Quest PowerDry 4800D 600V

Installation, Operation and Maintenance Instructions

Read and Save These Instructions –

This manual is provided to acquaint you with the desiccant 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.

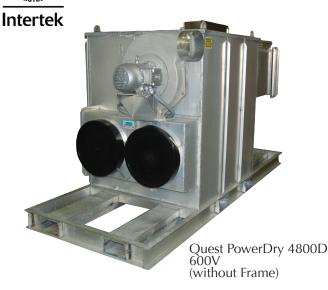
Quest PowerDry 4800D 600V:

- 3032 Pints/day AHAM
- 4800 CFM process airflow
- Dries in temperatures to 140°F
- Reaches dew points as low as -40°F
- 48"W x 120"L x 74"H
- 1600 lbs. (Standard machine weight only)
- 600 volt 3-phase
- 88 full load amps

Water Removal Rates (Pints/Day)

3032 Pints 80°F, 60% (AHAM)





PN 4034800





4201 Lien Rd. Madison, WI 53704 www.QuestProtect.com Phone 608-237-8400 Toll-Free 1-866-933-7486 sales@QuestProtect.com

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Serial No				
Purchase Date				
Пρ	aler's Name			

Read the operation and maintenance instructions carefully before using this unit. Proper adherence to these instructions is essential to obtain maximum benefit from your Quest PowerDry 4800D 600V.



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 PowerDry 4800D 600V.



1. Specifications

Part No. 4034810 (with Frame)

Part No. 4034800 (without Frame)

Power 600 VAC, 3-Phase, 88 FLA

Water

3032 pints/day @ AHAM

Removal

Blower 4800 CFM Process Air Flow

2000 CFM Reactivation Air Flow

Operating

-10°F to 140°F

Range

Filters Process filter size: (2) 20" x 20" x 2"

Reactivation filter size: (1) 20" x 20" x 2"

Duct Options Process Inlet: 18" Flex-Duct

Process Outlet: 18" Flex-Duct/Lay Flat Reactivation Inlet: 18" Flex-Duct Reactivation Outlet: 10" Flex-Duct

Warranty 2 years:

1st year Parts and Service 2nd year Silica Gel Rotor

Dimensions

Unit
Width 48"
Height 74"
Length 120"
Weight 1600 lb

Accessories

4028364 18" x 25', 6" Pitch, Heavy Duty PVC/Polyester Duct

4029256 18" Lay Flat Duct

4035579 20" x 25', 4" Pitch, Heavy Duty PVC/Polyester Duct

4027327 External Temperature control

4020175 External Dehumidistat

Air Filter Replacement

4028635 20" x 20" x 2" Filter (3 per unit)

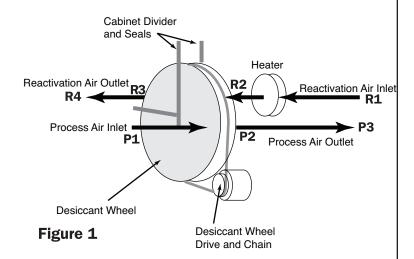


^{*}Low temperature performance is dependent on reactivation air source. Supplying warmer reactivation air will significantly increase water removal.

2. Operation

The function of the dehumidifier is to remove moisture (in the vapor state) from an air stream. This is accomplished by exposing the air to an adsorbing media (desiccant) in a sealed air stream (process). After the desiccant has adsorbed moisture, it is exposed to a second air stream at an elevated temperature (reactivation). This causes the moisture to be driven out of the desiccant preparing it for more moisture adsorption. This process is done on a continuous basis, providing a constant drying process. The two air streams (process and reactivation) are separated by seals, which contact the desiccant media. Figure 1 illustrates the relationship of the seals and airflow pattern. The dehumidifier is designed with the two air streams flowing in opposite directions (counter flow) thereby maximizing the energy efficiency of the equipment.

Principle of Operation



2.1 How the Quest PowerDry 4800D 600V Works

The Quest PowerDry 4800D 600V has two separate air streams that run through it – Process and Reactivation (Fig. 1).

Process Air Stream:

- P1 4800 CFM of air enters the machine (Process Air Inlet) and...
- **P2** ...water vapor from incoming air is deposited (adsorbed) on the desiccant wheel.
- **P3** 4800 CFM of dry air exits the machine (Process Air Outlet).

