A4E500-AE03-05

AC axial fan

sickle-shaped blades (S series)

A4E500-AE03-05 ebmpapst Datasheet
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Nominal data

Type	**A4E500-AE03-05**		
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^{-1}	1310	1420
Power consumption	W	680	890
Current draw	A	3.0	3.92
Capacitor	µF	12	12
Capacitor voltage	VDB	450	400
Capacitor standard		S0 (CE)	S0 (CE)
Max. back pressure	Pa	160	120
Max. back pressure	inH2O	0.64	0.48
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	70	60
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 η_{es}	%	32.4	32.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.63
09 Air flow q_v	m^3/h	5610
09 Pressure increase p_{fs}	Pa	128
10 Speed (rpm) n	min^{-1}	1335
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 Pa

LU-145085

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Technical description

Weight	10.3 kg
Fan size	500 mm
Rotor surface	Cast in aluminum
Terminal box material	PC/ABS plastic
Blade material	Sheet aluminum
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	S0
Conformity with standards	EN 61800-5-1; CE
Approval	UL 1004-1; CSA C22.2 No. 100; EAC; VDE

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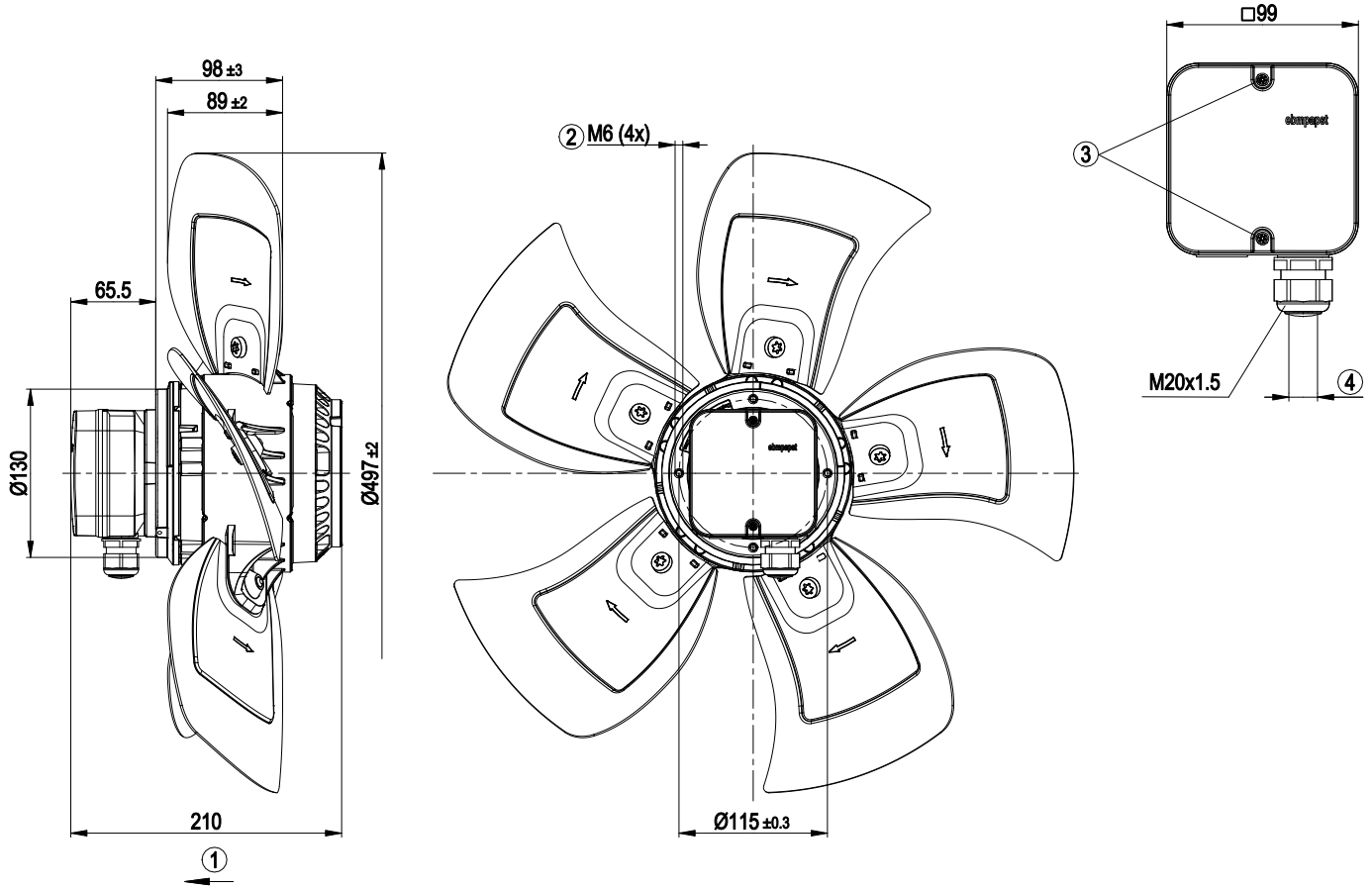
Product drawing



