

## INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

– Read and Save These Instructions –

### 50Hz Quest 70:

- Industry-leading efficiency
- High-efficiency, long-life impeller fan
- MERV-13 Filtration
- Auto-restart after power outages
- Low voltage control



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.



### WATER REMOVAL RATES Per Day @ 80°F, 60% RH

DEHUMIDIFIER	LITERS	PINTS/GALLONS
Quest 70	26	55/6.9

Specifications subject to change without notice.

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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 **70** indoor air quality system.

## READ AND SAVE THESE INSTRUCTIONS

- Never operate a unit with a damaged power cord. If the power cord is damaged, it must be replaced by the manufacturer, its service agent, or a similarly qualified person in order to avoid a hazard.
- 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.
- When plugging in the unit, use a Ground Fault Interrupter outlet.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- Never operate electrical equipment near or in standing water.
- Do not stick your fingers or other objects through the safety grill.
- The unit must be used in the upright position.
- When changing filters, do not stick fingers or other objects in the unit.
- Do not restrict airflow in to or out of the unit. This may cause the unit to overheat.
- The unit should never be serviced or cleaned while it is plugged in.
- Do not sit or stand on the unit, or use as a shelf or table.
- Before leaving the unit unattended, ensure children do not have access to the equipment. Do not allow children to play with or near the unit or in its air flow.
- The unit is designed to be installed indoors only.
- No user serviceable components. Contact installer or call 1-877-420-1330 for all repair or warranty needs.

### 1. Intended Application for Quest 70

The Quest 70 is designed to operate in temperatures between 5°C and 35°C.

In order to efficiently control humidity levels, the area in which the dehumidifier is to be operated must be free of water intrusion or excessive fresh (outside) air infiltration. Before installing the Quest 70, water intrusion and air infiltration problems should be addressed.

### 2. Registrations

The Quest 70 conforms to CE standards.

### 3. Specifications @ 26.7°C/60%RH

	4033810-XX Quest 70
<b>Blower:</b>	150 CFM @ 0.0" WG
<b>Power: (Watts)</b>	480
<b>Supply voltage:</b>	230 VAC - 1 Phase - 50 Hz.
<b>Current Draw: (Amps)</b>	2.1
<b>Energy Factor: (K/kWh)</b>	2.22
<b>Operating Temp:</b>	5°C to 35°C
<b>Water Removal: (L/Day)</b>	26
<b>Air Filter: MERV-13</b>	Size: 23cm x 28cm x 3cm
<b>Drain Connection:</b>	3/4" Threaded NPT
<b>Refrigeration Type:</b>	R410A
<b>Refrigerant Amount:</b>	15oz.
Dimensions:	Unit
Width:	31cm
Height:	31cm
Length:	54cm
Weight:	25 kg
<b>Power Cord:</b>	20' Fem IEC 60320-C13
<b>4033810-01 UK Cord</b> BS 1363 (type G)	
<b>4033810-02 AUS Cord</b> AS 3112 (type I)	
<b>4033810-03 EU Cord</b> CEE 7/7 (type E and F)	

## 4. Installation

### 4.1 Location

The Quest Dehumidifier can be installed in a variety of locations to meet the owner's needs as listed below. In all cases keep the following cautions in mind:

- It 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 and side panels for maintenance and service and also to allow easy access to the filter cover panel. **DO NOT INSTALL UNIT WITH THE FRONT PANEL OR FILTER COVER PANEL INACCESSIBLE.**
- Avoid discharging the air directly at people, or over the water in pool areas.
- Be certain there is **NO** chance the unit could fall into water or be splashed and that it is plugged into a **GROUND FAULT INTERRUPTER.**
- **DO NOT** use the Quest Dehumidifier as a bench or table.
- **DO NOT** place the Quest Dehumidifier 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 an area where water leakage could cause damage.

