

EcoPower® Hybrid Ventilation





Established in 1934, Edmonds is a pioneer in home, commercial and industrial ventilation solutions in Australia as well as across the globe.

Edmonds is passionate about delivering superior comfort and performance whilst reducing its impact on the environment. It is this vision of a 'sustainable future' which has resulted in the design and development of many energy efficient innovations. These include passive, wind-driven; hybrid and turbine ventilation technology.

Regarded as a leading industry innovator, Edmonds ventilation products are engineered and manufactured at its ISO9001 accredited facility in Seven Hills, Australia. Edmonds was awarded the AIRAH Excellence in Sustainability Award in 2013 and Achiever Award in 2008. It was also recognised with a Good Design Award at the 2013 Australian International Design Awards and Master Builders Australian Award 2012 National Export Award. In 2016, Edmonds' EcoPower Hybrid Ventilation won the MEP Services category in the Big 5 Gaia Awards.

With strong synergies between insulation and ventilation in the built environment, Edmonds became part of the CSR Group in 2005; complementing its vision to create Technologies for a Sustainable Future.

EcoPower® was selected by The University of Washington, Molecular Engineering Building to achieve LEED Gold certification.



UL705 versions available on request



Quality Management standard for Edmonds Seven Hills facility



National Export Award for Edmonds Business



HVAC Achiever award for EcoPower®



EcoPower®

In a world first, EcoPower® is the only hybrid ventilation unit which incorporates Australian-engineered True-hybrid technology.

Hybrid ventilation is defined as a “two mode (or multi-mode) system that is controlled to minimise energy consumption, while maintaining acceptable indoor air quality and thermal comfort”*. EcoPower® hybrid ventilation will work to ensure a constant supply of fresh air. It combines natural ventilation with a high efficiency electronically commutated (EC) motor in a single unit to ensure reliable and on-demand peak performance, when required.

EcoPower® is capable of operating unhindered in natural mode (wind), or in both natural and energy efficient mechanical modes simultaneously. When required, performance is boosted by activating mechanical operation to ensure desired airflow rates are achieved. Even during mechanical operation, wind power can improve flow rate performance.

EcoPower® installed
at Edmonds Seven Hills, NSW, Australia.

*Source : Luther, Mark and Chen, Zhendong 2002-2011, Emerging Technologies
in Ventilation, BEDP Environment Design Guide. Vol. Tec 12. pp 1-10.

TRUE HYBRID VENTILATION TECHNOLOGY

TRUE-HYBRID OPERATION

- Australian-engineered World's first 'True-Hybrid' patented ventilation technology.
- Combination of natural operation or a combination natural and mechanical ventilation.
- Powered mode operation to meet demand needs for airflow control and performance.
- Passive ventilation for further energy savings when induced by stack effect and wind, passive ventilation when conditions are suitable.
- Improved indoor air quality and occupant comfort.

UNIQUE OPEN THROAT DESIGN

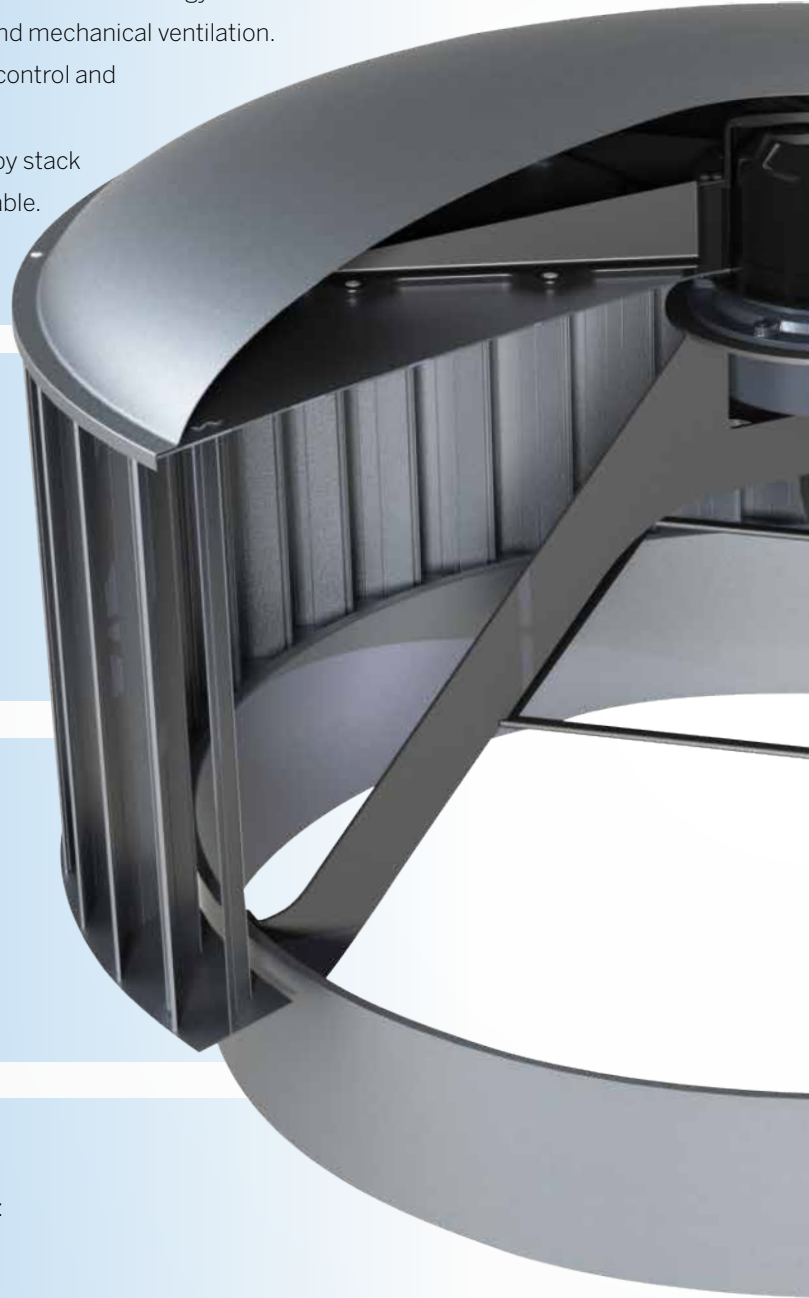
- Eliminated axial fan increases energy efficiency by minimising air friction.
- Improved co-efficient of discharge (Cd), compared to other axial fan assisted vents thus providing better air flow rates.
- Reduced noise versus traditional systems. Only 38dBA @ 3m for EP900.

HIGH PERFORMANCE EDMONDS VERTICAL VANE TECHNOLOGY

- Unique design allows ventilator turbine top to act as the centrifugal impeller.
- Improved co-efficient of flow (Cf), in natural mode compared to traditional spherical vents.

CONTROLS OPTIONS

1. Edmonds Air iQ enables variable speed operation with either:
 - * Factory pre-set temperature and/or humidity control
 - * Customised temperature and/or humidity control
2. Simple On/off operation
3. External 0-10V input for variable speed operation.
Suitable for BMS control.



TOWARDS ZERO
UP TO 90%
MORE EFFICIENT*



0 - 10V VARIABLE
SPEED CONTROL



TEMP. & HUMIDITY
CONTROL
EDMONDS AIR IQ



SUITABLE
FOR HIGH
WINDSPEED

Note: Image for illustrative purposes only.



HIGH EFFICIENCY ELECTRONIC COMMUTATED (EC) MOTOR

- Advanced engineering for long lasting performance and durability.
- Unique EC Motor configuration for Edmonds Application.
- Large input voltage range 200-277VAC and 50/60Hz.

MATERIALS

- Marine grade equivalent aluminium as standard.
- Options for highly corrosive environments also available.
- Mill finish or powder coated options to match most COLORBOND® colours.

INSTALLATION BENEFITS

- Significant weight advantage (<40kg). Two-person lift may be achieved versus crane-lift for heavier competitor options (90-100kg).
- Lightweight design means additional structural strengthening of roof may not be required.
- Variable pitch throat design can adapt to most roof angles.

SINGLE PHASE

- Ideal for retrofitting existing sites. 3-phase upgrade not required.

NOISE REDUCTION

- Up to 34dB(A) lower than traditional axial fan technology (same capacity).
- Ideal for residential areas, especially during night-time operation.

WARRANTY

- 10 year warranty/2 year warranty for motor.
- *Conditions apply. Refer to Warranty Document.



WATER INGRESS
PROTECTED



CONFIGURABLE
PRODUCT



AUSTRALIAN
DESIGN

EcoPower®

CONTROL OPTIONS

EcoPower® provides flexible control of your application with the ability to integrate into an existing BMS, or use Edmonds Air iQ for customised temperature and humidity response tailored to your building's needs.

