

50Hz Quest CDG 74

Installation, Operation and Maintenance Instructions

– Read and Save These Instructions –

This manual is provided to acquaint you with the Quest CDG 74 LGR dehumidifier so that installation, operation and maintenance can proceed successfully. Ultimate satisfaction depends on the quality of set up and a thorough understanding of this equipment. The Quest CDG 74 is built around tested engineering principles and has passed a thorough inspection for quality of workmanship and function.

Patent Pending



50Hz Quest CDG 74:

- Energy Efficiency - Removes 36 Liters at AHAM while drawing only 3.2 amps.
- Slide Out Handle with Recessed Wheels.
- 4 Line Control Panel.
- Status Light Indicator.
- Integrated, Superior Stacking.
- Pleated Media Air Filter – MERV 8

Water Removal Rates Per Day (@ 26.7°C (80°F) 60% (AHAM))

| Dehumidifier | Liters | Pints/Gallons |
|--------------|--------|---------------|
| Quest CDG 74 | 36 | 76/9.5 |



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Table of Contents

- Table of Contents 2
- 1. Specifications..... 3
- 2. Important Safety Instructions 3
- 3. Operation 4
 - 3.1 Transporting 4
 - 3.2 Electrical Requirements..... 4
 - 3.3 Control Panel 4
 - 3.3.1-3.3.23 How to use 4-13
 - 3.4 Condensate Removal 13
 - 3.5 Ducting 13
 - 3.6 Defrost Cycle 14
 - 3.7 Power Button 14
 - 3.8 Purge Button 15
- 4. Maintenance 15
 - 4.1 Air Filter 15
 - 4.2 Storage 15
- 5. Service 16
 - 5.1 Technical Description 16
 - 5.2 Troubleshooting 17
 - 5.3 Air Mover 19
 - 5.4 Thermistor 19
 - 5.5 Condensate Pump 19
 - 5.6 Float Safety Switch 20
- 6. Options & Accessories 20
- 7. Wiring Diagram 21
- 8. Service Parts 22
- 9. Warranty 23

Serial No. _____

Purchase Date ____/____/____

Dealer's Name _____



1. Specifications @ 26.7°C (80°F) 60% RH

| | | |
|---|---|----------------|
| | 4038534-XX Quest CDG 74 | |
| Supply voltage: | 220-240 VAC - 1 Phase - 50 Hz. | |
| Current Draw (Amps): | 3.2 | |
| Operating Temp: | 0.5°C (33°F) Min - 43°C (110°F) Max | |
| Water Removal (Liters/Day): | 36 | |
| Efficiency (Liters/kWh): | 2.1 | |
| Air Filter: MERV-8 | Size: 9" x 12" x 1" | |
| Refrigerant Type: | R410A | |
| Refrigerant Amount: | 1lb. 3oz. | |
| Duct Options | Outlet - 10" Lay-Flat | |
| Warranty | 3 years (1st year 100% Parts and Labor) | |
| Dimensions: | Unit | Shipping |
| Width: | 30.5 cm (12") | 41 cm (16") |
| Height: | 44.5 cm (17.5") | 48 cm (19") |
| Length: | 53 cm (21") | 64 cm (25") |
| Weight: | 28.5 kg (63 lbs) | 30 kg (65 lbs) |
| Power Cord: | 20' Fem IEC 60320-C13 | |
| 4038534-01 UK Cord BS 1363 (type G) |  | |
| 4038534-02 AUS Cord AS 3112 (type I) |  | |
| 4038534-03 EU Cord CEE 7/7 (type E and F) |  | |

Patent Pending

The Quest CDG 74 conforms to unified standard IEC 60335-2-40 and meets CE requirements.

2. Important Safety Instructions

CAUTION: Risk of electric shock. Can cause injury or death to reduce the risk of electric shock:

- 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 horizontal position.
- 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.

- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- The appliance shall be installed in accordance with national wiring regulations.
- Please allow .3m (1ft) of clearance for the inlet and outlet of the unit.

WARNING: Not Suitable for use with Solid-State Speed Controls

AVERTISSEMENT: Ne Convient Pas a Des Regulateurs De Vitesse a Semi-Conducteurs

3. 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.

