

A Checklist of Maintenance Items

Source: Cleaver-Brooks

Daily Maintenance

- Blow down the bottom of the boiler.
- Blow down the water column(s) and open the drain slowly to prevent float damage.
- Track boiler pressure and temperature, especially at the steady state to see if it's keeping up with the load.
- Take a stack temperature reading to determine how efficiently the boiler is operating. A well-tuned boiler should have a stack temperature ranging between 50–100 degrees above the steam or water temperature.
- Routinely check the gas pressure coming into the gas pressure regulator and its downstream pressure.
- For a hydronic boiler, monitor the supply and return temperatures, essential control variables dictating load satisfaction based on the engineer's design.
- Look through the boiler's sight port in the furnace; observe the flame for impingement/sooting.
- Observe the water softener, dealkalizer and chemical feed system to ensure proper salt/chemical levels.
- Take water samples on a regular basis and compare them to the recommendation.

Weekly Maintenance

- Conduct evaporation test on each low water level control to ensure burner-shutoff at the low water point.
- Check the condition of the gauge glass on the low water cutoff for wear and etching.
- Check the operation of the fuel supply valves.
- Check the single point positioning system on the burner; if applicable, look for wear, slip and hysteresis.
- Observe the operating and modulating controls. While watching the pressure gauge, see if they are turning on and off at their respective set points.
- Pull out the flame scanner to ensure the burner shuts off at the prescribed time.
- Check the indicating or running lights and alarms to make sure they are functioning properly.
- Assess the motors for noise and vibration.
- Look for leaks of fuel, water or flue gas.
- Check the high- and low-gas pressure switches and the combustion air proving switch.

Monthly Maintenance

- Check the burner's diffuser for any deformation, burning or cracking.
- Check the burner's pilot tube that contains the electrode that provides the spark for pilot ignition.
- Check the free movement of the air damper device or devices.
- Check the entire outside of the boiler for signs of hot spots.

Semi-Annual Maintenance

- Remove and inspect the low water cutoff bowl and its interconnecting piping.
- Pay close attention to the condition of the head assembly's wiring and switches.
- Check the pump alignment on all the base-mounted pumps in the boiler room, and reset combustion using a combustion analyzer for reading O₂, CO and NO_x emissions.

Annual Maintenance

- Properly shut down the boiler and open the access doors to expose the fireside of the boiler.