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Smith's
A Swan Group Company

Smiths SS3 Fan Convector

INTRODUCTION

Educational buildings are complex because of the differing ages of people using them and the levels of activity that take place within them.
Schools must cater for pupils aged from 3 years through school age pupils to teaching and support staff.
Creating a welcoming and comfortable environment for everyone is crucial to ensure the pupils maximise their potential.

Heating accounts for at least half of a school’s energy fuel use

ENERGY EFFICIENCY

A major source of energy consumption in any school, or educational building, is heating and cooling. According to The Carbon Trust heating can account for over 50% of the total energy consumption. School heating poses several problems. The differing uses the rooms in schools are put to means a one-size-fits-all approach is not suitable. When thinking about schools the first type of room that comes to mind is that of the classroom – a room that is typically used from when the school day starts until it finishes. One might also think of a school hall which is likely have a multitude of uses throughout the day from school assembly, to indoor sports activity and maybe group activities.

A school hall may also be used after school late into the evening for community activities.

Renewable sources of energy

Renewable technology grows apace, with ground source and air source heat pumps offering a viable alternative to boilers as the principal heat generator in both domestic and commercial applications.

Heat pumps work most efficiently

the lower the output temperature of the heating medium/water is. This is important because they typically collect low grade heat from either bore holes/ground collector arrays or the air and converting this to the traditional system operating temperature of 80/70°C uses more energy. Lower operating temperatures create higher efficiencies from heat pumps, which in turn offers reduced system running costs.

Fan convectors can work very effectively at system temperatures as low as 40°C. This allows your chosen heat pump to work close to its maximum levels of efficiency, which means it will reduce the user's energy costs and energy consumption in the way it was intended. By contrast a standard radiator is designed to be efficient at higher temperatures, 45°C and above, which automatically reduces the heat pump's efficiency by more than 10%. In addition, the size of the radiator has to be increased significantly to cope with the lower system temperatures.

Control and monitoring of heating systems

Whilst the minimum, and maximum, temperatures laid out in Building Bulletin 101 (BB101) must be achieved attention must be given the topic of controlling energy consumption. Being able to adjust the target room temperatures dependent on the activity levels in school rooms is an important consideration. Where rooms have different uses, such as school halls, it is important to ensure that the target temperatures can be adjusted accordingly. It is also important to ensure that the school rooms are only heated when required.

At the end of the school day the room temperature in the teaching spaces should be allowed to decrease naturally, whilst other spaces, such as offices should be heated until they are no longer occupied.

Other considerations for the heating of schools should be the maintenance and

monitoring of the equipment. This is often managed remotely by facilities managers, who may have multiple sites to manage.

Life expectancy and recyclability of products at the end of life

Life cycle and maintenance of heating and ventilation systems is an important consideration in the selection of equipment. Life cycle costs should include energy, cleaning and maintenance costs. Systems with low initial capital costs may have unaffordable running costs.

Fans, filters and heat exchangers should be easily accessible for maintenance and to inspect for contamination and easy to clean.

Caspian upgrade

As part of Smith's ongoing investment in product development, the already popular range of Caspian fan convectors have been optimised through several engineering measures. Every detail of the Caspian fan convector was analysed in the search for improvements. The result of this work is an increase in heat output performance of 20% over the previous versions. To achieve this increase in performance Smith's redesigned the coils, enclosing metalwork, and implemented a new fan configuration.

Consequently, the size of the Caspian fan convector required to heat a specific room can be smaller. For example, where a Caspian 120 was previously required, a Caspian 90 may be suitable.

This broadens the applications for Caspian, both in residential and commercial use. Consultants and contractors alike now have more options for new build and retrofit applications; especially as smaller sizes can replace larger Caspian fan convectors without a reduction in heat output. A key objective of the improvement project was to optimise Caspian for use with Heat Pumps. This upgrade in Caspian is a key part of Smith's strategy to develop and launch products that improve their performance and reduce the use of energy and consequently the creation of harmful emissions. Electing to launch the upgraded Caspian with EC fans only contributes to the move to Net Zero, which will be an ever-greater feature of building regulations. Furthermore, improved performance and reduced embodied carbon reduces the impact buildings have over their lifetime. Additionally, if the upgraded Caspian is specified with our Smart Control system, further efficiencies and therefore energy savings can be achieved.

Creating the right environment for learning and teaching is critical

GUIDELINES

Building Bulletin 101 (BB101)
Guidelines on ventilation, thermal comfort and indoor air quality in schools (Version1) is the most up to date document for guidance on heating in school and educational buildings.
This brochure illustrates the wide variety of Smith's heating and cooling products in a wide variety of school settings and how we can provide solutions that comply with BB101.
It is essential that you get the best possible advice on how to use our products and using this guide in conjunction with our technical team will ensure that the most suitable products are selected.

School heating and cooling requirements
Creating the right environment for learning and teaching is crucial so having the correct classroom temperature is imperative. Classrooms that are too cold, or even too hot will distract the pupils and make life difficult for teachers and pupils alike.

