S4D450-AN14-02

AC axial fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

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Nominal data

Type	**S4D450-AN14-02**		
Motor	**M4D094-FA**		
Phase		3~	3~
Nominal voltage	VAC	400	400
Wiring		Δ	Y
Frequency	Hz	50	50
Method of obtaining data		ml	ml
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	1330	1040
Power consumption	W	460	310
Current draw	A	0.95	0.52
Max. back pressure	Pa	130	78
Max. back pressure	inH2O	0.52	0.31
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	65	65
Starting current	A	3.3	1.1

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	34.3	31.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		42.8	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.45
09 Air flow q_v	m^3/h	4530
09 Pressure increase p_{fs}	Pa	124
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-108389

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Technical description

Weight	8.5 kg
Fan size	450 mm
Rotor surface	Painted black
Terminal box material	ABS plastic
Blade material	PP plastic
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	F4-1
Ambient temperature note	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our fan design with special low-temperature bearings.
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	EAC

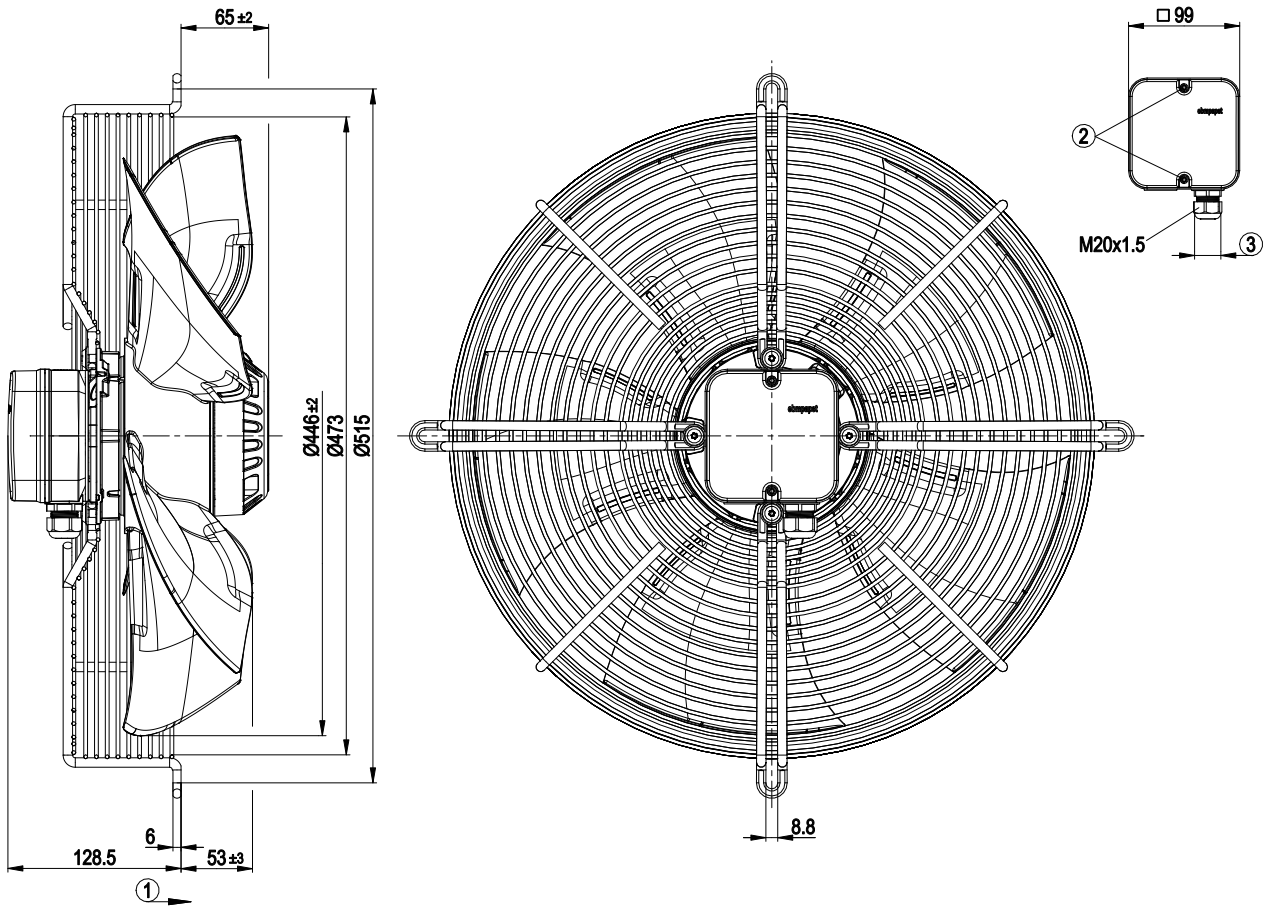
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Product drawing



