

Quest 215 Dual

Installation, Operation and Maintenance Instructions

– Read and Save These Instructions –

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

The **Quest 215 Dual** is the largest capacity of the group. This unit removes up to 215 pints of water per day using only 6.9 amps/230V. Ideally suited for commercial gardens and green houses.

Features:

- Industry-leading efficiency, most efficient on the market today
- Patented, optimized air-to-air heat exchanger
- High-efficiency, long-life impeller fan
- Quiet operation
- Superior air filtration (MERV-11 standard)
- Auto-restart after power outages
- Environmentally friendly R410A refrigerant
- Low voltage control



PATENTS:
D570,988
8,069,681
9,052,132

Water Removal Rates (Pints/Day)

215 pints	80°F, 60% (AHAM)	(215 Dual)
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Therma-Stor[®] LLC

Driven by performance. Powered by design.™

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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 215 Dual** indoor air quality system.

READ AND SAVE THESE INSTRUCTIONS

- The device is designed to be installed **INDOORS IN A SPACE THAT IS PROTECTED FROM RAIN AND FLOODING.**
- Install the unit with space to access the back or side panels for maintenance and service. **DO NOT INSTALL UNIT WITH THE SERVICE PANELS INACCESSIBLE.**
- Avoid directing the discharge air at people, or over the water in pool areas.
- If used near a pool or spa; be certain there is **NO** chance the unit could fall into the water, be splashed and that it is plugged into a **GFI GROUND FAULT INTERRUPT OUTLET.**
- **DO NOT** use the device as a bench or table.
- **DO NOT** place the device directly on structural members. Provide vibration isolation in order to minimize operational vibration and/or noise.
- A drain pan **MUST** be placed under the unit if installed above a living area or above an area where water leakage could cause damage
- 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 similarly qualified person in order to avoid a hazard.
- The unit shall be installed in accordance with national wiring regulations.
- Do not obstruct the air intake and exhaust. Maintain a .3 m (1 ft) clearance around the air intake and exhaust.
- 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. Children should be supervised to ensure that they do not play with the appliance.

1. Intended Application for Quest 215 Dual

The Quest 215 Dual is designed to operate in temperatures between 56° and 95°F.

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 215 Dual, water intrusion and air infiltration problems should be addressed or noted in calculations.

2. Registrations

The Quest 215 Dual units conform to unified standard UL 60335-2-40.

3. Specifications

Unit:	4035400 215 Dual	
Blower: (Tested with duct collars on)	526 CFM @ 0.0" WG 495 CFM @ 0.2" WG 458 CFM @ 0.4" WG	
Power:	1500 Watts @ 80°F and 60% RH	
Supply voltage:	220-240 VAC - 1 Phase - 60 Hz.	
Current Draw:	6.9 Amps	
Energy Factor:	2.9	
Operating Temp:	56°F Min - 95°F Max	
Minimum Performance @ 80°F and 60% RH:		
Water Removal:	215 Pints/Day	
Efficiency:	6.1 Pints/kWh	
Air Filter:	MERV-11 Size: 16" x 20" x 2"	
Power Cord:	10' 14/3 SJTW w/6-15P Plug	
Drain Connection:	3/4 Threaded NPT	
Dimensions:	UnitShipping	
Width:	37.875"	42"
Height:	21.75"	28.25"
Length:	20.25"	24"
Weight:	150 lbs	170 lbs

4. Installation

4.1 Location

The Quest 215 Dual 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 215 Dual as a bench or table.
- **DO NOT** place the Quest 215 Dual 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 215 Dual on supports that raise the base of the unit 2.5" above the top of the flanges on the drain pan beneath it. Raising the Quest 215 Dual will help the unit drain with gravity flow. Do not place the Quest 215 Dual directly on structural building members without vibration absorbers or unwanted noise may result.

The Quest 215 Dual 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.

The Quest 215 Dual should be located near the existing air handling system to minimize the required ductwork for connecting the Quest 215 Dual to the existing air handling system. The controls for the Quest 215 Dual are remote from the unit and must be located in the space that is to be conditioned. The controls are low voltage (24 volt) and should be connected to the Quest 215 Dual with low voltage thermostat cable.

4.2 Electrical Requirements

 **WARNING! DO NOT ALLOW THE YELLOW LEAD FROM THE Quest 215 Dual TO CONTACT THE RED LEAD OR WHITE LEAD FROM THE Quest 215 Dual OR DAMAGE TO THE TRANSFORMER WILL RESULT.**

The Quest 215 Dual plugs into a NEMA 6-15 Receptacle. The amp draws for each unit under normal operating conditions are listed on page 4. A ground fault interrupter protected circuit is required.

