

Uniclass L7535	EPIC L13
CI/SB (57)	X



Smoke & Natural Ventilation



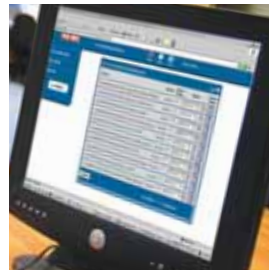
Nottingham LRC ARCHITECTS: HOPKINS



British Museum ARCHITECTS: FOSTER AND PARTNERS



Robert Gordon University ARCHITECTS: FOSTER AND PARTNERS



Creating a Healthier and Safer Environment

SE Controls provides specialised ventilation products and services which enable clients to enjoy a healthier, safer and cost-effective internal built environment.



Through experience gained over 25 years, SE Controls offers complete 'turnkey' solutions from design and manufacture to installation commissioning and on-going service throughout the lifetime of the building.

SE Controls' products and services are at the leading edge of industry knowledge. The company is dedicated to reinvesting its profits into new technologies and solutions which will deliver greater benefits for its clients, its staff and the environment.



The company is focused on delivering innovative natural ventilation solutions for smoke ventilation, required under Building Regulations, and for energy and carbon efficiency which will be required under forthcoming European legislation.

The Total Solution

SE Controls is able to deliver a total solution to its clients from initial concept through installation and hand over to on-going maintenance and support. The company is also able to manage the interfaces between the different parties involved in the construction process – critical in ensuring the end result matches the design concept.

SE Controls has long recognised that the key to delivering successful projects is down to the skill of its people, and this approach and the knowledge base available enables clients to be supported in every aspect of their projects. Furthermore, clients can rely on a single point of contact from the start of the project through to its successful conclusion.

The nature of SE Controls' systems means that different trades may be involved during the build period and systems may need interfacing with teams of glazing or façade contractors, electrical contractors as well as the main contractor. These are all managed by SE Controls' Project Teams.

SE Controls is also able to offer a full installation service including commissioning, client training and fine tuning. SE Controls wants to be at the heart of the construction process, as experience has shown that this is the most effective way of delivering successful solutions.



CLIENT
MECHANICAL ELECTRICAL ENGINEER
ARCHITECT
CONSULTING ENGINEER
MAIN CONTRACTOR
FACADE CONTRACTOR

Smoke Ventilation



SE Controls offers a comprehensive range of natural smoke ventilation systems suitable for virtually any size and type of building.

The systems are designed to create a smoke free layer above the floor by removing smoke from the building. This is achieved by using the natural buoyancy of the hot gases to rise and exhaust through high level vents whilst introducing replacement fresh air via low level inlet vents. This significantly improves the condition for safe escape by occupants and permits the fire to be fought in its early stages.

The systems automatically open specific windows, doors, louvres or roof lights upon detection of smoke. Using a combination of actuators, control panels, detectors and manual control points, SE Controls is able to deliver a complete system which can be certified to satisfy Building Control requirements. The system can stand alone, interfaced with the building's fire alarm or integrated with a BMS (Building Management System) for maximum control.

SE Controls offers a complete solution from design through installation, commissioning and on-going service. Systems comply with existing product and performance standards (ADB, BS5588, BS7346 part 1 BSEN 12101-2) and are designed to conform to the forthcoming European Standards EN12101 series. SE Controls' smoke ventilation systems are the reliable route to a safer built environment.

Natural Ventilation



SE Controls is at the forefront of the drive to provide energy efficient, modern buildings and deliver a sustainable environment for future generations. The company specialises in providing tailored natural ventilation solutions to all types of buildings including schools, colleges, offices and residential. Natural ventilation harnesses the freely available elements of wind and heat to move air through a building. This delivers improved indoor air quality at a fraction of the capital, space and running costs of conventional air conditioning.

SE Controls' natural ventilation systems concentrate on automatically opening and closing windows and rooflights in a controlled manner. The systems can range from a simple open / close switch to a fully integrated energy management system, which could include CO₂ measuring, internal and external temperature measuring, external weather sensors as well as interfaces with other building plant.

SE Controls has developed a range of adaptive natural ventilation systems which use the Lonworks open systems platform. SE Controls' natural ventilation systems are the sustainable route to a healthier environment.

Smoke Ventilation

Commercial

For commercial applications, SE Controls provides early consultation and a complete package of specification, supply, installation and maintenance.