3.1 Transporting

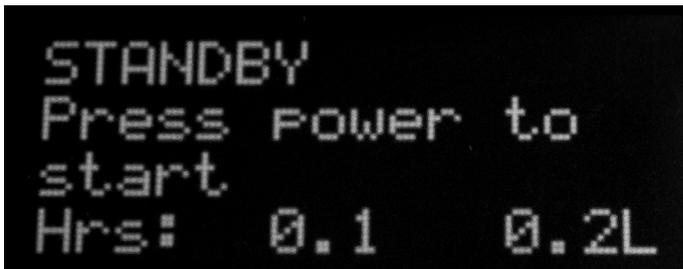
The Quest CDG 74 features a high-impact roto-molded housing which protects the unit. It is recommended the units are properly secured for transport. The Quest CDG 74 must always be on its base when transported by vehicle. It may be tipped upright to utilize its handle and back for loading and moving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

3.2 Electrical Requirements

The Quest CDG 74 plugs into a common grounded outlet. It draws 3.2 amps at 26.7°C (80°F), 60% RH. If used in a wet area, a ground fault interrupter (GFI) is required.

3.3 Control Panel

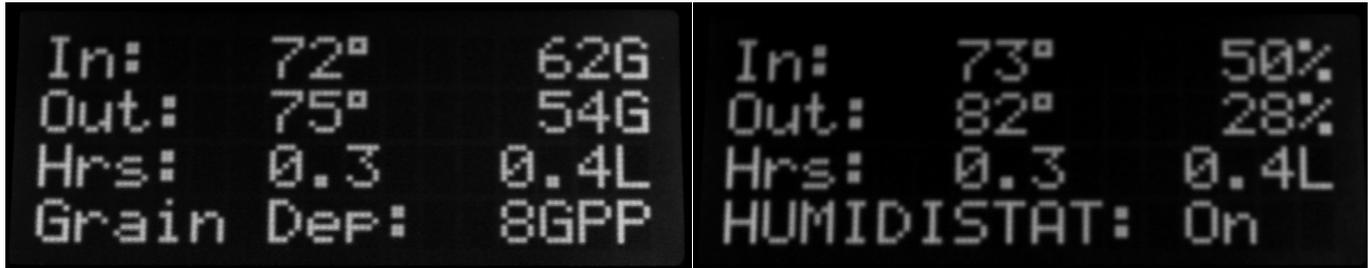
3.3.1 Plugged In - Standby Mode



When plugged in, the display will communicate to the user that the machine is in Standby mode and ready to be powered on. In Standby Mode, the display will also show the current job and life hours on the fourth line.

Light Bar = Off

3.3.2 Dashboard



Dashboard while in Humidistat Mode

When the machine is dehumidifying the unit will display:

- Inlet = Temperature and RH/Grains
- Outlet = Temperature and RH/ Grains
- Hours = Job hours and Life hours
- Grain Depression = Grains per pound value

Light Bar = On

Color = Green

3.3.3 Navigation



Press the  key to advance to the next screen or to enter a value



Press the  key to scroll through available values

3.3.4 Purging



Press the  button to purge the machine.

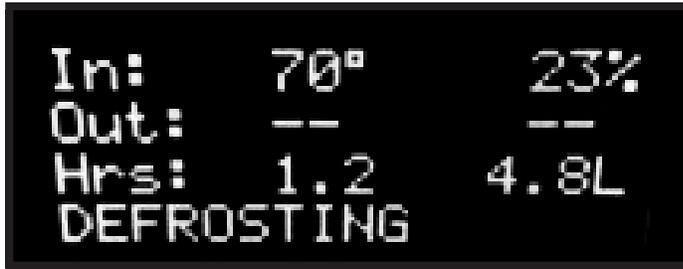
The display will communicate to the user that the machine is purging on the fourth line of the dashboard and show a 20 second countdown timer. This will momentarily replace grain depression until the machine has finished purging.

The display will also communicate to the user that the machine is auto purging in the fourth line of the dashboard and show a 20 second countdown timer.

Light Bar = On

The light bar colors and animations will persist while the machine is purging.

3.3.5 Defrosting



The display will communicate to the user that the machine is defrosting on the fourth line of the dashboard. This will momentarily replace grain depression until the machine has finished defrosting.

Light Bar = On

Color = Blue

3.3.6 Job/Life Hours



Press and hold the  key for three seconds to reset the job hours from any screen.

Press Next to advance to the next screen.

The life hours are fixed and cumulative from the first use

Light Bar = On

The light bar colors and animations will persist while in Settings.

