S3G450-ZI07-H1

EC axial fan - AxiEco

with guard grille

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**S3G450-ZI07-H1**
Motor	**M3G084-FA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1390
Power consumption	W	500
Current draw	A	2.2
Max. back pressure	Pa	225
Max. back pressure	in. wg	0.9
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	48.2	31.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		56.6	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.46
09 Air flow q_v	m^3/h	4610
09 Pressure increase p_{fs}	Pa	165
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-204657

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Technical description

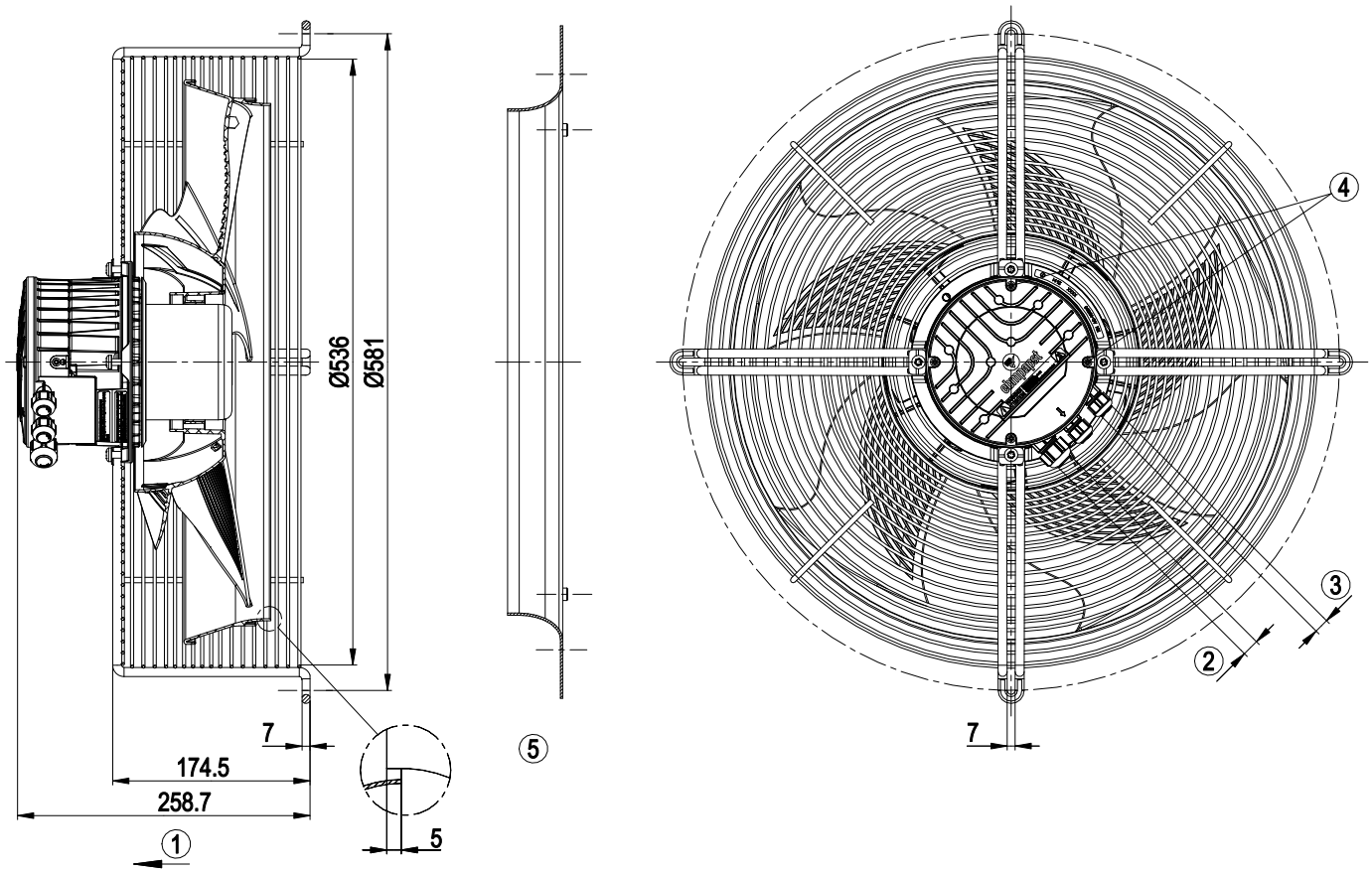
Weight	9.5 kg
Size	450 mm
Motor size	84
Rotor surface	Painted black
Terminal box material	PP plastic
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PP plastic, galvanized sheet-metal plate
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
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; (sealed)
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1
Comment	Conformity with standard EN 60335-1 on request

