S4D450-GA14-01

AC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**S4D450-GA14-01**
Motor	**M4D094-HA**

Phase		3~	3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400	460
Wiring		Δ	Y	Δ	Y	Δ
Frequency	Hz	50	50	60	60	60
Method of obtaining data		ml	ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE	CE
Speed (rpm)	min^{-1}	1330	1000	1540	1060	1610
Power consumption	W	585	390	660	400	660
Current draw	A	1.1	0.67	1.16	0.7	1.1
Max. back pressure	Pa	200	110	110	55	120
Max. back pressure	inH2O	0.8	0.44	0.44	0.22	0.48
Min. ambient temperature	°C	-40	-40	-40	-40	-40
Max. ambient temperature	°C	70	70	50	50	70
Starting current	A	3.9	1.3	3.5	1.2	3.6

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}	%	39.4	31.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		48.1	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.42
09 Air flow q_v	m^3/h	4500
09 Pressure increase p_{fs}	Pa	135
10 Speed (rpm) n	min^{-1}	1385
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-106884

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Technical description

Weight	10.4 kg
Fan size	450 mm
Rotor surface	Painted black
Terminal box material	ABS plastic
Blade material	Sheet steel, painted black
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 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
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	CCC; EAC

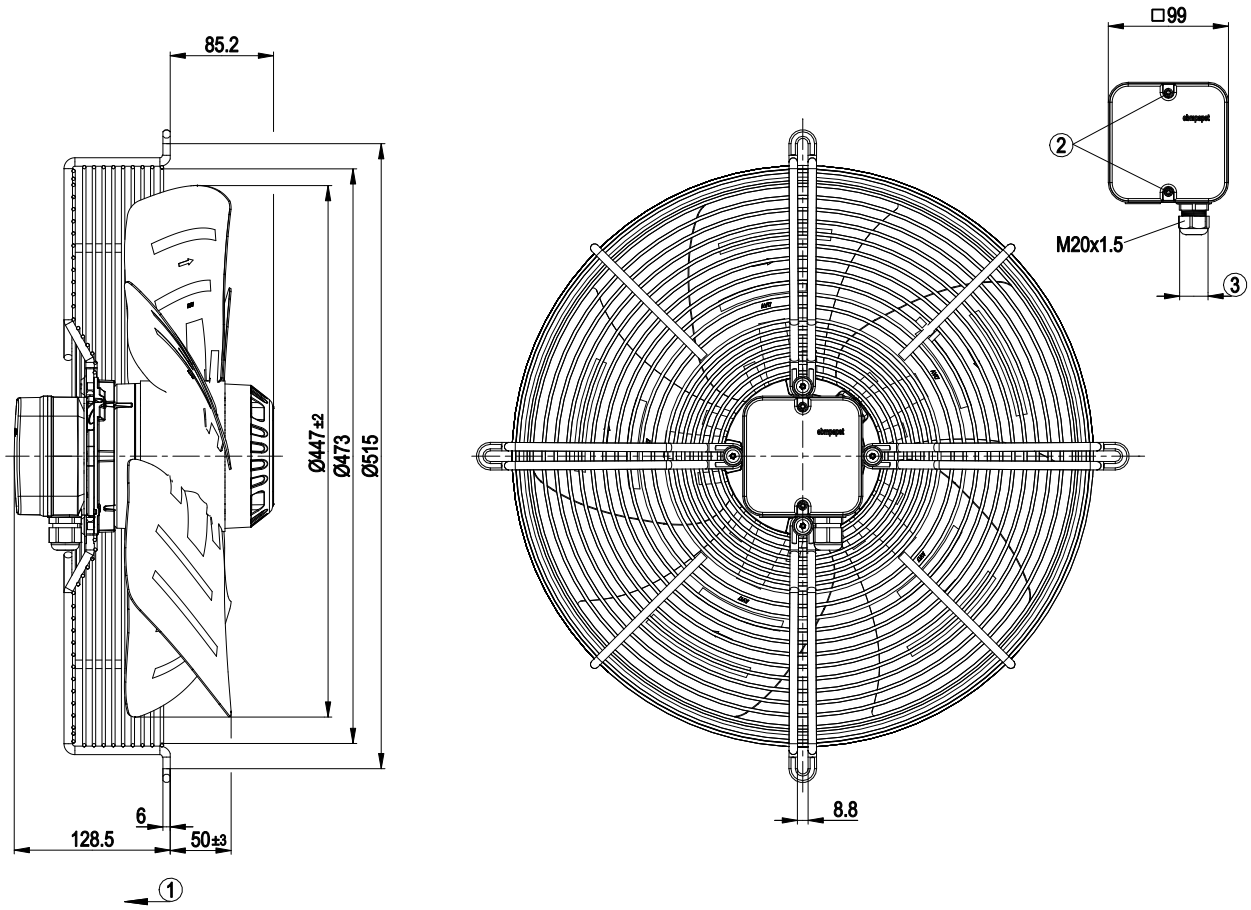
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Product drawing