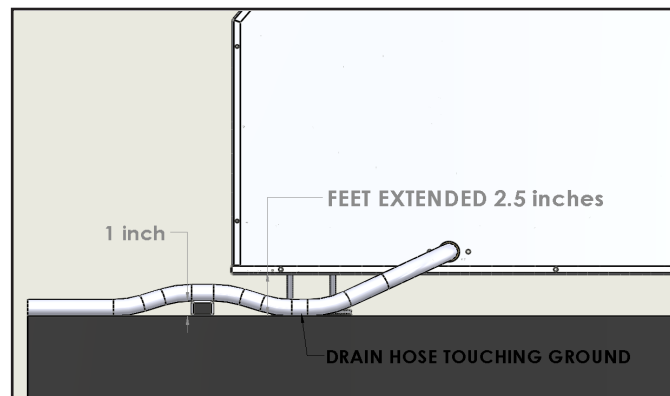
Install the remote control panel in a central area of the structure where it will sense the relative humidity of the structure accurately. Do not install the control panel where it may not accurately sense the relative humidity such as near HVAC supply registers, near exterior doors, or near a pool or spa. The installer must supply the wiring between the Quest 215 Dual 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 215 Dual and the remote control panel or damage to the transformer may result.

The remote controls of the Quest 215 Dual are powered by a low voltage circuit (24 VAC) and must NEVER contact or be connected to a high voltage circuit. The control wires leaving the Quest 215 Dual and the remote control panels are numbered and color-coded to prevent confusion. Some of the control wires leaving the Quest 215 Dual may not be used with certain control panels and should be left safely disconnected with wire nuts taped onto the stripped ends. Be sure to consult the electrical schematic in this manual or inside the access panel of the Quest 215 Dual before making the control connections.

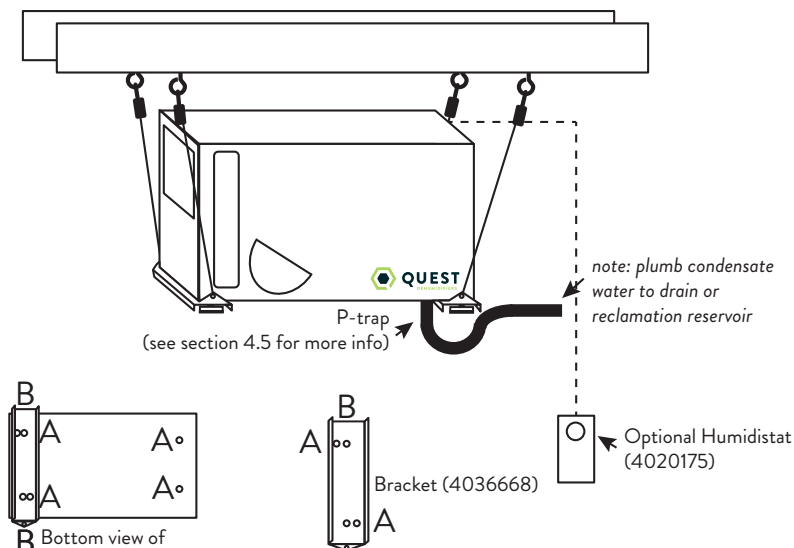
4.3 Condensate Water Removal

Condensate drains by gravity via the drain port. Use 3/4" male NPT PVC pipe. Route drain pipe to drain. Install a trap if possible. Take care when installing drain pipe to drain port. Use an adjustable wrench to secure the drain port. An optional condensate pump kit may be installed if a lift is required to dispose of the condensate. The condensate pump kit can be ordered directly from the factory. See the optional parts list for information on the kit.

When installing the drain hose make sure the feet are extended such that the dehumidifier is 2 1/2" off the ground. Then coil the drain hose under itself or position a spacer to lift the hose 1" off the ground after the hose has touched the ground. This procedure will create a trap that ensures your unit drains correctly. See the diagram below for further visual clarification.



4.4 Installation Diagram



4.5 Ducting

4.5A Supply Duct Kit (P/N 4028607)

A factory designed supply duct kit can be purchased to accept 10" ducting to both outlets of the Quest Dual. Contact your dealer or call 1-800-533-7533 to order.

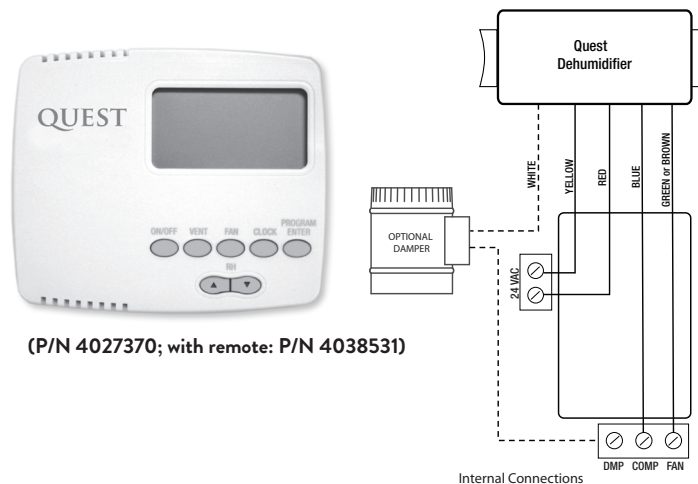
4.5B Return Duct Kit (P/N 4028610)

A factory designed return duct kit can be purchased to accept 12" ducting. Contact your dealer or call 1-800-533-7533 to order.

