READY TO INSPECT — FIELD CHECKLIST

Base-mounted HVAC pump annual maintenance checklist

The annual base-mounted 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 manufacturer's published instructions. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The mechanical service crew on the annual, with the pump locked out for the alignment and bearing work. When: Once a year during a system shoulder period, when the pump can be locked out long enough to break the coupling and check alignment cold and hot.

As-found, lockout and strainer

- [ ] As-found pressures and motor current read before shutdown
  Suction and discharge pressures read, and motor current read under the site's energized-work procedure, so the restart has an as-found to compare.
  1 photo required
- [ ] Pump locked and tagged out with isolation valves closed
  Disconnect locked and tagged by each worker, valves closed and tagged, casing bled to zero; a test run needs valves open, casing vented and guard on under the procedure's temporary release, then re-lock.
  1 photo required
- [ ] Strainer basket pulled and cleaned
  Strainer drained, basket pulled, screen cleaned and checked for holes or collapse, cover gasket renewed if hard or cut, strainer vented on refill.
  1 photo required

Alignment and coupling

- [ ] Coupling alignment checked and corrected
  Coupling broken and shaft alignment measured, angular and parallel offset brought within the manufacturer's tolerance, soft foot checked and shimmed.
  2 photos required
- [ ] Coupling element and shaft condition inspected
  Coupling insert or spider inspected for wear and cracking, shaft and keyway sound, no fretting at the hubs.
  1 photo required
- [ ] Warm alignment checked on a pump that runs hot
  On a heating-water pump, alignment rechecked hot after a run and re-lock, or the manufacturer's thermal offset applied to the cold set, both readings recorded.
  No photo required

Bearings and seal

- [ ] Bearings lubricated or replaced per the schedule
  Bearings greased to the correct type and quantity or replaced at interval, no over-packing, end play and runout within limits.
  1 photo required
- [ ] Seal condition assessed and seal water verified
  Mechanical seal inspected or planned for replacement based on run hours and leakage, seal flush or gland water flowing where fitted.
  1 photo required

Base, vibration and VFD

- [ ] Base, grout and anchor bolts inspected
  Grout under the base sound and uncracked, anchor bolts tight, vibration isolators or inertia base in good condition and not bottomed out.
  2 photos required

- [ ] Vibration checked and VFD interface verified
  Overall vibration checked with the pump at operating speed, no excessive level pointing at imbalance or misalignment, VFD in auto with speed following the control signal and no leftover hand or bypass override.
  1 photo required

Restart and duty point

- [ ] Coupling guard refitted and locks removed by whoever hung them
  Guard back on and fastened clear of the hubs, isolation valves reopened, casing vented of air, locks and tags removed by the person who applied them.
  1 photo required
- [ ] Restart readings compared with the as-found
  Pump run up, suction and discharge pressures and motor current read again and compared with the as-found, seal and flanges dry once running.
  1 photo required
- [ ] Duty point plotted on the manufacturer's pump curve
  Head from the gauge differential plotted on the published curve at the measured or balanced flow, compared with the design duty point and last year's plot.
  No photo required
- [ ] Annual pump record filed with readings and deferred work
  Alignment readings, shims, lubricant, strainer condition, duty point and vibration logged against the pump tag, deferred repairs listed for the owner.
  No photo required