



Therma-Stor LLC
4201 LIEN RD. • MADISON, WI 53704

DRYMAX XL PRO | XL LGR DEHUMIDIFIER



PHOENIX

OWNER'S MANUAL

Installation, Operation & Service Instructions – READ AND SAVE THESE INSTRUCTIONS –

The Phoenix DryMAX XL PRO LGR Dehumidifier

- Two position handle with 12" wheels - great on stairs
- 135 PPD at AHAM (80F/60%RH)
- 6.7 Amps
- Extended handle dolly - Locks in with AirMAX and Focus II
- Onboard USB to power DryPHONE for remote monitoring
- Add two AA batteries for built-in connection to DryLINK Asset Manager (no tag needed)
- Stacking and nesting for space savings
- Lockable cover to secure DryPhone
- Easily serviceable
- Patented five coil design
- Data log inlet and outlet temperature and relative humidity using Bluetooth
- DryLINK Enabled

The Phoenix **DryMAX XL Pro** is the solution to the one common issue with horizontal dehumidifiers: the difficulty of moving them up and down stairs. The unit features a unique two-position handle that can be adjusted to a 42" position for flat ground maneuvering, and a 50" position to make it even easier to transport the unit up and down stairs than upright dehumidifiers. Additionally, the handle can be used like a dolly. Our AirMAX, AirMAX BLE, and Focus II air movers can be securely transported with the DryMAX XL Pro as they interlock with the top of the unit.

This dehumidifier is our most advanced model, equipped with onboard USB power for our DryPHONE, enabling remote monitoring. You can add two AA batteries to the display board to establish a connection to the DryLINK Asset Manager, even when the unit is unplugged. This eliminates the need to purchase an asset tracking beacon. Moreover, it logs the inlet and outlet temperature and relative humidity readings 96 times per day and can store 30 days' worth of readings.



Phoenix DryMAX XL PRO

Part No. 4045100-01 (Red)

4045100-02 (Blue)

4045100-05 (Green)

Patent: thermastor.com/patents



TS-2105

5/24 Rev. A



Specifications subject to change without notice.



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Photos in Use



50" Handle Position for Stairs



'Push' button to extend handle



**Onboard USB for
remote monitoring**



Stack and dolly air movers

Read the operation and maintenance instructions carefully before using this unit. Proper adherence to these instructions is essential to obtain maximum benefit from your Phoenix DryMAX XL Pro dehumidifier.

WARNING

- DO NOT modify the length of the power cord or use an extension cord to power the unit.
- DO NOT share a single outlet with other electrical appliances. Improper power supply can cause fire or electrical shock.
- It is designed to be used INDOORS ONLY.
- If used in a wet area, plug it into a GROUND FAULT CIRCUIT INTERRUPTER.
- DO NOT use the dehumidifier 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 one foot of clearance for the inlet and outlet of the unit.
- This appliance is not intended for use in elevations over 2,000 m (6,562 ft.).

FOR FLAMMABLE REFRIGERANT

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater.)
- Do not pierce or burn.
- Only qualified HVAC or electrical contractors are allowed to conduct maintenance, service and/or repair operations on dehumidifiers. Examples include but are not limited to breaking into the refrigerating circuit, opening of sealed components, and/or opening of ventilated enclosure
- Please follow the instruction carefully to handle, install, clean, service the dehumidifier to avoid any damage or hazard.

- Flammable refrigerant is used within dehumidifier. When maintaining or disposing the dehumidifier, the refrigerant shall be recovered properly, shall not discharge to air directly.
- Compliance with national gas regulations shall be observed.
- Keep ventilation openings clear of obstruction.
- The appliance shall be stored so as to prevent mechanical damage from occurring.
- A warning that the appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks.
- Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.
- Be aware that refrigerants may not contain an odor.



**REFRIGERANT
SAFETY GROUP
A2L**

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1 Safety Certifications

The Phoenix DryMAX XL Pro conforms to unified standard UL 60335-2-40.

2 Specifications

Part No.	4045100-01 (Red) 4045100-02 (Blue) 4045100-05 (Green)	
Power	6.7 amps, 110-120 VAC, Grounded	
Water Removal	135 pints/day @ AHAM (80 °F, 60% RH)	
Blower	300 CFM	
Refrigerant Charge	1lb 3 oz. R-454B	
Operating Range	33 °F to 105 °F	
Filters:	12" x 14" x 1" Pleated Media MERV-10 (Part #4038558)	
Duct Options	Outlet – 1 x 14" Lay-Flat	
Cord Length	25 ft	
Warranty	Five years; 1st year 100% of parts and labor 2nd-3rd year pump parts only 2nd-5th year refrigeration parts only	
Dimensions		
	Unit	Shipping
Width	20"	23"
Height	18"	20"
Depth	25.4"	29"
Weight	85 lbs	90 lb

Patent: thermastor.com/patents

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 Phoenix DryMAX XL Pro features a high-impact structural foam housing which protects the unit. It is recommended the units are properly secured for transport. The Phoenix DryMAX XL Pro must always be on its base when transported by vehicle. To extend handle to the 42" and 50" handle position, use the 'push' button (see photo 3.1 on page 2).



