

ANNUAL STOP INSPECTION**Report, Record, and Review:**

- Report in with the Customer Representative.
- Record and report abnormal conditions, measurements taken, etc.
- Review customer logs with customer for operational problems and trends.

General Assembly:

- Leak-test the chiller and report the leak check results.
- Repair minor leaks as required (e.g., valve packing, flare nuts).
- Calculate refrigerant loss rate and report to customer.
- Visually inspect condenser tubes for cleanliness. (Clean Annually).

Controls and Safeties:

- Inspect the control panel for cleanliness.
- Inspect wiring and connections for tightness and signs of overheating and discoloration.
- Verify all settings in the electronic control panel.
- Test the low oil pressure safety device. Calibrate and record setting.
- Test the high motor temperature safety device. Calibrate and record setting.
- Test the operation of the chilled water pump and condenser water pump starter auxiliary contacts.
- Verify the setting of the current control device.

Lubrication System:

- Pull oil sample for spectroscopic analysis.
- Test the oil for acid content and discoloration. Make recommendations to the customer based on the results of the test.
- Change the oil filter.
- Verify the operation of the oil heater. Measure amps and volts and compare the readings with the watt rating of the heater.

Motor and Starter:

- Clean the starter and cabinet.
- Inspect wiring and connections for tightness and signs of overheating and discoloration.
- Check tightness of motor terminal connections.
- Check condition of the contacts for wear and pitting.
- Check contactors for free and smooth operation.
- Check the mechanical linkages for wear, security and clearances.
- Meg the motor and record the readings.
- Verify the operation of the electrical interlocks.
- Measure voltage and record. Voltage should be nominal voltage $\pm 10\%$.

MID-SEASON RUNNING INSPECTION CHECKLISTS
MONTHLY OPERATING INSPECTION MID-SEASON

Equipment to be inspected:

- Check the general operation of the unit.
- Log the operating temperatures, pressures, voltages and amperages.
- Check the operation of the control circuit.
- Check the operation of the motor and starter.
- Analyze the recorded data. Compare the data to the original design conditions.
- Review operating procedures with operating personnel.
- Provide a written report of completed work, operating log, and indicate any uncorrected deficiencies detected.

COMPREHENSIVE ANNUAL INSPECTION CHECKLISTS
ANNUAL STOP INSPECTION

Report, Record, and Review:

- Report in with the Customer Representative.
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General Assembly:

- Secure and drain the boiler.
- Open the fire and water side for cleaning and inspection.
- Check the heating surfaces and water side for corrosion, pitting, scale, blisters, bulges and soot.
- Inspect the refractory.
- Check the expansion tank and drain if needed.
- Clean the fire inspection glass.
- Check the blow-down valve packing and lubricate.
- Check and test boiler blow-down valve.
- Perform hydrostatic test, if required.

Gas Train Burner Assembly:

- Check the gas train isolation valves for leaks.
- Check the gas supply piping for leaks.
- Check the gas pilot solenoid valve for wear and leaks.
- Check the main gas and the pilot gas regulators for wear and leaks.
- Test the low gas pressure switch. Calibrate and record setting.
- Test the high gas pressure switch. Calibrate and record setting.
- Verify the operation of the burner fan air flow switch.
- Inspect and clean the burner assembly.
- Inspect and clean the pilot igniter assembly.
- Inspect and clean the burner fan.
- Run the fan and check for vibration.
- Inspect the flue and flue damper.

Burner Control Panel:

- Inspect the panel for cleanliness.
- Inspect wiring and connections for tightness and signs of overheating and discoloration.
- Verify tightness of the linkage set screws.
- Check the gas valves against leakage (where test cocks are provided).

Controls and Safeties:

- Disassemble and inspect the low water cutoff safety device.
- Reassemble the boiler low water cutoff safety device with new gaskets.
- Clean the contacts in the program timer, if applicable.
- Check the operation of the low water cutoff safety device and feed controls.
- Verify the setting and test the operation of the operating and limit controls.

COMBUSTION FLUE GAS ANALYSIS CHECKLISTS
ANNUAL STOP INSPECTION

Equipment to be inspected:

- Perform combustion test and adjust the burner for maximum efficiency.
- Test the following items:
 - a. Firing rate
 - b. Fuel/air ratio
 - c. CO₂
 - d. CO
 - e. NOX
- f. Perform smoke test.

