S4E500-AI01-02

AC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

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Nominal data

Type	**S4E500-AI01-02**
Motor	**M4E110-EF**

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}	1300	1300
Power consumption	W	530	740
Current draw	A	2.31	3.25
Capacitor	µF	10	10
Capacitor voltage	VDB	450	450
Max. back pressure	Pa	115	120
Max. back pressure	inH2O	0.46	0.48
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	75	45
Starting current	A	4.5	4.3

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	32
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	0.54
09 Air flow q_v	m^3/h	4605
09 Pressure increase p_{fs}	Pa	131
10 Speed (rpm) n	min^{-1}	1295
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-102400

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Technical description

Weight	11.3 kg
Fan size	500 mm
Rotor surface	Painted black
Terminal box material	PP plastic, black
Blade material	Sheet aluminum
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	"A"
Direction of rotation	Clockwise, 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	VDE; EAC

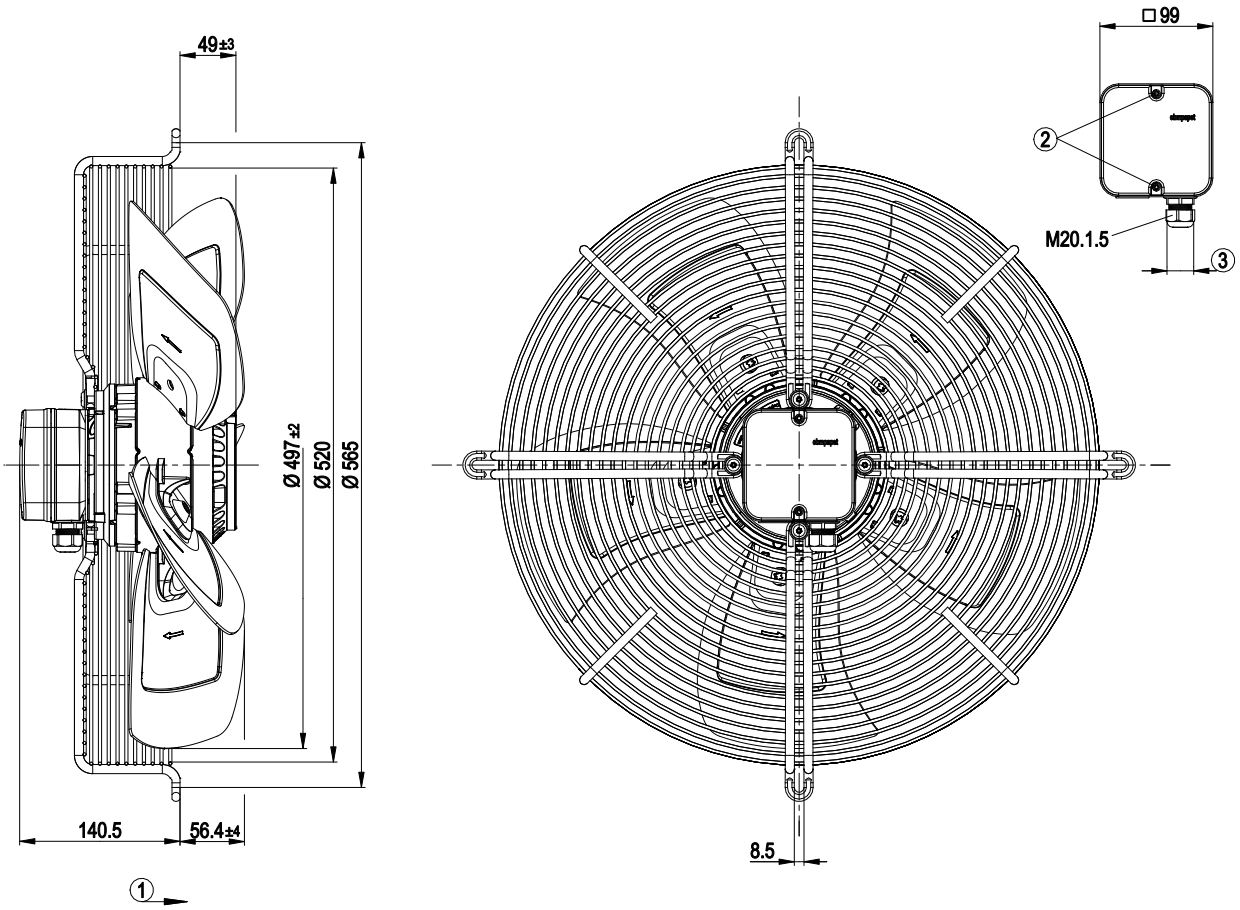
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Product drawing



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

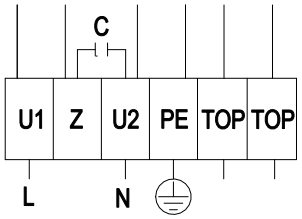
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Connection diagram



