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ABB drives reduce running costs of air handling unit by 70%

At a block of managed business premises in Monmouthshire in Wales, the installation of two ABB variable speed drives has reduced the running cost of the air handling unit from £180 to just £50 a week. This is set to save over £6,000 annually, reducing CO₂ emissions by 12 tonnes per year.

With offices, production space and storage facilities, the Castlegate Business Park provides a range of accommodation for offices and light industry.

Originally, the fans in the air handling unit were driven directly by the motor via a pulley system. Speed control of the fan was possible 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.

The air handling unit was recently refurbished to meet a lower average demand. A current tenant of the centre 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.

Allan McCabe of Kier Managed Services Ltd is the facilities manager for the Castlegate Business Park on behalf of owner Robert Hitchins Ltd.: "I knew of ABB's reputation but had only used their motors before, not their drives. I decided to ask their local representative to look at the potential for using drives on the installation, both to save money and to reduce the carbon footprint of the building."

ABB Drives Alliance partner APDS installed two new ABB drives, a 22kW drive on the supply fan and a 15kW drive on the air extract fan. Running the unit according to demand and taking account of the reduced occupancy, the ABB drives have brought energy costs down by 70%. The annual saving of over £6,000 will give a payback time of 16 months.

McCabe verified the data himself using the same methods used by ABB and APDS. "We put a data logger on one of the three phases of the motor and got the same result as ABB had demonstrated. As well as drastically cutting our energy use, it also reduced our carbon footprint."

ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader in power grids, electrification products, industrial automation and robotics and motion, serving customers in utilities, industry and transport & infrastructure globally. Continuing a history of innovation spanning more than 130 years, ABB today is writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished products. As title partner in ABB Formula E, the fully electric international FIA motorsport class, ABB is pushing the boundaries of e-mobility to contribute to a sustainable future. ABB operates in more than 100 countries with about 147,000 employees. www.abb.com



Caption: With the installation of two ABB variable speed drives Castlegate Business Park has reduced the running cost of its air handling unit from £180 to just £50 a week.

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