

Quest PowerDry 385D Pro

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 385D Pro:

- Low dewpoint operation
- 115 Pints/Day @ AHAM
- Wide operating range
- 22 Amps total power consumption
- Factory installed 115VAC power cords (2 required @ 15 Amps each)
- Vertical or horizontal operation
- Multiple ducting options



Water Removal Rates (Pints/Day)

56 Pints	100° F, 20%
160 Pints	90° F, 90%
135 Pints	80° F, 80%
115 Pints	80° F, 60% (AHAM)
115 Pints	70° F, 80%
105 Pints	70° F, 60%
105 Pints	60° F, 80%
100 Pints	60° F, 60%
110 Pints	50° F, 80%
90 Pints	50° F, 60%
25 Pints	10° F, 80%



Therma-Stor[®] LLC

Driven by performance. Powered by design.™

4201 Lien Rd
Madison, WI 53704
www.QuestProtect.com

Phone 608-237-8400
Toll-Free 1-866-933-7486
sales@QuestProtect.com

Table of Contents

Safety Precautions3

1. Specifications4

2. Operation.....5

 2.1 How the Quest PowerDry 385D Pro Works....5

 2.2 Avoiding Overdrying5

 2.3 Universal Use Set-Up6

 2.4 Location6

 2.5 Electrical Requirements6

 2.6 Control Panel7

 2.6a Power Switch7

 2.6b Pilot Light.....7

 2.6c Hour Meter7

 2.7 Ducting Connections.....7

 2.8 Storage and Transportation8

3. Maintenance8

 3.1 Air Filter Replacement.....8

4. Service8

 4.1 Warranty Information.....9

5. Wiring Diagram9

6. Service Parts List.....10

 Warranty11

Serial No. _____

Purchase Date ____/____/____

Dealer's Name _____



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 385D Pro.

READ AND SAVE THESE INSTRUCTIONS

The Quest PowerDry 385D Pro 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:

- The Quest PowerDry 385D Pro is designed to be installed **INDOORS ONLY**.
- If used near water, the unit should be plugged into GFCI circuits
- **DO NOT** use the Quest PowerDry 385D Pro as a bench or table
- Avoid discharging the process air directly at people
- Reactivation outlet air **MUST** be discharged into a location that can tolerate high temperature, moist air.
- If the reactivation outlet ductwork passes through a cold space, the duct must be insulated to prevent condensation from forming inside the duct.

The Quest PowerDry 385D Pro supports multi-position operation and multiple ducting options. In **EVERY** case the Reactivation Outlet air **MUST** be ducted out of the drying space and to a location tolerant of high temperature moist air (usually outside).



1. Specifications

Part Number: 4029110

Power: 2 Circuits; 11Amps, 115VAC each
22 Amps total power consumption

Kilowatts: 2.5 (63 KWh/Day)

Capacity per Day: 115 Pints (80°F 60%RH)

Blower: 385 CFM Process Ariflow @ 0" ESP
75 CFM Reactivation Airflow @ 0"ESP

Temperature Range: -10°F to 140°F*

Filters: Process Filter Size: 16" X 20" X 2"
Reactivation Filter Size: 12" X 12" X 1"

Duct Connections Process Inlet: 12" Flex-Duct (optional)
Process Outlet: 10" Lay Flat collar (optional)
Reactivation Inlet: 6" Flex-Duct (optional)
Reactivation Outlet: 6" Flex-Duct (required)

Range: -10°F to 140°F*

Warranty: 1 Year Parts and Labor

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

Dimensions :

	Unit	Shipping
Width	24.25"	27.5"
Height	40"	45.5"
Depth	21.375"	22"
Weight	105 Lb	130 Lb

Accessories:

4026859	6" Metalized Polyester Flex-Duct 25' (Standard)
4020128	6" Insulated Flex-Duct 25'
4024750	12" Metalized Polyester Flex Duct 25'
4022537	10" Lay Flat Duct 500'
4024935	10" Lay Flat Duct 250'

Process Air Fiter Replacement:

4021475	16" x 20" x 2" MERV 11 Filter (Standard)
4024969	16" x 20" x 2" MERV 6 Filter (Optional)
4022164	16" x 20" x 2" MERV 14 Filter (Optional)

Reactivation Air Filter Replacement:

4026860	12" x 12" x 1" MERV 7 Filter (Standard)
4026315	12" x 12" x 1" MERV 8 Filter (Optional)



2. Operation

2.1 How the Quest PowerDry 385D Pro works

Your Quest PowerDry 385D Pro has two separate air streams that run through it – Process (Fig. 1) and Reactivation (Fig. 2).

