



EASTERN HIGH SCHOOL, CARDIFF

CONSULTANT

MCCAN & PARTNERS

MAIN CONTRACTOR

WILLMOTT DIXON

OVERVIEW

THE NEW FACILITY, WHICH ACCOMMODATES 1100 PUPILS AND 100 STAFF MEMBERS, CONSISTENT OF 59 CLASSROOMS, OPEN TEACHING SPACES, DINING AREAS, A GYM AND ACTIVITY STUDIO.



“THE SCHOOL UTILISES A ‘TRAFFIC LIGHT’ TYPE NATURAL VENTILATION SYSTEM WITH ENHANCED SINGLE SIDED VENTILATION IN CLASSROOMS. WHERE NATURAL VENTILATION COULD NOT BE PROVIDED, MECHANICAL VENTILATION WITH HEAT RECOVERY WAS SPECIFIED USING NUAIRE XBC UNITS.”

GRAHAM CARR OF MCCANN & PARTNERS





THE PROJECT

The new facility, which accommodates 1100 pupils and 100 staff members, consists of 59 classrooms, open teaching spaces, dining areas, a gym and an activity studio. Over £26 million has been invested into the project, which is designed to be a modernised and more stimulating space in which to teach and learn.

The consultancy managing the project was Cardiff-based McCann & Partners Ltd., which was tasked with designing a state-of-the-art facility with a high standard of wellbeing throughout. Willmott Dixon was main contractor, with all M&E work awarded to CMB Engineering - both continue to monitor the progress of the school as the students and teachers settle into their new premises

THE CHALLENGE

A major objective throughout all stages of the project was ensuring a high level of energy efficiency; the school intends on having the lowest possible carbon footprint as possible.

Rhys Tatchell, Area Sales Manager for Nuaire worked closely with McCann & Partners on the project. He explained: “Eastern High School has been designed to create a high level of wellbeing and indoor air quality, which will improve the student’s ability to concentrate, as well as the standard at which teachers can perform. The XBC range of units has one of the best heat exchangers in the industry, with efficiencies of up to 96% - This will aid the school massively in minimizing its carbon footprint and achieving a committed standard of energy efficiency.”

To meet strict SFP energy requirements, a non-standard, larger sized XBC unit was specified for the project. McCann & Partners was able to make use of Nuaire’s BIM Level 2 library and collection of Revit families to accurately alter designs and devise a solution to the site’s space restrictions. From this, McCann & Partners coordinated with other building services to ensure the heat recovery system would be the right size and layout for the space available on site.

Building control was another major objective for the school, hence the inclusion of an integral BMS within the building. Various rooms across the campus have been fitted with natural ventilation, which was designed to be controlled by the occupants of the rooms.

Nuaire’s XBC units, and its various other fan units, were fitted with Ecosmart Classic Control. This allowed CMB to commission each fan separately, reducing overall power consumption, and allowing for various plug-and-play Ecosmart controls and sensors to be installed. Tony Williamson, Operations Manager at Eastern High School commented: “The new systems are far more user friendly.”

THE SOLUTION

Nuaire’s XBC systems, paired with the natural ventilation, have resulted in a demand ventilation system where with the highest levels of heat are recovered, saving as much energy as possible. The school has achieved an Energy Performance Certificate Grade ‘A’ and BREEAM 2014 rating of ‘Excellent’ for its ability to achieve an ambitious level of energy-efficiency. Tony Williamson has stated: “The air quality in the new campus is far superior to what they had in the old school.”

While at Eastern High School, Nuaire had the opportunity to use the fantastic facility as the location for our Health Check Video. The Nuaire Health Check service ensures your AHU or Packaged Heat Recovery Unit is set up to the Nuaire standard, prior to airflow commissioning. For more info, please visit: [Health-Check](#).

THE SCHOOL HAS ACHIEVED AN ENERGY PERFORMANCE CERTIFICATE GRADE ‘A’ AND BREEAM 2014 RATING OF ‘EXCELLENT’ FOR ITS ABILITY TO ACHIEVE AN AMBITIOUS LEVEL OF ENERGY-EFFICIENCY. TONY WILLIAMSON HAS STATED: “THE AIR QUALITY IN THE NEW CAMPUS IS FAR SUPERIOR TO WHAT THEY HAD IN THE OLD SCHOOL.”