EcoPower can be controlled via several options:

- On/off control wired into a building circuit
- Integrated into a Building Management System (BMS) with a 0-10V interface
- Edmonds Air iQ controls platform



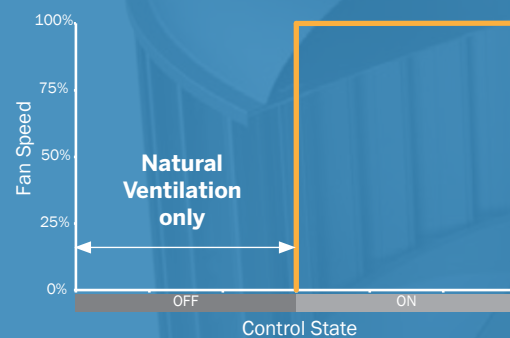
STANDARD CONTROLS

On/Off function where:

On: EcoPower runs in full speed mode

Off: EcoPower runs in Natural mode

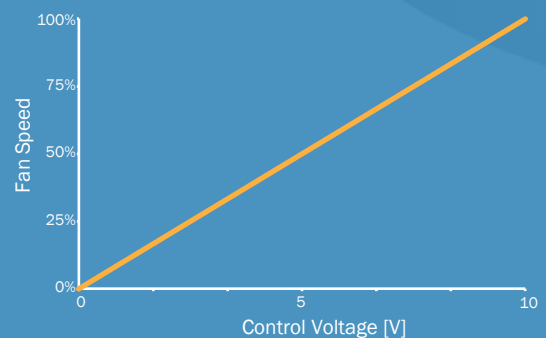
Fast Response - Standard



BUILDING MANAGEMENT CONTROLS

EcoPower can be controlled via a 0-10V input to a Building Management System (BMS) for complete airflow control and visibility.

Fast Response - 0-10V Control





EDMONDS AIR IQ - CUSTOMISED CONTROLS

EcoPower® with Edmonds Air iQ is integrated with in-built temperature and humidity programs for simple and effective air flow control.

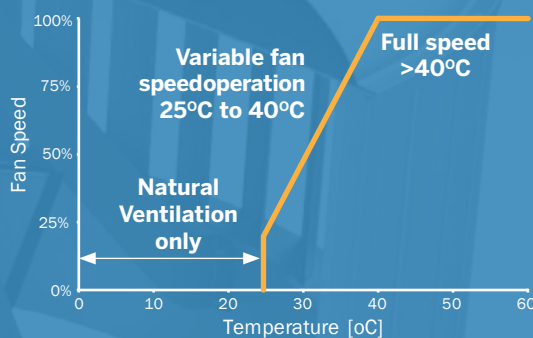
Customised options:

1. Customised temperature only control
2. Customised humidity only control
3. Customised temperature and humidity control

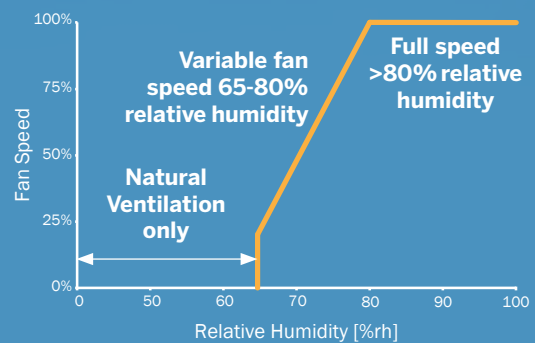
Factory pre-set options:

1. Temperature only control
2. Humidity only control
3. Temperature and humidity control

Temperature Control Only

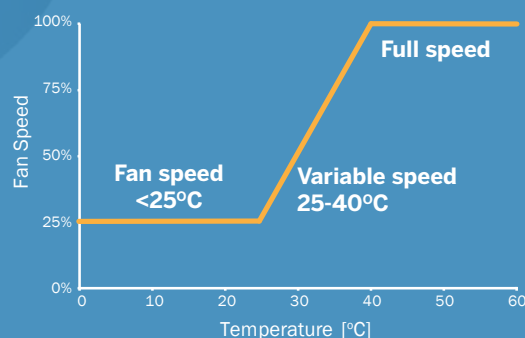


Humidity Control Only



If the combined solution is chosen, EcoPower will analyse the temperature and humidity conditions and automatically select the profile with the highest fan speed.

Customised Control



This example shows continuous ventilation at temperatures < 25°C with increasing fan speed responding to temperature > 25°C

ENERGY SAVINGS

An EP900 can achieve up to \$13,000* electricity cost savings (up to 86%) over a 10 year period versus National Construction Code of Australia 2012 requirements.

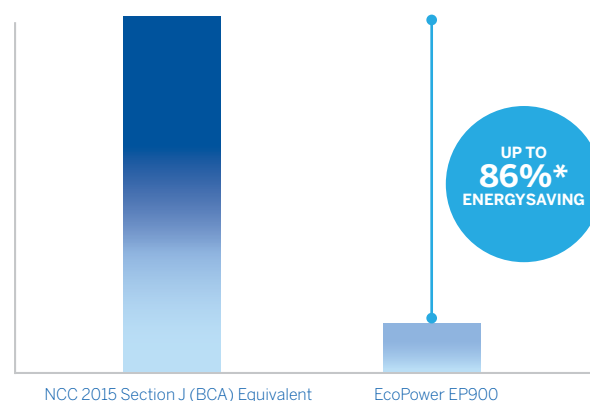
For a system without filters, the NCC 2015 Section J 5.2a, states “when the air flow rate of a mechanical ventilation system is more than 1000 L/s, the system must have a fan power to air flow rate ratio” of 0.65 W/(L/s).

In comparison, EcoPower EP900 have a fan motor power to air flow ratio of 0.0864 W/(L/s). This equates to an energy reduction of 86.7%.

Annual electricity cost calculation for a commercial building installed with 10 ventilators based on:

- 12 hours on and 12 hours off x 365 days
- Flow rate of 2,778 L/s

This translates to a saving of up to \$13,000 per annum (86.7%*) or up to \$130,000 over a 10 year period life when compared to the NCC 2015 BCA Section J requirement.



| Technology | Power Usage (kW) | Fan Motor power to air flow ratio W(L/s) | Annual Electricity Cost (\$) |
|------------------|------------------|--|------------------------------|
| NCC* requirement | 1.8 | 0.65 | \$5,694 |
| EcoPower EP900 | 0.25 | 0.0864 | \$757 |
| Improvement | 1.56 (86%) | 0.5646 (86%) | \$4,937 |

Based on 12 hours on / 12 hours off @ \$0.20 per kWh x 365 days for 10 units

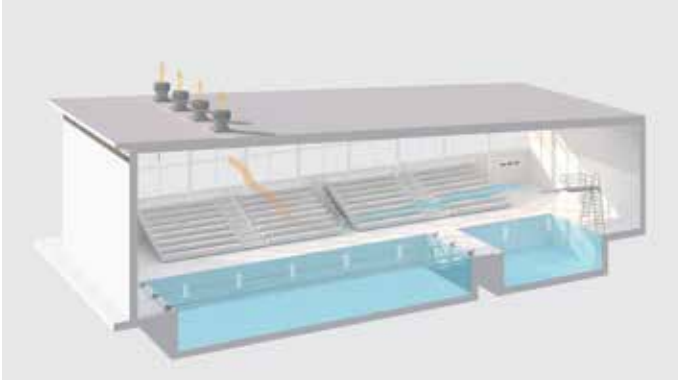
*versus NCC 2015 BCA Section J Requirements

PRODUCT SELECTOR

| Product | | EcoPower® |
|---|---|-----------|
| External Environment | | Standard |
| Schools, Colleges and Universities | | |
|  | Mix-use halls, bathrooms, change rooms | ● |
| | Classrooms or lecture halls | ● |
| | Laboratories | ● |
| | Computer labs, data centers, server rooms | ● |
| Retail | | |
|  | Restrooms, parenting rooms, bathrooms | ● |
| | Shops, arcades & centers, showrooms | ● |
| | Carparks: enclosed and multi storey | ● |
| Multi-Res | | |
|  | Units, townhouses | ● |
| | Apartments | |
| | Carparks: enclosed and multi storey | ● |
| Industrial | | |
|  | Water and sewerage plants, pipes and storage | |
| | Power stations, substations | ● |
| | Food & beverage processing plants | |
| | Abattoirs, Breweries, Dairies, Bakeries, Wineries | ● |
| | Silos, Grain elevators | |
| Commercial | | |
|  | Offices | ● |
| | Carparks: enclosed and multi storey | ● |
| | Warehouse storage | ● |
| | Data centers / server room | ● |
| Warehouse, Manufacturing, Factories: Light industries | | |
|  | Caustic Soda, sulphuric acid handling facilities | |
| | Light chemical fumes concentration | |
| | Welding/powder coating facilities | ● |
| | Exhaust fumes - Petrol, diesel | ● |
| | Bathrooms, change rooms | ● |
| | Storage warehouse | ● |
| | Flammable material storage | |
| | Carparks: enclosed and multi storey | ● |
| Public, Sporting and Social Buildings | | |
|  | Police, ambulance, fire stations | ● |
| | Airport, bus, rail & sea | ● |
| | Religious Buildings, chapels | ● |
| | Community centres, Youth centres | ● |
| | Retirement villages | ● |
| | Sports, gyms, stadiums, auditoriums & townhalls | ● |
| | Aquatic centers, swimming pools | ● |
| | Carparks: enclosed and multi storey | ● |
| Agricultural | | |
|  | Poultry coop, pigpen/sty | |
| | Stable | |
| | Root cellar | |
| | Hatcheries | ● |

