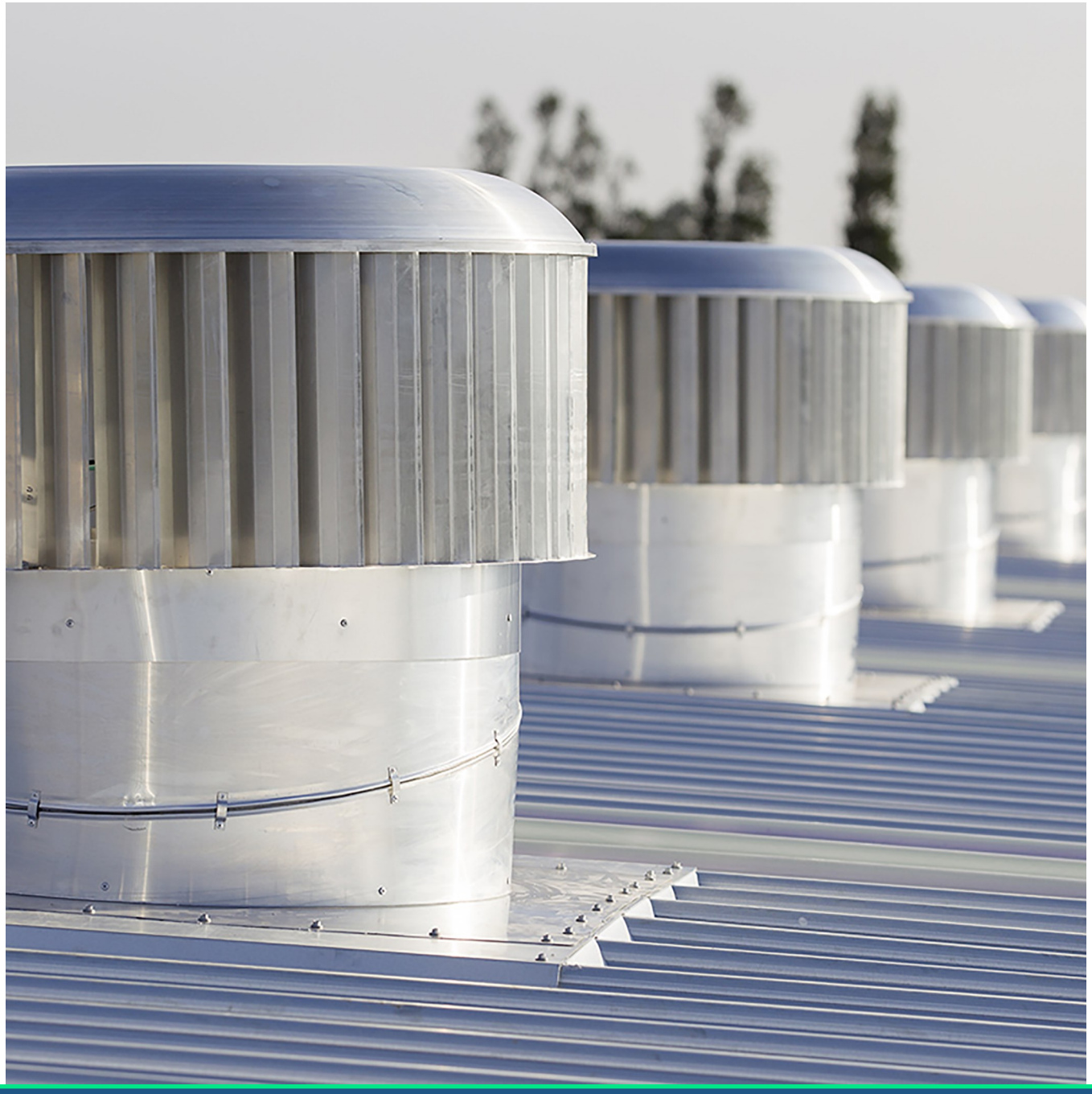
Extractores Eólicos

Soluciones de Ventilación Mecánica

Extractor Eólico Industrial | Tamaño 12 - 36

Datos del Producto



HURRICANE™ TURBINE VENTILATOR FACTS

- No Electrical Operating Costs.
- No Wiring Costs.
- Designed to Withstand Adverse Weather.
- Low Maintenance.
- Low Impact on the Building Structure.
- Quiet Operation.
- 15 Year Warranty.

