READY TO INSPECT — FIELD CHECKLIST

Electric duct heater annual maintenance checklist

The annual electric duct heater 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 NEC (NFPA 70), IMC (mechanical code), manufacturer's published instructions. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The HVAC service lead with the licensed tech who tests and documents the safeties; the field observes and documents the results. When: Once a year ahead of the heating season, coordinated with the air handler service so the duct can be opened.

Isolation and nameplate

- [ ] Heater, fan and control sources locked for the annual
  Heater disconnect, fan starter and control power locked and tagged, box proven dead; interlock and limit tests run under the temporary release (covers on, clear, locks off by owner), then re-locked.
  1 photo required
- [ ] Nameplate kW and voltage matched to the circuit feeding it
  Nameplate kW, voltage, phase and amps compared with the breaker or the fuse ratings read once the box is proven dead, the disconnect and the panel schedule, any mismatch reported to the owner.
  1 photo required

Element and contactor service

- [ ] Elements cleaned, checked and resistance verified stage by stage
  Coils cleaned of dust and lint, no cracked or grounded elements, each stage's resistance and draw checked against the nameplate and logged.
  2 photos required
- [ ] Contactors and terminations serviced
  Contactor contacts clean and not pitted, no sign of welding, power and control terminations torque-verified or resistance-measured, re-torqued only where found loose, no heat discoloration.
  1 photo required
- [ ] Element insulation resistance to ground measured
  Insulation tester reading from each stage to the frame logged against last year's value and the manufacturer's minimum, a falling reading flagged before it trips.
  1 photo required
- [ ] Heater's internal stage fuses inspected where fitted
  Fuse ratings match the heater's wiring diagram, clips tight and holders free of heat discoloration, on heaters built with their own stage fusing.
  No photo required
- [ ] SCR heat sink and cooling fan cleaned where fitted
  On SCR-controlled heaters, heat sink fins cleared of dust and any cooling fan turning freely, so the controller does not overheat and fold back.
  No photo required

Interlock verification

- [ ] Proving switch sensing parts inspected
  Pressure pickups and tubing clear and uncracked, or the sail paddle straight and free on its pivot, so the switch responds to real airflow.
  1 photo required
- [ ] Proving switch set point checked against the heater's minimum
  Duct pressure or velocity read with a manometer beside the switch, set point compared with the manufacturer's minimum airflow for the heater and left at the manufacturer's setting.
  1 photo required
- [ ] Airflow interlock function-tested by interrupting airflow
  With a stage calling, airflow actually interrupted and the heater confirmed dropping out at once; documented by the licensed tech, acceptance by the owner or AHJ, interlock left as designed.
  2 photos required

Cutout verification

- [ ] Limit sensors seated and matched to the parts list
  Limit discs or bulbs seated in their mounts across the elements, capillaries unkinked, and each limit's rating matching the manufacturer's replacement parts list.
  1 photo required

- [ ] High-limit cutouts function-tested and reset
  Automatic and manual limits confirmed opening the heater under test and the manual limit needing a physical reset; documented by the licensed tech, acceptance by the owner or AHJ, never bypassed.
  2 photos required

Return to service

- [ ] Covers fastened and every lock removed by the person who hung it
  Element and terminal box covers back on, tools and rags out of the duct, and each lock and tag removed by whoever applied it under the site's procedure.
  1 photo required

- [ ] Heater run through a full heat call and back to automatic
  Fan started first, the call raised to full and dropped, every stage and the controller following it and discharge temperature rising, then the heater left in automatic.
  1 photo required

- [ ] Annual readings logged beside last year's values
  Insulation resistance, set points, nameplate check and repairs logged under the heater's tag beside last year's values, deficiencies raised to the owner.
  No photo required