

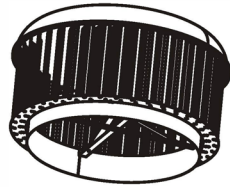
Hurricane™ TURBINES

ASSEMBLY & INSTALLATION GUIDE

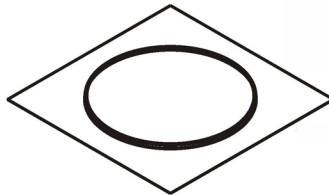
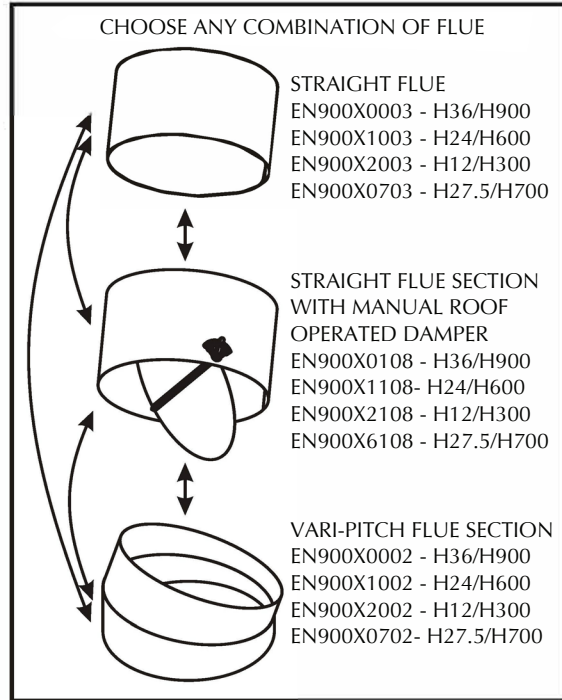
ENVIRA-NORTH
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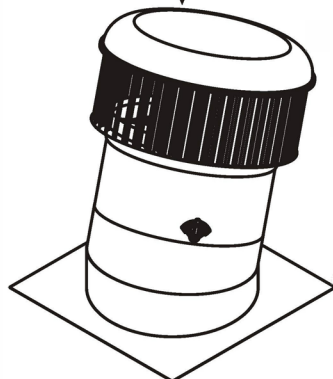
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TURBINE HEAD
EN900X0001 - H36/H900
EN900X1001 - H24/H600
EN900X2001 - H12/H300
EN900X0701 - H27.5/H700



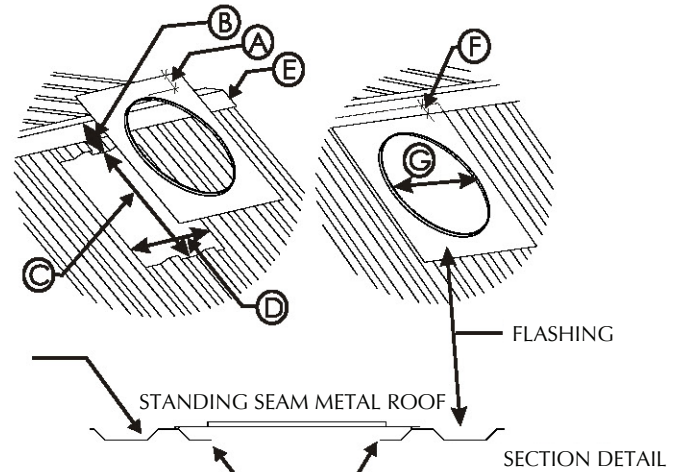
STANDARD BASE FLASHING
EN900X0006 - H36/H900
EN900X1006 - H24/H600
EN900X2006 - H12/H300
EN900X0706 - H27.5/H700