Reactivation Air Stream:

- **R1** 2000 CFM of air enters the machine (Reactivation Air Inlet) and...
- **R2** passes over the heater coils.
- R3 Water vapor is picked up (desorbed) from the desiccant wheel by the hot air and...
- **R4** ... 2000 CFM of wet air exits the machine (Reactivation Air Outlet).

3 Installation

Proper installation is critical to the performance of the Quest PowerDry 4800D 600V. Follow the guidelines below to maximize service life and performance.



3.1 Inspection

Thoroughly inspect the machine to insure no damage has occurred during shipping or on the job site.

3.2 Location

Note the following precautions when locating the Quest PowerDry 4800D 600V:

The PowerDry 4800D 600V is designed to be used indoors or outdoors.

If the humid area is very large, dehumidification can be improved by adding an outlet duct to circulate process air to stagnant areas.

3.3 Set-Up

When conditions warrant the use of a desiccant dehumidifier, use one of the setups described below to achieve efficient drying, while avoiding secondary damage. Review Section 2.1 to understand the desiccant drying process. Always ensure that the Reactivation Outlet duct is vented to the outdoors to minimize the possibility of secondary damage.

Neutral Pressure Setup

Many drying applications require neutral pressure operation. In this setup, the Process Air Inlet pulls air from the affected area (drying chamber) and returns dried, processed air to the affected area via the Process Air Outlet.

The Reactivation Air Inlet and Outlet are both ducted to the outdoors (or left open if the unit is set up outside).

Positive Pressure Setup

For Positive Pressure operation, the Process Air Inlet pulls air from outside the drying chamber, while the Process Air Outlet is ducted into the chamber.

3.4 Ducting

The duct requirements of the PowerDry 4800D 600V are much more critical than those of refrigerant-based dehumidifiers. **ALL SUPPLY AND RETURN AIR DUCTING FOR THE PowerDry 4800D 600V MUST BE AIR AND VAPOR TIGHT.** This is extremely important for proper performance. Ensure that reactivation discharge air does not enter the process or reactivation inlets.

Using excess duct length significantly reduces air flow volume through duct. This is true in any application. If the job at hand needs a short length of duct, cut a section to the appropriate length. If air flow is restricted by excess length, performance will suffer. The same can be said of excess bends in the ducting.

Two different duct sizes are used on the PowerDry 4800D 600V. All ducting materials are available from Therma-Stor LLC

(see accessories list in Section 1).

Process inlet / Reactivation inlet: 18" flex duct.

To attach flex ducts to the process air intake, push the wire of the first few loops beyond the 2 holes in the duct collar. Push the metal rod through the duct and duct collar piercing the duct in two places. Tape or a hose clamp can be used to create an airtight seal. Alternatively, the duct wire can be pushed past the weld beads on the duct collar and the duct can be secured with hose clamps or ratcheting straps. If using only one inlet connection, the other can be left closed.

Process outlet: 18" flex or lay flat plastic duct.



To attach flex ducts to the process air outlet, push the wire of the first few loops beyond the 2 holes in the duct collar. Push the metal rod through the duct and duct collar piercing the duct in two places. Tape or a hose clamp can be used to create an airtight seal. Alternatively, the duct wire can be pushed past the weld beads on the duct collar and the duct can be secured with hose clamps or ratcheting straps.

When using 18" lay flat ducting, slip over the outlet collar and zip-tie or duct tape in place.

Reactivation outlet: 10" flex duct or lay flat.

To attach flex duct to the reactivation air outlet, push the wire of the first couple of loops beyond the weld beads on an outlet collar. Secure with hose clamp.

3.5 Avoiding Secondary Damage

The Quest PowerDry 4800D 600V is a powerful tool capable of removing a great deal of water from most environments. Care must be taken to avoid secondary damage of over-drying and or unexpected condensation.

The Quest PowerDry 4800D 600V removes vapor water from the incoming process air stream and transfers it to the outgoing reactivation air stream. The reactivation exhaust air is hot and wet.

Take care to prevent the reactivation exhaust air stream from causing secondary damage due to condensation. Always ensure the Quest PowerDry 4800D 600V is located with the reactivation outlet pointed such that reactivation air will NOT be drawn back into the structure.

