Are fresh air supply units necessary if I have air conditioning?

Yes, fresh air supply units are necessary even if you have air conditioning. Air conditioning mainly controls temperature and humidity but does not introduce outdoor air. Without fresh air, pollutants and carbon dioxide build up indoors, reducing air quality and increasing health risks. Ventilation ensures clean, breathable air.

Why Air Conditioning Alone Is Not Enough

Many UK homeowners and businesses mistakenly believe that installing an air conditioning (AC) system means ventilation is taken care of. In reality, air conditioning regulates temperature and humidity, but it recirculates the same indoor air. Without fresh air input, contaminants accumulate.

The Building Regulations (Approved Document F) make clear that adequate ventilation is legally required. Simply cooling stale air does not address health, safety, or comfort.

What Fresh Air Supply Units Do

Fresh air supply units are designed to bring outdoor air into the building in a controlled way. Unlike simply opening windows, these systems filter and regulate airflow to ensure quality and comfort.

Key benefits include:

- **Improved health**: By removing CO_2, allergens, and pollutants.
- **Reduced damp and mould**: Ventilation extracts excess moisture before it condenses.
- **Energy efficiency**: Units such as MVHR (Mechanical Ventilation with Heat Recovery) recover heat from extracted air, lowering heating demand.
- **Compliance**: Meeting UK ventilation standards in both domestic and commercial settings.

UK Data on Indoor Air Quality

- The Royal College of Physicians (2016) reported that poor indoor air quality contributes to around **40,000 premature deaths annually in the UK**.
- A typical adult spends **around 90% of their time indoors**, where pollutant levels can be **2–5 times higher than outdoors** (DEFRA).
- Research by Public Health England links indoor damp and mould to **increased respiratory**

issues and asthma prevalence.

Therefore, ventilation is not a “nice-to-have” but an essential safeguard for health.

Comparing Air Conditioning and Ventilation

Feature	Air Conditioning	Fresh Air Supply Units
Controls temperature	Yes	No
Controls humidity	Partially	Indirectly
Introduces fresh air	No	Yes
Filters outdoor pollutants	No	Yes
Reduces mould risk	No	Yes
Meets UK ventilation regs	No	Yes

This table makes clear that AC cannot replace ventilation – they are complementary, not interchangeable.

Different Types of Fresh Air Systems

Fresh air supply can be achieved in several ways:

1. Continuous Mechanical Extract Ventilation (dMEV)

- Example: VENTI’s ARIA system.
- Extracts stale air from wet rooms like bathrooms and kitchens.
- Helps prevent condensation and mould.

2. Mechanical Ventilation with Heat Recovery (MVHR)

- Example: VENTI’s RESPIRO (whole-house) or FLUXO/AUREN (single-room).
- Supplies filtered outdoor air while extracting stale air.
- Captures heat from outgoing air to pre-warm incoming air.
- Highly efficient for new builds and airtight homes.

3. Single Room Supply Units

- Ideal for retrofits or extensions.

- No ductwork required.
- Provide targeted supply where needed.

The Cost of Poor Ventilation

Poor ventilation carries both health and financial costs:

- **Health risks**: Increased asthma, respiratory infections, and fatigue.
- **Property damage**: Damp patches, mould growth, and deterioration of building fabric.
- **Energy waste**: Without heat recovery, extra heating is required to warm stale air.

A report by BRE (Building Research Establishment) estimated that **damp and mould in UK homes costs the NHS £1.4 billion annually** in treatment. Investing in ventilation systems can reduce this burden.

Regulations and Best Practice

Under the **UK Building Regulations Part F**, all new builds and major refurbishments must have adequate means of ventilation. This ensures:

- A steady supply of fresh outdoor air.
- Removal of excess moisture.
- Extraction of airborne pollutants and odours.

Part L (energy efficiency) works in tandem, meaning ventilation must be energy efficient as homes become more airtight. MVHR is therefore increasingly common in UK homes.

Fresh air supply units are essential even with air conditioning—cooling alone cannot protect your health or your home.