S4E450-AY09-80

AC axial fan

sickled blades (S series)

with guard grille for short nozzle

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**S4E450-AY09-80**
Motor	**M4E094-HA**

Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Type of data definition		cs	cs
Valid for approval / standard		CE	CE
Speed	min^{-1}	1360	1440
Power input	W	500	710
Current draw	A	2.5	3.3
Motor capacitor	µF	10	10
Capacitor voltage	VDB	400	400
Capacitor standard		P0 (CE)	P0 (CE)
Max. ambient temperature	°C	70	40
Starting current	A	5.9	

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

Installation category	A
Efficiency category	Static
Variable speed drive	No
Specific ratio*	1.00

* Specific ratio = 1 + p_{fs} / 100 000 Pa

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		31.5	27.5	31.5
Efficiency grade N		40	36	40
Power input P_e	kW	0.46		
Air flow q_v	m^3/h	4580		
Pressure increase p_{fs}	Pa	112		
Speed n	min^{-1}	1370		

Data established at point of optimum efficiency

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Technical features

Mass	10.5 kg
Size	450 mm
Surface of rotor	Coated in black
Material of terminal box	ABS Plastic, black
Material of blades	Aluminium sheet, coated in black
Material of guard grille	Steel, phosphated and coated in black plastic
Number of blades	5
Blade angle	-5°
Direction of air flow	"V"
Direction of rotation	Counter-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
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	CE

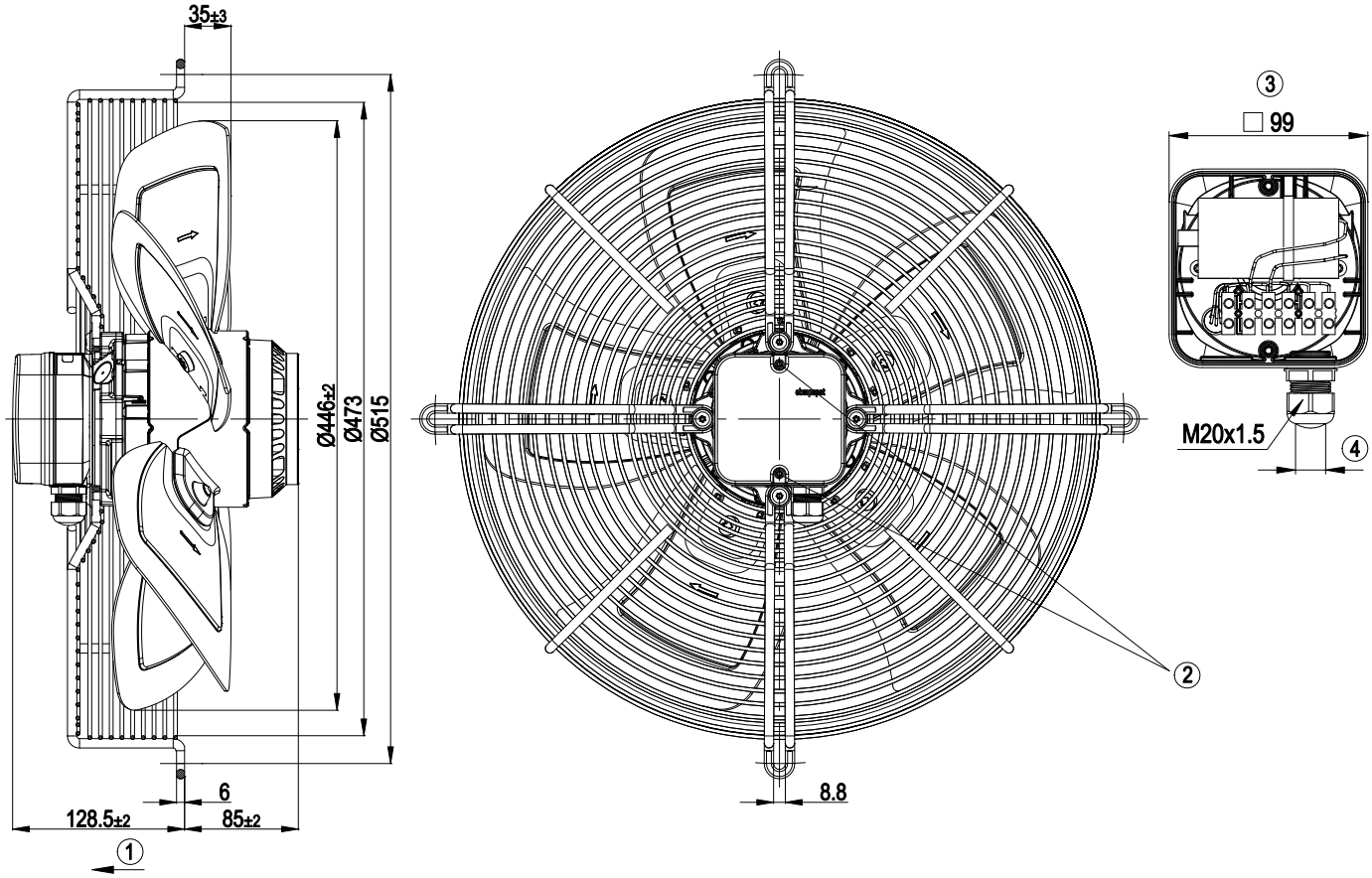
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Product drawing