Indoor acoustic considerations
Consideration must be given to the ambient noise level from building services which meet
the limits of the Indoor Ambient Noise Levels for different types of ventilation, heating and cooling. The differing levels of ambient noise associated with normal operation, boost levels and summer ventilation modes to counteract overheating must be considered.
The limits for noise levels are detailed below.

Recommended comfort criteria for specific applications taken from CIBSE Guide A – Environmental Design

Recommended operating temperatures during the heating season

	Normal maintained operative temperature during the heating season - °C	Maximum operative temperature during the heating season at maximum occupancy - °C
Stores	5°C	N/A
Areas where there is a higher than normal level of physical activity (such as sports halls) and sleeping accommodation	17°C	23°C
Toilets, circulation spaces and storerooms that are normally occupied	17°C	24°C
Kitchen preparation areas	20°C	N/A
Spaces with normal level of activity, including teaching, study, exams, admin and staff areas, prep rooms, practical spaces, and computer suites	20°C	25°C
Spaces with less than normal level of activity or clothing, including sick, isolation rooms, changing rooms and gymnasia and dance and movement studios	21°C	26°C

Special schools and resourced provision, where needs of pupils tend to be complex and varied, including pupils with physical difficulties or profound and multiple learning difficulties.	23°C	25°C
Where pupils or adults may be wet and partially clothed for a significant length of time, such as swimming pools;	23°C in changing rooms and no more than 1°C above or below that of the water temperature in pool halls subject to a maximum of 30°C	28°C in changing rooms and no more than 1°C above that of the water temperature subject to a maximum of 30°C in pool halls
Where young children under 5 years old or those with physical disabilities may be wet or partially clothed for a significant length of time. More rapid air movement leads to greater chilling by evaporation and to compensate, a higher design temperature is required.	25°C The air speed in these environments should be as low as possible and not exceed 0.15 m/s at 25°C	30°C
Note: Special Educational Needs and Disabilities (SEND) pupils can be very sensitive to temperature and it may be necessary to adjust the normal operative temperature and maximum temperature in the heating season depending on the needs of the pupils.		

Heating and cooling have a vital role in creating the correct learning environment

PROVIDING COMFORT

Heating and cooling has such a vital role to play in creating the correct environment for teaching spaces. Without it even the most carefully designed setting will be diminished.

Why fan convectors are ideal for school heating

Fan convectors provide a versatile, energy efficient alternative to radiators and underfloor heating; and are just as easy to install.

They are compatible with every type of heat generator and they can be paired with everything from condensing gas and oil powered boilers to renewable technology like ground or air source heat pumps. In fact, fan convectors are especially compatible with ground source and air source heat pumps because they can work with flow temperatures as low as 40°C. Using forced convection, fan convectors ensure that rooms heat up more quickly, delivering a more even temperature spread, than heat

emitters using natural convection. They can be installed and positioned to suit each room's size and shape, rather than having to obey the installation rules that govern radiators.

This ability to deliver heat effectively and efficiently makes them attractive when renovating buildings or specifying heating for new build projects. Unlike radiators, which can be bulky and hot to touch, fan convectors are compact, lightweight, and can have very low surface temperatures. They are completely safe; ideal for rooms or buildings regularly used by children.
Finally, fan convectors only use 5% of the water content of an equivalent output radiator, ensuring they are far more responsive to people's personal temperature preferences, as well as ever-changing daily weather patterns. Low water content also contributes to greater system efficiency. In short, as part of a school heating system, fan convectors play an important role in providing versatility, more-instant heat, better use of space and greater control.

Summer cooling
There is a move away from using air conditioning to cool spaces because of the high cost of energy and the resultant carbon emissions associated with it. Also contributing to the move away from air conditioning is the associated risks of harmful refrigerants. In new small/medium new air conditioning and heat pump systems F gas will be banned from 2025. There will be a total ban on small/medium sized 'single split' systems that contain less than 3kg of refrigerant. (A system with one cooling coil connected to a remote condensing unit.) Overcoming the stifling heat that can be associated with early/late summer months can cause as much discomfort and distraction as the lack of heating in winter months.
By using Fan Coil Units (FCU) that provide both heating and cooling in one unit a year round comfortable learning environment is achievable.
FCU's can provide cooling using little energy using water chilled to only 18°C which can help take the temperature peaks out of a classroom and provide heat in winter. FCU's can also be used with fresh air entrainment. FCU's are located out sight, out of reach in the ceiling void, or if high enough up, in sports or school halls, out of reach from potential damage from wayward balls and projectiles.

PRODUCTS FOR YOUR LEARNING ENVIRONMENT

Anti-bacterial paint finishes

The availability of heat emitters with anti-bacterial paint finishes is gaining interest today and should be considered.

Tamper-proof products

It is important to be mindful of the potential for tampering with any products that are within reach of people so lockable covers and anti tamper grilles should be considered where appropriate.

Mounting options

Consideration should be given to the availability of different mounting options for products. In school environments this is particularly pertinent as wall space is often at a premium for use as teaching space so any opportunity to mount
heat emitters higher up on the wall, or even the ceiling, is beneficial. This also places the heat emitter out of reach from people removing the risk of burns, for younger hands, but also out of reach from potential damage.

SMART Control

Smith's SMART Control allows a high degree of control and monitoring of heating performance through an app.