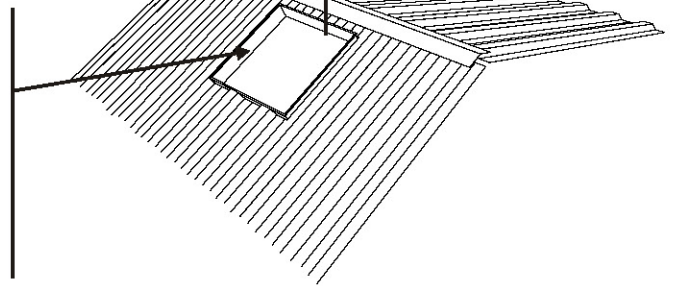
ASSEMBLY WITH ROOF-OPERATED, MANUAL DAMPER

SLOPED ROOF INSTALLATION

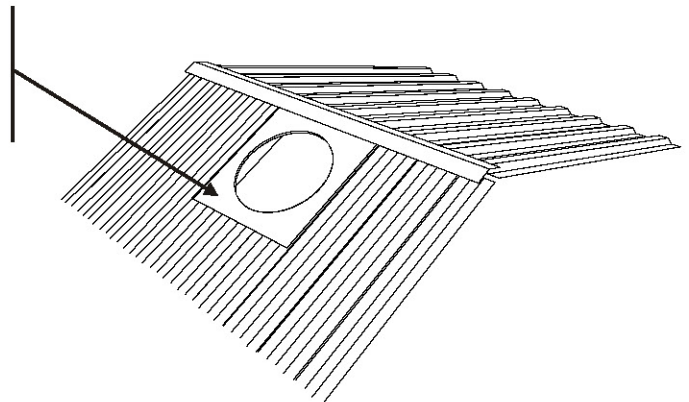
1. Select the position where the Hurricane™ Turbine is to be installed. The head of the Hurricane™ must be installed above the finished ridge of the roof assembly to provide correct operation and ventilation. Before one can make an opening into the existing roof assembly you must first look at the base flashing distance available at "A". To best weatherproof the assembly, this flashing must be installed so that it runs up under the ridge cap of the roof assembly as shown in "F". This will also govern the location of the roof opening and distances given at "B". Improper location will not enable the flashing to run up under the ridge cap "E" in turn causing leaks under the flashing. The size of opening at "C" and "D" is also governed by the Hurricane™ pipe size and the curb flashing size as shown in the enclosed detail.



2. Take care to cut the correct size of hole into the existing roof structure. You must also make sure that you allow the minimum of one raised/standing seam in the roof assembly to pass under the flashing as shown above. This will provide a weather seal between the flashing and the roof. Always consider the method of weatherproofing the opening. If the roof cladding is metal "turn up" the corrugations or plans.

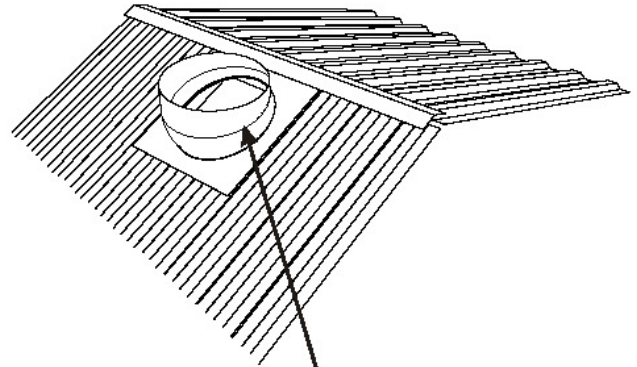


3. Standard flashing installed up under the ridge flashing. Sealant may be used between surfaces of metal roof, ridge cap and flashings.

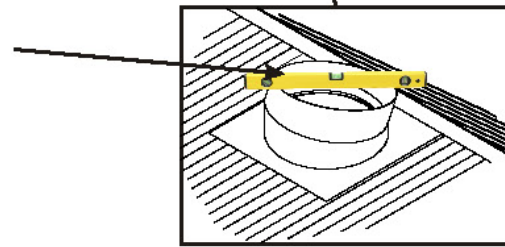


SLOPED ROOF INSTALLATION

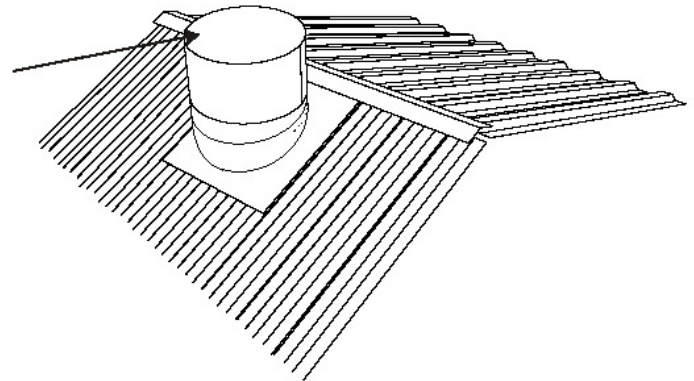
4. A Vari-Pitch Flue Section must be installed on all sloped roof assemblies. The Vari-Pitch Flue Section must be rotated until the throat is horizontal to the horizon. It is best to use a level to ensure that it is horizontal and true, this will ensure that the Turbine Head will run true. When the Vari-Pitch Flue Section is level, secure the two halves of the Vari-Pitch Flue Section to prevent further rotation. Use 4 tee screws to fasten the VariPitch Flue Section in place so that it will stay level.



