

Chiller annual maintenance checklist

The annual chiller service is the deep pass: the measurements, cleanings and tests a quarterly round doesn't reach. This checklist keeps the full service on record with the photos that make it defensible later. Work is commonly verified against ASHRAE guidance. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The chiller manufacturer's or specialist service technician. When: Once a year, scheduled in the off-season so the machine can be opened, tested and down without load impact.

Shutdown and isolation

- ☐ Owner notified and the load covered before shutdown
Owner told the machine is coming off line, load moved to another chiller or the outage window confirmed. No photo required
- ☐ Chiller locked out and the water side isolated
Starter disconnect and any separately fed control or oil heater circuit locked and tagged, valves closed; loop refilled before the temporary release for running tests, then re-locked. 1 photo required

Heat exchangers

- ☐ Condenser and evaporator tubes inspected and cleaned
Tube condition documented after cleaning, any pitting or scaling photographed with the tube map. No photo required
- ☐ Eddy-current or condition test where the program calls for it
Test report filed against the unit's serial number, anomalies located and photographed. No photo required
- ☐ Water box covers resealed and bolts torqued where fitted
New gaskets fitted, bolts drawn up in a cross pattern to the manufacturer's torque, no weeping once the loop is refilled. No photo required

Refrigerant and oil

- ☐ Oil sample drawn and sent for analysis
Sample taken from a running machine per the lab method, results filed and compared to prior years. 1 photo required
- ☐ Refrigerant charge and purge operation verified
Charge level confirmed against operating conditions, purge run-time logged and within normal range. 1 photo required
- ☐ Annual leak test done by the certified refrigerant technician
Leak test, any charge added and any recovery entered in the refrigerant log by the certified technician, leak rate reported. No photo required
- ☐ Pressure relief valve tags and vent line checked
Relief valve tags read for replacement date against the manufacturer's schedule, vent line intact to its outlet, no sign of discharge. 1 photo required

Safeties and controls

- ☐ Every safety trip functionally tested
High pressure, low pressure, freeze and flow safeties each driven to trip and the trip point recorded. 2 photos required
- ☐ Starter and electrical connections checked
Terminations checked for heat marks, contact wear inspected, starter enclosure clean. 2 photos required

- ☐ **Sensors and transducers checked against a reference**
Water temperature sensors and refrigerant pressure transducers compared to a calibrated instrument, offsets corrected and recorded. **1 photo required**

Return to service

- ☐ **Isolation removed and chiller restarted and run under load**
Valves confirmed open and locks removed by the people who hung them, chiller started from the controller and run until readings settle. **No photo required**
- ☐ **Post-service log recorded as the new baseline**
Operating log taken after restart and filed with the tube, oil and trip test results as next year's comparison. **No photo required**