3.2 Electrical Requirements

The Phoenix DryMAX XL Pro plugs into a common grounded outlet on a 15 amp circuit. It draws 7.4 amps at 80 °F, 60% RH. If used in a wet area, a ground fault interrupter (GFI) is required. If an extension cord is required, it must have a minimum of 14 gauge conductors if 25 feet long or less and 12 gauge conductors if greater than 25 feet long.

3.3 Control Panel

When presented with Control Panel Selection Boxes in the control panel the black box with the white lettering will be the active selection.

Control Panel Key

Light Bar

Green Pulsing = The system is running correctly but the compressor is off.

Green = The system is running normally and the compressor is on.

Blue = The system is running normally but the unit is in defrost.

Red = Unit error, press 'NEXT' for more info.

3.3.1 Startup



When the unit is plugged in you will see the Phoenix logo followed by the Standby Screen

3.3.2 Plugged In - Standby Mode



When plugged in but without pushing the power button, 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

The Powering Up screen allows the compressor time to acclimate before starting up.

Light Bar = Green



3.3.3 Power Button

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

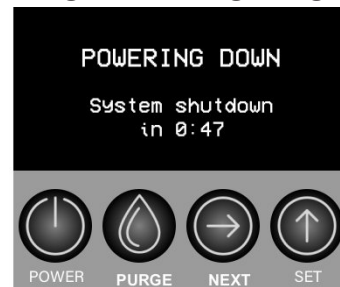


Press the button to turn the dehumidifier on. The unit will begin the Powering Up sequence and you will see this screen:



Press and hold the Power button 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.
- Tilting the unit more than 70 degrees on the handle side or more than 20 degrees on the non-handle side may result in water spillage.
- Tilting the unit without running the final purge may result in water spillage.



3.3.4 PURGE Button

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

Press the button to remove condensate manually from the reservoir.

3.3.5 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/Gram Depression = Grains/Grams per pound value will automatically be displayed with the RH SetPoint

Light Bar = On

Color = Green

3.3.6 Navigation

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

Press the SET key to scroll through available values.

The White Box indicates the selected choice when two boxes are presented.

Press the Purge key to return to the dashboard

3.3.7 Purging



Press the PURGE 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.

3.3.8 Condensate Removal

The Phoenix DryMAX XL Pro 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 20 feet with the attached hose. If the condensate must be pumped more than 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.



For help with the “Reservoir full: check float, pump, and hose” error see section 5.3 Troubleshooting

3.3.9 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

3.3.10 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, increase speed to normal, and cause 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.

Color Blue = On



3.3.11 Shut Down Sequence/Power Down time



Press the Set button to adjust the Power Down Time in one minute increments ranging from 3 – 20 minutes.

The Power Down 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.
- Tilting the unit more than 70 degrees on the handle side or more than 20 degrees on the non-handle side may result in water spillage.
- Tilting the unit without running the final purge may result in water spillage.

Scrolling Through the Menus

3.3.12 Device Name The following information is displayed on this screen:



Device Name = You can change this on the DryLINK App

UUID = The unique identifier for the Bluetooth Radio

3.3.13 Job Hours



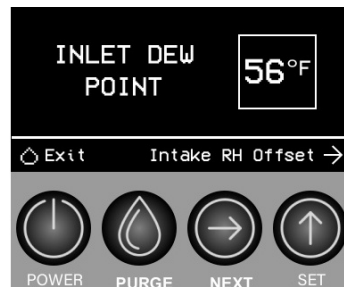
Press and hold the key for three seconds to reset the job hours from any screen.

The life hours are fixed and cumulative from the first use.

3.3.14 Quiet Mode

Press the Set button to enable Quiet Mode. In Quiet Mode the CFM will be reduced to 225 which is 75% of the maximum CFM. When power cycled the unit always defaults to Quiet Mode OFF. *ATTENTION*: Reduced air flow could cause the unit to enter defrost.

3.3.15 Inlet Dew Point



The screen displays the ambient dew point.

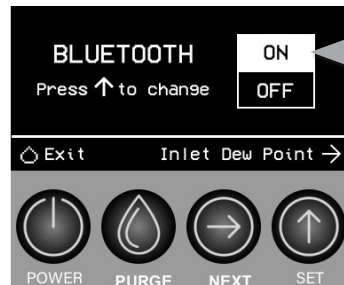
3.3.16 RH Calibration



The Intake RH Reset allows you to calibrate the DryMAX to match your favorite meter. Use the Set Key to increase the reading on the screen with your meter.

Push the Set and Next keys at the same time to lower the number on the Intake RH Reset.

3.3.17 Bluetooth



The white box indicates the selected setting.



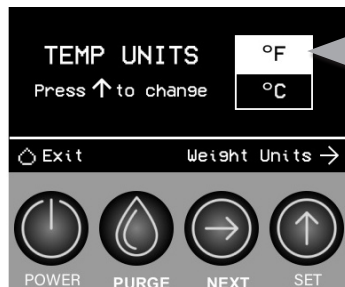
The Bluetooth functionality comes from the factory set to “On”. In the on position the DryMAX XL Pro is capable of transmitting data and receiving commands using the Phoenix DryLINK app or other compatible apps.

