

AMPELAIR STRAIGHT VANE VENTILATOR PRODUCT TECHNICAL STATEMENT

PRODUCT DESCRIPTION

Ampelair SV Industrial Ventilators suit new installations or replacements for large commercial and industrial applications. Aluminium construction with throat sizes 600mm to 900mm, every industrial building large or small needs to keep air circulating and keep temperatures to a comfortable level. Ampelite SV ventilators are an effective, reliable, maintenance free ventilation solution. Using only the power of the wind they extract stale air and allow fresh air to circulate within the building.

FEATURES

Ampelair Straight Vane Industrial Ventilators

- Designed for large commercial & industrial buildings.
- Variable pitch base on all models for quick and easy installation.
- Strong alloy construction with fully enclosed stainless bearings.
- Wind driven which means no running costs.
- Available painted to match most standard metal roofing colours.
- Dampers, manual or electronically controlled, available as required.
- 15 year warranty.

INSTALLATION

Ampelair Straight Vane Industrial Ventilators variable pitch bases are adjustable to suit roof pitches as follows:

600mm up to 45 degrees
900mm up to 22.5 degrees

Dimensions

VENTILATOR HEAD

VARIABLE PITCH BASE BASE

All models and bases

A technical drawing of the Ventilator Head. It shows a cross-section of a cylindrical head with a domed top. The width is indicated by a horizontal double-headed arrow at the top. The height is indicated by a vertical double-headed arrow in the center. The throat is indicated by a horizontal double-headed arrow at the bottom, showing the base of the head.

A technical drawing of the Variable Pitch Base. It shows a cross-section of a cylindrical base with a sloped side. The throat is indicated by a horizontal double-headed arrow at the top. The height is indicated by a vertical double-headed arrow on the right. The flashing is indicated by a horizontal double-headed arrow at the bottom, showing the base of the base, with a note "Flashing 200 mm wide".

Aluminium

Throat

Width

Height

Width

Height

SV600

600mm

770mm

450mm

900mm

280mm

SV900

900mm

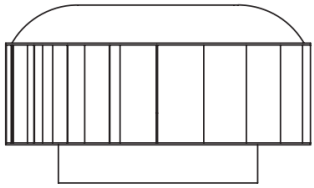
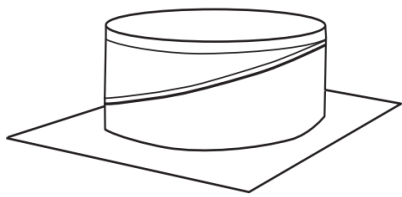
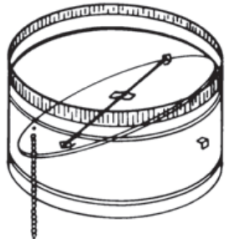
1100mm

930mm

1200mm

390mm

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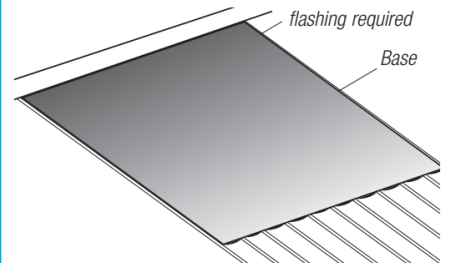
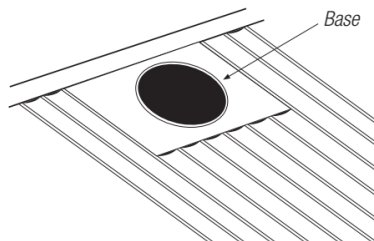
COMPONENTS	VENTILATOR HEAD	VARIABLE PITCH BASE	DAMPER (OPTIONAL)
			

INSTALLATION	(A) UNDER RIDGE FLASHING	(B) AWAY FROM RIDGE FLASHING
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STEP 1

Position on roof under ridge flashing (A) (recommended) Away from the ridge flashing (B)

Ideally, the vent should be as close as possible to the ridge line. Place the base on the roof with the top edge slipped under the ridge capping. Alternatively a flashing is required as depicted in the diagram (B) for installations away from the ridge flashing.



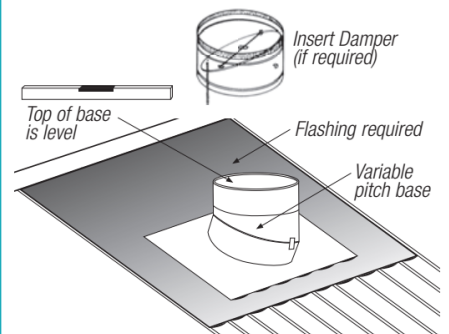
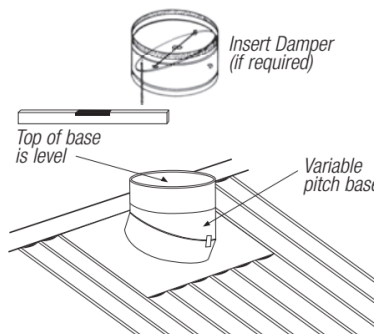
STEP 2

Cutting the hole

Mark the proposed hole using the base as a template. Once marked, cut the hole using appropriate metal roofing cutting tools.

Securing and dressing the flashing

Turn up the corrugations of the metal roof within the cut hole. Secure the flashing to the sheeting with self tapping screws or rivets (not included - a minimum of 10 are recommended).



STEP 3

Fitting the variable pitch throat

Fit the variable pitch throat to suit the pitch of the roof. Use a spirit level to ensure the final position is level.

