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Pizza Hut slices 85% off electricity costs with ABB drives

An 85 percent reduction in cooker hood electricity costs is being achieved at Pizza Hut's Watford Dome branch following the installation of a 1.5kW and a 3 kW ABB drive on the air extraction cooker hood system.

The new system, installed by energy saving ventilation control system specialist, Food Industry Technical (FIT), controls air supply and extraction by monitoring carbon dioxide (CO₂) and temperature in the kitchen.

FIT was approached to provide a system that would improve energy efficiency in the kitchen – achieved by matching fan speeds to the needs of the application. For added safety the FIT system accurately measures CO₂ levels within the kitchen space and initiates air extraction when levels increase. A CO alarm was also fitted to further ensure staff safety in the kitchen area.

Previously, fans were running for 13 hours a day at full speed and consumed between 35 kWh and 45 kWh per day. After the introduction of FIT's system, controlled by ABB component drives, the fans now use, on average, below 10 kWh per day, representing a considerable energy saving and a payback period of just 18 months. This has been achieved by matching the speed of the fans to the demands of the application.

By using a 1.5 kW ABB component drive, FIT could vary the speed of the extractor fan motor by monitoring CO₂ and temperature and feeding the values back to the drive. Similarly a 3 kW ABB component drive was fitted to the supply fan. The system automatically reacts to CO₂ levels and the temperature sensors ramp up the drives to 100 percent if temperature in the kitchen exceeds 34 degrees or CO₂ exceeds 2500 ppm.

“Our brief was to improve energy consumption and after monitoring the air supply and extraction system, it soon became clear that significant energy savings could be made using variable speed drives to control fan speed in both the air supply and extraction system,” says Peter Evans, Technical Sales Director at FIT “.

The system also features a fail safe mechanism to enhance safety – in the event of a control cable being severed, or a sensor failing, the drives will automatically ramp up to 100 percent and stay there until the fault is rectified, ensuring air supply to the kitchens remains at safe levels.

“The current unit installed at Watford is on a trial basis,” says Gary Busby, OEM Sales Manager at ABB. “The system offers Pizza Hut a fantastic opportunity to save money and reduce carbon dioxide emissions. With the Carbon Reduction Commitment (CRC) Energy Saving Scheme now in effect (since April), companies like Pizza Hut will have to reduce their CO₂ output. FIT's extraction system would allow Pizza Hut to meet their environmental obligations whilst reducing their overall energy spend.”

“The new system will ensure CO₂ remains at safe levels whilst reducing the sites overall energy spend,” says Evans “We were able to install the equipment onsite in a few hours, without disruption to Pizza Hut's daily operation.

For more information on ABB drives, freephone 0800 674 837 or email: energy@gb.abb.com quoting reference “drives”.

For further information about FIT's system, please contact 0118 973 9310 or email: enquiries@foodindustrytechnical.com.

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Caption: An 85 percent reduction in cooker hood electricity costs is being achieved at Pizza Hut's Watford Dome branch following the installation of ABB component drives.



Caption: The ABB component drives, installed by Food Industry Technical (FIT), control air supply and extraction by monitoring carbon dioxide (CO₂) and temperature in the kitchen.

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