Place the Quest Dehumidifier on supports that raise the base of the unit 7cm above the top of the flanges on the drain pan beneath it. Raising the Quest Dehumidifier will help the unit drain with gravity flow. Do not place the Quest Dehumidifier directly on structural building members without vibration absorbers or unwanted noise may result.

### 4.2 Electrical Requirements

The Quest Dehumidifier may be suspended with steel hanger straps or a suitable alternative from structural members, unit must be supported from underneath. Don't hang from sides or ends. Remember to place a drain pan under the unit if it is suspended above a finished area or above an area where water leakage could cause damage. *See section 4.4*

The Quest Dehumidifier plugs into IEC rated receptacles. The amp draws for each unit under normal operating conditions are listed on page 4. A ground fault interrupter protected circuit is required.

Install the remote control panel in a central area of the structure where it will sense the relative humidity of the structure accurately. Do not install the control panel where it may not accurately sense the relative humidity such as near HVAC supply registers, near exterior doors, or near a pool or spa. The installer must supply the wiring between the Quest Dehumidifier and the control panel. Be sure to safely route the control wiring to prevent damage during installation. Be careful not to cross the wires when connecting the Quest Dehumidifier and the remote control panel.

The remote controls of the Quest Dehumidifier are powered by a low voltage circuit (24 VAC) and must **NEVER** contact or be connected to a high voltage circuit. The control terminals and remote control are labeled and numbered to prevent confusion. Be sure to consult the electrical schematic in this manual or inside the access panel of the Quest Dehumidifier before making the control connections.

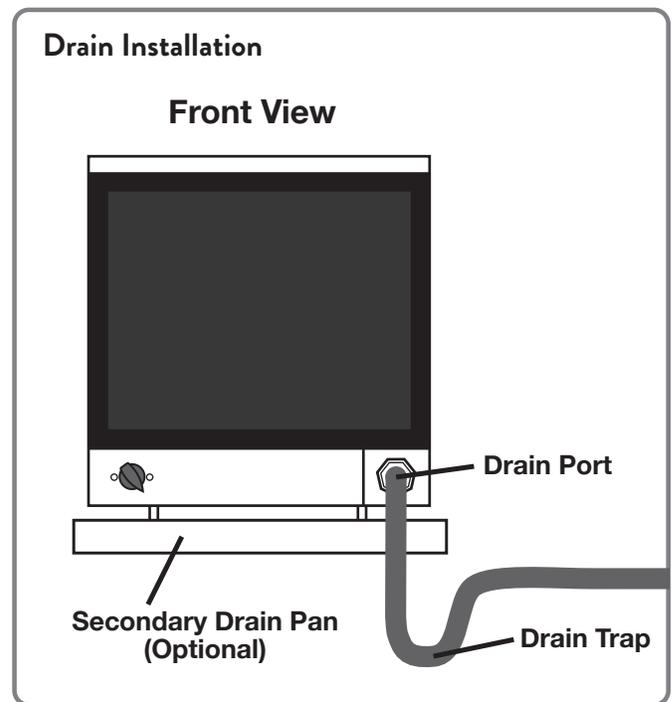
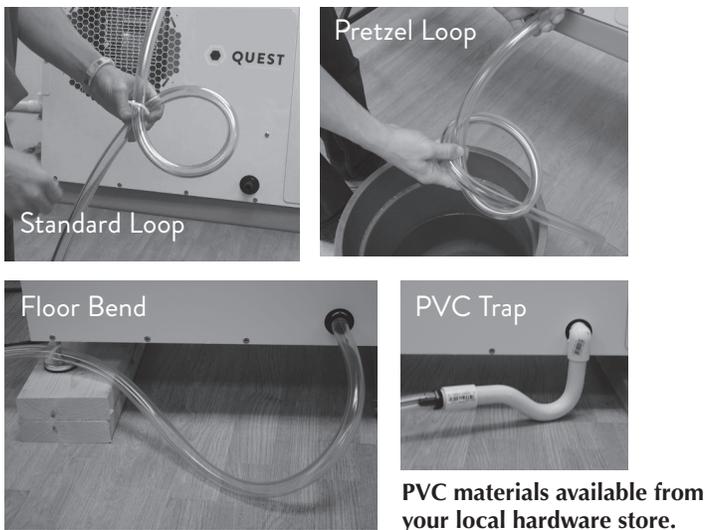
**⚠ CAUTION! For proper drainage, the unit must be mounted so the drain outlet is at least 7cm above the floor drain, and must be fully supported under the base.**

