

Vent-Axia Sabre Sickle Short Case Fans (VSC)

Features and Benefits

- One shot die cast impeller, dynamically balanced for smoother operation
- External Rotor Motors on all models for compact efficient design
- All models are speed controllable and can be wired for reverse running
- Thermal Overload Protection for motor protection
- Maintenance free sealed for life bearings
- 2 Year Guarantee

Sabre Case Mounted Sickle Fans

SABRE Sickle bladed fans are the latest addition to the Vent-Axia range offering improved pressure characteristics over axial units and lower sound levels. The advanced blade design and purpose built motor ensure excellent reliability and speed control.

Construction

The Black Sabre range share the same case lengths as the EUROSERIES Cased axial range making them fully interchangeable and total compatibility 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 weather outdoor environments.

Impellers

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 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.

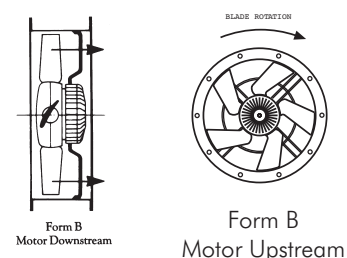
Electrical

The Sabre 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. All units are suitable for speed control by either electronic, voltage reduction or frequency inverters.

Terminal Box

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

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 2×10^{-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, an auto transformer speed control is recommended.

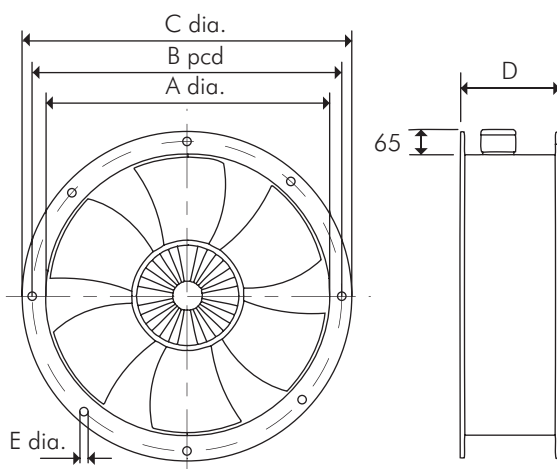
Accessories

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

- Electronic Speed Controllers.
- Auto Transformer Speed Controllers. Inverter Speed Controller, where permissible.
- D.O.L. Starters.
- Ancillary Packs.
- Flexible Connections.
- Mounting Feet.
- Coupling Flanges.
- Anti-Vibration Mounts.
- Attenuators.



Fan Dimensions (mm)

