

# Sierra CP Engineering



## R32 technology brings cost-saving comfort to engineering staff

Outdated, inefficient and energy-hungry electric heaters have given way to the latest heating – and cooling – technology from Daikin UK to improve all-round efficiency at a Worcestershire engineering company.

After some 20 years in its two storey building in Malvern, Sierra CP Engineering decided to modernise its heating and lighting systems to save energy and provide more comfortable year-round working conditions for its 50-strong staff.

It has replaced the 20 electric panel heaters in the boardroom and offices upstairs and the specialist workshops downstairs with 19 split systems from Daikin's Bluevolution range, with the latest R32 refrigerant technology.

In the second phase of the project, it has exchanged some 200 fluorescent tubes for LED lights that use less energy and are cooler.

Efficiency is a keyword for Sierra CP Engineering, which received a grant towards this project from The Business Energy Efficiency Programme, funded from the European Regional Development Fund

Financial Controller Peter Martin says the premises were purpose-built for the company in the 1990s – when energy efficiency and thermal performance of buildings were lesser concerns than they are now.

He says: "The building could become unbearably hot in summer while in winter the electric heaters, rated at 2kW, took a long time to raise temperatures adequately. After the Christmas shut-down it took several days to get the building comfortably warm.

"On the other hand, the Daikin systems are five times more efficient and the prospect of reduced cost energy for heating – plus the benefit of having comfort cooling available in hotter weather – was very attractive to us. We are expecting significant energy cost savings to offset the capital outlay.

"The improved quality of the workspace is an enormous benefit to the company and staff. As an example, we use our boardroom extensively for in-house training sessions and before the Daikin systems were introduced conditions could become very unpleasant. It's much more comfortable now."

### Year of installation

> 2017

### Project requirements

- Air conditioning
- Air curtain
- Air purification
- Control
- Heating
- Hot water
- Refrigeration
- Ventilation

### Installed systems

> R32 Split System



The systems are controlled by infra-red controllers, giving people the freedom to select temperatures, but within defined limits.

The new systems at Sierra CP Engineering were installed by Wayne Young of Malvern-based Daikin D1 Partner Young Air Conditioning – a pioneer of Daikin R32 installations in the UK, and the first to install this many units in a single location.

He says the choice of systems was motivated by a preference for the R32 technology.

“The building has three road frontages and a service lane on the fourth side, so no place for big units. But with the R32 split systems we have been able to mount the outdoor units on the side walls, above ground level”.



All the systems have Daikin ultra-quiet FTXM-M wall mounted indoor units. These incorporate Daikin’s Flash Streamer technology, which ensures fresher, cleaner air. They also have a 3-D air flow, combining vertical and horizontal auto-swings to circulate warm or cool air to the furthest corners of a room. An intelligent eye ensures that air is directed away from where a person is located – and if nobody is detected, the unit automatically switches to a further energy saving setting. Units offer seasonal efficiency ratings up to A+++ in cooling and heating.

R32 refrigerant is already a 50% component of R410a – but has a significantly lower global warming potential of 675 against 2088. Used on its own it is much more energy efficient.

**Kit List**

Code	Description	No of units
RXM-M	R32 Split system outdoor unit	19
FXTM-M	R32 Split system fan coil unit	19

“With five different capacities – 2.5kW, 3.5kW, 4.2kW, 5kW and 6kW – to suit the various room sizes, there is a range of outdoor unit sizes available. We arranged the units carefully to achieve a balance between aesthetics and the practical requirements of the systems.”