For further information see the DryLINK Quick Start Guide or use the QR code to go to our website.

QR Code to take you to the DryLINK web page.



3.3.18 Temperature Units



The white box indicates the selected setting.

Press the Set button to toggle the temperature units between F° and C°

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

3.3.19 Water Units



The white box indicates the selected setting.

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

3.3.20 Humidistat Mode



The white box indicates the selected setting.

The default mode is Humidistat “Off”

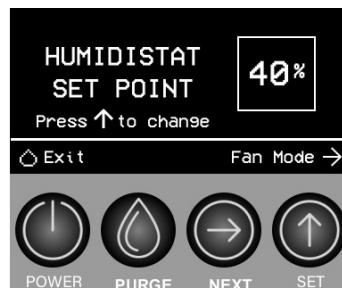
Press the Set button to toggle the Humidistat Mode On/Off.



The white box indicates the selected setting.

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.

3.3.21 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.

3.3.22 Humidistat Fan Mode



The white box indicates the selected setting.

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.

3.3.23 About



The about screen provides the following information:

VIHW: Part Number for the Display Board

VIFW: Firmware Version on the Display Board

PWHW: Part Number for the Power Board

PWFW: Firmware Version on the Power Board

UUID: The unique identifier for the Bluetooth Radio

3.4 Ducting

Wire duct collars are supplied to allow one 14" lay-flat duct to be attached to the Phoenix DryMAX XL Pro outlet. Lay-flat plastic ducting is available; see section 6 Options and Accessories. 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 Phoenix DryMAX XL Pro by snapping the collar over the exhaust tabs.



4 Maintenance

4.1 Air Filter

The Phoenix DryMAX XL Pro is equipped with a pleated media air filter that must be checked regularly. The standard filter is a MERV-10 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. The filter can generally be vacuumed clean several times before needing replacement. 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.



1. Slide the filter holder out using the handle
2. It is not necessary to completely remove the filter holder to change the filter
3. Carefully replace the filter in the air flow direction
4. Slide the filter holder back into position

4.2 Storage and Freeze Protection

There are two issues to consider when the Phoenix DryMAX XL Pro is stored between uses and both pertain to water trapped in the unit. The first is biological growth and the second is damage caused by freezing. The effects of the trapped water can be greatly reduced if precautions are taken to remove as much as possible before storage.

1. Use the pump PURGE button to reduce the water level in the reservoir.
2. Stretch the hose flat to drain it completely. Raise one end above your head and spool hose while draining water out the other end.
3. To reduce biological growth flush the unit with a bio-fungicide that is approved for use with copper, aluminum and polyethylene. To flush:
 - a. Run the hose to a drain.
 - b. Plug in the unit but do not turn it on.
 - c. Remove the air filter. Slowly pour a quart of the antimicrobial through the heat exchanger
 - d. Hold in the pump purge switch to reduce the water level in the reservoir.
 - e. Flush with water.
4. If the unit will be exposed to freezing temperatures, after purging, take off the upper housing and pour 1 cup (8oz) of a propylene glycol based anti-freeze through the heat exchanger. It will flow down into the pump reservoir. Do NOT purge the solution out of the unit.
5. Dirty filters should be changed prior to long term storage to prevent biological growth on the filter.

5 Service

⚠ WARNING

WARNING: Servicing the Phoenix DryMAX XL Pro 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

5.1 Running Diagnostics

5.1.1 Diagnostic Mode

Contact Phoenix Tech Support for help with Diagnostic Mode - 800.533.7533. Diagnostics mode is used by our technical support team to help diagnose problems





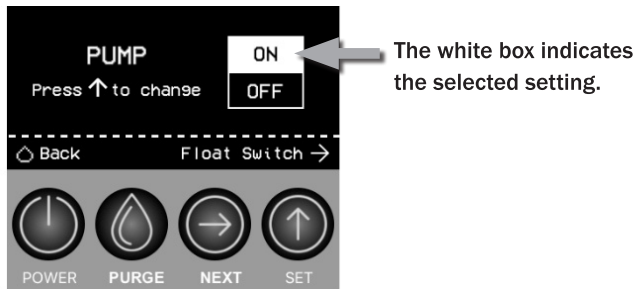
Press the Next button for 3 seconds to enter Diagnostic Mode. This action can also be performed at any time while the machine is powered on.

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

5.1.2 Diagnostic Mode - Pump

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

Press the Next button to advance to the next screen.



5.1.3 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.

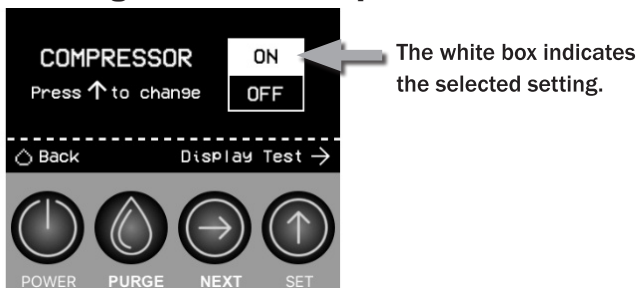
The float switch will be "Up" or "Down".