Note: Check for airflow at all inlets and outlets. DO NOT run unit if no airflow is detected.

Process Air Stream:

P1 – 385 CFM of air enters (12" flex) the top of the machine and...

P2 – ...water vapor from incoming air is deposited on the desiccant wheel.

P3 – 385 CFM of dry air exits (10" lay flat) the machine.



Figure 1: Desiccant process air stream.

Reactivation Air Stream:

R1 – 75 CFM of air enters (6" flex) the lower-side of the machine and...

R2 – passes over the heater coils.

R3 – Water vapor is picked up from the desiccant wheel by the hot air and...

R4 – ...75 CFM of wet air exits (6" flex) the machine.

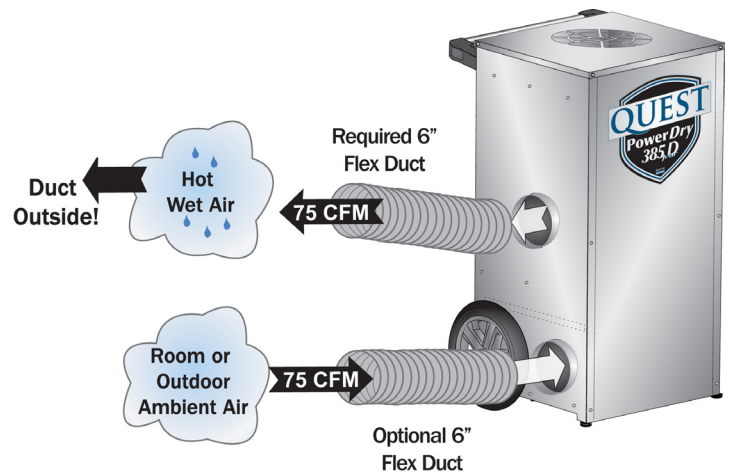


Figure 2: Desiccant reactivation air stream.

2.2 Avoiding Over-drying

The PowerDry 385D Pro is a powerful tool capable of removing a great deal of water from most environments. Care must be taken to avoid secondary damages of over-drying and or unexpected condensation. Your Quest PowerDry 385D Pro removes vapor water from the incoming process air stream (Fig. 1) and transfers it to the outgoing reactivation air stream (Fig. 2). The reactivation exhaust air is hot and wet.

! IMPORTANT

Take care to prevent the reactivation exhaust air stream from causing secondary damage due to condensation.

If the reactivation exhaust air stream cools below its dewpoint liquid water will condense inside the duct work creating puddles. If the reactivation exhaust air stream is not exhausted completely from the structure it can also cause secondary water damage.

Your Quest PowerDry 385D Pro does not produce liquid water internal to the machine. There is no condensate pump and no drain hose.

The PowerDry 385D Pro desiccant dehumidifier will continue to remove water from already dry, cold air. It is possible to over-dry objects and or structures.



! IMPORTANT

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

2.3 Universal Use Set-Up

When conditions warrant the use of a desiccant dehumidifier, use the set-up shown below (Fig. 3). This universal set-up will produce efficient drying, while avoiding secondary damage. The Quest PowerDry 385D Pro has been designed with the goal of being easy to use every time.

The Quest PowerDry 385D Pro comes complete and can be plugged in and turned on. Connected this way, the Quest PowerDry 385D Pro will run continuously.

Note: Check for airflow at all inlets and outlets. DO NOT run unit if no airflow is detected.

