

Natural Ventilation by Monodraught



Windcatcher® Classic

Oval/Rectangular

The WINDCATCHER classic is an energy free Natural Ventilation system encompassing the benefits of both top-down and passive stack ventilation. The system consists of an external louvre protected internally by Trilayer Weather Protection and is internally divided. The simple, but effective design of the system provides fresh air during the daytime as well as night-time cooling. When coupled with Monodraught's iNVent 2 control system (or similar BMS), and operated under Monodraught proven strategy, the system is capable of providing temperature and CO₂ demand controlled ventilation, by means of energy efficient motorised volume control dampers.

Due to the flexibility of the WINDCATCHER Classic, the system can be tailored to suit the needs of almost any area. The systems technological ability has been proven within schools, colleges, healthcare environments, commercial properties as well as many other areas.

Why Choose WINDCATCHER Classic?

Healthier

- Introduces natural ventilation within a building reducing CO₂ levels
- Creates and maintains a comfortable working environment
- Expels stale air

Cost Effective

- Not affected by rising energy costs
- No running costs for the life of the product

No Maintenance

- This means no disturbance, particularly useful in the health and education sectors

Sustainable Energy in Action

- Uses no fossil fuels
- Maximises the use of wind power and the natural stack effect of thermal buoyancy
- Night Time Cooling utilises free cooling to cool the fabric of the building

Long Term Track Record

- Monodraught have been utilising Natural Ventilation for over 40 years

Technical Details

Material

- GRP body with gel coat finish
- Trilayer weather protection

Options

- Colours: Available in any RAL or BS 4800 colour (Excludes RAL & BS metallic finishes)
- Truncated capping (to suit specified pitch)
- Modified & extended skirt arrangements (to suit specified roof pitch and alternate upstand arrangements, on request)
- Acoustic foam (25 mm, 50 mm)

Guarantee

- 10 year limited warranty

Performance

- Fire: BS 476 - 3:2004 / BS 476 - 24:1987
- Sound: BS EN 20140 - 10:1992
- Power supply range: 19.2 – 28.8 V DC.
- Running time: 150 s / 95° (for volume control damper)
- IP54 rated actuator motor
- Power consumption: 2W @ nominal force, 0.4W at rest, 4VA wire sizing

Dimensions (Oval)

- Overall size: dependent on ventilation rate required well as opening and installation arrangements
- Front and rear elevations can be either vertical or slanted dependant on requirement (for slanted systems, faces can be angled to no more than 60° from the horizontal)
- Minimum 2No. louvre openings required
- 150 mm (h), minimum skirt depth
- 40 mm high louvre opening
- 70 mm louvre pitch

Dimensions (Rectangular)

- Overall size will be dependent on ventilation rate required by specified during calculation stage, as well as opening and installation arrangements
- Overall louvre height at face can be calculated by multiplying the number of free louvres by the louvre pitched + 40 mm
- 150 mm (h), minimum skirt depth
- Minimum 2No. louvre openings required
- 150 mm (h), minimum skirt depth
- 40 mm high louvre opening
- 70 mm louvre pitch

Product Options

• Oval Capping



• Rectangular Capping



Abercrombie Primary School - WINDCATCHER (Rectangular)

Modes of Operation

Night Time and Mid-Season Operation

The Monodraught WINDCATCHER will still continue to operate during mid-seasons, in the evenings or at weekends, when the building is unoccupied, providing all the benefits of this “free air conditioning”. The WINDCATCHER system is not dependent on openable windows or vents in the side of the building, allowing the building to remain fully secure.

This is particularly important during warmer periods. The system will continue to operate in Night Time Cooling mode utilising the cooler night time air to remove heat from the fabric of the building and cool the room ready for the next day.

Volume control dampers at the base of the system at ceiling level will precisely control the amount of airflow through the system. If the internal temperature falls below 15°C the dampers will automatically close to prevent over cooling.

Summer Operation

In the summer months, warm air will naturally rise to ceiling level and out of the system. At the same time any prevailing wind on the WINDCATCHER system carries a

supply of fresh air down into the room below, thereby slightly pressurising the building and increasing the outward flow of stale air. Perimeter windows can be utilised to aid cross flow ventilation.

