S4E450-ZK04-01

AC axial fan - AxiEco

with guard grille



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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**S4E450-ZK04-01**
Motor	**M4E094-HA**

Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Method of obtaining data		ml	ml
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	1380	1530
Power consumption	W	550	800
Current draw	A	2.6	3.5
Capacitor	µF	14	14
Capacitor voltage	VDB	400	400
Capacitor standard		S0 (CE)	S0 (CE)
Max. back pressure	Pa	190	175
Max. back pressure	in. wg	0.76	0.7
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	60	60

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

230V 50/60Hz
Max. voltage tolerance +/-5%

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	37.2	31.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		45.3	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.53
09 Air flow q_v	m^3/h	4525
09 Pressure increase p_{fs}	Pa	158
10 Speed (rpm) n	min^{-1}	1390
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-204562

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Technical description

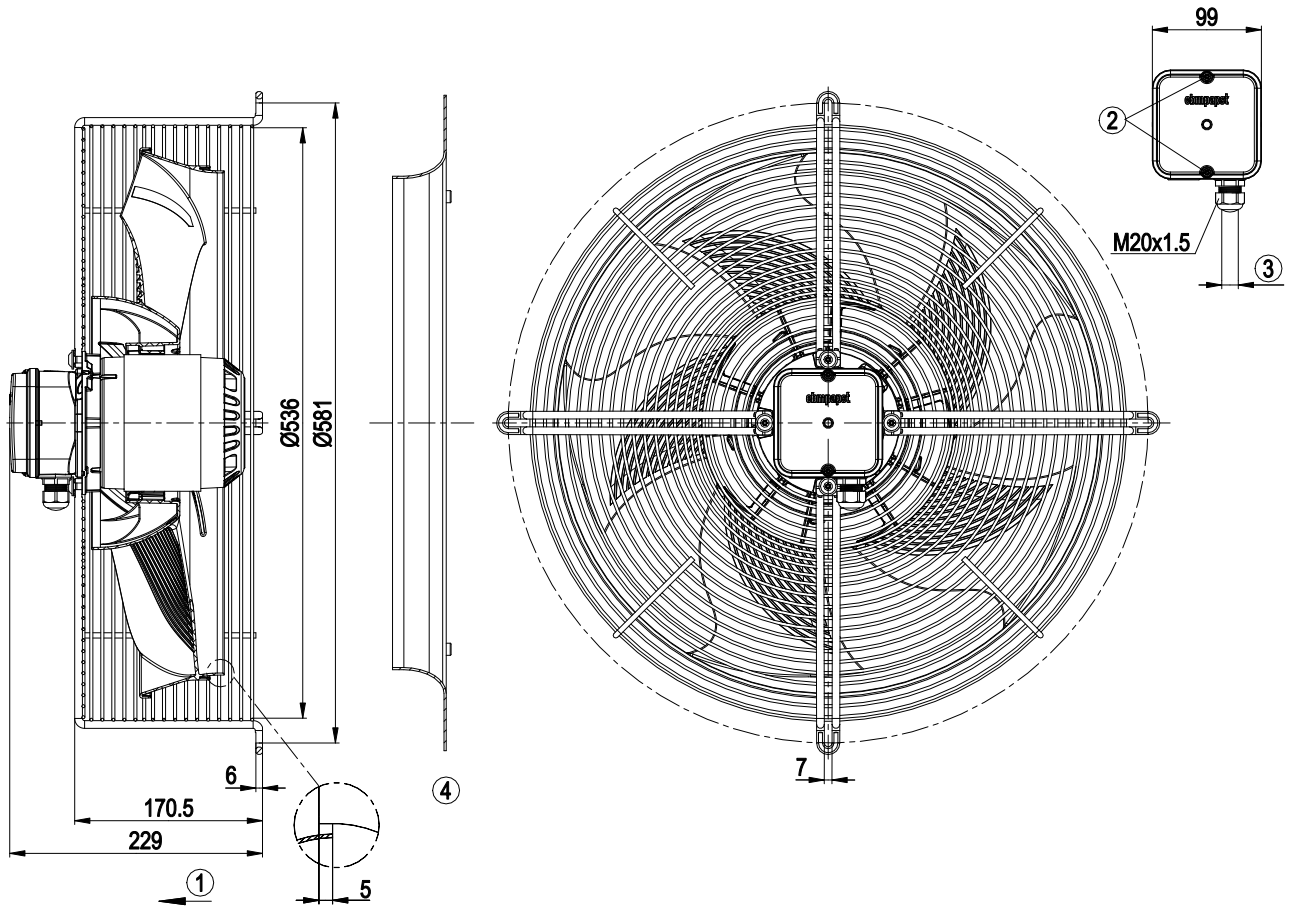
Size	450 mm
Motor size	94
Rotor surface	Painted black
Terminal box material	PP plastic
Impeller material	PP plastic, galvanized sheet-metal plate
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a 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	Terminal box; Capacitor integrated and connected
Motor protection	Thermal overload protector (TOP) with basic insulation
Protection class	I (with customer connection of protective earth)
Motor capacitor according to EN 60252-1 in safety protection class	S0
Conformity with standards	EN 60034-1; CE
Approval	EAC; UL 1004-1; CSA C22.2 No. 100

