S4E450-AV01-24

AC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

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General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
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Nominal data

Type	**S4E450-AV01-24**
Motor	**M4E094-HA**

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}	1320	1420
Power consumption	W	485	650
Current draw	A	2.28	2.92
Capacitor	µF	10	10
Capacitor voltage	VDB	400	400
Max. back pressure	Pa	130	120
Max. back pressure	inH2O	0.52	0.48
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	70	55

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}	%	31.5	31.5
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	0.46
09 Air flow q_v	m^3/h	4305
09 Pressure increase p_{fs}	Pa	120
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-41800

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Technical description

Weight	10.6 kg
Fan size	450 mm
Rotor surface	Painted black
Terminal box material	ABS plastic, black
Blade material	Sheet steel
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	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 top; rotor on bottom on request
Condensation drainage holes	On stator 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
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60034-1 (2010); CE
Approval	EAC

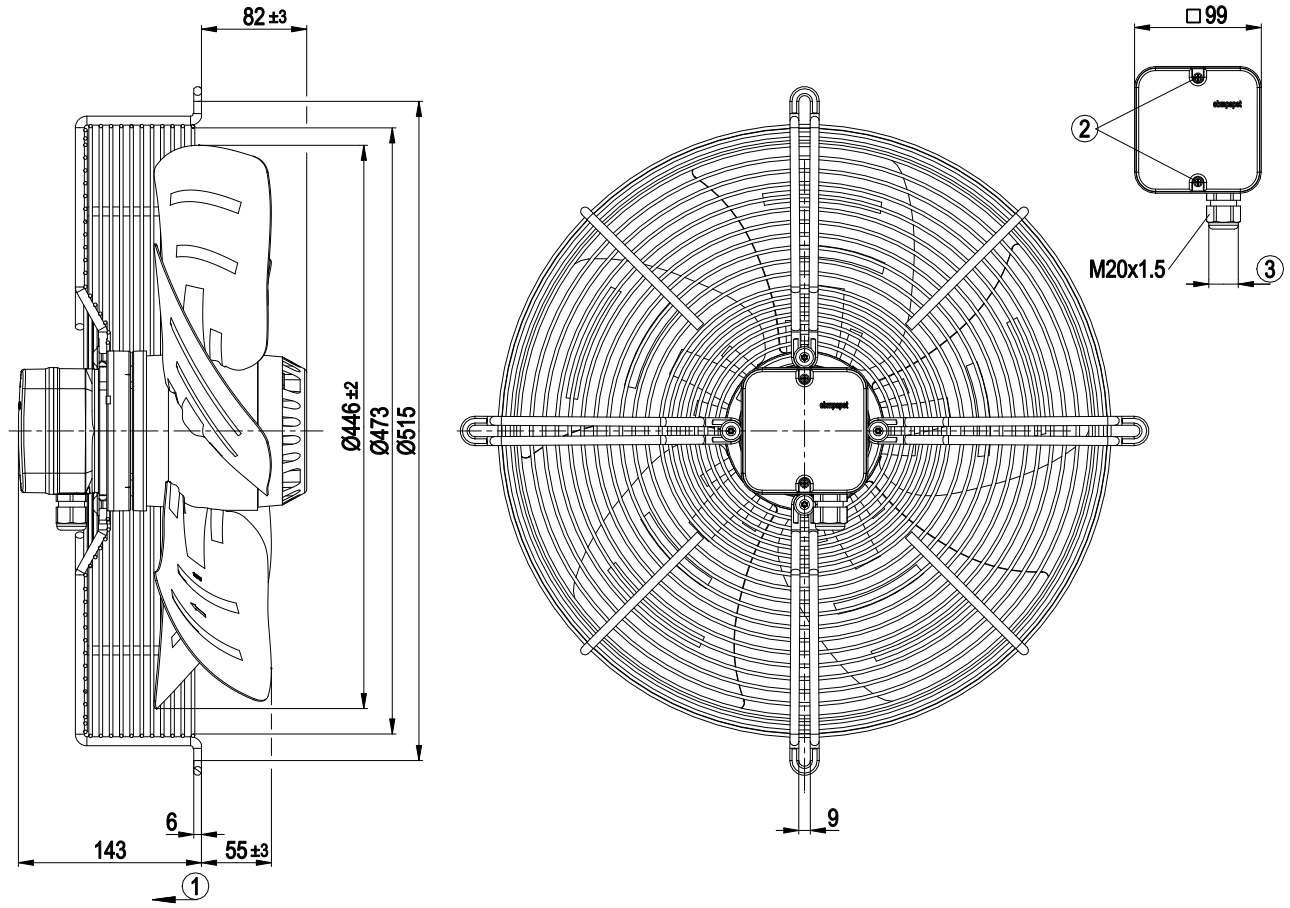
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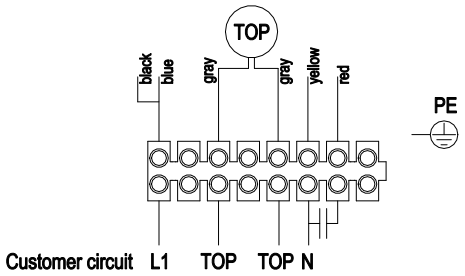
with guard grille for short nozzle