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

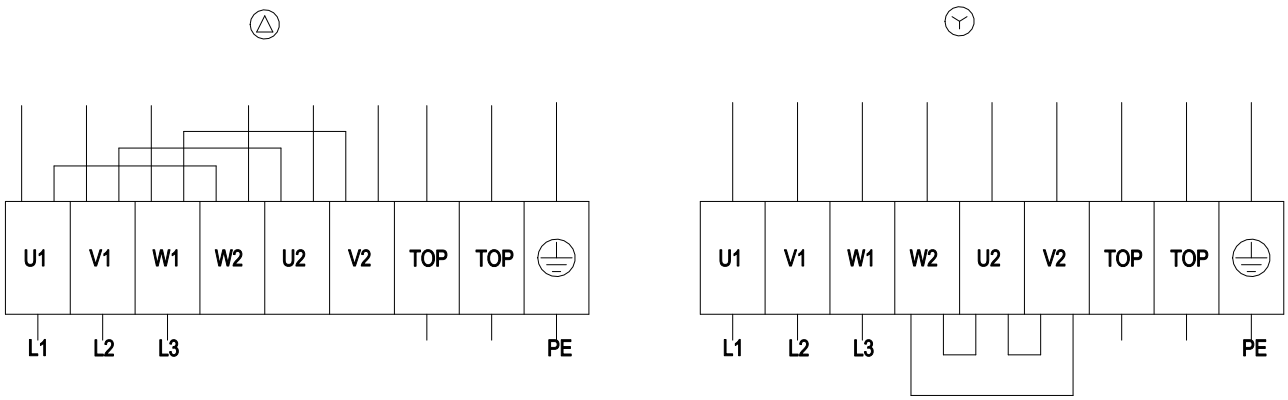
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Connection diagram



Δ	Delta connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2x gray
PE	green/yellow				

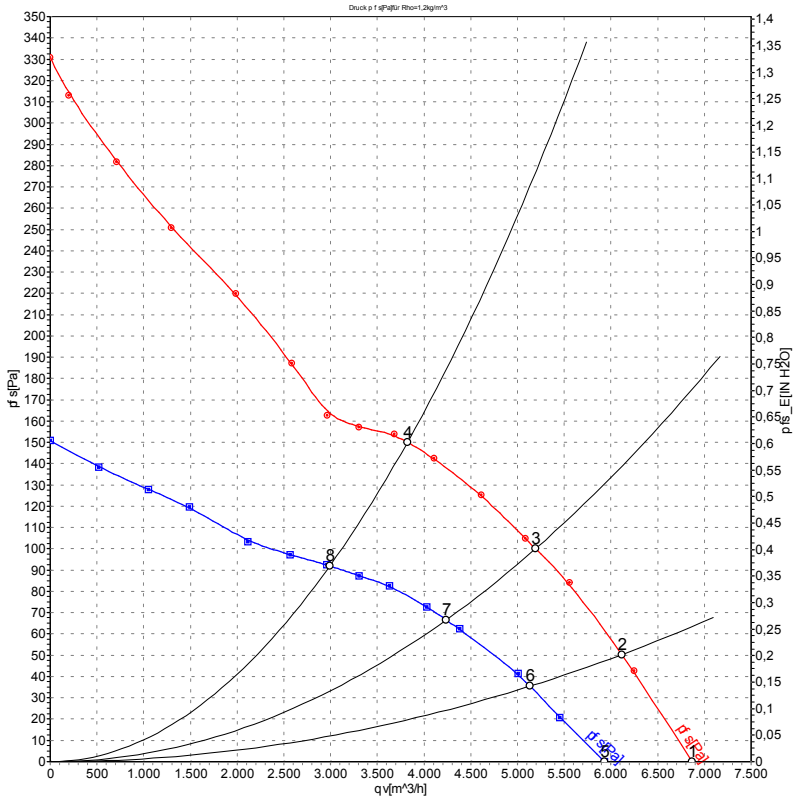
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Curves: Air performance 50 Hz