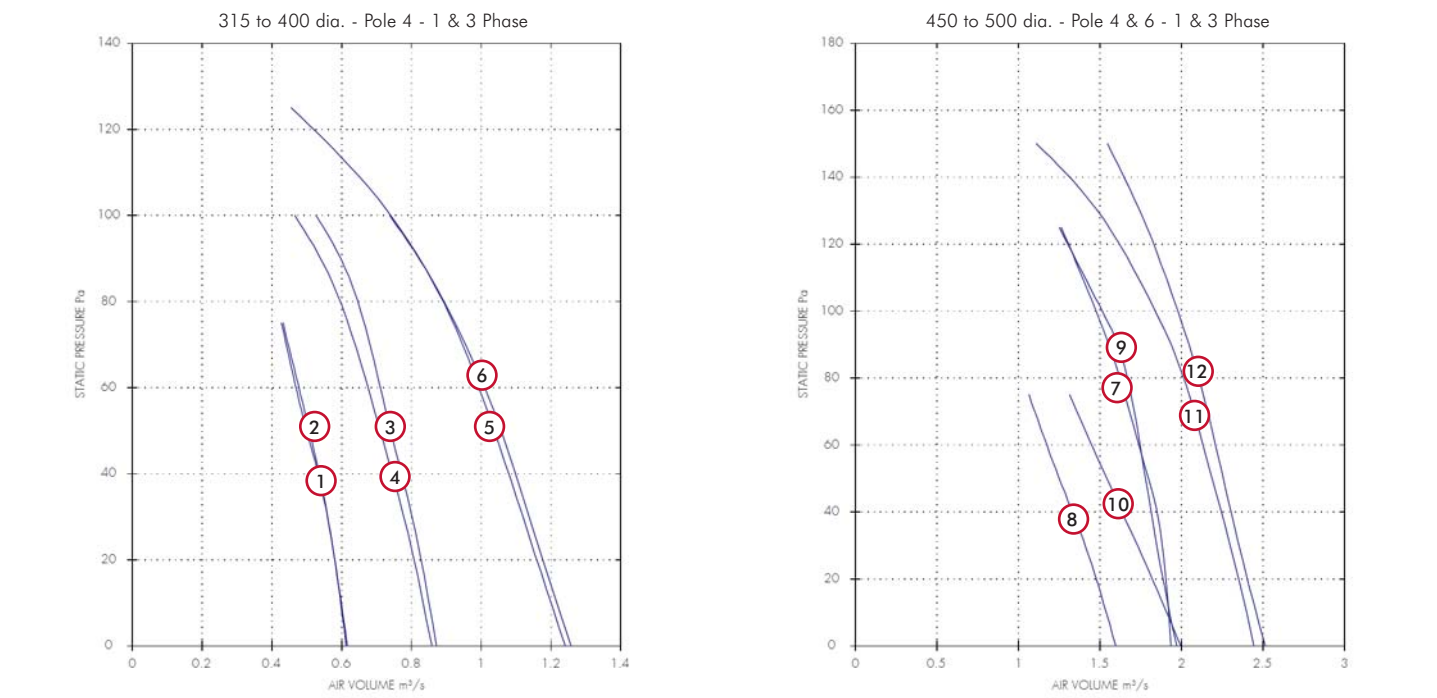


Dia	ØA	ØB	ØC	D	ØE	n	Kg
315	316.5	356	382	135	9.5	8	6.1
355	356	395	421	135	9.5	8	7.1
400	400	438	466	155	9.5	12	8.1
450	451	487	515	160	9.5	12	13.4
500	503	541	567	166	9.5	12	15.7
560	559	605	635	210	11.5	16	20.1
630	634	674	707	220	11.5	16	44
710	711	751	785	260	11.5	16	31

n = number of holes

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

Performance Curves



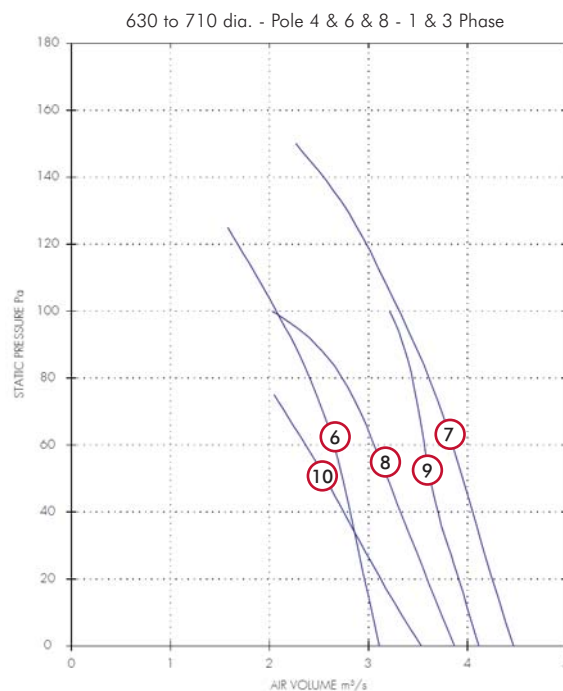
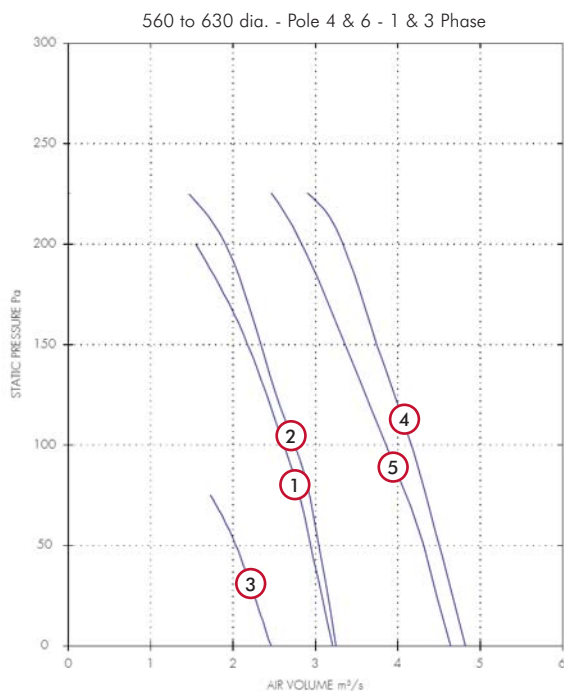
Performance Guide