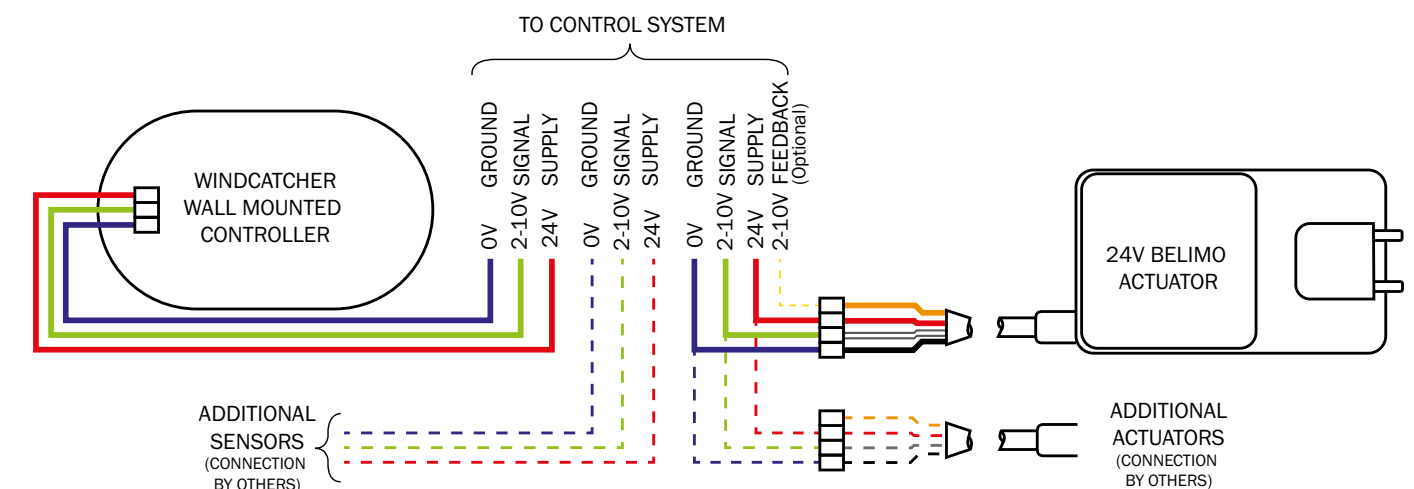
With fresh air coming in through the windows on the windward side of the building, stale air will be exhausted through the passive stack element of the WINDCATCHER system.

Winter Operation

To minimise ventilation heat loss, control is essential. Monodraught achieve this through the use of insulated (U-Value of 1.2W/m) fully modulating dampers in conjunction with our fully automatic iNvent 2 controls system which is in turn linked to internal and external temperature sensors and CO₂ sensors. This allows the systems to continuously meet occupant loading without over ventilating an area, maintaining carbon dioxide concentrations in the 1000 ppm to 1500 ppm range.

Such control can most efficiently be achieved by ensuring that the building structure is airtight and therefore Monodraught specify a damper with low leakage rates of 2.76m³/hr/m² at 50Pa static pressure.

Wiring Details



Cable Specification

3-Core Cable:

- PVC Cable
 - Farnell: 2240119
 - RS: 660-4087
 - Elec. Wholesaler: 16-2-3A
 - CSA: 0.5mm² (Stranded)
- LSZH Cable
 - Elec. Wholesaler: 1896L
 - CSA: 0.5mm² (Stranded)

4-Core Cable (Optional):

- PVC Cable
 - Farnell: 2240121
 - RS: 660-4096
 - Elec. Wholesaler: 16-2-4A
 - CSA: 0.5mm² (Stranded)
- LSZH Cable
 - Elec. Wholesaler: 1896/4L
 - CSA: 0.5mm² (Stranded)



Halifax House, High Wycombe
Buckinghamshire, HP12 3SE



+44 01494 897700



+44 01494 532465



www.monodraught.com



info@monodraught.com



Monodraught Ltd



@MonodraughtLtd @cool_phase



Monodraught Ltd