At the basic level it offers room temperature control and additionally offers a range of time controlling features too, making it perfect for buildings that serve a varied community demand. SMART Control can automatically control the fan speed of the fan convector, adjusting it in relation to the air temperature in the room providing a fast heat up period when required, and the quietest possible operation during occupied periods.

SMART Control is available on Caspian, Multivector and Ecovector II Low.

Caspian UV

A universal heat emitter being suitable for high, low or ceiling mounted applications.

Caspian SL

Warm air is discharged at an upward 45° angle to avoid causing discomfort to people sitting adjacent to appliance and with chamfered profile to avoid sharp corners.

- **Caspian FF**

  Can be installed mounted low or high on the wall. It can also be installed in an adjacent room, or storage cupboard, with the warm air outlets positioned at the rear of

the appliance and ducted into the adjacent room such as a sports hall or even a narrow corridor, permitting an obstruction free wall space.

- **Caspian TT**

  Has been designed to ensure that the comfort of the occupants sitting adjacent to the emitter where the warm air is discharged from the upper surface.

- **Caspian EXT**

  Warm air is delivered at 1.7m from the base/floor level and the heater can be installed as a freestanding appliance.

- **Caspian LST (Low Surface Temperature)**

  The ideal choice for schools and nurseries where the risk of children coming into contact with higher surface temperature heat emitters can be avoided. The maximum surface temperature of the fan convector does not exceed 43°C. Warm air is discharged at an upward 45° angle to avoid causing discomfort to people sitting adjacent to appliance and with chamfered profile to avoid sharp corners.

- **Caspian CTFF**

A version of Caspian fan convector designed to sit within the ceiling grid. Perfect for schools where wallspace is limited and out of reach minimising potential damage

- **Caspian Skyline**

  It fits into a 600mm x 600mm ceiling tile, providing easy access for both installation and maintenance. It’s suitable for projects in schools.

  It is available as hydronic version as well as an electric version – Caspian Skyline E.

- **Caspian UVC**

  For recessed or concealed heating projects and is suitable for high, low or ceiling concealed installations, can even be turned upside down.

- **Aegean – Fan Coil Units**

  A range of fan coils suitable for schools with the ability to rapidly heat and cool large areas with much greater efficiency than other similar heating and cooling systems.
- **Multivector – Fan Convector**

  Low level wall mounted fan convector with SMART Controls developed for use with heat pumps.
- **Ostro – Air Curtains**

  A range of air curtains designed for use in the entrances of schools and most other public buildings. In the summer, the air curtains can be used as cooling devices to prevent the entry of

  hot air and pollutants from the outside. Ostro is available with time and temperature control or can be integrated into a full BMS system.

- **Solano – Unit Heaters**

  A modern and lightweight hydronic fan-assisted unit heater designed to heat school and sports halls.
- **Ecovector High – Fan assisted heater**

  A high-level fan assisted hydronic heating which provides effective and dependable heating for both small and large areas fitted unobtrusively above head height.
- **Ecovector II Low – Fan assisted heater**

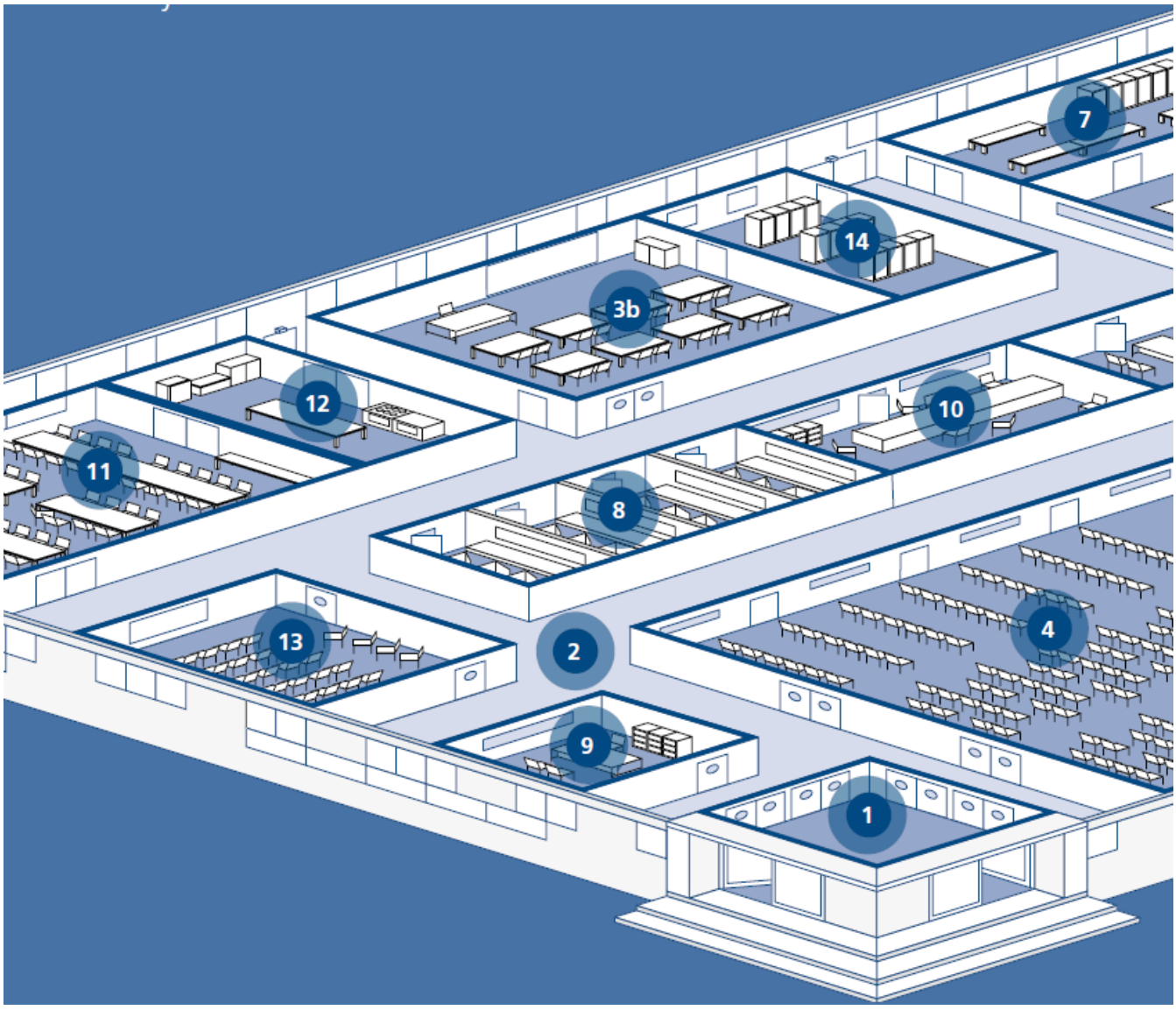
  Ecovector II Low level fan assisted heater provides warmth from the floor upwards and are more energy efficient and effective than radiators.