3.3.7 Humidistat Mode



The default mode is Humidistat “Off”

Press the Set button to toggle the Humidistat Mode On/Off.



Press the Next button to advance to the next screen. If Humidistat mode is enabled, then proceed to Humidistat Set point. Else, proceed to Humidity Units.

Light Bar = On

The light bar colors and animations will persist while in Settings.

3.3.8 Humidistat Set Point



Press the Set button to adjust the set point RH% in 5% increments ranging from 20% RH to 80% RH and then looping back to 20% RH.

Press the Next button to confirm selection and advance to the next screen.

Light Bar = On

The light bar colors and animations will persist while in Settings.

3.3.9 Humidistat Fan Mode



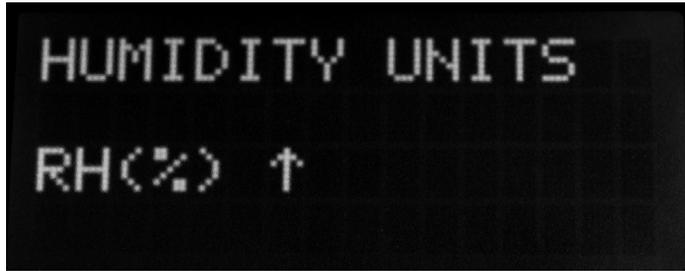
Press the Set button to toggle the Humidistat Fan mode from Always On to Auto.

Press the Next button to confirm selection and advance to the next screen.

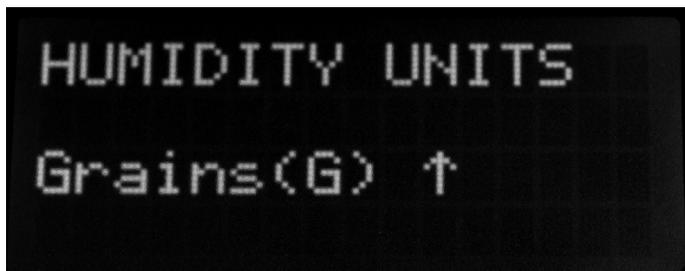
Light Bar = On

The light bar colors and animations will persist while in Settings.

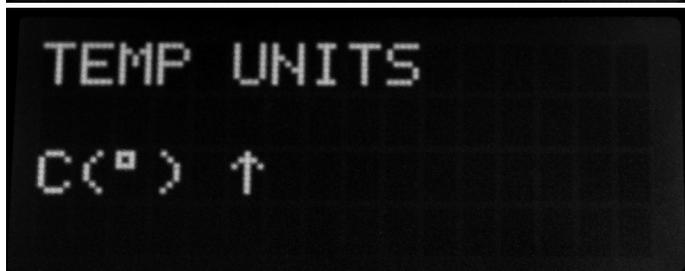
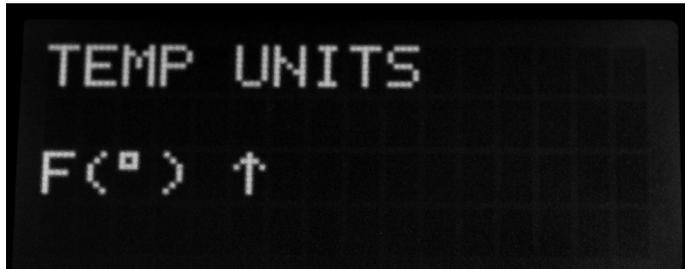
3.3.10 Humidity Units



Press the Set button to toggle the humidity units between RH and grains. This will affect the readout on the right of the home screen on lines one and two which show the inlet and outlet conditions.



3.3.11 Temperature Units



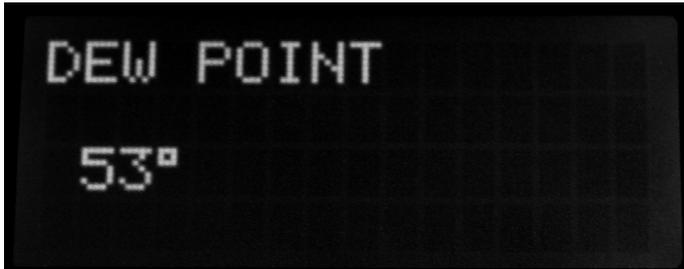
Press the Set button to toggle the temperature units between F (o) and C (o)

Press the Next button to confirm selection and advance to the next screen.