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Product drawing



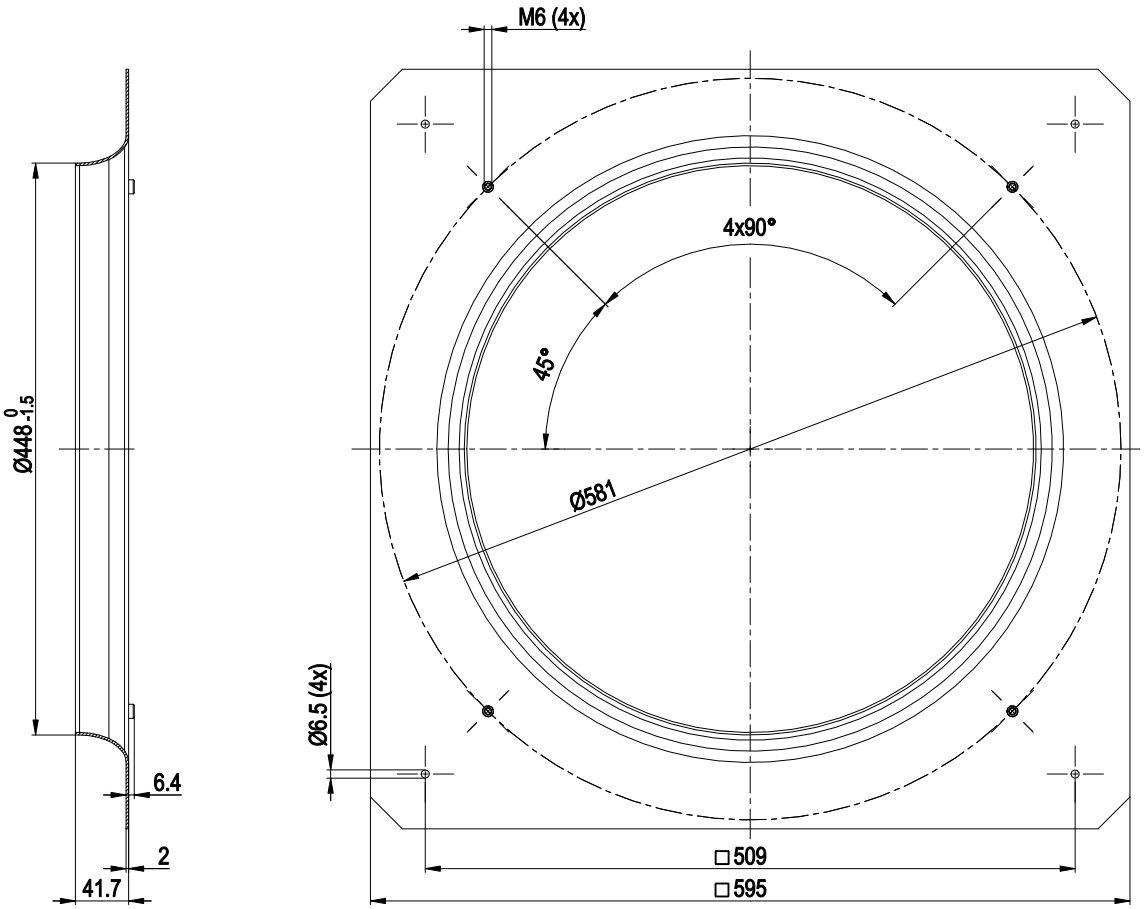
1	Airflow direction "V"
2	Tightening torque 1.5 ± 0.2 Nm
3	Cable diameter min. 6 mm, max. 12 mm, tightening torque 2 ± 0.3 Nm
4	Accessory part: Inlet ring 45100-2-4013 not included in scope of delivery

