

SCHOOLS

Optimal Climate Solutions



Biddle



CLIMATE SOLUTIONS FOR SCHOOLS

The best learning environment is one where students feel comfortable all year round. It's easy to switch off when it's hot and stuffy and just as hard to concentrate when it's cold and draughty. Consistency is everything. Biddle has many years of experience in providing quiet, energy efficient and highly reliable climate solutions for educational establishments of all types and sizes. Our project-focused approach and flexible product range means we are able to create a tailor-made solution for any project, whether it be new-build or refurbishment.

REGULATION

There are many regulations, such as BB101 and BB93, that govern how schools should control temperature and ventilation. As a partner, not just a supplier, we work closely with our customers and their contractors to ensure that all legislative requirements are met in full. We also go further, considering the comfort level of every individual room, not just the building as a whole. We also recognise that even in these times of increased central control via building management systems, individuals still want control over their own environment. Our goal is to provide a solution that doesn't just tick all boxes on paper, but works for everyone; teachers, pupils, and visitors, all year round, whatever the outside conditions.

CUSTOM CLIMATE CONTROL – DESIGNED AROUND YOU.

No two school buildings are alike, so we approach every project with a blank piece of paper. Drawing on our industry-leading range of products, which includes fan convectors, ceiling cassette heaters, air heaters and air curtains. We are able to design a "custom climate system" to suit any school, whatever the size or layout.

CLIMATE SEPARATION

Biddle's range of climate separation solutions make it possible to optimise the separation of climate zones, by controlling the temperatures in doorways. So, combining open doors with comfort inside the school environment is no longer an issue. The advanced automatic Biddle control continuously achieves the ideal climate separation with a minimum of effort. Energy savings are maximised by separation efficiency, which can be as high as 94%.





FAN CONVECTOR SOLUTIONS

Fan convectors have long been acknowledged to be one of the simplest and most cost-effective ways of heating a room quickly. With minimal maintenance requirements, Biddle fan convectors rapidly distribute heat throughout a room while occupying much less wall space than radiators of equivalent output.

BENEFITS:

- Quick heat up
- Good heat distribution
- Simple installation
- Wide range of options, styles and sizes

VARIANTS

Biddle has been manufacturing fan convectors for around 50 years, with the Forceflow 900 Series being the latest in a long line of market-leading designs. The Forceflow range includes the H2 Select, low surface temperature (LST), condensing boiler (CB) and the Sectional options.

FORCEFLOW 900 SERIES

FORCEFLOW H2 SELECT

Available in 21 styles as standard, and many more variants on request, the Forceflow H2 Select incorporates a non-handed casing and increased internal space for speedier installation. Suitable for mounting almost anywhere on the wall or ceiling – either as an exposed/cased or concealed/recessed unit, it is available with many accessories and control options.

BENEFITS:

- 21 different styles
- Various control options
- 3 - 18 kW output
- High level, low level and extended height units available

FORCEFLOW CB

The advantages of energy efficient condensing boilers are well documented, but traditional fan convectors do not perform well with condensing boiler water temperatures. The Forceflow CB fan convector has been designed to provide similar heating duties to a conventional fan convector, but with condensing boiler water temperatures of 60°C flow and 40°C return, or lower.

BENEFITS:

- High output despite low water temperatures
- 21 different styles
- Various control options

Forceflow H2 Select



FORCEFLOW LST

Whereas most fan convectors have a surface temperature in excess of 50°C, the surface temperature of the Forceflow LST is no greater than 43°C. This is a significant safety benefit, especially in a school environment where there are very young children. Thoroughly tested by BSRIA, Forceflow LST complies with NHS Estates Health Guidance Note 'Safe Hot Water and Surface Temperatures' 1998 (less than 43°C surface temperature with water flow temperatures of 80°C).

BENEFITS:

- Low surface temperature
- Much smaller than a LST radiator of equivalent output
- Quick heat up

FORCEFLOW SECTIONAL

The Forceflow sectional has been designed to replace any manufacturer's existing 'back access' fan convector. The sectional configuration ensures compatibility with previous building work of all kinds.

BENEFITS:

- Easy to fix sections
- Minimise building work
- Reduce installation time and cost
- Utilize existing apertures in walls

Forceflow Sectional



FRESH AIR FAN CONVECTORS

A lack of ventilation creates a stale and stuffy atmosphere that can lead to reduced concentration levels, headaches and nausea. Conventional means of introducing fresh air into buildings are usually uncontrolled and therefore not energy efficient. Innovair fresh air fan convectors provide controlled volumes of fresh air, control of space temperature and free/night cooling.

