S4D450-GA14-02

AC axial fan

sickled blades (S series)

with guard grille for short nozzle

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**S4D450-GA14-02**
Motor	**M4D094-HA**

Phase		3~	3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400	460
Connection		Δ	Y	Δ	Y	Δ
Frequency	Hz	50	50	60	60	60
Type of data definition		ml	ml	ml	ml	ml
Valid for approval / standard		CE	CE	CE	CE	CE
Speed	min^{-1}	1330	1000	1540	1060	1610
Power input	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. ambient temperature	°C	75	75	55	55	70
Starting current	A	3.9	1.3	3.5	1.2	3.6

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}		39.4	27.3	31.3
Efficiency grade N		48.1	36	40
Power input P_e	kW	0.42		
Air flow q_v	m^3/h	4500		
Pressure increase p_{fs}	Pa	135		
Speed n	min^{-1}	1385		

Data definition with optimum efficiency.

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Technical features

Mass	10.4 kg
Size	450 mm
Surface of rotor	Coated in black
Material of terminal box	ABS plastic, black
Material of blades	Sheet steel, coated in black
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	F3-1
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
Motor protection	Thermal overload protector (TOP) brought out
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60034-1 (2004); CE
Approval	GOST

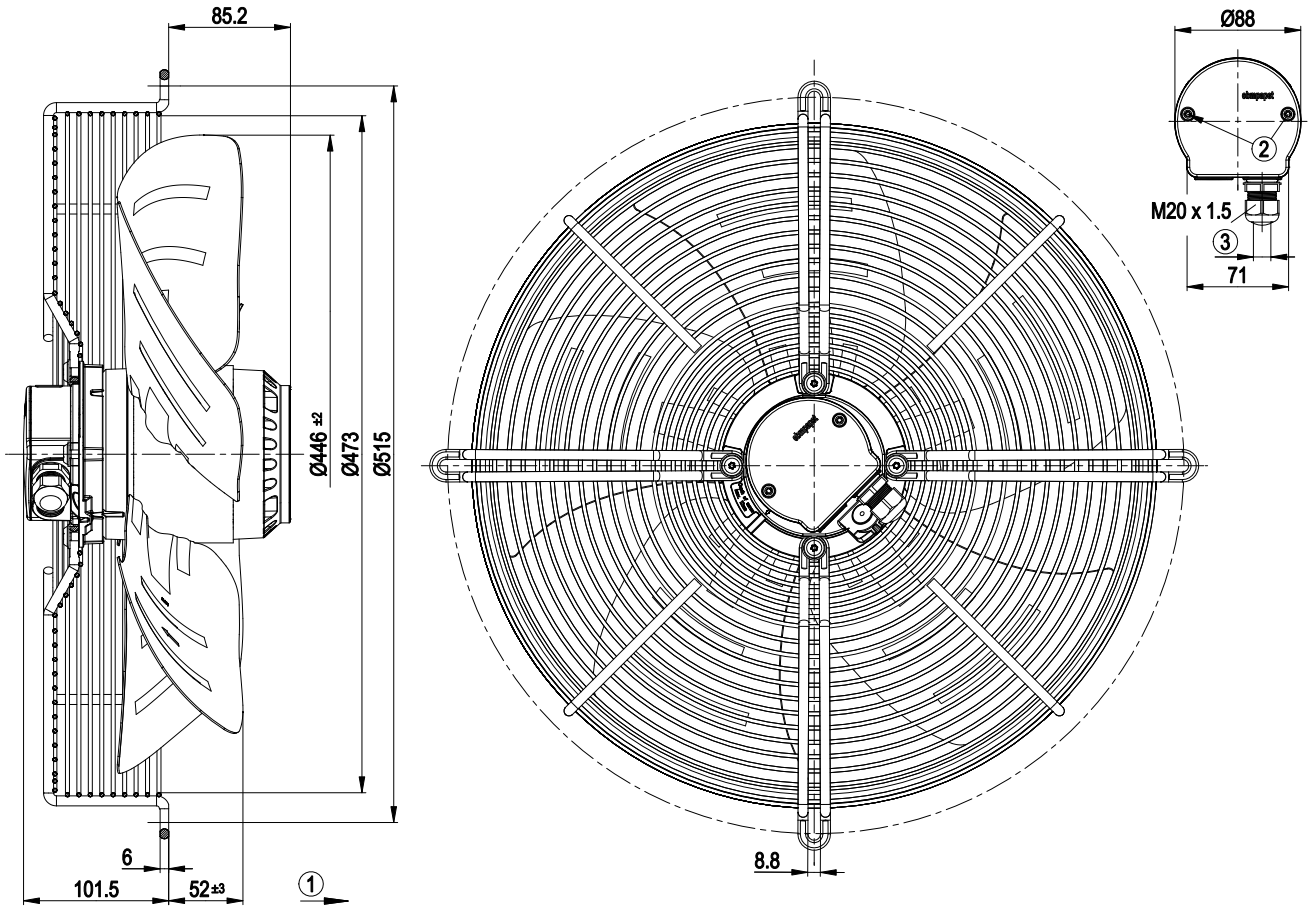
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Product drawing



