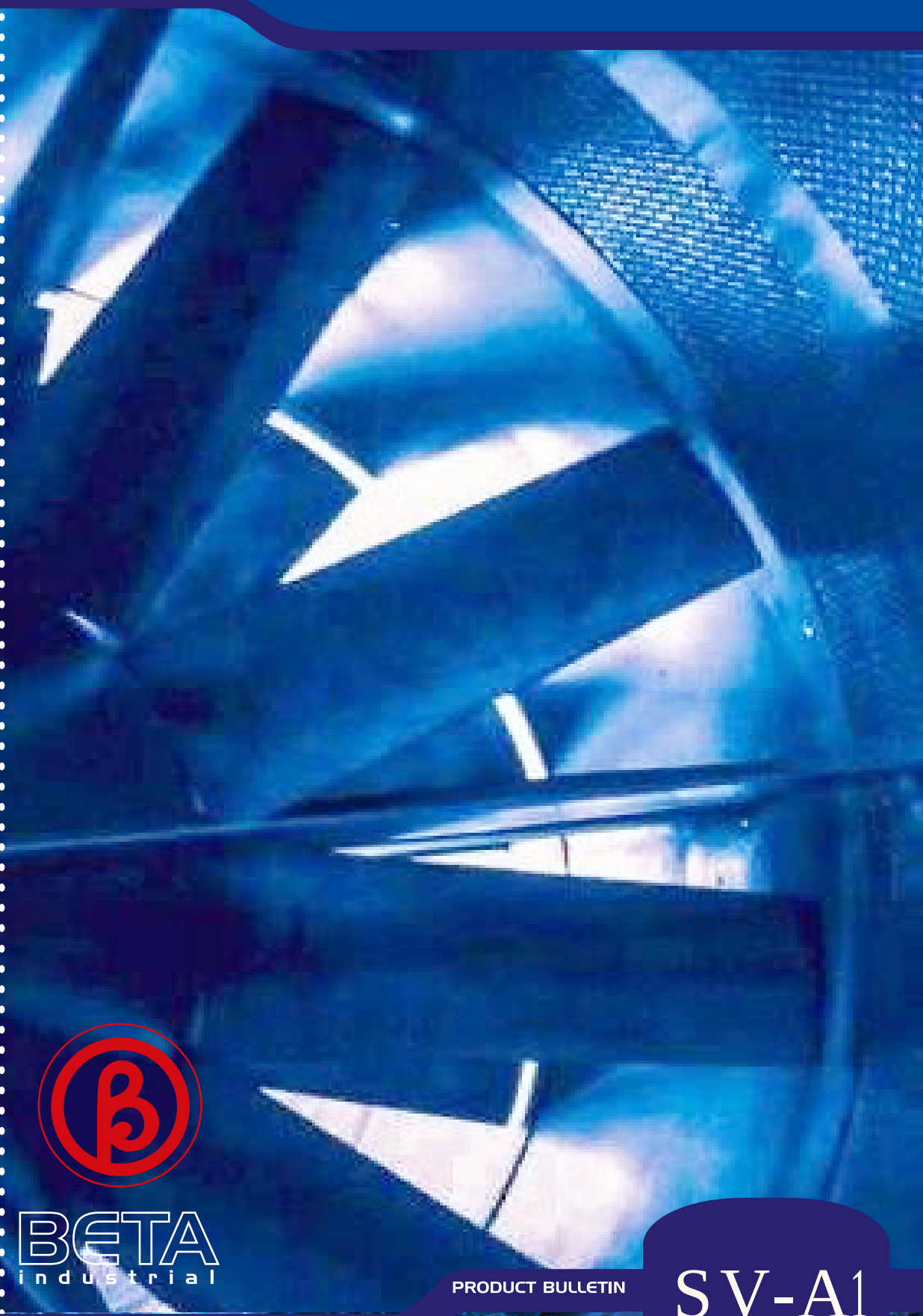
SUPER VENT AXIAL FAN



MEMBER

Environmental
Cert. No. 5599/2017

BETA
industrial

PRODUCT BULLETIN

SV-A1

PRODUCTS CATALOGUE

SUPER VENT

AXIAL FANS

Super vent Axial fans offer the highest efficiency and are used in commercial and industrial applications where large volumes of air are required at moderate to high pressures. They are also an excellent choice in specialized HVAC and clean room applications.

