

# Model 200 Dehydrator Humidity Alarm Troubleshooting Guide



A humidity alarm or failure of the dehydrator to fill the storage tank are generally the most common issues that will arise with your dehydrator after many years of 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:**

- 1/4” nutdriver or flat blade screwdriver
- Pressure test gauge that will read up to 80 PSI (tire gauge or similar)
- Eye protection
- 7/16” & 12mm open ended wrench (to replace purge valve if required)
- Phillips screwdriver

*Before proceeding please note that in some installations where a dehydrator does not run at least once every hour the dehydrator may show a humidity alarm as it sits idle and when it first begins to run. These false alarms will usually clear within the first minute or two once the dehydrator begins to run and do not generally indicate a problem. In some installations a small leak must be created in the system in order to allow the dehydrator to cycle more often.*

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.

<b>Model 200 Series A - D</b>			
<b>Maintenance Item / Spares List - CALL 1-877-247-3797</b>			
<b>Part Number (PN#)</b>	<b>Spare Part Description</b>	<b>Quantity Required</b>	
		<b>Per Unit</b>	<b>Maint. Interval</b>
35561	Air Intake Filter	1	6 - Month
105259	Air Compressor-Repair Kit	1	12 - Month
48063	Purge Solenoid Valve– (115 VAC)	1	12 - Month
48064	Purge Solenoid Valve– (230 VAC)		
104301	Bypass Solenoid Valve–(115VAC)	1 C & D	24 - Month
104302	Bypass Solenoid Valve–(230VAC)		
15688	Humidity Sensor	1 B, C,& D	24 – Month
30986	Humidity Sensor Shield	1 B, C,& D	24 – Month
89795	Gasket for Humidity Sensor Shield	1 B, C, & D	24 – Month

## Troubleshooting:

- Observe the alarm indicator lights on the front of the unit. When a humidity alarm is active typically the red humidity alarm LED located near the top of the front panel will be lit up and the output pressure and excessive run alarm lights will be illuminated as a secondary result.
- 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 due to a faulty humidity sensor or the wire connection has become unplugged.



**WARNING: TURN THE DEHYDRATOR OFF AND DISCONNECT FROM THE ELECTRICAL POWER SOURCE BEFORE PERFORMING THE FOLLOWING PROCEDURES.**

**Disconnect the power cord from the electrical supply and remove the 4 screws holding the front cover on the faceplate of the dehydrator using a flat blade screwdriver or 1/4" nutdriver.**

**Be prepared to hold onto and gently lower down the front panel once the last screw is removed. Once you have removed the front cover, find something to support the cover while troubleshooting inside of the unit.**

## Testing Dryer Pressure



Remove the cap from the schrader valve test point on the top of the dry pak. (green arrow). Attach a pressure test gauge to the schrader valve, plug the unit back in and turn the unit on being mindful of live electrical parts within the unit.

Once the compressor turns on you should begin to see pressure build on the test gauge. The reading being taken here is the dryer pressure (backpressure). A normally operating dehydrator will read somewhere between 50-75 PSI while the compressor is running. Every 30 seconds you should hear a quick blast of air from the exhaust port on the purge valve (red arrow) followed by an immediate dryer pressure drop that should then steadily climb back up again to where it was before the purge blast.

### **Dryer pressure reads lower than normal all the time:**

- Worn out compressor piston seal & plugged compressor outlet filter.
- Air leaks between the compressor and the humidity sensor manifold outlet elbow.
- Cracked humidity sensor plug leaking air between the electrical pins where the two pink wires plug into the sensor.
- Damaged or obstructed intake/exhaust reed valve in compressor valve plate.

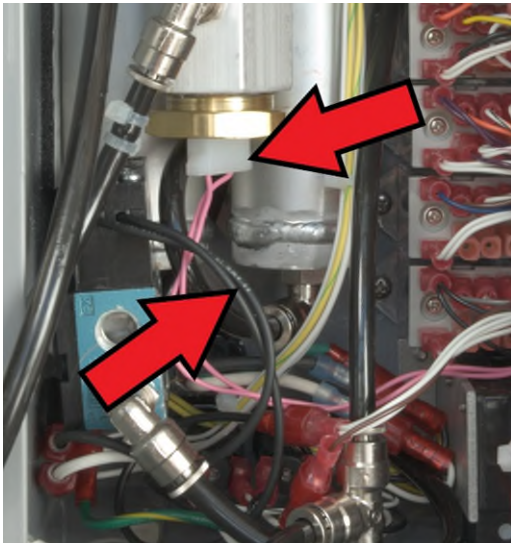
**Dryer pressure tests normal for 30 seconds and then falls to zero or very low PSI reading for next 30 seconds:**

- Faulty dryer purge valve. Replace the purge valve.