5. Control Options

The Quest 215 Dual can be equipped with various accessories to enhance its operation. A remote control must be used with the Quest 215 Dual. ThermaStor offers the DEH 3000 proprietary controller. The DEH 3000 allows homeowners the ability to monitor and control relative humidity levels in their home. This control is also offered with a remote sensing option.

WARNING: DO NOT allow the yellow lead from the unit to contact the red lead or the white lead from the unit or damage to the transformers will result.



The Quest 215 Dual is controlled using five color-coded wires.

Green (or brown) = Fan control

Blue = Dehumidification (fan and compressor) control

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

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

Yellow = transformer high side

Between the red/white lead and the yellow 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.

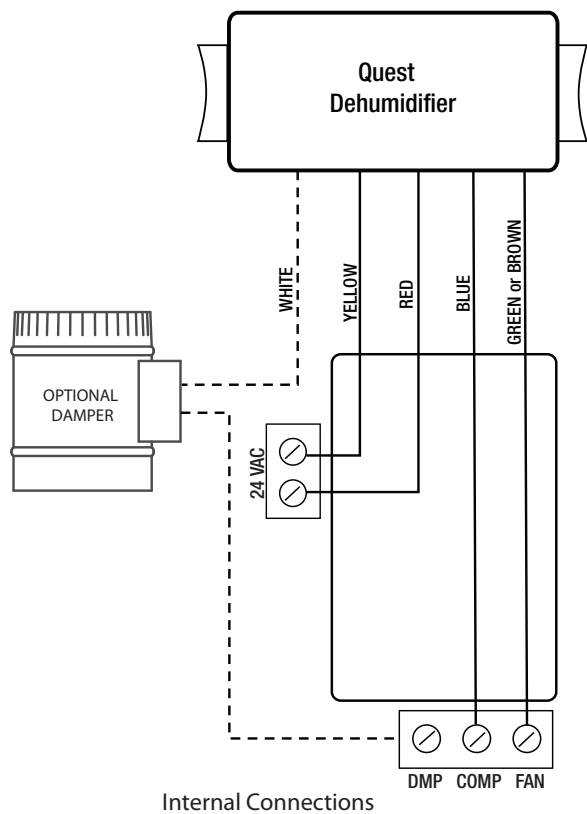
- To turn the dehumidifier on make contact between yellow and blue wires.
- To turn the fan on make contact between yellow and green(or brown) wires.
- To power an HVAC accessory, connect the accessory to the white (or red) wire and the yellow wire.

Dehumidifier on : Connect yellow and blue wires.

Fan only on : Connect yellow and green (or brown) wires.

Accessory power : 24volt AC power supply available for HVAC accessories between yellow and white(and/or red) wire. Red and white wires are common with each other.

Quest DEH 3000 dehumidification & ventilation control



Control Part No. 4027370



QUEST

DEHUMIDIFIERS

DEH 3000/DEH 3000R

Part No. 4027370

Part No. 4028531



6. Optional Dehumidifier & Ventilation System Controller

When used with Quest 215 Dual Whole Structure Ventilating Dehumidifiers, the DEH 3000/3000R allows end-users the ability to monitor and control relative humidity levels in their structure.

DEH3000 P/N:	4027370
DEH3000R (remote) P/N:	4028531
Model:	DEH 3000 DEH 3000R (remote)
Operating Voltage:	24 VAC
Max Current DMP, COMP, FAN:	1 AMP each
Humidity Range/Accuracy:	10 – 95% RH, \pm 5%
Auxillary Relay Capacity:	5 Amps, 24VAC
Temp Range/Accuracy:	30°-90°F, 2%
Size:	4.95"L x 1.06"W x 4.19"H

Major Operations

- Digital control of Relative Humidity (Digital Set-Point)
- Fan/Filter Operation
- Programmable Ventilation Timer
- Large, easy-to-read backlit LCD display
- Easy interaction with air handler fan (Interlock/Lockout)
- High Temperature Cut-Out
- Dryout Cycle Timer
- Auto Reboot
- Remote Sensor (DEH 3000R Only)

**To order call Therma-Stor at
1-800-533-7533**

7. Maintenance

7.1 Standard Air Filter

The Quest 215 Dual is equipped with a pleated cloth air filter. This filter should be checked every six months. Operating the unit with a dirty filter will reduce dehumidifier capacity and efficiency and may cause the compressor to cycle off and on unnecessarily on the defrost control.

To access the air filter, remove the filter access panel from the end of the Quest 215 Dual. The filter should be readily visible and can be removed by pulling them straight out of the Quest 215 Dual.

The pleated cloth 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 standard filter or with a less effective filter than the standard filter. The heat exchange coils inside the unit could become clogged and require disassembly to clean. Filter non-compliance invalidates the product warranty.

7.2 High Efficiency Air Filter - MERV 14

An optional high efficiency pleated microglass paper filter is available for the Quest 215 Dual. This filter is rated as 90%-95% efficient by the ASHRAE Dust Spot test method 52-76. The high efficiency pleated microglass paper filter should be used in conjunction with the standard filter, and placed directly beneath the standard filter.

