



Sabre® Sickle Fan Range - Incorporating the FE2 Owlett impeller

# Vent-Axia Sabre® Sickle Fans

The latest Vent-Axia Plate and Case Sabre® Sickle fans result from a detailed understanding of air movement within the European market coupled with the latest advancements in aerodynamic design and manufacturing processes. The products are designed to meet the exacting demands of modern building services as well as the replacement market by maintaining the main fan dimensions of previous products.

All products have been designed and tested to exceed the minimum requirements of ERP 2013 ensuring best possible performance, which along with Vent-Axia's extensive product support will ensure reliability of installation.

The fans are supplied fully assembled and ready for installation in any application together with a comprehensive range of accessories and controllers ensuring the optimum selection for all installation and control requirements.

The new range of Vent-Axia Sabre® Sickle Plate and Case mounted fans (VSP and VSC) have been designed incorporating the FE2 Owllett impeller in a purpose designed mounting plate or duct casing to ensure optimum airflow and minimum noise in all installations. The impellers are matched to motors with the latest in external rotor motor technology to ensure maximum efficiency and ERP 2013 compliance.



The development of the impeller involved researching the performance of wings and the effect of adding winglets to the end of the blade to remove unstable air currents. The result of this is a significant advancement in the performance of the impeller by minimising the wing tip losses and achieving performance from the full length of the impeller blade.

In addition to the winglet development, our Engineers studied nature by looking at an Owl's wing and what aspects of this assist in silent flight. From this study the shape and trailing edge of the blade were modified to include serrations and a swept profile, thereby reducing the effect of blade passing frequencies resulting in further reductions in sound when compared to the previous Sickle bladed impeller.

Closely matching the impeller to an efficient external rotor motor and installing the assembly in a closely matched casing ensures that the unit will exceed the minimum requirements of ERP 2013 and achieves the lowest sound levels for the required selection.



# Vent-Axia Sabre® Plate Mounted Sickle Fans (VSP)

## Features and Benefits

- 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 Owllett 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 to ensure 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, electro welded for extra strength. Sizes 250 to 710 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. 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, 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  $2 \times 10^{-5}$ 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.

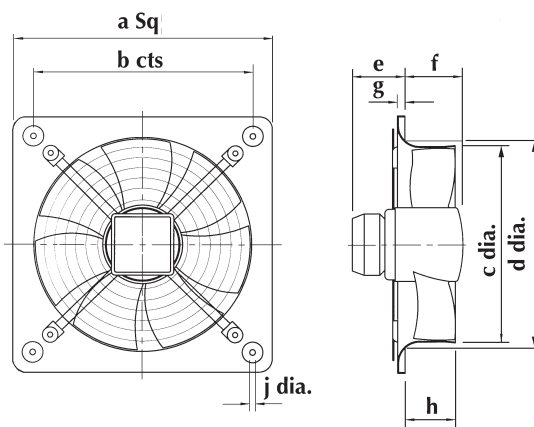
## Accessories

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



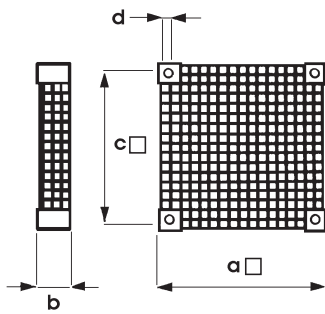
### Fan Dimensions (mm)



Stock Ref	Kg	A	B	C	D	E	F	G	H	J
VSP25012/14	4.2	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	8.7	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	37.2	805	750	643	664	111	159.5	20	130	11
VSP63016	26.7	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

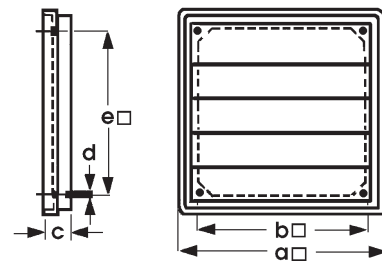
Discharge Guard 'K' factor loss 0.25



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

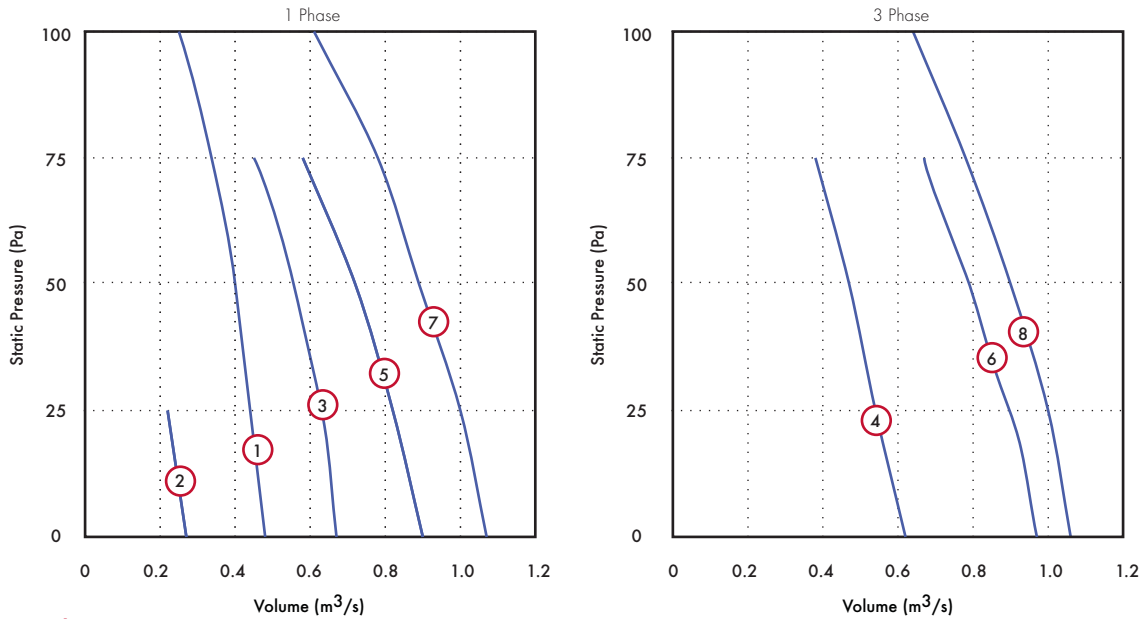


Stock Ref	a	b	c	Ød
LS250	294	265	25	6
LS315	344	276	26	6
LS355	398	312	26	6
LS400	458	365	26	6
LS450	499	395	31	6
LS500	544	444	31	6
LS560	605	533	31	6
LS630	694	627	31	6
LS710	790	722	43	6

# Vent-Axia Sabre® Plate Mounted Sickle Fans (VSP)

## Performance Curves

250 to 400 dia. - Pole 2 & 4



## Performance Guide

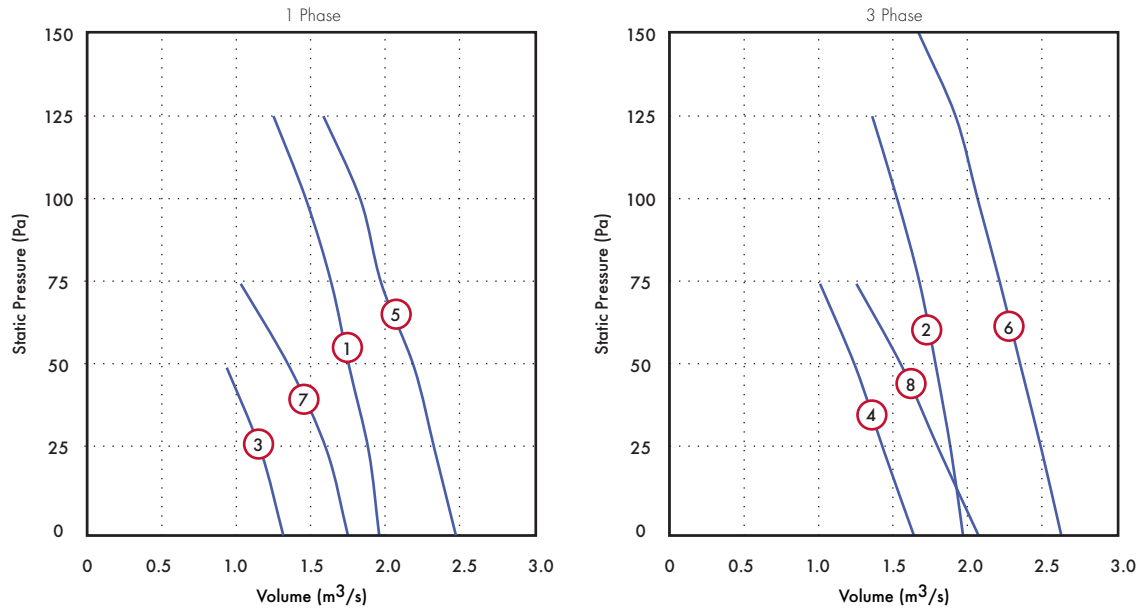
Stock Ref	Supply	IP	Motor	F.L.C	S.C.	Poles	r.p.m	Curve	Volume m³/s @ Pa					dB(A) @ 3m	
									0	25	50	75	100		
VSP25012	230/1/50	IP54	0.12	0.54	2.16	2	2160	①	Volume m³/s	0.48	0.44	0.40	0.36	0.25	50
									Power Watts	110	115	118	121	125	
VSP25014	230/1/50	IP54	0.05	0.24	0.96	4	1370	②	Volume m³/s	0.27	0.22				37
									Power Watts	46	48				
VSP31514	230/1/50	IP54	0.14	0.62	2.48	4	1360	③	Volume m³/s	0.67	0.63	0.51	0.45		45
									Power Watts	111	118	124	130		
VSP31534	400/3/50	IP54	0.12	0.68	2.72	4	1450	④	Volume m³/s	0.62	0.54	0.47	0.38		47
									Power Watts	105	115	117	120		
VSP35514	230/1/50	IP54	0.18	0.75	3	4	1260	⑤	Volume m³/s	0.90	0.82	0.72	0.58		46
									Power Watts	132	141	151	162		
VSP35534	400/3/50	IP54	0.14	0.4	1.6	4	1390	⑥	Volume m³/s	0.97	0.90	0.65	0.67		48
									Power Watts	152	168	176	178		
VSP40014	230/1/50	IP54	0.24	1.05	4.2	4	1340	⑦	Volume m³/s	1.07	1.00	0.89	0.78	0.61	46
									Power Watts	166	195	200	210	240	
VSP40034	400/3/50	IP54	0.17	0.46	1.84	4	1360	⑧	Volume m³/s	1.06	1.00	0.90	0.78	0.64	47
									Power Watts	160	170	190	205	220	