PROJECTS AND APPLICATIONS

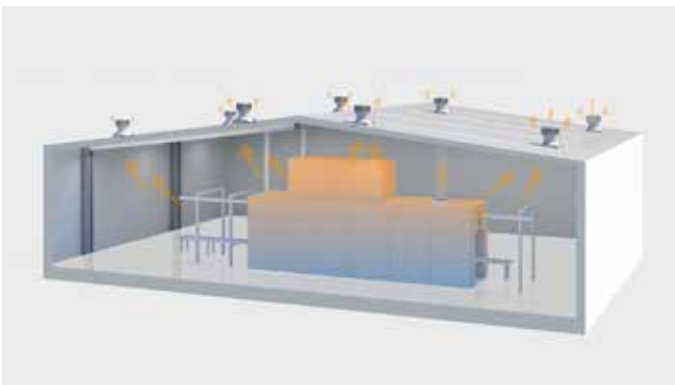
AUDITORIUMS, HALLS AND GYMNASIUMS



Aquatic centre

Large spaces with high occupancy usage load are often accompanied by excess heat build-up. In many cases, natural ventilation is not adequate during times of high usage periods. EcoPower allows demand controlled ventilation to significantly increase the rate of extraction. This delivers better airflow control, improved occupant comfort and reduces the load on air conditioning systems

INDUSTRIAL, FACTORIES AND WAREHOUSE FACILITIES

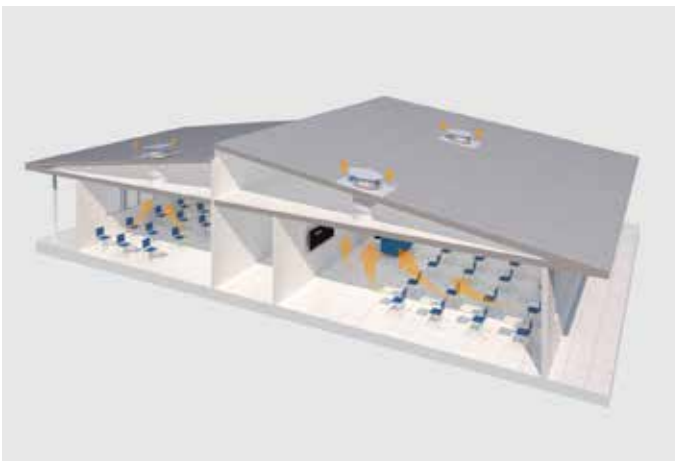


Factory

EcoPower can be configured and programmed to automatically respond to set temperatures and/or humidity using Edmonds Air iQ control platform or 0-10V inputs to your Building Management System (BMS).

Applications include meat and dairy processing plants, refrigerated warehouses, dry goods storage and data centres.

CLASSROOMS



Classroom

When ducted to the ceiling, EcoPower allows natural ventilation during the day to meet or exceed minimum outdoor air ventilation rates requirements of AS1688.2 and ASHRAE standard 62.1. The powered mode can be activated at night, by a timer or temperature sensor. The night purge operation removes excess heat in the room or building, allowing cool night air to cool the building down. This reduces air conditioning load and lowers energy consumption.





University of Washington

MULTI-STOREY BUILDINGS - VENTILATION SHAFTS.

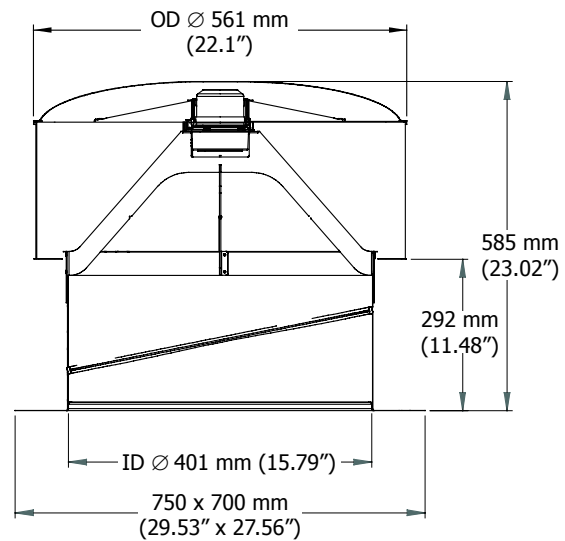
When The University of Washington committed to achieving and exceeding the high sustainability rating benchmarks set by LEED Gold, the smart choice for ventilation came down to just one product. EcoPower® from Edmonds®.

EcoPower significantly reduced the building's energy footprint without compromising occupant comfort. Other benefits included reducing the area requiring air conditioning by 40%, reducing energy consumption to 180-200W per unit which equated to a 63 – 76% saving. Significant noise reduction was also achieved.

PRODUCT INFORMATION

TURBINE, VARIPITCH AND FLASHING

| | |
|----------------------------|-----------|
| Voltage [V] | 200 - 277 |
| Frequency [Hz] | 50 - 60 |
| Pmax [kW] | 0.06 |
| Imax [A] | 0.3 |
| Roof Opening Diameter (mm) | 400 |
| Roof Opening Diameter (") | 15.75 |
| Weight [kg] | 9.42 |
| Weight [lbs] | 20.8 |
| Max Amb. Temp [°C] | 60 |
| Max Amb. Temp (°F) | 140 |



* Tolerance is within
 +/- 5mm and +/- 0.5 kgs +/- 0.2 inches and +/- 1.1 Lbs

PERFORMANCE DATA

Test at nominal value of 230V, 50Hz, and 360RPM

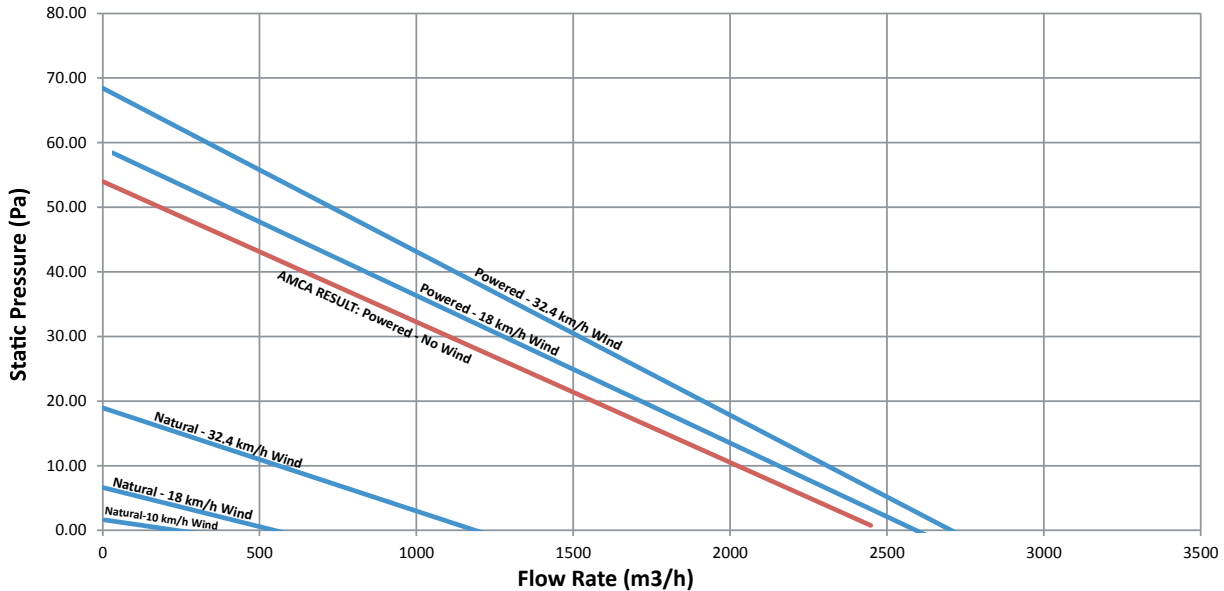
| EP400 | | | Static Pressure (Pa) | | | |
|-------------------------------|-----------------------|-----|--------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | 0Pa 0 in.H ₂ O | 14Pa 0.056 in.H ₂ O | 22Pa 0.088 in.H ₂ O | 27Pa 0.108 in.H ₂ O |
| RPM | | | 344 | 334 | 334 | 337 |
| Flow Rate @ no wind | CFM | | 1 441 | 1 165 | 865 | 720 |
| | m3/hr | | 2 448 | 1 980 | 1 476 | 1 224 |
| Power | BHP | | 0.076 | 0.079 | 0.076 | 0.075 |
| | Motor Input Watt (kW) | | 0.057 | 0.059 | 0.057 | 0.056 |
| Sones @15m | | | 5.3 | 3.5 | 2.9 | 3.4 |
| Sound Power Level LwA (dB) | | | 65 | 56 | 52 | 52 |
| Sound Pressure level dB(A) | Distance (m) | 1.0 | 57 | 48 | 44 | 44 |
| | | 1.5 | 53 | 44 | 40 | 40 |
| | | 2.0 | 51 | 42 | 38 | 38 |
| | | 3.0 | 47 | 38 | 34 | 34 |
| | | 4.0 | 45 | 36 | 32 | 32 |
| | | 5.0 | 43 | 34 | 30 | 30 |
| | | 6.0 | 41 | 32 | 28 | 28 |
| | | 7.0 | 40 | 31 | 27 | 27 |
| | | 8.0 | 39 | 30 | 26 | 26 |
| | | 9.0 | 38 | 29 | 25 | 25 |