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Product drawing



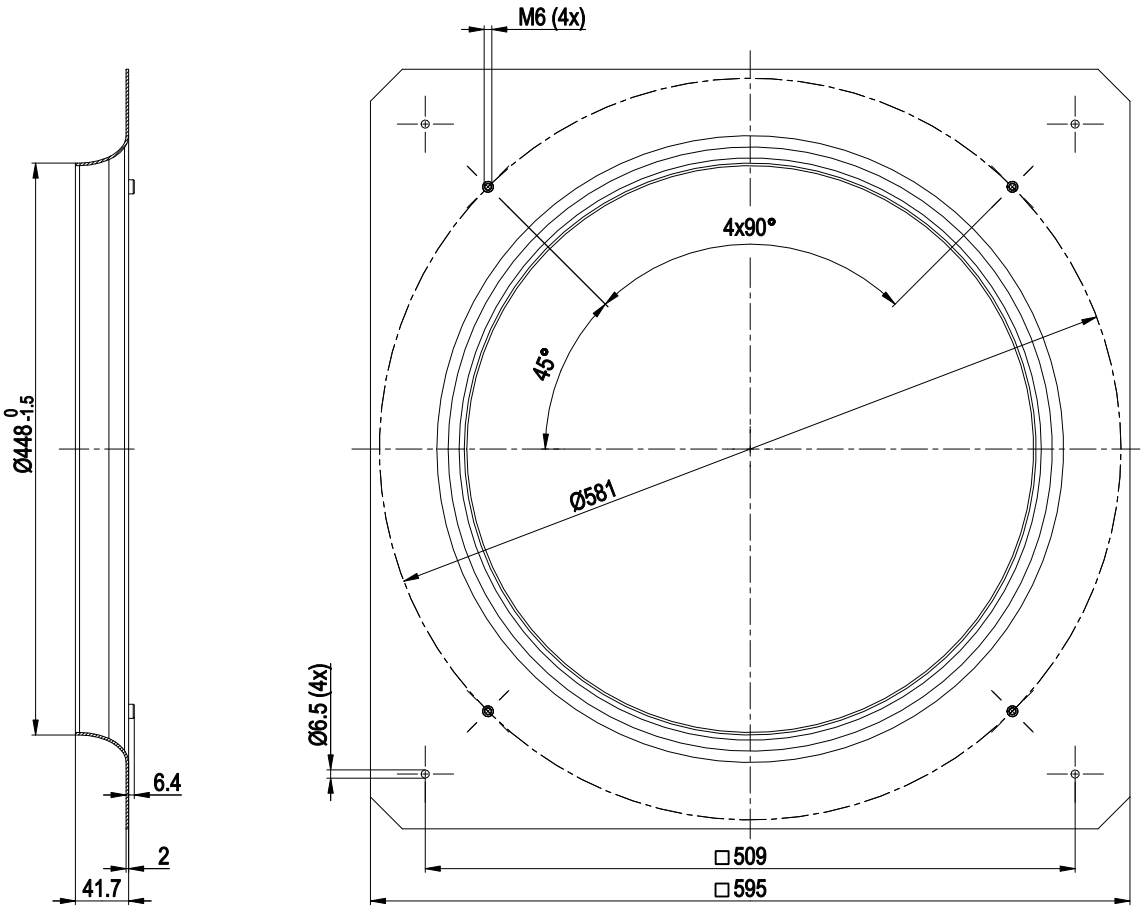
1	Airflow direction "V"
2	Cable diameter min. 8 mm, max. 12 mm, tightening torque 1.8±0.3 Nm (use must be made of seal provided) Cable diameter min. 4 mm, max. 10 mm, tightening torque 1.8±0.3 Nm
3	Cable diameter min. 6 mm, max. 10 mm, tightening torque 1.8±0.3 Nm (use must be made of seal provided) Cable diameter min. 4 mm, max. 7 mm, tightening torque 1.8±0.3 Nm
4	Tightening torque 1.5 ± 0.2 Nm
5	Accessory part: Inlet ring 45100-2-4013 not included in scope of delivery