Individual solutions are designed to meet the needs and requirements of each project using key products including air inlet vents, natural smoke vents, pressure relief vents and control systems.



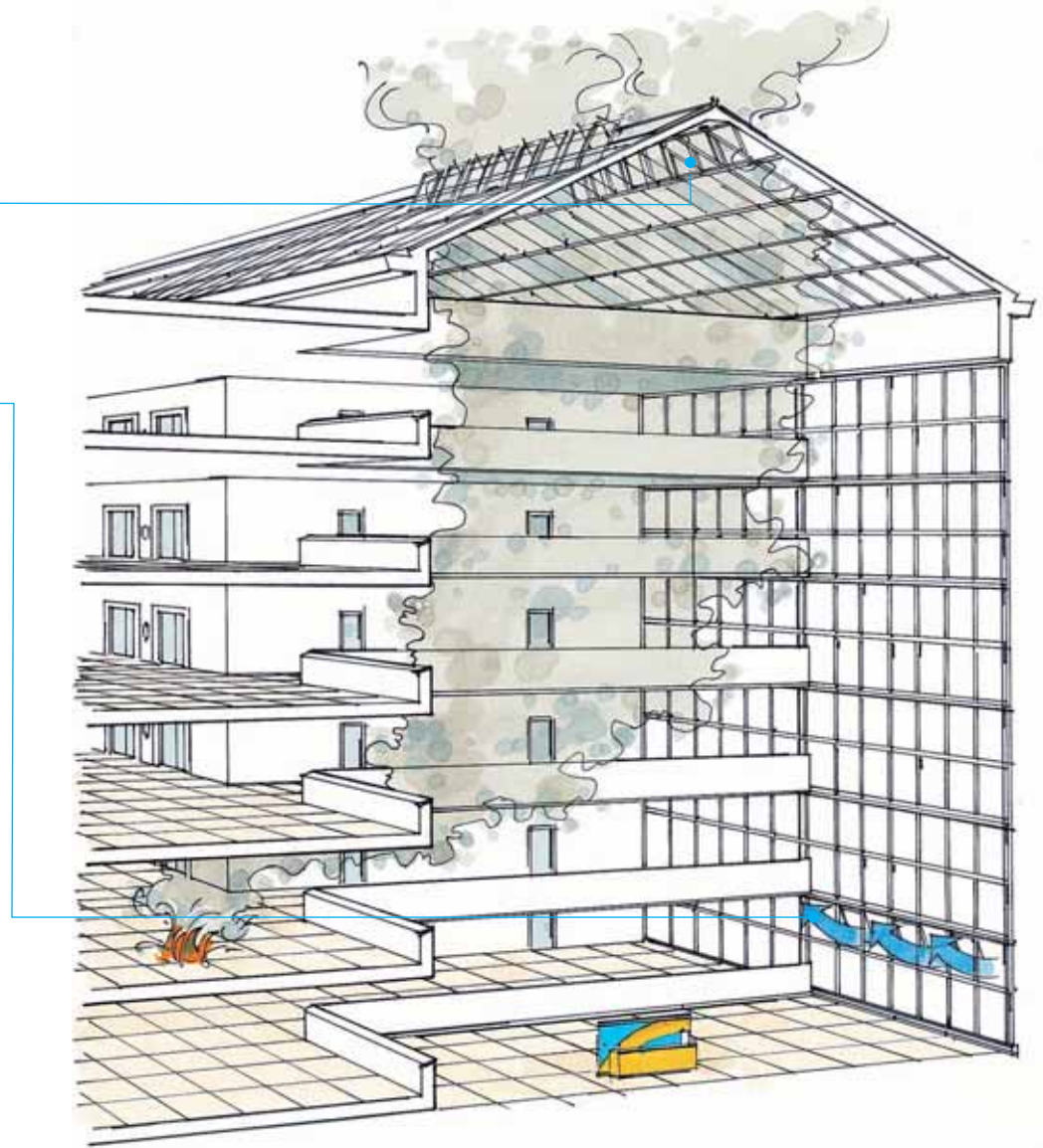
Smoke and heat exhaust ventilation

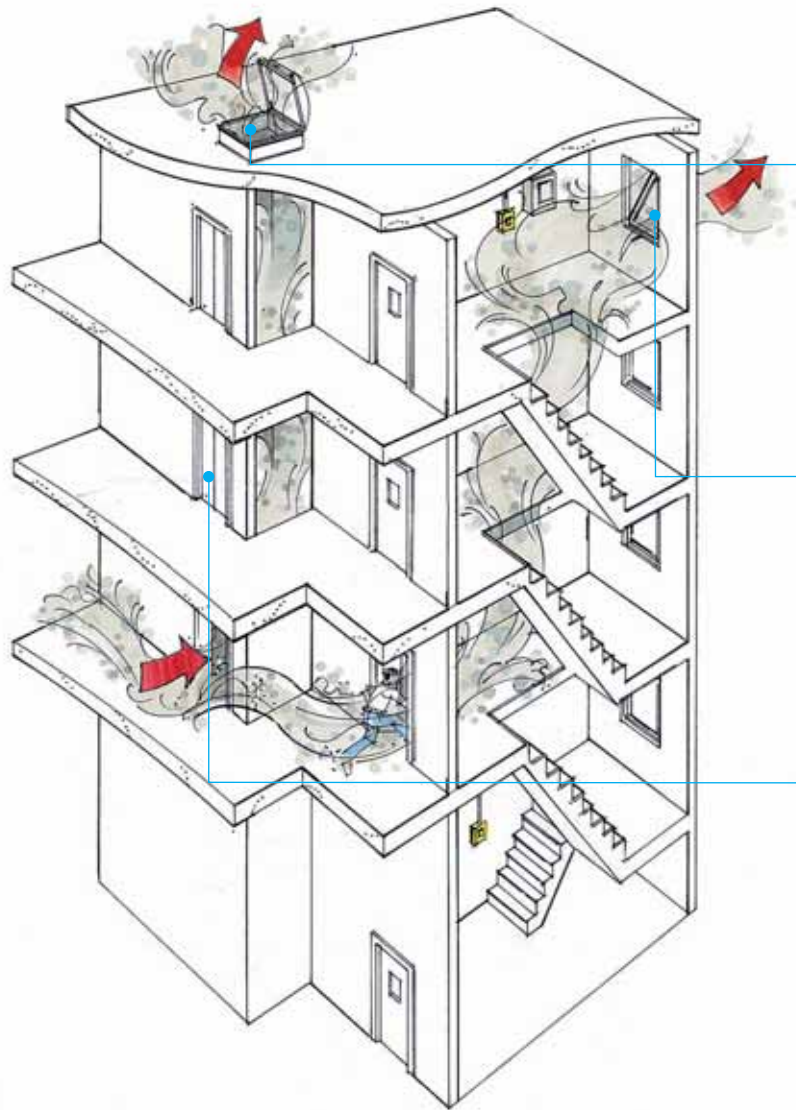


Air inlet ventilation



Sage Headquarters ARCHITECTS: ID PARTNERSHIP





Rooflight smoke and heat exhaust ventilation



Glazed smoke and heat exhaust ventilation (AOV)



Internal door smoke and heat exhaust ventilator (AOD)

Residential

For residential applications, SE Controls provides consultation, design, specification, supply, installation and maintenance, with each specification individually created for every project.

Products for residential applications include rooflight natural smoke vents, smoke shaft doors, AOVs (Automatic Opening Vents) and a comprehensive range of control systems including repeater panels, battery back-up and manual override switches.