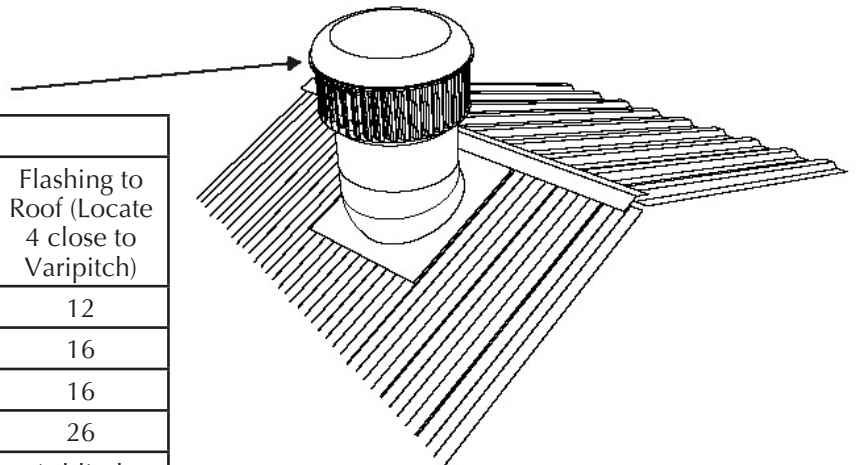
5. Be sure to level the top of the Vari-Pitch Flue Section before you fix the two halves in place.