Construcastillo

HURRICANE™ TURBINE VENTILATORS

Envira-North Systems is proud to be a distributor for the high quality wind driven gravity vent turbine products produced by Edmonds Pty. of Australia. Edmonds, in keeping with Envira-North's policies, is a green leader in natural ventilation products.

Several different products are available, but the wind driven gravity turbine vent is the most impressive. Distinguishing itself by being the largest and most efficient wind driven gravity vent in the world, the Hurricane™ ventilator will provide years of quiet, cost effective service. The Hurricane™ turbine is fire rated and also carries an astounding 15 year warranty!

THROAT SIZE			EXHAUST CAPACITY					
VENTILATOR	SIZE		WINDSPEED AT 6 KM/H OR 3.7 MPH		WINDSPEED AT 12 KM/H OR 7.5 MPH		WINDSPEED AT 16 KM/H OR 9.9 MPH	
	MM	INCHES	L/S	CFM	L/S	CFM	L/S	CFM
H300	300	12	270	572	480	1017	620	1314
H600	600	24	620	1314	1104	2339	1420	3009
H900	900	36	1560	3305	2700	5720	3460	7331

HURRICANES™

Introducing the Hurricane™ Turbine Ventilator

The wind driven Hurricane™ exhausts hot, stale air from buildings and allows it to be replaced at low levels with fresh air at ambient temperatures. The result is a much more pleasant and healthier indoor environment.

Widely recognized as the most efficient industrial ventilator available in the world today, the Hurricane™ was the first industrial ventilator to incorporate the vertical vane design. Originally designed and manufactured in Australia for harsh operating conditions, the Hurricane™ is now utilized around the world for industrial, commercial and community buildings.

In cold climates, heat loss is a major concern. Optional dampers are available to provide operators with the ability stop air flow and keep heat inside the facility.

Hurricanes™ are available in various sizes up to 900 mm. This is to provide custom ventilation for most applications.

The installation of the Hurricane™ will provide an efficient and cost effective system of natural ventilation.

Meets the Highest of Standards

Manufactured from 5005 grade aluminum, the Hurricane™ has been tested by Construction Research Laboratories Inc, Miami, Florida and withstood a continuous gusting wind of 240 km/h without damage. It has also passed the requirements of the Low Speed Dynamic Rain Penetration Test (3 l/m at 57.4 km/h).

Cyclone Wind Load Test	Fire-Rated Testing Of Hurricane H900FR to As:1668.1-1998 4.8.1	Test of Two Wind-Driven Roof Ventilators to AS:4740
Carried out by Construction Research Laboratories in Florida. Florida showed resistance to damage in wind speeds up to 240 km/h (limit of test).	Commonwealth Scientific, Industrial & Research Organization tested the H900FR Hurricane meets the conditions of AS1668.1-1998 Section 4.8.1	CSIRO also tested the Hurricane against the old design (onion vent shape). Hurricane 400 achieved a 206% superior exhaust performance. This reflects the benefits of the new high torque vertical vane design.

Hurricane™ Turbine Ventilator Application

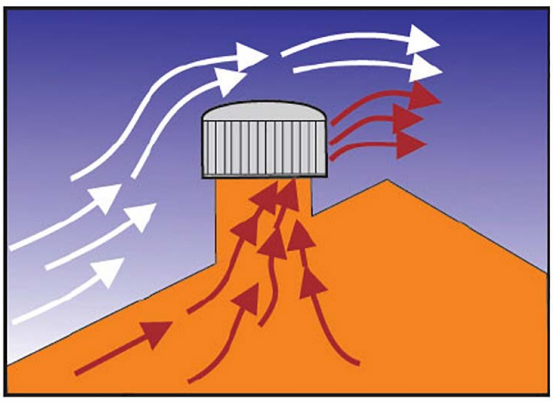
The Hurricane™ is a wind driven roof exhaust fan. The natural ventilator is an alternative to traditional industrial ventilators that perform poorly and consume energy. Natural ventilation is proven to be effective and keep operating costs down.

