

General Information

Subject: Maintenance



Regular maintenance keeps equipment running as efficiently as possible.

All reputable air conditioning manufacturers recommend that periodical maintenance is carried out on their equipment to extend the units life cycle and to maintain the equipments efficiency.

Air Conditioners filters, coils and fins require regular maintenance for the unit to function effectively and efficiently throughout its years of service.

Neglecting necessary maintenance ensures a steady decline in air conditioning performance while **energy use steadily increases!**

Key Points

- ◆ **Maintain Systems Efficiency.**
- ◆ **Reduced Running Costs.**
- ◆ **Prolong the Equipment's Life Cycle.**
- ◆ **Maintain Conditioned Space Ambient Conditions.**
- ◆ **Ensure Equipment's Reliability.**



Maintenance



Elements associated with Maintaining Air Conditioning Equipment.

1. **Air Conditioning Filters (Indoor Units).**

Routinely clean or replace indoor units filters. Clogged, dirty filters reduces airflow and efficiency, but increases running costs. Replacing a dirty, clogged filter can lower the air conditioners energy consumption by up to 15%.

The majority of air filters are fully washable, please check before washing.

With normal airflow obstructed, air that bypasses the filter may carry dirt directly into the heat exchanger (Indoor Unit) and impair the coils heat absorbing capacity.

2. **Air Conditioning Coils (Indoor Units).**

A clean filter prevents the heat exchanger (Indoor Unit) from soiling quickly. In time however the Indoor coil will still collect dirt. This dirt reduces airflow and insulates the coil, reducing its ability to absorb heat. To avoid this problem, check indoor / outdoor coil every year and clean as is necessary.

3. **Coil Fins (Indoor / Outdoor Units).**

The aluminium fins on Indoor / outdoor heat exchangers (Coils), are easily bent and can block airflow through the coil. Straightening fins increases the efficiency of the airflow, specialist equipment and knowledge are required for this task.

4. **Condensate Drains (Indoor Units).**

Clogged or restricted drains prevent a unit from reducing the humidity, and the resulting excess moisture may discolour decor.

5. **Air Conditioning Coils (Outdoor Units).**

Clean outdoor heat exchangers and make sure they are in good condition, pay attention to twin coils, make sure the "void" between coils is clear.

6. **Check for Refrigerant Leaks (System).**

This element MUST be carried out by an appropriately certified person.

7. **Check Control Settings.**

Check all control settings to ensure they allow the system to operate as efficiently as possible.

Record any anomalies / fault codes, clear the controllers memory and operate the system to check if there any anomalies currently active.



Maintenance



Elements associated with Maintaining Air Conditioning Equipment.

8. Check System Insulation (System).

Check insulation throughout the installation, lack of insulation will reduce the efficiency of the system. Pay particular attention to services which are installed outside of the building, especially on the buildings roof, birds collect insulation for nest building. Insulation will also “break down” under UV light, crumbling insulation has very poor insulation properties and should be replaced.

9. Electrical Connections.

Check all electrical connections, loose connections can over-heat!

10. Refrigerant Records.

Systems containing over 3kg of “F Gas” refrigerant must have a set of system records containing

- a) Information about refrigerant additions and removals.
- b) System faults or failures.
- c) Name of personnel involved in service and maintenance work.

Records must be made available on demand by an authorised person.

Details are available via www.defra.gov.uk/fgas

The frequency of some of the elements may need to be increased subject to individual site requirements.

The previous list of elements may be increased / decreased based on specific site requirements.



Maintenance



Summary.

Quarterly.

- Clean indoor air filters.
- General overview of system.
 - Insulation
 - Supports
 - Abnormal noise.
 - Visual appearance
- Check controller for fault indications and take remedial action if required.
- Check settings of controller including date and time if applicable.

Annually.

- Clean outdoor heat exchanger
- Check refrigerant circuit
- Check refrigerant records
- Check all modes of operation measure and record air on and air off temperatures
- Check air distribution patterns
- Indoor unit overhaul. Clean fan blades and drainage system.
- Ensure that power circuits are tight and not overheating.
- Check operation of circuit breakers and isolators