*In most cases measuring dryer pressure is not required to identify a failed purge valve. When most valves fail they typically exhibit a loud buzzing sound for 30 seconds out of every minute while the compressor is running. If you hear this sound, even if it is not yet accompanied by an active humidity alarm, the purge valve requires replacement.*

## **Purge Valve Replacement**

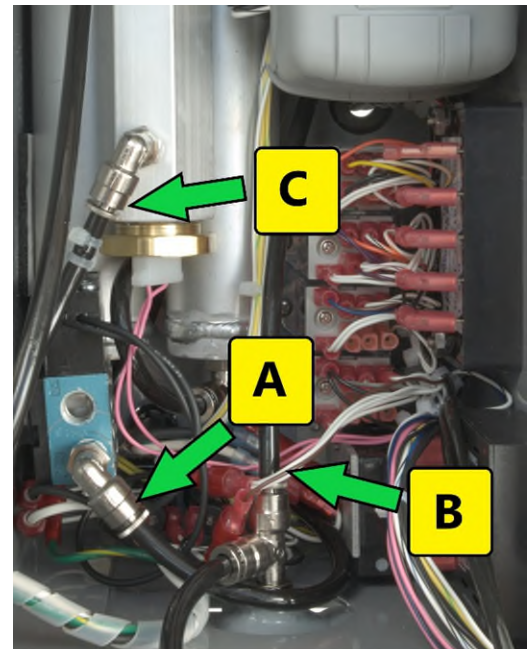
If you have determined the purge valve in your unit requires replacement and have obtained the replacement parts, perform the following steps for replacement.



1. Unplug the unit from the electricity supply and drain all air out of the tank.
2. Remove the 4 screws holding the faceplate onto the unit.
3. Disconnect the power wires going into the purge valve by following the two black wires coming out of the valve coil to the wire terminals and pull apart the male and female quick connect terminals. Having two pairs of small pliers to grab onto each terminal and pull them apart will make this easier.
4. Disconnect the humidity sensor wires by pulling straight down on the white plug with the two pink wires coming out of it at the bottom of the humidity sensor manifold.

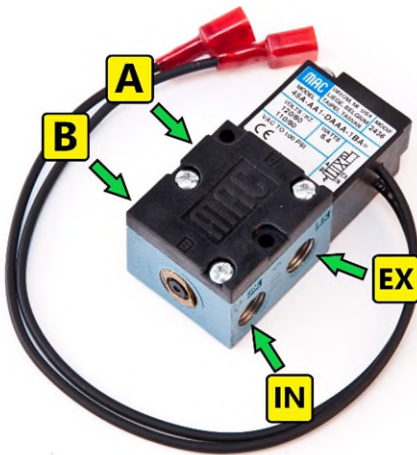
5. Disconnect the tube feeding the purge valve inlet (A), the tube going into the top of the run tee fitting on the tank (B) and the tube exiting the side of the humidity sensor manifold (C). NOTE: The tube attached to the sensor manifold has a zip tie on it to indicate the placement of a flow restrictor orifice inside the tube. This orifice is critical to dryer operation. If this tube requires replacement, order part number 105213 replacement tube with orifice pre-installed.

**NOTE: A 1/4" or similar sized open ended wrench can assist with releasing the tube from the push connect fittings by using it for leverage to push the silver ring in towards the fitting while simultaneously pulling the tube out.**





6. Unscrew the two screws on the back of the unit holding the drypak assembly to the unit and the entire drypak assembly can now be lifted out by first tilting the bottom of the drypak up and pulling it out.



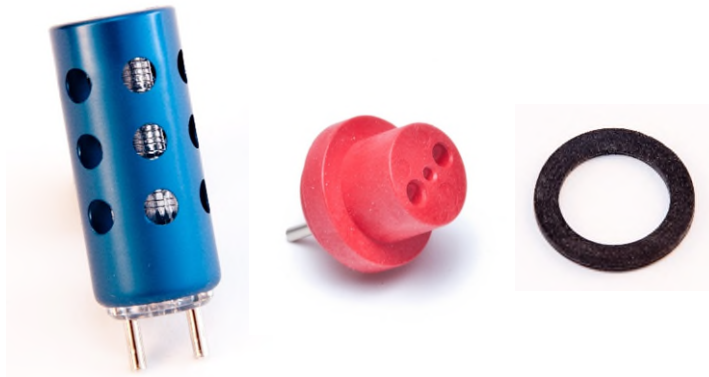
Once the drypak assembly has been removed from the unit, remove the push connect fittings using a 12mm wrench from the old purge valve and remove purge valve from the left dry cylinder. The brass hex nipple requires a 7/16" wrench.

The fittings will need to be re-used on the new valve. Use pipe thread sealant and re-install the fittings onto the new valve. Note that the purge valve has 4 ports, labeled IN, EX, A, & B.

The "EX" port will remain open. The swivel elbow goes into the "IN" port. The hex nipple will go into the "A" port and the straight push connect fitting into the "B" port.



With the drypak assembly removed, now is a good time to replace the humidity sensor, sensor plug and gasket. Unscrew the large brass nut on the humidity sensor manifold and apply sideward pressure to the two pins on the plug to loosen it from the manifold and you can remove the sensor, plug & gasket by pulling straight out. A thin coating of O ring grease on the gasket will aid in sealing the gasket upon replacement. **HAND** tighten the brass nut when reinstalling into the manifold. Using a wrench is not required to obtain a proper seal.



- Reassembly of the dehydrator is the opposite of the disassembly. Reinstall the drypak into the enclosure. Plug the humidity sensor cable back into the sensor plug ensuring that the two pins are connected correctly.
- Reconnect the two purge valve power wires into the wire harness. There is no specific polarity.
- Reconnect the tubes. Applying some O ring grease to the ends of the tubing will aid in fully seating them into the fittings.
- Restart the dehydrator and check dryer pressure. Check for any air leaks on all of the fittings with a soap leak detecting solution if possible.

Once verifying the dehydrator dryer pressure and purge valve cycling are normal, you will need to allow the dehydrator to run continuously for approximately 2 hours order to clear the humidity alarm and for the dehydrator to begin working normally again.