## Sound Power Level Spectra dB (ref 10<sup>-12</sup> Watts)

Stock Ref	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dB(A) @ 3m
VSP25012	65	70	68	66	64	66	62	55	50
VSP25014	56	63	56	54	53	53	49	41	37
VSP31514	71	70	65	60	58	59	55	47	45
VSP31534	75	71	62	60	61	62	59	51	47
VSP35514	67	70	67	64	58	60	53	45	46
VSP35534	74	66	61	63	64	63	59	53	48
VSP40014	72	73	66	62	60	59	54	48	46
VSP40034	67	67	61	60	60	59	54	48	47

## Performance Curves

450 to 500 dia. - Pole 4 & 6



## Performance Guide

Stock Ref	Supply	IP	Motor Rating	F.L.C kW	S.C. Amps	Poles	r.p.m	Curve	Volume m³/s @ Pa						dB(A) @		
									0	25	50	75	100	125	150	3m	
VSP45014	230/1/50	IP54	0.56	2.5	10	4	1320	①	Volume m³/s	1.96	1.89	1.76	1.64	1.47	1.25		49
									Power Watts	480	500	520	530	540	550		
VSP45034	400/3/50	IP54	0.54	1.1	4.4	4	1350	②	Volume m³/s	1.97	1.89	1.79	1.68	1.53	1.36		49
									Power Watts	440	460	480	505	520	530		
VSP45016	230/1/50	IP54	0.19	0.9	3.6	6	910	③	Volume m³/s	1.32	1.17	0.94					41
									Power Watts	165	175	180					
VSP45036	400/3/50	IP54	0.36	0.66	2.64	6	1020	④	Volume m³/s	1.64	1.44	1.25	1.01				44
									Power Watts	325	350	360	380				
VSP50014	230/1/50	IP54	0.76	3.3	13.2	4	1230	⑤	Volume m³/s	2.47	2.33	2.19	1.97	1.83	1.58		51
									Power Watts	630	660	670	690	720	740		
VSP50034	400/3/50	IP54	0.84	1.45	5.8	4	1340	⑥	Volume m³/s	2.63	2.50	2.36	2.22	2.07	1.92	1.67	52
									Power Watts	620	650	680	720	740	750	800	
VSP50016	230/1/50	IP54	0.3	1.3	5.2	6	910	⑦	Volume m³/s	1.75	1.61	1.36	1.03				44
									Power Watts	250	265	280	295				
VSP50036	400/3/50	IP54	0.54	0.96	3.84	6	940	⑧	Volume m³/s	2.07	1.81	1.56	1.25				47
									Power Watts	470	500	520	540				

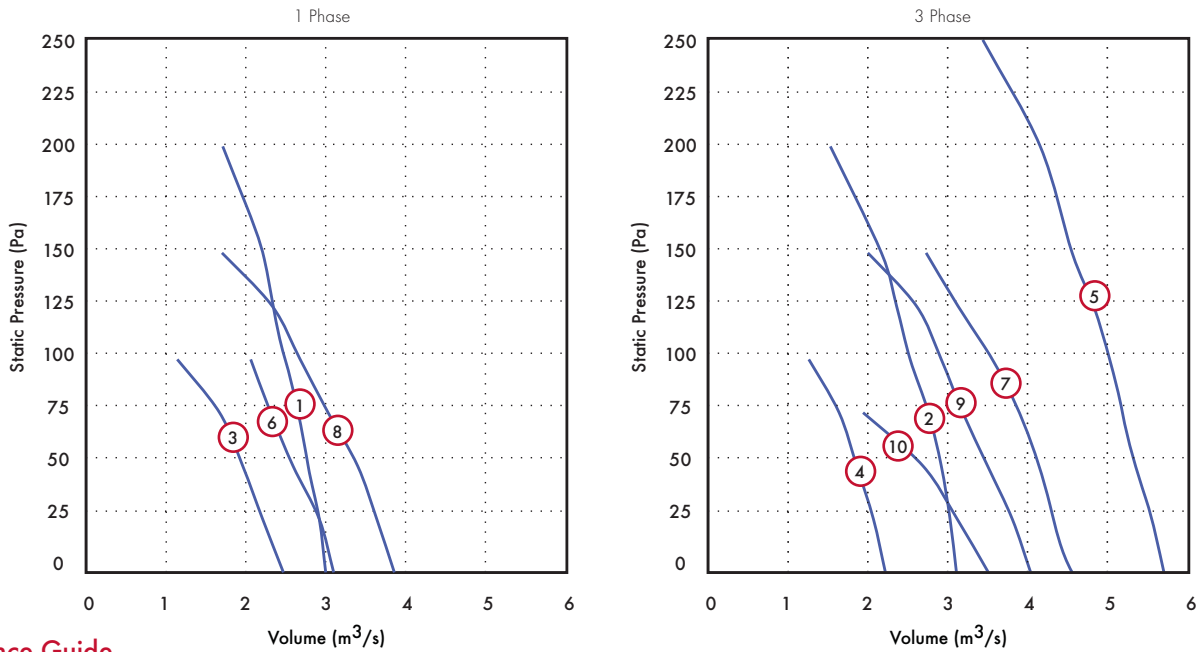
## Sound Power Level Spectra dB (ref 10<sup>-12</sup> Watts)

Stock Ref	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dB(A) @ 3m
VSP45014	67	69	71	63	63	63	59	53	49
VSP45034	72	70	65	65	64	64	59	53	49
VSP45016	57	62	59	56	56	56	50	41	41
VSP45036	71	66	60	60	60	58	51	43	44
VSP50014	71	75	67	63	67	68	60	52	51
VSP50034	74	72	66	66	68	68	62	56	52
VSP50016	66	72	70	55	59	58	51	43	44
VSP50036	77	77	72	66	64	61	54	47	47

# Vent-Axia Sabre® Plate Mounted Sickle Fans (VSP)

## Performance Curves

560 to 710 dia. - Pole 4 & 6 & 8



## Performance Guide

Stock Ref	Supply	IP Rating	Motor kW	F.L.C Amps	S.C. Amps	Poles	r.p.m	Curve	Volume m³/s @ Pa							dB(A) @ 3m			
									0	25	50	75	100	125	150		200	250	
VSP56014	230/1/50	IP54	1.15	5	20	4	1330	①	Volume m³/s	3.00	2.92	2.78	2.69	2.51	2.31	2.22	1.71		62
									Power Watts	810	830	870	890	900	980	1000	1100		
VSP56034	400/3/50	IP54	1.05	2.2	8.8	4	1280	②	Volume m³/s	3.11	3.03	2.92	2.76	2.53	2.36	2.17	1.53		57
									Power Watts	742	800	840	860	910	920	940	1044		
VSP56016	230/1/50	IP54	0.46	2.2	8.8	6	930	③	Volume m³/s	2.22	2.07	1.86	1.64	1.26					50
									Power Watts	369	394	415	438	458					
VSP56036	400/3/50	IP54	0.58	1.1	4.4	6	910	④	Volume m³/s	2.47	2.21	1.96	1.67	1.14					51
									Power Watts	489	518	542	556	576					
VSP63034	400/3/50	IP54	2.4	4.6	18.4	4	1320	⑤	Volume m³/s	5.71	5.56	5.35	5.19	5.03	4.83	4.56	4.16	3.44	62
									Power Watts	2305	2350	2400	2450	2500	2540	2587	2628	2639	
VSP63016	230/1/50	IP54	0.74	3.4	13.6	6	910	⑥	Volume m³/s	3.10	2.92	2.59	2.31	2.06					52
									Power Watts	568	603	650	679	710					
VSP63036	400/3/50	IP54	1.5	2.6	10.4	6	1040	⑦	Volume m³/s	4.56	4.32	4.07	3.81	3.56	3.13	2.73			57
									Power Watts	1538	1550	1593	1610	1645	1661	1666			
VSP71016	230/1/50	IP54	0.95	4.4	17.6	6	850	⑧	Volume m³/s	3.86	3.64	3.40	3.03	2.68	2.33	1.70			52
									Power Watts	607	666	700	760	808	850	950			
VSP71036	400/3/50	IP54	0.94	1.7	6.8	6	900	⑨	Volume m³/s	4.04	3.81	3.50	3.19	2.92	2.61	2.00			49
									Power Watts	560	620	700	768	813	861	920			
VSP71038	400/3/50	IP54	0.62	1.05	4.2	8	690	⑩	Volume m³/s	3.51	3.12	2.69	1.94						45
									Power Watts	451	510	540	616						

## Sound Power Level Spectra dB (ref 10<sup>-12</sup> Watts)

Stock Ref	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dB(A) @ 3m
VSP56014	79	78	74	74	77	77	73	66	62
VSP56034	84	78	76	74	75	74	70	63	57
VSP56016	75	73	66	65	67	66	60	54	50
VSP56036	77	77	67	66	67	66	60	54	51
VSP63034	85	80	77	75	78	77	71	66	62
VSP63016	74	71	73	68	68	66	60	54	52
VSP63036	84	75	71	71	74	71	65	59	57
VSP71016	81	81	72	69	70	67	61	57	52
VSP71036	69	69	68	67	68	65	59	52	49
VSP71038	66	63	63	65	62	59	50	44	45



## Accessories



Stock Ref	Supply	Electronic Controller*	5 Step Auto transformer	eDemand Voltage*	eDemand 3ph Inverter	eDemand 1ph in 3ph out inverter	eDemand 1Ph Inverter	D.O.L Starter	Overload
VSP25012	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444698
VSP25014	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444697
VSP31514	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444699
VSP31534	400/3/50	-	10314301	444166	444172	444177	-	444747	444699
VSP35514	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444699
VSP35534	400/3/50	-	10314301	444166	444172	444177	-	444747	444698
VSP40014	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444700
VSP40034	400/3/50	-	10314301	444166	444172	444177	-	444747	444698
VSP45014	230/1/50	10303103	10314103	444164	-	-	444169	444744	444702
VSP45034*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700
VSP45016	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444699
VSP45036*	400/3/50	-	10314301	444166	444172	444177	-	444747	444699
VSP50014	230/1/50	10303106	10314105	444164	-	-	444169	444744	444702
VSP50034*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700
VSP50016	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444700
VSP50036*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700
VSP56014	230/1/50	10303106	10314105	444164	-	-	444170	444744	444703
VSP56034*	400/3/50	-	10314304	444166	444172	444177	-	444747	444702
VSP56016	230/1/50	10314103	10314103	444164	-	-	444169	444744	444702
VSP56036*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700
VSP63034*	400/3/50	-	10314307	444166	444173	444177	-	444747	444703
VSP63016	230/1/50	10303106	10314105	444164	-	-	444169	444744	444702
VSP63036*	400/3/50	-	10314304	444166	444173	444177	-	444747	444702
VSP71016	230/1/50	10303106	10314105	444164	-	-	444170	444744	444703
VSP71036*	400/3/50	-	10314302	444166	444172	444177	-	444747	444701
VSP71038*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700

\* Electronic Voltage controllers may cause motor noise and vibration at lower speeds, transformer or Inverter recommended for noise sensitive applications

# All models are supplied with 2 speed delta/star connection motors, as standard. (Sizes 450 to 630 are 4/6 Pole, size 710 is 6/8 pole)

Guards: Some installations may occur where additional safety parts are needed, to ensure safety in operation. For example, the unit may be fitted at the inlet or outlet end of a ducted ventilation system, thereby exposing the impeller/motor to unguarded access. In this event, the installer must fit a safety guard complying to current regulations. These guards are available as an optional extra.

