

# SCHOOLS

Optimal Climate Solutions



LAB 2

**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. 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 over 50 years, with the Forceflow 900 Series being the latest in a long line of market-leading designs.

The Forceflow 900 Series includes Forceflow CB (designed for lower water temperatures), Forceflow H2 Select, Forceflow Low Surface Temperature (LST). Forceflow Sectional is also available with either the H2 Select or CB variants.

## FORCEFLOW 900 SERIES

### FORCEFLOW CB -

#### DESIGNED FOR LOW WATER TEMPERATURES

Heat pumps are fast becoming the heating source of choice due to their environmentally friendly nature, supporting a Net Zero Carbon approach. The Forceflow CB has been designed to provide high heating duties with lower water temperatures, working hand in hand with heat pump systems.

Available in 21 styles as standard, the Forceflow CB is suitable for mounting almost anywhere on the wall or ceiling - either as an exposed/cased or concealed/recessed unit - the range is available with many accessories and control options.

#### BENEFITS:

- High heat output despite low water temperatures (i.e heat pumps)
- Quick heat up
- Good heat distribution
- Numerous casing styles
- Simple to install
- Various control options

### FORCEFLOW H2 SELECT

With over 21 styles to choose from, 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:

- Quick heat up
- Good heat distribution
- Many different styles
- Simple to install
- Various control options
- High level, low level and extended height units available

Forceflow H2 Select



### FORCEFLOW LST -

#### DESIGNED FOR LOW SURFACE TEMPERATURES

The Forceflow LST is designed to provide surface temperatures no greater than 43°C. This is a significant safety benefit, especially in environments with young children or vulnerable adults, such as nurseries or special needs schools.

Thoroughly tested by BSRIA, Forceflow LST complies with NHS Estates Health Guidance Note 'Safe Hot Water and Surface Temperatures' 1998, and it offers all the benefits of a conventional fan convector, whilst having a low surface temperature.

#### BENEFITS:

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

### FORCEFLOW SECTIONAL

Available with either the Forceflow H2 Select or Forceflow CB range, 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
- Utilise existing apertures in walls

Forceflow Sectional



# CEILING CASSETTE HEATER

## SMART SUSPENSION SYSTEM

Wall space is at a premium in most schools. Biddle Comfort Circle Cassettes fit perfectly in a ceiling tile sized-space (600x600mm) and allow you to heat the indoor space exactly as you wish, in a short period of time.

The units can be installed either before or after fitting a suspended ceiling.

The adjustable mounting system allows the unit to be moved in any direction, allowing for accurate positioning with minimum effort and easy ceiling integration.

### BENEFITS:

- Suitable for lower water temperatures
- Low noise levels
- Space saving and discreet
- Fits within a standard 600mm x 600mm ceiling grid
- Uniform air distribution pattern
- Low energy EC fan motor
- Stylish air discharge grille

## PATENTED DESIGN

The Comfort Circle Cassette Heater is equipped with a round circular air discharge grille, where the air intake and discharge take place. The air is drawn in through the perforated pattern in the middle, and after is heated, it gets discharged at a fixed 45° angle towards the floor, being evenly distributed into the room.

### Comfort Circle



# MULTI-DIRECTIONAL HEATING SOLUTIONS

## HIGH LEVEL HEATERS

The NOZ<sub>2</sub> 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

NOZ<sub>2</sub>





# 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 SR 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 SR 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 SR air curtain uses significantly less energy than similar products.



## AUTOMATIC CONTROL

The Biddle SR 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.

SR



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