The Quest PowerDry 4800D 600V does not produce liquid water internal to the machine. There is no condensate pump and no drain hose.

The Quest PowerDry 4800D 600V desiccant dehumidifier will continue to remove water from already dry, cold air. It is possible to over-dry objects and or structures.

Care must be taken to avoid secondary damage due to over-drying.

3.6 Electrical Requirements

A 600 volt, 3 phase power source is required to operate the Quest PowerDry 4800D 600V.

All local and state codes must be strictly adhered to and good electrical practices should be followed to achieve the best installation possible. The PowerDry 4800D 600V must be properly wired to an adequate power source. Serious damage to the motors and controls can occur if incorrect voltage is applied.

(See **Electrical Schematic** drawing in the back of this manual for internal wiring.)

4 Operating Instructions

Refer to the Operating Instructions label located next to the control panel of your PowerDry 4800D 600V.



User-supplied power cord, cord grip, and branch protection appropriate for the electrical load must be supplied. See device for FLA rating.

The Quest PowerDry 4800D 600V dehumidifier comes complete and ready for operation. All that is required is to provide the proper power source, propane supply, and duct connections (described above).



4.1 Connect and Start-Up Procedure

- 1. Lockout Power Source.
- 2. Wire unit 600 Volt 3 Phase.
- 3. Verify Selector Switch is set to STANDBY.
- 4. Engage Power Source and turn Main Disconnect to ON.
- 5. Verify PHASE OUT light is off, if not, re-wire power source to correct phase order.
- 6. COOL DOWN light will come on for 5 minutes.
- 7. Set Selector Switch to RUN.
- 8. Set process damper to obtain a maximum of 1.5" water column pressure as read on pressure gauge.

4.2 Cool Down

- 1. Set Selector Switch to STANDBY.
- 2. COOL DOWN light will come on for 5 minutes.
- 3. When COOL DOWN light is off, Main Disconnect can be switched to OFF.

Failure to follow **COOL DOWN PROCEDURE** may result in damage to unit due to overheating. **ALWAYS** follow **COOL DOWN PROCEDURE** before shutting unit down.

4.3 Shut Down & Disconnect Procedure

- 1. Verify COOL DOWN light is not illuminated and Cool Down Procedure has been followed.
- 2. Turn Main Disconnect Switch to OFF.
- 3. Disengage Power Source.
- 4. Lock Out Power Source.
- 5. Disconnect Power Cable.

5 Control Panel

5.1 Main Disconnect

The main disconnect switches power from the source to the panel. Power must be disconnected at the source prior to accessing control panel. Access to the control panel with power applied is ONLY by qualified service personnel with the appropriate personal protective equipment

Power is present up to disconnect even in OFF position. Disconnect power at the source before opening panel.

5.2 Standby Light

The STANDBY indicator lamp illuminates to indicate that power is supplied to the control panel.



5.3 Phase Out

The PHASE OUT indicator lamp illuminates to indicate that the 3-phase power is not correctly wired into the power supply. Change the wiring at the power supply connection to correct the phase order.

5.4 Selector Switch

When the selector switch is moved to the "RUN" position, the PowerDry 4800D 600V starts dehumidifying. The machine will continue to dehumidify in all conditions until the power is turned off. No dehumidistat is provided to monitor process inlet air condition (see over-dry warning section 3.5). An external control (dehumidistat, thermostat or other contact) can be wired in place of the jumper across terminals 3040 and 3042. The external control must be designed to operate a 115 VAC circuit.

The PowerDry 4800D 600V has one control device, the power switch. When the power switch is moved to the "on" position your portable desiccant is dehumidifying. The machine will continue to dehumidify in all conditions until the power is turned off: There is no dehumidistat (see over-dry warning section 2.2).

5.5 Alarm (Light and Horn)

The alarm indicator lamp illuminates (and horn sounds) to indicate that a fault condition exists. The fault conditions could be:

- Motor Overload (process or reactivation)
- Reactivation Temperature greater than 375°F
- No dehumidification (i.e. saturated wheel)
- Low reactivation airflow
- Stuck heater contactor

An external alarm can be wired to terminals 3080 (power) and X2 (neutral). This would supply 115 VAC during an alarm condition.

