

A4E450-AO09-01 ebmpapst Datasheet

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## Nominal data

Type	A4E450-AO09-01		
Motor	M4E094-HA		
Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Type of data definition		ml	ml
Valid for approval / standard		CE	CE
Speed (rpm)	min <sup>-1</sup>	1310	1390
Power input	W	490	650
Current draw	A	2.36	2.96
Motor capacitor	µF	10	10
Capacitor voltage	VDB	400	400
Max. back pressure	Pa	125	115
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	65	55
Starting current	A	6.3	5.6

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

		Actual	Request 2015			
01 Overall efficiency $\eta_{es}$	%	31.7	31.7	09 Power input $P_e$	kW	0.48
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	4420
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	122
04 Efficiency grade N		40	40	10 Speed (rpm) n	min <sup>-1</sup>	1315
05 Variable speed drive		No		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 =  $1 + p_{fs} / 100\,000\text{ Pa}$ 

LU-106846

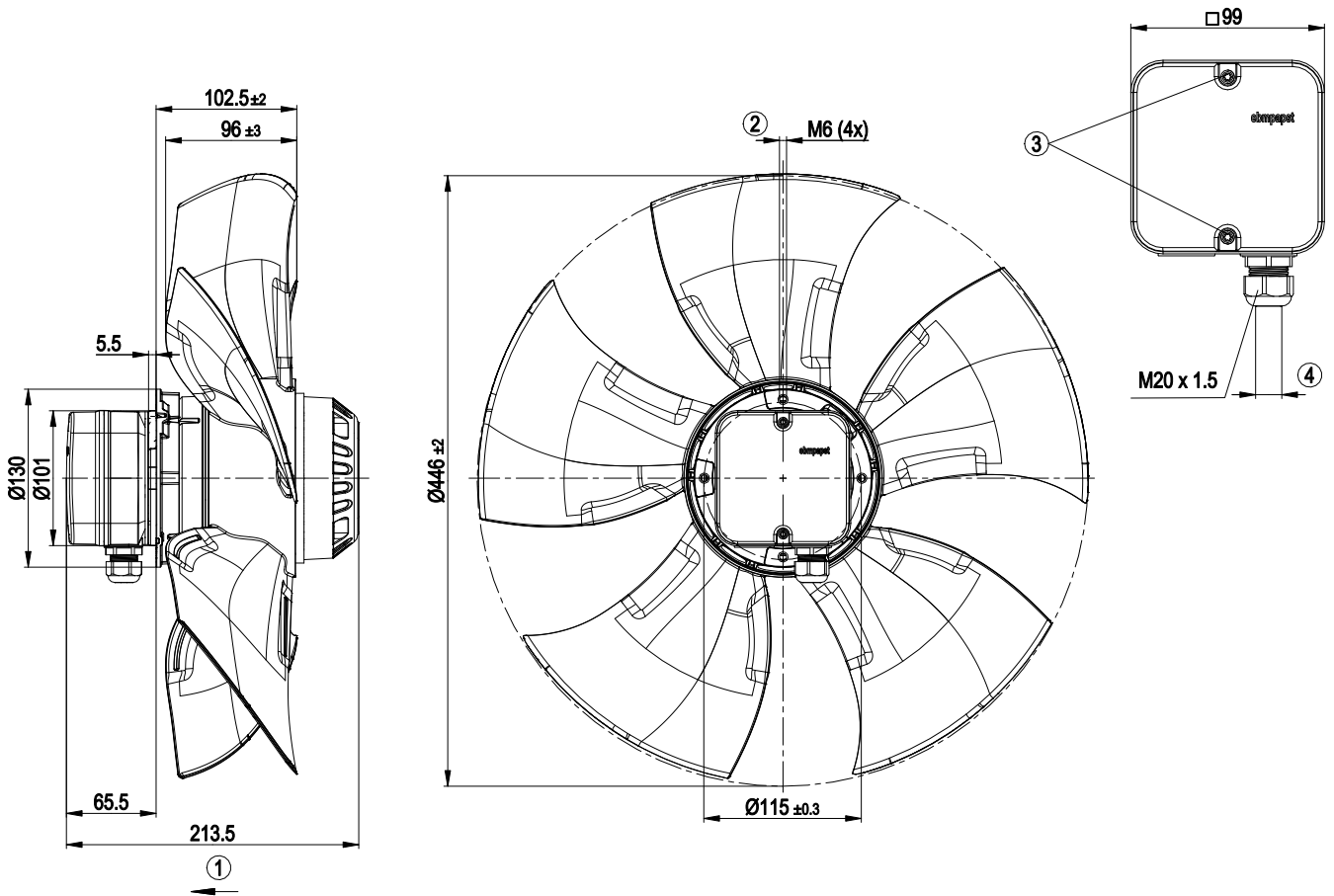


### Technical features

Mass	7.5 kg
Size	450 mm
Surface of rotor	Coated in black
Material of terminal box	ABS plastic, black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F4-1
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, integrated capacitor connected via terminal box
Motor protection	Thermal overload protector (TOP) brought out, basic insulation
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 (2004); CE
Approval	CCC



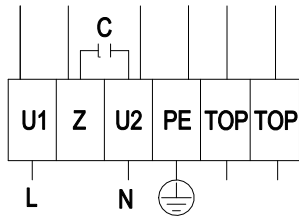
Product drawing



1	Direction of air flow "V"
2	Depth of screw max. 12 mm
3	Tightening torque 0.8±0.15 Nm
4	Cable diameter: min. 6 mm, max. 12 mm, tightening torque: 2±0,3 Nm

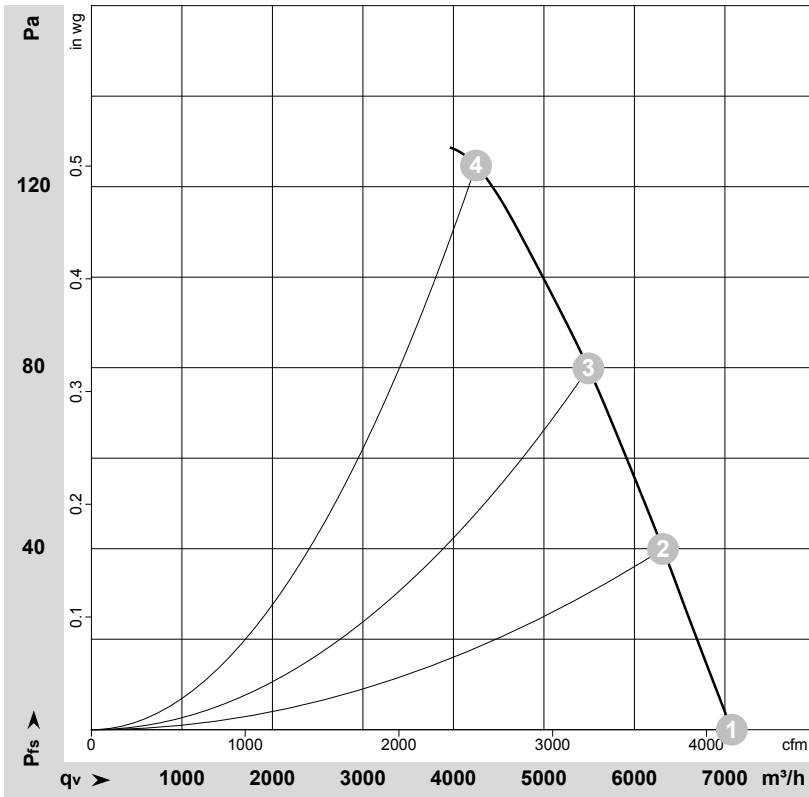


### Connection screen



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

## Charts: Air flow 50 Hz



$\rho = 1.179 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-106846-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. 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.