Light Bar = On

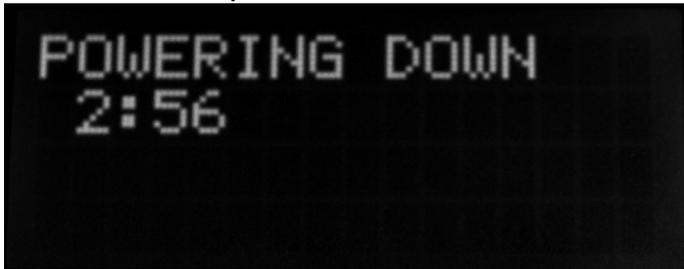
The light bar colors and animations will persist while in Settings.

3.3.12 Dew Point



The screen displays the ambient dew point.

3.3.13 Shut Down Sequence



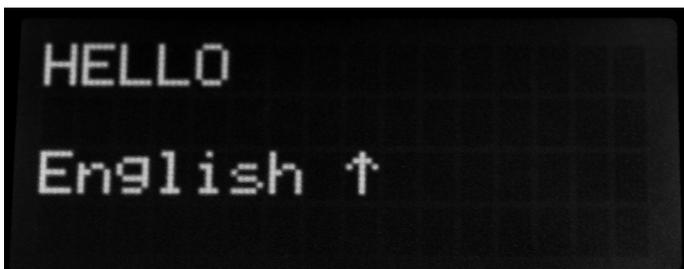
Press the Set button to adjust the shutdown time in one minute increments ranging from 3 – 20 minutes.

The shutdown time allows the blower to run to remove water from the coil and to allow the evaporator to acclimate to the ambient conditions. At the end of the shutdown time the unit will automatically purge to remove any remaining water.

The proper shutdown is dependent on conditions. Increasing your shutdown time will help ensure there is no residual water in the unit.

*****Important***** - Unplugging the unit without running the shutdown sequence will allow water to remain in the unit after use. If the unit is tilted more than 20 degrees on the non-handle side, water may spill out of unit.

3.3.14 Language



The display will greet the user in order to help them identify the language settings for the machine.

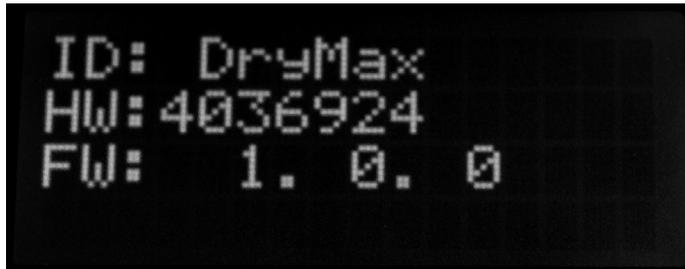
Press the Set button to browse available languages.

Press the Next button to confirm selection and advance to the next screen.

Light Bar = On

The light bar colors and animations will persist while in Settings.

3.3.15 About This Device



The following information is displayed on the About this Device screen:

Device ID

Hardware Version

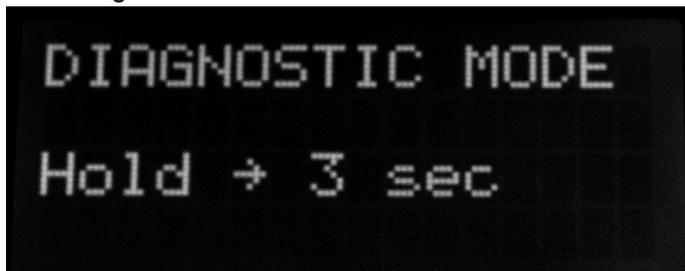
Firmware Version

Press the Next button to advance to the next screen.

Light Bar = On

The light bar colors and animations will persist while in Settings.

3.3.16 Diagnostic Mode



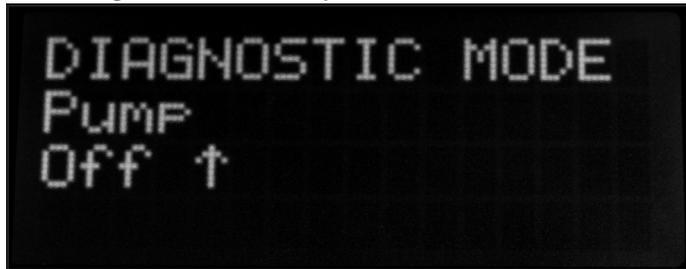
Press the Next button for 3 seconds to enter Diagnostic Mode. This action can also be performed at any time while the machine is powered on.