GENERAL DESCRIPTION

The LDA Axial fans were developed for various applications, such as the HVAC sector, where first cost is an important consideration. The LDA impeller range with pressure die cast aluminium blades includes six sizes from Dia 400 to Dia 1250mm

CONSTRUCTION

Casings are rolled, flanged and punched on our automatic spinning machine. Components are fully welded and powder coated to withstand outdoor weather conditions, upon special request it can be hot dip galvanized to SANS 121 (ISO 1461) after manufacturing tolerances. Equipment is manufactured to AN3 tolerance, if required it can be manufactured to AN1 and AN2 manufacturing tolerance.

Parameter	Tolerance grade				Additional information
	AN1	AN2	AN3	AN4	
Volume flow rate	±1%	±2.5%	±5%	±10%	
Fan pressure	±1%	±2.5%	±5%	±10%	
Power	+2%	+3%	+8%	+16%	Negative deviations permissible
Efficiency	-1%	-2%	-5%	-12%	Positive deviations permissible

IMPELLERS

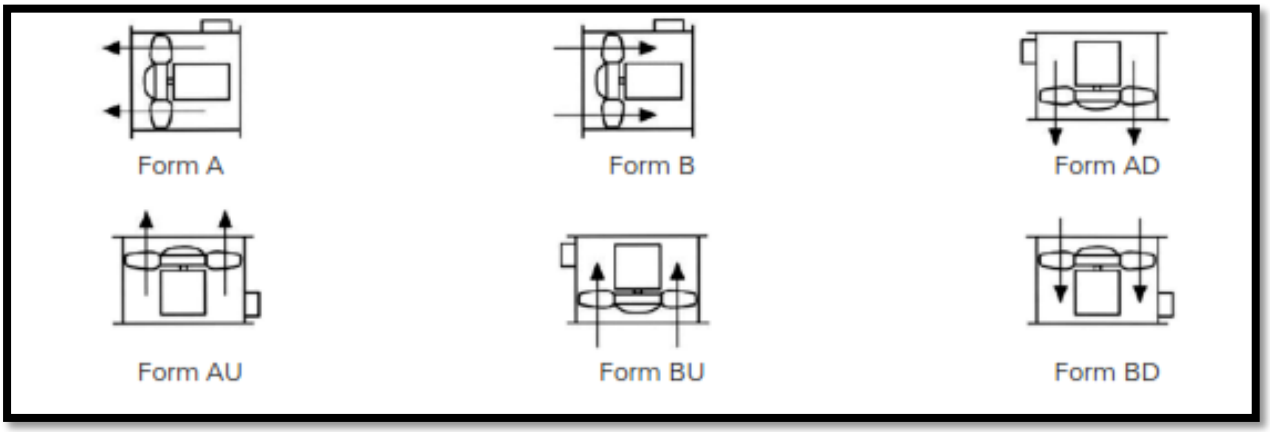
The impellers have adjustable pitch type blades and can be supplied in various formats to suit your installation type, namely, cased axials for ducted systems, or other industrial applications where the motor should be kept out of the airstream, plate axials for partition type installations, portable man coolers four mobile cooling requirements and roof units for through the roof installation.

MOTORS:

A wide range of electric motors is out sourced to suit customer requirements. In Special applications fans can be fitted with compressed air driven motors or internal combustion engines.

Forms of running:

As standard the motor is downstream (Form B). This gives the lowest sound level and the maximum cooling of the motor is achieved. If arrangement A is used the Nosie level from the selection charts should be increased by 5 dBA.



BALANCING

Balancing of rotating parts is carried out in accordance to ISO 14694 & ISO 1940-1 to well within balance quantity grade G6.3, applicable to fan application category BV-3.

VIBRATION:

Vibration levels are tested at our works to the following limits. For those applications where variable frequency drives are used for control. Supervent Axial Fans offers coast down

vibration level testing to ensure smooth operation across the full speed spectrum of the equipment.