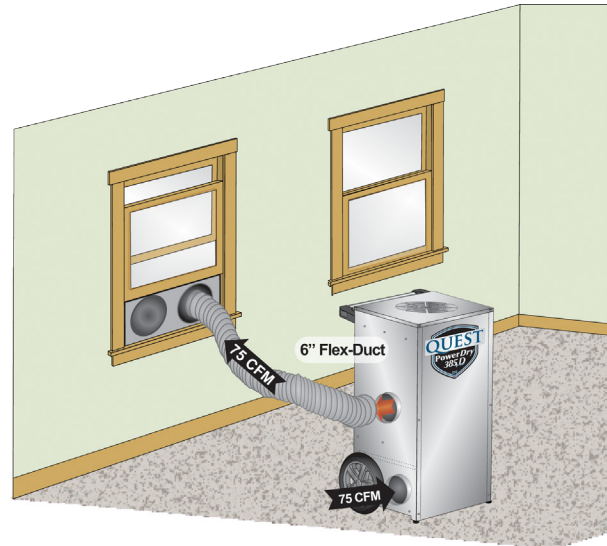


Figure 3: Universal PowerDry 385D Pro Set-up

2.4 Location

Note the following precautions when locating the Quest PowerDry 385D Pro:

! IMPORTANT

- It is designed to be used **INDOORS ONLY**.
- If used on a water loss work site, plug it into **GROUND FAULT CIRCUIT INTERRUPT (GFCI) OUTLETS**
- The air inlet on top and the side outlet must be at least 1 foot from walls and other air flow obstructions.
- If the humid area is very large, dehumidification can be improved by adding an outlet duct to circulate process air to stagnant areas.
- **DO NOT** use the Quest PowerDry 385D Pro as a bench or table.

2.5 Electrical Requirements

When used on a water loss work site, ground fault circuit interrupter (GFCI) outlets are required.

Your Quest PowerDry 385D Pro requires a total of 22 amps, 115VAC. In order to run at all, this machine must be plugged into two separate circuits each with a minimum of 11 amps dedicated capacity available.

The PowerDry 385D Pro has two separate power cords, each cord must be plugged into its own 15 amp circuit. If both cords are plugged into the same 15 amp circuit this circuit will trip when the unit is turned on.

Another situation to avoid is that one or both of the circuits which the PowerDry 385D Pro is using can be tripped by other appliances drawing power from either circuit. This can happen well after a job site has been set-up as in the case with a freezer compressor turning on.

Care must be taken to insure that the PowerDry 385D Pro always has sufficient power available to run without tripping breakers or blowing fuses.



If your location requires the use of an extension cord, use safe techniques in selection and connection. Such cords must be grounded and rated for carrying 11 amps: 14 gauge minimum for one extension less than 25ft in length or 12 gauge for one extension less than 50ft in length.

2.6 Control Panel

2.6A Power Switch

The PowerDry 385D Pro 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).

2.6B Pilot Light

The power indicator lamp illuminates to indicate that the PowerDry 385D Pro is functioning properly. This indicator is helpful when a job site is too noisy to know what equipment is running properly. At a glance from across the room the operator can verify that the PowerDry 385D Pro is operating as it should.

2.6C Hour Meter

The hour meter will run whenever your PowerDry 385D Pro is on. This digital hour meter measures the cumulative time of operation in one-tenth hour increments. This non-resettable time is often used to verify hours on a job or to schedule maintenance. When the PowerDry 385D Pro is un-plugged the timer will continue to hold and display the cumulative hours run.

2.7 Ducting Connections

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.

Three different duct sizes are used on the PowerDry 385D Pro. All ducting materials are available from Therma-Stor LLC (see accessories list section 1).

Process in: 12” flex duct.

To attach flex duct to the process air intake, push the wire of the first couple of loops down below the four tabs in the top cover.

Process out: 10” diameter lay flat plastic duct.

When inflated this ducting forms a 10” circle. 10” lay flat ducting attaches to the PowerDry 385D Pro by means of a 12”x 6” wire rectangle. To attach lay flat ducting to the process exhaust air (Fig. 1, P5), put the plastic duct end through the collar center and roll the plastic ducting’s end outward so that it overlaps the outside of the collar. The duct and collar quickly attach to the PowerDry 385D Pro by snapping over the four screw posts surrounding the process air exhaust (Fig. 1, P5).

Reactivation in & out: 6” flex duct.

Both reactivation air streams use the same type of duct connections.

The 6” flex ducting connections on the PowerDry 385D Pro consist of a detachable 6” starting collar. Slide 6” flex ducting over the starting collar and zip-tie or duct tape in place. To remove the starting collar (and its attached ducting length) depress the snap button and rotate the duct collar 15° clockwise. After rotating pull the duct collar straight out from the cabinet. Flex duct and collar may be stored beneath top cover.



2.8 Storage and Transportation

The Quest PowerDry 385D Pro can be transported and stored in either upright or horizontal positions.

