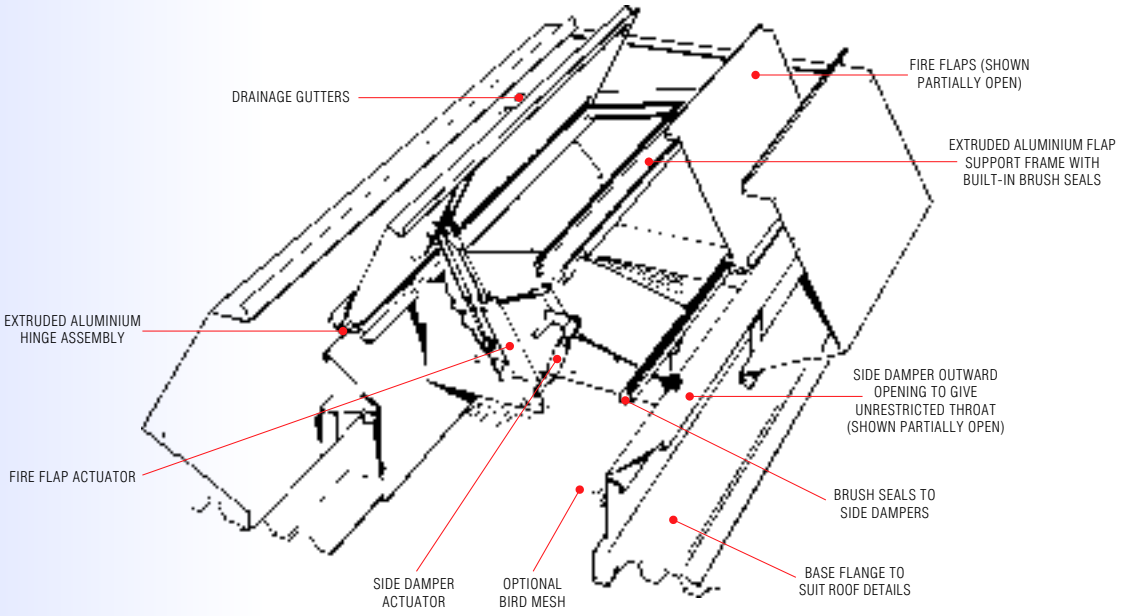
ridgevent

Multipurpose

BY POWRMATIC

introduction

Powrmatic Ridge Ventilators are highly efficient and versatile, designed for both fire and natural ventilation requirements and supplied in modular “knocked-down” form as standard for flexibility, on site handling and installation. *(Fully factory assembled units are also available as an option).*



advantages

The MultiPurpose Ventilator is a proven and tested unit which offers the following advantages:-

Weatherproof

Tested to prove resistance to both air leakage and rainwater penetration.

Fire Protection

Independent laboratory tests under actual fire conditions to temperatures in excess of 600°C proved the MultiPurpose Ventilator’s fail-safe operation.

Energy Saving

All damper edges fitted as standard with brushpile seals. Additional insulation to stacks, flaps and dampers available as an option.

Long Life Durability

Accelerated life cycle tests proved the MultiPurpose Ventilator’s durability, equivalent to more than twenty years normal operation.

Snow Loading

Can withstand snow loads up to 25Kg/m2.

Wind Loading

Can withstand wind loads up to 3.0KN/m2.

Installation

Can be fitted into any sheeted, flat roof or glazed contruction.

Application

Fire ventilators should only be installed as part of an expertly designed system.

For advice consult the local Fire Brigade, a Design Consultant or direct from Powrmatic Limited, Ventilation Division.