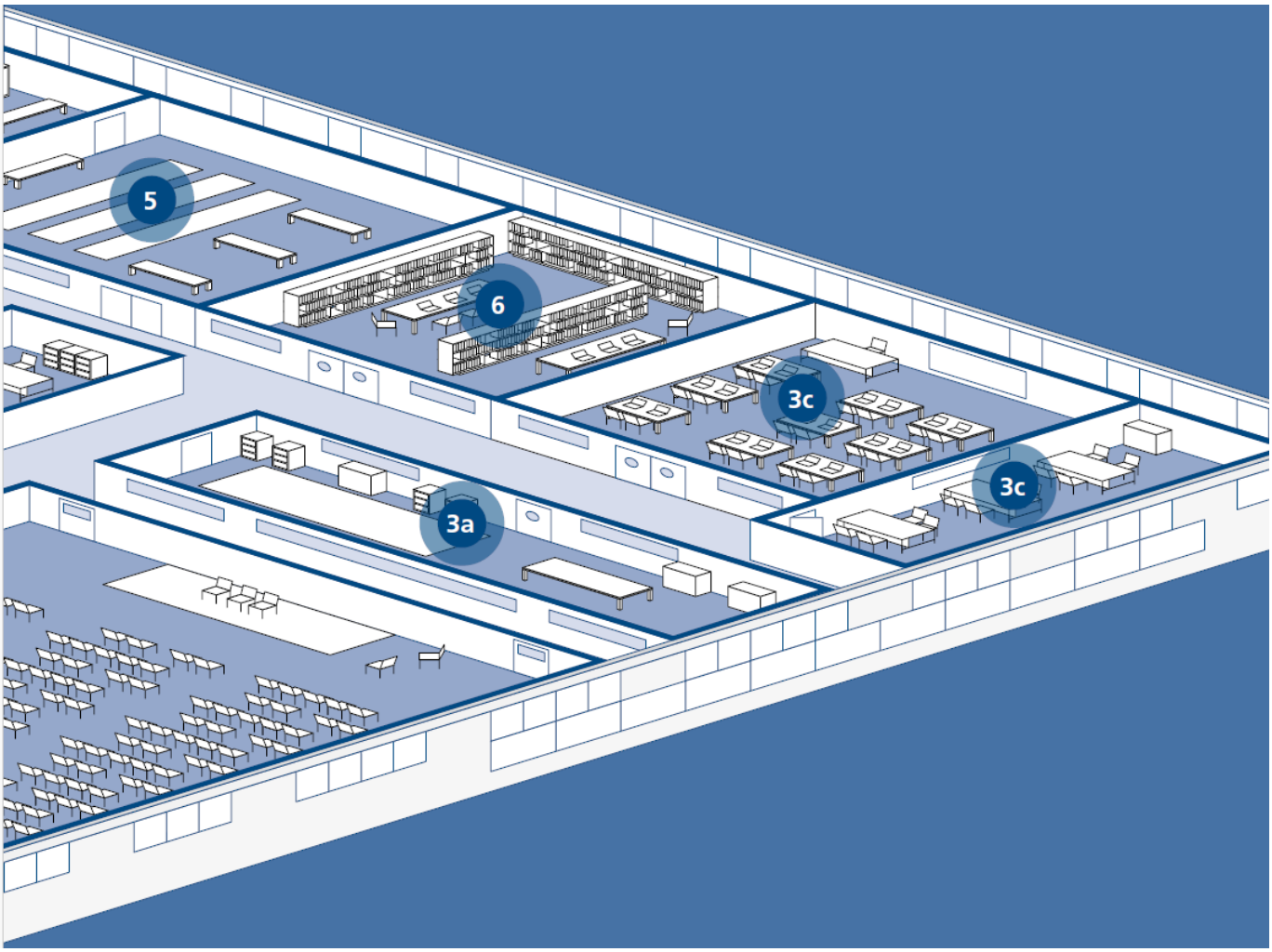
  Also available with SMART Control.