Performance ratings do not include the effects of appurtenances (accessories). Performance certified is for installation type A – Free inlet, Free outlet. Values shown are for inlet LWiA sound power levels for Installation Type A: free inlet, free outlet. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound ratings shown are loudness values in fan sones at 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for Installation Type A: free inlet hemispherical sone levels.



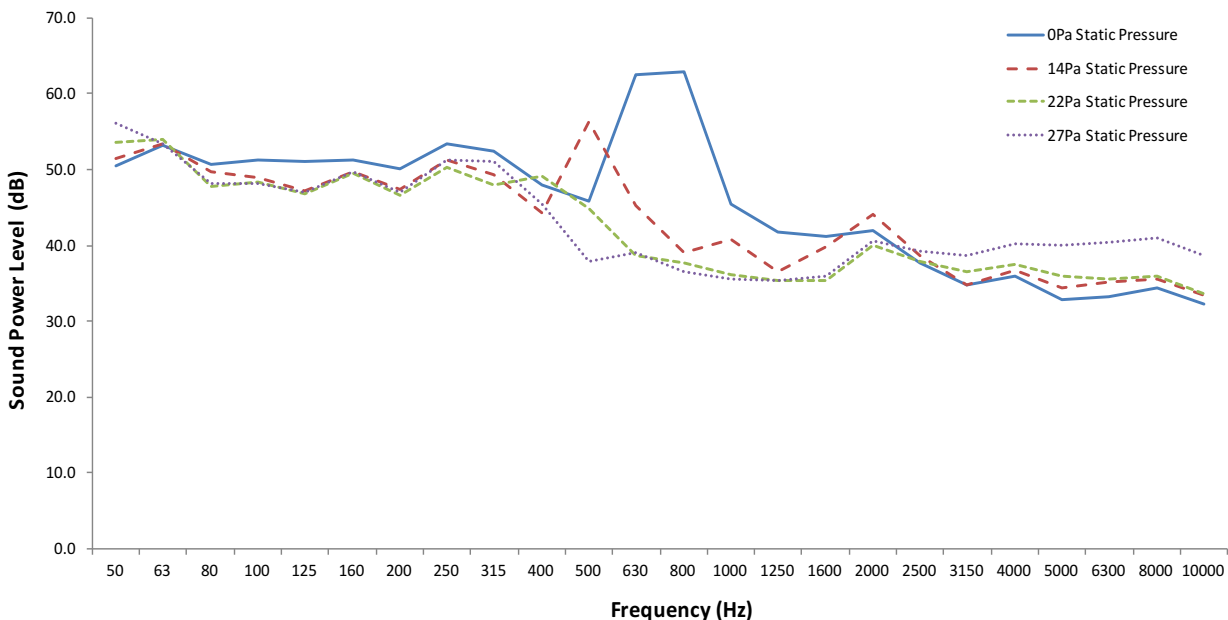
CSR Building Products Ltd T/A CSR Edmonds certifies that the EcoPower hybrid ventilators shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and company with the requirements of AMCA Certified Ratings Program.

TESTED CHARACTERISTIC CURVES - POWERED AND NATURAL



Airflow rates are tested in accordance with ISO5801, equivalent to AMCA Standard 210. Natural performance and wind assisted data is tested as per ISO5801 with an external wind source providing a constant source of wind across the specimen. Wind assisted tests performed by Edmonds on Edmonds in house test equipment. Wind assisted performance testing is outside the scope of AMCA's test standards.

TESTED SOUND POWER LEVEL : ONE - THIRD OCTAVE

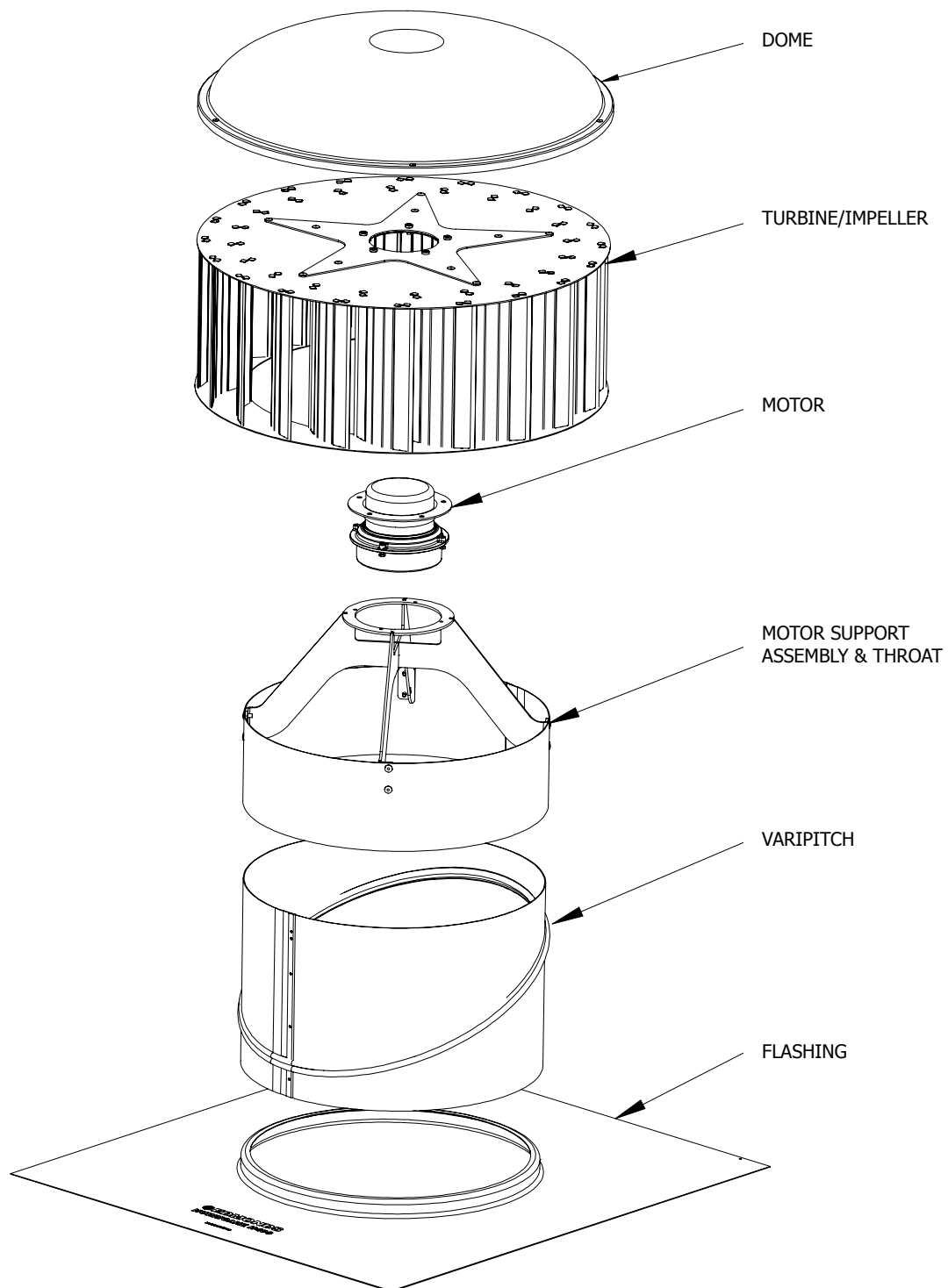


Testing was conducted by AMCA. Performance certified is for installation type A - Free inlet, Free outlet. Rating method E (Direct Drive, As Run Speed, Low Slip Motor). Values shown are for sound inlet LWi power levels for: Installation Type A: free inlet, free outlet. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Performance ratings do not include the effects of appurtenances (accessories).