### 4.3 Condensate Water Removal

The Quest 70 drains via gravity, therefore, it does not have the ability to push condensate (water) uphill. The drain hose must run downhill toward the drain location. Condensate can be drained by using the 5/8" clear vinyl hose and the 3/4" threaded adapter provided. Ensure the threaded adapter is threaded in tightly.

**⚠ CAUTION!** The Quest 70 requires a drain trap. Creating a drain trap allows a small amount of water to build up in the trap area of the clear hose. This prevents air from back flowing through the hose and into the dehumidifier; essentially causing the unit to backflow water out of the corners of the machine. Position the trap in the hose approximately 20-25 cm from the dehumidifier and make sure the highest point of the trap is still at least 7 cm below the black drain port adapter on the dehumidifier. If the highest point of the trap is above the drain port, water will back flow into the dehumidifier. Check the hose regularly to ensure water is draining properly.

Several trap options include:

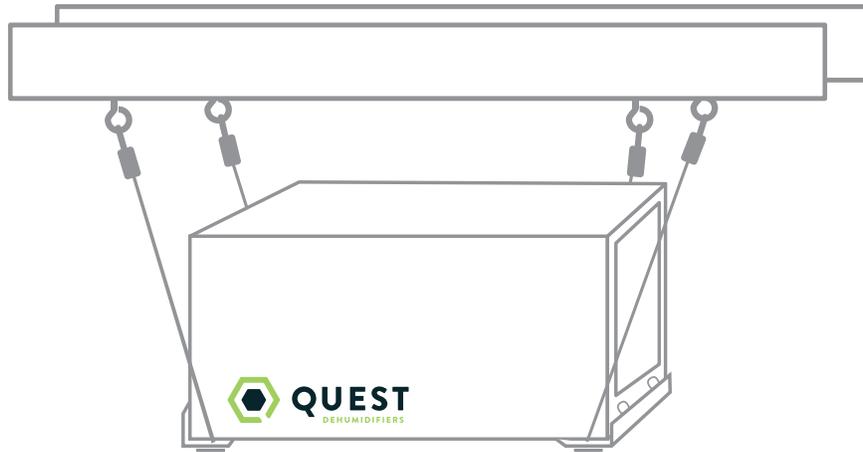


Use care to keep the hose as flat to the floor as possible after your trap is in place. Be sure the hose is not kinked or otherwise restricted so water can pass through the hose freely. Improper installation of the drain hose may result in water leakage.

If the Quest 70 is located too far from the floor drain and the provided hose does not reach, you may use a 1/2" PVC rigid pipe to extend the drain. Rigid PVC tubing is readily available from your local hardware store. Be sure the extension is at a down-ward slope to the drain.

An optional condensate pump kit may be installed if lift is required to remove condensate. To order, contact your local dealer or visit our website at [www.QuestHydro.com](http://www.QuestHydro.com). You may also reach us by phone at 1-877-420-1330.

#### 4.4 Hanging Diagram



#### 4.5 Ducting

A factory designed duct kit (P/N 4038599) can be purchased to accept 8” ducting to both outlets of the Quest. Contact your dealer, call 1-877-420-1330, or go to [www.questhydro.com/product-category/accessories](http://www.questhydro.com/product-category/accessories) to order.

### 5. Control Options

The Quest Dehumidifier can be controlled by its on board dehumidistat or with an external control using its low voltage terminal block.

#### 5.1 On board dehumidistat

The humidity control is an adjustable switch that closes when the relative humidity of the air in which it is located rises to the dial set point. It opens when the RH drops 4 to 6% below the set point.



