READY TO INSPECT — FIELD CHECKLIST

Water-source heat pump annual maintenance checklist

The annual water-source heat 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 IMC, manufacturer's published instructions. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The mechanical service tech on the annual, with the unit off, the water side isolated and the space protected below the access panel. When: Once a year, the pass that isolates the water side to clean the strainer and verify flow and pressure drop, and opens the cabinet to reach the coil, pan and blower the quarterly never touches.

Shutdown and isolation

- [ ] Zone outage agreed with the owner and occupants told
  Outage time agreed with the owner, occupants told how long the zone goes without heating or cooling, finishes under the access panel covered against water-side spills.
  No photo required

- [ ] Every electrical feed to the unit locked and tagged
  Disconnect and any separate heat or control feed locked out, zero voltage proven. For tests: panels on, people clear, locks off by whoever hung them, re-locked before hands go back in.
  1 photo required

Air side and coil

- [ ] Coil deep-cleaned and drain pan pulled and re-pitched
  Coil cleaned through the full fin depth, no leaks at the tube connections, pan removed and scrubbed to bare surface, pan and line re-pitched to drain and trap rebuilt and primed.
  2 photos required

- [ ] Blower and motor serviced
  Motor bearings checked, wheel cleaned and balanced, amp draw within nameplate at each speed, no imbalance or rub.
  1 photo required

Water side

- [ ] Loop isolation valves closed and pressure bled at the unit
  Supply and return isolation valves closed, pressure relieved at a test port or drain into a bucket, and a towel under the strainer cap before it opens.
  No photo required

- [ ] Strainer cleaned and hose kit and isolation valves serviced
  Y-strainer basket pulled, cleaned and reseated, hose kits and unions checked for wear and leaks, isolation and any motorized valve stroked full range and seating.
  2 photos required

- [ ] Valves reopened and the coax vented before the unit runs
  Strainer cap sealed, isolation valves fully open, air vented from the water side and the connections checked dry before power is released for the flow test.
  No photo required

- [ ] Flow and pressure drop verified across the coax
  Pressure drop across the water-to-refrigerant coax measured and compared to the manufacturer's flow curve, autoflow or balancing valve confirmed delivering design flow, entering and leaving water temperatures logged.
  2 photos required

Refrigerant, controls and electrical

- [ ] Reversing valve operation proven under load in both modes
  Unit driven through heating and cooling under real load, reversing valve shifting fully and holding, refrigerant operating pressures and temperatures read where the system allows and compared to the data plate, a low reading treated as a leak to find rather than a top-off.
  1 photo required
- [ ] Electrical connections and thermostat verified
  Terminal and disconnect connections tight with no heat discoloration, contactor and capacitor sound, thermostat calibrated and occupied and unoccupied modes proven with no overrides left set.
  1 photo required
- [ ] Compressor current read against the nameplate in both modes
  Under the site's energized-work procedure and its PPE, compressor amps read in heating and cooling and compared with the nameplate and last year's reading.
  1 photo required
- [ ] Pressure and freeze lockouts proven by the manufacturer's method
  High and low pressure and water coil freeze protection each shown to stop the compressor by the manufacturer's test method, fault read and reset, nothing left bypassed.
  1 photo required
- [ ] Sealed circuit opened only by a certified refrigerant technician
  Access fittings used, a leak repaired, or refrigerant recovered or weighed in only by a certified refrigerant technician, recorded by refrigerant type and weight.
  No photo required

Return to service

- [ ] Unit closed up, locks cleared and returned to the owner's schedule
  Cabinet panels and ceiling tile back, locks removed by whoever hung them, unit running on a thermostat call with no lockout and the owner's schedule restored.
  No photo required
- [ ] Annual water, amp and pressure-drop readings filed by unit tag
  Entering and leaving water temperatures, coax pressure drop, compressor amps and strainer condition recorded against the unit tag as the baseline for next year.
  No photo required