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EXPLODED VIEW



DESIGN SPECIFICATIONS

PERFORMANCE

Roof mounted ventilator shall be EP400. Ventilator air flow performance shall be tested in accordance with ISO5801, equivalent to ANSI / AMCA standard 210-07, figure 15 setup, installation type A. Fan sound performance shall be tested and stated in accordance to AMCA standard 300-08, figure 2 setup, installation type A. Noise must be less than or equal to 53dB(A) @1.5m with max power consumption at 60W or better.

OPEN THROAT

The hybrid ventilator shall incorporate an open throat design. This design improves air flow rates by eliminating the need for a separate axial fan.

DRIVE ASSEMBLY

The ventilator shall use a direct drive centrifugal design where the bearing system of the motor functions as the bearing system of the ventilator. This means the vent can be free spinning under wind load and/or power activated as conditions require.

MOTOR

The hybrid ventilator shall use a high efficiency single phase Electronic Commutation (EC) motor.

CONSTRUCTION

Ventilator shall be constructed with high quality engineering materials:

- Dome, turbine and throat shall be made of aluminium.
- The brackets shall be powder coated or polyolefin mild steel.
- Support arms and motor housing shall be glass reinforced Nylon 6.
- Available in a range of colours upon request.

CONTROLS

The hybrid ventilator shall be controlled by either:

1. On/off switch control, or
2. Edmonds Air iQ with factory pre-set temperature control, or
3. Edmonds Air iQ with factory pre-set humidity control, or
4. Edmonds Air iQ with factory pre-set temperature and humidity control, or
5. Edmonds Air iQ with factory customised temperature and humidity control, or
6. 0-10V operation with BMS control

ACCESSORIES

When specified, accessories such as manual damper, electric damper, EC damper grilles, and special bases (spigot, square to round and ex base) are available upon request.

WARRANTY

CSR Building Products Limited ABN 55 008 631 356 T/A Edmonds ("Edmonds") warrants from the date of purchase, for a period of TWO (2) YEARS that the Electronic Commutating Motor and for a period of TEN (10) YEARS that the Turbine Body of the Edmonds EcoPower® Hybrid Ventilator will retain its performance characteristics and be free from faulty materials and workmanship on the condition that the vent is installed in accordance to the installation instructions. Please refer to Warranty Document on edmonds.com.au for full details.

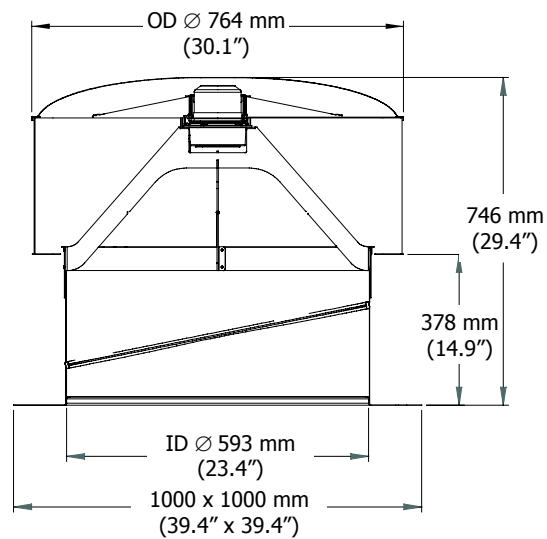


* Compared to traditional mechanical ventilators

PRODUCT INFORMATION

TURBINE, VARIPITCH AND FLASHING

| | |
|----------------------------|-----------|
| Voltage [V] | 200 - 277 |
| Frequency [Hz] | 50 - 60 |
| Pmax [kW] | 0.099 |
| Imax [A] | 0.47 |
| Roof Opening Diameter (mm) | 600 |
| Roof Opening Diameter (") | 23.62 |
| Weight [kg] | 18.14 |
| Weight [lbs] | 40 |
| Max Amb. Temp [°C] | 50 |
| Max Amb. Temp (°F) | 122 |



* Tolerance is within
+/- 5mm and +/- 0.5 kgs +/- 0.2 inches and +/- 1.1 Lbs

PERFORMANCE DATA

Test at nominal value of 230V, 50Hz, and 360RPM

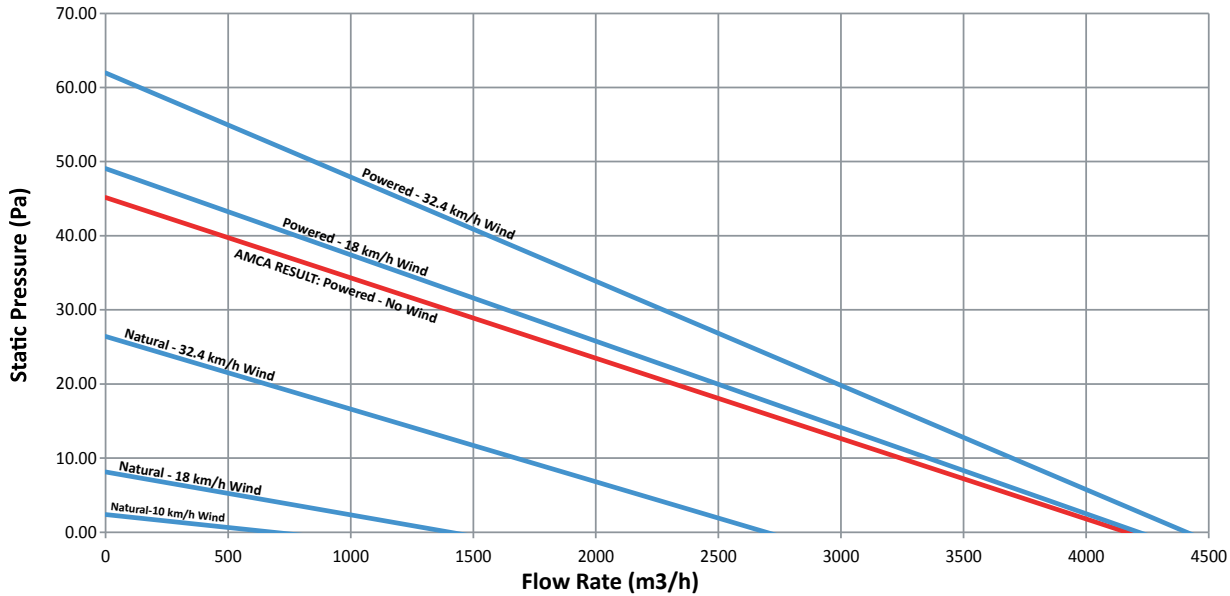
| EP600 | | | Static Pressure (Pa) | | | |
|-------------------------------|-----------------------|-----|--------------------------------|------------------------------------|-------------------------------------|-------------------------------------|
| | | | 0Pa 0 in.H ₂ O | 8Pa 0.032 in.H ₂ O | 16Pa 0.064 in.H ₂ O | 23Pa 0.092 in.H ₂ O |
| RPM | | | 235 | 230 | 232 | 251 |
| Flow Rate @ no wind | CFM | | 2 563 | 2 055 | 1 525 | 1 017 |
| | m³/hr | | 4356 | 3492 | 2592 | 1728 |
| Power | BHP | | 0.130 | 0.133 | 0.130 | 0.121 |
| | Motor Input Watt (kW) | | 0.097 | 0.099 | 0.097 | 0.090 |
| Sones @15m | | | 3.2 | 3.6 | 3.8 | 4.3 |
| Sound Power Level LwA (dB) | | | 54 | 55 | 55 | 57 |
| Sound Pressure level dB(A) | Distance (m) | 1.0 | 46 | 47 | 47 | 49 |
| | | 1.5 | 42 | 43 | 43 | 45 |
| | | 2.0 | 40 | 41 | 42 | 43 |
| | | 3.0 | 36 | 37 | 37 | 39 |
| | | 4.0 | 34 | 35 | 35 | 37 |
| | | 5.0 | 32 | 33 | 33 | 35 |
| | | 6.0 | 30 | 31 | 31 | 33 |
| | | 7.0 | 29 | 30 | 30 | 32 |
| | | 8.0 | 28 | 29 | 29 | 31 |
| | | 9.0 | 27 | 28 | 28 | 30 |

Performance ratings do not include the effects of appurtenances (accessories). Performance certified is for installation type A – Free inlet, Free outlet. Values shown are for inlet LWiA sound power levels for Installation Type A: free inlet, free outlet. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound ratings shown are loudness values in fan sones at 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for Installation Type A: free inlet hemispherical sone levels.