Approximate Humidity Levels Per Setting

“Dry”	20% to 30% Relative Humidity
“Normal”	50% Relative Humidity (Recommended)
“Humid”	80% to 90% Relative Humidity

The dehumidifier will run until the relative humidity (RH) is reduced to the humidity control dial setting.

### 5.2 External Control

The Quest Dehumidifier is controlled using five terminals.

COM = 24volt AC power transformer neutral side (common with white)

FAN = Fan control

24V = transformer high side

DEHU = Dehumidification (fan and compressor) control

DMPR = 24volt AC power transformer neutral side (common with red)

**\* On board dehumidistat must be turned all the way to “Humid”**

Between the COM/DMPR lead and the 24V leads is a 40VA transformer. This low voltage power source powers the relay coils which control the fan and compressors. This 24VAC transformer can also be used to power HVAC accessories external to the dehumidifier.

- To turn the dehumidifier on make contact between 24V and DEHU terminals, or turn the dehumidistat clockwise towards drier.
- To turn the fan on make contact between 24V and FAN terminals.
- To power a 24V HVAC accessory, connect the accessory to the COM terminal and the 24V terminal.

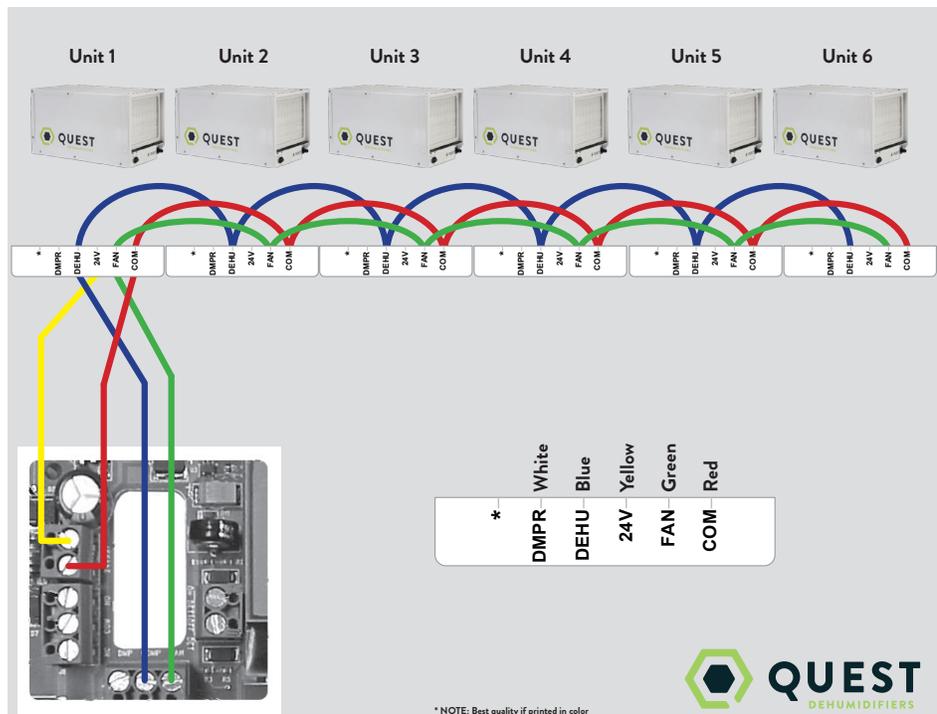
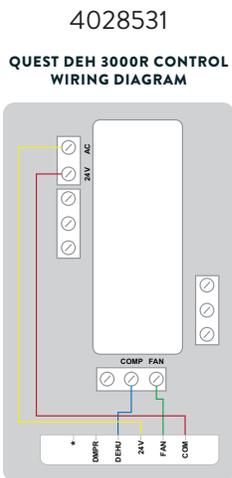
**NOTE: 18 ga wire needed between the Quest dehumidifier and the external control**

Quest offers two external control options

#### 5.2A DEH 3000R

**NOTE: 22 ga wire needed for sensor**

Contact your dealer or call 1-877-420-1330 to order or go to [www.questhydro.com/product-category/accessories](http://www.questhydro.com/product-category/accessories).