Louvre shutter	
Fan Dia.	Stock Ref.
250	LS250
315	LS315
355	LS355
400	LS400
450	LS450
500	LS500
560	LS560
630	LS630
710	LS710

Discharge guard	
Fan Dia.	Stock Ref.
250	10502325
315	10502325
355	10502375
400	10502450
450	10502525
500	10502525
560	10502630
630	10502630
710	10502800

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

# Vent-Axia Sabre® Sickle Short Case Fans (VSC)

## Features and Benefits

- 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® Sickle Short Case 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 is matched to a purpose designed external rotor motor to ensure 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. Matching this to a purpose designed close fitting casing ensures best use of this blade technology thereby reducing noise and improving the performance in cased axial fans.

## Construction

The Sabre® Sickle Short Case fan range share the same case lengths as the Euroseries Cased axial range making them fully interchangeable and compatible with the full range of Vent-Axia Accessories. The strong and compact short case is constructed from rolled steel plate, and protected with a tough, epoxy paint finish. Casing dimensions are to DIN 24151 and flange dimensions are to ISO 6580.

Manufacture is controlled to BS EN ISO 9001. The compact motor/impeller unit is robustly supported within the casing by electro welded and epoxy coated steel rod mounting supports for ease of installation and service access. Suitable for all outdoor weather environments.

## Impellers

The impellers incorporate the latest in Sickle blade aerofoil technology to ensure minimum sound and maximum performance. 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® Sickle Short Case 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

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

## Performance

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

## Sound Levels

Fan sound levels, 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  $2 \times 10^{-5}$  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.

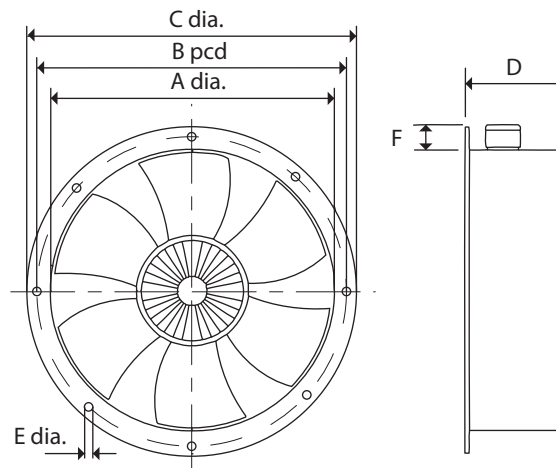
## Accessories

A full range of accessories is available with the Sabre® Sickle Short Case fans:

- Electronic Speed Controllers
- Auto Transformer Speed Controllers
- eDemand inverter speed control
- D.O.L. Starters
- Ancillary Packs
- Attenuators



### Fan Dimensions (mm)



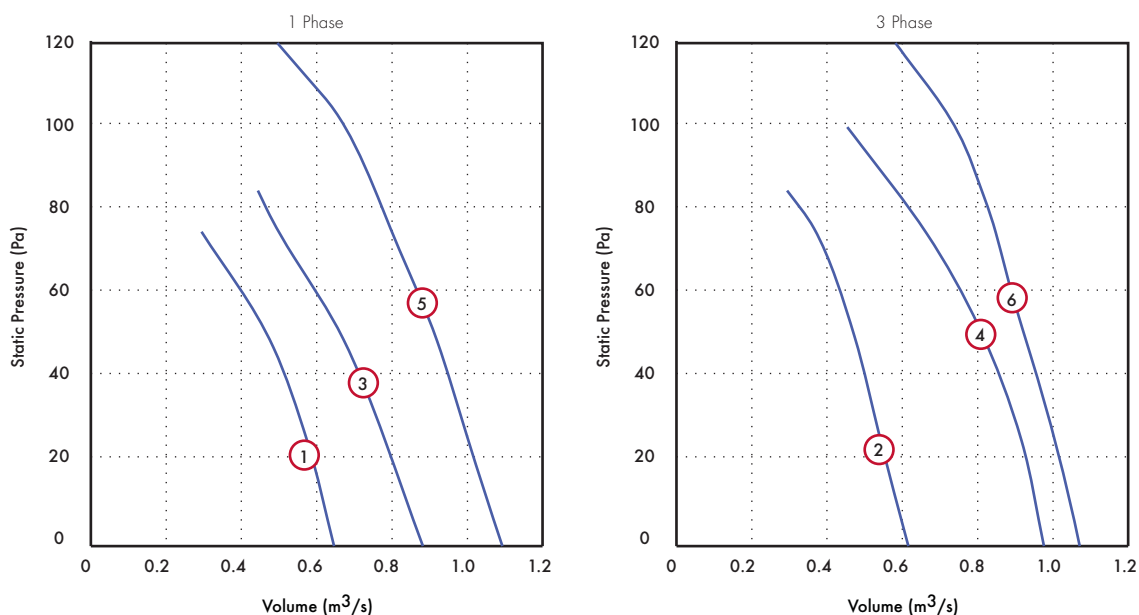
Stock Ref	Kg	A	B	C	D	E	n	F
VSC31514	7	316	356	382	136.5	9.5	8	65
VSC31534	7	316	356	382	136.5	9.5	8	65
VSC35514	7	356	395	421	136.5	9.5	8	65
VSC35534	7.1	359	395	421	135	9.5	8	65
VSC40014	8.3	400	438	466	155	9.5	12	65
VSC40034	8.3	400	438	466	155	9.5	12	65
VSC45014	15.7	451	487	515	160	9.5	12	65
VSC45034	14.2	451	487	515	160	9.5	12	65
VSC45036	14.2	451	487	515	160	9.5	12	65
VSC50014	16.8	503	541	567	166	9.5	12	65
VSC50034	16.8	503	541	567	166	9.5	12	65
VSC50036	16.8	503	541	567	166	9.5	12	65
VSC56014	29.7	559	605	635	210	11.5	16	75
VSC56034	21.3	559	605	635	210	11.5	16	75
VSC56034	21.3	559	605	635	210	11.5	16	75
VSC63034	35.8	634	674	707	225.5	11.5	16	75
VSC63036	35.8	634	674	707	225.5	11.5	16	75
VSC71036	41.8	711	751	785	260	11.5	16	75
VSC71016	36.8	711	751	785	260	11.5	16	75
VSC71038	41.8	711	751	785	260	11.5	16	75

n = number of holes

# Vent-Axia Sabre® Sickle Short Case Fans (VSC)

## Performance Curves

315 to 400 dia. - Pole 4



## Performance Guide

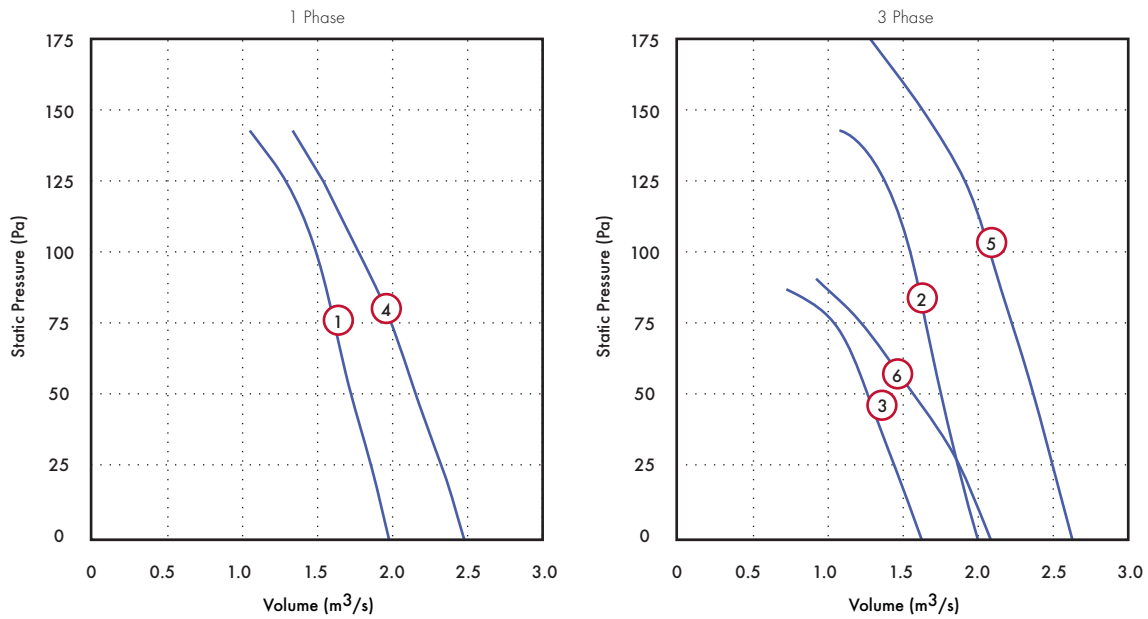
Stock Ref	Supply	IP Rating	Motor kW	F.L.C Amps	S.C. Amps	Poles	r.p.m	Curve	Volume m³/s @ Pa					dB(A) @ 3.0m	
									0	25	50	75	100		
VSC31514	230/1/50	IP54	0.14	0.62	2.48	4	1360	1	Volume m³/s	0.65	0.58	0.47	0.29		44
									Power Watts	85	93	100	110		
VSC31534	400/3/50	IP54	0.12	0.68	2.72	4	1450	2	Volume m³/s	0.62	0.54	0.47	0.38		47
									Power Watts	105	115	117	120		
VSC35514	230/1/50	IP54	0.18	0.75	3	4	1260	3	Volume m³/s	0.88	0.78	0.67	0.50		48
									Power Watts	145	155	167	181		
VSC35534	400/3/50	IP54	0.14	0.4	1.6	4	1390	4	Volume m³/s	0.98	0.92	0.82	0.67	0.44	48
									Power Watts	155	166	174	179	186	
VSC40014	230/1/50	IP54	0.24	1.05	4.2	4	1340	5	Volume m³/s	1.09	1.00	0.92	0.79	0.67	46
									Power Watts	183	197	210	224	236	
VSC40034	400/3/50	IP54	0.17	0.46	1.84	4	1360	6	Volume m³/s	1.07	1.01	0.92	0.85	0.74	44
									Power Watts	168	184	200	214	228	

## Sound Power Level Spectra dB (ref 10<sup>-12</sup> Watts)

Stock Ref	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dB(A) @ 3.0m
VSC31514	71	70	65	60	58	59	55	47	44
VSC31534	75	71	62	60	61	62	59	51	47
VSC35514	67	70	67	64	58	60	53	45	48
VSC35534	74	66	61	63	64	63	59	53	48
VSC40014	72	73	66	62	60	59	54	48	46
VSC40034	67	67	61	60	60	59	54	48	44