5.1.4 Diagnostic Mode - Fan

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

Press the Next button to advance to the next screen.

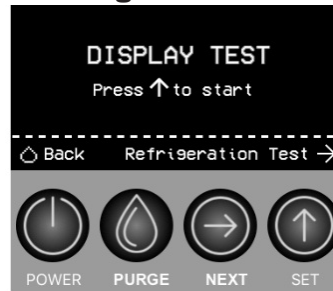
5.1.5 Diagnostic Mode - Compressor



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

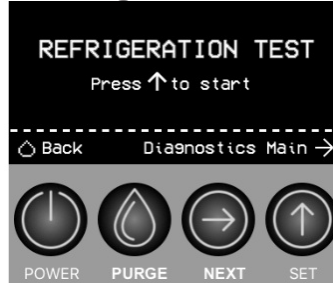
Press the Next button to advance to the next screen.

5.1.6 Diagnostic Mode - Display Test



Press the Set button to start the Display test.

5.1.7 Diagnostic Mode - Refrig. Test



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

Inlet = Temperature and RH/Grains

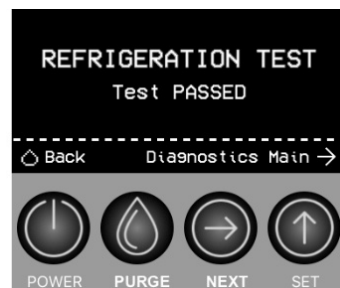
Outlet = Temperature and RH/ Grains

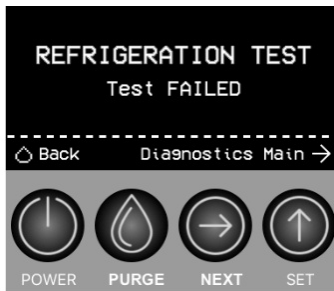
Hours = Life hours only.

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.

5.2 Technical Description

The Phoenix DryMAX XL Pro 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.

5.3 Troubleshooting

Reservoir Full: Check Float, Pump, and Hose Error



If the float is up for 60 seconds the status bar will turn red and the screen will display "Reservoir full: check float, pump, and hose". To clear this error the float must go down.

Make sure the condensate hose is not kinking or blocked, make sure the float can go up and down freely. If you cannot resolve this error call tech support at 800-533-7533.

If left on, the unit will try to pump every eight minutes.

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.

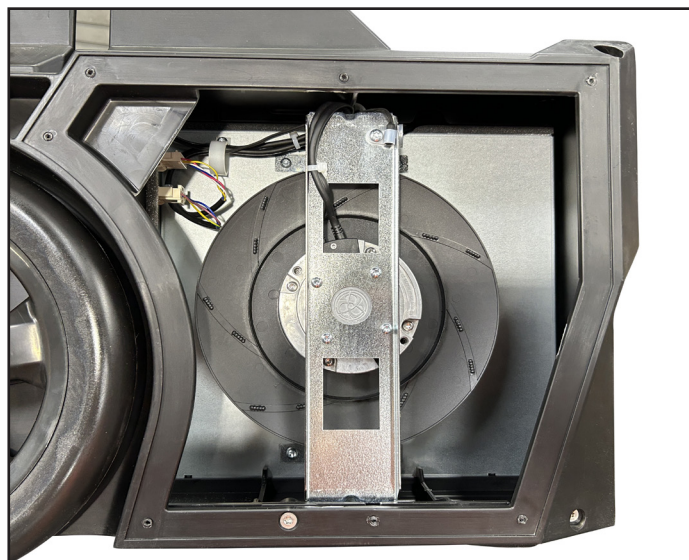
1. Bad connection in PURGE button circuit
2. Defective control board

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. Upper housing is not sealed to lower housing

Compressor runs with POWER button OFF.

1. Defective control board



5.3.1 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 grill
3. Disconnect the two 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

5.3.2 Thermistor Probe



A thermistor is used to sense the temperature of the evaporator coil. It is inserted into the evaporator suction tube sensor pot. To replace the thermistor probe:

1. Unplug the dehumidifier
2. Remove the access housing
3. Pull thermistor probe up and out of sensor pot
4. Remove electrical box cover (T20 Torx)
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

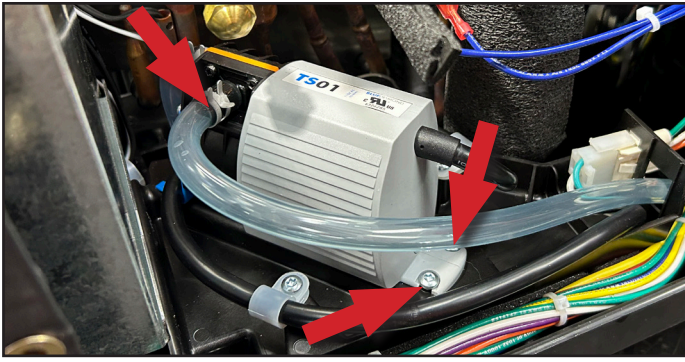
5.3.3 Condensate Pump

The internal condensate pump removes water that collects in the reservoir.