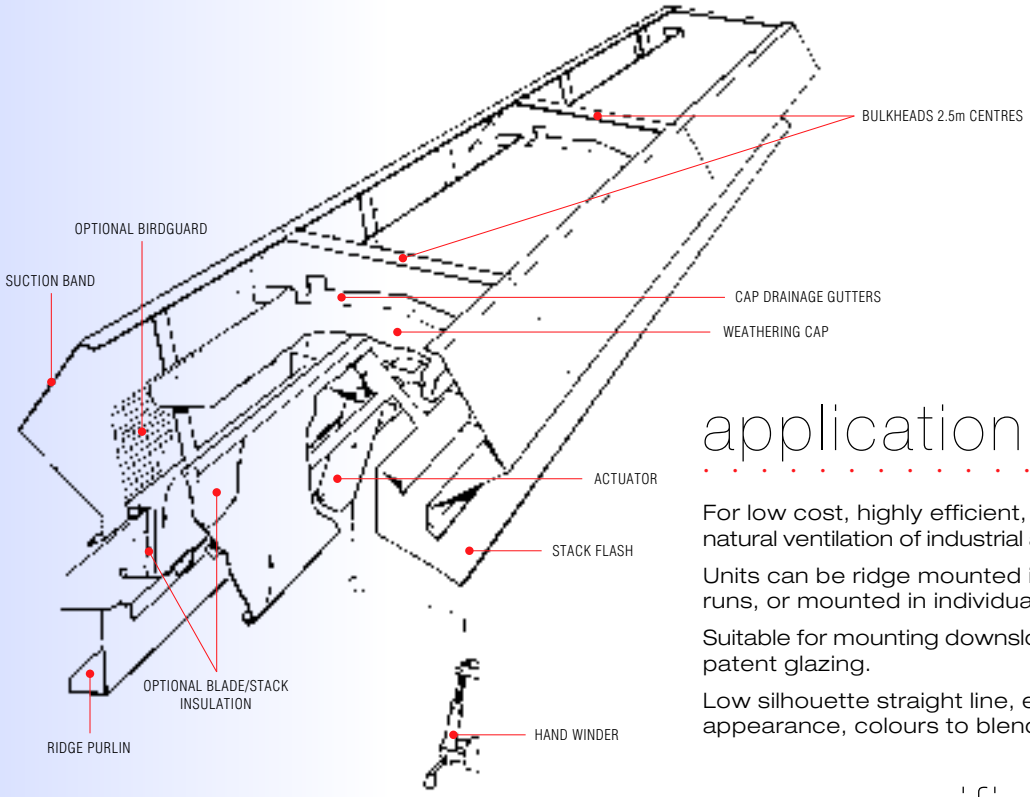
CE

technical data

ridgevent

SSR300, SSR600

BY POWRMATIC



application

For low cost, highly efficient, permanently weathered natural ventilation of industrial and warehouse buildings.

Units can be ridge mounted in continuous unbroken runs, or mounted in individual units.

Suitable for mounting downslope, on flat roofs and into patent glazing.

Low silhouette straight line, enhancing the building appearance, colours to blend or contrast.

specification

Pressformed sheet metal components bolted and riveted into the finished mounted assembly on site. Made up in 2.5 metre long modules.

The standard materials available are:
Plastic coated sheet steel; aluminium.

Gauges of metal:
Plastic coated steel superstructure 0.7mm with 1.2mm stacks.

Aluminium
Mill finished aluminium SIC quality superstructure, 1.2mm thick with 1.5mm thick stacks.

dampers

Optional dampers are constructed from a fabricated spindle assembly, mounted on 'nylon in nylon' bearing blocks. Dampers clad in pressformed sheet to the parent ventilator.

birdguards

Birdguards are available as an option and are constructed from 12mmsq galvanised steel.

operating equipment options with dampers

Ventilators can be operated in individual 2.5 metre units or coupled into 5.0 metre combinations.

Hand Operation
Standard pack contains 20 metres of steel cable, 2 pulleys and a wall mounted telescopic screw winding handle.

Pneumatic Operation
Heavy duty industrial air cylinder in combination with gas stays.

Strongly recommended for large installations.

Electric Operation
Linear electric motor fitted into actuator.

All actuators can be fitted with a fusible link to automatically open in the event of a fire.

CE

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SSR300, SSR600 & Multipurpose

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sizing calculation

The following formulae, tables and factors can be used to calculate the size and quantity of ventilators required, given the maximum inside building temperature and maximum outside ambient temperature.

For more complex schemes where building temperatures are unknown and where process and solar heat require calculation, consult our Technical Department.

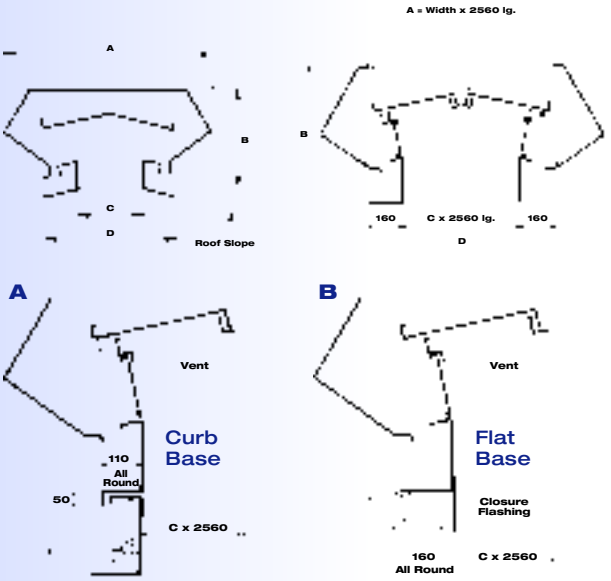

Table 1

	Dimensions				Weight kg	
Model	**A**	**B**	**C**	**D**	**Steel**	**Aluminium**
SSR 300	938	463	300	642	67	41
SSR 600	1880	946	600	920	118	69

	Dimensions mm				Aerodynamic Free Area (m2)		Weight
Model	**A**	**B**	**C**	**D**	**Fire Venting**	**Daily Venting**	**kg**
MP 1125	1090	465	450	770	0.84	0.49	65
MP 1500	1445	690	600	920	1.13	0.70	75
MP 2500	2300	1150	1000	1320	1.88	1.30	145

Air Changes for General Ventilation

Boiler House	20-30	**Garages**	6-9
Bakeries	12-30	**Heat Treatment**	10-20
Canteens	8-10	**Kitchens**	10-15
Engine Rooms	20-30	**Laundries**	12-30
Furnace Rooms	20-50	**Machine Shops**	10-15
Factories (light)	6-8	**Paint Shops**	30-60
Factories (heavy)	10-14	**Transformer Rooms**	10-15
Forges	10-30	**Warehouses**	4-6

Table 2

Temp. Ht Coef. °C	Av. Wind Speed	E.Cap/Cu.M/Min/M.run	
		SSR 300	**SSR 600**
20	2 metres per second	23	48
40	2 metres per second	28	57
60	2 metres per second	31	64
80	2 metres per second	34	70
100	2 metres per second	37	75
120	2 metres per second	39	80
160	2 metres per second	43	88
200	2 metres per second	47	95

Formula:

$$E = \frac{V \times ACH}{60}$$

E = *Exhaust cu. metres/minute*

V = *Building Volume cu. metres*

ACH = *Air changes/hour - see table 1*

C = $H \times (T_I - T_O)$

C = *Coefficient in Table 2*

H = *Height between ventilator and air inlet*

TI = *Inside building Temperature °C*

To = *Outside Temperature °C*

Using the value of C calculated, reading off Table 2, selection can now be made for the ventilator size and length required.

Example:

Factory with light process requires approximately 6 air changes per hour. Building 2 bays 25 metres long, building Volume 15000 cu. metres.

Exhaust required:

$$E = \frac{15000 \times 6}{60} = 1500 \text{ cu. metres/minute}$$

Temperatures measured

= 22°C - outside
= 30°C - inside

Height of ventilator from air inlet = 10 metres

Coefficient = $C = H \times (T_I - T_O)$
$C = 10 \times (30\text{-}22)$
$C = 80$

From Table 2, read off Coefficient 80 = 34 cu. metres/min. for an SSR 300

Taking E and dividing by the respective ventilator exhaust rate, read off from C Table 2.

Length of

SSR 300 = $\frac{1500}{34}$ = 44.11 metres

Number of units

= $\frac{22.06}{2.50}$ = 8.82 = 9 units of SSR 300 ventilator

powrmatic VENTILATION DIVISION

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