This filter is able to remove allergy causing particles from the airstream. The high efficiency filter has a much larger surface area than the standard filter, thus the standard filter may need to be cleaned or replaced several times before the high efficiency filter requires replacement. Be careful not to damage the fabric media when handling the high efficiency pleated paper filter. Do not attempt to clean the high efficiency pleated paper filter. It should be replaced when it becomes restrictive (See Figure 7).

7.3 Impeller Fan Oiling

The impeller fan motor is factory lubricated for many years of normal operation, and no further oiling is required.

7.4 Optional Fresh Air Return

Check and clean the screen on the outdoor fresh air return seasonally. The screen may become plugged during the seasons when there are many particles in the outdoor air.

8. Service

8.1 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 for warranty claim authorization and technical assistance.

8.2 Technical Description

The Quest 215 Dual 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 (See Figure 15).

Hot, high-pressure refrigerant gas is routed from the compressor to the condenser coil (See Figure 3). 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 causes 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 nearly constant pressure and temperature across the entire coil, from inlet to outlet.

The mixture of gas and liquid refrigerant enter the accumulator after leaving the evaporator coil. The accumulator prevents any liquid refrigerant from reaching the compressor. The compressor evacuates the cool refrigerant gas from the accumulator and compresses it to a high pressure and temperature to repeat the process.

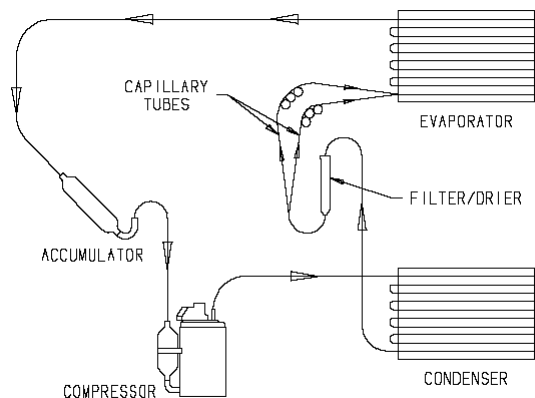


Figure 15: Refrigeration System of Quest 215 Dual

8.3 Troubleshooting

Neither fan nor compressor running. Dehumidification is being called for. No fan call.

1. Unit unplugged or no power to outlet.
2. Humidity control set too high.
3. Loose connection in internal or control wiring.
4. Defective Compressor relay.
5. Defective control transformer.

Compressor is not running. Dehumidification is being called for. No fan call.

1. Defective compressor run capacitor (Sec. 7.6).
2. Loose connection in compressor circuit.
3. Defective compressor overload (Sec. 7.6A).
4. Defective compressor (Sec. 7.6).
5. Defrost thermostat open.

Compressor cycles on and off. Dehumidification is being called for. No fan call.

1. Low ambient temperature and/or humidity causing unit to cycle through defrost mode.
2. Defective compressor overload (Sec. 7.6A).
3. Defective compressor (Sec. 7.6).
4. Defrost thermostat defective (Sec. 7.8).
5. Dirty air filter(s) or air flow restricted.

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 (Sec. 7.8).
2. Low refrigerant charge
3. Dirty air filter(s) or air flow restricted.
4. Excessively restrictive ducting connected to unit.

No ventilation. Ventilation is being called for.

1. Loose connection in ventilation control circuit
2. Loose connection in damper power circuit.
3. Defective fresh air damper.

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

1. Air temperature and/or humidity have dropped.
2. Humidity meter and or thermometer used are out of calibration.
3. Unit has entered defrost cycle (Sec. 5.8).
4. Air filter dirty (Sec. 4.1 & 4.2).
5. Defective defrost thermostat (Sec 5.8).
6. Low refrigerant charge (Sec. 5.4).
7. Air leak such as loose cover or ducting leaks.
8. Defective compressor (Sec. 5.6).
9. Restrictive ducting (Sec. 2.4).
10. Optional Condensate Pump Safety Switch open (Sec 5.11).

Unit Test to determine problem:

1. Detach field control wiring connections from main unit.
2. Connect the yellow and green pigtails from the main unit together; only the impeller fan should run. Disconnect the wires.
3. Connect the yellow and blue pigtails from the main unit together; the compressor and impeller fan should run.
4. If these tests work, the main unit is working properly. You should check the control panel and field control wiring for problems next.
5. Remove the control panel from the mounting box and detach it from the field installed control wiring. Connect the blue, yellow, and green wires from the control panel directly to the corresponding colored pigtails on the main unit. Leave the violet, white and red wires disconnected!
6. Turn on the fan switch; the impeller fan should run. Turn off the fan switch.
7. Turn on the humidity control; the compressor and impeller fan should run.
8. If these tests work, the problem is most likely in the field control wiring.