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 ± 0.2 Nm

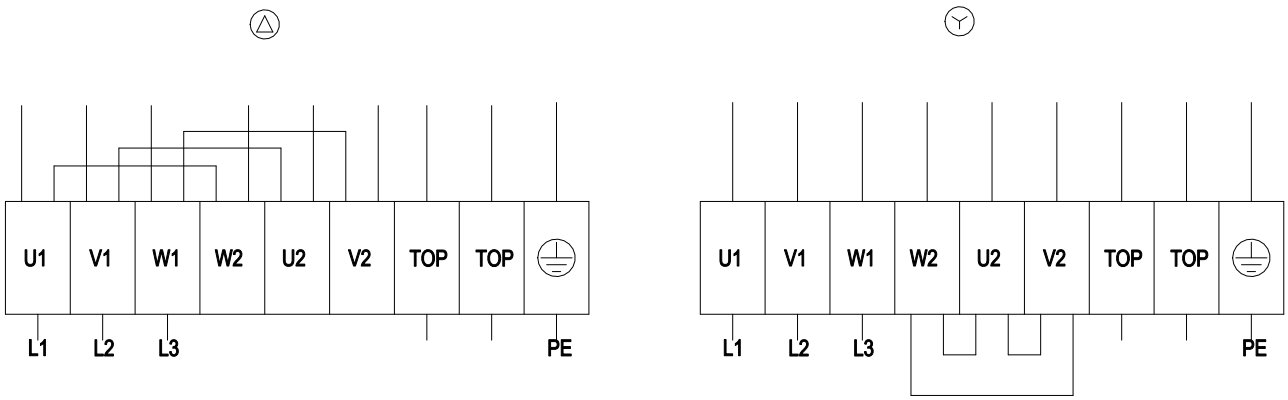
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Connection diagram



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				

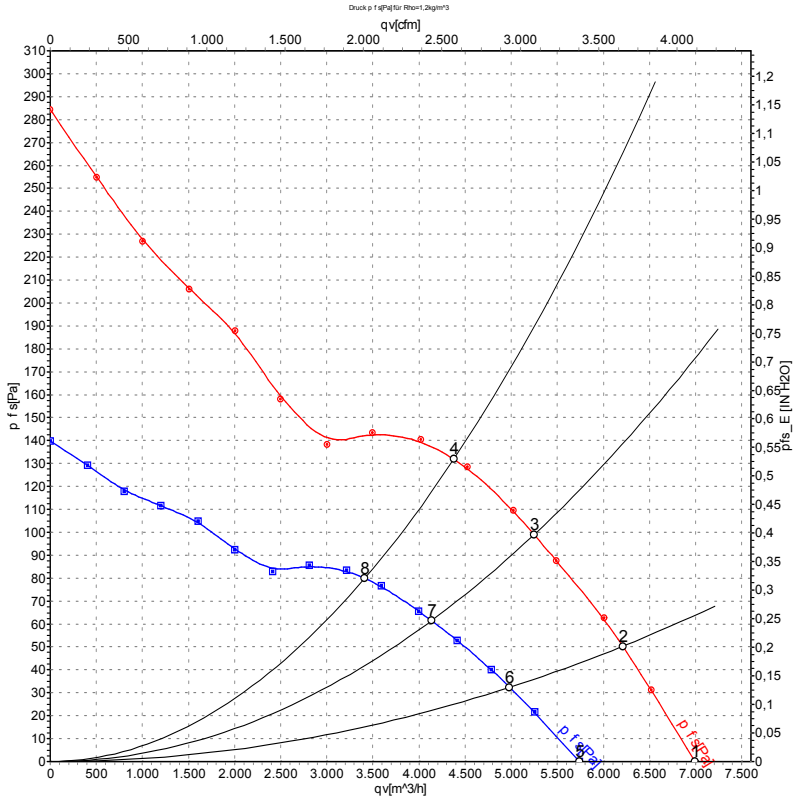
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Curves: Air performance 50 Hz



Measurement: LU-108389-1
Measurement: LU-108390-1

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

	Wired	U	f	n	P_e	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	Δ	400	50	1375	369	0.86	65	71	6995	0	4115	0.00
2	Δ	400	50	1360	410	0.90	62	68	6210	50	3655	0.20
3	Δ	400	50	1345	440	0.93	61	68	5250	100	3090	0.40
4	Δ	400	50	1330	460	0.95	62	69	4380	130	2575	0.52
5	Y	400	50	1145	269	0.45	61	67	5740	0	3375	0.00
6	Y	400	50	1090	293	0.49	58	64	4980	32	2930	0.13
7	Y	400	50	1060	306	0.51	56	62	4135	62	2435	0.25
8	Y	400	50	1040	310	0.52	57	63	3410	80	2005	0.32

Wired = Wiring · 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
q_V = Air flow · p_{fs} = Pressure increase

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