## 6. Maintenance

**⚠ WARNING! NOTE: Do not operate the unit without the filter or with a less effective filter. The heat exchange coils inside the unit could become clogged and require disassembly to clean. Filter non-compliance invalidates the product warranty.**

The Quest 70 is equipped with a pre-filter and a MERV-13 air filter. The filters should be checked and replaced every three to six months. Operating the unit with a dirty filter will reduce dehumidifier capacity and efficiency.

DO NOT operate the unit without a filter. Filter non-compliance voids the product warranty.

## 7. Service

**⚠ WARNING! Servicing the Quest 70 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: 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.**

### 7.1 Technical Description

The Quest 70 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 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.

### 7.2 Troubleshooting

**Neither fan nor compressor running. Dehumidification is being called for.**

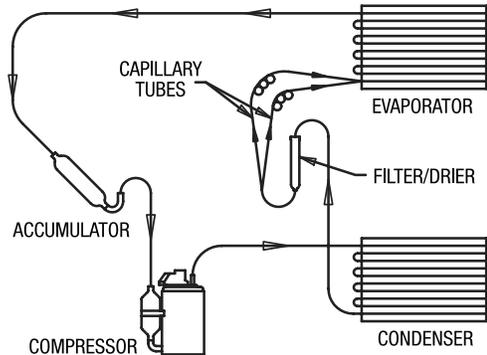
1. Dehumidifier unplugged or no power to outlet.
2. Humidity control set too high.
3. Loose connection in internal or control wiring.
4. Defective compressor relay.

**If none of the above, call dealer or 1-877-420-1330.**

**FOR THE HVAC PROFESSIONAL:**

**Compressor is not running. Dehumidification is being called for. Fan is running.**

1. Defective compressor run capacitor.
2. Loose connection in compressor circuit.
3. Defective compressor overload.
4. Defective compressor.



**Quest 70 refrigeration system**

5. Defrost thermostat open.

**Compressor cycles on and off. Dehumidification is being called for.**

1. Low ambient temperature and/or humidity causing unit to cycle through defrost mode.
2. Defective compressor overload.
3. Defective compressor.
4. Defrost thermostat defective.
5. Dirty air filter(s) or air flow restricted.
6. Defective fan or relay.

**Fan is not running. Dehumidification or fan is being called for.**

1. Loose connection in fan circuit.
2. Obstruction prevents fan impeller rotation.
3. Defective fan.
4. Defective fan relay.

**Low dehumidification capacity (evaporator is frosted continuously). Dehumidification is being called for.**

1. Defrost thermostat loose or defective.
2. Low refrigerant charge.
3. Dirty air filter(s) or air flow restricted.
4. Excessively restrictive ducting connected to unit.

**Dehumidifier 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. Dirty air filter(s) or air flow is restricted.
5. Defective defrost thermostat.
6. Low refrigerant charge.
7. Air leak such as loose cover or ducting leaks.
8. Defective compressor.
9. Restrictive ducting