## Performance Curves

450 to 500 dia. - Pole 4 & 6



## Performance Guide

Stock Ref	Supply	IP Rating	Motor kW	F.L.C Amps	S.C. Amps	Poles	r.p.m	Curve	Volume m³/s @ Pa							dB(A) @ 3.0m			
									0	25	50	75	100	125	150		175		
VSC45014	230/1/50	IP54	0.56	2.5	10	4	1320	①	Volume m³/s	1.98	1.86	1.72	1.58	1.50	1.31				49
									Power Watts	481	490	510	530	537	546				
VSC45034	400/3/50	IP54	0.54	1.1	4.4	4	1350	②	Volume m³/s	2.00	1.89	1.75	1.68	1.53	1.41				49
									Power Watts	446	450	485	510	523	532				
VSC45036	400/3/50	IP54	0.36	0.66	2.64	6	1020	③	Volume m³/s	1.623	1.448	1.254	1.056						44
									Power Watts	333	351	364	372						
VSC50014	230/1/50	IP54	0.76	3.3	13.2	4	1230	④	Volume m³/s	2.48	2.33	2.14	2.02	1.78	1.54				51
									Power Watts	626	649	670	696	710	740				
VSC50034	400/3/50	IP54	0.84	1.45	5.8	4	1340	⑤	Volume m³/s	2.63	2.50	2.38	2.22	2.08	1.91	1.63	1.28		52
									Power Watts	616	653	683	713	739	765	802	829		
VSC50036	400/3/50	IP54	0.54	0.96	3.84	6	940	⑥	Volume m³/s	2.08	1.89	1.57	1.25						47
									Power Watts	472	498	517	530						

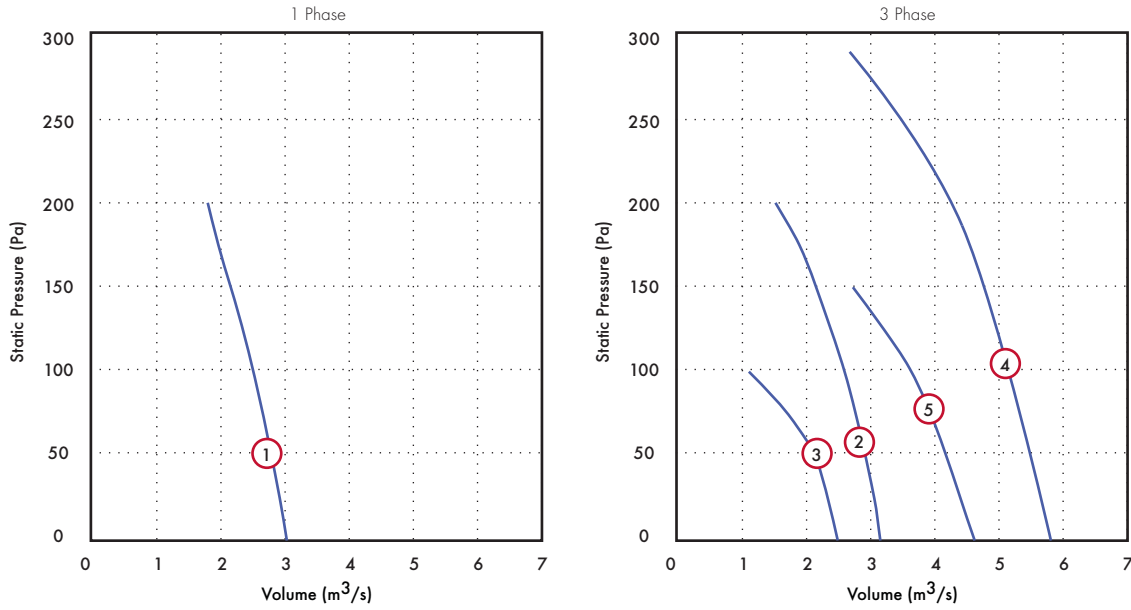
## Sound Power Level Spectra dB (ref 10<sup>-12</sup> Watts)

Stock Ref	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dB(A) @ 3.0m
VSC45014	67	69	71	63	63	63	59	53	49
VSC45034	72	70	65	65	64	64	59	53	49
VSC45036	71	66	60	60	60	58	51	43	44
VSC50014	71	75	67	63	67	68	60	52	51
VSC50034	74	72	66	66	68	68	62	56	52
VSC50036	77	77	72	66	64	61	54	47	47

# Vent-Axia Sabre® Sickle Short Case Fans (VSC)

## Performance Curves

560 to 630 dia. - Pole 4 & 6



## Performance Guide

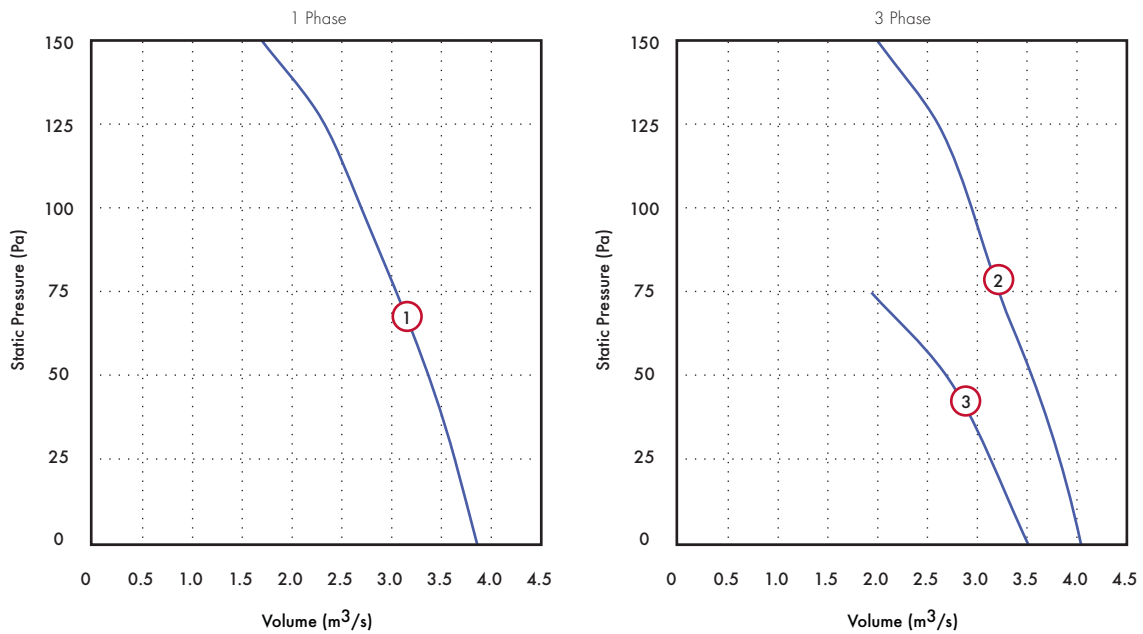
Stock Ref	Supply	IP Rating	Motor kW	F.L.C Amps	S.C. Amps	Poles	r.p.m	Curve	Volume m³/s @ Pa										dB(A) @					
									0	25	50	75	100	125	150	175	200	225	250	275	3.0m			
VSC56014	230/1/50	IP54	1.15	5	20	4	1330	①	Volume m³/s	3.03	2.92	2.78	2.67	2.50	2.36	2.15	1.96	1.79						62
									Power Watts	824	850	910	946	996	1020	1055	1085	1114						
VSC56034	400/3/50	IP54	1.05	2.2	8.8	4	1280	②	Volume m³/s	3.15	3.06	2.89	2.76	2.59	2.39	2.14	1.89	1.52						57
									Power Watts	742	770	830	870	910	945	975	1014	1044						
VSC56036	400/3/50	IP54	0.65	1.25	5	6	880	③	Volume m³/s	2.47	2.28	2.06	1.67	1.11										51
									Power Watts	560	580	605	628	650										
VSC63034	400/3/50	IP54	2.4	4.6	18.4	4	1320	④	Volume m³/s	5.81	5.64	5.50	5.35	5.21	5.00	4.69	4.54	4.23	3.61	3.56	3.40			60
									Power Watts	2396	2440	2511	2550	2603	2650	2700	2735	2750	2762	2769	2759			
VSC63036	400/3/50	IP54	1.5	2.6	10.4	6	1040	⑤	Volume m³/s	4.62	4.39	4.17	3.91	3.63	3.21	2.72								55
									Power Watts	1608	1640	1677	1695	1722	1741	1753								

## Sound Power Level Spectra dB (ref 10<sup>-12</sup> Watts)

Stock Ref	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dB(A) @ 3.0m
VSC56014	79	78	74	74	77	77	73	66	62
VSC56034	84	78	76	74	75	74	70	63	57
VSC56036	77	77	67	66	67	66	60	54	51
VSC63034	85	80	77	75	78	77	71	66	60
VSC63036	84	75	71	71	74	71	65	59	55

## Performance Curves

710 dia. - Pole 6 & 8



## Performance Guide

Stock Ref	Supply	IP Rating	Motor kW	F.L.C Amps	S.C. Amps	Poles	r.p.m	Curve	Volume m³/s @ Pa							dB(A) @ 3.0m	
									0	25	50	75	100	125	150		
VSC71016	230/1/50	IP54	0.95	4.4	17.6	6	850	①	Volume m³/s	3.859	3.637	3.399	3.056	2.677	2.333	1.695	52
									Power Watts	607	666	705	750	808	850	950	
VSC71036	400/3/50	IP54	0.94	1.7	6.8	6	900	②	Volume m³/s	4.042	3.861	3.611	3.194	2.919	2.608	1.994	49
									Power Watts	560	590	670	768	813	861	931	
VSC71038	400/3/50	IP54	0.62	1.05	4.2	8	690	③	Volume m³/s	3.512	3.115	2.694	1.936				45
									Power Watts	451	510	560	615				

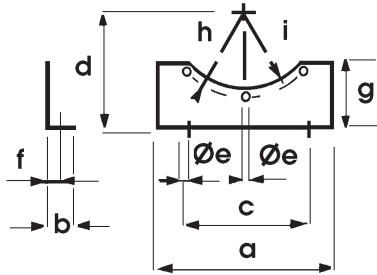
## Sound Power Level Spectra dB (ref 10<sup>-12</sup> Watts)

Stock Ref	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dB(A) @ 3.0m
VSC71016	81	81	72	69	70	67	61	57	52
VSC71036	69	69	68	67	68	65	59	52	49
VSC71038	66	63	63	65	62	59	50	44	45

# Vent-Axia Sabre® Sickle Short Case Fans (VSC)

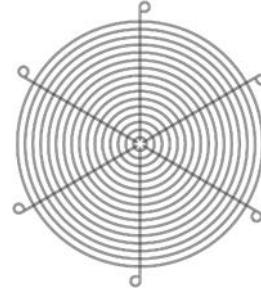
## Accessories Dimensions (mm)

