor defective or loose
3. Loose connection in compressor circuit
4. Defective compressor overload
5. Defective compressor
6. Defective relay
7. Upper housing is not sealed to lower housing

**No dehumidification, air mover runs but compressor does not.**

1. Bad connection in compressor circuit
2. Safety float switch closed, check pump reservoir
3. Defective compressor capacitor
4. Defective compressor overload
5. Defective compressor
6. Defective control board

**Air mover does not run. Compressor runs briefly but cycles on and off.**

1. Loose connection in blower circuit
2. Obstruction prevents impeller rotation
3. Defective air mover

**Unit removes some water but not as much as expected.**

1. Air temperature and/or humidity have dropped
2. Humidity meter and/or thermometer used are out of calibration
3. Unit has entered defrost cycle

4. Air filter dirty
5. Defective defrost thermistor
6. Low refrigerant charge
7. Defective compressor
8. Restrictive exhaust ducting

**Unit runs but does not pump water.**

1. Hose kinked or plugged
2. Pump motor defective
3. Pump check valve plugged
4. Bad connection in pump circuit
5. Hose disconnected internally

**Unit pumps water automatically but not when PURGE button is pushed.**

1. Bad connection in PURGE button circuit
2. Defective control board

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

1. Defrost thermistor loose or defective
2. Low refrigerant charge
3. Dirty air filter or restricted air flow
4. Front housing is not sealed to rear housing

**Compressor runs with POWER button OFF.**

1. Defective relay
2. Defective control board

**4.3 Air Mover**

The motorized impeller has a PSC motor and internal thermal overload protection. If defective, the complete assembly must be replaced.

1. Unplug power cord
2. Remove the front housing
3. Disconnect the impeller leads
4. Remove the four screws holding the impeller to the mounting plate
5. Reassemble the new impeller using the above procedure in reverse

### 4.4 Thermistor

The defrost thermistor is attached to the refrigerant suction line between the accumulator and the evaporator.

To replace thermistor:

1. Unplug the dehumidifier
2. Remove the front housing
3. Cut cable ties and remove insulation and aluminum tape.
4. Remove control panel
5. Unthread thermistor from control housing grommet
6. Detach thermistor from control board jumper
7. Reassemble thermistor and dehumidifier using the above procedure in reverse



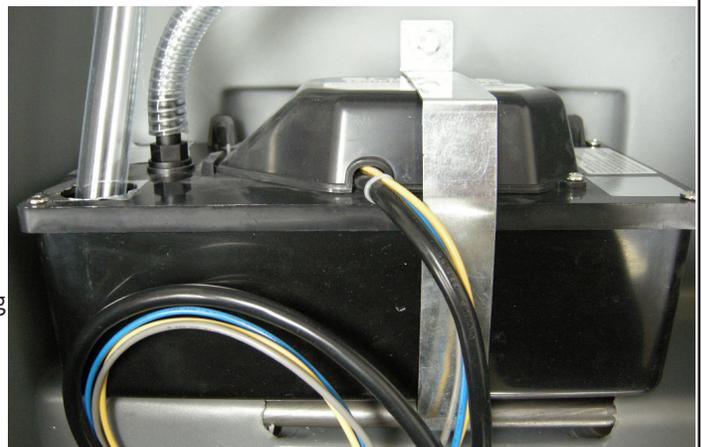
Thermistor attached to the refrigerant line.

### 4.5 Condensate Pump

The internal condensate pump removes water that collects in the reservoir.

To replace the condensate pump:

1. Unplug the unit
2. Remove the front housing
3. Unplug the pump wires from the wire harness
4. Remove the condensate hose and the one screw attaching the pump bracket to the rear housing
5. Replace the pump, hose, wiring, bolts, and housing in the reverse order



Picture of pump and reservoir.

### 4.6 Float Safety Switch

The float safety switch activates when the water rises too high in the condensate reservoir. The float safety switch turns off the compressor until the water level lowers and disengages the switch.

The internal condensate pump removes water that collects in the reservoir.

To replace the condensate pump:

1. Unplug the unit
2. Remove the front housing
3. Unplug the pump wires from the wire harness
4. Remove the condensate hose and the one screw attaching the pump bracket to the rear housing
5. Replace the pump, hose, wiring, bolts, and housing in the reverse order

## 5 Options & Accessories

- 4026315 Air Filter, Pleated 12" x 12" x 1" MERV-8
- 4025568 Air Filter, Pleated 12" x 12" x 1" MERV-11
- 4024935 Lay-Flat Duct 10" Round x 250' Roll

To order, contact Therma-Stor LLC at 1-800-533-7533.