Motor			IP		Curve	m³/s at Pa								Motor	S.C.	F.L.C	dBA
Dia.	Phase	Stock Ref	Poles	r.p.m	Rating	Ref.	0	25	50	75	100	125	150	kW	Amps	Amps	@3m
315	1	VSC31514	4	1400	IP54	1	0.61	0.57	0.5	0.43				0.13	1.5	0.59	49
315	3	VSC31534	4	1410	IP54	2	0.62	0.57	0.51	0.43				0.12	1	0.29	48
355	1	VSC35514	4	1400	IP54	3	0.87	0.82	0.74	0.67	0.53			0.2	2.5	0.9	50
355	3	VSC35534	4	1360	IP54	4	0.86	0.79	0.71	0.62	0.47			0.18	1	0.35	48
400	1	VSC40014	4	1280	IP54	5	1.24	1.14	1.04	0.92	0.74			0.29	2.9	1.35	49
400	3	VSC40034	4	1250	IP54	6	1.26	1.16	1.06	0.93	0.74	0.46		0.17	1.35	0.47	52
450	1	VSC45014	4	1310	IP54	7	1.94	1.89	1.8	1.65	1.48	1.26		0.61	7	2.8	59
450	3	VSC45036	6	1030	IP54	8	1.6	1.45	1.25	1.07				0.38	1.35	0.68	51
450	3	VSC45034	4	1360	IP54	9	1.97	1.87	1.78	1.69	1.52	1.25		0.38	4	1.05	57
500	3	VSC50036	6	980	IP54	10	2	1.78	1.54	1.31				0.49	1.85	0.89	53
500	1	VSC50014	4	1250	IP54	11	2.45	2.33	2.19	2.05	1.84	1.56	1.11	0.78	7.1	3.4	55
500	3	VSC50034	4	1330	IP54	12	2.51	2.38	2.26	2.14	1.98	1.79	1.55	0.49	5.2	1.45	58

Sound Power Level Spectra dB (ref 10⁻¹² Watts)

Dia	Phase	Stock Ref	Poles	63	125	250	500	1k	2k	4k	8k	dBA @3m
315	1	VSC31514	4	70	68	66	61	60	61	58	51	49
315	3	VSC31534	4	67	68	63	60	60	60	56	49	48
355	1	VSC35514	4	70	70	68	64	65	66	62	54	50
355	3	VSC35534	4	65	68	63	62	63	63	60	54	48
400	1	VSC40014	4	70	72	65	64	65	64	63	56	49
400	3	VSC40034	4	64	72	64	66	66	63	62	53	52
450	1	VSC45014	4	69	81	72	72	74	70	63	56	59
450	3	VSC45034	4	63	76	67	68	69	70	66	59	57
450	3	VSC45036	6	73	68	65	64	65	63	56	48	51
500	1	VSC50014	4	80	78	72	70	71	69	63	57	55
500	3	VSC50034	4	76	77	74	73	75	72	65	58	58
500	3	VSC50036	6	72	71	69	68	71	68	60	53	57

Performance Curves



Performance Guide

Motor					IP	Curve	m³/s at Pa									Motor	S.C.	F.L.C	dBA
Dia.	Phase	Stock Ref	Poles	r.p.m	Rating	Ref.	0	50	75	100	125	150	200	225	kW	Amps	Amps	@3m	
560	1	VSC56014	4	1350	IP54	1	3.21	2.94	2.81	2.62	2.41	2.18	1.55		1.1	15	5.1	66	
560	3	VSC56034	4	1280	IP54	2	3.25	3.04	2.93	2.75	2.52	2.34	1.91	1.47	0.65	7	2.4	63	
560	3	VSC56036	6	880	IP54	3	2.46	2.04	1.73						0.65	2.3	1.25	53	
630	1	VSC63014	4	1370	IP54	4	4.83	4.51	4.34	4.17	3.96	3.75	3.34	2.92	1.75	21	7.7	69	
630	3	VSC63034	4	1380	IP54	5	4.64	4.32	4.1	3.86	3.61	3.36	2.84	2.47	1.15	9	3.1	66	
630	1	VSC63016	4	900	IP54	6	3.11	2.74	2.48	2.07	1.58				0.78	7.5	3.5	58	
630	3	VSC63036	6	1140	IP54	7	4.47	3.96	3.68	3.31	2.89	2.27			1.15	6	2	63	
710	1	VSC71016	6	790	IP54	8	3.87	3.19	2.83	2.03					0.76	10	3.4	59	
710	3	VSC71036	6	900	IP54	9	4.11	3.63	3.48	3.22					0.88	6.1	1.65	59	
710	3	VSC71038	8	690	IP54	10	3.53	2.57	2.05						0.62	2	1.05	58	