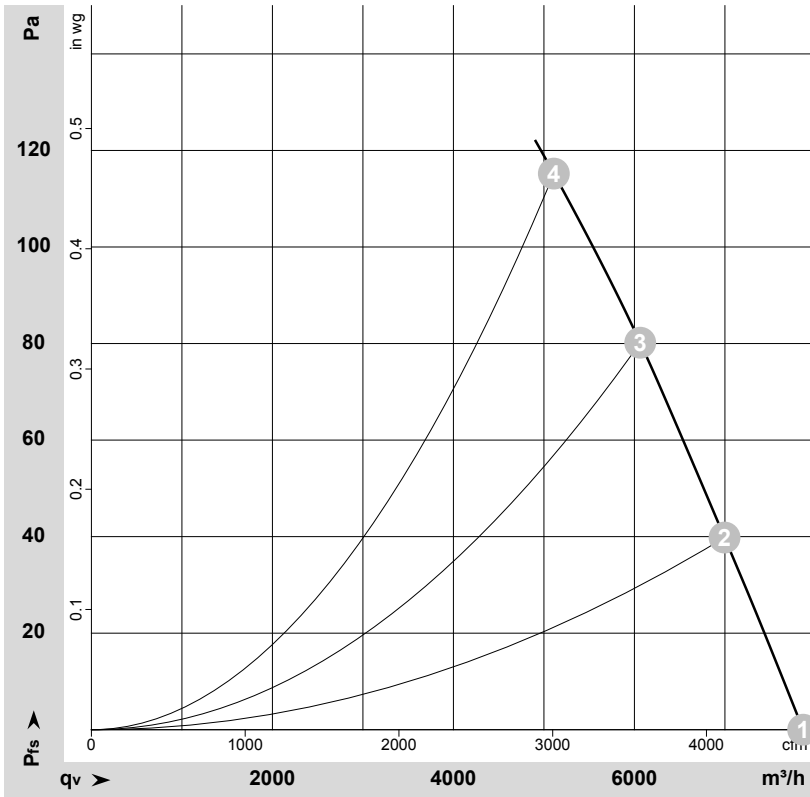
## Measured values

	U	f	n	Pe	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	qv	Pfs	qv	Pfs
	V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	cfm	inH2O
1	230	50	1350	423	2.05	63	69	70	7075	0	4165	0.00
2	230	50	1340	447	2.16	62	68	69	6315	40	3715	0.16
3	230	50	1325	470	2.26	62	68	69	5490	80	3230	0.32
4	230	50	1310	490	2.36	62	69	69	4250	125	2500	0.50

U = Supply voltage · f = Frequency · n = Speed (rpm) · Pe = Power input · I = Current draw · LpA<sub>in</sub> = Sound pressure level inlet side · LwA<sub>in</sub> = Sound power level inlet side · LwA<sub>out</sub> = Sound power level outlet side  
 qv = Air flow · Pfs = Pressure increase



## Charts: Air flow 60 Hz



$\rho = 1.178 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-106848-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. Suction-side noise levels: L<sub>wA</sub> measured as per ISO 13347 / L<sub>pA</sub> 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 <sub>e</sub>	I	L <sub>pA<sub>in</sub></sub>	L <sub>wA<sub>in</sub></sub>	L <sub>wA<sub>out</sub></sub>	q <sub>v</sub>	P <sub>fs</sub>	q <sub>v</sub>	P <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	cfm	inH <sub>2</sub> O
1	230	60	1500	593	2.64	65	72	73	7865	0	4630	0.00
2	230	60	1455	616	2.76	64	70	71	6995	40	4120	0.16
3	230	60	1415	638	2.88	63	70	71	6065	80	3570	0.32
4	230	60	1390	650	2.96	62	69	70	5110	115	3010	0.46

U = Supply voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power input · I = Current draw · L<sub>pA<sub>in</sub></sub> = Sound pressure level inlet side · L<sub>wA<sub>in</sub></sub> = Sound power level inlet side · L<sub>wA<sub>out</sub></sub> = Sound power level outlet side  
 q<sub>v</sub> = Air flow · P<sub>fs</sub> = Pressure increase