Vibration Level Limits

Fan Application Category	Rigidly Mounted mm/s		Flexibly Mounted mm/s	
	Peak	r.m.s	Peak	r.m.s
BV-3	3.8	2.8	5.1	3.5

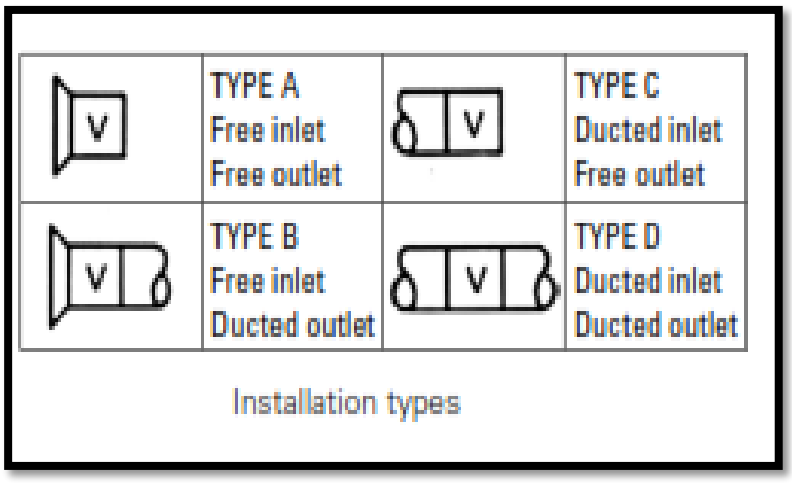
TEMPERATURE LIMITATIONS:

Fan Type	Minimum Temperature (°C)	Maximum Temperature (°C)
Standard Direct driven Cased Axial Fans	-29	55

PERFORMANCE CURVES & INSTALLATION TYPE:

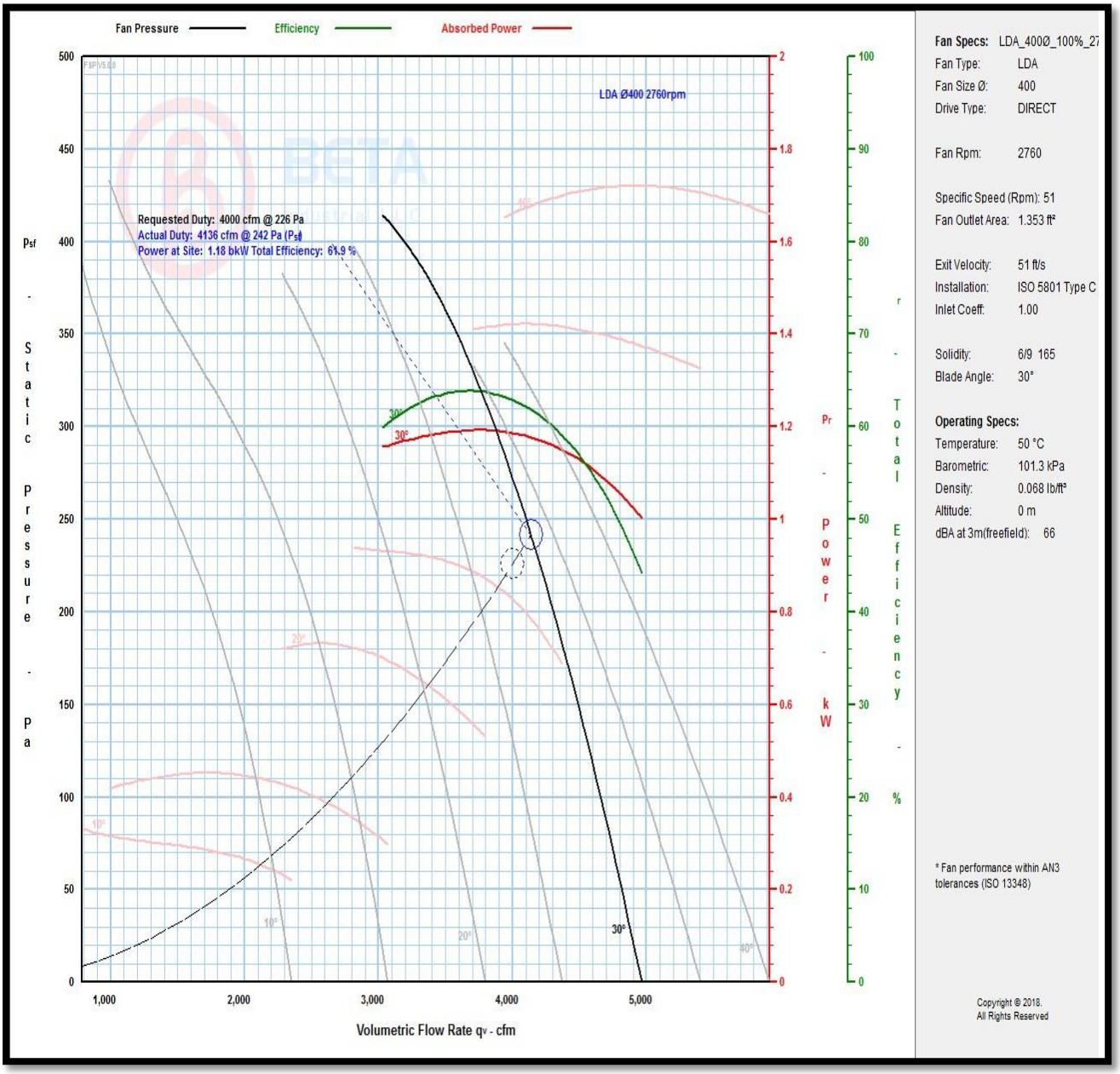
These fans have been fully tested in accordance with the international Test Standard **ISO 58901** ideal laboratory conditions.