**If none of the above has fixed the issue, call technical support at 1-877-420-1330.**

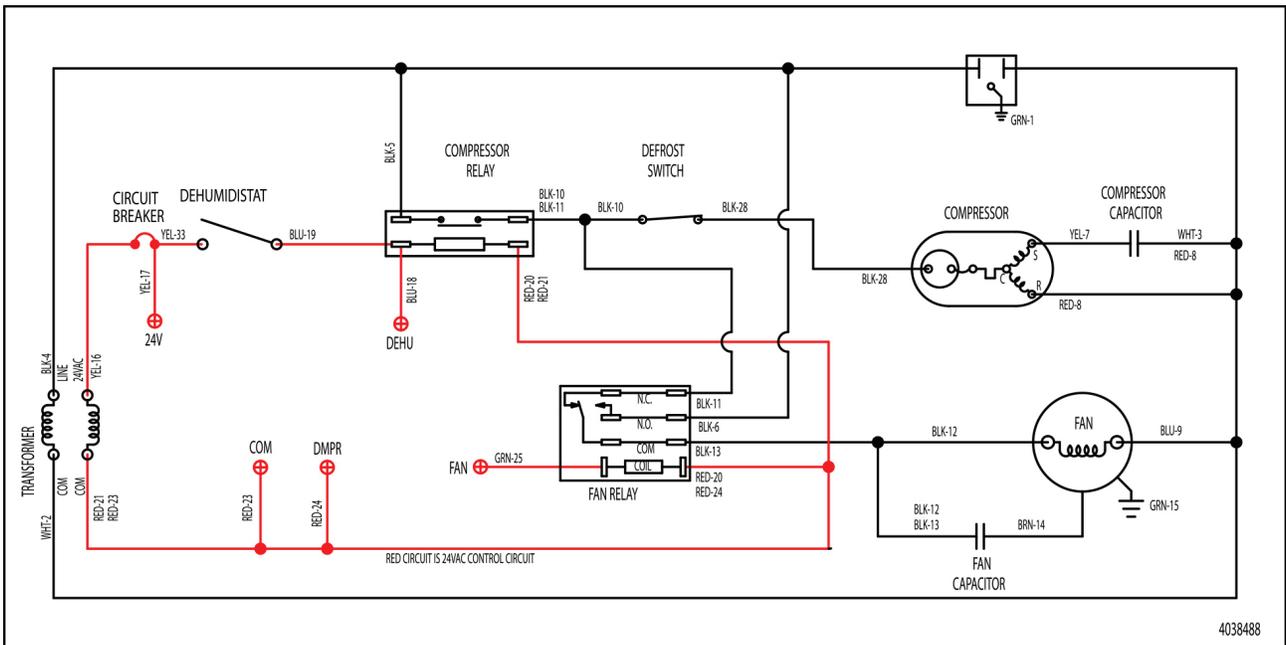
## 8. Wiring Diagram

## 9. Service Parts List

Call your dealer or Quest at 1-877-420-1330.

<b>Part No</b>	<b>Description</b>
4020924	15A Relay
4031413	Compressor Overload
4021495	Control Knob
4025577	Clear Hose
4026221	Leveling Foot
4031412	Compressor
4027172	Humidity Control
4033032-03	Run Capacitor
4025569	Hose Adaptor

4035235-03 Fan Capacitor



4038488

4033358-08 Coil Set

4034522 Impeller

4036967	Defrost Switch
4031406	Transformer, 40VA

### Accessory/Replacement Parts

Call your dealer or Quest at 1-877-420-1330.

<b>Part No</b>	<b>Description</b>
4037724	Filter, MERV-13
4028616	Caster Kit
4037168	Pre Filter
4030113	Pump Kit
4036695	Hang Kit
4038599	Duct Kit
4028531	DEH3000R

## Quest 70 Dehumidifier Limited Warranty

### WARRANTOR:

Therma-Stor LLC  
4201 Lien Rd  
Madison, WI 53704  
Telephone: 1-877-420-1330

**WHO IS COVERED:** This warranty extends only to the original end-user of the Quest 70 dehumidifier, and may not be assigned or transferred.

**FIRST YEAR WARRANTY:** Therma-Stor LLC warrants that, for one (1) year the Quest 70 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 THIRD YEAR WARRANTY:** Therma-Stor LLC further warrants that for a period of three (3) years, the condenser, evaporator, and compressor of the Quest 70 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 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 70 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 70 Dehumidifier is out of service while awaiting covered warranty service).

UPON THE EXPIRATION OF THE WRITTEN WARRANTY APPLICABLE TO THE Quest 70 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 70 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.