

# Climatic Chamber Maintenance Tips

## Chamber Interior and Exterior:

1. Wipe or vacuum out all debris.
2. Clean interior surfaces with a damp cloth, mild detergent or stainless steel cleaner. Avoid cleaners that are abrasive or leave a residue. DO NOT use steel wool.
3. Clean the chamber exterior and door gaskets with a damp cloth or a mild detergent. If a detergent is used, test a small area to make sure it does not damage the finish.

## Refrigeration System:

1. Check system pressures on gauges and compare to factory specifications or unit dataplate.
  - a. If system one is lower than 100 PSIG, contact the manufacturer's service department.
  - b. If system two is lower than specified static pressure by 30 PSIG or more, contact the manufacturer's service department.
2. Inspect all copper refrigeration lines for signs of abrasion damage caused by excessive vibration. If abrasion damage is found, locate the cause of vibration and secure lines to eliminate further damage. Check lines when system is not running.
3. Inspect all insulation on refrigeration lines. Replace any missing or damaged insulation.
4. Look for any signs of oil on or around compressors and/or refrigeration components. If any oil is found, this may be an early sign of a leak and a service call should be considered.
5. Check the sightglass for bubbles every 7 to 14 days on chambers with R-404A or Tundra units. If bubbles are present on a continuous basis, the unit may be low on refrigerant. Call a qualified service technician to check the system.
6. Visually inspect wiring at compressor terminals for signs of overheating or discolored wires.
7. Inspect air-cooled condenser and clean if necessary using compressed air or vacuum w/brush attachment. Power must be off and locked out. A dirty, clogged condenser can lead to excessive head pressure in the R-404A system or Tundra units and can result in a loss of system efficiency and premature failure.
8. Inspect air-cooled condenser fan and clean if necessary. Power must be off and locked out.
9. On chambers equipped with water-cooled condensers, annually check the condenser for buildup of scale on the condensing surface. This interval may need to be shortened if the buildup is of a substantial amount.

## Electrical System (*Chamber must be OFF and Locked Out*):

1. Check all fuses with ohmmeter to verify condition of fuses. Replace any blown fuses. Inspect contactors and/or relays for signs of heat damage (burn marks).
2. Pull test all wires to check for loose connections using insulated needle nose pliers. If any wires pull out, re-attach them and recheck. Check for components and wires which may vibrate loose during operation. Check for signs of contactor or relay arcing. Check to see that power and ground connections remain secure.
3. Inspect for burnt and/or frayed wires.
4. While the unit is running, listen for excessive humming noises from contactors.
5. Calibrate/Verify the chamber controller settings if all instruments in your facility are periodically calibrated to one device (metrology) or if a measurement system component fails.



**Humidity System (optional):**

1. The humidity demineralizer filter (if equipped) should be replaced when the color change reaches 3" from the bottom of the filter. Damage will occur if the filter is not replaced when the color changes from dark blue to orange brown.
2. The standard humidity steam generator used on most CSZ models requires no maintenance under normal use. If chamber is equipped with a humidity atomizer, the diaphragm in the air compressor should be checked for wear annually. If chamber runs high temperature (above 60°C) and high humidity levels (over 60%) the diaphragm may need to be replaced more frequently. Clean micron filter & atomizer nozzle as needed (refer to manual).
3. If you are having trouble achieving levels or if you can see dirt, please make sure to clean the humidity sensor. Clean tip of humidity sensor with alcohol. Dry the sensor in chamber at 250°F for 10 minutes after cleaning. (See manual for detailed instructions).

CSZ provides on-site calibration and planned maintenance programs. Contact the CSZ service department at 513-719-3300 for details.

## PREVENTIVE MAINTENANCE SCHEDULE

INSPECT	DAILY	WEEKLY	MONTHLY	ANNUALLY
1. Interior & Exterior Cleaning	X			
2. R-404A Charge or Tundra		X		
3. R-508B Standby		X		
4. Humidity Demineralizer Filter		X		
5. Electrical Panel			X	
6. Air Cooled Condenser Cleaning			X	
7. Tubing Abrasion			X	
8. Humidity Sensor (if equipped)			X	
9. Product High Limit			X	
10. Water Strainer (if equipped)			X	
11. Water Cooled Condenser				X
12. Chamber Controller Calibration/ Verification				X
13. Diaphragm, Air Compressor (Atomizer)				X