There is a storage compartment under the top cover of your dehumidifier. This compartment is large enough to store reactivation collars, power cords, filter (as used), as well as additional small items that you may require on your job site.

3 Maintenance

3.1 Air Filter Replacement

The Quest PowerDry 385D Pro is equipped with two pleated fabric air filters that must be checked regularly.

Process air stream filter:

This 16"x20"x2" filter is located in the top of your PowerDry 385D Pro underneath the top cover. The stock filter supplied carries a MERV-11 filtration efficiency rating. This filter prevents loading the desiccant wheel with foreign matter.

Reactivation air stream filter:

This 12"x12 x1" filter is located in the bottom of your PowerDry 385D Pro. To change the reactivation air filter, lay the PowerDry 385D Pro down in a horizontal position. The filter access slot is located on the bottom of the machine (Fig. 4). Open retainment clip, remove old filter, and replace with fresh filter.

The stock filter supplied carries a MERV-7 filtration efficiency rating. This filtration prevents plugging the heater or loading the desiccant wheel with foreign matter.

Operating the unit with a dirty filter will reduce the dehumidifier's capacity and efficiency and may cause the heater coil to cut out on thermal overload.

The filter can generally be vacuumed clean several times before needing replacement. 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.

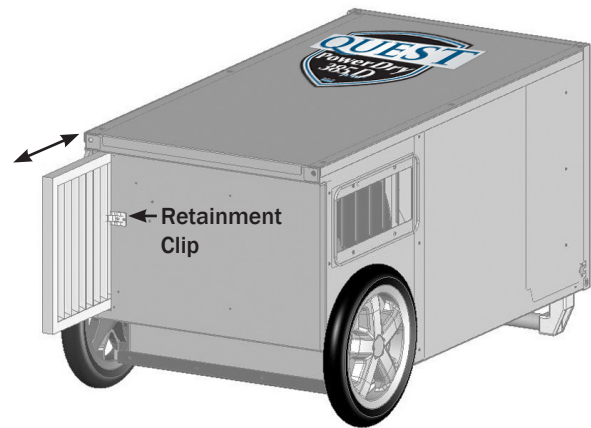
4 Service

CAUTION

CAUTION: Servicing the Quest PowerDry 385D Pro 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.

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

Note: Check for airflow at all inlets and outlets. Do not run unit if no airflow is detected.



4.1 Warranty

A warranty certificate has been enclosed with this unit; read it before any repair is initiated. If a warranty repair is required, call the factory first at 1-800-533-7533 Ext. 8459 for warranty claim authorization and technical assistance.