- **Sterling – fan assisted electric door heater**
  A great low-cost solution providing effective and dependable heating for both small and large commercial areas, fitted unobtrusively above head height.

BASICS OF SCHOOL HEATING AND COOLING

The following pages offer some guidance on heating particular school spaces and what sort of heating solutions may be suitable for each.
To help a typical school has been split into key areas:





ENTRANCE AND WAITING AREA

At entrances and in waiting areas heating plays an important role in creating a welcoming and friendly atmosphere.
An important consideration is that this is also obviously an area that is subject to significant heat loss when the door is open. In busy times the door can remain open for long periods leading to significant heat loss.
Using Air Curtains above the main entrance door to the reception will protect against heat loss by directing a warm air stream across the doorway preventing cold air from entering the heated space. In the summer an air curtain can also be used to prevent the ingress of pollutants and flying insects by creating a strong current of cool air across the door opening.

Product Solutions

SMART Controls

Caspian TT

Caspian Skyline

Ecovector II Low

Caspian UV

Caspian EXT

Multivector

Sterling

Caspian SL

Caspian LST

Ostro

Caspian FF

Caspian CTFF

Ecovector High

CIRCULATION AREAS

General circulation areas in schools face several challenges in terms of heating. The areas are likely to be high traffic areas which will often have outside doors which means that there will often be an in-rush of cold air, in colder seasons, causing a significant drop in the temperature of the corridors. Any equipment within reach or in the path of the students as they transition from room to room will be at risk of damage and interference. Also, consideration should be given to the amount of space available for any heating equipment in corridors and circulation spaces which at very high traffic times could impede the flow. This is especially true if the corridors are defined as emergency escape routes. For unobtrusive heating solutions in corridors and circulations areas Caspian fan convector is the perfect choice. Where ceiling height permits Caspian can be installed high up on the wall out of harm's way. Using forced convection, fan convectors ensure that rooms heat up more quickly, delivering a more even temperature spread, than heat

emitters using natural convection. They can be installed and positioned to suit each room’s size and shape, rather than having to obey the installation rules that govern radiators. This ability to deliver heat effectively and efficiently makes them attractive when renovating buildings or specifying heating for new build projects.
Caspian fan convectors can equally be installed at floor level and are designed with rounded corners to prevent injury and are finished in a robust damage resistant paint finish. Tamper proof grilles are also available.

Product Solutions

SMART Controls

Caspian CTFF

Multivector

Sterling

Caspian UV and LST

Caspian Skyline

Ostro

Caspian SL

Caspian UVC

Ecovector High

Caspian FF

Aegean

Ecovector II Low

CLASSROOMS

When thinking about schools the first type of room that comes to mind is that of the classroom – a room that is typically used from when the school day starts until it finishes. Consideration needs to be given to the age of the pupils. With the youngest nursery pupils starting formal education as young as 3 care must be given to the type of heating equipment used in their classrooms. The same consideration is needed at least in primary schools but less so in secondary schools where the surface temperature of heat emitters is less of a concern, although the potential for sabotage and damage is likely to be higher.

Nursery and Primary Classrooms

The age and vulnerability of the pupils in these classrooms is a major consideration

where designing heating systems. Where the wall and ceiling space precludes the siting of heat emitters Low Surface Temperature heat emitters offer a suitable solution. The NHS Estates Health Guidance Notes, “Safe hot water and surface temperatures” (formally known as DN4) is a useful reference document which considers the risk to the elderly and vulnerable in any property where occupants may be at risk of burns to their skin if they came into prolonged (10 seconds or more) contact with a standard heat emitter. The same risks apply to very young children in both nursery and primary schools. Where heat pumps are used the lower water temperatures mitigate and remove the risk of scolds or burns from a prolonged period of exposure to hot surfaces.

Ideally the heat emitters will be located high up on the wall, or on the ceiling. This removes them from any possible risk from burns, and any interference. Siting heat emitters here also maximises the available wall space for teaching. The target temperature laid down in BB101, for nursery level classrooms is a minimum of 25°C, (20°C for age 5 and above) so being able to maintain this temperature is important. Precise temperature control is important so having a control system which allows fast heat up in the morning to achieve the target temperature and then the ability to modulate throughout the school day maintaining the target temperature in near silence is important.

Foundation classes in primary schools where pupils learn through play and freely wander between the classroom and outdoors an Ostro air curtain minimises heat loss.