8.4 Refrigerant Charging

If the refrigerant charge is lost due to service or a leak, a new charge must be accurately weighed in. If any of the old charge is left in the system, it must be recovered before weighing in the new charge. Refer to the unit nameplate for the correct charge weight and refrigerant type.

8.5 Impeller Fan Replacement

The motorized impeller fan is a unitary assembly consisting of the motor and impeller fan. If defective, the complete assembly must be replaced.

1. Unplug the power cord.
2. Remove the cabinet access panel.
3. Remove the screw attaching the impeller fan support bracket to the base.
4. Disconnect the impeller fan leads inside the electric box.
5. Remove fan/bracket assembly by removing 3 screws from the bracket and inlet ring assembly.
6. Remove the defective impeller fan from the bracket and replace with it with the new impeller fan.
7. Reassemble the new impeller fan by reversing the above procedure. Note: There are two pins on the backside of the cabinet that must align with the two holes in the impeller fan support bracket.

8.6 Compressor/Capacitor Replacement

This compressor is equipped with a two terminal external overload and a run capacitor, but no start capacitor or relay (See Figure 4).

8.6A Checking Compressor Motor Circuits

Perform the following tests if the impeller fan runs but the compressor does not with the fan switch and ventilation timer OFF and the humidity control ON.

1. Unplug the unit; remove the cabinet side and the electrical connection cover on the compressor top.
2. Plug in the unit and turn the humidity control to ON. Check for 220 volts from compressor terminal R to overload terminal 3 using an AC voltmeter. If voltage is present, go to step 3. If no voltage, there may be a loose connection in the compressor circuit. Test each component for continuity. See the appropriate section if a defect is suspected.
3. Unplug the unit, and then disconnect the red and yellow wires from compressor terminals R & S. Using an ohmmeter check continuity between the points listed below.

4. Compressor terminals C and S: No continuity indicates an open start winding. The compressor must be replaced. Normal start winding resistance is 3 to 7 ohms.
5. Compressor terminals C and R: No continuity indicates an open run winding. The compressor must be replaced. Normal run winding resistance is .5 to 2 ohms.
6. Compressor terminal C and overload terminal 1: No continuity indicates a defective overload lead.
7. Overload terminals 1 and 3: If there is no continuity, the overload may be tripped. Wait 10 minutes and try again. If there is still no continuity, it is defective and must be replaced.
8. Compressor terminal C and compressor case: Continuity indicates a grounded motor. The compressor must be replaced.
9. Disconnect the wires from the run capacitor. Set the ohmmeter to the Rx1 scale. The capacitor is shorted and must be replaced if continuity exists across its terminals. If there is no needle movement with the meter set on the Rx100000 scale, the capacitor is open and must be replaced.
10. Reconnect the wires to the compressor and capacitor. Plug in and turn on the unit. If the compressor fails to start, replace the run capacitor.
11. If the unit still does not start, adding a hard-start kit (relay & capacitor) will provide greater starting torque. If this doesn't work, the compressor has an internal mechanical defect and must be replaced.

8.6B Replacing a Burned Out Compressor

The refrigerant and oil mixture in a compressor is chemically very stable under normal operating conditions. However, when an electrical short occurs in the compressor motor, the resulting high temperature arc causes a portion of the refrigerant oil mixture to break down into carbonaceous sludge, a very corrosive acid, and water. These contaminants must be carefully removed otherwise even small residues will attack replacement compressor motors and cause failures.

The following procedure is effective only if the system is monitored after replacing the compressor to insure that the clean up was complete.

1. This procedure assumes that the previously listed compressor motor circuit tests revealed a shorted or open winding.
2. Remove and properly dispose of the system charge. **DO NOT** vent the refrigerant or allow it to contact your eyes or skin.
3. Remove the burned out compressor. Use rubber gloves if there is any possibility of contacting the oil or sludge.
4. To facilitate subsequent steps, determine the type of burn out that occurred. If the discharge line shows no evidence of sludge and the suction line is also clean or perhaps has some light carbon deposits, the burn out occurred while the compressor was not rotating. Contaminants are therefore largely confined to the compressor housing. A single installation of liquid and suction line filter/driers will probably clean up the system.

If sludge is evident in the discharge line, it will likely be found in the suction line. This indicates the compressor burned out while running. Sludge and acid have been pumped throughout the system. Several changes of the liquid and suction filter/driers will probably be necessary to cleanse the system.

5. Correct the system fault that caused the burn out. Consult the factory for advice.
6. Install the replacement compressor with a new capacitor and an oversized liquid line filter.

In a running burn out, install an oversized suction line filter/drier between the accumulator and compressor. Thoroughly flush the accumulator with refrigerant to remove all trapped sludge and to prevent the oil hole from becoming plugged. A standing burn out does not require a suction line filter/drier.

7. Evacuate the system with a good vacuum pump and accurate vacuum gauge. Leave the pump on the system for at least an hour.
8. Operate the system for a short period of time, monitoring the suction pressure to determine that the suction filter is not becoming plugged. Replace the suction filter/drier if pressure drop occurs. If a severe running burn out has occurred, several filter/driers may have to be replaced to remove all of the acid and moisture.