5 Wiring Diagram

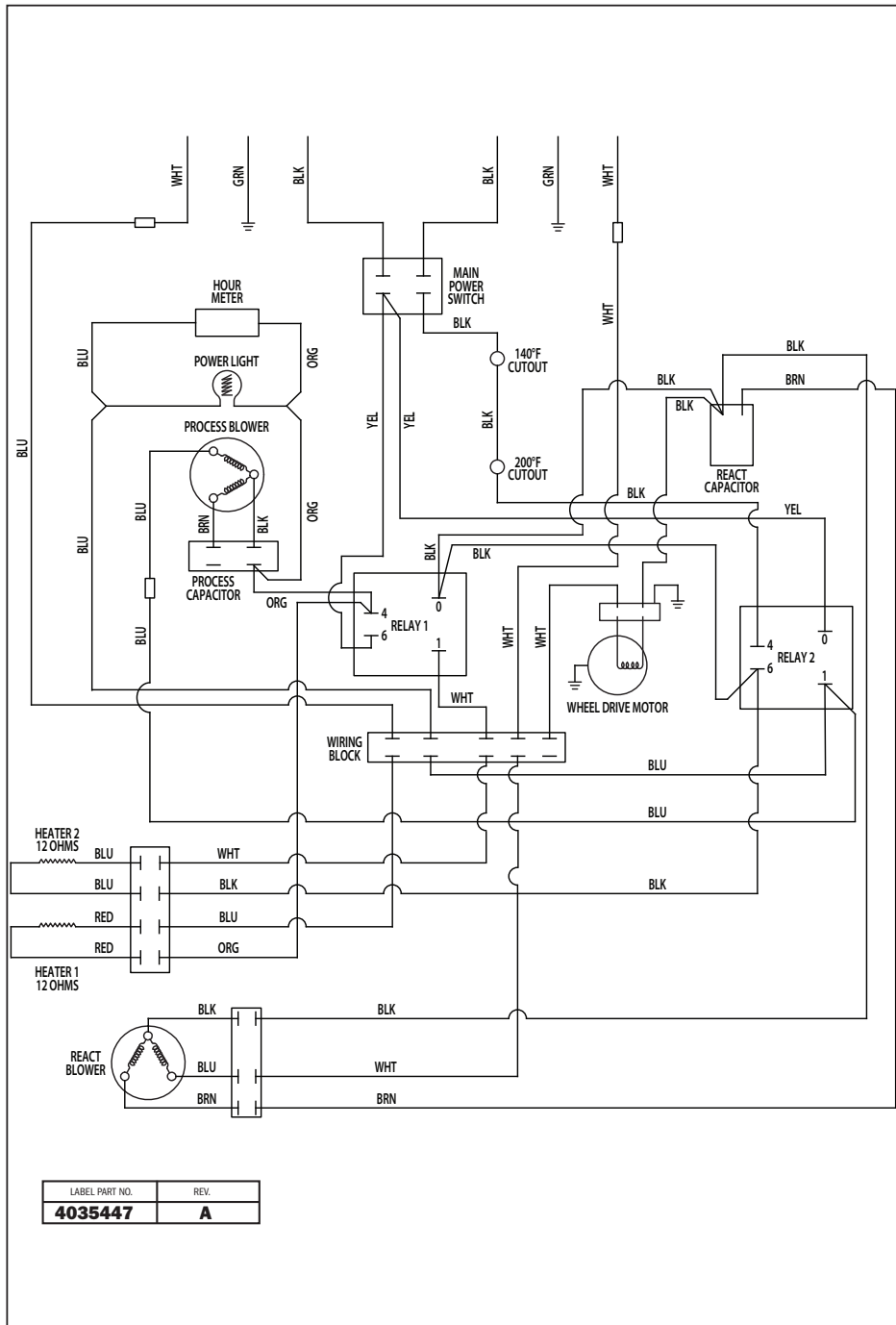


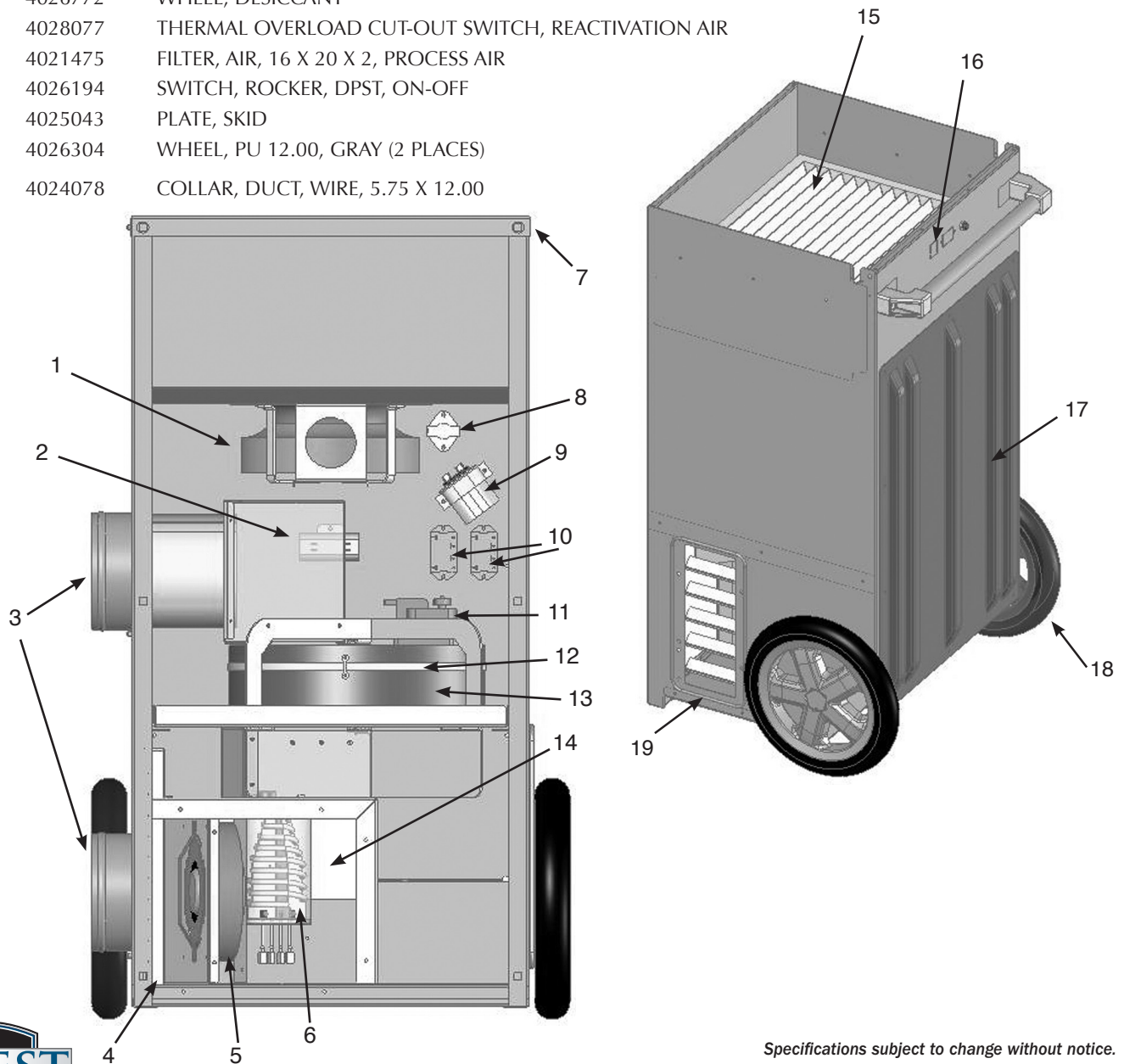
Figure 5: Electrical schematic of Quest PowerDry 385D Pro