6. The (Optional) Straight Flue Section must now be installed onto the top of the Vari-Pitch Flue Section.



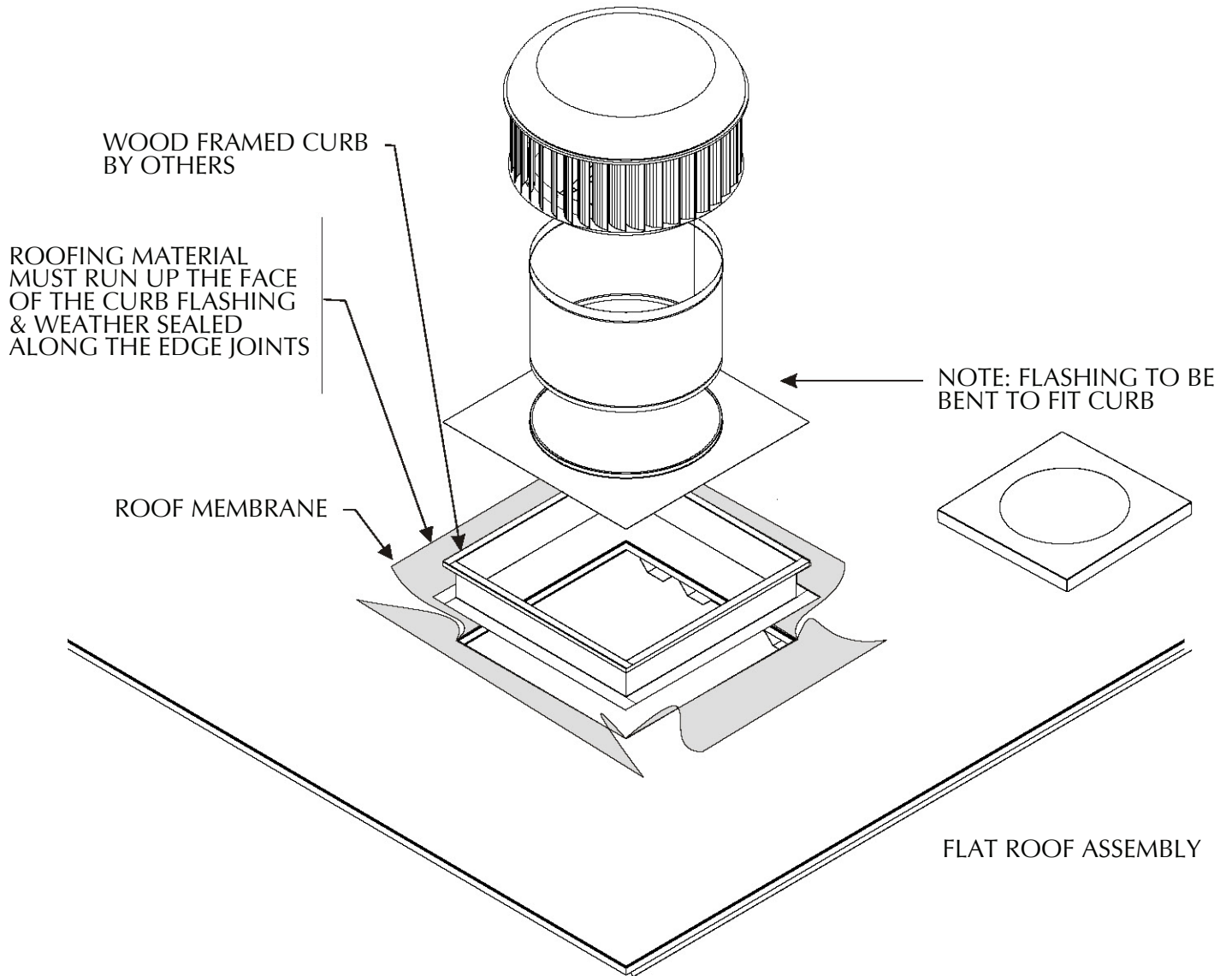
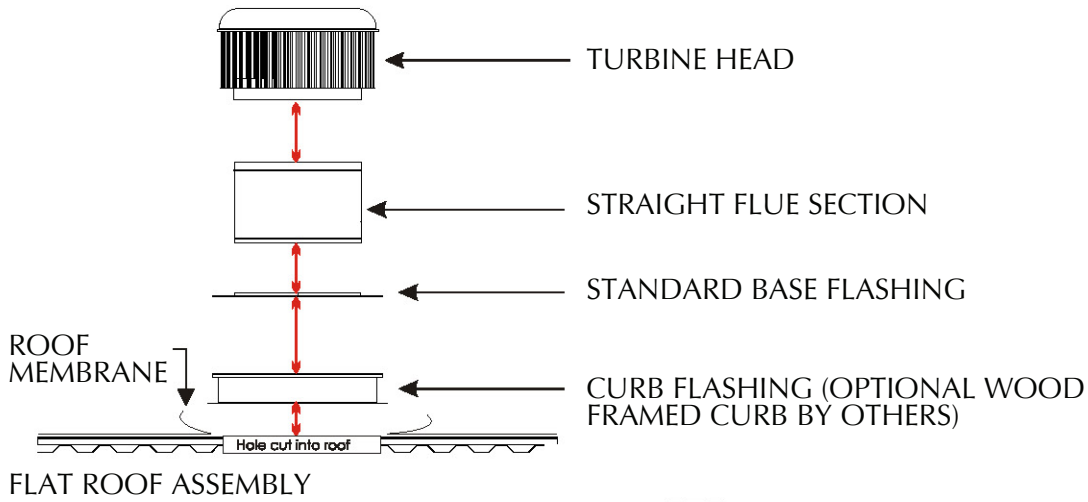
7. The Turbine Head can now be installed.



Recommended Fastener Quantities			
Unit Size (mm)	Head to Varipitch	Varipitch to Flashing	Flashing to Roof (Locate 4 close to Varipitch)
300	6	6	12
600	9	9	16
700	9	9	16
900	12	12	26

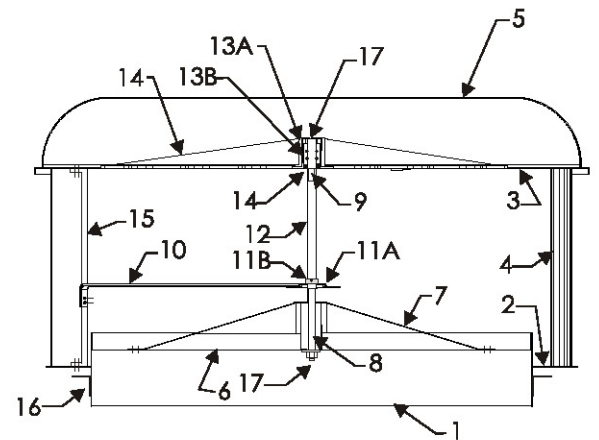
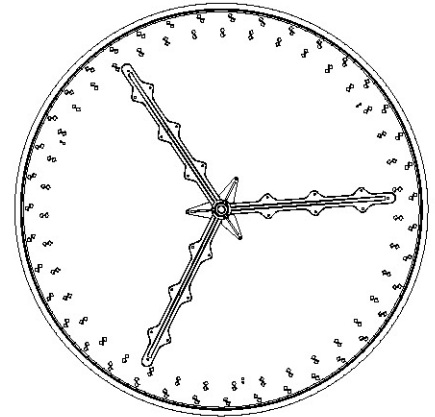
Either: 10 gauge 16mm tek screws with neo or 1/8 blind rivets are recommended. When non sealed rivets are used apply silicone over rivets to seal.

