



Passive Ventilation

Natural Ventilation

Window Ventilation

Natural Lighting

Intelligent Controls



VOLUME CONTROL DAMPERS

Airtherm have a large range of both metal and uPvc dampers in circular, square and rectangular shapes with sizes from 300mm to 1800mm.

The actuator is controlled by means of a standard control signal DC 0 -10 V. It opens to the position dictated by this signal. The measuring voltage U allows the damper position (0 ... 100%) to be electrically indicated and serves as a follow-up control signal for other actuators.

Belimo modulating actuators are factory fitted and tested prior to dispatch.

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Ultra high shut off Upvc manual volume control dampers with an excellent thermal insulation of less than 1 W/m² U value.

Independent tests show no leakage below 10Pa; the pressure most likely to be found in natural ventilation installations.

With even 10Pa rarely being exceeded in natural ventilation situations, it is clear how uPVC volume control dampers can enhance the efficiency of your new natural ventilation system.



MODULATING ACTUATORS

Siemens Electronic motor driven actuators.

Actuators have three-position and modulating control, nominal torque 5 Nm (GDB), 10 Nm (GLB) or 2 Nm (GSF), mechanically adjustable span between 0...90°, pre-wired with 0.9 m long connection cables.

For damper areas up to 0.8 m (GDB) / 1.5 m (GLB), friction-dependent for GSF...1.2 up to 0.3 m².

Suitable for use with modulating controllers (DC 0...10 V) or three-position controllers for air dampers or air throttles.



Our cost-effective motorised chain actuator for a natural solution.

The modulation of the window free area will be in tandem with that of the ventilator stack for each space via 24Vdc chain driven actuators, having quiet operation. The external window openings will operate in conjunction with the same control signal as the damper stack openings, with the exception that the windows will operate at five positions as opposed to the 10 positions of the ventilator actuators to minimise window motor wear and ongoing maintenance of the DC chain driven actuators.



Belimo actuators are fitted to our uPVC fully sealed dampers to enable full control of the ventilation within the space.

Robust components of proven quality, embedded in pressure-cast aluminium shells, stand for strength, protection and reliability. Predestined for utilisation on large air dampers, the EF is thorough in the performance of its task, even under difficult conditions, thanks to such options as higher degrees of protection.



INTELLIGENT CONTROLS

Natural Ventilation Controls

Our unique range of natural ventilation controls and intelligent sensors have been developed to deliver optimum control and ease of use of all our natural ventilation systems.

We can supply traditional combined sensors (with 0/10v outputs) or sensors with inbuilt BACnet communications (which supply a modulating control signal to end devices such as window actuator controllers). Our sensors are specifically designed to be simple to use.

We employ push button overrides, LED status indications and clear labelling to make things easier for the end users with the temperature control, the room set point for the control of the ventilation dampers can be adjusted in 1°C increments between 21°C and 28°C with a seasonal change over and a night cooling option if a time clock or BMS time signal is available. Localised Heating can also be controlled and is set 2°C below the room set point.

“Our room sensor range has been specifically designed for ease of use by the client”

CTCml:

Temperature and CO₂ Sensor Controller with manual override and CO₂ Level Indicator.

- 24V DC supply voltage
- High accuracy temperature and CO₂ Sensor
- Room Temp Set Point Adjustable 19°C to 26°C
- Room CO₂ Set Point Adjustable 900ppm to 1600ppm
- The unit consists of an ‘open’ and ‘close’ push button feature, and LED lights to display the selected mode and CO₂ Levels

CTC:

Temperature and CO₂ Room Controller.

- 24V DC supply voltage
- High accuracy temperature and CO₂ Sensor
- Room Temp Set Point Adjustable 19°C to 26°C
- Room CO₂ Set Point Adjustable 900ppm to 1600ppm
- 2-0/10v analogue outputs (10mA) one for Ventilation/Cooling and one for Heating
- Non dispersive infrared sensing technology
- Wall mounted
- Made from recycled white ABS material



INTELLIGENT CONTROLS

CTCI:

Temperature and CO₂ Controller with CO₂ level Indication

- 24V DC supply voltage
- High accuracy temperature and CO₂ Sensor
- Room Temp Set Point Adjustable 19°C to 26°C
- Room CO₂ Set Point Adjustable 900ppm to 1600ppm
- The unit consists of LED lights to display the CO₂ Levels.
- Anti-microbial™ front face touch membrane - eliminate bacteria
- 2-0/10v analogue outputs (10mA) one for Ventilation/Cooling and one for Heating.



