

PROJECT OF THE YEAR – LEISURE

RECOGNISING THE BUILDING WITHIN THE LEISURE SECTOR (NEW BUILD OR REFURBISHED) THAT MOST EFFECTIVELY DEMONSTRATES HIGH LEVELS OF USER SATISFACTION AND COMFORT WHILST DELIVERING OUTSTANDING MEASURED BUILDING PERFORMANCE, ENERGY EFFICIENCY AND REDUCED CARBON EMISSIONS.

WINNER:

Refurbishment of Main Kitchen of Fredericks Restaurant TAG Catering Equipment

TAG

TAG Catering Equipment's ambitious objective for Fredericks Restaurant refurbishment was to design and install the most energy efficient electric commercial kitchen possible in terms of energy, water and chemical use in a Grade II listed building dating from 1767.

The company's enlightened plans didn't end there. It was also determined to eliminate the use of gas in the main cooking area, improve working conditions and ergonomics, reduce running cost and improve overall productivity and flexibility of the kitchen.

TAG Catering Equipment's dedication to the notion of life cycle costing and future proofing was central to the design's energy saving philosophy. The company's approach was holistic – to work out how the kitchen could integrate with, and improve, the building's existing systems rather than being treated separately.

The main strategy was to reduce the power needed to run the kitchen by linking all its equipment and

effectively 'sharing' the available power using a power management system. The design looked into every aspect including lighting, ventilation, refrigeration and kitchen ergonomics. It also set out to transform the working environment from a dark, hot, cramped workspace into a calming, cool and light space.

The design challenges were daunting, from collapsed drains, wooden floor joists, the unknown condition of the walls behind layers of tiles and cladding and the change from gas to electric induction cooking. There were R12 and R22 refrigeration pack system, narrow access, no access to extra electrical power supply, and having to install non-standard, innovative products.

Electrical power supply was the biggest challenge with just 52.5kW available to run a potential 200 / 250kW kitchen. So, each kitchen appliance was analysed – was it essential and could it be improved on with state of the art technology without compromising the functionality of the kitchen?

The refrigeration was updated with a new single housing for a twin compressor inverter-controlled system with remote condenser. All new jointless pipework was installed to the existing coldrooms, wine fridges and bar fridges so they could also be added to the new system.

The kitchen operates at 35.75 kW-h/sq m/yr electricity compared to benchmark CIBSE quoted figures



of 730 kW-h/sq m/yr for typical practice and 650 kW-h/sq m/yr for good practice (CIBSE Guide F, section 20.1).

Energy consumption savings are further improved by the elimination of gas cooking.

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PROJECT TEAM:

Project manager / Brief consultant / Mechanical / electrical engineer / Contractor and consultant:
TAG Catering Equipment

FINALISTS:

- » Hawkhchurch Resort & Spa by Darwin Escapes - CD International Building Services Engineers
- » Hillsborough Leisure Centre, Sheffield - Sheffield City Trust

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JUDGES' COMMENTS

“ A very enthused and passionate entry. This is a thoroughly integrated solution involving collaboration. A small project compared with some of others but showed how intelligent thinking can be applied to a one off project. ”