FLAT ROOF INSTALLATION



H900 HURRICANE™ PARTS LIST & DETAIL

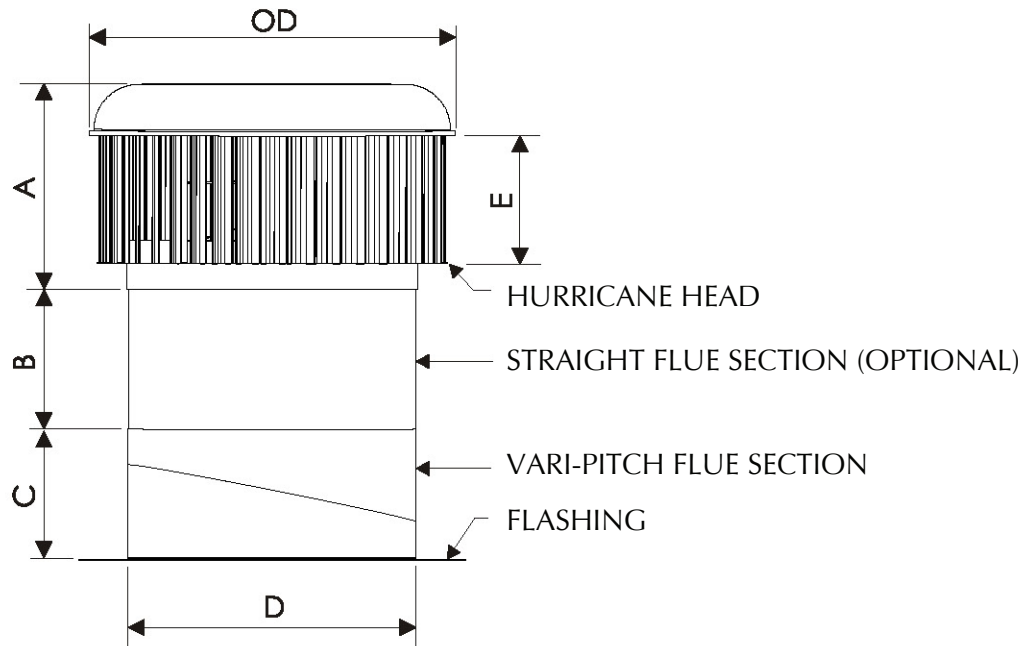
Item	Description	Part Number	Quantity
1	Throat	EN900X8595	1
2	Bottom Plate	EN900X8572	1
3	Top Plate	EN900X8571	1
4	Vane	EN900X8573	39
5	Dome	EN900X8570	1
6	Bracket	EN900X8583	2
7	Large Brace	EN900X8582	2
8	LG Brace Spacer	EN900X8584	1
9	M5 Socket Set Screw	EN900X6151	1
10	Spider	EN900X8580	1
11A	Spider Plate	EN900X8579	1
11B	Spider Bearing	EN900X8578	1
12	Shaft	EN900X8577	1
13A	Bearing Holder	EN900X8575	1
14	Long Arms	EN900X8576	3
15	Spider Bracket	EN900X8581	3
16	H900 Stiffener Ring	EN900X8549	1
17	H900 1/2" Nut Special	EN900X6351	1