5.6 Hour Meter

The hour meter will run whenever the PowerDry 4800D 600V is operating. This hour meter measures the cumulative time of operation in one-tenth hour increments. This meter is often used to verify hours on a job or to schedule maintenance.

6 Maintenance

6.1 General Maintenance

A definitive time schedule should be established for inspecting all rotating parts and components. Inspection requirements depend on the frequency of operation, transport, and operating conditions. Periodically check the condition of the air filter, rotating parts, and fasteners to ensure they are secure and in proper working order. Periodically check airflow to make sure there are no obstructions to airflow in outlet or inlet ductwork.

Recommended minimum inspections:

- Upon installation
- After 1 week of operation.
- Annually thereafter or upon loss of performance.



6.2 Cabinet



Disconnect power before removing access panels.

Remove panel fasteners and panels from unit to access internal components. The condition of the cabinet gaskets should be observed during inspection and servicing to insure a good seal. Any leaks must be sealed and panels securely fastened for proper dehumidifier operation.

6.3 Filter

The maintenance interval for the filter depends directly on the cleanliness of the air entering the dehumidifier. It is suggested that a program be established to assure that the filters are replaced or cleaned prior to becoming clogged to the point they create a system problem.

Three aluminum (20"x20"x2") air filters must be checked regularly. Two filters are located near the process air inlet. The other one is located near the reactivation air inlet.

Wash the filters with fresh water. Clean the filter from the downstream side, forcing debris toward the filter inlet. Dry the filters completely before installing them in unit. Replacement filters can be ordered from the factory or purchased locally if available.

DO NOT operate the unit without the filters or with less effective filters as the desiccant wheel inside the unit will become clogged and require disassembly to clean.

6.4 Blower and Motor

Blower and motor bearings are permanently lubricated and do not require maintenance. Blower wheel - inspect wheel blades for accumulation of dust and dirt. Clean thoroughly with compressed air and or vacuum. The wheel should not strike the housing or the inlet ring. Make sure wheel is rotating in the proper direction.

6.5 Drive Motor

The media drive motor is permanently lubricated and requires no maintenance.

6.6 Rotor Drive Chain

A spring loaded tensioner keeps the chain sufficiently tensioned. Check the chain for signs of excessive wear. Replace as necessary. If additional tension is required, simply tighten the nuts on the tension springs as required.

6.7 Seals

High temperature seals separate the process and reactivation compartments. Normally, the seals will not require service or replacement. However, should damage occur, or if poor performance as the result of an air leak is suspected, the following inspection must be performed to determine whether the seals should be replaced:

Inspection:

- 1) Turn the unit off and remove the access covers.
- 2) Visually inspect for gaps between the desiccant media and the seals.
- 3) If significant gaps, wear, or damage are observed, the seal needs to be replaced.



6.8 Desiccant Media

The silica gel desiccant media supplied with the dehumidifier will last indefinitely under ideal conditions. Due to the nature of desiccants they make very good filters. The life of the desiccant is directly related to the airborne contaminates passed through it. Atmospheric contaminants, exposure to acidic gases/or air streams, and contact with petroleum-based airborne particles can reduce the efficiency of the desiccant media. The preferred method of cleaning is to blow dust out with compressed air. Proper filtration and preventing contact with chemicals will greatly improve the life of the desiccant. Inspect the face of the media to see that no surface damage has occurred. If damage is noticed, please contact Therma-Stor at 1-800-533-7533 for assistance. The rotor should turn smoothly upon the shaft, if not check the support bearings.

ACAUTION

Servicing the Quest PowerDry 4800D 600V with its 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.

ACAUTION

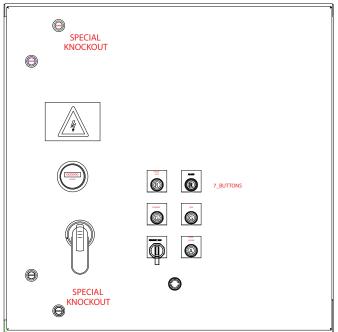
ELECTRICAL SHOCK HAZARD: Electrical power must be present to perform some tests; these tests should be performed only by a qualified service person.