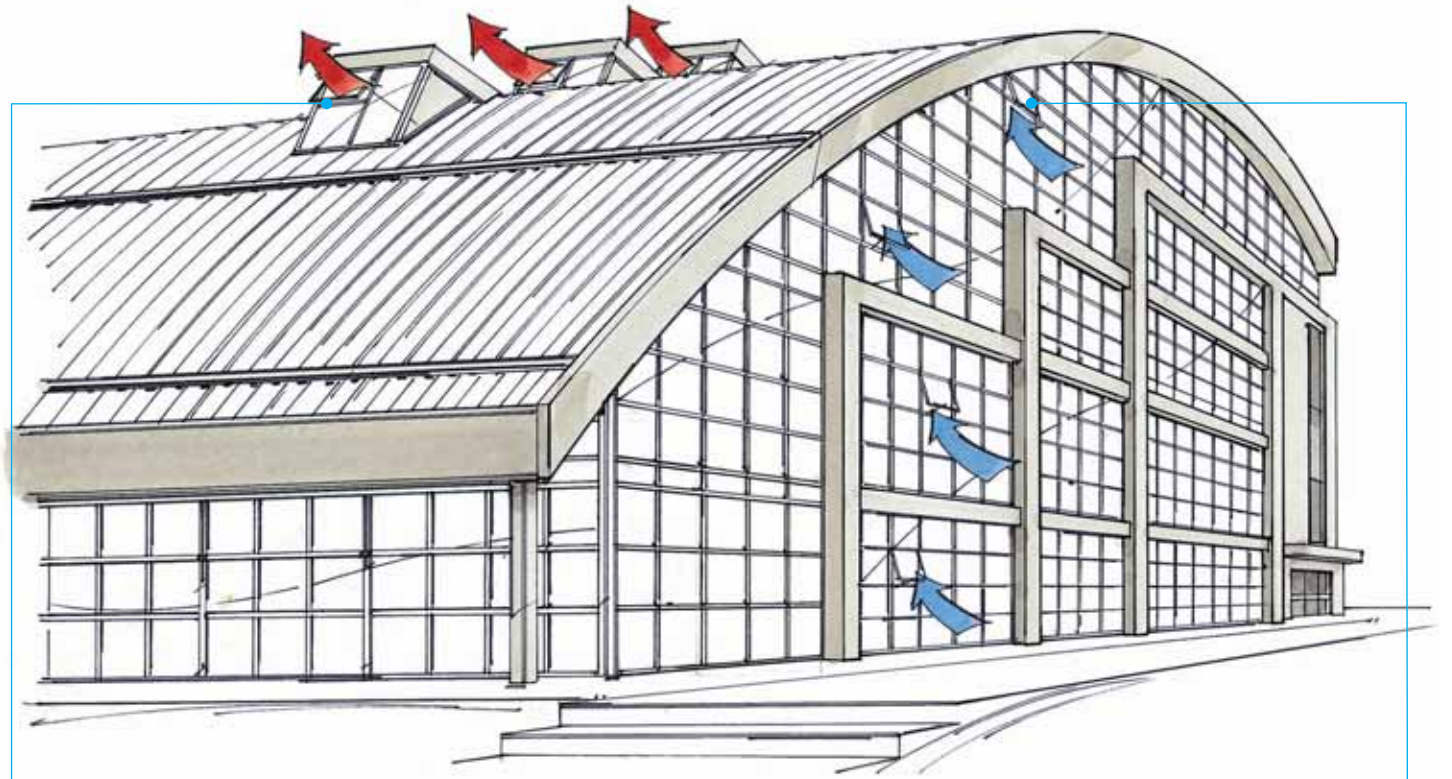
Perspective Westminster DEVELOPER: CREST NICHOLSON

Natural Ventilation

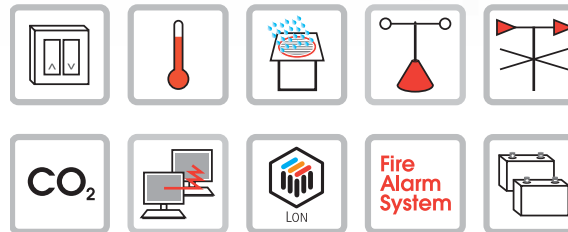
SE Controls' natural ventilation systems regulate natural air movement through controlling the opening and closing of specific windows incorporated in a building. Air moves when a pressure differential exists. These differentials occur naturally all of the time, typically caused by changes in temperature and weather patterns.

The concept of using this air movement to deliver a high quality internal environment has dramatic benefits, including low capital installation costs, massive cost reductions when compared against air conditioning, excellent indoor air quality and carbon efficient energy management.

SE Controls is able to offer a total solution to its clients from assistance at concept stage through to the installation of the system and beyond to service and maintenance.

