

Case Study

CHANGE IS IN THE AIR

INGENIOUS AIR



Key Benefits

- ✓ Comfortable, virtually draught-free cooling with even temperatures.
- ✓ Dust free and clean climate control.
- ✓ High specification air purification removes all three types of serious indoor air pollutant, which can lead to short and long-term ill-health.
- ✓ Achieves the required temperature control to within 1°C.

Panasonic Factory Achieves the Ultimate Manufacturing Environment

The Problem:

The electronics industry giant Panasonic required 120kW of cooling for an assembly room at their factory in Cardiff. They needed the cooling to be controlled within 1°C and the environment to be clean and dust free. Panasonic had acquired an initial design that recommended drawing outside air into the assembly room. This would create a positive pressure inside the room and prevent dust entering the building. However, their contractor, Cardiff based Celtic Cooling and Heating Ltd recommended The Ingenious Air® System. This flexible, induction air movement system allowed a better design, which would reduce installation and energy costs.

The Solution:

Seven 20kW Ingenious Air® Systems, each paired with an inverter heat pump and high specification air purification module, were installed. The air purification modules were sited locally to the assembly room. This meant that instead of drawing in outside air, the room and factory air are mixed together and then cleaned. This achieves superior indoor air quality by removing airborne viruses, bacteria, chemicals, pollutants and smells. The assembly room is clean and dust free and maintained at a positive air pressure.

This change in design gave two advantages:

1. Installation costs were reduced: Large external air handling units and associated ductwork to pump outside air into the room were no longer required.
2. Energy efficiency was increased: As well as reducing air movement there was no outside air to heat - the system was already utilising warm indoor air.

The induction air movement pattern achieves the required even temperature control to within 1°C.

Follow Up:

Panasonic has been using their Ingenious Air® Systems for several years and are still reaping the benefits. They appreciated the effectiveness of the air purification modules when an area adjacent to the assembly room was re-painted: There was no smell of paint inside the room.