



Horne BS 400, BS 460 & BS600 ventilators - for industrial applications



1. Capacity

A huge capacity increase compared to all previous ventilators. This gives the industrial architect a greater flexibility in designing industrial buildings.

2. Quality Bearings

Micro Stainless Steel Conceal Bearing 6201 DD HCH is design to spin at high speed where the Stainless Steel Ball Bearing will float creating Friction Free.

3. Corrosion Resistant

The horne BS ventilators are manufactured from high grade aluminum (Grade AA1100) including the rivets and are therefore highly resistant to atmospheric corrosion.

4. Weight

The Horne BS ventilators are extremely lightweight (the BS400 is only 4.8kg, BS460 is only 5.5kg and the BS 600 only 9kg) to provide strong ventilators that will operate at very light wind speeds. At these weights the BS 460, BS 600 are less than 50% of the weight of the equivalent size steel ventilator. This not only means better performance in light winds but also means that the roof structure may not require reinforcement to mount the Horne BS ventilators.



5. Weather Resistant

The Horne BS ventilator naturally offers a high degree of weather protection inherent in the design of rotary ventilators where the vane design and the centrifugal action prevent rainwater from entering the ventilator.

6. Vane Design

The vanes are profiled and rolled to provide a strong blade with good aerodynamic performance.

7. Aluminium Construction

All aluminium construction including the waterproof rivets provide a lightweight, easily rotated ventilator suitable for most industrial environments.

8. Stainless Steel Shaft

The shaft is strong but lightweight 304 Stainless Steel to provide a corrosion free backbone for the ventilator.

Vent Ventilation Capacity

Table 1 (Metric Units)

STACK HEIGHT METRES	WIND SPEED KM/HR	TEMPERATURE DIFF °C	EXHAUST CAPACITY lit/sec		
			400mm	460mm	600mm
3	6.5	6	309	356	632
		11	320	368	653
		17	336	387	688
	13.0	6	542	624	1109
		11	550	633	1126
		17	554	637	1134
	20.0	6	788	906	1607
		11	808	928	1614
		17	823	948	1682
6	6.5	6	320	369	653
		11	370	425	759
		17	380	438	780
	13.0	6	551	634	1123
		11.0	570	656	1163
		17	618	711	1260
	20.0	6	808	929	1652
		11.0	829	954	1694
		17.0	860	990	1756
9	6.5	6	337	388	689
		11	380	438	780
		17	424	488	865
	13.0	6	556	640	1137
		11.0	616	709	1260
		17	642	739	1307
	20.0	6	825	949	1685
		11	860	990	1758
		17	958	1102	1780



Specification

HORNE BS 400, BS460 and BS 600 Wind Driven Rotary Turbine Ventilators

Dimensions	BS 400	BS 460	BS 600
Effective Throat Diameter	400 mm	460 mm	600 mm
Overall Height (without base)	357 mm	425 mm	425 mm
Overall Diameter	457 mm	640 mm	820 mm
No of Vanes	26	26	34
Overall Weight (without base)	4.8 kg	5.5 kg	9.0 kg

Materials of Construction

All manufactured components including rivets	Aluminium Grade AA1100 or equivalent
Shaft	304 Stainless Steel
Screws,bolts, nuts	Zinc plated steel
Top and bottom Bearing	Stainless Steel/Hard Chrome Deep groove Sealed Ball Bearings

How to Specify Horne BS Ventilation Equipment

To ensure the Specification of high quality rotary turbine ventilation equipment, the following guide should be used to specify 'Horne BS' ventilators.

BS 400, BS 460 and BS 600

The roof ventilators shall be Horne BS Model 400/460/600. The ventilator shall be all aluminium construction with stainless steel ball bearings.

EXAMPLE: Computation of Horne Ventilators required.

For : Factory Floor		A building requiring 5 ACH*			
Height	9m	Building Sizes	metre		
Width	35m	Width	35	Va (Volume)	2 625m ³
Length	75m	Height A (roof)	2	Vb (Volume)	18 375m ³
ACH	5	Height B	7	ACH	5
		Length	75		
		Total Volume			21 000m ³

*ACH: Air Changes per hour.

Calculation

$$\text{Required number of Horne Vents} = \frac{\text{Volume} \times \text{ACH}}{\text{Exhaust Capacity} \times 3.6}$$

Select normal prevailing conditions ie. 13km/hr wind, 9m stack height and 11 °C temperature difference

$$= \frac{21\ 000 \times 5}{709 \times 3.6} = \frac{21\ 000 \times 5}{1260 \times 3.6}$$

= 41.14 BS400 Vents = 23.15 BS600 Vents
 Select 42 x BS 460 Vents Select 24 BS600 Vents

**Unit of Horne vs Wind Speed & Temp Variance
(for stack height of 9m)**