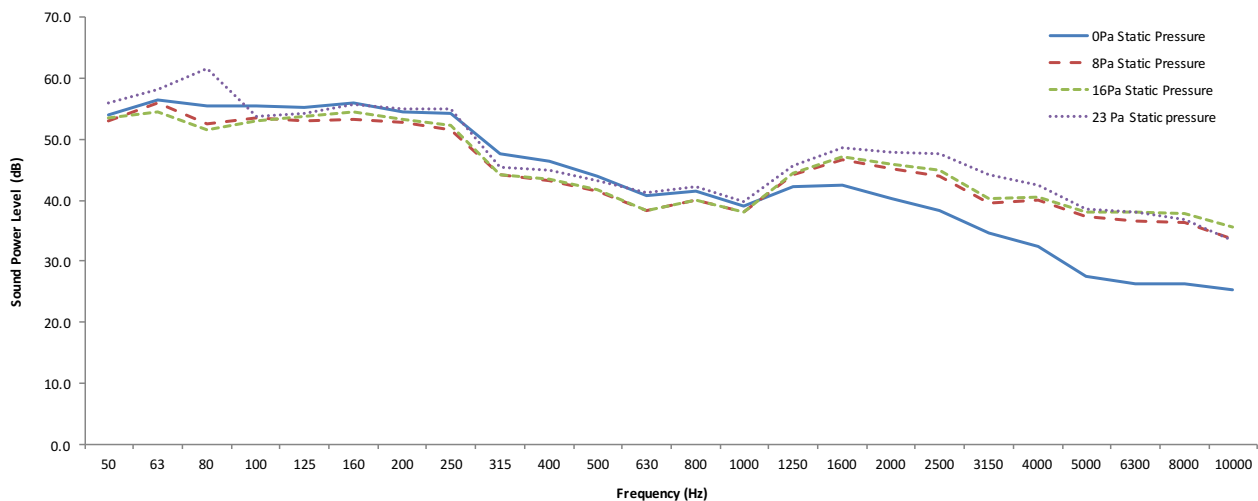
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TESTED CHARACTERISTIC CURVES - POWERED AND NATURAL



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TESTED SOUND POWER LEVEL : ONE - THIRD OCTAVE

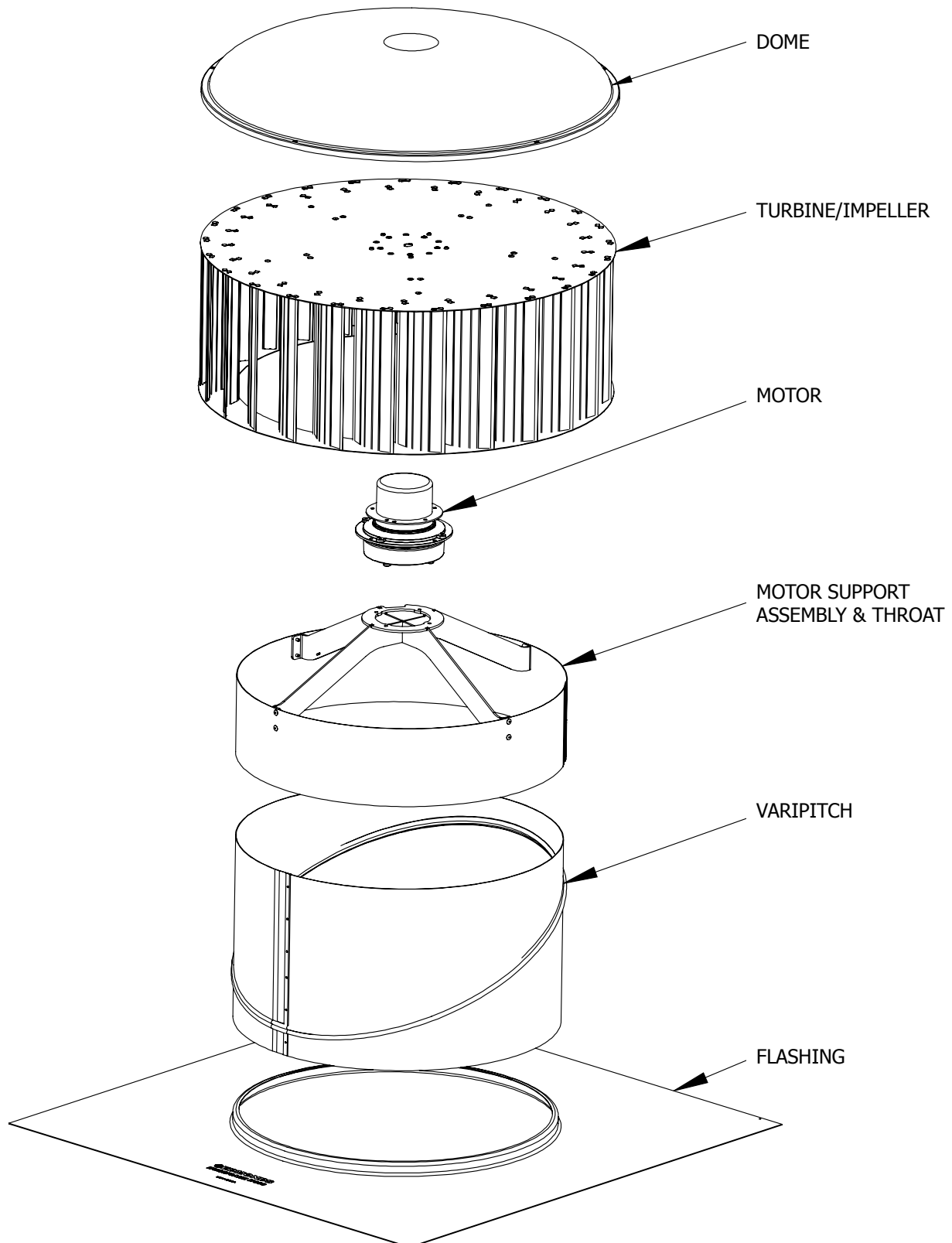


Testing was conducted by AMCA. Performance certified is for installation type A - Free inlet, Free outlet. Rating method E (Direct Drive, As Run Speed, Low Slip Motor). Values shown are for sound inlet LWi power levels for: Installation Type A: free inlet, free outlet. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Performance ratings do not include the effects of appurtenances (accessories).



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EXPLODED VIEW



DESIGN SPECIFICATIONS

PERFORMANCE

Roof mounted ventilator shall be EP600. Ventilator air flow performance shall be tested in accordance with ISO5801, equivalent to ANSI / AMCA standard 210-07, figure 15 setup, installation type A. Fan sound performance shall be tested and stated in accordance to AMCA standard 300-08, figure 2 setup, installation type A. Noise must be less than or equal to 45dB(A) @1.5m with max power consumption at 98.8W or better.

OPEN THROAT

The hybrid ventilator shall incorporate an open throat design. This design improves air flow rates by eliminating the need for a separate axial fan.

DRIVE ASSEMBLY

The ventilator shall use a direct drive centrifugal design where the bearing system of the motor functions as the bearing system of the ventilator. This means the vent can be free spinning under wind load and/or power activated as conditions require.

MOTOR

The hybrid ventilator shall use a high efficiency single phase Electronic Commutation (EC) motor.

CONSTRUCTION

- Ventilator shall be constructed with high quality engineering materials:
- Dome, turbine and throat shall be made of aluminium.
- The brackets shall be powder coated or polyolefin mild steel.
- Support arms and motor housing shall be glass reinforced Nylon 6.
- Available in a range of colours upon request.

CONTROLS

The hybrid ventilator shall be controlled by either:

1. On/off switch control, or
2. Edmonds Air iQ with factory pre-set temperature control, or
3. Edmonds Air iQ with factory pre-set humidity control, or
4. Edmonds Air iQ with factory pre-set temperature and humidity control, or
5. Edmonds Air iQ with factory customised temperature and humidity control, or
6. 0-10V operation with BMS control

ACCESSORIES

When specified, accessories such as manual damper, electric damper, EC damper grilles, and special bases (spigot, square to round and ex base) are available upon request.

WARRANTY

CSR Building Products Limited ABN 55 008 631 356 T/A Edmonds ("Edmonds") warrants from the date of purchase, for a period of TWO (2) YEARS that the Electronic Commutating Motor and for a period of TEN (10) YEARS that the Turbine Body of the Edmonds EcoPower® Hybrid Ventilator will retain its performance characteristics and be free from faulty materials and workmanship on the condition that the vent is installed in accordance to the installation instructions. Please refer to Warranty Document on edmonds.com.au for full details.