Several variations are available, but the wind driven gravity vent is the most effective. Distinguishing itself by being the largest and most efficient wind driven gravity vent in the world, the Hurricane™ will provide years of quiet, cost effective service. The Hurricane™ is fire rated.

Hurricane™ Turbine Ventilator - Table C

Hurricane™ Performance Table								
Throat Size			Exhaust Capacity					
Ventilator Size			Windspeed at 6 km/h or 3.7 mph		Windspeed at 12 km/h or 7.5 mph		Windspeed at 16 km/h or 9.9 mph	
	mm	inches	l/s	cfm	l/s	cfm	l/s	cfm
H300	300	12	270	572	480	1017	620	1314
H600	600	24	620	1314	1104	2339	1420	3009
H900	900	36	1560	3305	2700	5720	3460	7331

Based on 10°C temperature difference and effective height of 6 m.



Hurricane™ Turbine Ventilator Facts

- No Electrical Operating Costs.
- No Wiring Costs.
- Designed to Withstand Adverse Weather.
- Low Maintenance.
- Low Impact on the Building Structure.
- Quiet Operation.
- 15 Year Warranty.

Construcastillo

How to Calculate and Specify the Hurricane™ Turbine Ventilator

Specification:

The Hurricane™ is manufactured from aluminum with vertical turbine vanes and incorporates the Tandaco Bearing System (*pre packed double row ball bearings*). The base shall be Vari-Pitch or Ridge mounted and dampers may or may not be required. The Hurricane™ is supported by a 5 year warranty that can be boosted to a 15 year warranty upon submission of extended warranty slip.

Easy Calculation:

To determine the number of Hurricanes™ required to efficiently ventilate a building, refer to the EASY CALCULATION FORMULA and select the throat size required from the Hurricane™ Turbine Ventilator (Table C) *(on previous page)*.

1. Determine volume of building in cubic meters (i.e. Length x Width x Height) = Volume (V)

2. Select air changes per hour (Table A) = ae/hr

3. Select the most suitable number of vents for the roof spaced uniformly either side of the ridge with recommended spacing of 5 meters. Wider industrial buildings may require one or more ventilators per bay = N

4. Determine exhaust capacity required for Hurricane™ for selected number of ventilators = E and apply equation:

$$E = \frac{V \times ae/hr \times 0.278}{N}$$

5. Select wind speed required from H900 Ventilator Hurricane™ Capacity (Table B).

6. Select the ventilator throat size which will provide the exhaust rate nearest to, but not less than the calculated figure. (*Note: 0.278 converts m3/h to l/s*)

Example:

1. Building 60 m(L) x 20 m(W) x 5 m(H)
= 6000 m3 = V

2. Air changes per hour required, say 5 = ae/hr

3. Number of vents selected
eg. 8 Hurricane™ = N

4. Exhaust capacity required per Ventilator = E

$$\frac{6000 \times 5 \times 0.278}{8}$$

l/s per vent = 1043 l/s

5. Average wind velocity of 12 km/h selected.

6. From Hurricane™ Turbine Ventilator (Table C) *(on previous page)* select 8 of H600 Hurricanes™.

Note: A wind speed of 6 to 10 km/h is defined as a light breeze. Wind is felt on the face, leaves rustle and vanes move by wind. The average wind velocities for a 12 month period in Toronto is 15 km/h and Thunder Bay is 13 km/h.

Easy Calculation Formula

		Meter	Foot
Width	enter value	20.31	66
Length	enter value	49.23	160
Height	enter value	6.46	21
Volume	V =	6460.009	221760
Air exchange per hr	enter value	20 ae/hr	20 ae/hr
See **Table A**	ae/hr=		
Exhaust Capacity	enter value	2700 l/s	5720 cfm
See **Table B**	E =		
Number of Hurricanes™ Required			
Formulae:			
N= V x ae/hr / E	round off	13	13
	exact	13.30283	12.92334

N is the number of turbines required *ae/hr is the number of air exchange per hour*
V is the volume of inside building *E is the exhaust capacity*

