



Business Park cuts energy costs by 70% using ABB standard drives for HVAC



Two ABB standard drives for HVAC have reduced energy costs from £180 to just £50 a week, giving an annual saving of over £6,000.

The Castlegate Business Park in Monmouthshire in Wales, UK, provides a range of accommodation for offices and light industry, including production space and storage facilities.

To provide ventilation, the facility has an air handling unit, with a supply fan and a return fan. Each fan was directly driven by its own motor through a pulley system. The speed of each fan could be controlled by varying the ratio of the drive wheels between the motor and the fan, but this had no effect on the speed of the motor and offered no potential for saving energy.

Recent changes in activity had led to a reduced air demand. A current tenant of the center had previously been engaged in the manufacture of semiconductors, an activity that generates large amounts of heat and a subsequent demand for air circulation. As this activity had ceased, the air handling unit now had more capacity than required.

Lowered running costs and reduced carbon footprint

To save money and reduce the carbon footprint of the building, ABB Drives Alliance partner, APDS, was asked to look at the potential for using low voltage AC drives on the installation.

Case notes





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APDS installed two ABB standard drives for HVAC, a 22 kW drive on the supply fan and a 15 kW drive on the return fan. Running the air handling unit according to demand and taking account of the reduced occupancy, the ABB drives have reduced energy costs by 70%, lowering running costs from £180 to just £50 a week. The annual saving of over £6,000 will give a payback time of 16 months.

The savings were verified by the customer using the same methods employed by ABB and APDS.



CO₂ emissions have been cut by 12 tonnes per year.

Challenge

- With reduced industrial activity and therefore reduced air demand, the existing air handling unit had more capacity than needed

Solution

- ABB standard drives for HVAC were installed on the supply fan and the return fan, allowing the air handling unit to be run according to demand

Benefits

- Energy costs are reduced by 70%, saving £6,000 a year
- CO₂ emissions are cut by 12 tonnes per year



Two ABB drives are set to pay for themselves in 16 months.



ABB Oy
Drives
P. O. Box 184
FI - 00381 Helsinki
Finland
Telephone +358 10 22 11
Telefax +358 10 22 22681
Internet www.abb.com/drives