## 6 Wiring Diagram

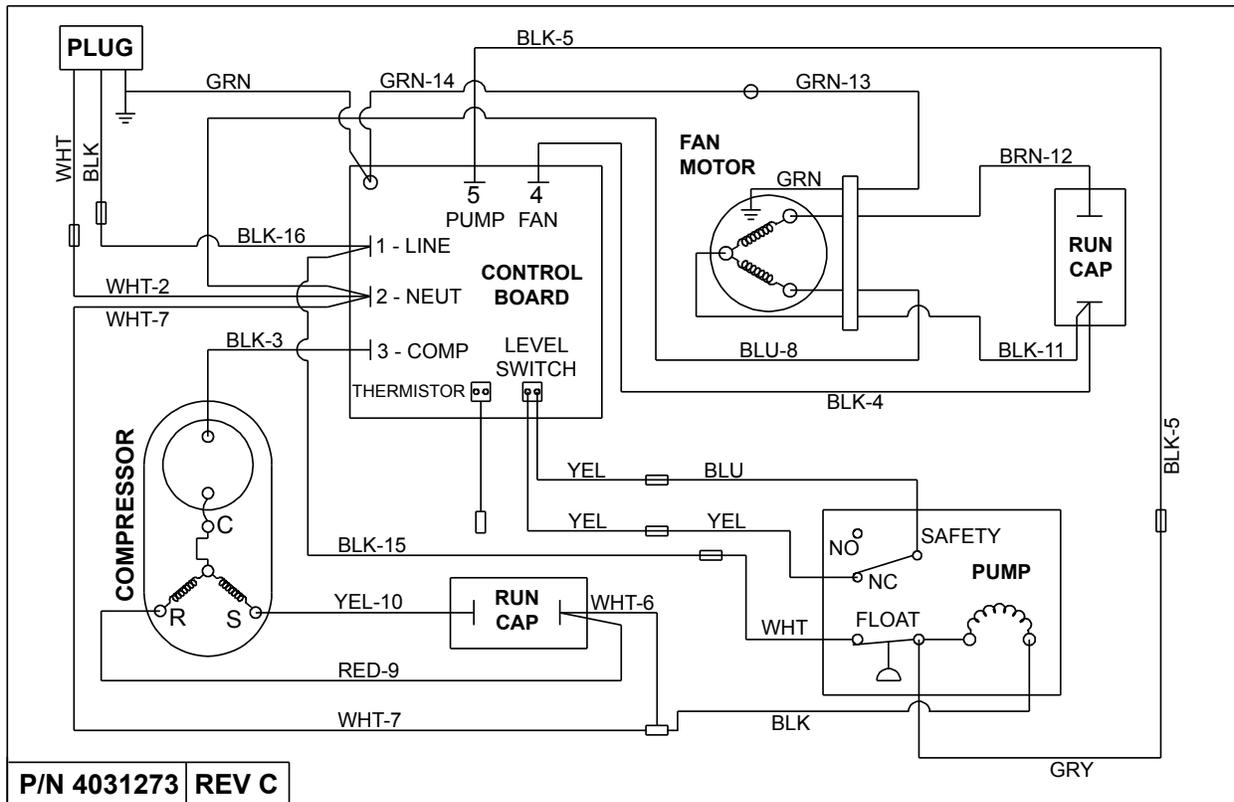


Figure 3: Electrical schematic of Quest CDG 74

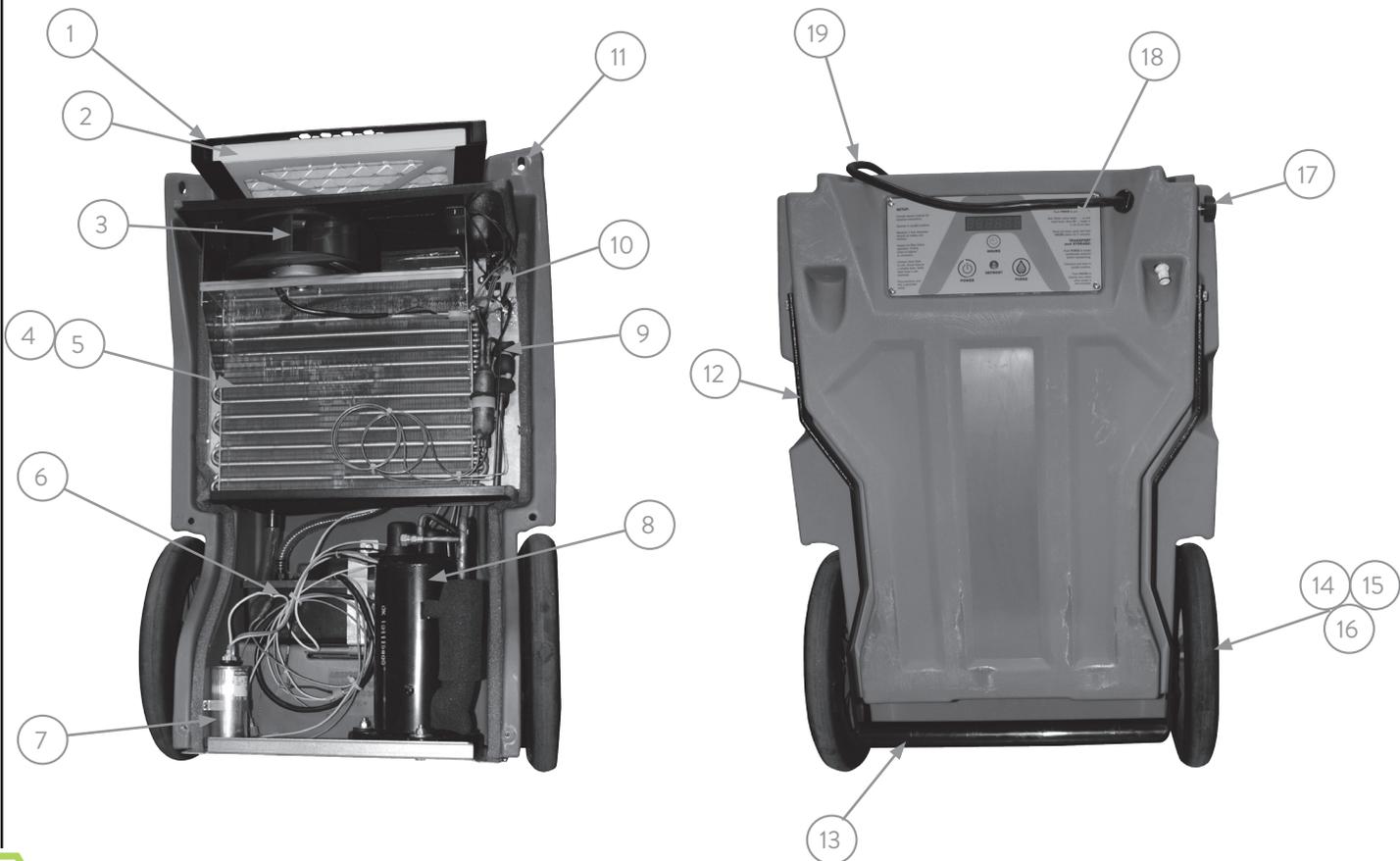
### 7 Service Parts

Item	Description	Qty	Part No.
1	Top Cover	1	4031258
2	Filter, 12" x 12" x 1" MERV 7	1	4026315
3	Impeller, Air Mover	1	4034477
4	Evaporator Coil	1	4031253
5	Condenser Coil	1	4031254
6	Condensate Pump	1	4034496
7	Capacitor, Compressor, 35 µF	1	4033032-03
8	Compressor	1	4030483
9	Thermistor Probe	1	4034716-02
10	Capacitor, Impeller, 6.0 µF	1	4033031-03
11	Hex Bolts, 1/4"-20 x 1.25"	6	1154012
12	Handle Bar	1	4031267
13	Handle Grip	1	4031268

Item	Description	Qty	Part No.
14	Wheel, 12", Black	2	4026851
15	Cotter Pin	2	1284404
16	Hub Cap, Wheel, Black	2	4027138
17	Handle Knob, Lanyard	2	4033372
18	Control Board	1	4034457
19	Power Cord, 25' 14ga	1	4037569

**Items listed are not shown**

Item	Description	Qty	Part No.
	Hose (1/4" ID x 33' long)	1	4024916
	Coupling Body, 1/4" Tube	1	4024910
	Coupling Insert, 1/4" Tube	1	4027277
	Exhaust Grill	1	4026308
	Wire Duct Collar	1	4026309





## Quest CDG 74 Dehumidifier Limited Warranty

**Warrantor:**

Therma-Stor LLC  
4201 Lien Rd  
Madison, WI 53704  
Telephone: 1-866-933-7486

**Who Is Covered:** This warranty extends only to the original end-user of the Quest CDG 74 dehumidifier, and may not be assigned or transferred.

**Year One:** Therma-Stor LLC warrants that, for one (1) year the Quest CDG 74 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.

**Year(s) Two Through Five:** Therma-Stor LLC further warrants that for a period of five (5) years, the condenser, evaporator, and compressor of the Quest CDG 74 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 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 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.

**Limitation and Exclusions:** If any Quest CDG 74 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 CDG 74 Dehumidifier is out of service while awaiting covered warranty service).

UPON THE EXPIRATION OF THE WRITTEN WARRANTY APPLICABLE TO THE Quest CDG 74 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 CDG 74 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 limitations 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.