

Energy and Maintenance Free Cooling For Your Facility!

Natural Ventilation is often not considered in building design because it is either not very well understood or it is not deemed practical. The use of natural ventilation raises many questions such as 'how do we control it?' or 'will it work in summer'? Any form of natural ventilation is just that ...natural ventilation. It doesn't make buildings cooler or warmer or any different to the outside climate. It simply allows fresh air in and takes it out as you open or close the windows.

Nonetheless though we all know the value of standing in front of a fan or sleeping under a ceiling fan when it is very hot. That air movement created by the fan will provide a temperature drop of around 3 degrees across the body even in high humidity zones such as tropical Asia where heat and high humidity combine. That is why many Asian residences and hotels have ceiling fans –They do actually work!

The funny thing is that scientifically it is shown that in an air conditioned building 15-20% of the occupants will be uncomfortable. In a naturally ventilated building the same statistics apply. What this means is that with an air conditioning system we are spending money on capital cost and running costs to keep the same amount of people comfortable as we would keep comfortable in a naturally ventilated building!

How smart is that?

Engineered Natural Ventilation systems provide all the benefits fresh air and air movement in a controlled and managed system that will cool buildings and occupants. Appropriately designed and integrated Natural Ventilation systems will work with the building design and occupant loads etc to provide night time cooling as well as enough air changes an hour even in summer to mitigate overheating and reduce temperatures within the building. By using fresh outside air an engineered system is designed to provide cooling and provide fresh air, usually all year round, as required. We all know the value of clean fresh air to improving resident health and well being.

The engineered system will consider detailed criteria such as number and activity level of occupants, building fabric and internal loads such as computers or hot water urns. Glazing types and qualities as well as building orientation combined with an understanding of the local climate will all make up the engineering diagnostics of an engineered ventilation system. An understanding of the required flow rates will then lead to the preferred ventilation system design parameters.

Furthermore note the use of the word 'system'.

A 'system' means an integrated design comprising automatic controllers and sensors rolled into an integrated system that offers controllable and efficient natural ventilation. With an integrated system you don't have to worry about automatic window openers, control units or designing and guaranteeing the interface between window openers, actuators and BMS systems. You don't have to worry about warranty issues or who is responsible for each component when it breaks down. In addition in a non integrated system where can you see evidence of how they work? Or how cost effective they are?

The Monodraught Windcatcher system is the only engineered and integrated Natural Ventilation system available in Australia.

Based on the top down- top out Middle East Windcatcher systems used for thousands of years the Monodraught Windcatcher provides controllable fresh air all year round while ensuring enough air changes per hour occur to minimise overheating in summer. Detailed engineering is undertaken for every project. Fully automated or semi automatic systems are utilised in a completely integrated system.

The Monodraught Windcatcher works excellently in new or old buildings.

The Monodraught Windcatcher can be retro fitted to existing buildings very easily –just cut a hole in the roof and bring the shaft down to the ceiling.

And remember these units are energy and maintenance free for the life of the building. They are silent, have one moving part (the damper) and come in a range of shapes, colours and sizes. They are secure, fire rated and acoustically treatable.

Each unit has a 10 year warranty and a 25 year performance guarantee. Rain sensors, CO2 sensors and temperature sensors monitor the internal and external conditions and adjust the system to suit. Working with either the windows closed or open and using the pressure differences found in temperature and small breezes of 0.5 m/s the Windcatchers will ensure your occupants are comfortable all year round.

In operation for over 20 years in the UK if you consider a Monodraught Windcatcher you will not have the energy bills or CO2 pollution created by air conditioning systems. Plus you will have a reduced capital cost.

Used in over 1500 schools and 7000 installations worldwide including aged and healthcare projects the Monodraught Windcatcher will blow you away.

For an obligation free quotation to make your residents more comfortable and have no cooling energy costs please contact Vim Sustainability.

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