CTm:

Temperature Room Controller with Manual Override

CTCm:

Temperature Room and CO₂ Controller with Manual Override

- Temperature Room and CO₂ Controller with Manual Override.
- 24V AC/DC supply voltage
- High accuracy temperature Sensor
- Room Temp Set Point Adjustable 19°C to 26°C
- The unit consists of an 'open' and 'close' push button feature, and LED lights to display the selected mode.



WINDOW CONTROL:

The Window Control Module contains a 24v DC Power Supply and an iWAC module per Window Actuator that controls via a 0/10 VDC positioning signal from a suitable controller.

The WCM features an intelligent 'self stroking' operation and controls the 24v DC window actuator in steps to prevent noise disturbance to end users. The Window Control Module allows only one window to operate at a time. This saves the expense and space in only needing a DC power supply rated for the largest actuator (maximum 3 Amp per controller) to be operated.



MODELLING BUILDINGS

Natural ventilation modelling

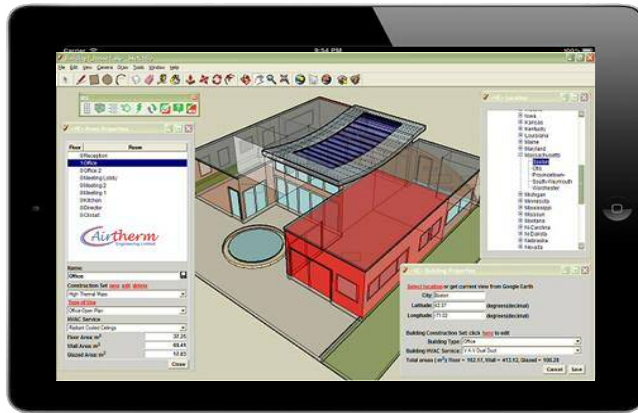
We can model complex natural ventilation strategies making due allowance for:

- Wind and buoyancy driving pressures
- The action of occupancy behaviour regarding ventilation openings
- Automatic controls based on temperature or CO² levels
- Night cooling and thermal mass
- Wind-iVent and other natural ventilation systems

This type of modelling is far more effective and removes the risk of under performing ventilation systems within the building

We can advise on:

- The required number and size of ventilation solutions such as terminals, wall ventilation and windows
- The value of night cooling and exposed thermal mass
- Appropriate strategies to meet BREEAM comfort criteria



We can offer full dynamic thermal modelling using the market leading software. This software utilises building integrated modelling whereby the same software can be used for multi-faceted studies.

Airtherm Engineering Limited can carry out a thermal model of the building to ensure the ventilation conforms to building bulletin 101.



INSTALLATION

Units can be installed on almost every roof including flat, pitched and even on the roof apex where appropriate. The roof fabric of commercial applications has bearing on the openings and roof plates that are required to install the systems competently. We offer a roof plate solution for all situations, including self mount flashings and curb mount flashings with suitable upstands. The options for each project will be discussed at the design stage in detail, including the necessary openings that are required to suit our systems.

The ductwork for the units can pass through any floor level to transfer air within the building. The units are capable of being controlled and linked to the buildings BMS to ensure dampers are fully closed in the event of a fire. 'Wind-iVent' units can be controlled via master control panels, room temperature sensors and CO² sensors.

We can also offer many bespoke natural ventilation solutions to clients. Our highly skilled work force adapt at all types of light to medium metal fabrication including stainless steel, aluminum and mild steel. GRP moulded products are also available, most suited to circular formation.

The most common range starts from 500mm to 1200mm and can be combined with a natural lighting system formally known as the 'Lite-iVent'. The Lite-iVent (Light & Vent) system uses both the wind and sun, and offers a ZERO carbon footprint which has no impact on the environment.

Our installation engineers are competent in their field and carry all necessary site certification with CSCS cards, IPATH, PASMA and scaffold towers. Our engineers strive towards excellence in each and every project they undertake.





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