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Accessory part



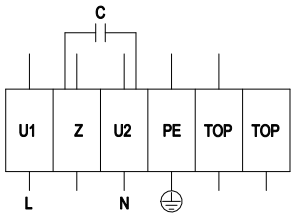
Inlet ring 45100-2-4013

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Connection diagram



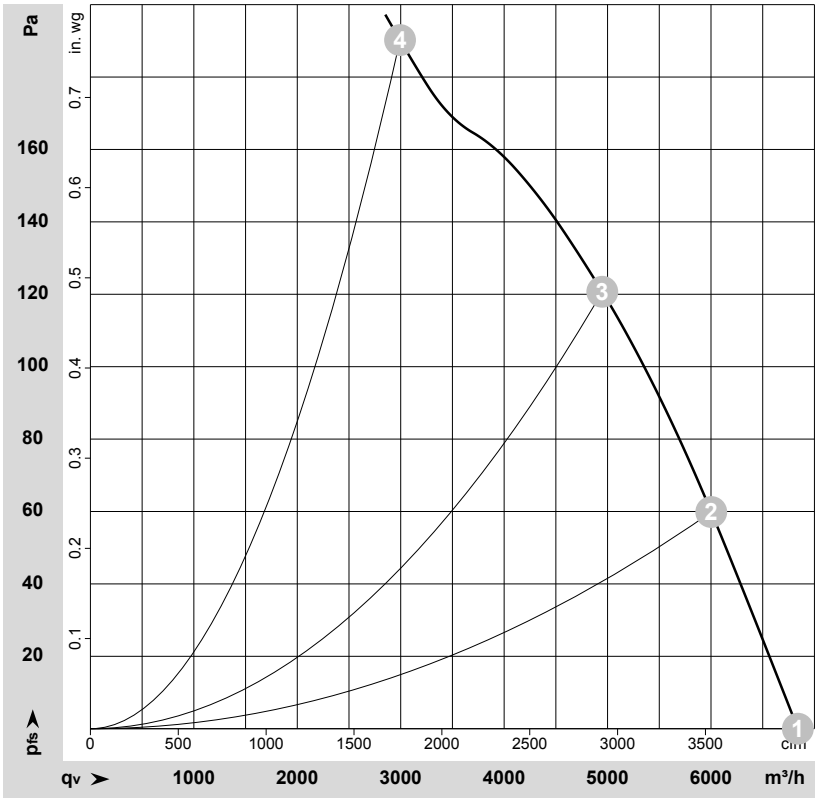
L	= U1 = blue	Z	brown	N	= U2 = black
PE	green/yellow	TOP	gray	TOP	gray

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-204609-1

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}	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	in. wg
1	1~	230	50	1420	440	2.13	68	74	78	6840	0	4025	0.00
2	1~	230	50	1405	483	2.29	65	71	75	6005	60	3535	0.24
3	1~	230	50	1390	523	2.44	63	70	75	4950	120	2915	0.48
4	1~	230	50	1380	550	2.60	67	74	80	2995	190	1760	0.76

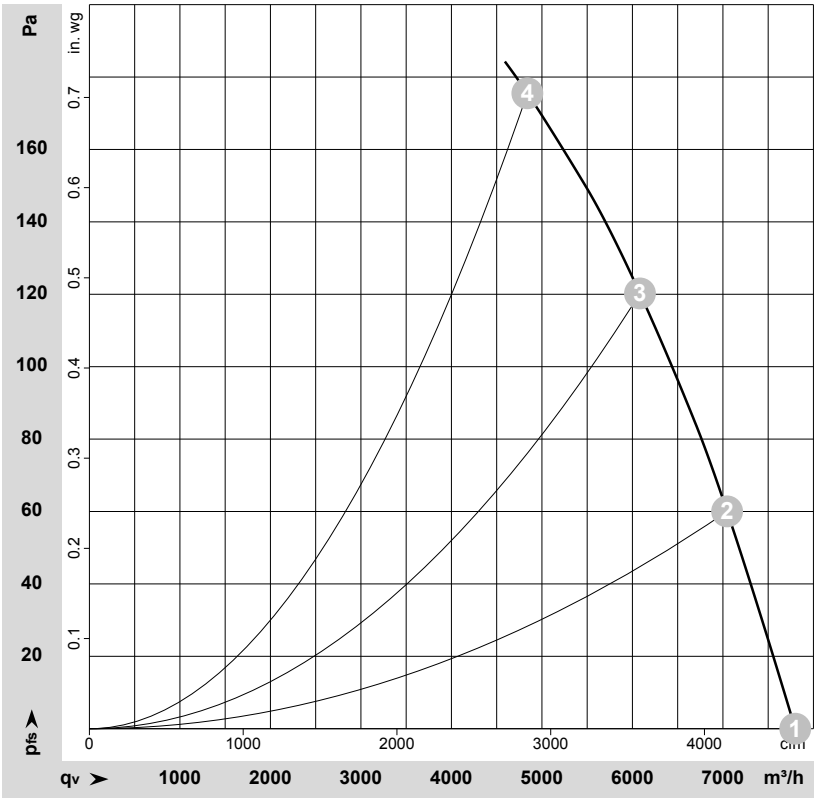
Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-204612-1

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}	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	in. wg
1	1~	230	60	1635	653	2.85	70	77	82	7800	0	4590	0.00
2	1~	230	60	1600	707	3.09	68	74	79	7045	60	4145	0.24
3	1~	230	60	1565	761	3.32	65	72	77	6085	120	3580	0.48
4	1~	230	60	1530	800	3.50	66	73	78	4840	175	2850	0.70

Wired = Wiring · U = Voltage · 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
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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