Recommended Air Exchange - Table A

	ae/hr
Factories and Workshops	5 to 10
Gymnasiums and Squash Courts	5 to 10
Warehouses	5 to 8
Assembly Halls	10 to 15
Garages	10 to 15
Toilets	12 to 15
Laundries	12 to 20
Stables	Varies from 10 to 50
Hog barns	
Poultry Houses	

H900 Ventilator Hurricane™ Capacity - Table B

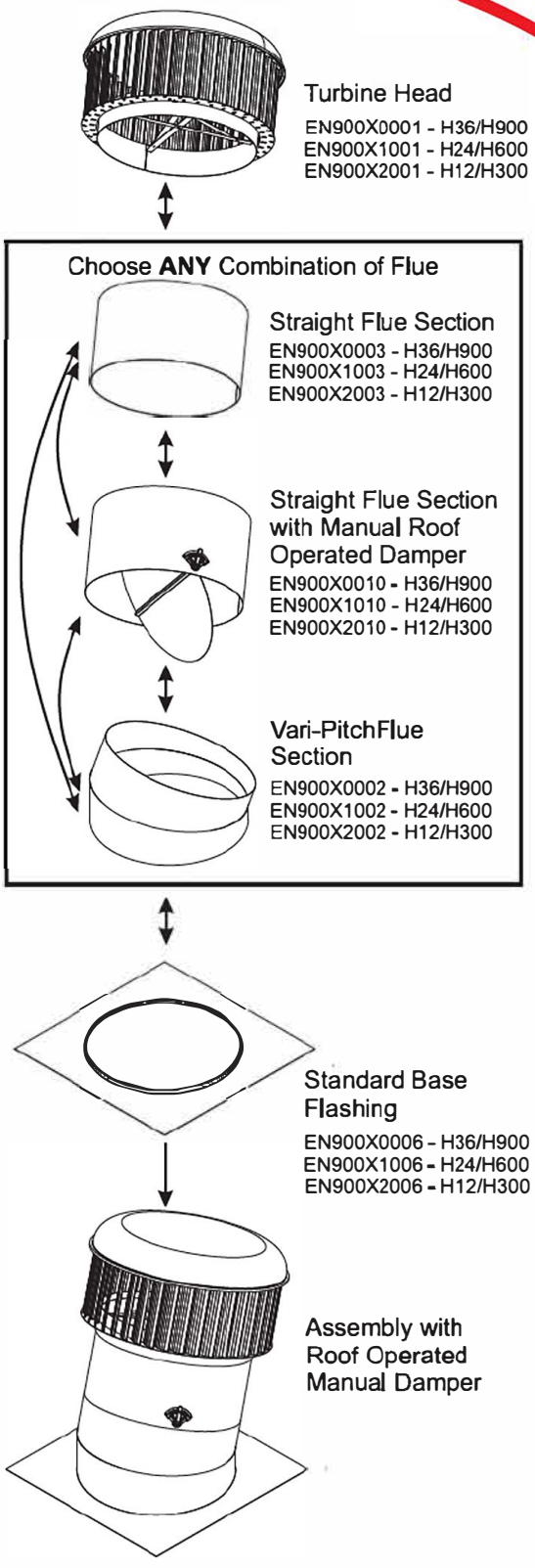
	Wind	6 km/h	12 km/h	16 km/h
Exhaust				
litre/ second		1560	2700	3460
CFM		3305	5720	7331

Metric to Imperial

m to ft	Enter value in meters	6
	Result in feet	19.68

Imperial to Metric

ft to m	Enter value in feet	32.8
	Result in meters	9.99744



Turbine Head
EN900X0001 - H36/H900
EN900X1001 - H24/H600
EN900X2001 - H12/H300

Choose **ANY** Combination of Flue

Straight Flue Section
EN900X0003 - H36/H900
EN900X1003 - H24/H600
EN900X2003 - H12/H300

Straight Flue Section with Manual Roof Operated Damper
EN900X0010 - H36/H900
EN900X1010 - H24/H600
EN900X2010 - H12/H300

Vari-PitchFlue Section
EN900X0002 - H36/H900
EN900X1002 - H24/H600
EN900X2002 - H12/H300

Standard Base Flashing
EN900X0006 - H36/H900
EN900X1006 - H24/H600
EN900X2006 - H12/H300

Assembly with Roof Operated Manual Damper

Construcastillo