### Mounting Feet (Pack of 2)



Stock Ref.	a	b	c	d	Øe	f	g	h	i
MFZ315	315	40	265	200	10	20	71	178	166
MFZ355	350	40	300	225	10	20	81.5	197.5	186
MFZ400	250	40	220	250	10	20	78	219	205
MFZ450	275	40	240	275	10	20	82	243.5	230
MFZ500	315	50	280	315	1	25	100	270.5	255
MFZ560	355	50	320	355	12	25	97	302.5	285
MFZ630	400	50	360	400	12	25	108.5	337	320
MFZ710	465	50	415	450	12	25	118.5	375.5	362

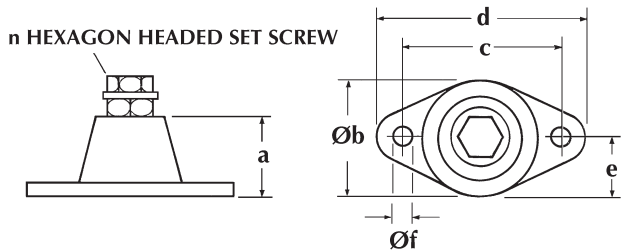
### Inlet Wire Guard 'K' factor loss 0.25



Stock Ref.	Dia
WGZ315	375
WGZ355	414
WGZ400	461
WGZ450	506
WGZ500	560
WGZ560	626.5
WGZ630	695.5
WGZ710	772.5

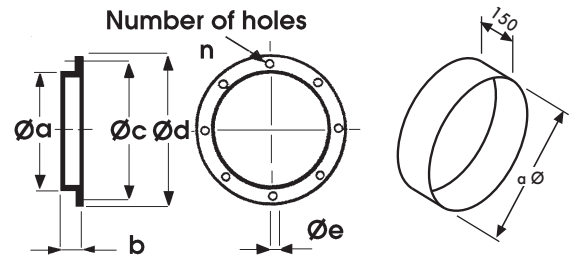
For more information on the 'K' factor, refer to General Information Section

### Anti-Vibration Mounts (Pack of 4) - All Models



Stock Ref.	a	Øb	c	d	e	Øf	n	load kg
10523033	27	37	54	67	18.5	7	M8	23

### Coupling Flange



Stock Ref.	Øa	b	Øc	Ød	Øe	Øf	n
CFZ315	313	40	356	382	10	319	8
CFZ355	353	40	395	421	10	359	8
CFZ400	398	45	438	466	10	404	12
CFZ450	448	45	487	515	10	454	12
CFZ500	498	45	541	567	10	504	12
CFZ560	558	45	605	635	12	564	16
CFZ630	628	45	674	707	12	634	16
CFZ710	708	50	751	785	12	714	16



## Accessories



Stock Ref	Supply	Electronic Controller*	5 Step Auto transformer	eDemand Voltage*	eDemand 3ph Inverter	eDemand 1ph in 3ph out inverter	eDemand 1Ph Inverter	D.O.I. Starter	Overload
VSC31514	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444699
VSC31534	400/3/50	-	10314301	444166	444172	444177	-	444747	444699
VSC35514	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444699
VSC35534	400/3/50	-	10314301	444166	444172	444177	-	444747	444698
VSC40014	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444700
VSC40034	400/3/50	-	10314301	444166	444172	444177	-	444747	444698
VSC45014	230/1/50	10303103	10314103	444164	-	-	444169	444744	444702
VSC45034*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700
VSC45036*	400/3/50	-	10314301	444166	444172	444177	-	444747	444699
VSC50014	230/1/50	10303106	10314105	444164	-	-	444169	444744	444702
VSC50034*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700
VSC50036*	400/3/50	-	10314301	444166	444172	444177	-	444747	444700
VSC56014	230/1/50	10303106	10314105	444164	-	-	444170	444744	444703
VSC56034	400/3/50	-	10314304	444166	444173	444177	-	444747	444701
VSC63034*	400/3/50	-	10314304	444166	444173	444177	-	444747	444703
VSC63036*	400/3/50	-	10314304	444166	444173	444177	-	444747	444702
VSC71036*	400/3/50	-	10314302	444166	444172	444177	-	444747	444701
VSC71016	230/1/50	10303106	10314105	444164	-	-	444170	444744	444703
VSC71038*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700

\* Electronic Voltage controllers may cause motor noise and vibration at lower speeds, transformer or Inverter recommended for noise sensitive applications

# All models are supplied with 2 speed delta/star connection motors, as standard. (Sizes 450 to 630 are 4/6 Pole)

Guards: Some installations may occur where additional safety parts are needed, to ensure safety in operation. For example, the unit may be fitted at the inlet or outlet end of a ducted ventilation system, thereby exposing the impeller/motor to unguarded access. In this event, the installer must fit a safety guard complying to current regulations. These guards are available as an optional extra.

Fan Dia	Mounting feet wire (pack of 2) Stock Ref.	Inlet wire guard Stock Ref.	Coupling flange Stock Ref.	Axial ancillary pack Stock Ref.	Cased axial attenuator Stock Ref.	Cased axial attenuator pod 1D Stock Ref.	Cased axial pod 2D Stock Ref.
315	MFZ315	WGZ315	CFZ315	APZ315	ACZ3151D	ACZ3151DP	ACZ3152DP
355	MFZ355	WGZ355	CFZ355	APZ355	ACZ3551D	ACZ3551DP	ACZ3552DP
400	MFZ400	WGZ400	CFZ400	APZ400	ACZ4001D	ACZ4001DP	ACZ4002DP
450	MFZ450	WGZ450	CFZ450	APZ450	ACZ4501D	ACZ4501DP	ACZ4502DP
500	MFZ500	WGZ500	CFZ500	APZ500	ACZ5001D	ACZ5001DP	ACZ5002DP
560	MFZ560	WGZ560	CFZ560	APZ560	ACZ5601D	ACZ5601DP	ACZ5602DP
630	MFZ630	WGZ630	CFZ630	APZ630	ACZ6301D	ACZ6301DP	ACZ6302DP
710	MFZ710	WGZ710	CFZ710	APZ710	ACZ7101D	ACZ7101DP	ACZ7102DP

# Vent-Axia Sabre<sup>®</sup> Sickle Roof Fans (VSR)

## Features and Benefits

- Swept impeller with Aerofoil blades, winglets and serrated trailing edge for optimum performance
- Fully assembled cowl
- Optional backdraught shutters and birdguard
- Moulded from recyclable polymeric material, optional coloured units available
- One shot die cast aluminium impeller dynamically balanced for smooth operation
- All sizes resistant to UV light
- All models speed controllable
- Thermal Overload Protection for motor protection
- Operating temperature up to 70°C
- 2 Year Guarantee

The latest generation of the Vent-Axia Sabre<sup>®</sup> Sickle Roof fans incorporate the very latest FE2 Owllet 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 is matched to a purpose designed external rotor motor to ensure unrivalled reliability and controllability.

All cowl and roof mounting plates are moulded from specially formulated polymeric materials, which are high impact resistant and provide a rigid profile against strong winds and are resistant to UV light. Standard Colour BS00A05. Alternative colours are available on request.

Suitable for flat or inclined roofs (max. angle 30°). Sabre<sup>®</sup> Sickle Roof fans are designed for either kerb or purlin box mounting. All sizes are fitted with inlet wire guards, giving protection to BS 848 part 5. Bird guards are available as optional accessories.

## 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 casing ensures best use of this blade technology thereby reducing noise and improving the performance in cased axial fans.

## Impellers

The impellers incorporate the latest in Sickle blade aerofoil technology to ensure minimum sound and maximum performance. 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<sup>®</sup> Sickle Roof fans 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 contacts 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.

## Terminal Box

An IP54 terminal box is supplied with all models with M20 x 1.5mm gland entry offering protection against dust and water.

## Performance

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

## Sound Levels

Fan sound levels, 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  $2 \times 10^{-5}$ 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.

## Packing

Sabre<sup>®</sup> Sickle Roof fans consist of two elements, a boxed cowl assembly and a plate mounted fan. Fan & cowl are supplied separately to assist with transportation and are quickly assembled on site.

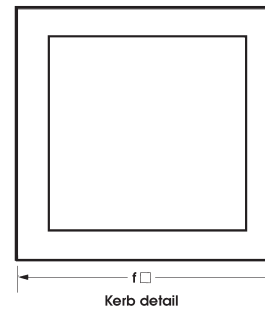
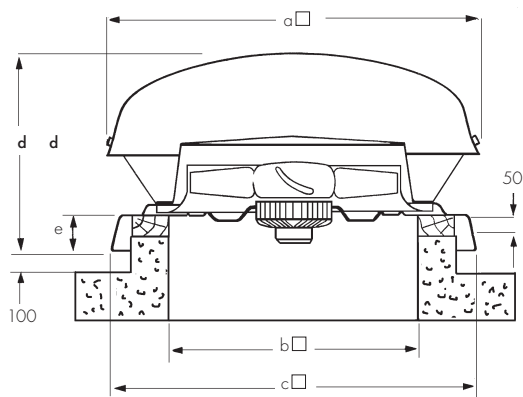
## Accessories

A full range of accessories is available for the Sabre<sup>®</sup> Sickle Roof fans:

- Electronic Speed Controllers
- Auto Transformer Speed Controllers
- eDemand inverter speed control
- D.O.L. Starters
- Purlin Boxes
- Backdraught Shutters
- Bird Guards
- Roof Attenuators



### Fan Dimensions (mm)

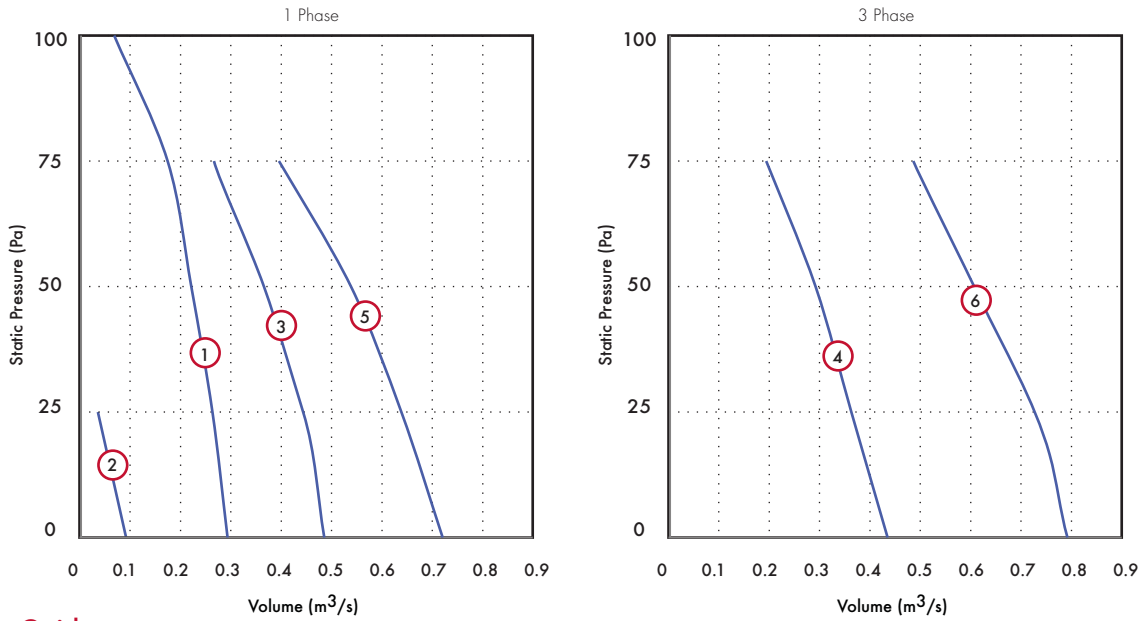


Dia	a	b	c	d	e	f	Kg max Kerb detail
250	700	475	737	411	97	675	11.7
315	700	475	737	411	97	675	12.8
355	700	475	737	411	97	675	13.8
400	800	575	830	466	97	775	19.2
450	800	575	830	466	97	775	24.8
500	950	715	1000	579	100	915	30.3
560	950	715	1000	579	100	915	37
630	1230	840	1100	731	105	1040	64
710	1230	840	1100	731	105	1040	50