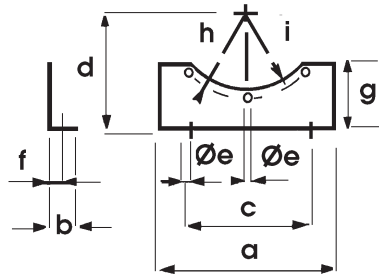
Sound Power Level Spectra dB (ref 10⁻¹² Watts)

Dia	Phase	Stock Ref	Poles	63	125	250	500	1k	2k	4k	8k	dBA @3m
560	1	VSC56014	4	73	76	80	76	79	78	74	67	66
560	3	VSC56034	4	83	80	74	74	77	75	70	61	63
630	1	VSC63014	4	63	70	64	66	69	64	56	49	58
630	3	VSC63034	4	84	83	78	77	79	79	74	67	66
450	3	VSC45036	6	73	68	65	64	65	63	56	48	51
500	3	VSC50036	6	72	71	69	68	71	68	60	53	53
560	3	VSC56036	6	77	70	67	65	68	64	57	49	53
630	1	VSC63016	6	63	70	64	66	69	64	56	49	58
630	3	VSC63036	6	72	80	80	75	77	75	70	62	63
710	1	VSC71016	6	71	76	76	73	73	69	63	55	59
710	3	VSC71036	6	69	81	76	71	75	70	64	57	59
710	3	VSC71038	8	72	69	66	64	66	64	56	48	58

Vent-Axia Sabre[®] Sickie Short Case Fans (VSC)

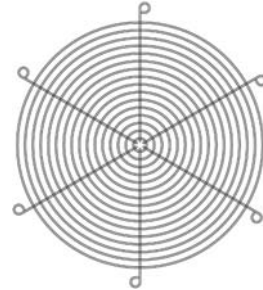
Accessories Dimensions (mm)

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

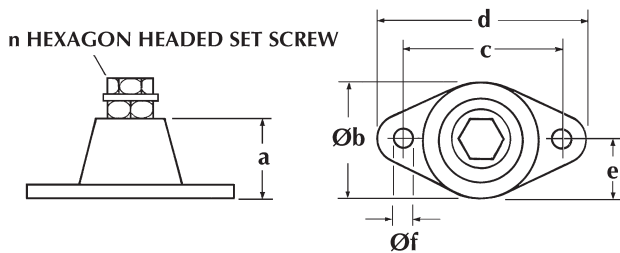
Inlet Wire Guard 'K' factor loss 0.25



Stock Ref. No.	Dia
WGZ315	375
WGZ355	414
WGZ400	461
WGZ450	506
WGZ500	560
WGZ560	626.5
WGZ630	695.5
WGZ710	772.5

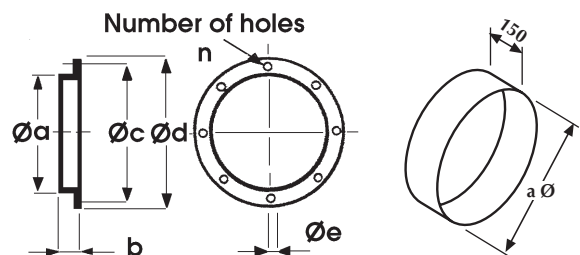
For more information on the 'K' factor, refer to General Information Section