The performance charts are based on the standard installation type D: duct

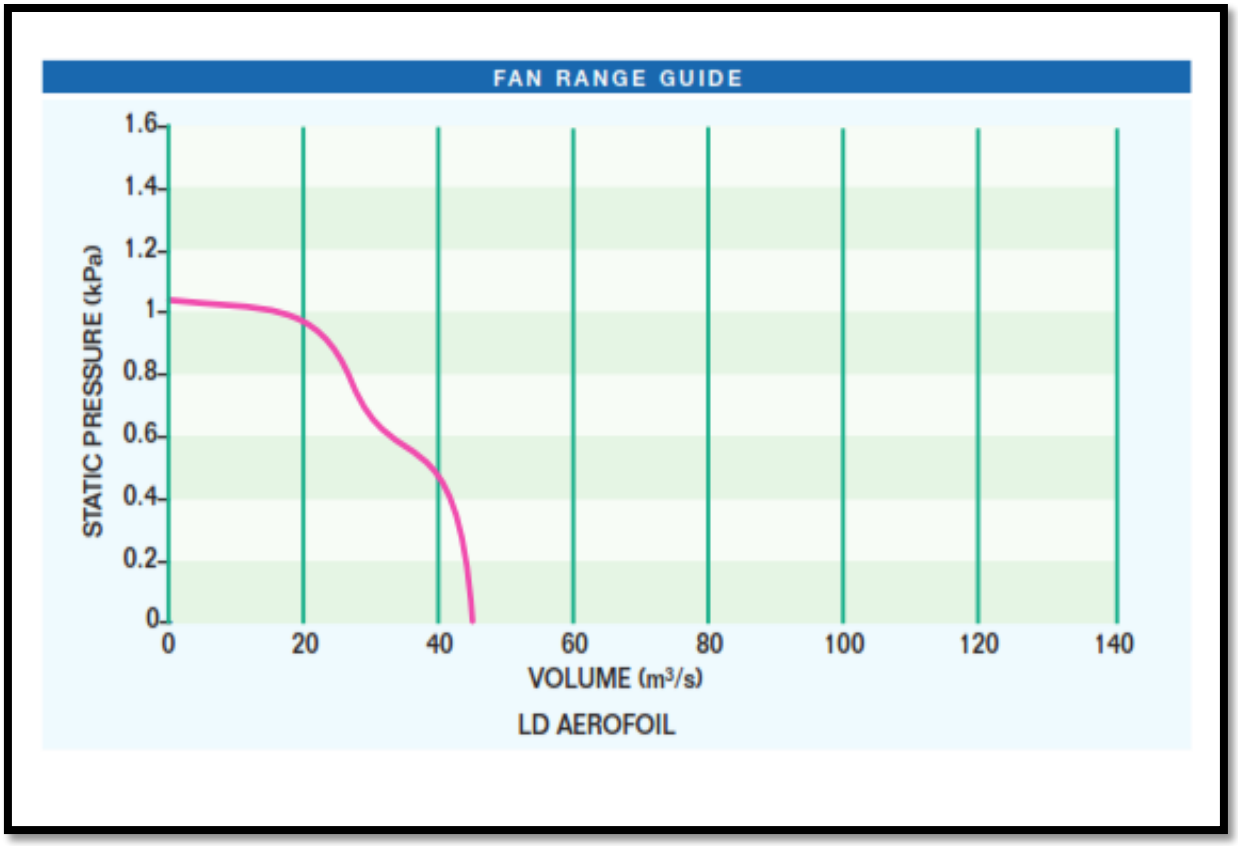


Installation types

Software Sample Selection



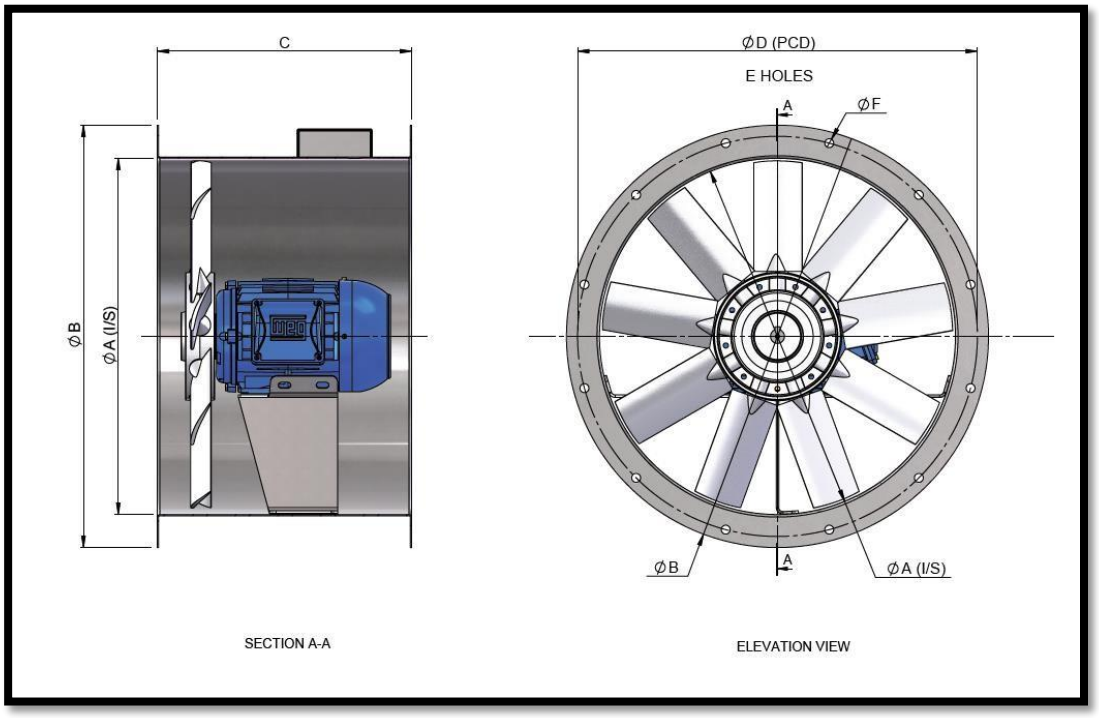
PERFORMANCE CURVE



APPLICABLE STANDARDS:

ISO 5801	Industrial fans-Performance testing using standardized airways
ISO 5802	Industrial fans-Performance testing in situ
ISO 12499	Industrial fans-Mechanical safety of fans- Guarding
EN14461	Industrial fans- Safety requirements.
ISO 14694	Industrial Fans- Specification for balance quantity and vibration levels
ISO 10816-1	Mechanical vibration-Evaluation of machine vibration by measurement of non-rotating parts-Part1- General Guidelines.
ISO 10816-3	Mechanical vibration- Evaluation of machine vibration by measurement of non-rotating parts-Part3-industrial machines with nominal power above 15kW and nominal speeds between 120r/min and 15000 r/min when measured in situ
ISO 1940	Balance Quality of rigid bodies
ISO13349	Fans-Vocabulary and definitions of categories
ISO13348	Fans-Tolerances, methods of conversion and technical data presentation.
EN 14986	Design of fans works in potentially explosive atmosphere.
ISO 12759	Fans-Efficiency classifications of fan