Measurement: LU-54525-1
Measurement: LU-54528-1

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	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	400	50	1410	355	0.85	6870	0	4045	0.00
2	400	50	1400	397	0.89	6115	50	3600	0.20
3	400	50	1385	437	0.94	5195	100	3055	0.40
4	400	50	1370	482	0.99	3825	150	2250	0.60
5	400	50	1220	270	0.47	5930	0	3490	0.00
6	400	50	1180	300	0.51	5135	36	3020	0.14
7	400	50	1135	323	0.55	4235	67	2495	0.27
8	400	50	1080	353	0.60	2990	92	1760	0.37

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

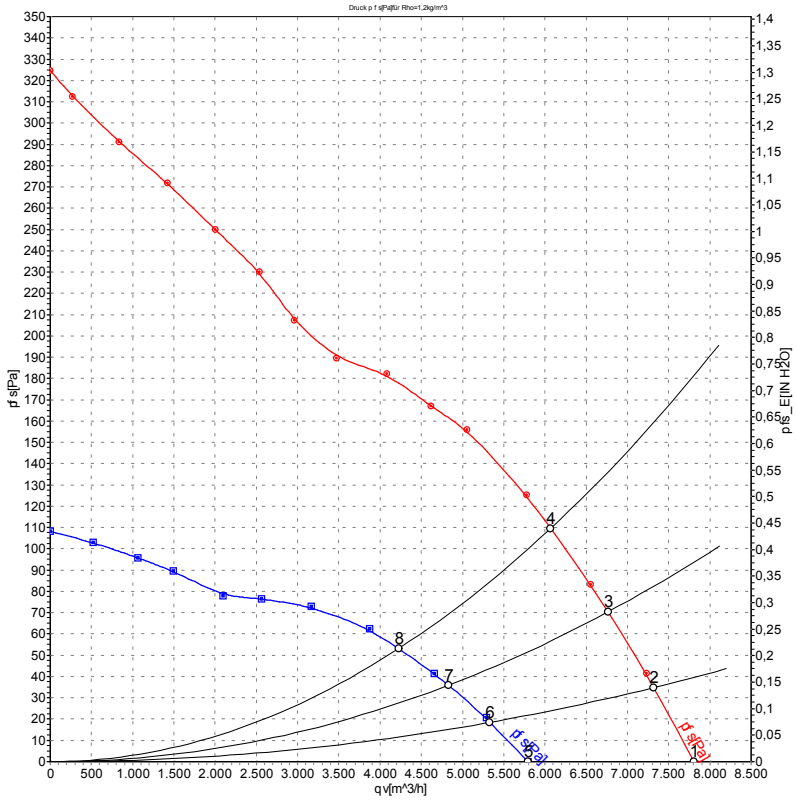
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Curves: Air performance 60 Hz



Measurement: LU-54526-1
Measurement: LU-54529-1

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	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	400	60	1610	535	0.98	7810	0	4595	0.00
2	400	60	1590	571	1.03	7315	35	4305	0.14
3	400	60	1570	606	1.08	6765	70	3980	0.28
4	400	60	1540	660	1.16	6070	110	3575	0.44
5	400	60	1200	360	0.63	5800	0	3415	0.00
6	400	60	1155	374	0.65	5330	19	3135	0.08
7	400	60	1115	384	0.67	4830	36	2840	0.14
8	400	60	1060	400	0.70	4225	55	2485	0.22

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

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