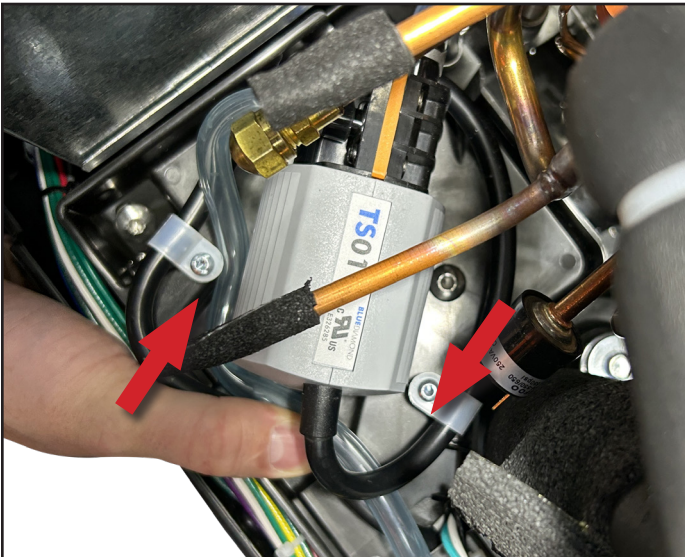
To replace the condensate pump:

1. Unplug the unit
2. Remove the access housing
3. Unplug the pump hose and electrical connector





4. Remove pump
 - a. Using pliers, compress and remove spring hose clamps to detach hoses from pump.
 - b. Remove 4 - T-20 torx screws holding pump and pump cord clamps.



5. Remove pump by lifting up and out of the tabs on the front side of the pump.
6. Check the float switch bracket is mounted correctly
7. Reinstall in reverse order

5.3.4 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.

*****IMPORTANT***** - If the float switch is stuck in the up position for more than 60 seconds, a reservoir full error will occur.

The possible causes of this error are as follows:

- Broken pump
- Blockage on hose
- Mechanical binding of the float switch

To replace the float switch:

1. Unplug the unit

2. Remove access housing
3. Remove Pump Cover
4. Check to see that the float moves freely. If the float needs to be replaced proceed to step 5

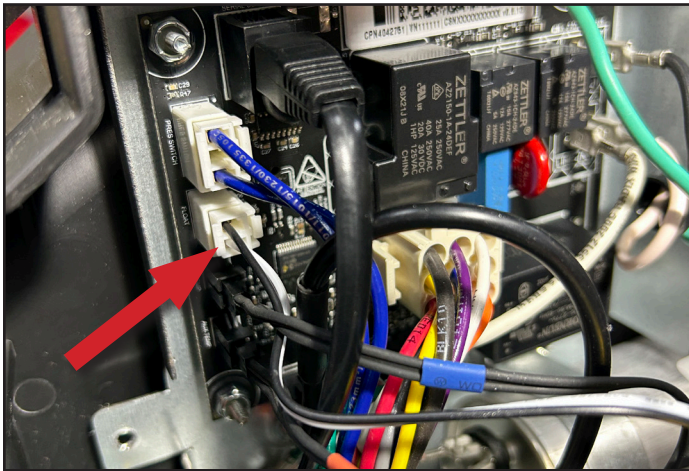


5. Open the electrical box cover (T20 Torx)





6. Unplug the Float switch wires from the control board



7. Unscrew the float switch from the bracket



8. Replace the float switch

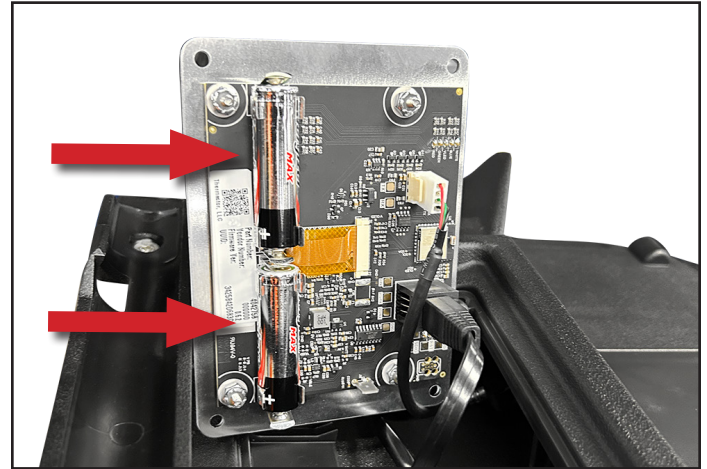
5.4 Batteries for DryLINK Asset Manager

In order to enable the built-in connection to DryLINK Asset Manager, you must add two AA batteries to the user interface.