1	Direction of air flow "A"
2	Tightening torque 1.0 ± 0.15 Nm
3	Cable diameter: min. 6 mm, max. 12 mm; tightening torque: 2±0.15 Nm

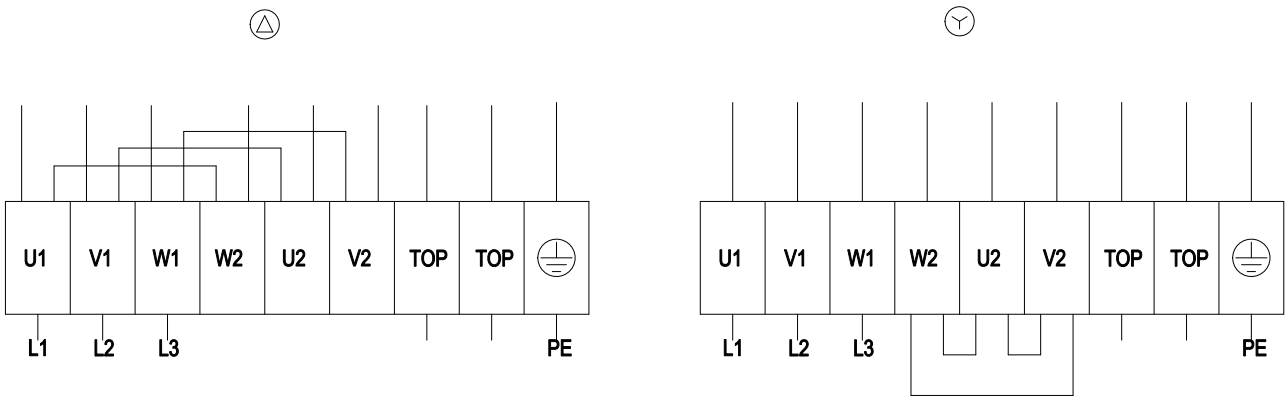
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Connection screen



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

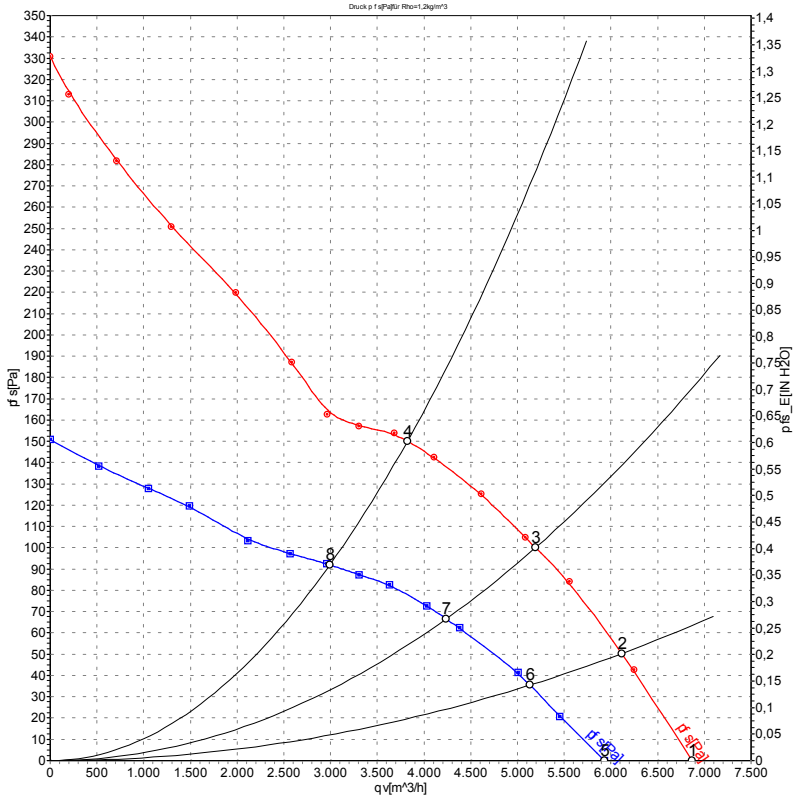
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Charts: Air flow 50 Hz



