



Air-Cooled Chiller Maintenance Checklist

16 planned preventive maintenance tasks · Free PDF from PM Assist

A practical starting point for planned preventive maintenance. Always refer to the manufacturer's O&M manual and site-specific requirements.

Visual Checks

- ☐ Inspect the full condenser coil face for fouling — pollen, seed, dust, insects and any debris drawn onto the fins
- ☐ Check fin condition across each coil bank for bent, flattened or hail-damaged fins and comb straight where practical
- ☐ Inspect coils for corrosion — check for white aluminium oxide bloom, galvanic corrosion at tube-to-fin joints, and coating breakdown on coated coils
- ☐ Check the air path around the unit for recirculation — confirm discharge air is not short-circuiting back to the coil face off walls, louvres, parapets or adjacent plant
- ☐ Confirm manufacturer's minimum clearances to walls and neighbouring units are still met after any recent works or plant additions
- ☐ Check each condenser fan for blade damage, imbalance, guard security and bearing noise or play
- ☐ Inspect for refrigerant leaks around service valves, schrader cores, brazed joints and coil returns — look for oil staining at the coil headers

Functional Checks

- ☐ Record fan motor running current on each phase and compare against nameplate full load amps
- ☐ Verify fan staging and speed control operates correctly through the load range — check EC fan or VSD response against the control signal
- ☐ Verify head pressure control at low ambient — confirm the unit holds condensing pressure via fan speed or staging rather than tripping or hunting
- ☐ Record ambient dry-bulb alongside cooling output and compare against the manufacturer's capacity table to confirm derating is as expected, not excessive
- ☐ Record suction and discharge pressures and calculate superheat and subcooling against the manufacturer's target range

Cleaning & Housekeeping

- ☐ Clean condenser coils with a manufacturer-approved fin-friendly cleaner at low pressure, washing against the normal airflow direction so debris exits the way it entered

Safety Checks

- ☐ Check crankcase heaters are energised and functioning before any extended shutdown period

Record Keeping

- ☐ Identify the coil type before cleaning — microchannel aluminium coils need gentler treatment and different cleaners to round-tube plate-fin
- ☐ Log condensing temperature against ambient and trend the difference — a widening gap is coil fouling before it becomes a high-pressure trip

Maintenance Frequency

Monthly

- Visual check of coil faces for debris, and clear the surrounding area of leaf litter and rubbish
- Log operating pressures, ambient temperature and compressor currents
- Check for oil staining that would indicate a developing refrigerant leak

Quarterly

- Full coil face inspection including the inner faces of V-block coil arrangements
- Fan blade, guard and bearing check with motor currents recorded
- Test safety controls including the high pressure cutout

Every 6 Months

- Condenser coil clean — before the cooling season and again after it where the local environment is dirty
- Verify head pressure control through the fan staging or speed range
- F-Gas leak check where the charge places the unit on a six-monthly interval

Annually

- Comprehensive service including a full coil clean and fin combing
- Coil corrosion survey, with particular attention to coastal and urban sites
- Electrical thermography of the panel, fan motor and compressor terminations
- Confirm crankcase heater operation ahead of the winter shutdown
- F-Gas leak check and logbook update at the interval set by the CO2e charge