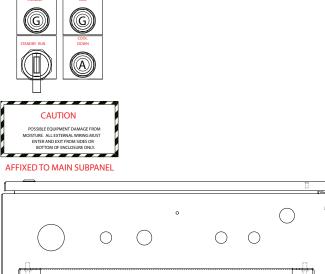
ENLARGED OPERATORS

(R)

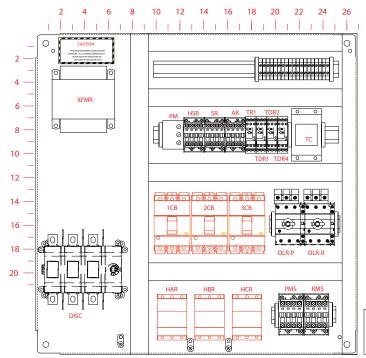
7 Panel Layout/Wiring Diagram







SUB-PANEL





ENLARGED TERMINALS



Installation, Operation and Maintenance Instructions Quest PowerDry 4800D 600V GND LL1 LL2 LL3 **POWER DISTRIBUTION** NON-FUSED DISCONNECT 200 AMP BRANCH PROTECTION SUPPLIED **(BY OTHERS)** 88 FLA LARGEST MOTOR 7.5HP LARGEST HEATER 24KW 4 4 4 #8 AWG PER PHASE TYPE MTW 90 DEG C COPPER #8 AWG PER PHASE TYPE MTW 90 DEG C COPPER FIELD DETERMINE L1 L2 ---1/1/1/1/1/---1T2 --1/1/1/1/-+ 1L3 L3 #8 AWG PER PHASE #8 AWG PER PHASE TYPE MTW 90 DEG C COPPER TYPE MTW 90 DEG C COPPER HRR 2T2 #8 AWG PER PHASE FIELD DETERMINE #8 AWG PER PHASE TYPE MTW 90 DEG C COPPER TYPE MTW 90 DEG C COPPER HCR 3T2 HEATER C 24 KW 24.1FLA 3L2 _ 3T3 3L3 L3 #14 AWG PER PHASE #14 AWG PER PHASE FIELD DETERMINE TYPE MTW 90 DEG C COPPER TYPE MTW 90 DEG C COPPER OLR-P 4L1 PROCESS MOTOR 7.5HP 3600 RPM 9.0FLA SF 1.25 L2 4L2 \sim \sim 4T3 4L3 (9.0-12.5A) SET AT 10.3A #14 AWG PER PHASE TYPE MTW 90 DEG C COPPER #14 AWG PER PHASE TYPE MTW 90 DEG C COPPER FIELD DETERMINE 5L1 O T O-____ 5T2 REACTIVATION MOTOR 5HP 3600 RPM 6.1 FLA SF 1.25 $^{\sim}$ $/\sim$ (6.3-9.0A) SET AT 7.0A #14 AWG PER PHASE TYPE MTW 90 DEG C COPPER 3 PHASE 4 MONITOR ③ #14 AWG PER PHASE TYPE MTW 90 DEG C COPPER FU1 L1 XL1 FU2 L2 XL2 $\overset{}{\rightarrow}$ 575VAC 2A #14 AWG MTW RED #14 AWG MTW WHITE 115VAC X2 4A TO SHEET 3 OF 4 TO SHEET 3 OF 4

Quest PowerDry 4800D 600V Installation, Operation and Maintenance Instructions CONTROL WIRING PM 3010 301 302 STANDBY RUN 303 TEMPERATURE CONTROLLER 304 REMOVE YELLOW JUMPER TO USE OPTIONAL EXTERNAL DEHUMIDISTAT 305 SR 306 RELAY 307 AR AR ALARM 308 RELAY 309 TC ALARM RED PILOT **9** 8 R 3 10 3 1 1 OLR-P HORN ALARM BUZZER 1/1 3 12 3 13 OLR-R ALARM EXTERNAL TERMINALS 3 14 HSR 3 15 3 16 DEHUMIDISTAT TDR1 3 17 DEHUMIDISTAT INTERNAL DEVICE TDR1 321 OLR-P 3220 PROCESS BLOWER MOTOR PMS 322 323 НМ 324 HOUR METER 325 TDR4 HCR HEATER BANK C 326 327 HEATER HBR 328 329 HEATER HAR (a) (s) 330 331 TDR2 332 333 334 335 336 SR 3040 RUN GREEN PILOT G 337 338 339 SR 3040 COOL DOWN TIMER 340 HSR 3040 GREEN PILOT STANDBY HBR HEATER SAFETY CIRCUIT HSR 349 400 401 402 OLR-R TR1 REACTIVATION BLOWER MOTOR 5 MIN HSR DESICCANT MOTOR 1/50HP 0.33FLA 120VAC

