READY TO INSPECT — FIELD CHECKLIST

Hot water recirculation pump annual maintenance checklist

The annual recirculation pump 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 IPC / UPC plumbing codes, manufacturer's published instructions. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The plumbing service tech on the annual, able to isolate the pump at the flanges to service the check valve and read the loop cold and hot. When: Once a year, the pass that isolates the pump to actually inspect the check valve and cartridge and to walk the return legs, rather than assuming the loop is balanced because one gauge near the heater looks right.

Notice and lockout

- [ ] Owner and occupants told before the loop is isolated
  Owner and affected occupants warned that hot water may run slow or stop at far fixtures during the window, and told when it is expected back.
  No photo required

- [ ] Every circuit feeding the pump and controls locked out
  Pump circuit or plug and any controller or timer supply locked and tagged by each worker, proven dead, and held until the pump is closed up and refilled.
  1 photo required

Pump and check valve

- [ ] Pump body confirmed as rated for potable water
  Nameplate or casting shows a bronze or stainless body listed for potable water, not a cast-iron heating circulator swapped in on a past call.
  1 photo required

- [ ] Trapped hot water bled off before the pump is opened
  With the isolation valves shut, trapped water bled through the drain or vent into a bucket, hands and face clear of the scald, and flow stopping to prove the valves hold.
  No photo required

- [ ] Pump isolated and check valve inspected
  Isolation flange valves closed, check valve opened and its disc, spring and seat inspected or replaced, cartridge or impeller checked on cartridge circulators, pump reassembled and bled of air.
  2 photos required

- [ ] Flange gaskets and union seals checked on reassembly
  Flange gaskets or union O-rings renewed where compressed or cut, flange bolts brought up evenly, or union nuts snugged, and each joint dry once the section is back at line pressure.
  1 photo required

- [ ] Section refilled, air vented and locks removed
  Isolation valves opened slowly, air bled at the vent screw or high point, tools and people clear, then locks removed by whoever hung them before the pump is powered for the readings.
  No photo required

- [ ] Motor current and bearings checked
  Amp draw read against the nameplate, bearings running quiet and cool, no overheating at the motor that points at a dead-headed or airbound pump.
  1 photo required

Controls

- [ ] Aquastat calibration and timer schedule verified
  Aquastat setpoint and differential checked against a measured line temperature and adjusted, timer schedule confirmed for occupied hours, pump proven to cycle on and off at the intended temperatures.
  No photo required

- [ ] Aquastat sensor secured to the return pipe and insulated
  Strap-on or well sensor tight on the return line at the location the manufacturer shows, insulated over so it reads the loop and not the room air.
  1 photo required

Loop balance and delivered temperature

- [ ] Isolation valves operable and return legs proven hot
  Isolation and any balancing valves operable and set, return temperature checked at the ends of the risers or legs, each leg confirmed carrying hot water so no branch is running cold or airbound.
  2 photos required

- [ ] Temperature drop across the loop compared with the design
  Supply leaving the heater and return at the pump read with the same thermometer, the drop compared with the design and last year to find a leg losing heat.
  1 photo required

Return to service

- [ ] Controls left in auto and occupants told hot water is back
  Pump running on its aquastat or schedule with no hand override, far fixtures running hot again, and owner and occupants told service is restored.
  No photo required

- [ ] Annual readings filed and dead legs flagged to the owner
  Currents, temperatures, settings and parts replaced filed with the pump record, and any capped branch or unused fixture reported for the water management plan.
  No photo required