1. Unscrew the four screws securing the user interface.



2. Insert two AA batteries into the designated battery slots. Then, reattach the user interface and secure it by tightening the four screws back into place.



5.5 FOR SERVICE TECHNICIANS ONLY

Warning

Only qualified HVAC or electrical contractors are allowed to conduct maintenance, service and/or repair operations on dehumidifiers. Examples include but are not limited to breaking into the refrigerating circuit, opening of sealed components, and/or opening of ventilated enclosures.

CAUTION – Do not operate unit without the access housing in place.

Prior to beginning work on the dehumidifier, safety checks are necessary to ensure that the risk of ignition is minimized.

- For repair to the REFRIGERATING SYSTEM, work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapor being present while the work is being performed
- All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.
- The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
- If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO2 fire extinguisher adjacent to the charging area
- No person carrying out work in relation to a REFRIGERATING SYSTEM which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. “No Smoking” signs shall be displayed.
- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

The following checks shall be applied to installations using FLAMMABLE REFRIGERANTS:

- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.
- The ventilation machinery and outlets are operating adequately and are not obstructed;
- Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
- Dehumidifiers are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

Checks to electrical devices

- Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- that no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding.
- Sealed electrical components shall be replaced.
- Intrinsically safe components must be replaced.
-

Detection of Flammable Refrigerants

- Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

- Electronic leak detectors may be used to detect refrigerant leaks but, in the case of FLAMMABLE REFRIGERANTS, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at 25% LFL of the refrigerant and calibrated to R454B.
- Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe. Examples of detection fluids are bubble method and fluorescent method agents.
- If a leak is suspected, all open flames shall be removed/extinguished.
- If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Follow refrigerant removal and evacuation procedure.



5.5 FOR SERVICE TECHNICIANS ONLY

Refrigerant Removal and Evacuation

When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed, since flammability is a consideration. The following procedure shall be adhered to safely remove refrigerant following local and national regulations:

- remove refrigerant;
- purge the circuit with inert gas (optional);
- evacuate (optional);
- continuously flush or purge with inert gas when using flame to open circuit; and
- open the circuit.
- The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process might need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.
- For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (optional). This process shall be repeated until no refrigerant is within the system (optional). When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.
- The outlet for the vacuum pump shall not be close to any potential ignition sources, and ventilation shall be available.

Charging Procedures

In addition to conventional charging procedures, the following requirements shall be followed:

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
- Cylinders shall be kept in an appropriate position according to the instructions.
- Ensure that the REFRIGERATING SYSTEM is grounded prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the REFRIGERATING SYSTEM.
- Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.



5.5 FOR SERVICE TECHNICIANS ONLY

Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its details. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task commences.

- a) Become familiar with the equipment and its operation.
- b) Isolate system electrically.
- c) Before attempting the procedure, ensure that:
 - mechanical handling equipment is available, if required, for handling refrigerant cylinders;
 - all personal protective equipment is available and being used correctly;
 - the recovery process is supervised at all times by a competent person;
 - recovery equipment and cylinders conform to the appropriate standards.
- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with instructions.
- h) Do not overfill cylinders (no more than 80 % volume liquid charge).
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another REFRIGERATING SYSTEM unless it has been cleaned and checked.

Labelling Decommission Machines

- Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing FLAMMABLE REFRIGERANTS, ensure that there are labels on the equipment stating the equipment contains FLAMMABLE REFRIGERANT.

Refrigerant Recovery

- When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.
- When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
- The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant. If in doubt, the manufacturer should be consulted. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition.
- The recovered refrigerant shall be processed according to local legislation in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.
- If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The compressor body shall not be heated by an open flame or other ignition sources to accelerate this process. When oil is drained from a system, it shall be carried out safely.

