

WindowMaster is to supply and install an automated window control system for the new £57 million South Cheshire College. Image courtesy of Jefferson Sheard Architects



Windowmaster helps cut emissions at South Cheshire College

WINDOWMASTER IS to supply and install an automated window control system for the new £57 million South Cheshire College

Currently under construction and due for completion in September, the college was designed by Jefferson Sheard Architects.

The 26,500m² building is based on a village street concept with departments functioning almost as shop fronts which are covered by

a glass and copper skin to create light and space. The curve of the building runs around a beautiful oak copse, one of the most significant features of the site's landscape, and still a centrepiece.

Consultant engineer on the project was AECOM. Commenting on the design Matthew Cotton, associate director of building engineering at AECOM, said: "Natural ventilation was chosen as the col-

lege is keen to promote environmental design including reduced energy consumption and carbon emissions. Natural ventilation offers a zero carbon form of ventilation with the added benefit of night cooling to mitigate the use of mechanical cooling systems.

"The brief was to aim for a BREEAM Excellent rating, although the final certificate and rating has yet to be produced.

"WindowMaster was able to meet the challenges faced during the design including the optimisation of the window design to provide adequate ventilation rates against BB101 standards and adequate night-time cooling. It was also able to reduce the cost impact of window actuators providing the justification for their inclusion."

WindowMaster's NV Advance window automation system included the supply of 732 motors controlling windows in 150 zones around the building, sensors in each of the zones and a computerised control system. The natural ventilation system included high-level exhaust through roof lights behind the central atrium and automated louvres at low level.

Interface

"The key challenge is to ensure the natural ventilation system interfaces with the heat recovery and air handling units around the building to guarantee they operate only when necessary," said WindowMaster regional sales manager Gino DeLaroche. "The system also needed to interface with fans installed in certain areas.

"Data is collected from sensors in each zone and sent via the computer control system back to the heat recovery and air handling units and fans to control them."

WindowMaster, one of Europe's largest provider of natural comfort and smoke ventilation solutions, was chosen to provide the window automation system for the South Cheshire College because of its ability to provide a complete installation, in particular the central computer control system, and a weather station.

The control system understands how the wind speed and direction on all façades will influence the airflow through the windows on each level and location in the façade. WindowMaster determines the Cp values (pressure coefficients) individually for each window by calculating the relevant air pressures from different wind speeds and directions.

WindowMaster carries out computational fluid dynamic (CFD) calculations for 16 wind directions for the building and its surroundings. Based on the calculations, the Cp values are programmed into the control system which allows precise control of individual windows resulting in an optimal indoor climate. Therefore, each zone must operate independently according to external conditions.

The building is to house several curriculum clusters including media/art and performing arts, hair and beauty/hospitality and leisure, business and computing, humanities and engineering/construction and sciences. The college will also include several specialist areas including a well-being centre, 312-seat theatre, a multi-faith centre, learner support zone and a student council area. The new college also includes a large amount of kitchen and servery facilities including various catering areas, training kitchens and training restaurant/bistro.

THE ULTIMATE COMMISSIONING METER FOR WATER SYSTEMS

The electronic manometer for the 21st Century

Sophisticated electronics coupled with the highly successful mechanics using DSP Technology™ and pressure reading range suitable for variable flow systems, make the Comdronic AC6 the instrument of choice for today's Commissioning Engineers, Installers and Consulting Engineers.



- No more cumbersome and heavy water boxes with limited pressure range.
- No more poisonous mercury manometer fillings.
- 0 - 250kPa differential pressure range (600kPa version available).
- Database of over 2600 valves and devices from 52 suppliers.
- User-friendly range of display options simplifies many of the sophisticated features.
- UK designed and manufactured with full service, technical and calibration facilities.

The compact and lightweight AC6 unit is easily operated in the hand or supported from plant/pipework. The package includes transducer/display unit, snap connector anti-kink tubing with isolation valves, snap connector adaptors for most valves, protective rubber boot, toolkit, quick reference guide and full instruction manual, all within carrying case.

COMDRONIC Ltd

Tel/Fax: 01473 462036 Email: enquiries@comdronic.co.uk www.comdronic.co.uk