If Alerts are active, press the Next button to advance to the next screen. Else, press the Next button to return to the Dashboard.

Light Bar = On

The light bar colors and animations will persist while in Settings.

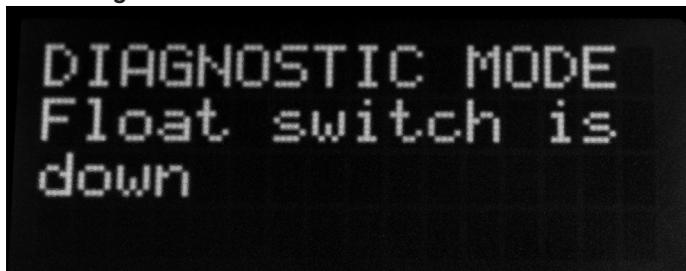
3.3.17 Diagnostic Mode - Pump



Press the Set button to toggle the Pump On/Off.

Press the Next button to advance to the next screen.

3.3.18 Diagnostic Mode - Float Switch



This display will communicate to the user the current status of the Float Switch.

Press the Next button to advance to the next screen.

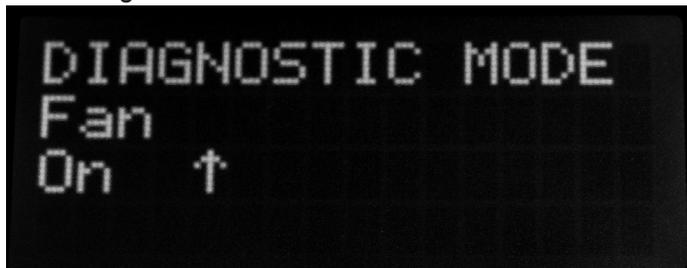
3.3.19 Diagnostic Mode - Intake RH Offset



The Intake RH Offset allows you to calibrate the CDG 74 to match your favorite meter.

Press the Set button to adjust the intake RH in 1% increments ranging from -20% to 5. Negative values will reduce the RH on the display of the CDG 74.

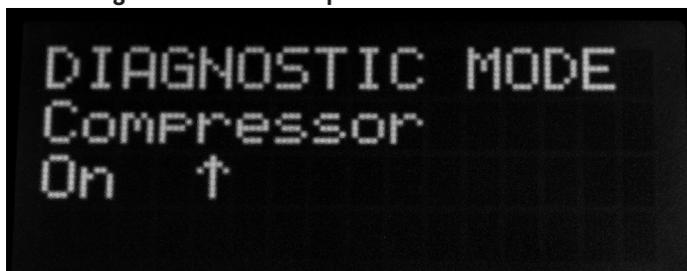
3.3.20 Diagnostic Mode - Fan



Press the Set button to toggle the Fan On/Off.

Press the Next button to advance to the next screen.

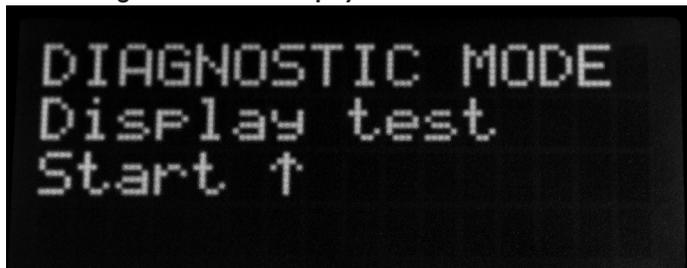
3.3.21 Diagnostic Mode - Compressor



Press the Set button to toggle the Compressor On/Off.

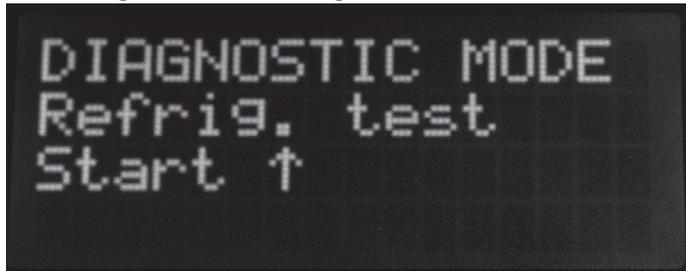
Press the Next button to advance to the next screen.