Fixing the variable pitch throat

Fix the (4) clamping clips supplied across the Varipitch throat seam with either rivets or screws (not supplied), at approximately 90° to each other.

ADD DAMPER AT THIS POINT - IF USING.

STEP 4

Sealing and locking the variable pitch throat

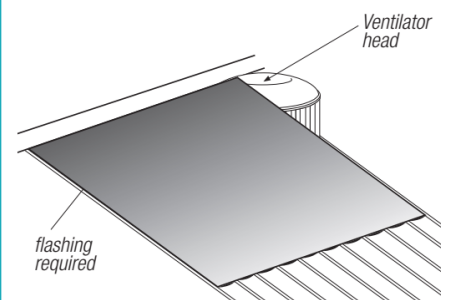
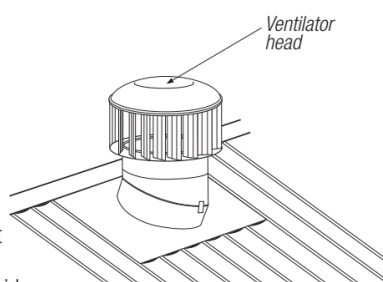
To ensure a water tight system, silicone seal all seams and joints from the inside of the variable pitch throat.

STEP 5

Fitting the turbine

Position the turbine head lining up the pre-drilled holes in the brackets with those of the variable pitch throat. Fasten with screws provided. Finally silicone seal the outside seam of the Varipitch and base.

It is recommended for 900mm rotary vent size, solid support between purlins is installed. Failure to do so can result in needless movement of the vent in high winds. Failure to provide correct support will result in loss of warranty.



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The following are guidelines and tables used to calculate number of ventilators required by Building Type . Contact your nearest Ampelite Branch for more detailed assistance.

Calculations

to decide size and number of Ventilators.

1. Determine the volume of the building

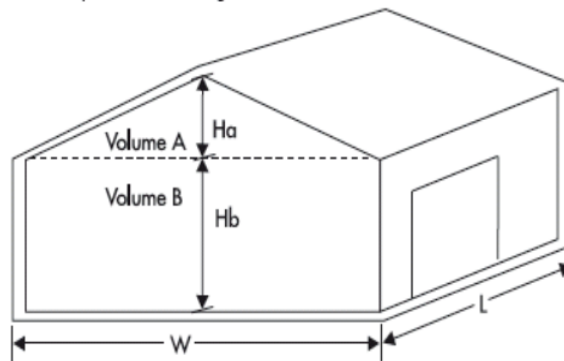
Volume of section A = $0.5 \times L \times W \times H_a$

Volume of section B = $L \times W \times H_b$

Total building volume = volume of section A + volume of section B.

Note: For factories, the combined volume A + B should be used.

Where Volume B is air-conditioned, only Volume A is used to calculate the number of ventilators required. No air should be drawn from the air-conditioned space below ceiling level.



2. Select the number of ventilators required

METRIC = $V \times Ac/Hr$

EX/c x 3.6

Where:

V = Volume of building or roof space

Ac/Hr = Air changes per hour

EX/c = Exhaust capacity of ventilator

Building Type	Recommended Air Changes per Hour
Warehouses	4 to 8
Factories & Workshops	5 to 10
Gyms, Tennis & Squash Courts	7 to 10
Assembly Halls, Garages	10 to 15
Toilets	12 to 15
Laundries	20 to 40
Stables, Piggeries & Poultry	20 to 50
Bakeries, Boiler Houses	30 to 40

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Capacity Table

Extraction volume expressed in cubic metres per second. 1 cubic metre = 1000 litres

Stack Height Metres	Wind Speed Km/hr.	Temp Diff. °C	Model SV Industrial Ventilators	
			600	900
3.0	6	6	0.609	1.617
		12	0.630	1.672
		18	0.664	1.762
	8	6	0.727	1.931
		12	0.738	1.959
		18	0.785	2.085
	12	6	1.088	2.887
		12	1.105	2.935
		18	1.116	2.963
	16	6	1.343	3.562
		12	1.377	3.655
		18	1.408	3.741
6.0	6	6	0.630	1.672
		12	0.732	1.944
		18	0.751	1.994
	8	6	0.738	1.959
		12	0.763	2.026
		18	0.797	2.117
	12	6	1.105	2.935
		12	1.141	3.029
		18	1.239	3.289
	16	6	1.377	3.655
		12	1.414	3.753
		18	1.467	3.895
9.0	6	6	0.664	1.762
		12	0.751	1.994
		18	0.839	2.227
	8	6	0.785	2.085
		12	0.797	2.117
		18	0.922	2.447
	12	6	1.116	2.963
		12	1.239	3.289
		18	1.283	3.407
	16	6	1.408	3.741
		12	1.467	3.895
		18	1.486	3.946

The formula and capacity tables are useful guides in determining the model size and number of ventilators required. Building usage and other factors, finally determine the exact requirements for maximum efficiency and the comfort levels required. Ampelite can assist at design or specification stages in this regard.



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PLASTIC ROOFING PRODUCTS**

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TESTING & SUPPORTING EVIDENCE

The product has been tested for Wind Load Resistance and can make available the following evidence to support the above statements:

Test Report TJWD 201421—The Wind Tunnel Testing Division of State Key Laboratory for Disaster Reduction Civil Engineering—testing to wind speeds of 44m/s (144 kmh)

STANDARDS

Ampelite NZ Limited is an AS/NZS ISO 9001: 2002 SAI Global Certification accredited company providing Quality Assurance in Manufacturing, Supply and Servicing. License number QEC 4787 was certified and issued to the company on the 20 June 1995.

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