PATENTED DESIGN

All Innovair units incorporate a unique 'cyclic' fresh air damper system, which allows the amount of outside air entering the space to be accurately metered and varied in line with the occupants' fresh air requirements. With or without BMS control, one Innovair School unit will heat and ventilate a typical classroom, occupied by up to 31 people. Innovair School is available in horizontal or vertical recessed/chassis or cased configurations. The patented 'cyclic' fresh air damper system provides precise quantities of outside air for ventilation (BB101), free cooling and night cooling. It is also available with high efficiency fans operating at a specific fan power of <math><0.2\text{W/l/s}</math>.

MEETS ALL REGULATIONS

Innovair is a fresh air fan convector that meets the requirements of all Building Regulations covering heating and ventilation equipment in schools, including BB93, BB101, Part L2A & L2B.

BENEFITS:

- Natural ventilation capability
- Control of space temperature using LPHW
- Controlled volumes of fresh air, heated as necessary using LPHW
- Free and night cooling

Innovair School



BENEFITS:

- Precise control of draught-free ventilation
- Energy efficient heating
- Designed to meet the regulations
- Many different styles and control options



CEILING HEATERS

CEILING CASSETTE HEATERS

Wall space is at a premium in most schools, so installing heaters at ceiling level is an ideal solution. Featuring high quality, high-performance fans in conjunction with a grille that incorporates both air inlet and discharge, Biddle ceiling cassette heaters fit perfectly in a ceiling tile sized-space (600x600mm). They are highly energy efficient, and provide excellent throw and heat distribution. As well as offering a coil for conventional water temperatures there is also a variant available for use with lower water temperatures.

BENEFITS:

- ◉ Excellent throw and heat distribution
- ◉ Energy efficient heating
- ◉ Simple installation
- ◉ Various control options
- ◉ Airside or waterside control options

Cassette Heater



HIGH LEVEL HEATERS

The NOZ multi-directional air heater has been specifically developed to address the heating and air distribution needs of buildings with large rooms such as schools. It features six adjustable nozzles that can be individually positioned to provide optimum air distribution. In addition, with comfort in mind, it can be used to provide fresh ambient air in the summer. When fitted with automatic controls it constantly maintains the set temperature. The energy efficiency is enhanced by using the fans to provide destratification so that the warm air at ceiling level is re-used to maintain a comfortable environment at floor level. All this is achieved without any need for the user to adjust the controls.

BENEFITS:

- ◉ Excellent air distribution
- ◉ Low temperature gradient reduces stratification
- ◉ Efficient re-use of energy
- ◉ Automatic control options
- ◉ Suitable for various heights

NOZ2





AIR CURTAIN SOLUTIONS

It's normal for students to enter and exit the school building many times over the course of a day as they move between classrooms, socialise at break times and partake in outdoor sporting activities. Biddle's SensAir air curtain reduces the amount of warm air that escapes from the building and conditions incoming air before it enters. This not only helps to maintain a constant, comfortable temperature inside the school, but also reduces energy consumption and heating costs.

MARKET-LEADING TECHNOLOGY

Biddle's SensAir air curtain has been developed to deliver greater comfort than a conventional air curtain while providing considerable energy savings.

BENEFITS:

- Increased comfort
- Energy savings
- Tried, tested and trusted over many years
- Simple plug & play installation
- Control flexibility

OPTIMAL CLIMATE SEPARATION

For an air curtain to be truly effective, it is essential that warm air reaches the floor and covers the entire door width. Biddle's patented Rectifier and Laminar technologies, constantly measure the temperature of the entire door opening and automatically adjust the velocity, volume and temperature of air output accordingly. As a result, the SensAir air curtain uses significantly less energy than similar products.



AUTOMATIC CONTROL

The Biddle SensAir air curtain has six settings, which can be selected manually via an intelligent touchpad or automatically by the building management system. Each setting offers a carefully controlled combination of discharge air volume, air temperature and air velocity. So, a comfortable climate can be easily maintained at all times, regardless of the outside temperature or the frequency of people entering or leaving the school building.

Timer clocks, door contact switches and room thermostats can also be integrated into the control strategy, providing total flexibility to suit any, and every, requirement.

SensAir



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