NOTE: NEVER use the compressor to evacuate the system or any part of it.

8.6C Replacing a Compressor, Nonburn Out

Remove the refrigerant from the system. Replace the compressor and liquid line filter/drier. Charge the system to 50 PSIG and check for leaks. Remove the charge and weigh in the refrigerant quantity listed on the nameplate. Operate the system to verify performance.

8.7 Remote Controls

The Quest 215 Dual is controlled by devices mounted on a panel that is remote from the unit. You may or may not have the devices listed below depending on the model of the remote control panel you purchased. If the Quest 215 Dual fails to operate as desired, always check the settings of the controls to insure that they are correct. Check that the controls are receiving 24Vac from the Quest 215 Dual. Check the connections between the Quest 215 Dual, the control panel, and the field control wiring.

8.7A Humidity Control

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. If the Quest 215 Dual does not run, try turning the humidity control clockwise until it reaches the stop and the knob pointer points at “Max Dry” (see back of control panel cover). If it still does not run, remove the stop screw from the panel and turn the knob farther. If it then runs, the humidity control is out of calibration or the RH is below 40%.

The Quest 215 Dual is equipped with an automatic defrost mechanism. If the Quest 215 Dual operates in conditions that develop frost on the evaporator, it will sense the frost build-up and automatically defrost the evaporator. The Quest 215 Dual may not appear to be operating correctly during the defrost sequence, but once the defrost sequence is completed, the Quest 215 Dual will resume dehumidifying.

8.7B Programmable Ventilation Timer

The ventilation timer controls the impeller fan and the motorized fresh air damper. When the ventilation timer is activated, the Quest 215 Dual will circulate the indoor air, and bring in fresh air from outside. The ventilation timer should be set for the required ventilation of the residence. The structure should be ventilated with fresh air as suggested by applicable codes and standards.

If the Quest 215 Dual fails to ventilate as expected, check that the time on the timer is correct. For the timer to carry out the program schedule, the slide switch in the upper left corner on the timer must be set to “**AUTO**”. The slide switch in the upper right corner of the Quest 215 Dual must be set to “**RUN**”. Also check the programs on the timer to be sure that the timer is calling for ventilation at the correct times. If the timer fails to operate or operates erratically, reset the timer; see section 4.5 of this manual.

8.8 Defrost Thermostat

The defrost thermostat is attached to the refrigerant suction tube between the accumulator and the compressor. It will automatically shut the compressor off if the low side refrigerant temperature drops due to excessive frost formation on the evaporator coil. The impeller fan will continue to run, causing air to flow through the evaporator coil and melt the ice. When the ice has melted, the evaporator temperature will rise and the thermostat will restart the compressor.

8.9 Electric Ventilation Damper

The electric ventilation damper is controlled by the ventilation timer. The damper will open when the ventilation timer is activated to allow fresh air into the structure through the 6" diameter fresh air inlet duct. The electric ventilation damper will remain closed when the ventilation timer is not activated to prevent over-ventilating the structure when the unit is dehumidifying or recirculating the indoor air.

The electric ventilation timer operates on 24 VAC from the control circuit. **DO NOT** connect high voltage to the damper motor or damage to the motor may result. **DO NOT** force the blade of the damper by hand or damage to the damper motor may result.

The damper opens in one direction only. The damper rotates very slowly, allow sufficient time for the damper to cycle. The damper will take approximately 1 minute to cycle from closed to open or from open to closed.

If the electric ventilation damper fails to operate:

1. Check that the wiring is correct and that voltage is present at the damper motor.
2. Check for any obstruction inside the damper. If the electric ventilation damper fails to operate after performing these checks, it must be replaced.