SUPER VENT AXIAL FAN INFORMATION TABLE



FAN SIZE	MOTOR FRAME	POWER	NO. OF POLES	FAN I/D	FLANGE O/D	LENGTH (LONG)	FLANGE PCD	NO OF HOLES	FLANGE HOLE Ø	NO OF BLADES	WEIGHT
		KW		A (mm)	B (mm)	C (mm)	D (mm)	E	F (mm)		KG
φ400	71	0.25	4	400	484	400	450	8	12	3 BLADES/ 6 BLADES/ 9 BLADES	±26
		0.37	2								
		0.37	4								
		0.55	2								
	80	0.25	6								±31
		0.37	6								
		0.55	4								
		0.55	6								
		0.75	2								
		0.75	4								
		1.1	2								
	90S	0.75	6								±34
		1.1	4								
		1.5	2								
	90L	1.1	6								±36
		1.5	4								
		2.2	2								
	100L	1.5	6								±49
		2.2	4								
		3	2								
		3	4								

FAN SIZE	MOTOR FRAME	POWER	NO. OF POLES	FAN I/D	FLANGE O/D	LENGTH (LONG)	FLANGE PCD	NO OF HOLES	FLANGE HOLE Ø	NO OF BLADES	WEIGHT
		KW		A (mm)	B (mm)	C (mm)	D (mm)	E	F (mm)		KG
φ450	71	0.25	4	450	554	400	497	12	12	3/6/9	±26
		0.37	2								
		0.37	4								
		0.55	2								
	80	0.25	6								±31
		0.37	6								
		0.55	4								
		0.55	6								
		0.75	2								
		0.75	4								
		1.1	2								
	90S	0.75	6								±34
		1.1	4								
		1.5	2								
	90L	1.1	6								±36
		1.5	4								
		2.2	2								
	100L	1.5	6								±49
		2.2	4								
		3	2								
		3	4								

FAN SIZE	MOTOR FRAME	POWER	NO. OF POLES	FAN I/D	FLANGE O/D	LENGTH (LONG)	FLANGE PCD	NO OF HOLES	FLANGE HOLE Ø	NO OF BLADES	WEIGHT
		KW		A (mm)	B (mm)	C (mm)	D (mm)	E	F (mm)		KG
φ500	71	0.25	4	500	604	400	551	12	12	3/6/9/ 12	±34
		0.37	2								
		0.37	4								
		0.55	2								
	80	0.25	6								±39
		0.37	6								
		0.55	4								
		0.55	6								
		0.75	2								
		0.75	4								
		1.1	2								
	90S	0.75	6								±42
		1.1	4								
		1.5	2								
	90L	1.1	6								±44
		1.5	4								
		2.2	2								
	100L	1.5	6								±57
		2.2	4								
		3	2								
		3	4								
	112M	2.2	6			500					±60
		4	2								

		4	4								
	132S	3	6								±92
		5.5	2								
		5.5	4								
		7.5	2								
	132M	4	6								±97
		5.5	6								
		7.5	4								
		9.2	2								
		9.2	4								

FAN SIZE	MOTOR FRAME	POWER	NO. OF POLES	FAN I/D	FLANGE O/D	LENGTH (LONG)	FLANGE PCD	NO OF HOLES	FLANGE HOLE Ø	NO OF BLADES	WEIGHT
		KW		A (mm)	B (mm)	C (mm)	D (mm)	E	F (mm)		KG
φ560	71	0.25	4	560	664	400	629	12	14	3/6/9/12	±41
		0.37	2								
		0.37	4								
		0.55	2								
	80	0.25	6								±46
		0.37	6								
		0.55	4								
		0.55	6								
		0.75	2								
		0.75	4								
		1.1	2								
	90S	0.75	6								±49
		1.1	4								
		1.5	2								
	90L	1.1	6								±51
		1.5	4								
		2.2	2								
	100L	1.5	6								±64
		2.2	4								
		3	2								
		3	4								
	112M	2.2	6			500					±67
		4	2								
		4	4								
	132S	3	6								±99
		5.5	2								
		5.5	4								
		7.5	2								
	132M	4	6								±104
		5.5	6								
		7.5	4								
		9.2	2								
		9.2	4								