6 Service Parts List

Item	Part No.	Description
1	4025076	FAN, MOTORIZED IMPELLER, PROCESS AIR
2	4033031-07	CAPACITOR, RUN, 15 MFD, 370V, DRY, PROCESS AIR
3	4026784	COLLAR, SHORT 6" REACTIVATION DUCT (2 PLACES)
4	4026860	FILTER, AIR, 12 X 12 X 1, REACTIVATION AIR
5	4026798	FAN, MOTORIZED IMPELLER, REACTIVATION AIR
6	4026799	HEATER CORE, PHX POWERDRY 385D PRO
7	4026777	TOP COVER, DESICCANT 385
8	4026898	THERMAL OVERLOAD CUT-OUT SWITCH, PROCESS AIR
9	4026830	CAPACITOR, RUN, 8 MFD, DRY, REACTIVATION AIR
10	1970010	CONTROL RELAY SPST 110VAC COIL 25AMP CONTACTS
11	4026773	MOTOR, DESICCANT WHEEL
12	4026795	BELT, DRIVE, QUEST DESICCANT
13	4026772	WHEEL, DESICCANT
14	4028077	THERMAL OVERLOAD CUT-OUT SWITCH, REACTIVATION AIR
15	4021475	FILTER, AIR, 16 X 20 X 2, PROCESS AIR
16	4026194	SWITCH, ROCKER, DPST, ON-OFF
17	4025043	PLATE, SKID
18	4026304	WHEEL, PU 12.00, GRAY (2 PLACES)
19	4024078	COLLAR, DUCT, WIRE, 5.75 X 12.00

Item	Part No.	Description
Not Shown	4032315	CORD
Not Shown	4026922	GASKET AND BELT REPLACEMENT KIT



Specifications subject to change without notice.



Quest PowerDry 385D Pro 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 385D Pro desiccant dehumidifier, and may not be assigned or transferred.

One Year Warranty: Therma-Stor LLC warrants that, for one (1) year the Quest PowerDry 385D Pro 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 385D Pro 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 385D Pro Desiccant Dehumidifier is out of service while awaiting covered warranty service).

UPON THE EXPIRATION OF THE WRITTEN WARRANTY APPLICABLE TO THE QUEST POWERDRY 385D PRO 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 THERMA-STOR LLC, IN CONNECTION WITH THE SALE, INSTALLATION, USE, REPAIR OR REPLACEMENT OF ANY QUEST POWERDRY 385D PRO 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.