8 Troubleshooting

Trouble	Probable Fault	Probable Cause	Corrective Action
Unit Stopped	Power/Control	1. Main power off	Check main power and cable
(fan off, no	Failure	2. Main disconnect open	Close or replace disconnect
heater)		3. Selector switch open	Close or replace switch
		4. Dehumidistat	Repair or replace
Fan off	Power/Mechanical	1. Motor circuit breaker or	Reset circuit breaker or
(Rotor turns)	Failure	overload tripped	overload
		2. Contactor failure	Repair or replace
		3. Motor winding failure	Repair or replace
		4. Fan motor failure	Repair or replace
Unit running Excessive but humidity infiltration of		Excessive unconditioned make- up air	Reduce make-up air
rises	humid air into the controlled area	2. Leaking ducts or air handling equipment outside controlled area	Seal leaks
		3. Access opening to area not sealed	Close and seal
		4. Area not vapor tight	Seal with paint or vapor barrier
	Faulty humidity	1. Dehumidistat needs	Re-adjust
	controls	adjustment	
		2. Improper settings	Re-adjust
		3. Defective	Replace
	Inadequate air flow	1. Dirty filter	Clean or replace
		2. Obstruction at inlet, outlet or ducting	Remove obstruction
		3. Clogged desiccant media (high pressure differential across media)	Remove and replace media rotor
	Inadequate or no reactivation heat	1. Element failure	Check elements – repair or replace
		2. Low / no voltage	Correct power supply / breakers
		3. Control elements failure	Control set point / repair or replace
	Air seals and	1. Air leaking into dehumidifier	Replace access door gaskets
	gaskets	2. Air bypassing media or leaking seals	Check media position, replace seals
	Ineffective	1. Chain	Repair or replace
	desiccant media	2. Motor/gear box	Repair or replace
		3. Damaged desiccant rotor	Repair or replace
		4. Contaminated or damaged desiccant	Replace desiccant rotor



10 Detailed Sequence of Events - Control Operation

- 1. Turning on Main Disconnect at dehumidifier provides 600 VAC, 3 phase power to the control panel. Power is distributed to breakers for blower motors, heaters, and the control transformer. The control transformer supplies 115 VAC for control system and desiccant wheel motor.
 - a. PHASE OUT lamp, if illuminated, indicates the power supply is not connected correctly. Rewire power supply as needed.
 - b. STANDBY lamp illuminates.
 - c. Rotor motor terminals energize providing the desiccant motor with 115 VAC power. Desiccant wheel begins to rotate.
 - d. Reactivation motor starter (RMS) contacts close, starting the reactivation blower.
 - e. COOL DOWN light illuminates, indicating the timed heater cool down cycle has started.
 - f. Cool down time relay (TR1) starts the 5 minute heater cool down cycle. Contacts are normally closed, timed open (NCTO). Following the delay...
 - I. TR1 relay de-energizes, opening contacts for the COOL DOWN light and reactivation blower motor starter (RMS). Rotor motor terminals de-energize.

Note: The cool down cycle can be interrupted if the RUN position is selected and no alarm conditions are present.

