W4E450-JA09-42

AC axial fan - AxiCool

sickled blades (S series)

Wall ring with guard grille

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Nominal data

Type	**W4E450-JA09-42**	
Motor	**M4E094-HA**	
Phase		1~
Nominal voltage	VAC	230
Frequency	Hz	50
Type of data definition		ml
Valid for approval / standard		CE
Speed (rpm)	min^{-1}	1350
Power input	W	480
Current draw	A	2.1
Motor capacitor	µF	10
Capacitor voltage	VDB	400
Capacitor standard		S0 (CE)
Max. back pressure	Pa	120
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	40
Starting current	A	6.3

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data in accordance with ecodesign regulation EU 327/2011

		Actual	Request 2015
01 Overall efficiency η_{es}	%	31.6	31.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40	40
05 Variable speed drive		No	

09 Power input P_e	kW	0.47
09 Air flow q_v	m^3/h	4495
09 Pressure increase p_{fs}	Pa	120
10 Speed (rpm) n	min^{-1}	1355
11 Specific ratio*		1.00

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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

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Technical features

Mass	10.8 kg
Size	450 mm
Surface of rotor	Coated in black
Material of terminal box	PP plastic
Material of blades	Sheet steel, coated in black
Material of wall ring	PP plastic
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54; Depending on installation and position
Insulation class	"F"
Humidity (F)/environmental protection class (H)	H2
Note ambient temperature	As fan only suitable for use with industrial evaporators
Max. permissible ambient motor temp. (transp./ storage)	+ 70 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Shaft horizontal or rotor on bottom
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing with anti-freezing grease
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) wired internally
Protection class	I (if protective earth is connected by customer)
Motor capacitor according to EN 60252-1 in safety protection class	S0
Product conforming to standard	EN 60034-1 (2010); CE

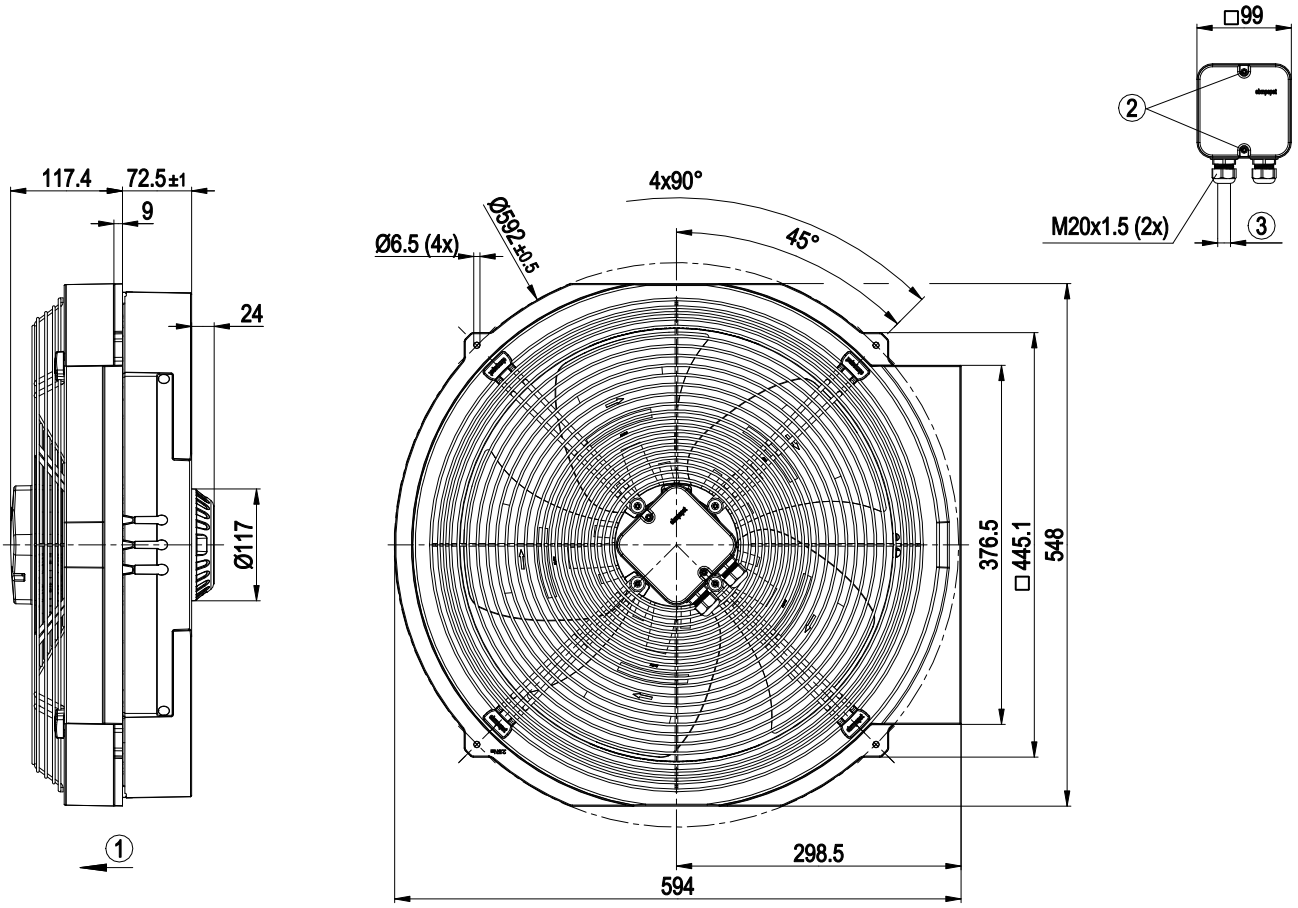
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Product drawing