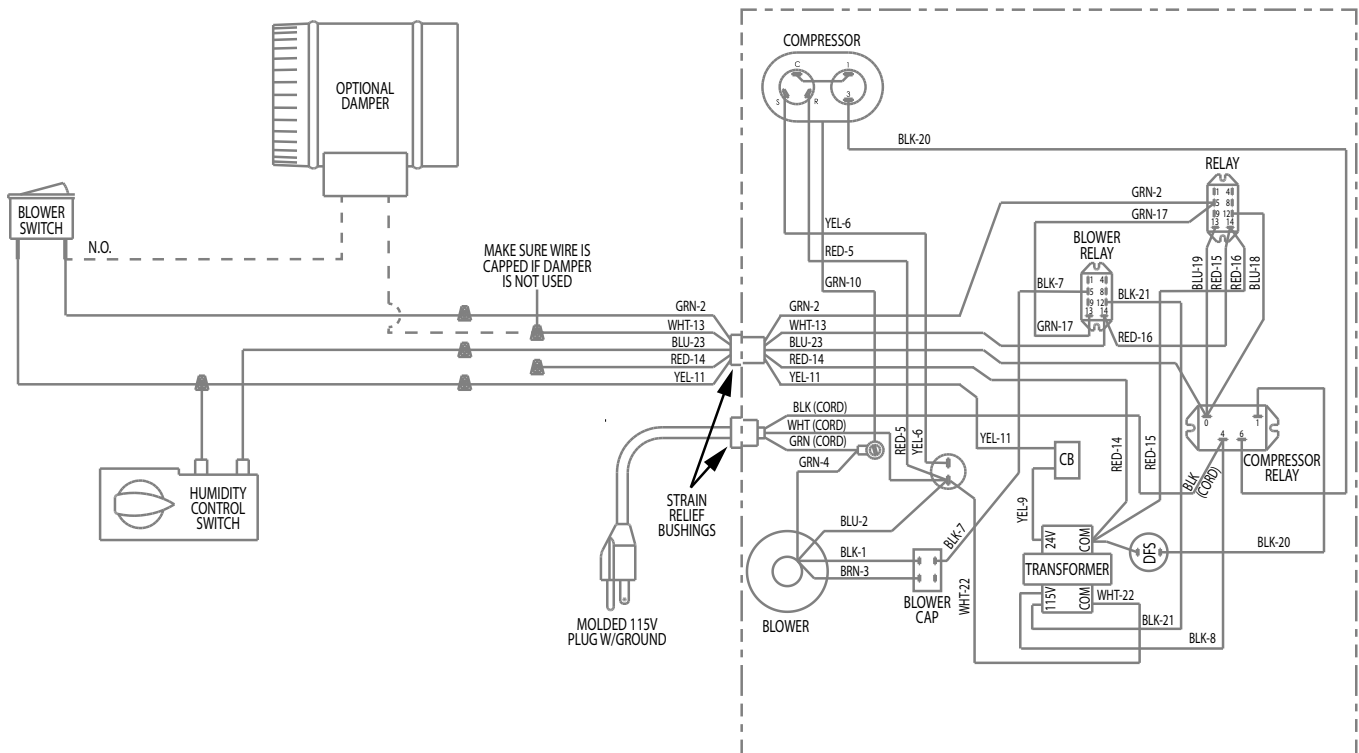
8.10 Condensate Pump Kit

An optional condensate pump kit is available from the factory for use with the Quest 215 Dual. Condensate is automatically pumped to a remote location when the water level in the pump's reservoir rises to close the float switch.

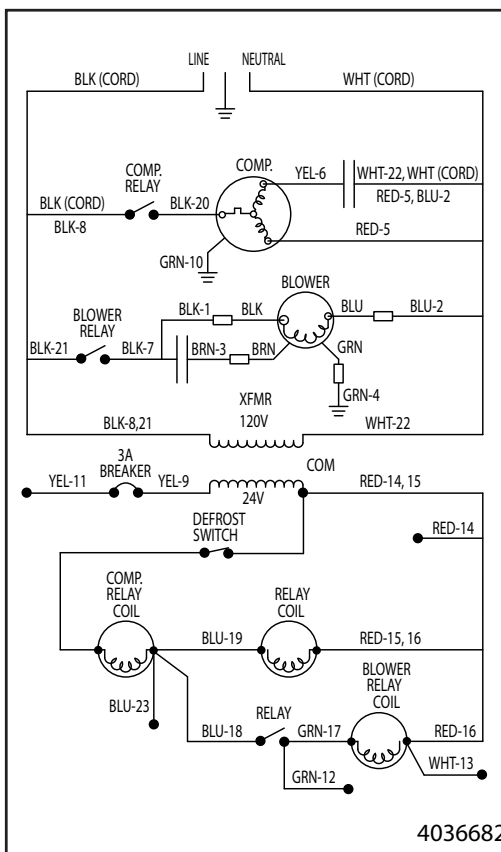
The pump also contains a safety float switch. The white leads from this switch extend from beneath the pump cover. This switch should be installed in series with the field wire that connects the blue (#5) lead from the Quest 215 Dual to the blue (#5) lead on the control panel.

If the pump fails, this switch opens the compressor control circuit and stops water production before the reservoir overflows. The Quest 215 Dual will continue to ventilate or circulate air as normal, but will not dehumidify until this switch closes.