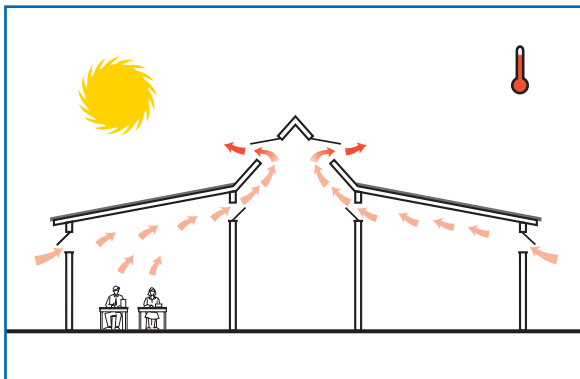


Automatic opening vents in rooflight

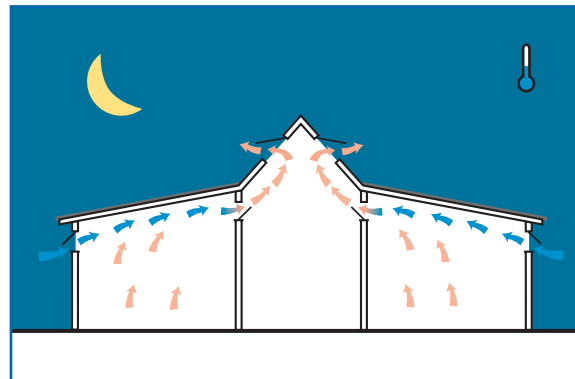


Automatic opening vents in facade

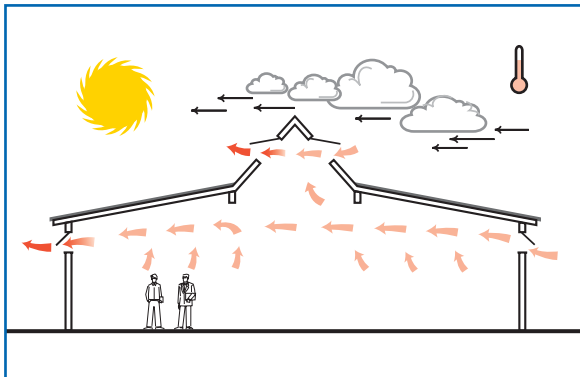
The principles of natural ventilation



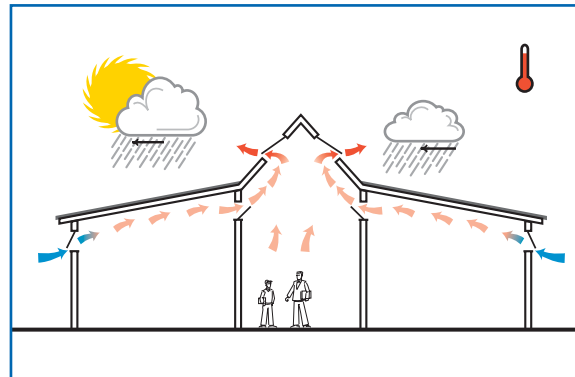
Stack Ventilation



Night or Passive Cooling Ventilation



Cross Ventilation



Trickle Ventilation

Natural ventilation within a building can be used to create and enhance a number of interior environments, all year round, as the diagrams opposite illustrate. These diagrams depict a typical single storey educational building of classrooms linked by a central glazed atrium.

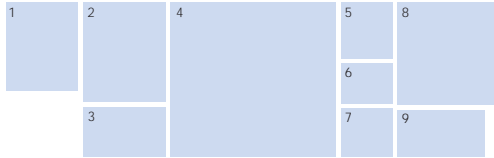
Air movement through natural ventilation is delivered from air pressure differentials as a result of temperature variances. By proportionally opening specific windows when the temperature variances are greatest, natural ventilation can be achieved.

Common ways of capitalising on this 'free' ventilation is through the stack effect, cross ventilation and passive night time cooling.



The Garrick Theatre ARCHITECTS: SHORT AND ASSOCIATES

Completed Projects



- 1 Project: The Met Office
Architects: Broadway Malyan
System: Smoke and natural ventilation
- 2 Project: Beetham Tower
Architects: Aedas
System: Smoke ventilation
- 3 Project: Capital City Academy
Architects: Foster & Partners
System: Natural ventilation
- 4 Project: The Mailbox
Architects: Associated Architects
System: Smoke ventilation
- 5 Project: The National Trust
Architects: Feilden Clegg Bradley
System: Natural ventilation
- 6 Project: The Edge, Manchester
Developer: Countryside Properties
System: Smoke ventilation
- 7 Project: The Winter Gardens
Architects: Pringle Richards Sharratt
System: Smoke and natural ventilation
- 8 Project: Bexley Business Academy
Architects: Foster & Partners
System: Smoke and natural ventilation
- 9 Project: The Royals
Architects: Aukett
System: Smoke and natural ventilation





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