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

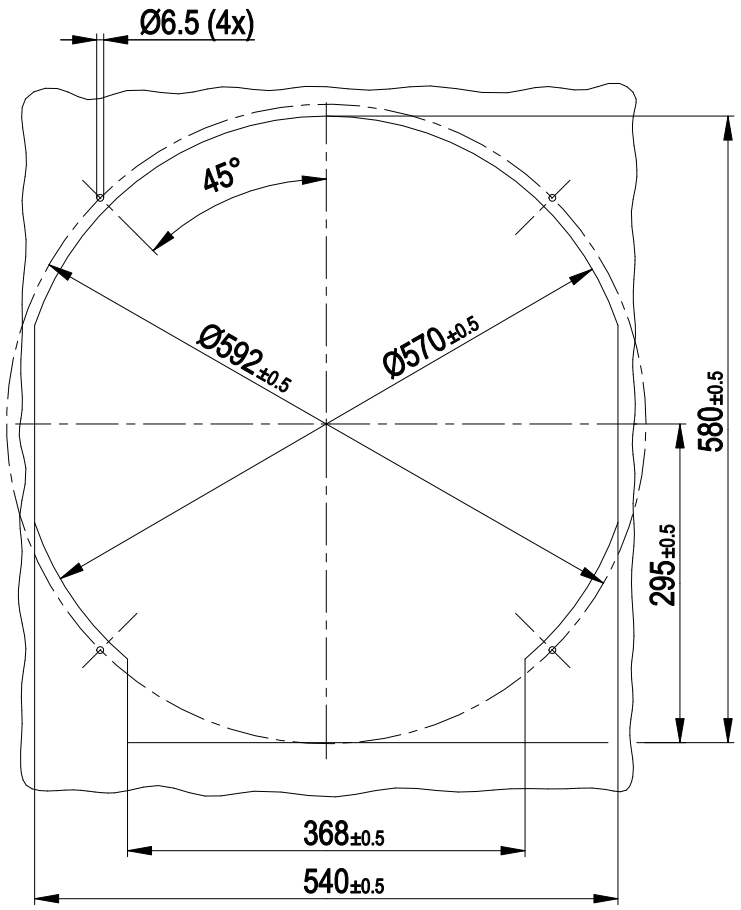
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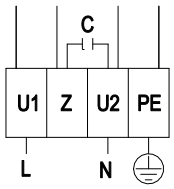
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Mounting dimensions



Connection screen



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

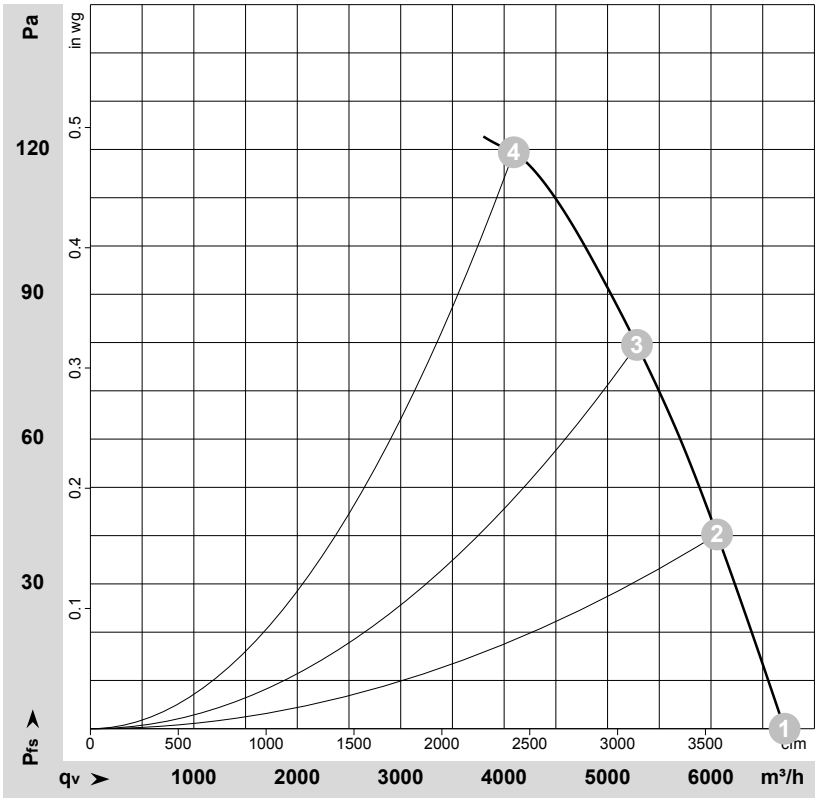
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-174409-1

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	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	230	50	1410	354	1.83	71	77	77	6710	0	3950	0.00
2	230	50	1395	389	1.95	67	73	74	6060	40	3565	0.16
3	230	50	1380	421	2.07	67	73	74	5285	80	3110	0.32
4	230	50	1350	480	2.10	68	74	76	4095	120	2410	0.48

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side
q_V = Air flow · p_{fs} = Pressure increase

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