

# AC axial fan

sickle-shaped blades (S series)  
with guard grille for short nozzle

S4E500-AE03-10 ebmpapst Datasheet  
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General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen  
Amtsgericht (court of registration) Stuttgart · HRB 590142



## Nominal data

Type	S4E500-AE03-10		
Motor	M4E110-GF		
Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Method of obtaining data		ml	ml
Valid for approval/standard		CE	CE
Speed (rpm)	min <sup>-1</sup>	1310	1420
Power consumption	W	680	890
Current draw	A	3.0	3.92
Capacitor	µF	12	12
Capacitor voltage	VDB	450	450
Max. back pressure	Pa	160	120
Max. back pressure	inH <sub>2</sub> O	0.64	0.48
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	70	65
Starting current	A	6.65	6.0

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment  
Subject to change

## Data according to ErP Directive

		Actual	Req. 2015			
01 Overall efficiency $\eta_{es}$	%	32.4	32.4	09 Power consumption $P_e$	kW	0.63
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	5610
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	128
04 Efficiency grade N		40	40	10 Speed (rpm) n	min <sup>-1</sup>	1335
05 Variable speed drive		No		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

\* Specific ratio =  $1 + p_{fs} / 100\,000\text{ Pa}$

LU-145085



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## Technical description

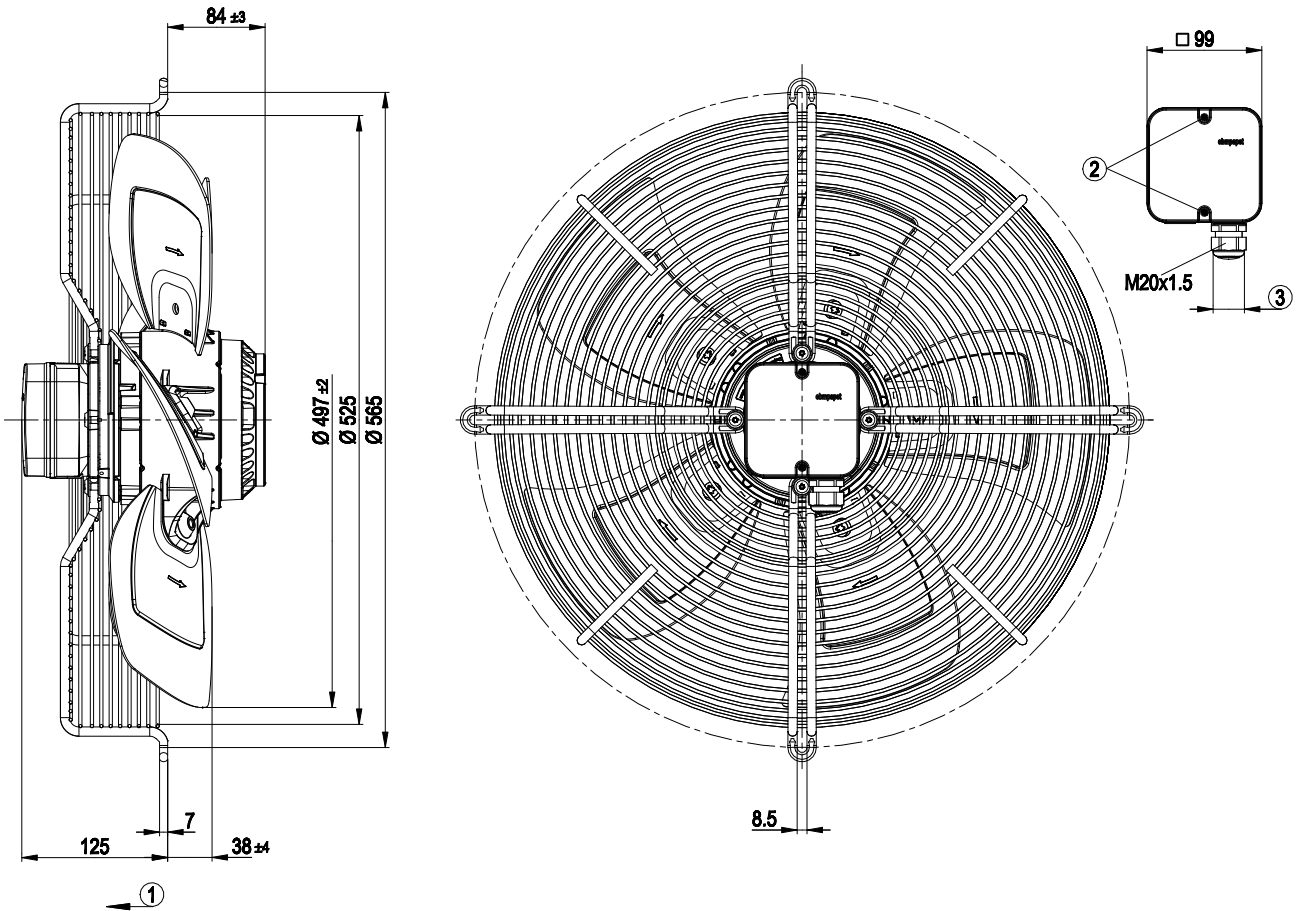
Weight	13.7 kg
Fan size	500 mm
Rotor surface	Cast in aluminum
Terminal box material	PC/ABS plastic
Blade material	Sheet aluminum
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Blade pitch	-5°
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F3-1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Via terminal box, capacitor integrated and connected
Motor protection	Thermal overload protector (TOP) with basic insulation
With cable	Axial
Protection class	I (with customer connection of protective earth)
Motor capacitor according to EN 60252-1 in safety protection class	P0/S0
Conformity with standards	EN 61800-5-1; CE
Approval	VDE