Senior School Classrooms

Other than providing the required minimum room temperature of 20°C (BB101) which is lower than nursery classrooms the key considerations are the maximising wall space, unobtrusive normal operating acoustics, minimising potential tampering and damage. Products located within reach should be robust and tamper-proof. Ideally the heat emitters will be located high up on the wall, or on the ceiling. Siting heat emitters here also maximises the available wall space for teaching. Precise temperature control is important so having a control system which allows fast heat up in the morning to achieve the target temperature and then the ability to modulate throughout the school day maintaining the target temperature in near silence is important.

Product Solutions


SMART Controls


Caspian TT


Caspian UVC


Ecovector II Low


Caspian UV and LST


Caspian EXT


Aegean


Caspian SL


Caspian CTFF


Multivector


Caspian FF


Caspian Skyline


Ostro

MAIN HALL

The school hall is typically a large space with a significant proportion of the walls being glazed. The school hall often has multiple uses, and therefore different temperature requirements.

They can be used for school assembly at the start of the school day, then reconfigured for sports activities, or drama classes, or more traditional teaching activities. The minimum temperature for sports activities as stipulated in BB101 is 17°C whereas for lower levels of activity such as dance it is 21°C. Attention should be given to the location of heat emitters as wall space is likely to be at a premium especially if there is significant glazing. With sporting activities likely to be part of the function of a school hall potential damage to heat emitters needs to be considered. The size of the school hall is a major consideration and the time it takes to heat a large space effectively and efficiently.

Being able to control the heating in such a large space can have a significant impact on the energy usage of the school. When a school hall is not used, or indeed used for different activities throughout the school day, and then possibly for community use or after school activities accurate control of the heating is important.

Product Solutions

SMART Controls

Caspian UVC

Caspian UV

Aegean

Caspian SL

Solano

Caspian EXT

SPORTS HALL

The sports hall is similar to the school hall but will have less of a range of temperature requirements.

Usually there is no need to heat the sports hall above 17°C which is stipulated in BB101.

The sports hall is typically a large space with little glazing.

Attention should be given to the location of heat emitters as they will need to be located high up on the walls, or hidden behind walls or in voids, to avoid causing an obstruction during sporting activities. Similarly, potential damage during ball sports to heat emitters needs to be considered. The size of the sports hall is a major consideration and the time it takes to heat a large space effectively and efficiently.

Being able to control the heating in such a large space can have a significant impact on the energy usage of the school. When a sports hall is not in use, and then possibly for community use or after school activities accurate control of the heating is important.

Product Solutions

SMART Controls

Caspian EXT

Solano

Caspian UV

Caspian UVC

Caspian SL

Aegean

LIBRARY

The library should be treated similarly to classrooms. Dependent on the age of the pupils consideration should be given to the surface temperature of the heat emitters. Mounting the heat emitters high up on the wall, or on the ceiling will maximise the floor and wall space for studying and book shelving. The acoustic performance of any heat emitters is very important to minimise the potential for noise disturbance in libraries. Tamper-proof and robust products should be used if they are within the reach of pupils. This applies equally to any heating controls.

Product Solutions


SMART Controls


Caspian TT


Caspian Skyline


Ecovector II Low


Caspian UV


Caspian EXT


Caspian UVC


Caspian SL


Caspian LST


Aegean


Caspian FF


Caspian CTFF


Multivector

CHANGING ROOMS AND CLOAKROOMS

Toilets, cloakrooms and changing rooms are often overlooked with heating and can become cold environments. However it is important to ensure that they are comfortable. Consideration will need to be given to the presence of water so any electrical appliances will need to be compliant for use in these environments.

Locating heat emitters high up on the wall or the ceiling is best practice. This places them out of reach from interference and potential damage as well as minimising any potential contact with water. If electrical products cannot be located outside the restricted electrical zone 12-volt products must be used.

Product Solutions

SMART Controls

Caspian Skyline

Caspian UVC

Sterling

Caspian UV

Caspian Skyline E

Aegean

Caspian SL

Caspian CTFF

Ecovector High

OFFICES, STAFF ROOM AND MEETING ROOMS

Providing heating comfort for offices and meeting rooms is the main consideration.

Creating a warm and welcoming environment for the teaching staff, and visitors is important.

Also important is to ensure that the heat emitters are unobtrusive and create little ambient noise when running in normal operation.

Product Solutions

SMART Controls

Caspian FF

Caspian CTFF

Aegean

Caspian UV

Caspian TT

Caspian Skyline

Multivector

Caspian SL

Caspian EXT

Caspian UVC

Ecovector II Low

DINING ROOM AND KITCHEN

Dining Room

The main heating consideration in a dining room is to provide a hygienic and comfortable environment. Consideration should be given to siting the heat emitters with easily cleaned surfaces high up on the wall, if possible, or on the ceiling. Easily cleaned surface, ideally with an anti-bacterial paint finish, should be used.

Product Solutions

SMART Controls

Caspian FF

Caspian Skyline

Multivector

Caspian UV

Caspian TT

Caspian UVC

Ecovector High

Caspian SL

Caspian CTFF

Aegean

Ecovector II Low

Kitchen

Heating is often not a major consideration in commercial kitchens, but it may be necessary to provide some heating in school kitchens for the cold early mornings. With space very limited in school kitchens or fan assisted heat emitters sited on the wall, at ceiling level or over door will provide sufficient comfort when required.

