



OVERVIEW

Extraction Fan Control Saves Energy at BRE, Watford

Global Solutions...

wireless control for hundreds of applications

with Invertek Drives the solutions start here!

- easy to use and incredible performance
- leading edge design and technology
- highly committed to innovation
- products you can rely on
- global support and suppliers

For more information, visit
www.invertek.co.uk



COMPANY

FLAMMABILITY TESTING ON VARIOUS PRODUCTS

Optidrive HVAC reduces energy usage

UK

BRE, based in Watford near London, UK operates the largest 'burn hall' in Europe. The burn hall is used to carry out flammability testing on various domestic, commercial and industrial products.

BRE previously used three 185kW two-speed AC induction motors controlled by star-delta starters to drive large fans to extract fumes from the burn hall after product testing had been undertaken. As the extract fans were being run at full speed the airflow was controlled by three iris valves.

These valves constrict air flow from the fans as required without reducing the energy required to run the fan motors, a highly inefficient system that wasted significant energy. BRE approached Invertek Sales Partner, Motor Control Warehouse, with a view to replacing their star-delta starter system with a variable speed drive (VSD) control system.



Motor Control Warehouse in conjunction with BRE, have now designed, built and installed a fully automated VSD control system using three Invertek Optidrive HVAC, 160kW, IP55 AC Drives. The drives are housed in purpose built glass fibre weather resistant enclosures.

The existing two-speed motors have been adapted for inverter control and have been fitted with specially designed output inductors between inverter and motor to reduce the dV/dt (fast rise and fall) of the switching edges seen by the motor. The new system was integrated in to BRE's existing automated extraction control system. With the systems iris valves fully open the airflow can now be controlled more precisely by the speed of the extract fans.

The speed of the fans has been significantly reduced. This greatly reduces energy usage and gives a short payback period for the upgrade. Kes beech, Technical Manager at Invertek Drives confirms:

"Full payback on installation of Optidrive HVAC is usually achieved within 12 months based on current energy costs in this type of application. In addition, Optidrive HVAC allows fans to run for less time and at lower speeds, greatly reducing maintenance costs and acoustic noise generated by the fans.

Kes concludes: "Automated control of fan airflow also eliminates the need for valve adjustments, again reducing maintenance costs. This all combines to provide an overwhelming argument in favour of using Optidrive HVAC for energy efficient fan control.



If you want to calculate the potential savings in your application use the FREE online Optidrive energy savings calculator.

email: sales@invertek.co.uk web: www.invertek.co.uk

Invertek Drives Limited

Offa's Dyke Business Park, Welshpool, Powys. UK. SY21 8JF
Tel:+44 (0)1938 55 68 68 Fax:+44 (0)1938 55 68 69