3.3.22 Diagnostic Mode - Display Test



Press the Set button to start the Display test.

3.3.23 Diagnostic Mode - Refrig. Test



The display will communicate to the user the following information during a Refrigeration Test:

Inlet = Temperature and RH/Grains

Outlet = Temperature and RH/ Grains

Hours = Life hours only.

Evaporator Coil = Temperature

Countdown timer = 20 minutes

Once the 20 minute countdown timer has expired, the display will automatically advance to show the refrigeration test results. The display will communicate to the user either “Refrig. test passed” or “Refrig. test failed”.

Press the Next button to return to the first diagnostic test or press and hold the Next button for 3 seconds to return to the Dashboard.

3.4 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 6 meters (20 feet) with the attached hose. If the condensate must be pumped more than 6 meters (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.

3.5 Ducting

A wire duct collar is supplied to allow 10” lay-flat duct to be attached to the Quest CDG 74 outlet. 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.

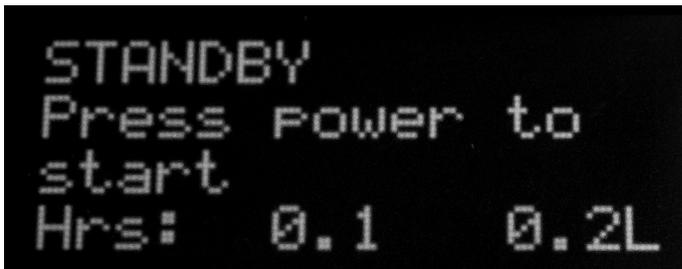


3.6 Defrost Cycle



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 PLC and Status Light Indicator. 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.

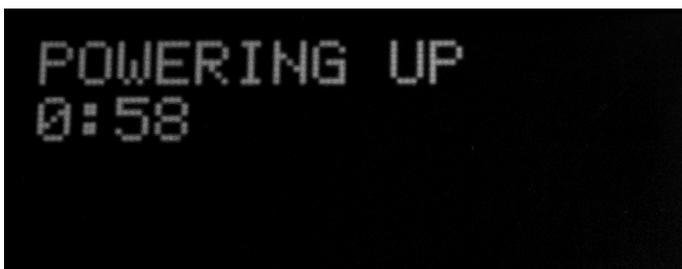
3.7 POWER Button



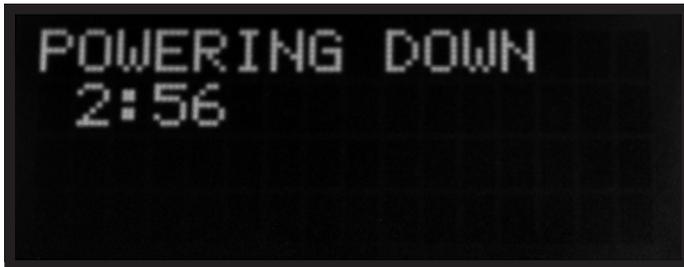
When the dehumidifier is plugged in it will enter stand-by mode.



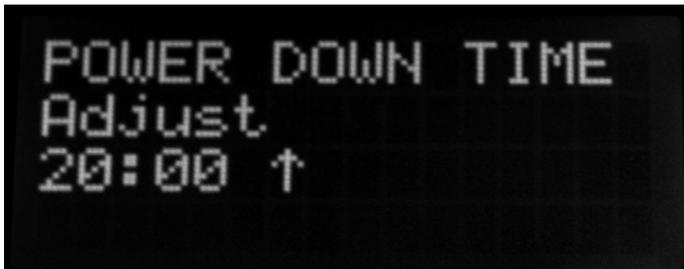
Press the  button to turn the dehumidifier on. The unit will begin the Powering Up sequence and you will see this screen:



Press and hold the  to turn the dehumidifier off. The dehumidifier will go through a powering-down cycle.



The default shut-down time is three minutes plus 20 seconds for a final purge. The shutdown time can be changed by scrolling through the menu to this screen.



Important - Unplugging the unit without running the shutdown sequence will allow water to remain in the unit after use. If the unit is tilted more than 20 degrees on the non-handle side, water may spill out of unit.

3.8 PURGE Button

During normal operation the pump automatically cycles when the reservoir is full.



Press the  button to remove condensate manually from the reservoir.