# Vent-Axia Sabre® Sickle Roof Fans (VSR)

## Performance Curve

250 - 355 dia. - 2 & 4 Pole



## Performance Guide

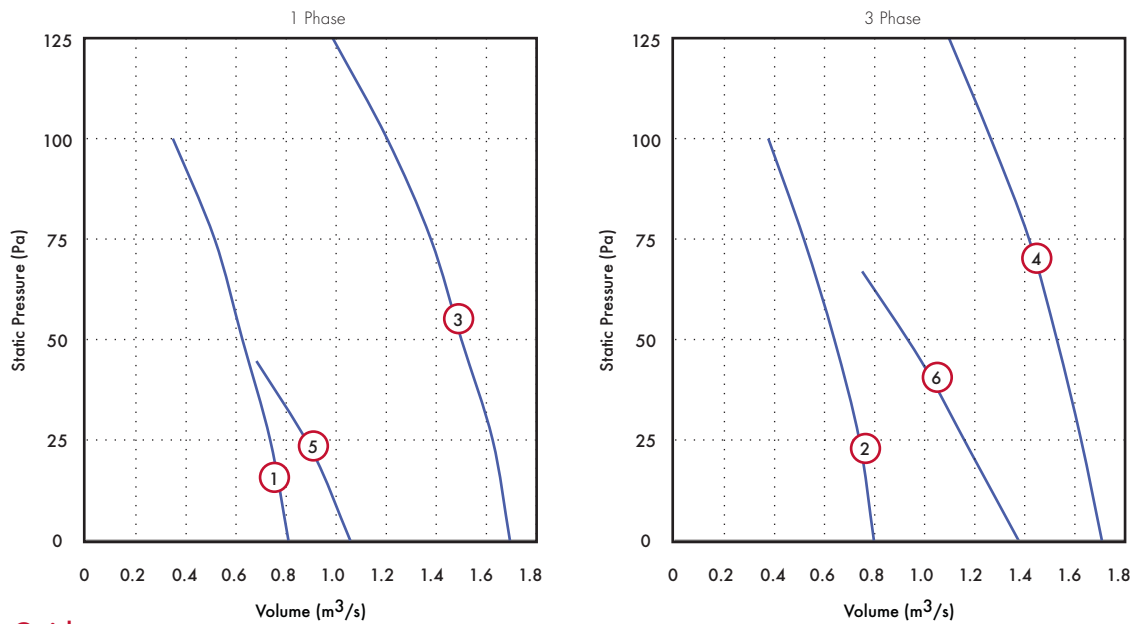
Stock Ref	Supply	IP Rating	Motor kW	F.L.C Amps	S.C. Amps	Poles	r.p.m	Curve	Volume m³/s @ Pa					dB(A) @ 3.0m	
									0	25	50	75	100		
VSR25012	230/1/50	IP54	0.12	0.54	2.16	2	2160	1	Volume m³/s	0.29	0.26	0.22	0.18	0.07	50
								Power Watts	110	115	118	121	125		
VSR25014	230/1/50	IP54	0.05	0.24	0.96	4	1370	2	Volume m³/s	0.09	0.04				37
								Power Watts	46	48					
VSR31514	230/1/50	IP54	0.14	0.62	2.48	4	1360	3	Volume m³/s	0.49	0.44	0.37	0.27		45
								Power Watts	111	118	124	130			
VSR31534	400/3/50	IP54	0.12	0.68	2.72	4	1450	4	Volume m³/s	0.44	0.36	0.29	0.19		47
								Power Watts	105	115	117	120			
VSR35514	230/1/50	IP54	0.18	0.75	3	4	1260	5	Volume m³/s	0.72	0.64	0.54	0.40		46
								Power Watts	132	141	151	162			
VSR35534	400/3/50	IP54	0.14	0.4	1.6	4	1390	6	Volume m³/s	0.79	0.72	0.61	0.49		48
								Power Watts	152	168	176	178			

## Sound Power Level Spectra dB (ref 10<sup>-12</sup> Watts)

Stock Ref	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dB(A) @ 3.0m
VSR25012	65	70	68	66	64	66	62	55	50
VSR25014	56	63	56	54	53	53	49	41	37
VSR31514	71	70	65	60	58	59	55	47	45
VSR31534	75	71	62	60	61	62	59	51	47
VSR35514	67	70	67	64	58	60	53	45	46
VSR35534	74	66	61	63	64	63	59	53	48

## Performance Curve

400 - 450 dia. - 4 & 6 Pole



## Performance Guide

Stock Ref	Supply	IP Rating	Motor kW	F.L.C Amps	S.C. Amps	Poles	r.p.m	Curve	Volume m³/s @ Pa						dB(A) @ 3.0m	
									0	25	50	75	100	125		
VSR40014	230/1/50	IP54	0.24	1.05	4.2	4	1340	1	Volume m³/s	0.81	0.74	0.63	0.51	0.35		46
									Power Watts	166	195	200	210	240		
VSR40034	400/3/50	IP54	0.17	0.46	1.84	4	1360	2	Volume m³/s	0.80	0.74	0.64	0.52	0.38		47
									Power Watts	160	170	190	205	220		
VSR45014	230/1/50	IP54	0.56	2.5	10	4	1320	3	Volume m³/s	1.69	1.63	1.50	1.38	1.20	0.99	49
									Power Watts	480	500	520	530	540	550	
VSR45034	400/3/50	IP54	0.54	1.1	4.4	4	1350	4	Volume m³/s	1.71	1.63	1.53	1.42	1.26	1.10	49
									Power Watts	440	460	480	505	520	530	
VSR45016	230/1/50	IP54	0.19	0.9	3.6	6	910	5	Volume m³/s	1.06	0.90	0.68				41
									Power Watts	165	175	180				
VSR45036	400/3/50	IP54	0.36	0.66	2.64	6	1020	6	Volume m³/s	1.38	1.18	0.99	0.75			44
									Power Watts	325	350	360	380			

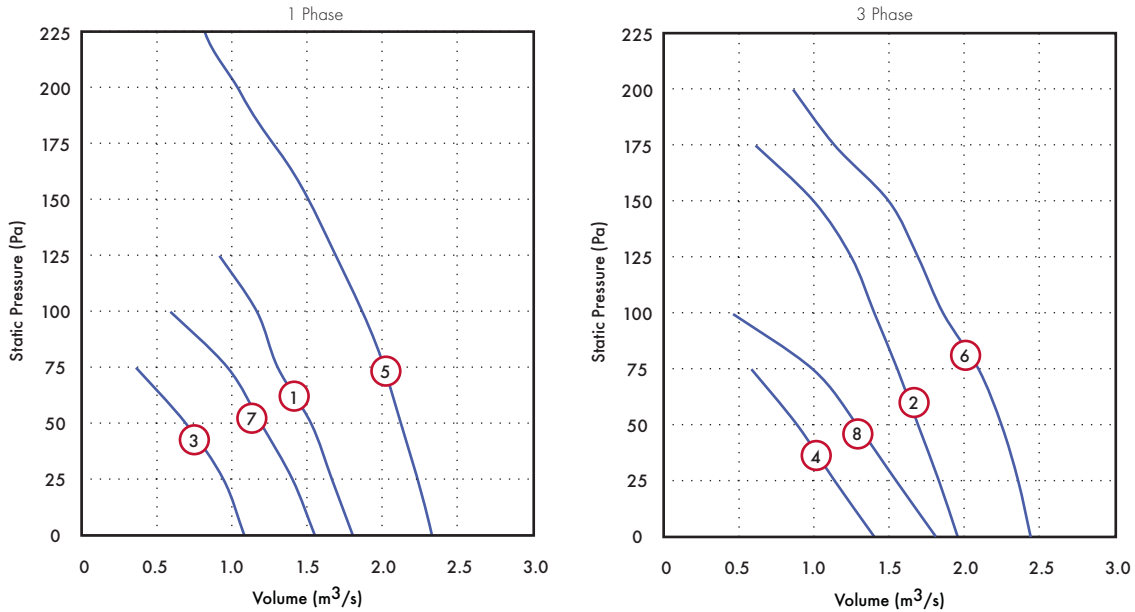
## Sound Power Level Spectra dB (ref 10<sup>-12</sup> Watts)

Stock Ref	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dB(A) @ 3.0m
VSR40014	72	73	66	62	60	59	54	48	46
VSR40034	67	67	61	60	60	59	54	48	47
VSR45014	67	69	71	63	63	63	59	53	49
VSR45034	72	70	65	65	64	64	59	53	49
VSR45016	57	62	59	56	56	56	50	41	41
VSR45036	71	66	60	60	60	58	51	43	44

# Vent-Axia Sabre® Sickle Roof Fans (VSR)

## Performance Curve

500 - 560 dia. - 4 & 6 Pole



## Performance Guide

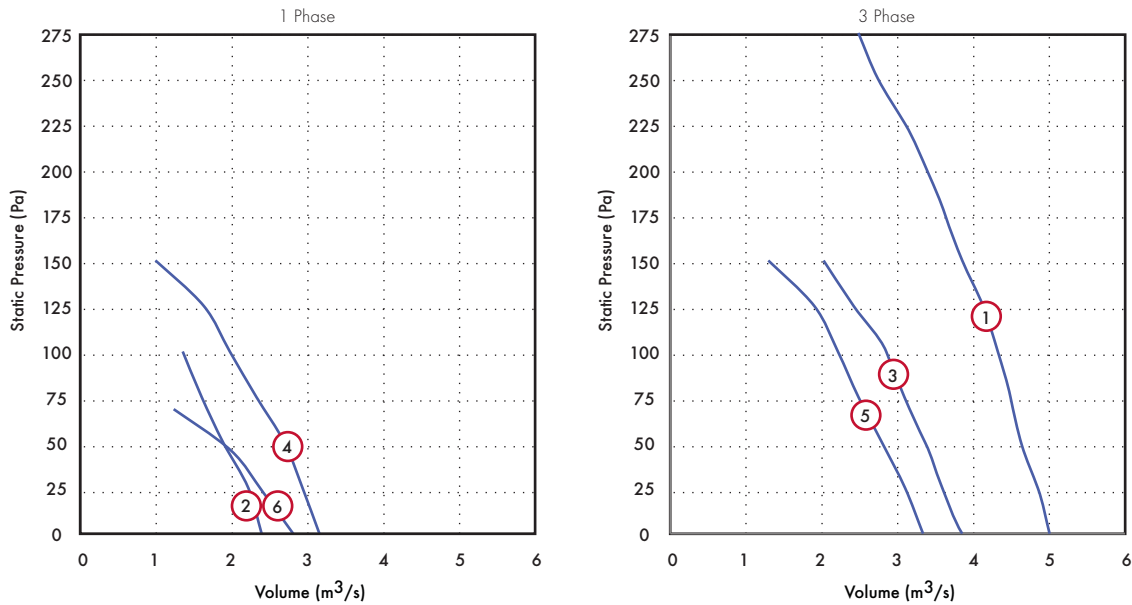
Stock Ref	Supply	IP Rating	Motor kW	F.L.C Amps	S.C. Amps	Poles	r.p.m	Curve	Volume m³/s @ Pa										dB(A) @ 3.0m			
									0	25	50	75	100	125	150	175	200	225				
VSR50014	230/1/50	IP54	0.76	3.3	13.2	4	1230	①	Volume m³/s	1.81	1.67	1.53	1.31	1.17	0.92						51	
									Power Watts	630	660	670	690	720	740							
VSR50034	400/3/50	IP54	0.84	1.45	5.8	4	1340	②	Volume m³/s	1.96	1.83	1.70	1.56	1.40	1.25	1.00	0.61			52		
									Power Watts	620	650	680	720	740	750	800	825					
VSR50016	230/1/50	IP54	0.3	1.3	5.2	6	910	③	Volume m³/s	1.08	0.94	0.69	0.36								44	
									Power Watts	250	265	280	295									
VSR50036	400/3/50	IP54	0.54	0.96	3.84	6	940	④	Volume m³/s	1.40	1.14	0.89	0.58								47	
									Power Watts	470	500	520	540									
VSR56014	230/1/50	IP54	1.15	5	20	4	1330	⑤	Volume m³/s	2.33	2.25	2.11	2.03	1.87	1.67	1.56	1.28	1.04	0.80	62		
									Power Watts	810	830	870	890	900	980	1000	1050	1100	1110			
VSR56034	400/3/50	IP54	1.05	2.2	8.8	4	1280	⑥	Volume m³/s	2.44	2.36	2.25	2.10	1.86	1.69	1.50	1.14	0.86	57			
									Power Watts	742	800	840	860	910	920	940	1014	1044				
VSR56016	230/1/50	IP54	0.46	2.2	8.8	6	930	⑦	Volume m³/s	1.55	1.40	1.19	0.97	0.59								50
									Power Watts	369	394	415	438	458								
VSR56036	400/3/50	IP54	0.58	1.1	4.4	6	910	⑧	Volume m³/s	1.81	1.55	1.29	1.00	0.47								51
									Power Watts	489	518	542	556	576								

## Sound Power Level Spectra dB (ref 10<sup>-12</sup> Watts)

Stock Ref	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dB(A) @ 3.0m
VSR50014	71	75	67	63	67	68	60	52	51
VSR50034	74	72	66	66	68	68	62	56	52
VSR50016	66	72	70	55	59	58	51	43	44
VSR50036	77	77	72	66	64	61	54	47	47
VSR56014	79	78	74	74	77	77	73	66	62
VSR56034	84	78	76	74	75	74	70	63	57
VSR56016	75	73	66	65	67	66	60	54	50
VSR56036	77	77	67	66	67	66	60	54	51

## Performance Curve

630 - 710 dia. - 4 & 6 & 8 Pole



## Performance Guide

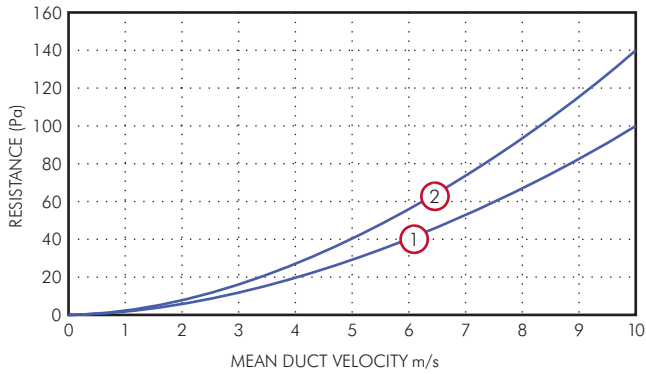
Stock Ref	Supply	IP Rating	Motor kW	F.L.C Amps	S.C. Amps	Poles	r.p.m	Curve	Volume m³/s @ Pa										dB(A) @ 3.0m				
									0	25	50	75	100	125	150	175	200	225		250	275		
VSR63034	400/3/50	IP54	2.4	4.6	18.4	4	1320	①	Volume m³/s	5.00	4.85	4.62	4.49	4.32	4.13	3.85	3.63	3.40	3.10	2.74	2.48	62	
									Power Watts	2305	2350	2400	2450	2500	2540	2587	2600	2628	2630	2639	2659		
VSR63016	230/1/50	IP54	0.74	3.4	13.6	6	910	②	Volume m³/s	2.39	2.21	1.88	1.60	1.35								52	
									Power Watts	568	603	650	679	710									
VSR63036	400/3/50	IP54	1.5	2.6	10.4	6	1040	③	Volume m³/s	3.85	3.55	3.36	3.10	2.85	2.42	2.02						57	
									Power Watts	1538	1550	1593	1610	1645	1661	1666							
VSR71016	230/1/50	IP54	0.95	4.4	17.6	6	850	④	Volume m³/s	3.15	2.93	2.69	2.32	1.97	1.63	0.99						52	
									Power Watts	607	666	700	760	808	850	950							
VSR71036	400/3/50	IP54	0.94	1.7	6.8	6	900	⑤	Volume m³/s	3.33	3.10	2.79	2.48	2.21	1.90	1.29						49	
									Power Watts	560	620	700	768	813	861	920							
VSP71038	400/3/50	IP54	0.62	1.05	4.2	8	690	⑥	Volume m³/s	2.81	2.41	1.99	1.23									45	
									Power Watts	451	510	540	616										

## Sound Power Level Spectra dB (ref 10<sup>-12</sup> Watts)

Stock Ref	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dB(A) @ 3.0m
VSR63034	85	80	77	75	78	77	71	66	62
VSR63016	74	71	73	68	68	66	60	54	52
VSR63036	84	75	71	71	74	71	65	59	57
VSR71016	81	81	72	69	70	67	61	57	52
VSR71036	69	69	68	67	68	65	59	52	49
VSR71038	66	63	63	65	62	59	50	44	45

# Vent-Axia Sabre® Sickle Roof Fans (VSR)

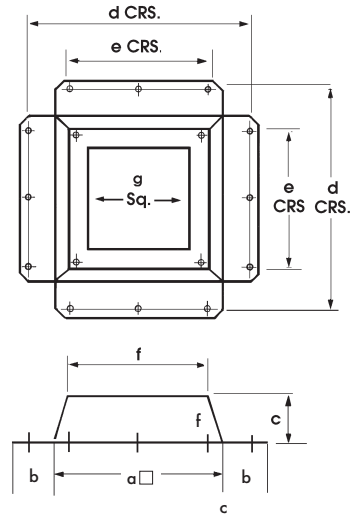
## Pressure Drop For Industrial Roof Cowl Used For Intake With Remote Fan



Stock Ref. No.	Free area m <sup>2</sup>	Resistance curve	Cowl only weight kg
RCZ300	0.099	1	7.5
RCZ400	0.159	2	9
RCZ500	0.246	2	13
RCZ630	0.396	2	19

## Purlin Box

(Manufactured from 1.5mm pre-galv. mild steel)



Size	a	b	c	d	e	f	g
250/315/355	625	90	240	765	400	590	460
400/450	725	90	240	865	500	705	565
500	890	70	250	990	650	864	640
560	890	70	250	990	650	864	700
630	1030	75	250	1140	760	985	775
710	1030	75	250	1140	760	985	840

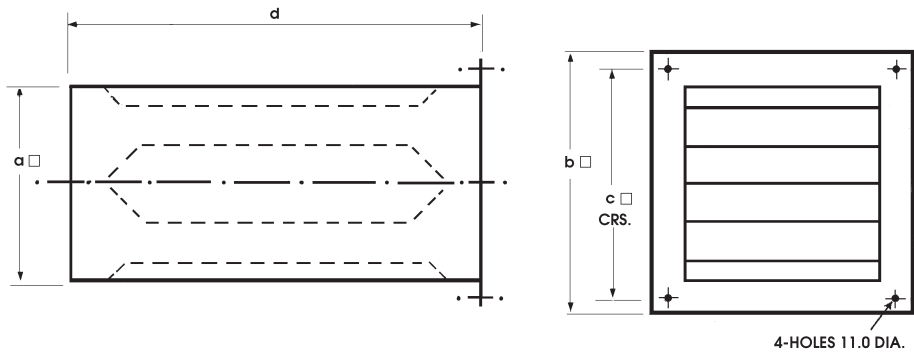
## Vertical Backdraught Shutters

Size	Percentage reduction in performance at 4 pole speeds
315	7%
355	12%
400	10%
450	*3%
500	*4%
560	*6%
630	*3%
710	*7%

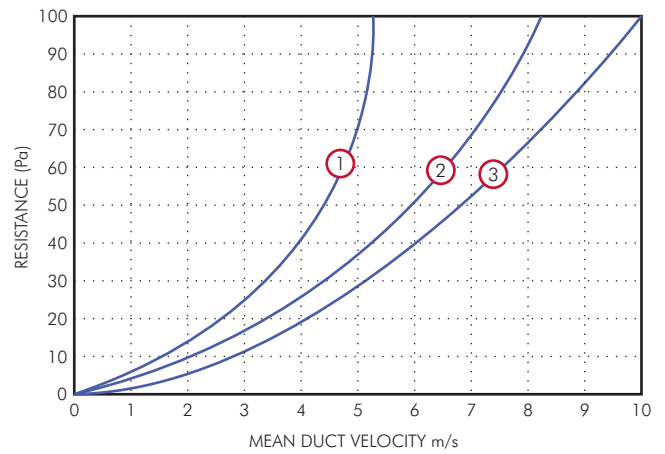
\* For 6 and 8 pole fans, reduce percentages by ratio of fan speeds.



## Roof Attenuators

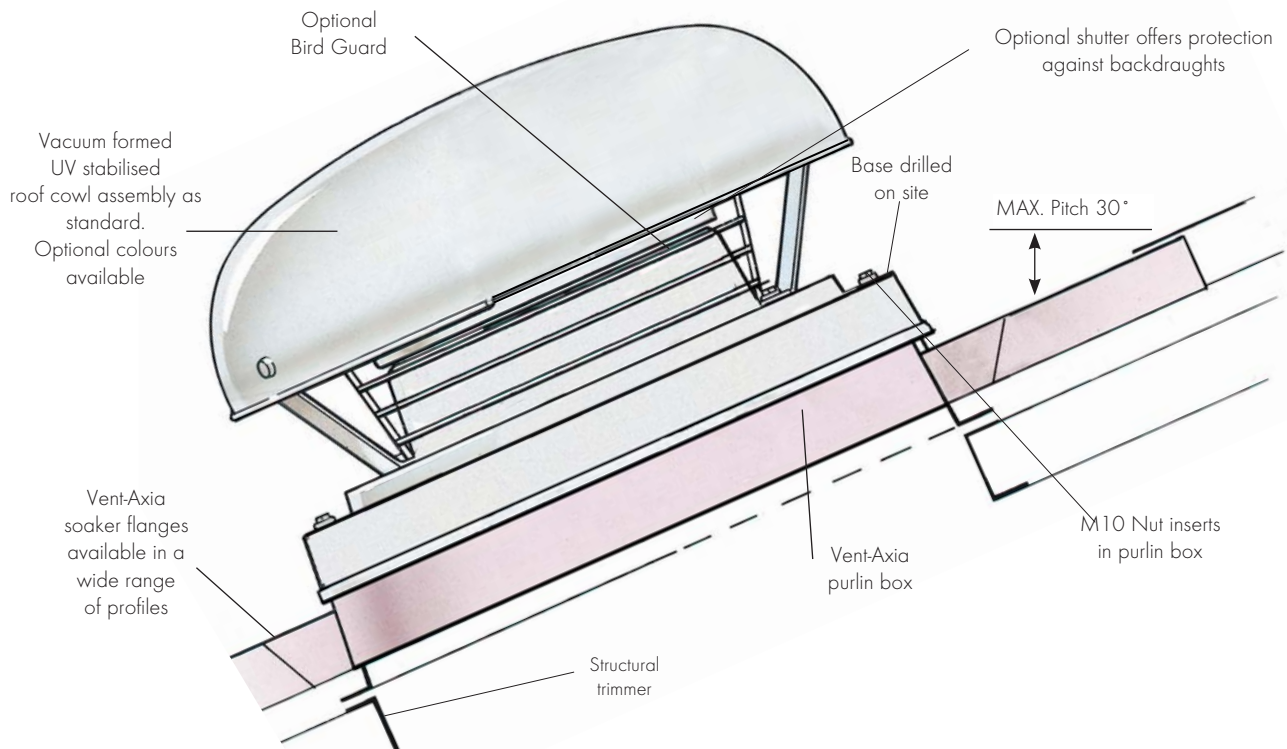


Stock Ref. No.	a	b	c	d	Kg approx	Free area m <sup>2</sup>	Resistance curve
RAZ300600	455	535	505	600	18	0.156	①
RAZ400600	555	635	605	600	22	0.245	②
RAZ500600	635	790	745	600	31	0.416	②
RAZ600600	770	935	890	600	44	0.616	③
RAZ300900	455	535	505	900	21	0.156	①
RAZ400900	555	635	605	900	28	0.245	②
RAZ500900	635	790	745	900	39	0.416	②
RAZ600900	770	935	890	900	52	0.616	③
RAZ3001200	455	535	505	1200	25	0.156	①
RAZ4001200	555	635	605	1200	35	0.245	②
RAZ5001200	635	790	745	1200	48	0.416	②
RAZ6001200	770	935	890	1200	61	0.616	③



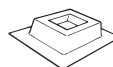
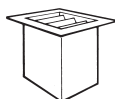
\* Recommended maximum duty velocity 10m/s

## Typical Installation



# Vent-Axia Sabre® Sickle Roof Fans (VSR)

## Accessories



Roof Attenuator

Fan Stock Ref.	Roof Attenuator			Purlin Boxes Stock Ref.	Shutter Stock Ref.	Bird guard Stock Ref.
	600mm Stock Ref.	900mm Stock Ref.	1200mm Stock Ref.			
VSR25012	RAZ300600	RAZ300900	RAZ3001200	PBZ300	RSZ300	BGZ300
VSR25014	RAZ300600	RAZ300900	RAZ3001200	PBZ300	RSZ300	BGZ300
VSR31514	RAZ300600	RAZ300900	RAZ3001200	PBZ300	RSZ300	BGZ300
VSR31534	RAZ300600	RAZ300900	RAZ3001200	PBZ300	RSZ300	BGZ300
VSR35514	RAZ300600	RAZ300900	RAZ3001200	PBZ300	RSZ300	BGZ300
VSR35534	RAZ300600	RAZ300900	RAZ3001200	PBZ300	RSZ300	BGZ300
VSR40014	RAZ400600	RAZ400900	RAZ4001200	PBZ400	RSZ400	BGZ400
VSR40034	RAZ400600	RAZ400900	RAZ4001200	PBZ400	RSZ400	BGZ400
VSR45014	RAZ400600	RAZ400900	RAZ4001200	PBZ400	RSZ400	BGZ400
VSR45034	RAZ400600	RAZ400900	RAZ4001200	PBZ400	RSZ400	BGZ400
VSR45016	RAZ400600	RAZ400900	RAZ4001200	PBZ400	RSZ400	BGZ400
VSR45036	RAZ400600	RAZ400900	RAZ4001200	PBZ400	RSZ400	BGZ400
VSR50014	RAZ500600	RAZ500900	RAZ5001200	PBZ500	RSZ500	BGZ500
VSR50034	RAZ500600	RAZ500900	RAZ5001200	PBZ500	RSZ500	BGZ500
VSR50016	RAZ500600	RAZ500900	RAZ5001200	PBZ500	RSZ500	BGZ500
VSR50036	RAZ500600	RAZ500900	RAZ5001200	PBZ500	RSZ500	BGZ500
VSR56014	RAZ500600	RAZ500900	RAZ5001200	PBZ560	RSZ500	BGZ500
VSR56034	RAZ500600	RAZ500900	RAZ5001200	PBZ560	RSZ500	BGZ500
VSR56016	RAZ500600	RAZ500900	RAZ5001200	PBZ560	RSZ500	BGZ500
VSR56036	RAZ500600	RAZ500900	RAZ5001200	PBZ560	RSZ500	BGZ500
VSR63034	RAZ630600	RAZ630900	RAZ6301200	PBZ630	RSZ630	BGZ630
VSR63016	RAZ630600	RAZ630900	RAZ6301200	PBZ630	RSZ630	BGZ630
VSR63036	RAZ630600	RAZ630900	RAZ6301200	PBZ630	RSZ630	BGZ630
VSR71016	RAZ630600	RAZ630900	RAZ6301200	PBZ710	RSZ630	BGZ630
VSR71036	RAZ630600	RAZ630900	RAZ6301200	PBZ710	RSZ630	BGZ630
VSR71038	RAZ630600	RAZ630900	RAZ6301200	PBZ710	RSZ630	BGZ630

## Accessories



Stock Ref	Supply	Electronic Controller*	5 Step Auto transformer	eDemand Voltage*	eDemand 3ph Inverter	eDemand 1ph in 3ph out inverter	eDemand 1Ph Inverter	D.O.L Starter	Overload
VSR25012	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444698
VSR25014	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444697
VSR31514	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444699
VSR31534	400/3/50	-	10314301	444166	444172	444177	-	444747	444699
VSR35514	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444699
VSR35534	400/3/50	-	10314301	444166	444172	444177	-	444747	444698
VSR40014	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444700
VSR40034	400/3/50	-	10314301	444166	444172	444177	-	444747	444698
VSR45014	230/1/50	10303103	10314103	444164	-	-	444169	444744	444702
VSR45034*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700
VSR45016	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444699
VSR45036*	400/3/50	-	10314301	444166	444172	444177	-	444747	444699
VSR50014	230/1/50	10303106	10314105	444164	-	-	444169	444744	444702
VSR50034*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700
VSR50016	230/1/50	W10303102M	10314102	444164	-	-	444169	444744	444700
VSR50036*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700
VSR56014	230/1/50	10303106	10314105	444164	-	-	444170	444744	444703
VSR56034*	400/3/50	-	10314304	444166	444172	444177	-	444747	444702
VSR56016	230/1/50	10314103	10314103	444164	-	-	444169	444744	444702
VSR56036*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700
VSR63034	400/3/50	-	10314307	444166	444173	444177	-	444747	444703
VSR63016	230/1/50	10303106	10314105	444164	-	-	444169	444744	444702
VSR63036*	400/3/50	-	10314304	444166	444173	444177	-	444747	444702
VSR71016	230/1/50	10303106	10314105	444164	-	-	444170	444744	444703
VSR71036*	400/3/50	-	10314302	444166	444172	444177	-	444747	444701
VSP71038*	400/3/50	-	10314302	444166	444172	444177	-	444747	444700

\* Electronic Voltage controllers may cause motor noise and vibration at lower speeds, transformer or Inverter recommended for noise sensitive applications

# All models are supplied with 2 speed delta/star connection motors, as standard. (Sizes 450 to 630 are 4/6 Pole, size 710 is 6/8 pole)

Guards: Some installations may occur where additional safety parts are needed, to ensure safety in operation. For example, the unit may be fitted at the inlet or outlet end of a ducted ventilation system, thereby exposing the impeller/motor to unguarded access. In this event, the installer must fit a safety guard complying to current regulations. These guards are available as an optional extra.



By Appointment to H.M. The Queen  
Suppliers of Unit Ventilation Equipment  
Vent-Axia, Crawley, West Sussex

# Vent-Axia®

## VENT-AXIA CONTACT NUMBERS

Free technical, installation and sales advice is available

### Sales Centre:

#### Domestic & Commercial

Sales Tel: 0844 856 0590  
Sales Fax: 01293 565169  
Tech Support Tel: 0844 856 0594  
Tech Support Fax: 01293 539209

#### Heating Support

Sales Tel: 0844 856 0596

#### Industrial

Sales Tel: 0844 856 0591  
Sales Fax: 01293 534898  
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### Supply & Service

All sales made by Vent-Axia Limited are made only upon the terms of the Company's Conditions of Sale, a copy of which may be obtained on request. As part of the policy of continuous product improvement Vent-Axia reserves the right to alter specifications without notice.



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**Vent-Axia Group Ltd** Right products, right price, right here!