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Accessory part



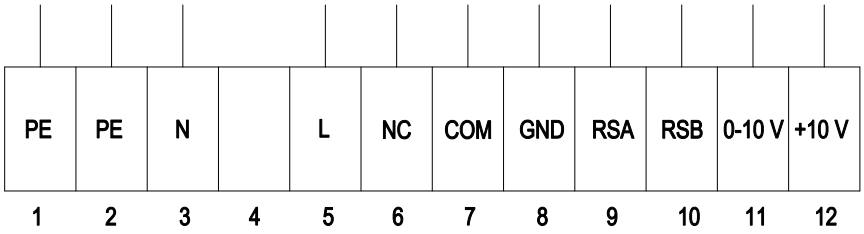
Inlet ring 45100-2-4013

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Connection diagram



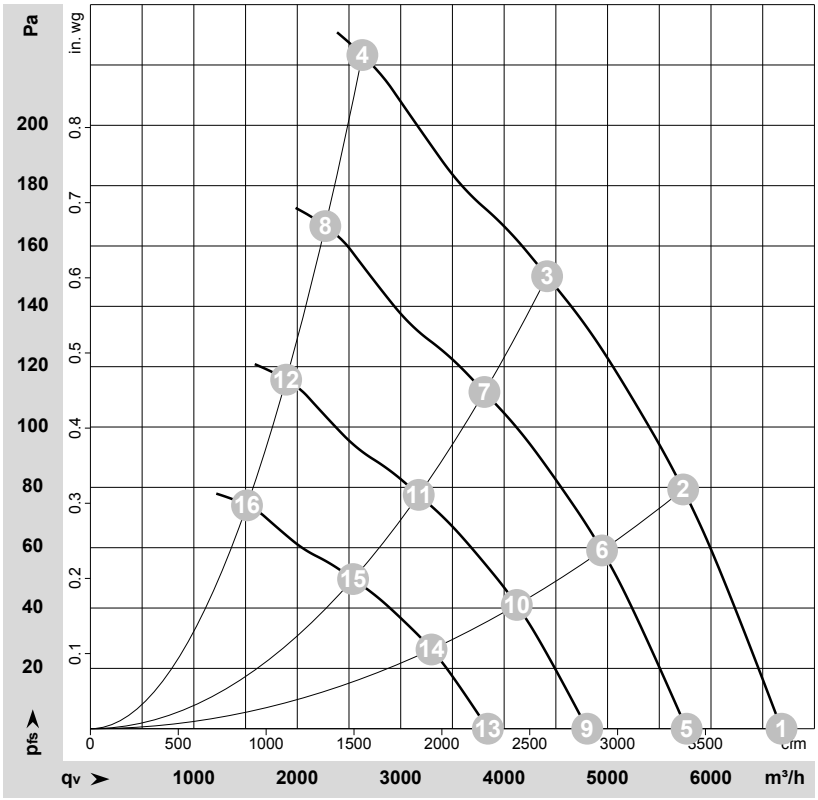
No.	Conn.	Designation	Function/assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	N	Power supply, neutral conductor
	4	-	not used
	5	L	Power supply, phase
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; basic insulation on supply side and reinforced insulation on control interface side
	7	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; basic insulation on supply side and reinforced insulation on control interface side
	8	GND	Reference ground for control interface, SELV
	9	RSA	RS485 interface for MODBUS, RSA; SELV
	10	RSB	RS485 interface for MODBUS, RSB; SELV
	11	0-10 V	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
	12	+10 V	Fixed voltage output 10 VDC, SELV, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot)

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-204202-1

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_{ed}	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	1390	352	1.56	66	73	77	6680	0	3935	0.00
2	1~	230	50	1390	425	1.87	63	69	73	5730	80	3375	0.32
3	1~	230	50	1390	477	2.09	62	69	73	4415	150	2600	0.60
4	1~	230	50	1390	500	2.20	68	75	80	2630	225	1545	0.90
5	1~	230	50	1200	226	1.00	63	69	73	5765	0	3395	0.00
6	1~	230	50	1200	273	1.20	59	65	70	4945	60	2910	0.24
7	1~	230	50	1200	306	1.34	58	65	69	3810	112	2240	0.45
8	1~	230	50	1200	328	1.44	64	71	76	2270	170	1335	0.68
9	1~	230	50	1000	131	0.58	58	64	68	4805	0	2830	0.00
10	1~	230	50	1000	158	0.70	54	61	65	4120	41	2425	0.16
11	1~	230	50	1000	177	0.78	53	60	65	3175	78	1870	0.31
12	1~	230	50	1000	190	0.83	59	66	72	1895	118	1115	0.47
13	1~	230	50	800	67	0.30	53	59	63	3845	0	2260	0.00
14	1~	230	50	800	81	0.36	49	55	59	3300	27	1940	0.11
15	1~	230	50	800	91	0.40	48	55	59	2540	50	1495	0.20
16	1~	230	50	800	97	0.43	54	61	66	1515	75	890	0.30

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = 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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