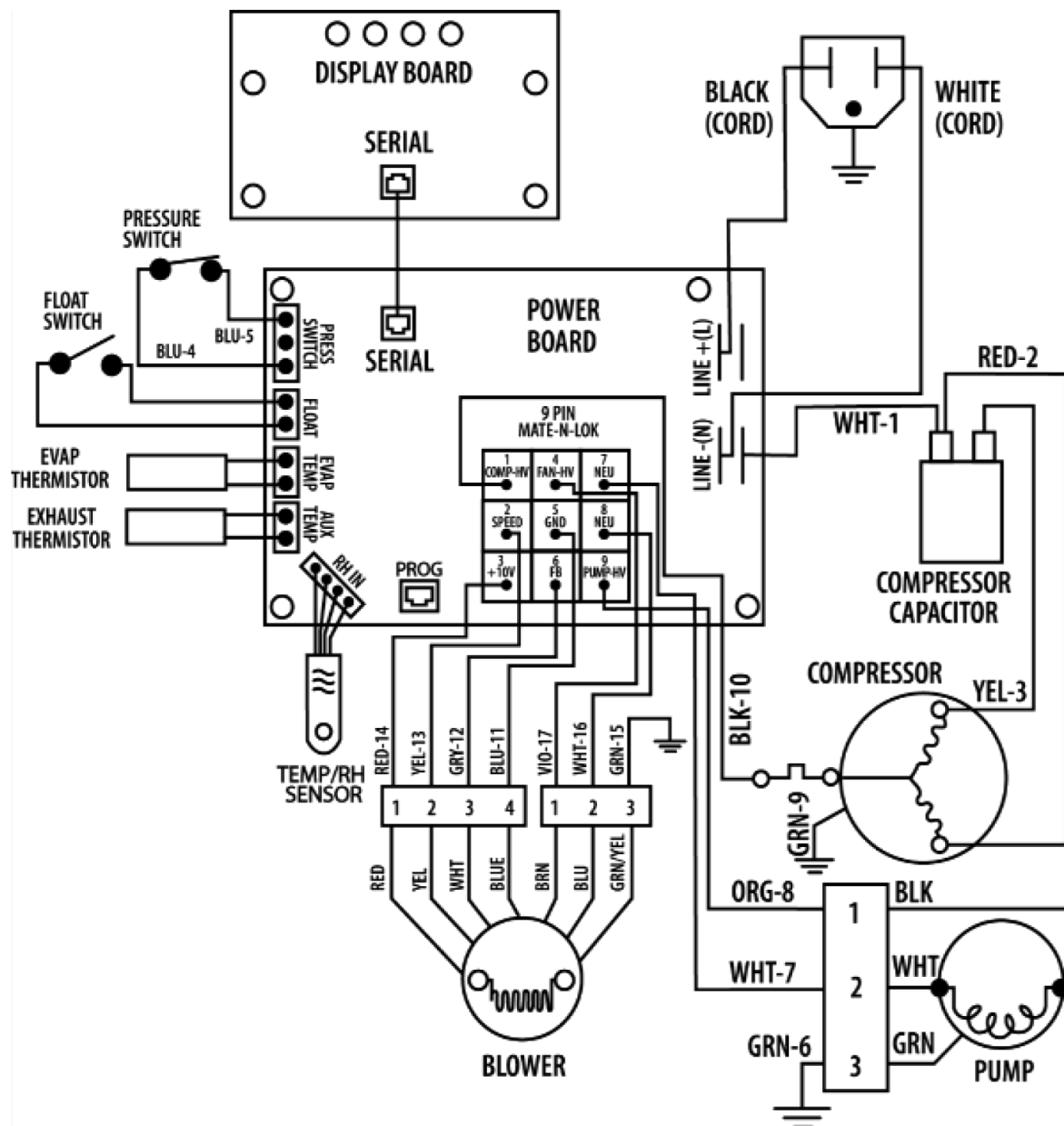


6 Options & Accessories

4038558 Air Filter, Pleated, 12" x 14" x 1" MERV 10

4024936 Phoenix Lay Flat 14" Round x 250'

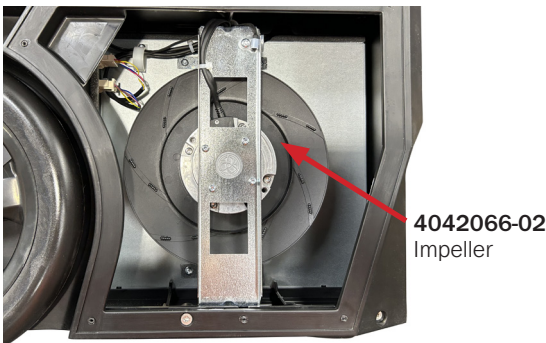
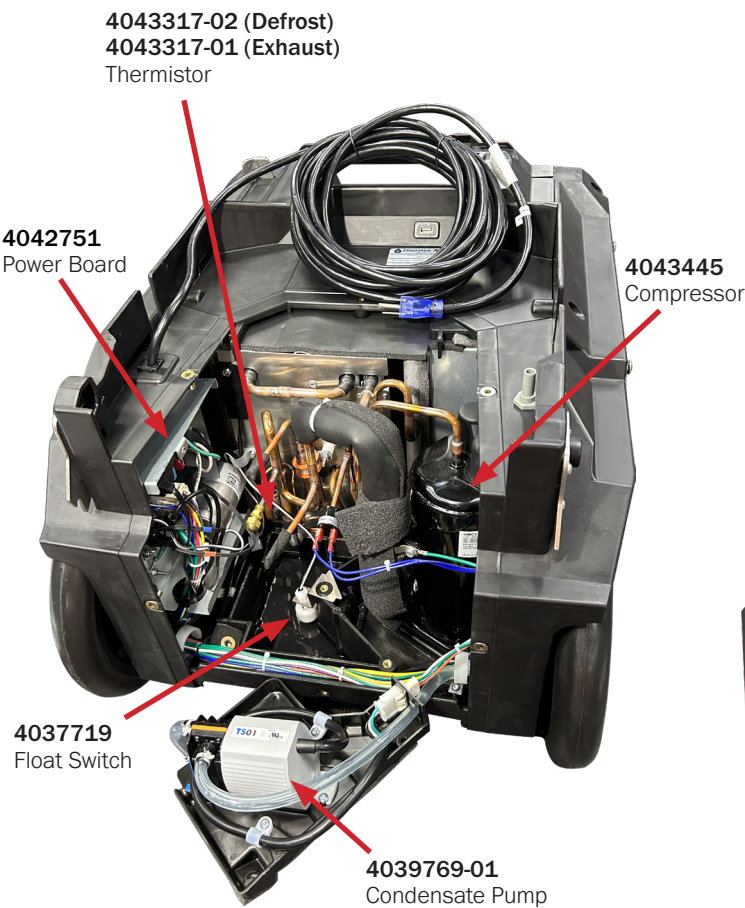
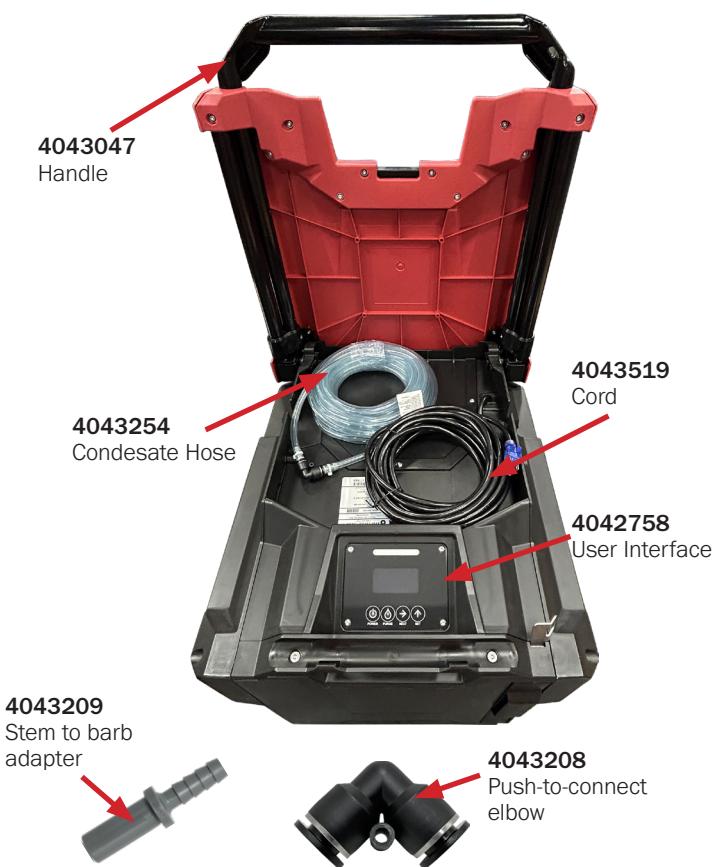
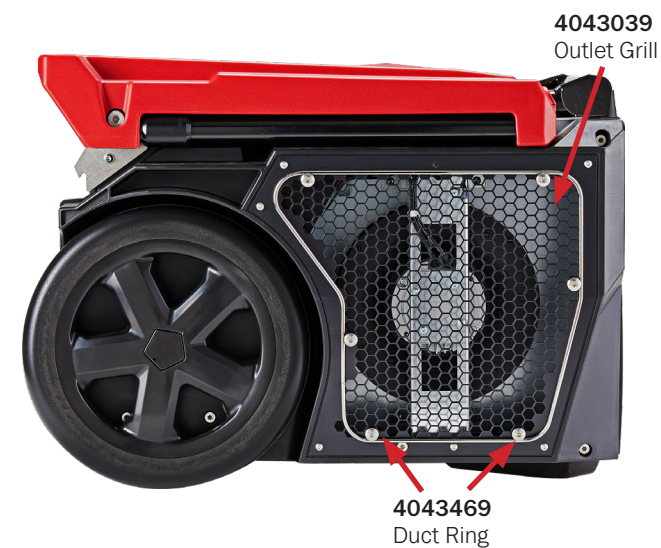
7 Wiring Diagram



4043467 REV B



8 Service Parts



*** For compressor and coil issues please contact
Phoenix Technical Support –608-237-8400.**

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Therma-Stor LLC
4201 LIEN RD. • MADISON, WI 53704



DRYMAX XL PRO | XL LGR DEHUMIDIFIER

PHOENIX

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 Phoenix DryMAX XL dehumidifier and may not be assigned or transferred.

Year One: Therma-Stor LLC warrants that, for one (1) year the Phoenix DryMAX XL 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.

Year(s) Two Through Three: Therma-Stor LLC further warrants that for a period of five (3) years, the condensate pump of the Phoenix DryMAX BLE 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.

Year(s) Two Through Five: Therma-Stor LLC further warrants that for a period of five (5) years, the condenser, evaporator, and compressor of the Phoenix DryMAX XL 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.

Year(s) One Through Seven: Materials and workmanship of the housing are covered.

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 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.

Limitation and Exclusions: If any Phoenix DryMAX XL 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 Phoenix DryMAX XL Dehumidifier is out of service while awaiting covered warranty service).

UPON THE EXPIRATION OF THE WRITTEN WARRANTY APPLICABLE TO THE Phoenix DryMAX XL 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 Phoenix DryMAX XL 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 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.

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