1	Direction of air flow "V"
2	Tightening torque 0.8±0.15 Nm
3	Illustration without terminal box cover
4	Cable diameter: min. 6 mm, max. 12 mm, tightening torque: 2±0.2 Nm

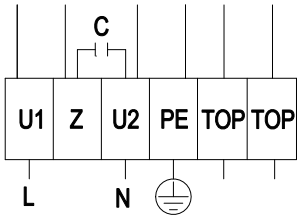
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Connection screen



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

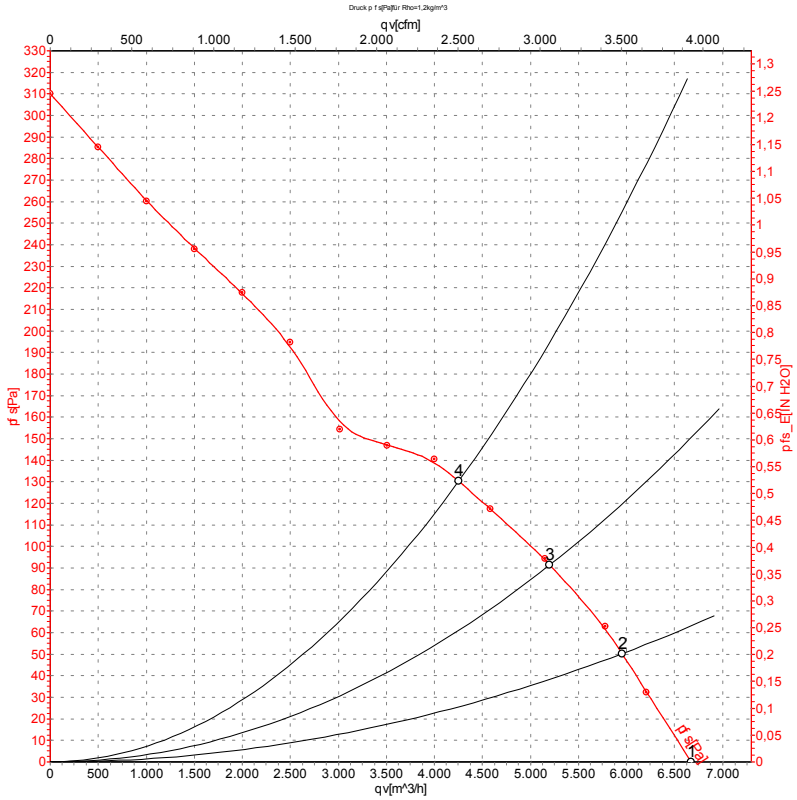
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Charts: Air flow 50 Hz



Measurement: LU-72918

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	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	230	50	1400	385	2.07	6675	0
2	230	50	1385	420	2.19	5955	50
3	230	50	1375	449	2.29	5200	90
4	230	50	1360	480	2.40	4255	130

U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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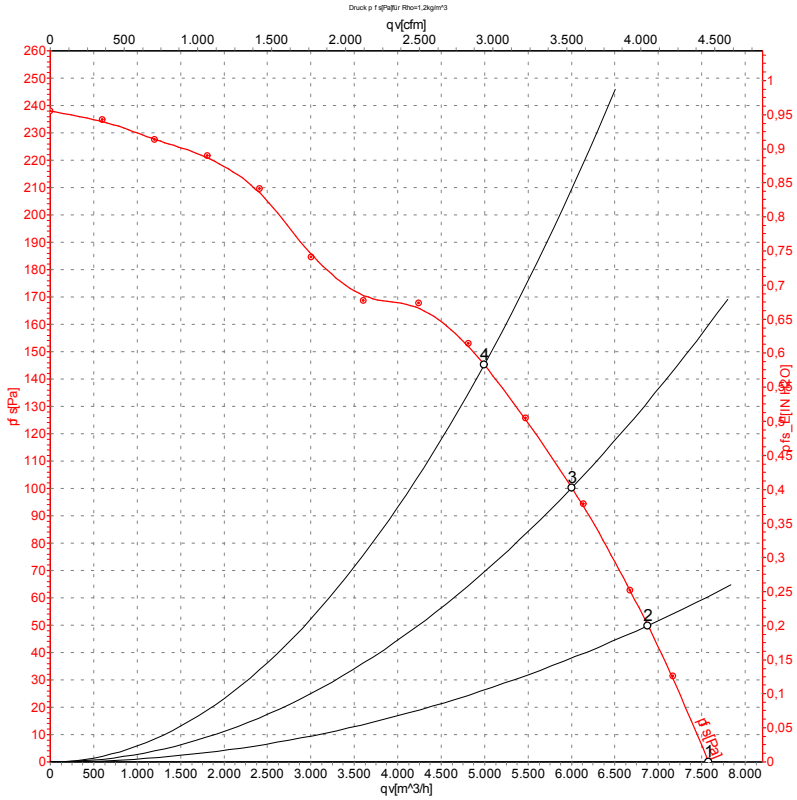
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Charts: Air flow 60 Hz



Measurement: LU-72919

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	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	230	60	1610	544	2.40	7580	0
2	230	60	1575	584	2.59	6880	50
3	230	60	1540	628	2.81	6005	100
4	230	60	1500	660	3.00	5000	145

U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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