

AHU Refurbishment



BEFORE



AFTER

Can the AHU be refurbished?

Following a visit by one of our site services team a report would be issued detailing the feasibility of refurbishing the AHU with an explanation of the recommended works to bring the AHU to a standard to suit a particular requirement or budget.

Why refurbish?

Due to a poor quality AHU or failing components or a requirement to improve the specification of the existing plant.



BEFORE



AFTER

They say you need a new AHU but do you really?

The old rusting unit on the roof is assumed to be beyond repair and no longer fit for purpose. Often this decision is made for some of the following reasons:

Corrosion of the casework. *This can be remedied.* Various techniques can be used to vastly improve the casework appearance and mechanical properties.

Low / insufficient airflow. *This can be remedied.* Factors such as blocked coils, closed dampers and blocked louvres can contribute towards this. Inefficient fans and incorrectly operating controls are often also major culprits.

Unable to maintain the correct temperatures. *This can be remedied.* As previous, plus draughts allowed to enter the building during system downtime can be a big issue.

Prior to throwing it in the bin! Think! Can it be refurbished?



Benefits of refurbishing

Our team have carried out refurbishment works on many different AHU manufacturers units. These works have included the fitting of new components, casework repair and modifications.

There are several major benefits of choosing to refurbish an existing AHU including:

Cost & practicality

If deciding whether to replace or refurbish an AHU cost savings to be considered include:

- Saving on new ductwork installation
- Saving on new pipework installation
- Fitting the latest high efficiency technology components provides significantly improved running costs and greater reliability.
- Cost savings on future maintenance as the new components will be considerably more reliable and require less maintenance time in future years (e.g belts and bearings).
- No requirement for crange in some cases that would be required to replace with a new unit.
- Maintain the existing space. New equipment due to legislative differences in the time from installation of the existing unit to the requirements for a new system would invariably need to be significantly larger and take up more space on site.
- Save on time between refurbishment and a typical new installation.
- Vastly improves the life time of the AHU often in excess of 15 years.

Our team can provide detailed guidance on the best way forward when a client is deciding whether to renew or refurbish. Sometimes the best solution is to partially refurb and partially renew. Typically some AHU sections do not stand the test of time as well as others and it may be that a particular section can be removed and replaced.

Energy savings

By removing old inefficient belt driven fans and replacing with the latest direct driven EC or AC fan technology large energy savings can be achieved. We can advise on the cost saving benefits of carrying out such a change. We can also advise on the range of speed control options available to ensure the highest possible energy efficiency system.

Replacing or cleaning blocked coils will result in a much lower pressure drop which in result will improve air flows and reduce energy consumption.

Air quality

By changing blocked filters and damaged filter slide frames / casework which often allow dirty air to by-pass the filters significantly improved air quality levels will be achieved.

Increasing the specification

There may be a requirement to change a LPHW coil to electric or gas or a change in the cooling coil specification. The AHU may require an additional section fitting such as an additional heating or humidifier device. Our site services team are able to advice on all such issues.

Refurbishing of an AHU

Following the issue of a condition report our team would forward a quotation detailing a full list of the recommended / requested works. Often we provide a 'shopping list' of what options are available.

We can typically summarise our refurbishment options into three categories **Level 1**, **Level 2** and **Level 3**.

Level 1 option we would typically clean the unit of surface dirt, fit new gaskets / doors as required and replace any critical or failing components. For this option the AHU would not always look vastly different but would operate more efficiently. We often have clients who say that they need to keep a unit operating for a certain period of time such as two years and need it to operate more efficiently.

On a completed project at a major engineering company, we attended site and replaced all access panels, gaskets, fitted new damper actuators and new belts and pulleys. The client was extremely pleased with the results and actually commented their thought process in terms of timescales for providing new equipment may now be reviewed. It is our belief that for not an excessive amount of outlay some fairly significant differences can be made to the airflow performance and energy efficiency of the system.

Level 2 option we would do everything detailed within the Level 1 option. We would tend to replace the majority of the components, particularly the fans. The casework would be treated and repaired. For this option the AHU would look significantly different internally and externally and from a functionality perspective a major difference would be noticeable.

Level 3 option the AHU would be taken back to the outer shell. All internal casework would be re-built, all components would be renewed. The internal and external casework fully treated and fitted with new panels where possible and painted to match where not possible.