

Bath & Somerset Get Naturally Driven Schools



When considering a new build extension to the existing Fosse Way school in Bath, Bath & North East Somerset council contacted Midtherm Engineering for assistance with their project requirements. They required a modern environmentally friendly approach to achieve good ventilation levels to three classrooms.

When considering the ventilation options available, the Midtherm Engineering 'Windvent' terminals came out on top, above all rivalling companies, being engineered to meet with their specific requirements in terms of design, manufacture, delivery and installation lead times. We were also commended for being very competitively priced within the market sector by the councils appointed contractor.

Project Brief:

Our brief was to design, supply, deliver and install Midtherm Engineering Windvent terminals to service three classrooms for Design technology, Food technology and E-centre (IT classroom). This was to meet with the required air changes per hour for each classroom occupancy levels. There was also a requirement to have the terminals with a plenum box below; to have separate areas within each classroom ventilated via four flexible ducting sections, to egg crate grilles within each ceiling grid.

Design:

Our design team consulted with Bath & Somerset Council to achieve the required technical aspects of the project. This included gaining information on classroom sizes, occupancy levels, electrical equipment being used as well as many other contributing factors to the design process. We then used our computer aided calculation package to determine the required number and sizing of terminals to service each classroom. Following the calculations being complete we ascertained that four terminals would be required, one for the Design Technology classroom, one for the Food Technology classroom and two for the E-Centre. These were to be manufactured to 1035mm square by 1200 high with duct extensions of 500mm below roof. The control package to be used included 4 no. Single zone control units with common time switch and override. Also incorporated within the control package was a room temperature and Co2 level control for each room. Using our in house CAD package drawings for each terminal were produced by our design team for approval. Close liaison with the appointed contractor, as well as discussion with Bath & North East Somerset Council representatives helped drive the project to conclusion.

Bath & Somerset Get Naturally Driven Schools



Manufacture:

The terminals specified were manufactured from 2mm thick high quality, corrosion resistant type 1050AH14 aluminium, fully welded with bird mesh installed internally. The terminal cross dividers and capping were 12.5mm acoustically lined to minimise noise transfer. The units were polyester powder coated using two RAL colour preferences from the client. A plenum box was manufactured to be incorporated to each system, with 4off spigots that were ducted down from each using acoustic flexible ducting.

Delivery:

The terminals were transported from our factory in Dudley, West Midlands, using a local haulage contractor on the day of installation. The roof plates were delivered well in advance of the terminals, to be installed by others prior to arrival of our engineers.

Installation:

Our experienced on site engineers used a loller regulation crane including Banksman and appointed person, to lift and position the terminals and top section of internal ductwork through the roof upstand. Once in position the terminals were secured and weathering skirts re installed to complete the external installation procedures. Following external works, internally each plenum box was safely installed, with acoustic ducting being connected to each spigot. This was finally finished to the egg crate grille placed within each false ceiling grid. The terminal controls supplied by Trent Controls were installed using our own appointed Electrical engineers.

Conclusion:

This is another one of Midtherm Engineering's '[Naturally Driven installations](#)' for a new build school project. The brief, design, manufacture, delivery and installation were all met consistently within the client, contractor and end users expectations. The units meet all specified requirements and gave fresh air to all classrooms to which the terminals are installed. As usual Midtherm Engineering gave a good service, as well as a modest cost saving to the project.