Electric Schematics of the Quest 215 Dual



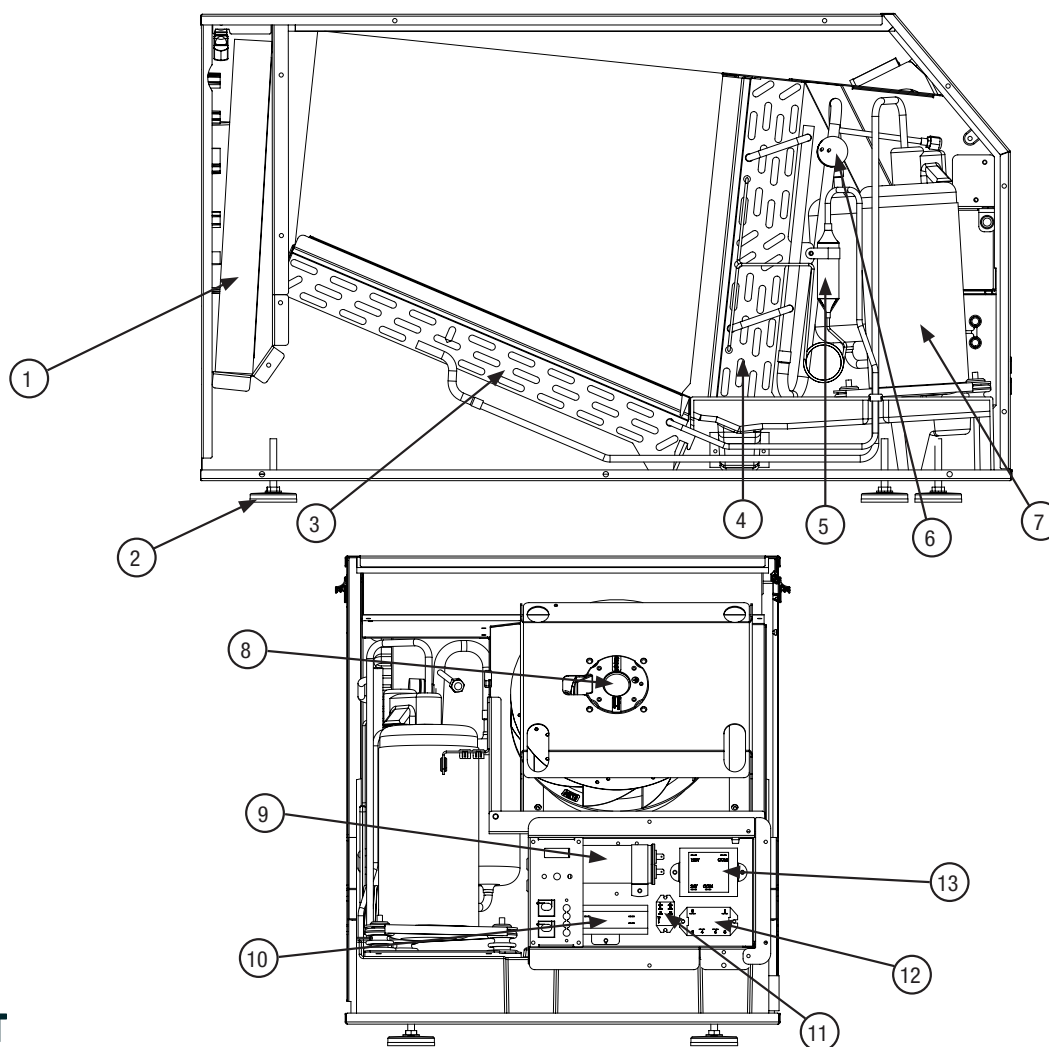
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Service Parts List

Item	Part No	Qty	Description	Item	Part No	Qty	Description
1	4021475	1	Air Filter 16x20x2" MERV-11	8	4036492	1	(215 Dual) Impeller
2	4026221	4	Foot, Leveling, 5/16-18 x 2.25	9	4033032-05	1	(215 Dual) Capacitor, Run, 45 MFD, 370V
3	4031085-02	1	Condenser Coil	10	4035235-02	1	(215 Dual) Capacitor, Fan, 5 MFD, 370V, Dry
4	4031086-05	1	E-Coat Evaporator Coil	11	4020924	1	Relay, SPDT, 24V, 15A
5	4029510	1	Filter/Drier	12	4022484	1	Relay, SPST, 24V, 30A
6	4032229	1	(215 Dual) Thermostat, Defrost Control	13	4036398	1	XFMR, 240V, 50/60Hz, 24V, 40VA
7	4036493	1	(215 Dual) Compressor	14	4036559	1	Circuit Breaker NOT SHOWN
	4036516	1	(215 Dual) Compressor Overload				
			NOT SHOWN				



Optional Parts List

PART NO.	QTY.	DESCRIPTION
4020175	1	Controller, Humidity
4028614	1	Pump Kit (110-120V)
4028607	1	Supply Duct Kit
4028610	1	Return Duct Kit
4027370	1	DEH 3000 Control
4028531	1	DEH 3000R Control, Remote
4036668	2	Bracket, Hanging (2 Required)
4036686	1	Ratchet, 1/4" (Set of 4)

Quest 215 Dual Dehumidifier Limited Warranty

WARRANTOR:

Therma-Stor LLC
4201 Lien Rd
Madison, WI 53704
Telephone: 1-800-533-7533

WHO IS COVERED: This warranty extends only to the original end-user of the Quest 215 Dual dehumidifier, and may not be assigned or transferred.

FIRST YEAR WARRANTY: Therma-Stor LLC warrants that, for one (1) year the Quest 215 Dual 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 FIFTH YEAR WARRANTY: Therma-Stor LLC further warrants that for a period of five (5) years, the condenser, evaporator, and compressor of the Quest 215 Dual 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 215 Dual 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 215 Dual Dehumidifier is out of service while awaiting covered warranty service).

UPON THE EXPIRATION OF THE WRITTEN WARRANTY APPLICABLE TO THE Quest 215 Dual 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 215 Dual 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.