4. Maintenance

4.1 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. Replacement filters can be ordered from the manufacturer or purchased locally if available. **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.

4.2 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:

Use the pump PURGE button to reduce the water level in the reservoir.

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:

Run the condensate hose to a sanitary sewer drain.

Plug the unit in but do not turn it on.

Use the PURGE button to remove the chemical in the pump. Run the pump until it runs dry

Walk out the hose to drain it completely

Replace the filter.

5. Service

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: Do not operate unit without the top cover in place.

CAUTION: Do not operate unit without the top cover in place.

5.1 Technical Description

The Quest CDG 74 uses a refrigeration system similar to an air conditioner's to remove 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.

5.2 Troubleshooting

No dehumidification, control does not light up and unit will not turn on from power button.

1. Unit unplugged or no power to outlet
2. Defective control board
3. 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 control board
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 and/or temperature measurement is out of calibration
3. Defective defrost thermistor
4. Defective humidity sensor

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
6. Float switch

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 control board

5.3 Air Mover

The air movement is created by an impeller.

If defective, the complete assembly must be replaced.

1. Unplug power cord
2. Remove the exhaust and control board
3. Disconnect the impeller leads
4. Remove the impeller bracket
5. Remove the four screws holding the impeller to the mounting plate
6. Reassemble the new impeller using the above procedure in reverse

5.4 Thermistor Probe

A thermistor is used to sense the temperature of the evaporator coil. It is inserted into the evaporator coil thru the top. To replace the thermistor probe:

1. Unplug the dehumidifier
2. Remove the top housing
3. Pull thermistor probe up and out of evaporator coil
4. Remove control board cover
5. Unthread thermistor probe wire from harness
6. Unplug thermistor probe connector on control board
7. Reassemble thermistor probe and dehumidifier using the above procedure in reverse

5.5 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 top 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 bottom housing
5. Replace the pump, hose, wiring, bolts, and housing in the reverse order

5.6 Float Switch

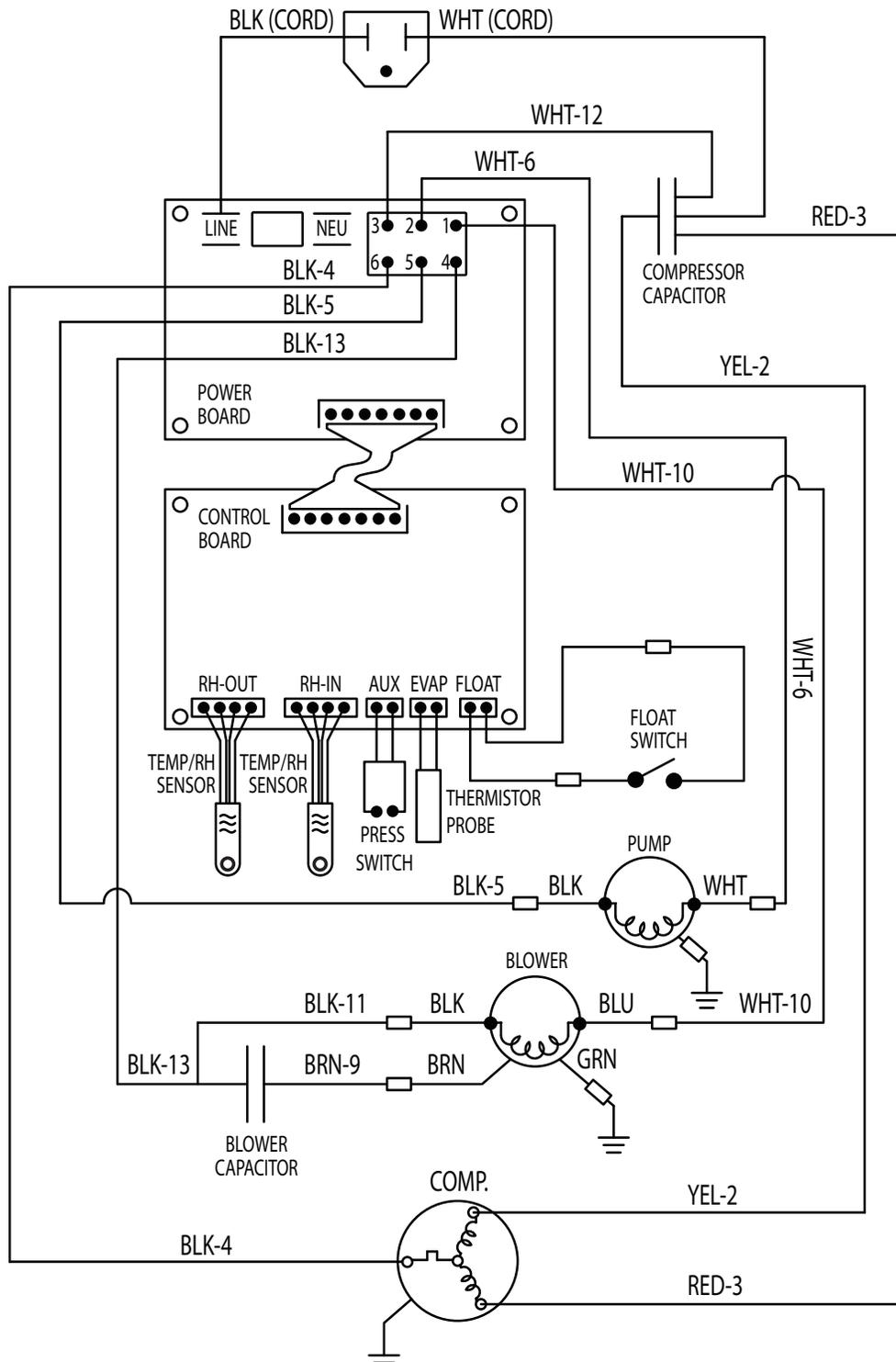
The float safety switch activates the pump when the water rises too high in the condensate reservoir. The float switch also turns off the compressor until the water level lowers and disengages the switch. To replace the float switch:

