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Model 600 & 850 Dehydrator Humidity Alarm

Troubleshooting Guide

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A humidity alarm and failure of the dehydrator to fill the storage tank as a result of the humidity alarm are generally the most common issues that will arise with your dehydrator after many years of uniterrupted service. This guide will help you troubleshoot these issues and outline the corrective actions needed to return your unit to service. Read through the entire procedure before attempting to work on the unit to familiarize yourself with the steps to be taken.

Troubleshooting Tools Required:

- **Phillips screwdriver**
- **Pressure test gauge that will read up to 80 PSI (tire gauge or similar)**
- **Eye protection**

Performing the recommended routine maintenance outlined below can prevent most failures before they happen, minimizing downtime and ensuring trouble free operation for years to come.

Model 600 / 850 Series A - D Maintenance Item / Spares List - CALL 1-877-247-3797			
Part Number	***Part Description***	***Quantity Required***	
		Per Unit	**Interval**
0046789501	Air Compressor Repair Kit	1	12 - Month
46037	Purge Solenoid Valve Repair Kit	1	12 - Month
0020523012	Backpressure Regulator Diaphragm	1	24 - Month
15688	Humidity Sensor	1	24 - Month
30986	Humidity Sensor Plug	1	24 - Month
89795	Humidity Sensor Gasket	1	24 - Month

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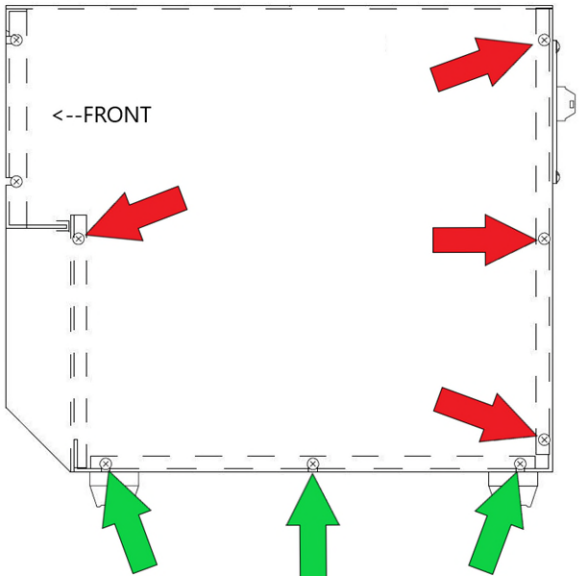
Troubleshooting:

Although there is a maintenance access panel on the front of the unit, in order to make troubeshooting the unit easier- start by removing the top cover. Fully unscrew and remove the screws shown with red arrows. Partially unscrew but do not remove the screws shown with green arrows. Repeat on the other side of the unit.



Troubleshooting the unit will involve running the dehydrator with the cover off and the power on. Observe caution working around moving parts inside the unit or parts that may be electrically energized.

Once the top cover has been removed, locate the humidistat to determine exactly which type of humidity alarm failure is present. Turn the dehydrator on and observe which LED on the humidistat is illuminated.

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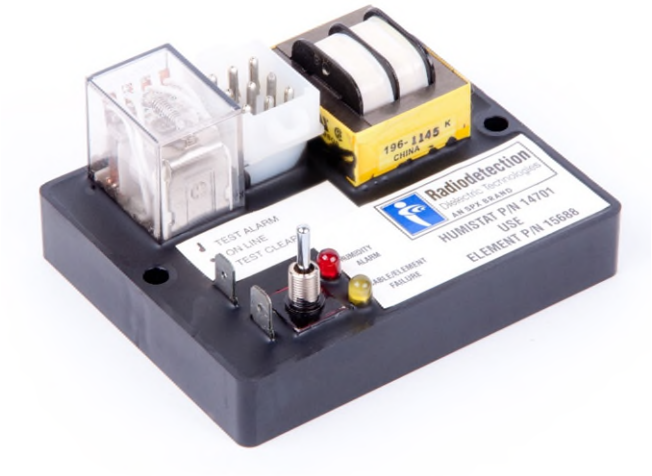
- If the RED LED for humidity is illuminated the humidistat has detected that the air being produced by the dryer exceeds 2% RH and in most cases attention is required.
- If the YELLOW LED is illuminated this means the humidistat does not detect a sensor. Typically this is due to a faulty humidity sensor or the wire connection has become unplugged. Check that the two pink wires going from the humidistat to the humidity sensor are securely plugged into both locations and replace the sensor with part number 15688.



Once you have verified that the humidity alarm is caused by the RED LED on the humidistat here are the next troubleshooting steps to follow:

- Check dryer pressure (backpressure). The backpressure gauge is located inside of the unit and indicates the dryer pressure. The pressure reading on this gauge is only relevant while the compressor runs so turn on the unit and observe the pressure gauge. The normal backpressure setting is 45-50 PSI. A pressure below 45 PSI will prevent the dryer from regenerating correctly resulting in a humidity alarm. A normal cycle of operation is the backpressure gauge will immediately climb up to the 45-50PSI setpoint when the unit is turned on and remain there. Every 30 seconds you should then hear a quick blast of air from the exhaust tube in the rear of the unit and at the same time observe the backpressure gauge dip to approx. 20 PSI and then once again immediately climb back to the setpoint until the next purge blast.

- If the backpressure setting requires adjustment, it can be adjusted with the regulator directly behind the gauge. Pull the knob straight out into the unlocked position and turn it clockwise to raise or counterclockwise to lower the backpressure setting. In some cases if the backpressure setting was right at or below 45 PSI and all other functions appear normal, increasing the backpressure closer to 50 PSI is the only corrective action required to clear the humidity alarm.