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## Product drawing



1	Direction of air flow "V"
2	Tightening torque 0.8±0.15 Nm
3	Cable diameter min. 6 mm, max. 12 mm, tightening torque 2.0±0.3 Nm



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## Connection diagram



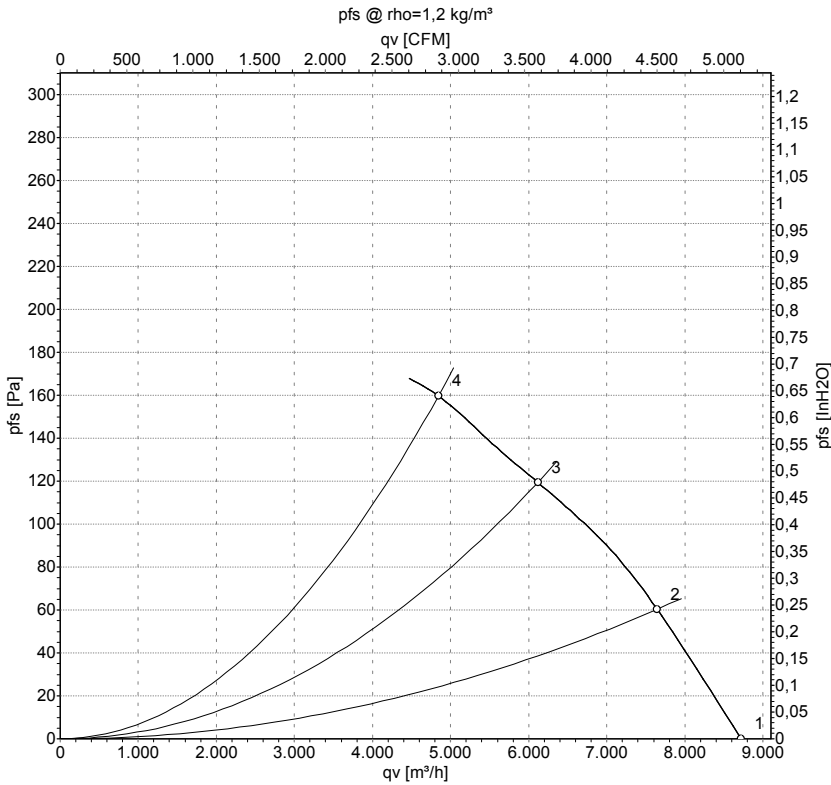
L	= U1 = blue	Z	brown	N	= U2 = black
PE	green/yellow	TOP	gray		