- 2. Selecting the RUN position on the selector switch ...
 - a. Provides power to the temperature control (TC).
 - b. Energizes start relay (SR) if no alarm conditions are present (if latching alarm relay (AR) relay deenergized)
 - I. TR1 and COOL DOWN light de-energize. RUN indicator illuminates. RMS is energized. Pressure switch (PS1) contacts close when reactivation airflow reaches minimum level. Process blower time delay relay (TDR2) starts a 20 second delay.
 - II. After delay...
 - I. If PS1 contacts remains open due to lack of airflow, AR is energized and unit is not allowed to run. The effects are listed in 3a through 3d.
 - II. Otherwise, process motor starter (PMS) and hour meter are energized. Heater time delay relay (TDR4) 40 second timer is started.
 - III. Heater "A" relay (HAR) energizes if auxiliary contacts of RMS are closed and the temperature control calls for heat.
 - IV. Upon TDR4 reaching 40 seconds, remaining heat relays (HBR and HCR) are energized.
- 3. If temperature in reactivation heater plenum exceeds 375°F, TC will close its auxiliary contact, energizing AR.
 - a. ALARM lamp illuminates.
 - b. Alarm horn sounds.
 - c. Terminals 3080 and X2 energize. These terminals can be utilized for an external alarm (1 amp maximum).
 - d. TR1 starts the 5 minute heater cool down cycle. Following the delay...
 - TR1 relay de-energizes, opening contacts for the COOL DOWN light and RMS. Rotor motor terminals de-energize.



Reset alarm by turning the selector switch to STANDBY.

Probable causes for a high temperature fault are reduced air flow, dirty filter, incorrect reactivation blower rotation, or blower failure.

4. On a fault from an overload relay (OLR-P or OLR-R), AR energizes. The effect is listed in lines 3a through 3d.

Turn the selector switch to STANDBY, allowing the cool down cycle to complete before turning OFF the main disconnect. Follow Lock Out – Tag Out procedure to de-energize the power cord supplying the 4800. Reset the overload relay located in the control cabinet. Close and secure cabinet door. Energize unit following proper Lock Out – Tag Out procedure.

Probable causes for a fault from an overload relay are insufficient restriction of airflow (overloading motor by allowing excessive airflow) or blower/motor failure.

5. On a fault from the internal process dehumidistat (process outlet air above 50% RH) that persists for 20 minutes, AR energizes. The effect is listed in lines 3a through 3d. Dehumidistat time delay relay (TDR1) provides a 20 minute delay for the removal of residual humidity desiccant during startup.

Reset alarm by turning the selector switch to STANDBY.

Probable causes for a fault from the internal dehumidistat are heater failure or desiccant failure.

6. On a fault from a stuck heater contactor, AR will energize and the reactivation blower will remain on continuously. The rotor will continue to turn, but the process blower will NOT come on. Shut off power with the main disconnect and replace the inoperable contactor to clear the error.

No dehumidistat is provided to monitor process inlet air condition (see over-dry warning section 3.5). An external control (dehumidistat, thermostat or other dry contact) can be wired in place of the jumper across terminals 3040 and 3042. The external control must be designed to operate a 115 VAC circuit. Contact closure will start dehumidification. A control wired across terminals 3040 and 3042 will be in series with the selector switch. Turn the selector switch to RUN to operate the dehumidifier from an external control.

9 Service Parts

l	Item	Part No.	Qty.	Description
	1	4034566	1	Blower, Reactivation, 575V, 5HP
	2	4034567	1	Blower, Process, 575V, 7.5HP
	3	4028630	1	Probe, Thermocouple, Type J, 12"
4	4	4034569	3	Heating Element, 24KW
1	5	4020175	1	Dehumidistat
(6	4028771	1	Temperature Controller with
				Control Output Board, Relay SPST
	7	4034568	1	Control Box
ł	8	4030198	2	Fuse 2A
(9	4030199	1	Fuse 4A



Quest PowerDry 4800D 600V Desiccant 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 PowerDry 4800D 600V desiccant

dehumidifier, and may not be assigned or transferred.

One Year Warranty: Therma-Stor LLC warrants that, for one (1) year the Quest PowerDry 4800D 600V desiccant 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.

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, the end-user 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' reasonable control.

Limitations and Exclusions: If any Quest PowerDry 4800D 600V Desiccant 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 PowerDry 4800D 600V Desiccant Dehumidifier is out of service while awaiting covered warranty service).

UPON THE EXPIRATION OF THE WRITTEN WARRANTY APPLICABLE TO THE Quest PowerDry 4800D 600V DESICCANT 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 THERMASTOR LLC, IN CONNECTION WITH THE SALE, INSTALLATION, USE, REPAIR OR REPLACEMENT OF ANY Quest PowerDry 4800D 600V DESICCANT 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.

