

Munters Chiller PM

Revision:

Revision Date:

Effective Date:

Visual Inspection (General)

- Make sure all doors are closed and locked, panels installed correctly.
- Verify there are no unusual odors, damages, noises.
- Check for leaks of any kind.

Note any unusual operating conditions:

Alarms

- Check onboard controllers for alarms

Compressors

- Verify voltage and check amperage.
- Check mounts.
- Check oil levels.
- Check operation and amperage of crankcase heater*

*Amperage readings should be checked against the nameplate limits and be done while at 100% speed/Full load.

***Chillers may not be able to run to full capacity in order to protect the loop temperature. If this is the case note the speed of the compressors on the chiller report.

Bearings

- Check all motor and fan bearings.
- Grease per manufacturers' recommendations.
- Wipe clean any excessive grease.

Refrigerant Circuit + Related Components

- Check pressures and temperatures.
- Visually check for leaks.
- Check sight glass(es).
- Take temperature drop across dryers.
- Check super heat and sub-cooling.

Water Sides

- Check temperature and pressures readings.

Evaporators

- Verify flow is meeting minimum requirements through evaporator.
- Check pressure and temperature drops

Condensers

- Verify flow is meeting minimum requirements through evaporator.
- Check pressure and temperature drops

Strainers

Blow down and clean strainers as needed.

*After initial startup or cleaning of strainer is complete, if pressure and temperature gauges are in place, the need for cleaning may be determined by a rise in DP or temperature rise change from what is documented as a "clean" strainer.

Heaters

Check operation and amperage of all crankcase heaters.

Check operation and amperage of all evaporator heaters.

Check operation and amperage of all oil sump heaters

Check operation and amperage of all cabinet heaters.

Check operation and amperage of all other unspecified heaters.

Visual Inspection (Electrical Connections)

Look for burnt or frayed connections.

Contactors

Pull shields and inspect and clean contacts.

Sensors

Inspect and validate all sensors.

Recalibrate sensors needed.

Additional Accessories (VFDs, Control Panels, etc.)

Check as needed per type of component.

Refrigeration Oil Sample

Take oil sample and send out for testing (sample each circuit).

Electrical Connections

Tighten/torque all connections.

Controls

Check that unit properly responds to control requests

Safeties

Verify safeties shut down unit.

Valves/Shut-offs

Fully close and open all isolation valves balancing, triple valves, or water feeds. Return back to original position. ***See Note H**

Structural Integrity

Check unit mounts/vibration eliminators.

Check duct connections including flexible connectors.

Check door latches and seals.

Vibration Analysis

Have vibration analysis performed on centrifugal chiller compressors and results documented as per manufacturer recommendations.

Clean and Test Evaporator - See Notes C and D

Clean and Test Condenser - See Notes E and F

Complete Tear Down - See Note G

Miscellaneous

Fans - Air Cooled

- Verify fan spins freely.
- Check for bearing noise.
- Check rotation.
- Remove any debris and clean any buildup on blades.

Coils - Water Cooled

- Visually inspect the coils.
- Brush any debris away from the coils. (Power wash if needed)

Condenser - Water Cooled

- Verify flow is meeting minimumu requirements through evaporator,
- Check pressure and temperature drops. *See Notes E and F

Notes

Note A: Work will be performed following established owner policies in regard to safety.

Note B: Capitalize on opportunities when equipment is de-energized to ensure uptime. Examples: inspections, cleaning, lubrication, operation of safety device, etc.

Note C: Evaporator tuber should be cleaned every 5 years. If determined during the quarterly inspections that the approach is starting to charge negatively, then on a case by case basis the evaporator may need to be cleaned more often.

Note D: Eddy current testing on evaporator tubes should be performed every 5 years. As per note "C" if the evaporator needs cleaning earlier then 5 years, eddy current testing should also be moved up and done after the cleaning.

Note E: Condenser tubes should be cleaned every year. If determined during quarterly inspections that the approach is starting the change negatively, then on a case by case basis the condenser may need to be cleaned more often.

Note F: Eddy current testing on condenser tubes should be perofrmed every 3 years.

Note G: Schedule full tear down for centrifugal chiller based on manufacturer specific recommendations.

Note H: Annual valve exercising should be done on all valves associated with the chilled water system including isolation valves, future shut off's, branch valves, etc. Smaller valves located at individual units can be done as part of that units annual maintenance.