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## Curves: Air performance 50 Hz



Measurement: LU-145085-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

## Measured values

	U	f	n	P <sub>e</sub>	I	qv	p <sub>fs</sub>	qv	p <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	CFM	inH <sub>2</sub> O
1	230	50	1390	508	2.22	8715	0	5130	0.00
2	230	50	1365	565	2.47	7640	60	4500	0.24
3	230	50	1340	622	2.73	6115	120	3600	0.48
4	230	50	1310	680	3.00	4840	160	2850	0.64

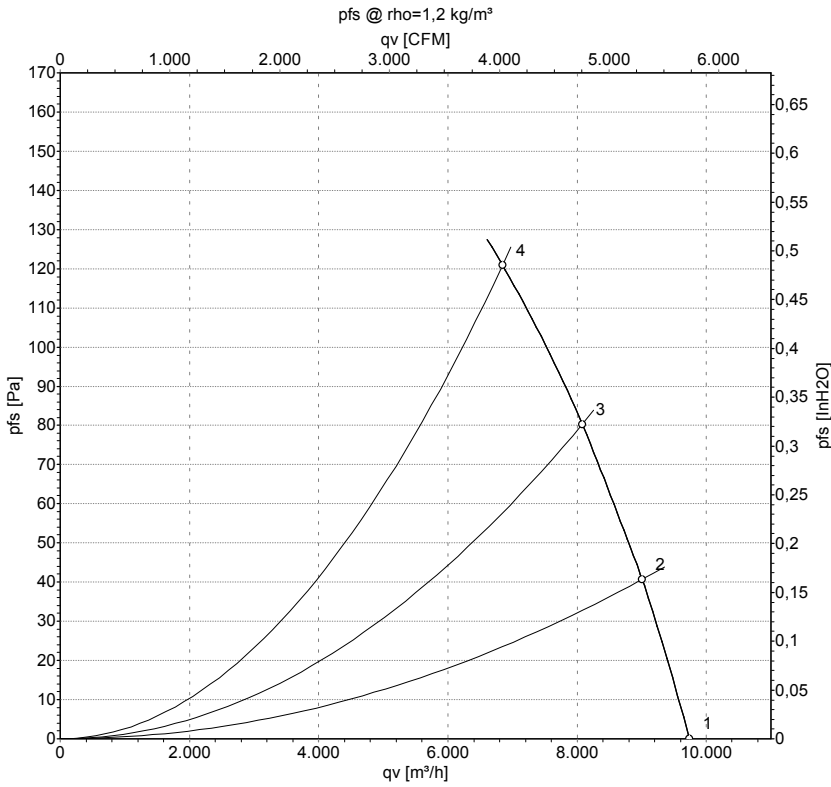
U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · qv = Air flow · p<sub>fs</sub> = Pressure increase



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## Curves: Air performance 60 Hz



Measurement: LU-145095-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

## Measured values

	U	f	n	P <sub>e</sub>	I	qv	p <sub>fs</sub>	qv	p <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	CFM	inH2O
1	230	60	1560	785	3.40	9740	0	5735	0.00
2	230	60	1525	817	3.55	9005	40	5300	0.16
3	230	60	1475	858	3.74	8080	80	4755	0.32
4	230	60	1420	890	3.92	6845	120	4030	0.48

U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · qv = Air flow · p<sub>fs</sub> = Pressure increase