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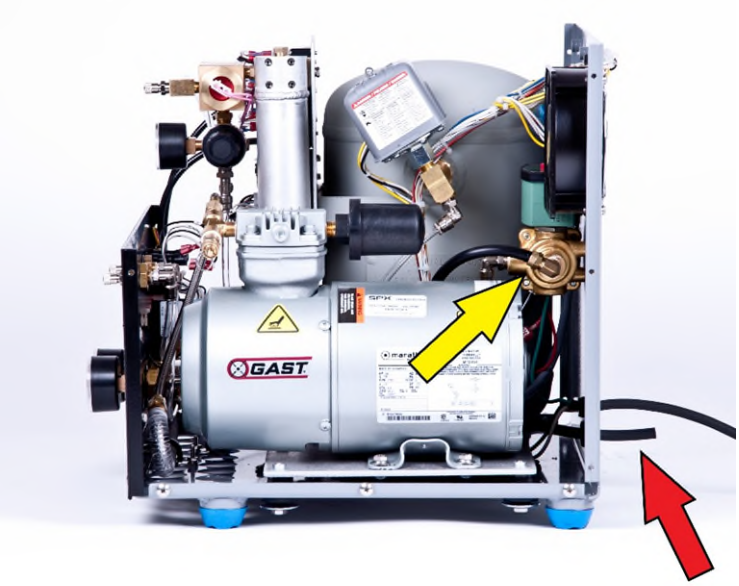
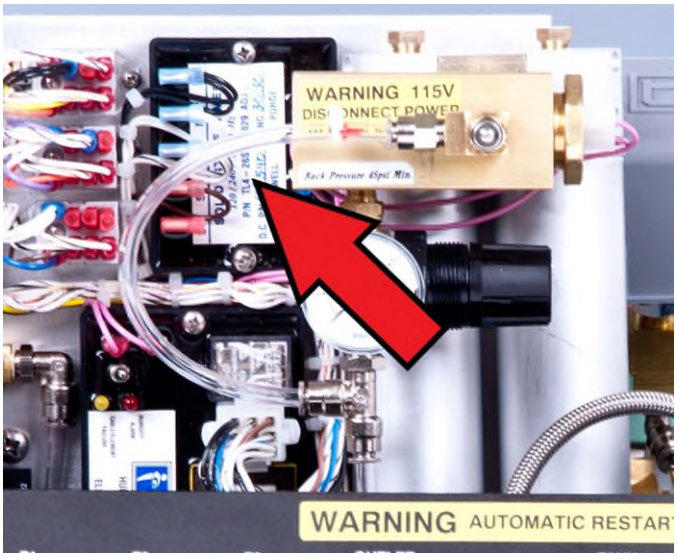
- **Check for proper purge valve (yellow arrow) operation. When the compressor is actively running you should hear an audible blast of air from the purge exhaust tube at the rear of the unit (red arrow) every 30 seconds. In some cases when the purge valve fails you may hear an audible click that is not accompanied by a blast of air, or a loud buzzing that persists for 30 seconds on and 30 seconds off. Another sign of purge valve failure is if the backpressure gauge displays correct backpressure for 30 seconds and then drops to very low or no backpressure for 30 seconds. This behaviour would indicate a worn out purge valve and purge valve replacement or rebuild would be required. *Rebuild kit P/N 46037***





- **If you do not hear any audible click, buzzing or purge air blast from the exhaust tube at any time while the unit is running this usually indicates the purge valve timer has failed. The purge valve timer is located directly above the humidistat. The purge valve timer has two separate outputs labeled S1 & S2. In a model 600/850 dehydrator the S1 output is not used and is capped with a blank wire terminal. If you suspect timer failure, remove the blank wire terminal on S1 and move the wire that is on the S2 output over to the S1 output and retest purge valve operation. Provided you have observed that the fan runs but the purge valve still fails to produce any audible or physical signs of switching- replace the timer.**

- **In some rare instances when everything appears to be in working order but a humidity alarm persists, the humidity sensor may be faulty. The only way to test a humidity sensor is to install a suspected faulty sensor into a known good working dehydrator and see if the humidity alarm will clear. It is recommended when replacing the blue sensor to replace the sensor gasket and sensor sealing plug at the same time. Sensor P/N 15688, Gasket P/N 89795, Plug P/N 30986**

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- **Ensure that when the dehydrator is running there is no air leaking from the humidity sensor sealing plug. In older sensor plugs it is common after many years of use for a crack to develop between the two electrical pins that will leak out air and this typically will also result in a humidity alarm.**

- **Some failure's of the dehydrator require more in-depth repairs than what can typically be performed in the field. If the unit has been allowed to run in a failed state for an extended period of time you may find that inside of the unit there is a white powder residue especially near the humidity bypass valve. This material is desiccant beads that have broken down and migrated out of the drying towers into the rest of the unit. If this failure has been observed it is recommeded to return the dehydrator to the factory for service.**

- **For service on the unit or if performing the aforementioned troubleshoting steps and corrective actions have not resolved the issue please contact the factory to obtain a service request authorization to return your unit for repair.**

- ***NOTE: After any corrective action has been taken the dehydrator will require some run-time to allow the drying cylinders to regenerate and dry themselves back out again before producing dry air that no longer triggers a humidity alarm. Typically this will take within 1-2 hours of continuous runtime.***