FAN SIZE	MOTOR FRAME	POWER	NO. OF POLES	FAN I/D	FLANGE O/D	LENGTH (LONG)	FLANGE PCD	NO OF HOLES	FLANGE HOLE Ø	NO OF BLADES	WEIGHT
		KW		A (mm)	B (mm)	C (mm)	D (mm)	E	F (mm)		KG
φ630	71	0.25	4	630	734	400	698	12	14	3/6/9/12	±48
		0.37	2								
		0.37	4								
		0.55	2								
	80	0.25	6								±53
		0.37	6								
		0.55	4								
		0.55	6								
		0.75	2								
		0.75	4								
		1.1	2								
	90S	0.75	6								±56
		1.1	4								
		1.5	2								
	90L	1.1	6								±58
		1.5	4								
		2.2	2								
	100L	1.5	6								±71
		2.2	4								
		3	2								
		3	4								
	112M	2.2	6			500					±74
		4	2								
		4	4								
	132S	3	6								±106
		5.5	2								
		5.5	4								
		7.5	2								
	132M	4	6								±111
		5.5	6								
		7.5	4								
		9.2	2								
		9.2	4								
	160M	7.5	6			700					±149
		11	2								
		11	4								
		15	2								
	160L	11	6								±168
		15	4								
		18.5	2								

FAN SIZE	MOTOR FRAME	POWER	NO. OF POLES	FAN I/D	FLANGE O/D	LENGTH (LONG)	FLANGE PCD	NO OF HOLES	FLANGE HOLE Ø	NO OF BLADES	WEIGHT
		KW		A (mm)	B (mm)	C (mm)	D (mm)	E	F (mm)		KG
φ710	71	0.25	4	710	814	400	775	16	14	3/6/9/12	±54
		0.37	2								
		0.37	4								
		0.55	2								
	80	0.25	6								±59
		0.37	6								
		0.55	4								
		0.55	6								
		0.75	2								
		0.75	4								
		1.1	2								
	90S	0.75	6								±62
		1.1	4								
		1.5	2								
	90L	1.1	6								±64
		1.5	4								
		2.2	2								
	100L	1.5	6								±77
		2.2	4								
		3	2								
		3	4								
	112M	2.2	6			500					±80
		4	2								
		4	4								
	132S	3	6								±112
		5.5	2								
		5.5	4								
		7.5	2								
	132M	4	6								±117
		5.5	6								
		7.5	4								
		9.2	2								
		9.2	4								
	160M	7.5	6			700					±155
		11	2								
		11	4								
		15	2								
	160L	11	6								±174
		15	4								
		18.5	2								

FAN SIZE	MOTOR FRAME	POWER	NO. OF POLES	FAN I/D	FLANGE O/D	LENGTH (LONG)	FLANGE PCD	NO OF HOLES	FLANGE HOLE Ø	NO OF BLADES	WEIGHT
		KW		A (mm)	B (mm)	C (mm)	D (mm)	E	F (mm)		KG
φ800	71	0.25	4	900	924	500	961	16	14	3/6/9/12	±80
		0.37	4								
	80	0.25	6								±85
		0.37	6								
		0.55	4								
		0.55	6								
		0.75	4								
	90S	0.75	6								±88
		1.1	4								
	90L	1.1	6								±90
		1.5	4								
	100L	1.5	6								±103
		2.2	4								
		3	4								
	112M	2.2	6								±106
		4	4								
	132S	3	6								±138
		5.5	4								
	132M	4	6								±143
		5.5	6								
		7.5	4								
		9.2	4								
	160M	7.5	6			700					±181
		11	4								
	160L	11	6								±200
		15	4								