Product drawing



1	Airflow direction "V"
2	Tightening torque 1 ± 0.15 Nm
3	Cable diameter min. 6 mm, max. 12 mm, tightening torque 2±0.15 Nm

Connection diagram



Note: Thermal overload protector externally wired

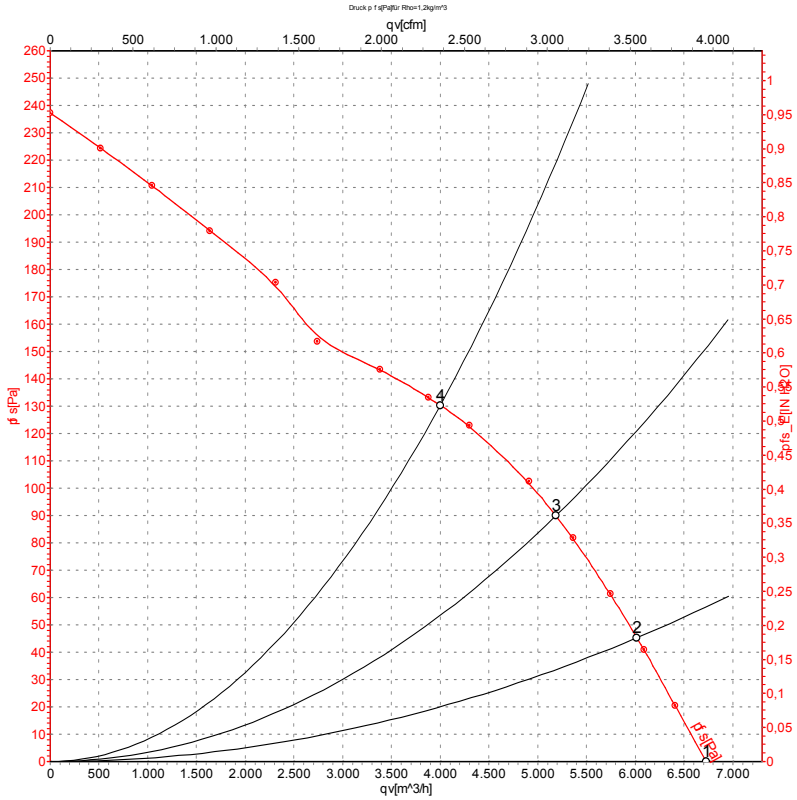
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AC axial fan

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Curves: Air performance 50 Hz



Measurement: LU-41800-1

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	1380	375	1.80	6725	0	3960	0.00
2	230	50	1370	410	1.95	6015	45	3540	0.18
3	230	50	1350	446	2.10	5185	90	3050	0.36
4	230	50	1320	485	2.28	4000	130	2355	0.52

U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

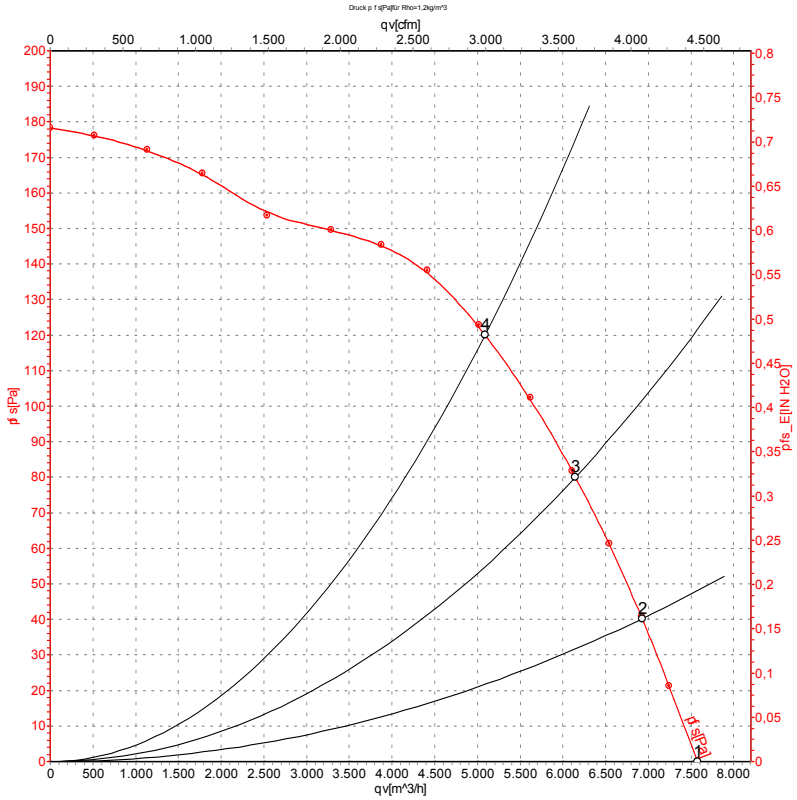
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Curves: Air performance 60 Hz



Measurement: LU-41801-1

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	555	2.43	7575	0	4455	0.00
2	230	60	1525	584	2.57	6925	40	4075	0.16
3	230	60	1485	615	2.73	6145	80	3615	0.32
4	230	60	1420	650	2.92	5090	120	2995	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

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