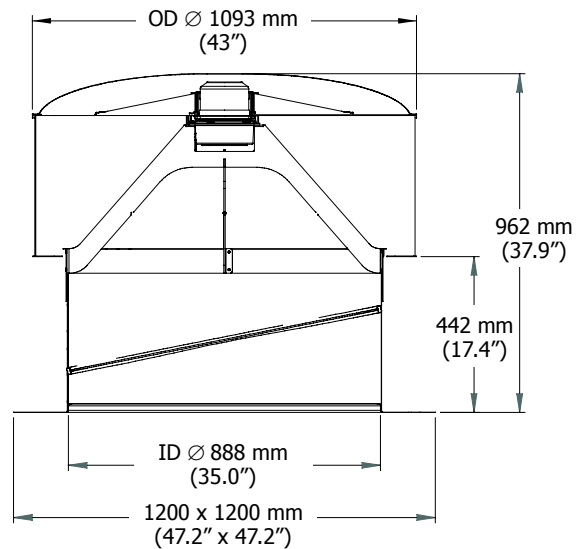


* Compared to traditional mechanical ventilators

PRODUCT INFORMATION

TURBINE, VARIPITCH AND FLASHING

| | |
|----------------------------|-----------|
| Voltage [V] | 200 - 277 |
| Frequency [Hz] | 50 - 60 |
| Pmax [kW] | 0.212 |
| Imax [A] | 1.21 |
| Roof Opening Diameter (mm) | 900 |
| Roof Opening Diameter (") | 35.43 |
| Weight [kg] | 36 |
| Weight [lbs] | 79.4 |
| Max Amb. Temp [°C] | 60 |
| Max Amb. Temp (°F) | 140 |



* Tolerance is within
+/- 5mm and +/- 0.5 kgs +/- 0.2 inches and +/- 1.1 Lbs

PERFORMANCE DATA

Test at nominal value of 230V, 50Hz, and 360RPM with 10VDC control voltage

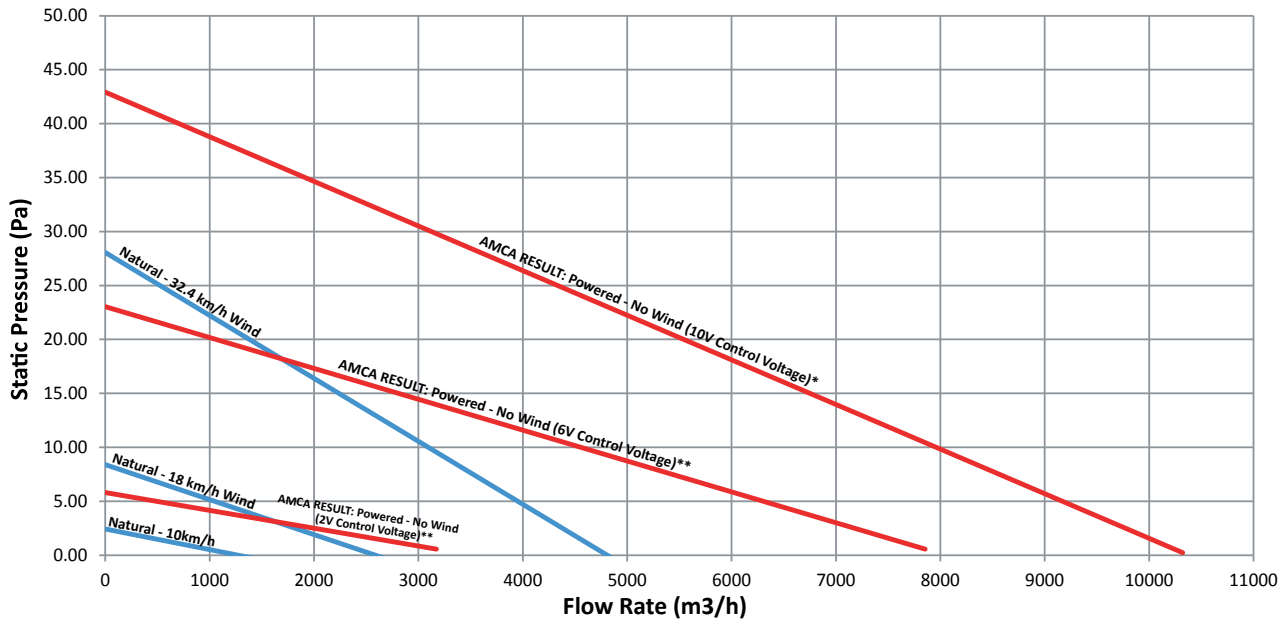
| EP900 | | | Static Pressure (Pa) | | | |
|-------------------------------|-----------------------|-----|--------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | 0Pa 0 in.H ₂ O | 14Pa 0.056 in.H ₂ O | 22Pa 0.088 in.H ₂ O | 27Pa 0.108 in.H ₂ O |
| RPM | | | 168 | 168 | 170 | 189 |
| Flow Rate @ no wind | CFM | | 6 074 | 4 869 | 3 597 | 2 418 |
| | m³/hr | | 10321 | 8272 | 6112 | 3650 |
| Power | BHP | | 0.271 | 0.284 | 0.278 | 0.231 |
| | Motor Input Watt (kW) | | 0.204 | 0.212 | 0.207 | 0.172 |
| Sones @15m | | | 3.4 | 3.6 | 4.9 | 4.2 |
| Sound Power Level LwA (dB) | | | 54 | 54 | 56 | 55 |
| Sound Pressure level dB(A) | Distance (m) | 1.0 | 46 | 46 | 48 | 47 |
| | | 1.5 | 42 | 42 | 44 | 43 |
| | | 2.0 | 40 | 40 | 42 | 41 |
| | | 3.0 | 36 | 36 | 38 | 37 |
| | | 4.0 | 34 | 34 | 36 | 35 |
| | | 5.0 | 32 | 32 | 34 | 33 |
| | | 6.0 | 30 | 30 | 32 | 31 |
| | | 7.0 | 29 | 29 | 31 | 30 |
| | | 8.0 | 28 | 28 | 30 | 29 |
| | | 9.0 | 27 | 27 | 29 | 28 |

Performance ratings do not include the effects of appurtenances (accessories). Performance certified is for installation type A – Free inlet, Free outlet. Values shown are for inlet LWIA sound power levels for Installation Type A: free inlet, free outlet. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound ratings shown are loudness values in fan sones at 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for Installation Type A: free inlet hemispherical sone levels.



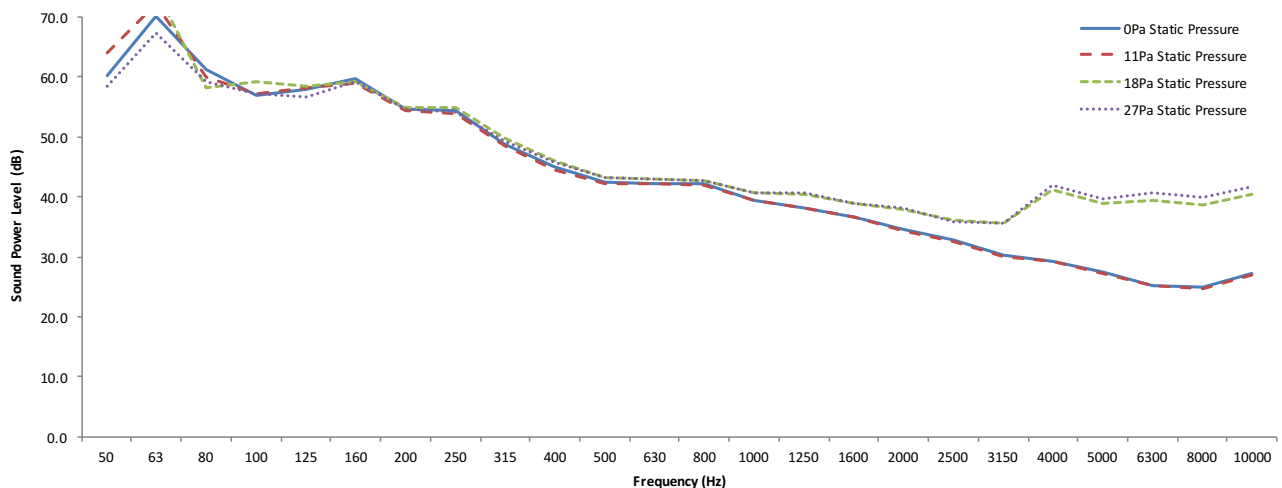
CSR Building Products Ltd T/A CSR Edmonds certifies that the EcoPower hybrid ventilators shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and company with the requirements of AMCA Certified Ratings Program.

TESTED CHARACTERISTIC CURVES - POWERED AND NATURAL



Airflow rates are tested in accordance with ISO5801, equivalent to AMCA Standard 210. Natural performance and wind assisted data is tested as per ISO5801 with an external wind source providing a constant source of wind across the specimen. Wind assisted tests performed by Edmonds on Edmonds in house test equipment. Wind assisted performance testing is outside the scope of AMCA's test standards.

