

AC axial fan - HyBlade

sickled blades (S series)

with guard grille for short nozzle

ebm-papst Mulfingen GmbH & Co. KG

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.ebmpapst.com

www.ebmpapst.com

Limited partnership · Headquarters Mulfingen

County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

County court Stuttgart · HRB 590142



Nominal data

Type	S4E500-AM03-02		
Motor	M4E110-GF		
Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Type of data definition		ml	ml
Valid for approval / standard		CE	CE
Speed	min ⁻¹	1300	1400
Power input	W	680	880
Current draw	A	3.0	3.88
Motor capacitor	µF	12	12
Capacitor voltage	VDB	450	450
Max. back pressure	Pa	150	100
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	65	40

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	32.5	32.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40	40
05 Variable speed drive		No	

Data definition with optimum efficiency.

The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

09 Power input P_e	kW	0.65
09 Air flow q_v	m ³ /h	5765
09 Pressure increase p_{fs}	Pa	129
10 Speed n	min ⁻¹	1315
11 Specific ratio*		1.00

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

LU-107128



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Technical features

Mass	13 kg
Size	500 mm
Surface of rotor	Coated in black
Material of terminal box	PC/ABS plastic, black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Material of guard grille	Steel, phosphated and coated in black plastic
Number of blades	5
Direction of air flow	"A"
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F4-1
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box, integrated capacitor connected via terminal box
Motor protection	Thermal overload protector (TOP) brought out
Cable exit	Axial
Protection class	I (if protective earth is connected by customer)
Motor capacitor according to EN 60252-1 in safety protection class	P0/S0
Product conforming to standard	EN 61800-5-1; CE
Approval	UL 1004-1; VDE; EAC; CSA C22.2 Nr.100

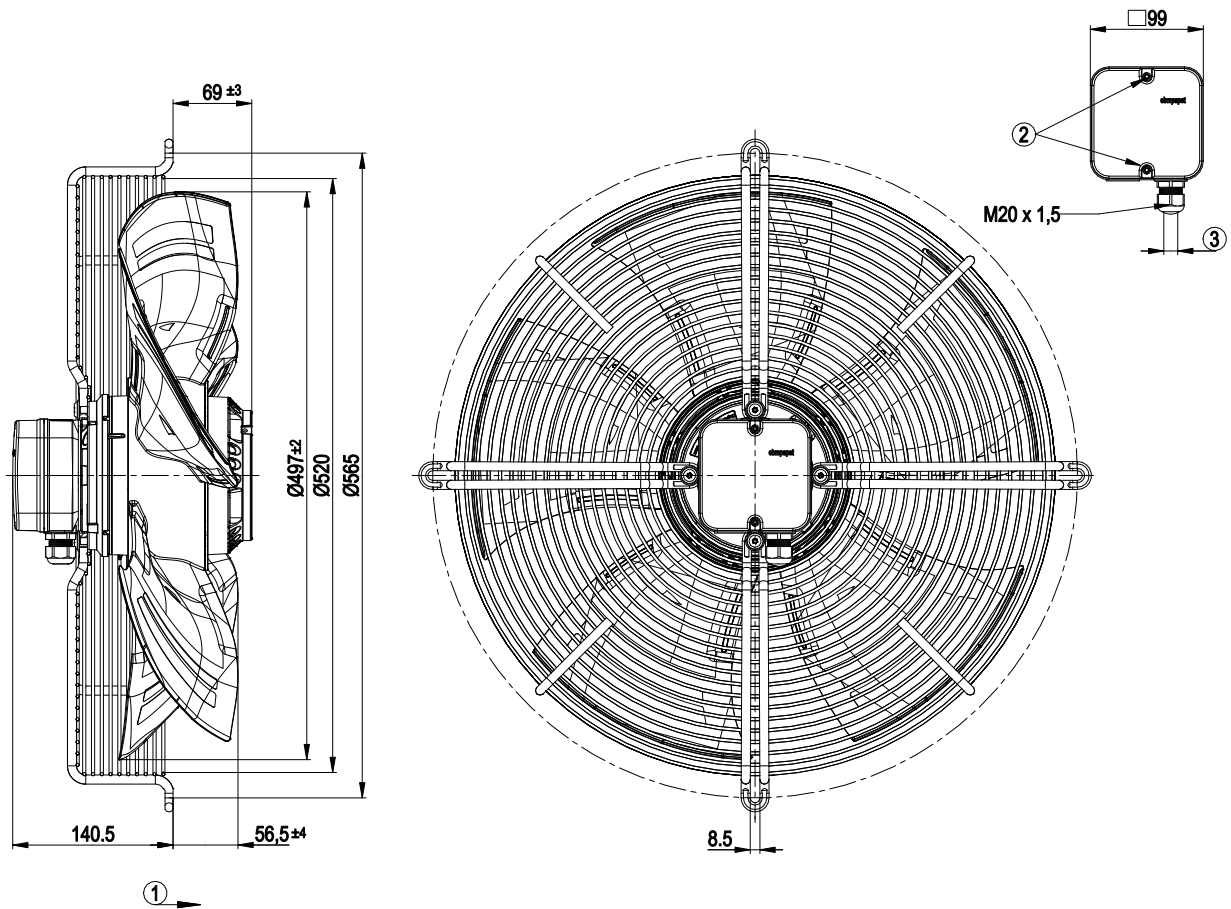


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Product drawing

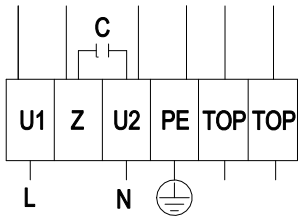


1	Direction of air flow "A"
2	Tightening torque 0.8 ± 0.15 Nm
3	Cable diameter: min. 6 mm, max. 12 mm, tightening torque: 2.0 ± 0.3 Nm

