

Sabre Plate Mounted Sickle Fans (VSP)

- Swept impeller with Aerofoil blades, winglets and serrated trailing edge for optimum performance
- One shot die cast impeller, dynamically balanced for smoother operation
- Operating temperature up to 70°C
- External Rotor Motors on all models for compact efficient design
- All models speed controllable
- Guards fitted as standard on all models
- Thermal Overload Protection for motor protection
- Maintenance free sealed for life bearings
- 2 Year Guarantee



The latest generation of the Vent-Axia Sabre® Plate Mounted Sickle fans incorporate the very latest FE2 Owlett impeller offering improved performance over the previous ranges with up to 7dB(A) reduction in sound and up to 15% improvement in efficiency ensuring the best available fan performance in its class. The advanced blade design, matched to a purpose designed external rotor motor ensures unrivalled reliability and controllability.

Design and Development

Using a combination of NASA research into wing performance and winglets, coupled with a study of bird flight, has enabled the development of the best available Sickle blade profile. By matching this to a purpose designed close fitting mounting plate ensures best use of this blade technology thereby reducing noise and improving the performance in plate axial fans.

Construction

Vent-Axia Sabre® Plate Mounted Sickle fans are based on an integrated impeller and external rotor motor design, which produces a very compact unit. Together with a specially designed bell mouth inlet and mounting plate, the complete fan is lightweight and ensures an excellent performance to sound level ratio.

The mounting plate is formed from a single sheet, protected with a tough epoxy paint finish. Inlet finger guards and motor supports are manufactured from steel rod and electro welded for extra strength. Finger guards give protection to BS 848 Part 5. Manufacture is controlled to BS EN ISO 9001 Standards.

Impellers

The impellers incorporate the latest in sickle blade aerofoil technology to ensure minimum sound and maximum performance. Impellers up to 400mm diameter are moulded from a composite polymer, impellers above this size are Aluminium. The motors and impellers are factory matched, statically and dynamically balanced to ISO 1940 part 1, Quality Class G.6.3.

Motors

The external rotor motors are specifically designed and styled for this range of fan. Ball bearings are greased for life. Sizes 315 – 710 motors are protected to IP54 against dust and moisture, complying with BS EN 60529.

They have ribbed aluminium body castings for efficient cooling with Motor insulation to Class 'F' (from -40°C to + 70°C). Speed controlled sizes 450 to 710, 6 & 8 pole motors are only suitable for operating temperatures of up to 40°C.

Electrical

The Sabre® Plate Mounted Sickle fan range is available for either single phase 220-240V 50 Hz capacitor start and run or three phase 380-415V 50Hz. Motors are fitted with Thermal Overload Protection which should be wired into all controller circuits and into starter contactors to prevent motor damage due to overloading / overheating.

Speed Control

Units are suitable for speed control by either electronic, voltage reduction or frequency inverters where permissible. For optimum efficiency and controllability Vent-Axia recommend the use of the eDemand Inverter controller to give close control via sensors or manual control.

Form of Running

Plate mounted fans (ex-stock) are supplied for extract use (Form 'A' running).

Performance

The fan performance is in accordance with tests to ISO 5801.

Sound Levels

Fan sound levels are measured in a reverberant chamber in accordance with ISO 3744 Part 1. Published dB(A) figures are free field sound pressure levels at 3m with spherical propagation at a reference level of 2×10^{-5} Pa (20 micro-Pascal). The sound power level spectra figures are dB with a reference level of 10^{-12} Watts (1 pico-watt).

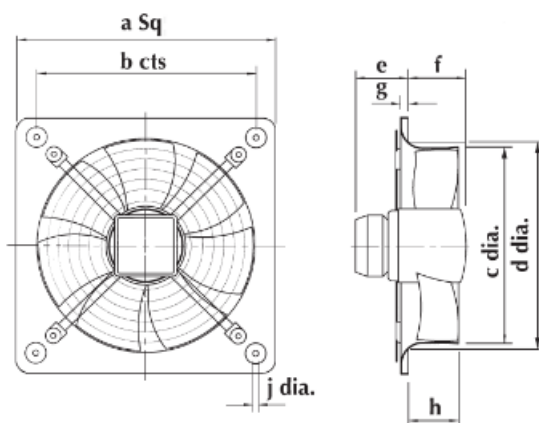
To ensure minimum noise levels during speed control, either an auto transformer or eDemand inverter speed control is recommended.

Accessories

A full range of accessories is available with the Sabre® Plate Mounted Sickle fans:

- Electronic speed controllers
- Auto transformer speed controllers
- eDemand inverter speed control
- D.O.L. starters
- Louvre shutter
- Discharge guard

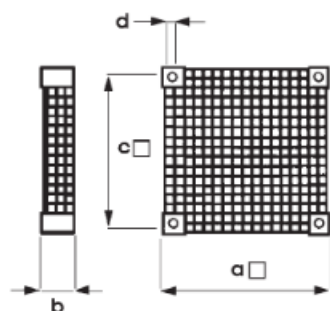
Fan Dimensions (mm)



Stock Ref	kg	A	B	C	D	E	F	G	H	J
VSP25012/14	3.3	370	320	260	264.5	78	73.4	6	50	7
VSP31514/34	6.7	430	380	349	349	78	83.9	11	63	9
VSP35514/34	7.5	485	435	390	390	78	82.9	12	68	9
VSP40014/34	7.8	549	490	412	419.8	90	91.5	12	88	9
VSP45014/34/16/36	16.2	575	535	463	480	110	143.5	14	96	11
VSP50014/34/16/36	20.1	655	615	517	528	84.5	141.5	16	104	11
VSP56014	31.8	725	675	568	589	98.3	167.5	16	119	11
VSP56034/16/36	24.2	725	675	568	589	82.5	162.5	16	119	11
VSP63034/36	41.6	805	750	643	664	111	159.5	20	130	11
VSP63016	33.7	805	750	643	664	70.5	174.5	20	130	11
VSP71016/36/38	38.6	850	810	720	763	44	201.5	20	150	14.5

Accessories Dimensions (mm)

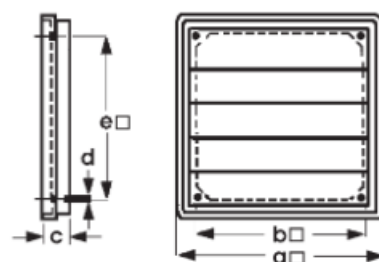
Discharge Guard 'K' factor loss 0.25



Stock Ref	a	b	c	Ød
10502325	397	64	351	8
10502375	449	64	403	8
10502450	501	64	455	8
10502525	553	64	507	8
10502630	808	150	735	8
10502800	1010	140	-	8

If a discharge guard is required with a louvre shutter the next size up discharge guard should be selected.

Louvre Shutter



Stock Ref	a	b	c	Ød	e
LS250	294	265	25	6	230
LS315	344	276	26	6	295
LS355	398	312	26	6	329
LS400	458	365	26	6	382
LS450	499	395	31	6	432
LS500	544	444	31	6	477
LS560	605	533	31	6	533
LS630	694	627	31	6	626
LS710	790	722	43	6	722