Product Solutions

SMART Controls

Sterling

Ecovector High

Caspian CTFF

Caspian Skyline E

Caspian Skyline

Aegean

STORAGE ROOMS

Storage Rooms (occupied)

Whilst not a primary consideration in terms of heating for schools they are often used to store valuable equipment such as musical instruments. It is therefore necessary to provide some kind of heating to minimise potential damage to valuable school equipment. BB101 stipulates that the room temperature should be 17°C.
Maximising wall and floorspace for storage is important so mounting heat emitters high up or on the ceiling is useful.

Product Solutions

SMART Controls

Caspian CTFF

Caspian UV

Caspian Skyline

Storage Rooms (unoccupied)

Unoccupied storerooms need only be heated to a minimum of 5°C so limited heating is required to prevent frost damage. Maximising wall and floorspace for storage is important so mounting heat emitters high up or on the ceiling is useful.

Product Solutions

SMART Controls

Caspian Skyline

Ecovector High

Caspian CTFF

Caspian Skyline E

Sterling

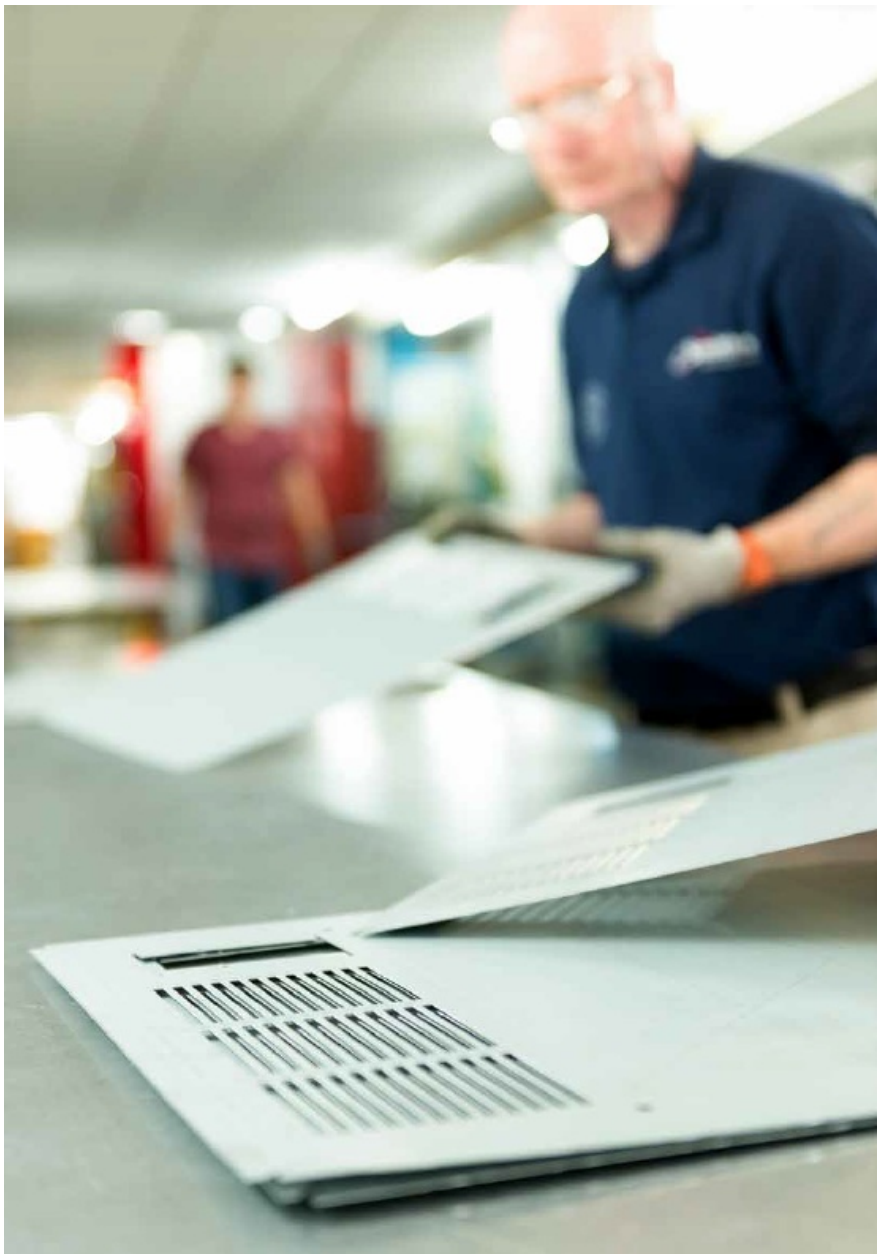
PRODUCT SUITABILITY SUMMARY

	Caspian	Caspian LST	Caspian Skyline	Caspian UVC	Caspian EXT	Caspian CTFF	Ecovector II Low	Multi- vector	Aegean Fan Coil Unit	Ostro Air Curtain	Solano Unit Heater	Ecovector High	Sterling Electric Door Heater
	Available with SMART Control												