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

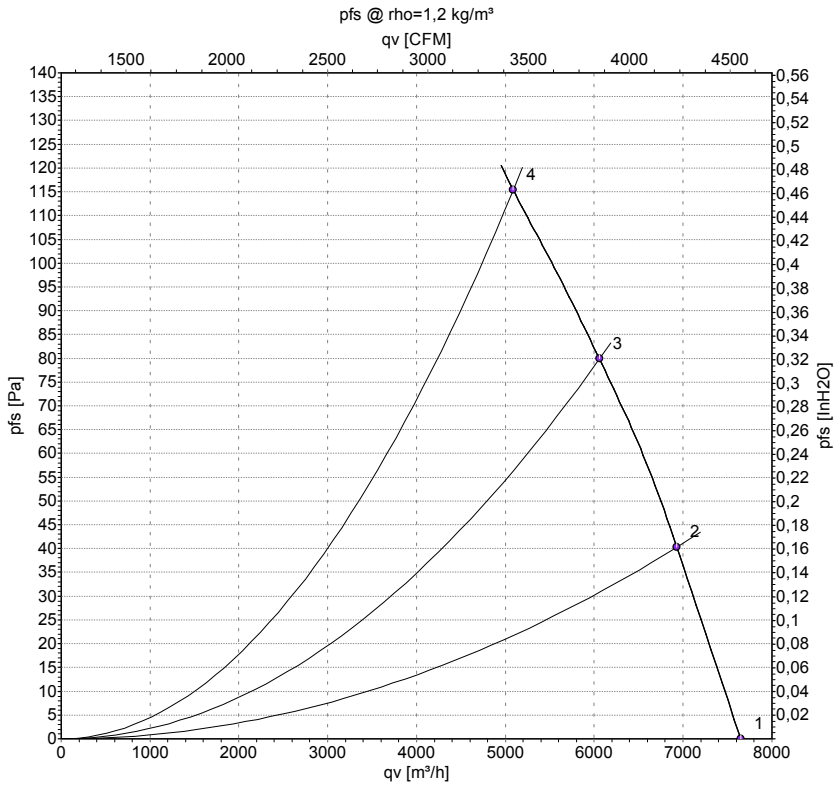
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Curves: Air performance 50 Hz



Measurement: LU-102400-1

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	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	230	50	1375	420	1.83	73	80	79	7645	0	4500	0.00
2	230	50	1355	461	2.01	71	77	77	6930	40	4080	0.16
3	230	50	1330	497	2.16	70	77	76	6055	80	3565	0.32
4	230	50	1300	530	2.31	71	78	77	5090	115	2995	0.46

U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

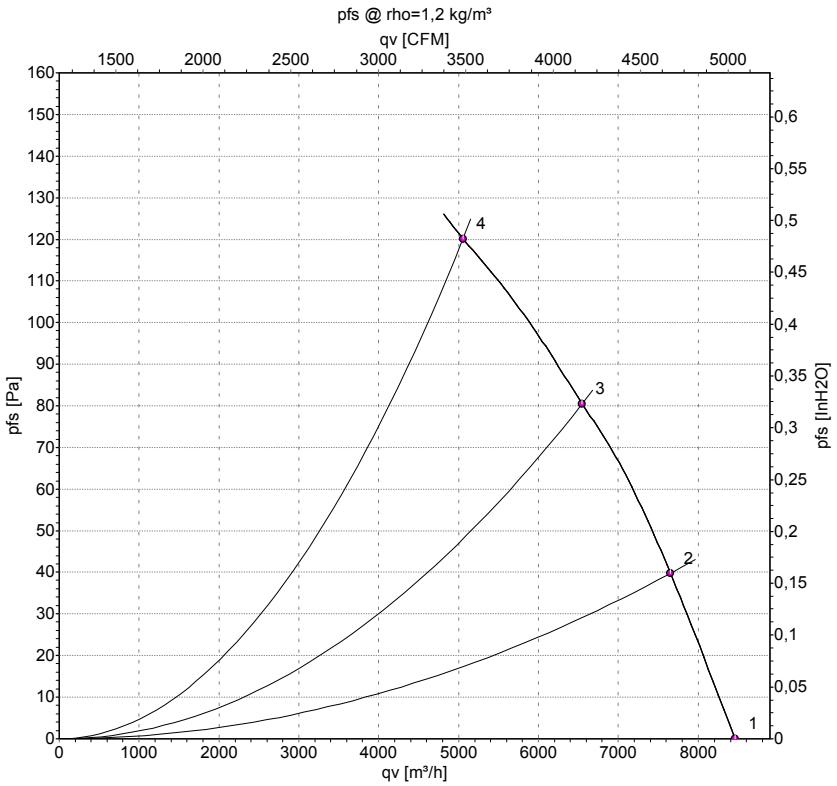
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Curves: Air performance 60 Hz



Measurement: LU-102402-1

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	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	230	60	1530	655	2.85	76	82	82	8465	0	4980	0.00
2	230	60	1475	688	2.99	73	80	79	7655	40	4505	0.16
3	230	60	1405	715	3.11	72	78	77	6550	80	3855	0.32
4	230	60	1300	740	3.25	72	78	78	5055	120	2975	0.48

U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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