

The AC Troubleshooting Guide

The diagnostic sequence our own technicians use, written so a homeowner can follow it. Work through it before calling anyone and you will either solve the problem or know exactly what to ask for.

Part 1. Five checks you can safely do yourself

In order. Roughly half of the call-outs we attend are resolved by one of these.

- **Thermostat mode and setpoint.** Confirm it is on COOL, not FAN. Set 22°C and listen for the outdoor unit starting within a minute or two.
- **Return filter.** Pull it out and hold it up to light. If light does not pass through easily, wash it or replace it. A blocked filter alone can cost a third of your cooling.
- **Outdoor unit clearance.** Nothing stacked against the condenser, nothing boxed in, no plant growth across the coil. It has to reject heat to somewhere.
- **Supply grilles.** All open, none blocked by furniture. Closed grilles unbalance the system and can freeze the coil.
- **Ice check.** If you see ice on the copper pipework or the indoor coil, switch to FAN ONLY for two hours to defrost before anyone inspects it. Do not chip at it.

Two things never to do: do not add refrigerant yourself, and do not repeatedly reset a breaker that keeps tripping on the AC circuit.

Part 2. What each symptom actually means

Symptom	Most likely cause	Next most likely
Runs constantly, never reaches setpoint	Fouled coil or blocked filter	Low refrigerant from a leak
Cools at night, not in the afternoon	Condenser fouled or poorly ventilated	System undersized for peak load
Water dripping from ceiling grille	Blocked condensate drain	Cracked or badly sloped drain pan
Musty smell on start-up	Biological growth in drain pan or ducts	Damp insulation
Ice on pipework	Restricted airflow	Low refrigerant charge
Outdoor unit hums but will not start	Failed capacitor	Seized compressor
Breaker trips when AC starts	Failing compressor drawing high current	Electrical fault on the circuit
Some rooms cold, others warm	Duct leakage or imbalance	Closed or blocked grilles
Bills rising, cooling unchanged	Efficiency loss from fouling	Refrigerant charge drifting low

Part 3. The two questions that reveal a real diagnosis

Ask any technician these before authorizing a repair. A competent one answers immediately; a guesser will change the subject.

1. "What is the delta-T across the coil?"

This is the difference between the return air temperature and the supply air temperature. A healthy system

typically shows roughly 8 to 12°C. Much less means airflow or refrigerant is wrong. It takes thirty seconds to measure with a probe.

2. “What is the running amperage against the nameplate?”

Current draw compared with the manufacturer's rating tells you whether the compressor is working correctly, struggling, or on its way out. A clamp meter reading takes a moment.

If a technician tells you the system “just needs gas,” ask where the leak is. Refrigerant sits in a sealed circuit and is not consumed. If the charge is low, there is a leak, and topping it up simply defers the same bill.

Part 4. Repair or replace

Age of unit	Minor fault	Major fault (compressor or coil)
Under 5 years	Repair	Repair, and check whether warranty applies
5 to 8 years	Repair	Get both quotes, compare over 3 years
8 to 12 years	Repair if inexpensive	Replace
Over 12 years	Repair only as a stopgap	Replace

Rule of thumb: if the repair exceeds 40% of the cost of a comparable new unit and the system is past eight years old, replacement usually wins over a three-year horizon. Systems still running on R22 refrigerant are a further argument for replacement, since the refrigerant is being phased out and priced accordingly.

Part 5. Keeping it healthy

- Full service twice a year: February or March, and September or October.
- Wash filters yourself every four to six weeks during the cooling season.
- Add a third filter-focused visit if you have pets, high occupancy or construction nearby.
- Coastal property? Wash and treat the outdoor condenser twice a year without fail.
- Ask for the readings after every service and keep them. A trend is worth more than a single number.

Worked through this and still stuck? Send us the symptom and a photograph of the indoor and outdoor units on WhatsApp at +971 50 705 3034. We will tell you what it is likely to be and what it should cost, before you commit to anything.