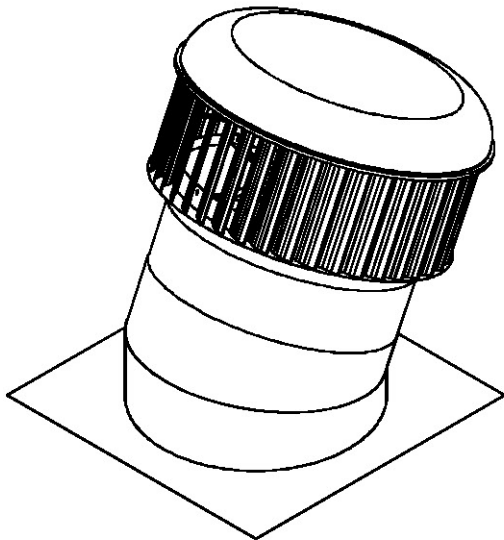
HURRICANE™ MAINTENANCE SCHEDULE

1. Annual cleaning of Hurricane™ heads and or other Hurricane™ components required. Remove all foreign matter and debris on and/or around the unit to ensure smooth operation.
2. Inspect Hurricane™ heads and or other Hurricane™ components to ensure:
 - free of damage and wear
 - rotation is smooth; without resistance and non-wind related noise
 - all components are operational
3. Test Hurricane™ head connection. Grasp the Hurricane™ head on opposing sides and attempt to gently lift in a vertical motion to ensure there is minimum movement between the head and the bottom plate, metal roof, ridge cap and flashings.

HURRICANE™, FLUE, VARI-PITCH & FLASHING TECHNICAL DATA SHEET



Model	A	B	C	D	E	OD	Weight	Flashing
H300	12.5" (318 mm)	8.75" - 10" (222 mm - 254 mm)	6.25" (159 mm)	11.88" (302 mm)	6.5" (165 mm)	18.5" (470 mm)	9.3 lbs (4.2 kg)	19 5/8" x 23 5/8" (500 x 600)
H600	19.5" (495 mm)	10" - 12" (254 mm - 305 mm)	11.75" (298 mm)	23.5" (597 mm)	10.5" (267 mm)	30.2" (766 mm)	33.6 lbs (15.2 kg)	39 3/8" x 39 3/8" (1000 x 1000)
H700	21.9" (556 mm)	10" - 12" (254 mm - 305 mm)	12.25" (311 mm)	27.36" (695 mm)	12.75" (324 mm)	34.5" (876 mm)	34.8 lbs (15.8 kg)	39 3/8" x 39 3/8" (1000 x 1000)
H900	25.25" (643 mm)	19.38" (492 mm)	12.25" (311 mm)	35" (889 mm)	15.25" (387 mm)	43" (1096 mm)	63 lbs (28.6 kg)	47 1/4" x 47 1/4" (1200 x 1200)



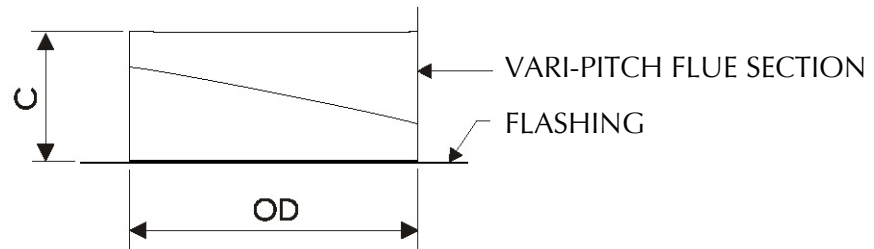
NOTE:

The Hurricane™ throat overlaps the Straight Flue Section or Vari-Pitch Flue Section. The height listed above is with the maximum overlap (lowest overall height). Revolving the Vari-Pitch to suit a roof slope may also reduce the overall height of the assembly.

NOTE:

Flue weight including damper assembly.

HURRICANE™ VARI-PITCH



Model	C	OD	Suit Roof Pitch	Weight
H300	7.5" (190 mm)	12" (305 mm)	0 deg - 45 deg	1 lbs (.45 kg)
H600	13.4" (340 mm)	23.5" (597.5 mm)	0 deg - 45 deg	3.8 lbs (1.72 kg)
H700	13.8" (351 mm)	27.36" (695 mm)	0 deg - 45 deg	5.2 lbs (2.4 kg)
H900	15.4" (390 mm)	35.25" (895 mm)	0 deg - 22.5 deg	7.5 lbs (3.4 kg)

TOLERANCES:

Size +/- 1/16 (2mm)

Weight +/- 7ounces (0.2kg)

Material Aluminum 5005 H34

NOTE:

The Vari-Pitch Flue Section fits inside the throat of the Hurricane™ ventilator or the Straight Flue. Therefore the total height of the Vari-Pitch Flue Section is reduced by the overlap of the Hurricane™ or throat of the Straight Flue. This overlap can vary from 2"-4 3/8" (50-110mm), revolving the Vari-Pitch Flue Section to suit a roof slope reducing its height.

