

CASE STUDY

Free Air Cooling Solution Cuts Costs at Major UK Data Centre

Introduction

A leading home improvement retailer in the UK needed a smarter, greener way to manage data centre cooling costs and power use. Their main data centre, previously cooled by conventional CRAC units, was using high amounts of energy and incurring significant running expenses.

Challenge

The main challenge was to find a more efficient cooling solution to reduce both power usage and running costs for the retailer's data centre. The traditional CRAC units were not meeting modern energy efficiency and sustainability goals.

Solution: Free Air Cooling System

To address this challenge, an innovative 'Free Air Cooling' system was recommended for the site.

The solution included the installation of four evaporative coolers, which together deliver over 140kW of cooling. These systems are paired with four powerful extract fans and attemperation sections featuring modulating dampers to ensure precise temperature management.

System Features

The system uses advanced sensors and thermostats to maintain stable temperature and control humidity at all times. A central PLC panel manages the whole installation, fully integrating with both the fire detection system and legacy CRAC units.

Results

With this setup, the EcoCoolers now operate as the primary cooling source, cutting the datacentre's cooling power use by over 90%. 4kW is all that is now needed to provide cooling for the Data Centre. This provides ongoing cost savings and supports the retailer's goals for energy efficiency and sustainability.

Project Delivery

The project was completed during normal working hours with no disruption to data centre activity—a key requirement for continuous operations.

Conclusion

Evaporative free air cooling solutions offer reliable, energy-efficient climate control for critical IT environments, making them an ideal choice for modern data centres.