

## **WINDVENT SYSTEMS**

### **Function**

The Midtherm "Windvent" is a natural ventilation system operating on established aerodynamic principles. As air flows around the terminal itself, positive and negative pressure areas are generated. On the positive side air enters the louvres of the terminal and is directed down through the internal vanes into the room below. The negative pressure on the leeward side of the terminal, induces air to leave the louvres, and stale air from the room below rises and is expelled from the terminal. This process is aided by stack effect, i.e. as cool air enters the windward side of the unit it descends into the room below, and the warm stale air rises in the ducts facing the leeward side.

### **Terminal Specification**

The units are constructed from fully welded corrosion resistant type 1050 AH14 pure aluminium of 2-3mm thickness and highly resistant to weathering and to chemical attack.

Internal cross dividers are also manufactured from corrosion resistant aluminium. The units are manufactured in accordance with BS EN ISO 9001 and to suit most architectural requirements. Airways are protected by incorporating anti-bird mesh. The units are powder coated to any of the extensive RAL range or clear lacquered.

Main Body size: 800mm x 800mm reducing to 600mm x 600mm

Overall Height: 1050mm

Height above roof: 620mm

### **Insulation/acoustics**

Class 'O' type 12.5mmTHK acoustic foam is used in preference to mineral wool/glass fibre insulation materials, as it will not shed fibres or release particulate matter, yet offers comparable acoustic performance and the necessary fire performance. Data sheets are available and can be issued on request.

### **Windvent Controls**

The 24v Siemens Actuator is incorporated into a multi blade ES Aero seal damper controlled by room temperature sensor.

The fully programmable main control unit(s) can incorporate many bolt on facilities, however these particular control panels selected conform to your client specification with night time cooling facility, including heating system relay/interlock and fire alarm relay.

### **Features:**

- Room temperature sensor with inbuilt set-point and display
- Master system override selector (open/auto/close)
- Drive up to 6 dampers from 0-10v modulating output
- Optional 7 day time-switch
- Fire alarm relay/interlock and heating system relay.



### **Optional Features:**

- Room humidity sensor
- Room air quality sensor
- Rain (precipitation) sensor and powder supply
- Wind speed sensor
- Room override unit
- Linear actuators (24vac open/close – 150Nm stroke 100/200/300mm)
- Remote control

### **Windvent Dampers**

Series AeroSeal for system air balancing and shut off having aerodynamic double skin type 1.4016 (430) ferritic stainless steel 50mm wide x 0.4mm thick blades with synthetic trailing edge blade seals and stainless steel side seals.

Housed within a galvanised casing being suitable for system with a temperature range of 0 °C through to +70 °C.

Optional blade construction type 1.4404 (316) Austenitic stainless steel can be offer on request for additional cost.

### **Fire Rated Duct**

The fireproof product has been tested and assessed by BRE LPC in accordance with BS 476-24 'Fire tests on building material structures – methods for determination of the fire resistance of ventilation duct'.

The 2-hour fire resistance is for stability, integrity and insulation in equal measure being: stability 120 mins, integrity 120 mins and insulation 120 mins.

The fire proof slabs are fixed to the galvanised (vertical) ductwork by means of welded pins. These are generally spaced at 350mm maximum centres along the length of the duct and at 500mm maximum centres across the width and depth. Pins are required on all four sides of the vertical duct. When faced with difficult site circumstances fire proof slab materials can be bonded using glue.