TESTED SOUND POWER LEVEL : ONE - THIRD OCTAVE

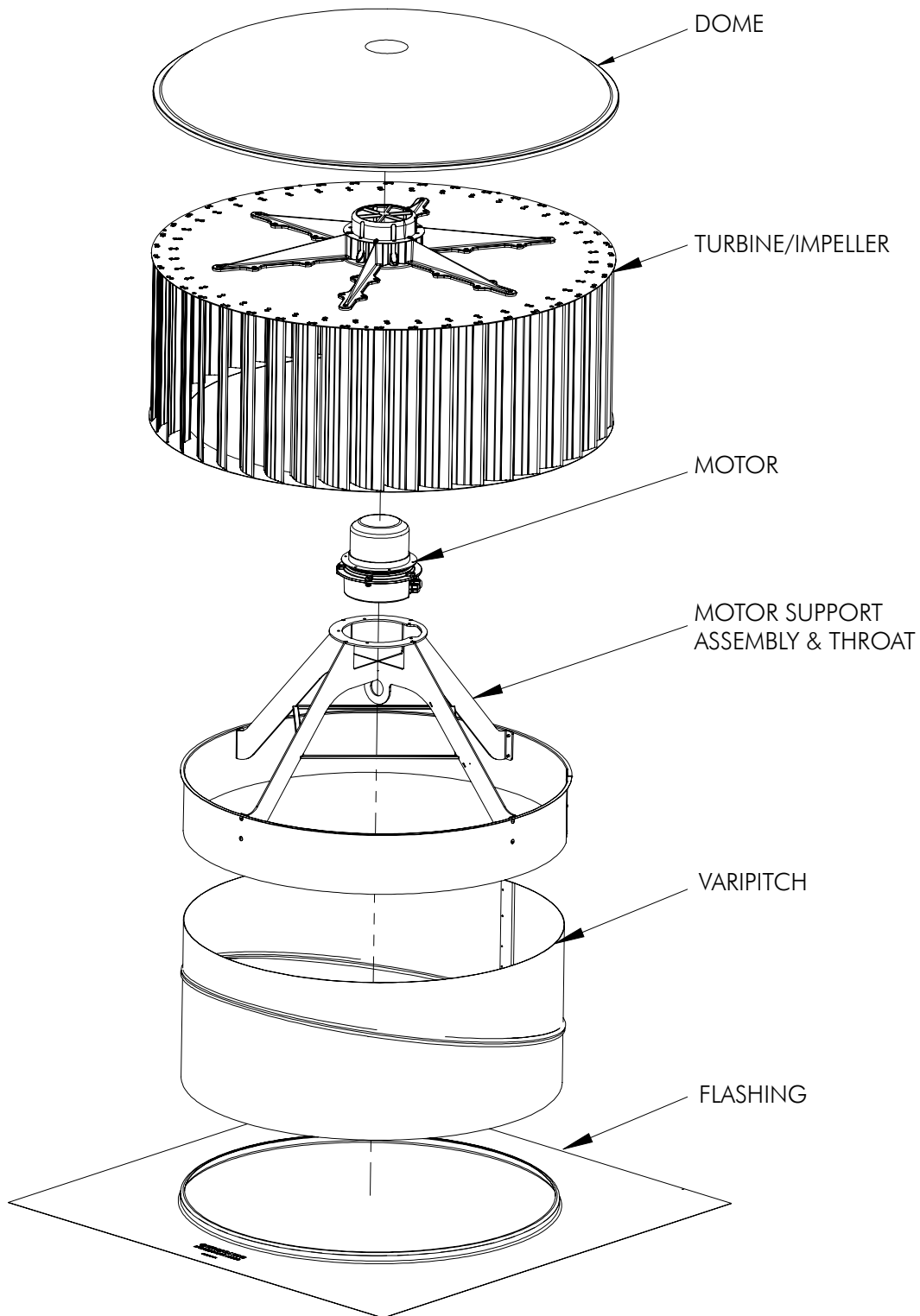


Testing was conducted by AMCA. Performance certified is for installation type A - Free inlet, Free outlet. Rating method E (Direct Drive, As Run Speed, Low Slip Motor). Values shown are for sound inlet LWi power levels for: Installation Type A: free inlet, free outlet. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Performance ratings do not include the effects of appurtenances (accessories).



CSR Building Products Ltd T/A CSR Edmonds certifies that the EcoPower hybrid ventilators shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and company with the requirements of AMCA Certified Ratings Program.

EXPLODED VIEW



DESIGN SPECIFICATIONS

PERFORMANCE

Roof mounted ventilator shall be EP900. Ventilator air flow performance shall be tested in accordance with ISO5801, equivalent to ANSI / AMCA standard 210-07, figure 15 setup, installation type A. Fan sound performance shall be tested and stated in accordance to AMCA standard 300-08, figure 2 setup, installation type A. Noise must be less than or equal to 44dB(A) @1.5m with max power consumption at 212W or better.

OPEN THROAT

The hybrid ventilator shall incorporate an open throat design. This design improves air flow rates by eliminating the need for a separate axial fan.

DRIVE ASSEMBLY

The ventilator shall use a direct drive centrifugal design where the bearing system of the motor functions as the bearing system of the ventilator. This means the vent can be free spinning under wind load and/or power activated as conditions require.

MOTOR

The hybrid ventilator shall use a high efficiency single phase Electronic Commutation (EC) motor.

CONSTRUCTION

Ventilator shall be constructed with high quality engineering materials:

- Dome, turbine and throat shall be made of aluminium.
- The brackets shall be powder coated or polyolefin mild steel.
- Support arms and motor housing shall be glass reinforced Nylon 6.
- Available in a range of colours upon request.

CONTROLS

The hybrid ventilator shall be controlled by either:

1. On/off switch control, or
2. Edmonds Air iQ with factory pre-set temperature control, or
3. Edmonds Air iQ with factory pre-set humidity control, or
4. Edmonds Air iQ with factory pre-set temperature and humidity control, or
5. Edmonds Air iQ with factory customised temperature and humidity control, or
6. 0-10V operation with BMS control

ACCESSORIES

When specified, accessories such as manual damper, electric damper, EC damper grilles, and special bases (spigot, square to round and ex base) are available upon request.

WARRANTY

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* Compared to traditional mechanical ventilators

| Model | EP400 [^] | EP600 [^] | EP900 [^] |
|---|------------------------------|--------------------|--------------------|
| Power Source | Hybrid - Wind and electrical | | |
| Dimensions on varipitch* | | | |
| Height Overall (mm) | 574 | 734 | 962 |
| Diameter Turbine (mm) | 561 | 766 | 1093 |
| Flashing Length (mm) | 750 | 1000 | 1200 |
| Flashing Width (mm) | 700 | 1000 | 1200 |
| Throat diameter (mm) @ min cross section | 401 | 592 | 891 |
| Mass*(kg) | 9.4 | 18.2 | 36 |
| Material | | | |
| Turbine Top | Aluminium | | |
| Varipitch | Aluminium 5005 | | |
| Flashing | Aluminium 5005 | | |
| Finish | Mill / Powdercoat | | |
| Roof slope range - varipitch | 0-45° | 0-45° | 0-22.5° |
| Sound | | | |
| Sound power level (LwA) ΔP=0 | 65 | 54 | 54 |
| Sound Pressure Level @ 3m distance & ΔP=0 (dB(A)) | 47 | 36 | 36 |
| Electrical | | | |
| Phase | Single | Single | Single |
| Motor | Electronic Commutating (EC) | | |
| Input Voltage | 200-277 VAC | 200-277 VAC | 200-277 VAC |
| Input Voltage (Hz) | 50/60 | 50/60 | 50/60 |
| Max. running current draw (A) | 0.28 | 0.47 | 1.21 |
| Max. running power consumption (W) | 60 | 99 | 212 |
| Flow rate at ΔP=0 | | | |
| m³/hr | 2448 | 4356 | 10321 |
| m³/s | 0.68 | 1.21 | 2.87 |
| l/hr | 2448000 | 4356000 | 10321000 |
| l/s | 680 | 1210 | 2867 |
| Accessories | | | |
| Electric Dampers | • | • | • |
| Temperature Variable Speed Control | • | • | • |
| Thermostat | • | • | • |
| Humidistat | • | • | • |
| 0-10V variable speed control | • | • | • |
| Special bases - spigot slope | • | • | • |
| Special bases - spigot ridge | • | • | • |
| Special bases - square to round slope | • | • | • |
| Special bases - square to round ridge | • | • | • |
| Special bases - spigot curb mount | • | • | • |
| Special bases - square to round pyramid | • | • | • |
| Special bases - spigot pyramid | • | • | • |
| Special bases - EX base | • | • | • |
| Sparkguard | • | • | • |
| Australian designed and built | • | • | • |
| Manufactured in ISO 9001 facility | • | • | • |

*Total Dimension +/-5mm, Weight +/- 0.5kg

1300 858 674

www.edmonds.com.au

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