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Connection screen



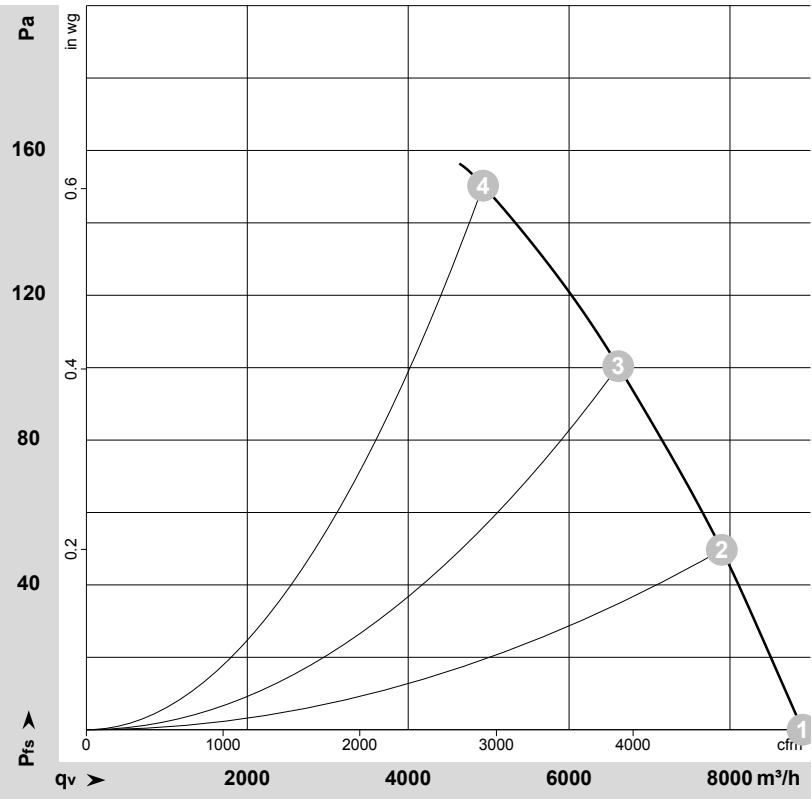
L	= U1 = blue	Z	brown	N	= U2 = black
PE	green / yellow	TOP	grey		



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Charts: Air flow 50 Hz



$\rho = 1,15 \text{ kg/m}^3 \pm 2\%$

Measurement: LU-107128

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P _e	I	LpA _{in}	LwA _{in}	LwA _{out}	qv	p _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa
1	230	50	1380	513	2.25	68	75	75	8905	0
2	230	50	1355	572	2.51	65	72	72	7900	50
3	230	50	1330	626	2.74	63	70	70	6610	100
4	230	50	1300	680	3.00	66	73	73	4930	150

U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side
qv = Air flow · p_{fs} = Pressure increase

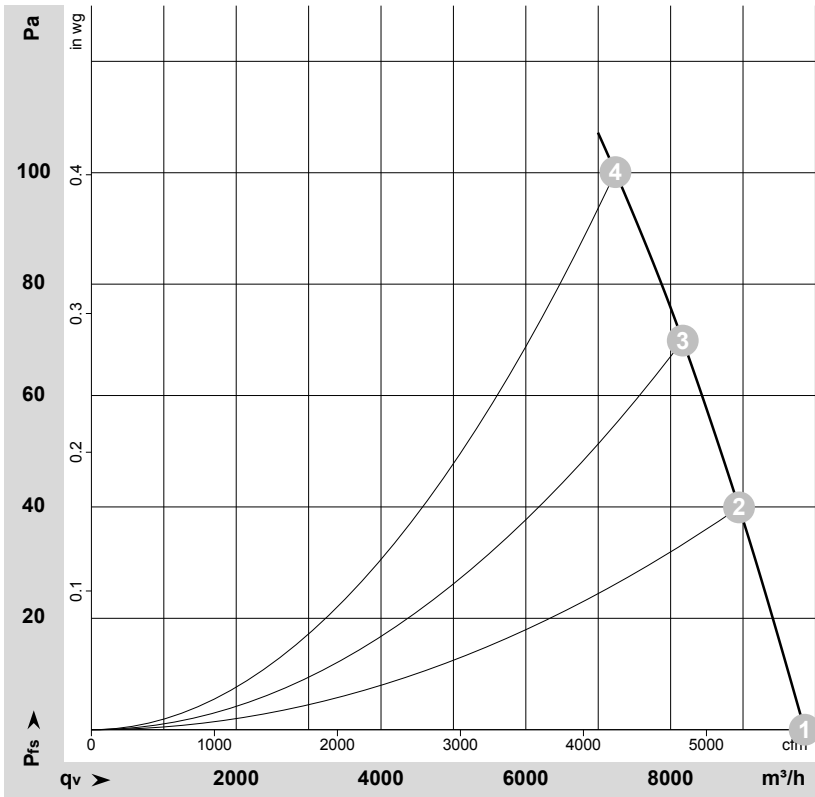


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Charts: Air flow 60 Hz



$\rho = 1,15 \text{ kg/m}^3 \pm 2\%$

Measurement: LU-107130

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P _e	I	LpA _{in}	LwA _{in}	LwA _{out}	qv	p _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa
1	230	60	1530	793	3.45	70	77	78	9850	0
2	230	60	1485	830	3.62	68	75	75	8945	40
3	230	60	1445	854	3.74	66	73	73	8170	70
4	230	60	1400	880	3.88	65	71	71	7240	100

U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side
qv = Air flow · p_{fs} = Pressure increase