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



Flexible Connection

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

Fan Stock Ref.	Electronic controller Stock Ref.	Auto transformer Stock Ref.	D.O.L starters & overload Stock Ref.	*eDemand Controller	
				Voltage Control Stock Ref.	3 Phase Inverter Stock Ref.
VSC31514	W10303102M	10314103	444744 + 444699	444164	-
VSC35514	W10303102M	10314103	444744 + 444700	444164	-
VSC35534	-	10314301	444747 + 444697	444166	444172
VSC40014	W10303102M	10314103	444744 + 444700	444164	-
VSC40034	-	10314301	444747 + 444698	444166	444172
VSC45014	10303103A	10314103	444744 + 444702	444164	-
VSC45034	-	10314301	444744 + 444699	444166	444172
VSC50014	10303106A	10314105	444747 + 444700	444164	-
VSC50034*	-	10314304	444747 + 444699	444166	444172
VSC56014	10303106A	10314107	444744 + 444702	444164	-
VSC56034*	-	10314304	444744 + 444700	444166	444172
VSC63014	-	10314113	444747 + 444701	444165	-
VSC63034*	-	10314304	444747 + 444699	444166	444173
VSC45036*	-	10314301	444744 + 444702	444166	444172
VSC50036*	-	10314301	444747 + 444700	444166	444172
VSC56036*	-	10314301	444744 + 444703	444166	444172
VSC63016*	10303106A	10314105	444747 + 444702	444164	-
VSC63036*	-	10314304	444747 + 444701	444166	444172
VSC71016	10303106A	10314105	444744 + 444702	444164	-
VSC71036*	-	10314304	444747 + 444701	444166	444172
VSC71038*	-	10314304	444747 + 444700	444166	444172

*For full range of speed controller options & inverters, see Accessories & Controllers Section

Fan Stock Ref.	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.
VSC31514	MFZ315	WGZ315	CFZ315	APZ315	ACZ3151D	ACZ3151DP	ACZ3152DP
VSC35514	MFZ355	WGZ355	CFZ355	APZ355	ACZ3551D	ACZ3551DP	ACZ3552DP
VSC35534	MFZ400	WGZ400	CFZ400	APZ400	ACZ4001D	ACZ4001DP	ACZ4002DP
VSC40014	MFZ400	WGZ400	CFZ400	APZ400	ACZ4001D	ACZ4001DP	ACZ4002DP
VSC40034	MFZ450	WGZ450	CFZ450	APZ450	ACZ4501D	ACZ4501DP	ACZ4502DP
VSC45014	MFZ450	WGZ450	CFZ450	APZ450	ACZ4501D	ACZ4501DP	ACZ4502DP
VSC45034	MFZ500	WGZ500	CFZ500	APZ500	ACZ5001D	ACZ5001DP	ACZ5002DP
VSC50014	MFZ500	WGZ500	CFZ500	APZ500	ACZ5001D	ACZ5001DP	ACZ5002DP
VSC50034*	MFZ560	WGZ560	CFZ560	APZ560	ACZ5601D	ACZ5601DP	ACZ5602DP
VSC56014	MFZ560	WGZ560	CFZ560	APZ560	ACZ5601D	ACZ5601DP	ACZ5602DP
VSC56034*	MFZ630	WGZ630	CFZ630	APZ630	ACZ6301D	ACZ6301DP	ACZ6302DP
VSC63014	MFZ630	WGZ630	CFZ630	APZ630	ACZ6301D	ACZ6301DP	ACZ6302DP
VSC63034*	MFZ450	WGZ450	CFZ450	APZ450	ACZ4501D	ACZ4501DP	ACZ4502DP
VSC45036*	MFZ450	WGZ450	CFZ450	APZ450	ACZ4501D	ACZ4501DP	ACZ4502DP
VSC50036*	MFZ500	WGZ500	CFZ500	APZ500	ACZ5001D	ACZ5001DP	ACZ5002DP
VSC56036*	MFZ560	WGZ560	CFZ560	APZ560	ACZ5601D	ACZ5601DP	ACZ5602DP
VSC63016*	MFZ630	WGZ630	CFZ630	APZ630	ACZ6301D	ACZ6301DP	ACZ6302DP
VSC63036*	MFZ630	WGZ630	CFZ630	APZ630	ACZ6301D	ACZ6301DP	ACZ6302DP
VSC71016	MFZ710	WGZ710	CFZ710	APZ710	ACZ7101D	ACZ7101DP	ACZ7102DP
VSC71036*	MFZ710	WGZ710	CFZ710	APZ710	ACZ7101D	ACZ7101DP	ACZ7102DP
VSC71038*	MFZ710	WGZ710	CFZ710	APZ710	ACZ7101D	ACZ7101DP	ACZ7102DP

NOTE:- When low noise levels are required a 5-step auto transformer is recommended.

NOTE:- 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.