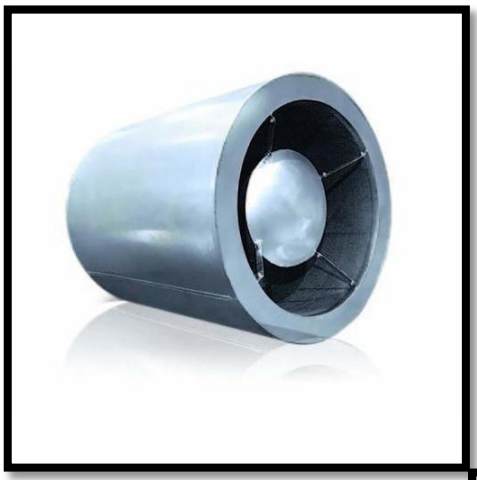
FAN SIZE	MOTOR FRAME	POWER	NO. OF POLES	FAN I/D	FLANGE O/D	LENGTH (LONG)	FLANGE PCD	NO OF HOLES	FLANGE HOLE Ø	NO OF BLADES	WEIGHT
		KW		A (mm)	B (mm)	C (mm)	D (mm)	E	F (mm)		KG
φ900	100L	1.5	6	900	1026	50	958	16	14	3/6/9/12	±133
		2.2	4								
		3	4								
	112M	2.2	6								±138
		4	4								
	132S	3	6								±168
		5.5	4								
	132M	4	6								±173
		5.5	6								
		7.5	4								
		9.2	4								
	160M	7.5	6								±211
		11	4								
	160L	11	6								±230
		15	4								
	180L	18.5	4			700					±259
	180L	15	6			800					±269
		22	4								

FAN SIZE	MOTOR FRAME	POWER	NO. OF POLES	FAN I/D	FLANGE O/D	LENGTH (LONG)	FLANGE PCD	NO OF HOLES	FLANGE HOLE Ø	NO OF BLADES	WEIGHT
		KW		A (mm)	B (mm)	C (mm)	D (mm)	E	F (mm)		KG
φ1000	132S	3	6	1000	1126	700	1067	16	14	3/6/9/12/18	±205
		5.5	4								
	132M	4	6								±210
		5.5	6								
		7.5	4								
		9.2	4								
	160M	7.5	6								±248
		11	4								
	160L	11	6								±267
		15	4								
	180L	18.5	4								±296
	180L	15	6								±306
		22	4								
	200L	18.5	6								±360
		22	6								
		30	4								
	225S/M	30	6			1100					±503
		37	4								
		45	4								

ACCESSORIES:

A full range of accessories including sound attenuators, mounting feet, inlet cones, flexible connectors. Dampers, wire guards compliment this range of fans.

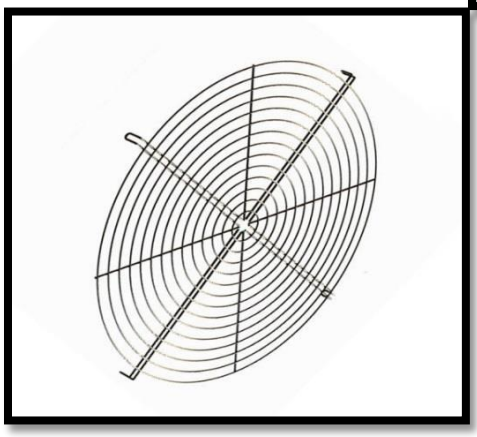
Sound attenuator



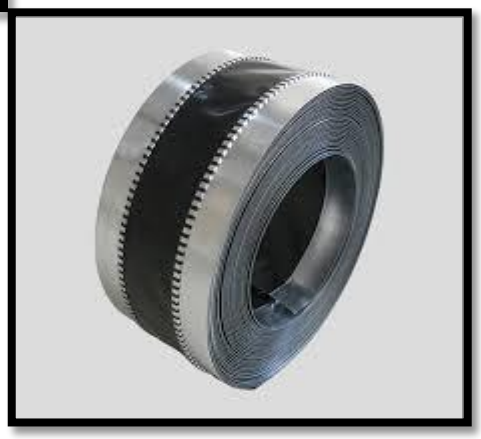
Mounting feet

Inlet Cone

Wire Guard



Duct Connector



WIRING DIAGRAM

	Motor Power	Poles	Speed	Voltage	Frequency	Type	Connection	
	kW	P	Rpm	v	Hz	-	-	
1	0.55	2		400	50	W11	STAR	Y
2	1.5	2		400	50	W11	STAR	Y
3	1.1	4		400	50	W11	STAR	Y
4	2.2	4		400	50	W11	STAR	Y
5	1.5	4		400	50	W11	STAR	Y
6	4	4		400	50	W11	STAR	Y
7	5.5	4		400	50	W11	STAR	Y
8	7.5	4		400	50	W11	STAR	Y
9	0.75	4		400	50	F400	STAR	Y