Measurement: LU-54525
Measurement: LU-54528

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	400	50	1410	356	0.85	6870	0
2	400	50	1400	397	0.89	6115	50
3	400	50	1385	437	0.94	5195	100
4	400	50	1370	482	0.99	3825	150
5	400	50	1225	270	0.46	5930	0
6	400	50	1180	300	0.51	5135	36
7	400	50	1135	323	0.55	4235	67
8	400	50	1080	353	0.60	2990	92

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

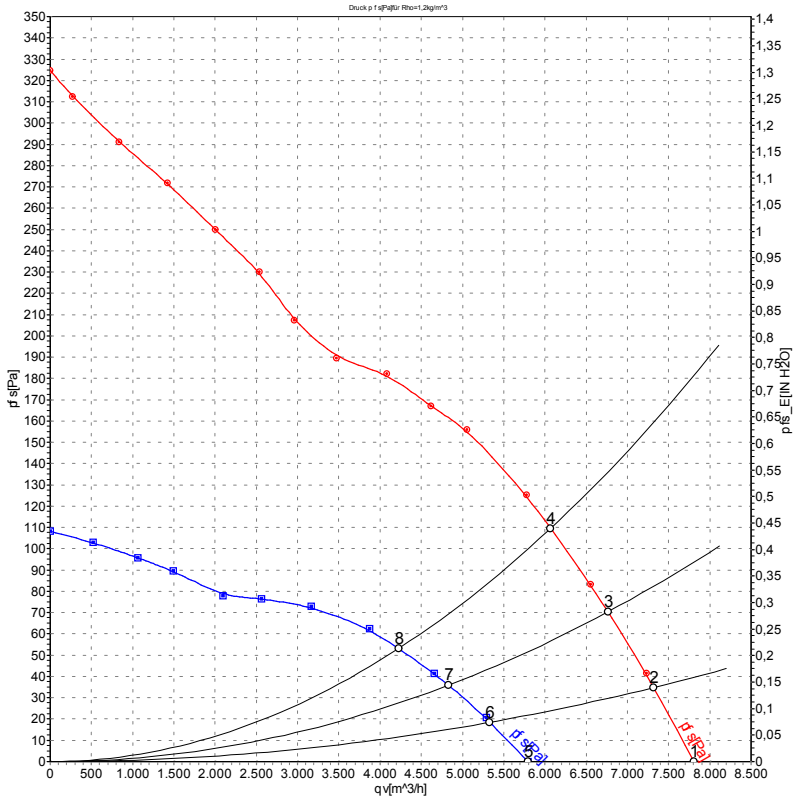
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Charts: Air flow 60 Hz



Measurement: LU-54526
Measurement: LU-54529

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	400	60	1605	534	0.98	7810	0
2	400	60	1590	571	1.03	7315	35
3	400	60	1570	606	1.08	6765	70
4	400	60	1540	660	1.16	6070	110
5	400	60	1205	360	0.62	5800	0
6	400	60	1155	374	0.65	5330	19
7	400	60	1115	384	0.67	4830	36
8	400	60	1060	400	0.70	4225	55

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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