1	Direction of air flow "V"
2	Max. clearance for screw 12 mm
3	Tightening torque 1.5 Nm±0.2
4	Cable diameter: min. 6 mm, max. 12 mm; tightening torque 2±0.3 Nm

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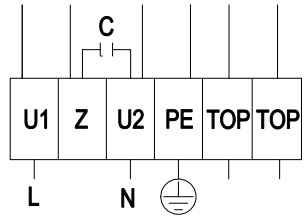
Connection diagram



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

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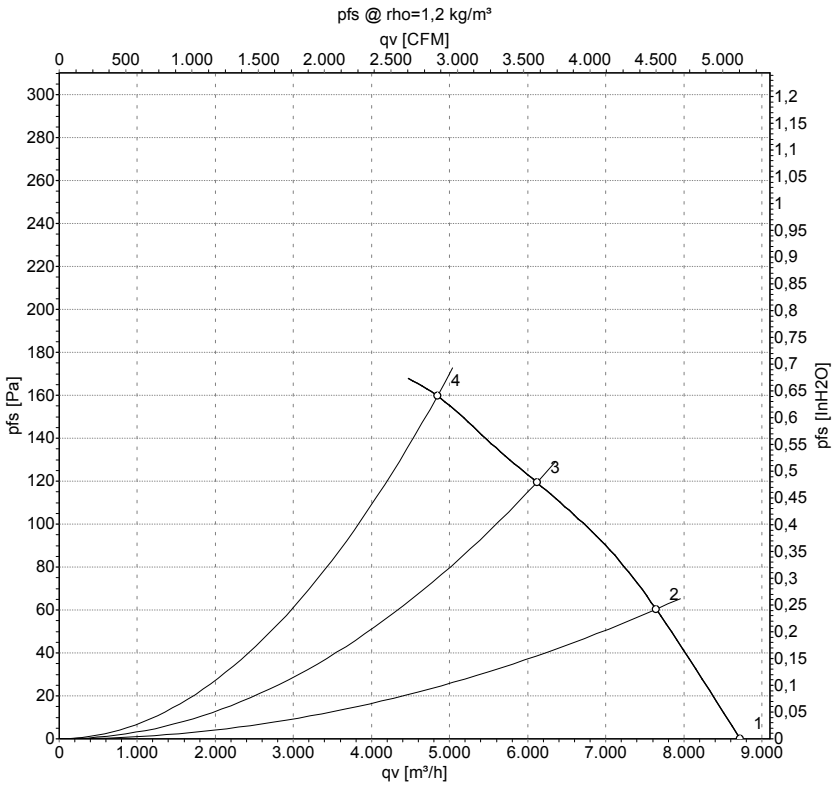
Curves: Air performance 50 Hz



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_e	I	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
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_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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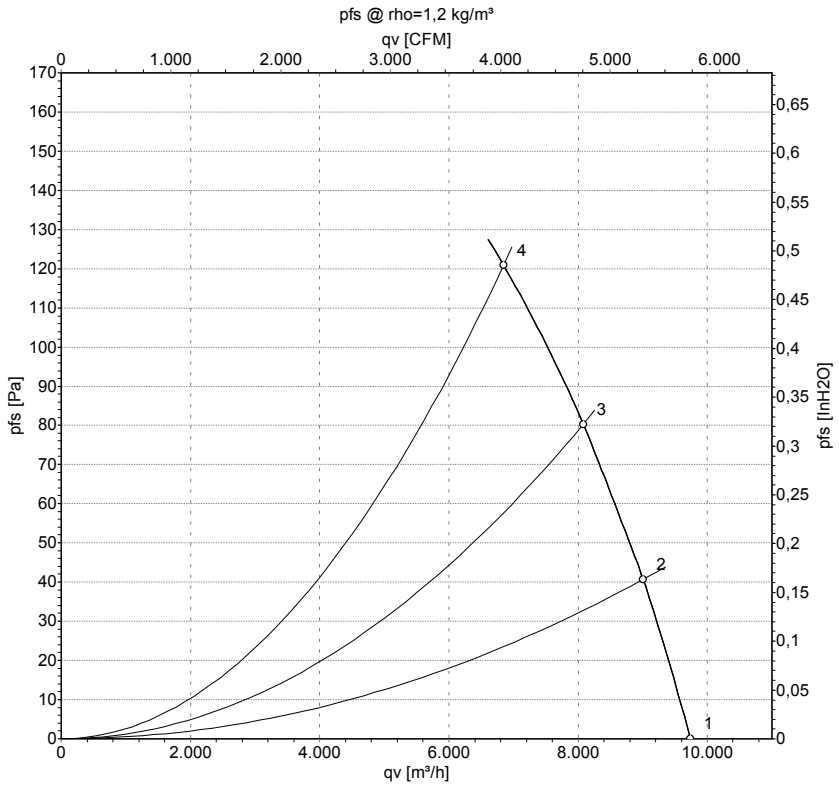
Curves: Air performance 60 Hz



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_e	I	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/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_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase