DAIKIN

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Case study

Huge Energy Savings for Coral Betting Office

Daikin's Self Cleaning Roundflow Cassette has cut running costs by almost half during a year-long trial at a Wolverhampton betting office leading to a payback period of less than 12 months.

One of the highly energy efficient self-cleaning ceiling cassettes was installed into the Coral bookmakers in Wolverhampton in July 2010 to run alongside an identical system without the self-cleaning function. Both systems were monitored to measure energy consumption and running costs for a 12 month period. With the Wolverhampton shop open from 8am until 10pm six days a week and from 10am until 8pm on a Sunday, it trades for a total of 94 hours each week, resulting in a high demand for energy to run the air conditioning system during opening hours.

The figures, just published, show that the Daikin's Self-Cleaning Roundflow Cassette system cut energy consumption by 49% when compared with the traditional system and reduced costs by the same proportion - £272.31 compared with £541.66 . The self-cleaning system also saved two tonnes of carbon dioxide over the year, compared with the standard roundflow system.

These figures resulted in the payback period for the Self-Cleaning system being considerably under a year and making it a highly energy efficient air conditioning system that not only cuts costs but helps to meet carbon reduction legislation and standards.

Gala Coral, whose bookmaking business is the third largest in the UK, has 1670 shops throughout the UK. Kevin Nixson of Head of Coral Projects is delighted with the results.

"With almost 1700 shops across the UK, any reduction in energy consumption is to be welcomed," he said.

"The figures here speak for themselves and we will now be installing the Daikin Self Cleaning Cassettes in all of Coral's new premises and as part of our maintenance and refurbishment programme. We have enjoyed a fantastic partnership with Daikin UK for more than a year now and when these Self-Cleaning Cassettes were suggested we were happy to trial them. This kind of energy saving initiative is typical of the service that we receive from Daikin UK."

Picture above: Coral betting office self-cleaning cassette after 12 months use

Picture above: Coral betting office standard cassette after 12 months use

Daikin's industry-first Self Cleaning Roundflow Cassettes save energy and help to meet latest energy efficiency legislation by utilising a daily auto-cleaning function that optimises air flow. This self-cleaning filter comes as an option in Daikin's Roundflow ceiling cassettes and can be retrofitted into existing installations.

The self-cleaning filter cleans itself automatically once a day, resulting in no accumulation of dust on the indoor unit. This increases efficiency, reducing running and maintenance costs, as well improving comfort levels through consistent air flow distribution.

Once a day, the filter rotates 360° past a special brush that removes accumulated dust. The time of cleaning can be programmed easily with the remote controller. This dust is then sucked to a storage chamber by using the airflow of the indoor fan. It takes about six months to fill this chamber where a light indicates that the chamber needs to be emptied. Using a supplied extension pipe on a standard vacuum cleaner hose, the dust is removed easily through a small port in the grille.

The trial at Wolverhampton also showed that the self-cleaning filter prevented grime accumulating around the decorative panel, saving further maintenance costs in cleaning and tile replacement.

The use of Daikin's self-cleaning filter will:

- Ensure uniform air flow and temperature distribution with a 360º radial air pattern.
- Ensure clean operation for continually low energy consumption, delivering around 30% energy savings in a typical environment but in this particular case nearly 50% energy savings .
- Ensure ceilings remain clean. Dirt trails can occur on a standard system when maintenance has not been carried out in a timely manner.
- Achieve a reduction in maintenance costs .
- Maintain system efficiency: daily auto-cleaning prevents dust build up in the filter, which can decrease airflow by 65%.
- Ensure consistent airflow and temperature for increased customer comfort.
- Ease maintenance process: dust collected in indoor unit only needs removing every 4-6 months with a normal vacuum cleaner, thus reducing access and manpower requirements .

It is clear from the result of this trial that the potential to reduce energy consumption and, therefore running costs and carbon emissions, is significant and the payback period for the equipment in this installation was well under a year.

Based on a cost of 6.9p per kWh

Your Daikin wholesaler

Hawco Sales Office
The Wharf, Abbey Mill Business Park, Lower Eashing, Godalming, Surrey. GU7 2QN
T: 01483 869070 F: 01483 869001 e: sales@hawco.co.uk

Logistics Centre & Trade Counter
8 Cranfield Road, Lostock Industrial Estate, Bolton, Lancashire. BL6 4SB