1. Unplug the unit
2. Remove the top housing
3. Unplug the Float switch wires from the wire harness
4. Remove the one screw attaching the pump bracket to the bottom housing
5. Unscrew the float switch from the bracket
6. Replace the float switch from the bracket

6. Options & Accessories

4038477 Air Filter, Pleated 9" x 12" x 1" MERV-8

7. Wiring Diagram



8. Service Parts

| Part No. | Description | Part No. | Description |
|-----------------|-----------------------------|-----------------|---------------------|
| | | 4034916 | Condensate Hose |
| 4036959-02 | Condensate Pump | 40378471 | Handle Bushing RH |
| 4037719 | Float Switch | 4036945 | Handle Bracket RH |
| 4036957 | Float Bracket | 4036942 | Handle Weldment |
| 4038479 | Compressor | 4037848 | Handle Bushing LH |
| 4036934-02 | Micro Channel Condenser | 4036946 | Handle Bracket LH |
| 4034716-04 | Evaporator Thermistor 9.75" | 4038477 | Filter |
| 4036848 | Humidity/Temp Sensor | 4037341 | Inlet Grill |
| 4037429 | Control Board | 4036962-06 | Upper Housing Black |
| 4036928 | Exhaust Grill | 4036925-01 | Lower Housing Black |
| 4037048 | Duct Ring | 4035949-02 | Capacitor 25 MFD |
| 4036936 | Axle | 4037221-03 | Capacitor 3 MFD |
| 4036935 | Rubber Wheel | 4031516 | Capacitor Clamp |
| 4038478 | Impeller | | |

50Hz Quest CDG 74 Limited Warranty

Warrantor:

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

Who Is Covered: This warranty covers Quest CDG 74.

FIRST YEAR WARRANTY: Therma-Stor LLC warrants that, for one (1) year the Quest 155 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 Products. To obtain warranty service you must obtain a return material authorization (RMA). To obtain an RMA you must present proof of purchase or (lease), by use of a warranty card, original sales receipt or other reasonable and reliable means.

To obtain an RMA call Therma-Stor LLC at the above number and ask for the Therma-Stor LLC Service Department, which will then issue an RMA# and arrange for, at our option, either repair or replacement.

Freight: Freight to and from the servicer is the responsibility of the end-user. The end-user is responsible for normal care and proper return packaging.

Limitations and Exclusions: 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.

If any Quest CDG 74 part is repaired or replaced, the new part shall be warranted for the balance of original warranty (but all warranty periods will be extended by the period of time, if any, that the Quest CDG 74 with FOCUS Technology is out of service while awaiting covered warranty service).

Warranty service will be performed during normal working hours.

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 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.