MID-SEASON RUNNING INSPECTION CHECKLISTS
MONTHLY OPERATING INSPECTION

Equipment to be inspected:

- Check the general condition of the unit.
- Inspect the burner.
- Adjust the burner controls to obtain proper combustion.
- Check the operation of the pressure relief valve.
- Check the operation of the low water cutoff and feed controls.
- Check the setting and test the operation of the operating and limit controls.
- Check the operation of the modulating motor.
- Blow down and try gauge cocks to confirm glass water level.
- Check and test boiler blow down valve.
- Log operating conditions after the system has stabilized.
- Review operating procedures with operating personnel.
- Provide a written report of completed work, operating log, and indicate uncorrected deficiencies detected.

COMPREHENSIVE ANNUAL INSPECTION CHECKLISTS
ANNUAL STOP INSPECTION

Report, Record, and Review:

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General Assembly:

- Inspect the unit for cleanliness.
- Inspect the fan wheel and shaft for wear and clearance.
- Check the sheaves and pulleys for wear and alignment.
- Check the belts for tension, wear, cracks and glazing. (Replace belts ANNUALLY).
- Blow out condensate lines.
- Verify tight bolts, set screws and locking collars.
- Check dampers for wear, security and linkage adjustment.
- Verify clean condensate pan.
- Verify proper operation of the condensate drain.
- Verify clean air filters. (Replace filters QUARTERLY).
- Verify clean coils.
- Verify proper operation of the spray pump, if applicable.
- Verify smooth fan operation.
- Log operating conditions after system has stabilized.
- Provide a written report of completed work, operating log, and indicate any uncorrected deficiencies detected.

Lubrication:

- Lubricate the fan shaft bearings, if applicable.
- Lubricate the motor bearings, if applicable.

Controls and Safeties:

- Test the operation of the low temperature safety device, if applicable.
- Test the operation of the high static pressure safety device, if applicable.
- Test the operation of the low static pressure safety device, if applicable.
- Check the thermal cutout on electric heaters, if applicable.
- Check the step controller, if applicable.
- Check and record supply air and control air pressure, if applicable.
- Verify the operation of the control system and dampers while the fan is operating.

Motor and Starter:

- Clean the starter and cabinet.
- Inspect the wiring and connections for tightness and signs of overheating and discoloration. This includes wiring to the electric heat, if applicable.
- Check the condition of the contacts for wear and pitting.
- Check the contactors for free and smooth operation.
- Meg the motor and record readings.

MID-SEASON INSPECTION CHECKLISTS
MONTHLY OPERATING INSPECTION MID-SEASON

Equipment to be inspected:

- Check the general condition of the fan.
- Verify smooth fan operation.
- Replace filters QUARTERLY.
- Check and record supply and control air pressure, if applicable.
- Verify the operation of the control system.
- Log the operating conditions after the system has stabilized.
- Review operating procedures with operating personnel.
- Provide a written report of completed work, operating log, and indicate uncorrected deficiencies detected.
- Blow out condensate lines.

FAN COIL MAINTENANCE PROCEDURE CHECKLISTS
MONTHLY OPERATING INSPECTION

Report, Record, and Review:

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General Assembly:

- Verify tightness of all set screws.
- Verify clean fan and coils.
- CHANGE air filters QUARTERLY
- Verify smooth operation of the unit.
- Verify proper operation of the condensate

Lubrication:

- Lubricate motor bearings, if applicable.

Motor and Starter:

- Inspect wiring and connections for tightness and signs of overheating and discoloration.
- Verify proper motor voltage and amperage.
- Startup/Checkout Procedure
- Check the general condition of the unit.
- Verify proper operation of the motor.
- Verify proper operation of the control circuit.
- Verify smooth operation of the unit.
- Provide a written report of completed work, operating log, and indicate any uncorrected deficiencies detected.

INSPECTION CHECKLISTS
SEMI-ANNUAL OPERATING INSPECTION

Equipment to be inspected:

- Verify smooth operation of the pump.
- Check for leaks on the mechanical pump seals, if applicable.
- Verify proper drip rate on the pump seal packing, if applicable.
- Provide a written report of completed work, operating log, and indicate any uncorrected deficiencies detected.