Entrance foyer and waiting area	✓		✓	✓		✓	✓	✓		✓		✓	✓
Corridors/ circulation areas	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	✓
Classroom – Nursery	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	

Classroom – Primary	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	
Classroom – Senior	✓		✓	✓	✓	✓	✓	✓	✓			✓	
Main hall	✓			✓	✓				✓		✓		
Sports hall	✓			✓	✓				✓		✓		
Library	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	

Changing Rooms/ cloakrooms	✓		✓	✓		✓			✓			✓	✓
Offices/staff meeting rooms	✓		✓	✓	✓	✓	✓	✓	✓			✓	
Dining room	✓		✓	✓		✓	✓	✓	✓			✓	✓
Kitchen			✓			✓			✓			✓	✓
Storage Rooms (occupied)	✓		✓			✓						✓	
Storage Rooms (unoccupied)			✓			✓						✓	✓



THE BENEFITS OF WORKING WITH SMITH'S

Over 30 years of experience

Formed in 1991 Smith's Environmental Products has grown to become the leading supplier of domestic and light commercial fan-assisted hydronic heat emitters. The company is the UK's market leader and has significant shares of both the North American and European markets. Smith's Environmental Products is a member of The Swan Group.

We have a dedicated R&D team who work closely with customers and suppliers alike to develop innovative heating and cooling solutions.

We continue to develop our product range to improve the performance and environmental credentials of our products.

UK manufacturer

Operating from 40,000 square feet of factory and office space near Chelmsford in Essex we manufacture our product range from raw materials through to finished product utilising computerised design and automated production techniques.

Shorter lead times

Manufacturing most of our products from raw materials means we are able to provide our customers with lead
times as short as 5 working days on the most commonly used products.

5-year warranty on most products

We provide a 5 year warranty as standard on most products including our Caspian range of products. Ostro and Solano have a 2-year warranty.

Extensive Testing and Certification

Smith's products undergo demanding tests for compliance, safety and performance. Our manufacturing facilities are regularly appraised and meet the exacting standards of national approval boards such as UL, CSA and Kema. Our range of heating/cooling product meet all relevant standards and regulations, and come with a guarantee of quality and safety.

Our products are independently tested and verified by BSRIA and SRL Technical services.

Quality and the environment

At Smith's we recognise that quality is about more than just the product, it's an approach that runs throughout the business and is centred on meeting and exceeding customers' expectations.

As part of our commitment to both quality and the environment we hold both ISO 9001(2015) and ISO 14001 certification.

Smith's is a member of the Achilles Building Confidence Scheme.

Technical and free quotation service

If you have a project please contact us, as our customer service is second to none and we are happy to offer any help and guidance that you might need.

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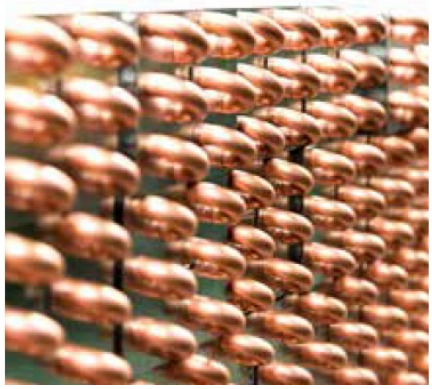

Happy to help

Smith's Environmental Products Ltd is one of the leading manufacturers of heating and cooling products in the UK. We are committed to achieving the highest standards and our faith is supported by a free parts and labour guarantee with every product (see our website for more information). Our customer service is second to none and we are happy to offer any help and guidance that you might need.

Stockists

All products are available nationally from Builders' Merchants, Plumbers' Merchants, Heating Equipment Distributors and Kitchen Equipment Distributors. In the event of difficulty, please contact us or visit our website SmithsEP.co.uk for details of your nearest stockist.

Information and advice

Full technical specifications and list prices are available to download from our website or in hard copy from our office. Also available on our website are price lists, individual product data sheets, installation & user guides, where to buy, who to contact and a media centre.

Alternatively contact our office 9.00am to 5.00pm Monday to Friday. As part our

commitment to continuous improvement Smith's Environmental Products may change the specifications of its products without prior notification or public announcement. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. All dimensions are in mm unless otherwise stated. Please visit the website for the most up to date information. To view the full product information download the datasheet at: www.SmithsEP.co.uk
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FAQ

Is the Caspian Fan Convector suitable for both commercial and domestic use?

Yes, the Caspian Fan Convector is compatible with heat pumps and can be used in both commercial and domestic settings.

How can I control the target room temperatures using the Caspian Fan Convector?

You can adjust the target room temperatures based on activity levels in different rooms by monitoring and controlling the heating system.

What are the key considerations for maintaining the Caspian Fan Convector?

Ensure easy access for maintenance of fans, filters, and heat exchangers. Regularly inspect for contamination and clean as needed to maintain optimal performance.

Documents / Resources

	Smiths SS3 Fan Convector [pdf] User Guide SS3 Fan Convector, SS3, Fan Convector, Convector

References

- User Manual

Smiths

Convector, Fan Convector, Smiths, SS3, SS3 Fan Convector

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