READY TO INSPECT — FIELD CHECKLIST

Boiler feed and condensate unit quarterly maintenance checklist

A quarterly condensate unit round is short on purpose: it catches the wear items that fail between annual services. This checklist is sized for a tech with a phone. Every item says what to look at and the photo that proves the round happened. Work is commonly verified against manufacturer's published instructions. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The boiler or mechanical tech on the quarterly boiler-room round while the heating system is under load. When: Every quarter through the heating season, walked with the boiler so a flooding receiver or a makeup valve stuck open is caught before it carries over into the boiler or dumps water to the floor.

Receiver and level

- [ ] Receiver water level and float switch operating
  Water level in the receiver sitting in the normal band on the gauge glass, float switch or level control starting and stopping the pump at the right points, no continuous overflow at the vent or overflow connection.
  2 photos required
- [ ] Makeup water valve feeding only on demand
  Float-operated makeup valve holding closed at normal level and opening only as level drops, not feeding continuously, no city water running steadily into the receiver.
  1 photo required
- [ ] Makeup line backflow protection and test record checked
  Backflow preventer or air gap on the city makeup line in place, and the latest test by a certified backflow tester on record with the owner.
  No photo required
- [ ] Condensate temperature read against the pump rating
  Receiver or return temperature read by thermometer or IR gun and compared with the pump's rated maximum on its nameplate or data sheet, since hot condensate flashes and cavitates the pump.
  1 photo required
- [ ] Receiver vent open and not blowing a steady plume
  Vent pipe clear and ending where flash vapor does no harm, only a light wisp showing, a steady plume reported to the owner as steam blowing through upstream.
  1 photo required
- [ ] Overflow line ending at a drain with an air gap
  Overflow piped to a floor drain or receptor with an air gap, not hard-piped to the sewer or dumping on the floor, and no fresh water stain showing recent overflow.
  1 photo required

Pumps and check valves

- [ ] Pump seal and connections dry
  Mechanical seal essentially dry, no product tracking down the shaft, flanges and piping connections free of weeping, no rust trail or puddle under the unit.
  2 photos required
- [ ] Pump running quiet and check valve holding
  Feed pump running without cavitation or unusual noise when it stages, discharge check valve holding so the boiler does not backfeed the receiver and the pump does not spin backward on stop.
  1 photo required
- [ ] Discharge pressure read with the pump running
  Where a discharge gauge is fitted, pressure read while the pump runs and compared with the nameplate duty or last quarter's reading; a drop points at a worn impeller or steam binding.
  No photo required
- [ ] Lead pump alternating on a duplex unit
  Where the unit is duplex, the alternator swaps the lead between pumps and both run-hour meters or counters advance, with neither pump left off in hand.
  No photo required

Strainer, controls and alarm

- [ ] Strainer and controls checked
  Strainer ahead of the pump not loaded, controls in auto rather than left in hand from a past call, pump cycling with the boiler's demand as intended.
  1 photo required

- [ ] Low-water and alarm devices present and set
  Low-level cutout and any alarm or pump-fault annunciation in place and not bypassed, no standing alarm on the panel.
  1 photo required

Hot surfaces and records

- [ ] Receiver and hot piping insulated or guarded
  Receiver, return piping and pump casing insulated or guarded where people pass, a hot-surface warning in place, and readings taken without bare-hand contact.
  1 photo required

- [ ] Quarterly readings and makeup use logged
  Condensate temperature, any discharge pressure and any makeup meter reading logged, so rising makeup use flags lost condensate to the owner.
  No photo required