MATERIAL SPECIFICATIONS:

Turbine & Throat: Aluminum 5005 H34

Shaft: Aluminum 2011 T3

Dome & Skirt: Aluminum 1200 H0

Brackets: Aluminum 6060 T591

Spider (H600-H900 only): Zinc passivate plated mild steel

Shaft (H900) only: 303 Stainless Steel

ROTATION BEARINGS:

Main Bearing: Double row ball bearing - BWF30-I I 9Z

Spider Bearing (H600-H900 only): Single row ball bearing - UB204- I 2S

WIND SPEED RATING:

205.2 km/h (57 m/s) - Performance Level I

(As per AS 4740:2000 Natural Ventilators - Classification & Performance)

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
H700	700	27.5	750	1589	1275	2701	1500	3178
H900	900	36	1560	3305	2700	5720	3460	7331

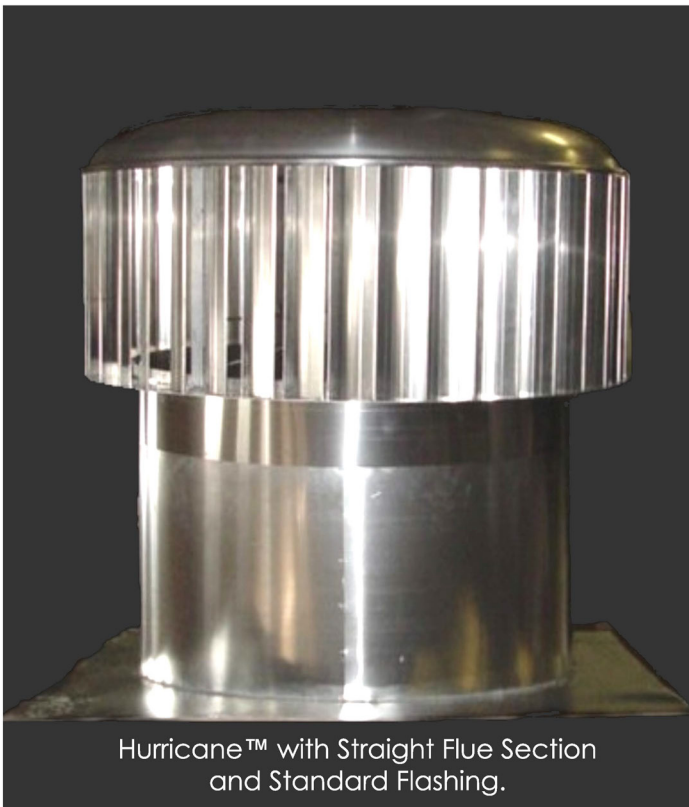
HURRICANE™ PHOTO GALLERY



27
Curb Base Mount to Roof Assembly.



Hurricane™ with Vari-Pitch
Flue Section Mount to
Flashing to Roof Assembly.



Hurricane™ with Straight Flue Section
and Standard Flashing.



Hurricane™ Damper with
Vari-Pitch and Flashing.

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Seaforth, Ontario
Canada N0K 1W0

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ENVIRA-NORTH SYSTEMS LIMITED

WARRANTY FORM

The Hurricane™ Turbine is covered by an automatic 5 year warranty against faulty materials and/or workmanship. To register for a warranty extended to 15 years you must complete and return this sheet.

For further information on all Envira-North Systems Ltd. products check out our website at enviranorth.com or contact:

Envira-North Systems Ltd., 139 Sparling Street, PO Box 668, Seaforth, Ontario N0K 1W0

Phone: 1(519)527-2198 or 1(866)771-7766

Fax: 1(519)527-2560

Email: bigair@enviranorth.com

Name of Customer: _____

Address: _____

Phone No: () _____ Fax No: () _____

Name of Facility Where Hurricane™ Turbines Installed: _____

Contact Name: _____ Phone No: () _____

Address: _____

Date of Purchase: _____

Quantity of Hurricanes™: _____ Size of Hurricanes™: _____

Hurricane™ Serial Number(s): _____

Special Declarations or Comments: _____

You must complete and return this form within 30 days of purchase by fax to 1(519)527-2560 OR email bigair@enviranorth.com.