

Natural Ventilation

Solutions for Schools





Crossway Academy, London - Architects: IID Architects

Better indoor environment

Independent research shows that correct ventilation creates a 15% effectivity increase in learning for pupils in schools. Natural Ventilation creates a comfortable and stimulating environment that meets all the required standards by exploiting the forces of nature.

WindowMaster is an innovative company that specialises in the provision of a wide range of electric window operators and in providing total control solutions for Natural Ventilation.

Over the last 15 years WindowMaster has built up comprehensive knowledge about Natural Ventilation control within schools and we currently control the indoor climate in over 150 schools in UK and across Europe.

WindowMaster has implemented more projects with Natural Ventilation than any other company in Europe and we work closely together with the customer and his consultants to develop the best technical solution and the most cost-effective design.

The Service

Our services include: consulting, planning, cad drawings, products, installation advice, service and maintenance.

Irrespective of the size of the application, we would be happy to assist in the planning of the optimum solution for the indoor environment with Natural Ventilation in your project.

WindowMaster are constantly working to be at the forefront of developments. We work closely with several international research institutes and have access to current and wide ranging knowledge on Natural Ventilation concepts.

Building Design Stage

- Early building design advice
- Steady state analysis
- Dynamic thermal modelling
- Control system design

Construction Stage

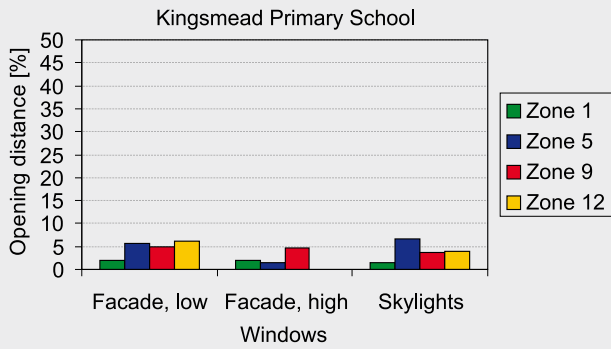
- Project management
- Full electrical documentation
- Component supply
- Termination & commissioning

Building Occupation Stage

- On-site training
- Optimization post occupation
- Service and maintenance
- Remote access for system review and adjustment

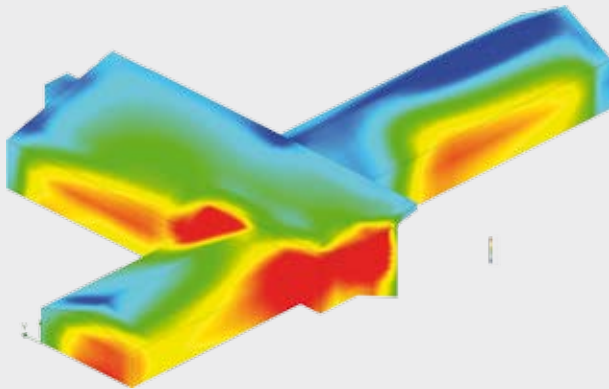


Bedales School, Petersfield - Architects: Walters and Cohen



Above: Average opening distances during the usage time in the period 01.09–15.11.2004. This illustrates how the NV Advance™ efficiently and seamlessly manages to obtain the necessary airchange. At the same time none of the zones had temperatures above 27°C.

This among others is due to the fact that the NV Advance™ takes into account data from the CFD analysis of the wind pressure of the facades (below).



The Experience

Due to the sensitive environment of a classroom it is essential for the environment to be stable and well ventilated in order for the teachers to be able to do their job to the best of their ability and for the pupils to be in an environment which is both stimulating and conducive to learning.

WindowMaster's experience is that intelligent control and CFD analysis of the wind pressure on the facades is essential in order to provide a comfortable and stable indoor climate through the precise control of the openings.

It is important to know how wind speed/direction influences airflow through different windows. To set such parameters, a CFD analysis determines each window's Cp value by calculating air pressure for a number of different wind directions.

The advanced control solutions can provide millimetre-by-millimetre control of the operators. Accurate positioning of windows is necessary to obtain an optimal indoor climate during all seasons and all weather conditions.

In addition many other advantages are possible with NV Advance™ from WindowMaster e.g. a safety function that reduce the risk of entrapment. The operators can be programmed to stop and reverse if they encounter obstacles when closing.

If you have any questions or a potential project, please do not hesitate to contact us. We shall be very pleased to provide a project assessment without commitment.



Selected school references



Bedales School, Petersfield

Building owner: Bedales School
Architect: Walters & Cohen
Consultant: Max Fordham LLP
Building period: 2004 - 2005
Description: Natural ventilation of the three storey Orchard Building for the school. The first and second floors generally use the principles of single-sided and cross ventilation respectively, while the common areas utilize stack ventilation. The Orchard Building at Bedales has won a Royal Institute of British Architect (RIBA) national award 2006.



St. Joseph's Catholic Comprehensive School, Swindon

Building owner: St. Joseph's Catholic Comprehensive School
Architect: Mosscrop Associates
Consultant: Rybka
Building period: 2004 - 2006
Description: Natural Ventilation of a two storey comprehensive school. The building generally uses the principle of cross ventilation through highly placed windows in the facade and internal classroom walls, but combines this with stack ventilation within the central street area.



Faculty of Education, Cambridge

Building owner: University of Cambridge
Architect: BDP
Consultant: Connell Mott MacDonald
Building period: 2003 - 2004
Description: Natural Ventilation of a four storey university building. The main street area generally uses the principle of stack ventilation through windows in the facade at each level and windows in the roof lights running the length of the building.

Germany & Austria:

isa WindowMaster GmbH
Zum Bache 4
D-32549 Bad Oeynhausen
Deutschland

Tel.: 5731 7583-0
Fax: 5731 7583-79
info@isa-WindowMaster.de
www.isa-WindowMaster.de

Switzerland:

WindowMaster AG
Industriestrasse 7
CH-4632 Trimbach
Schweiz

Tel.: 062 289 22 22
Fax: 062 289 22 20
info@WindowMaster.ch
www.WindowMaster.ch

United Kingdom & Ireland:

WindowMaster Control Systems Ltd.
Kettering Parkway
Kettering
Northants NN15 6XR
United Kingdom

Tel.: 01536 510990
Fax: 01536 526321
info@WindowMaster.co.uk
www.WindowMaster.com

Denmark, Sweden & other countries:

WindowMaster A/S (Head office)
Skelstedet 13
DK-2950 Vedbæk
Denmark

Tel.: +45 4567 0300
Fax: +45 4567 0390
info@WindowMaster.dk
www.WindowMaster.com