W3G450-SL03-H3

EC axial fan - AxiCool

sickle-shaped blades (S series)

Fan housing with guide vanes

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Nominal data

Type	**W3G450-SL03-H3**
Motor	**M3G084-FA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		fa
Speed (rpm)	min^{-1}	1500
Power consumption	W	440
Current draw	A	1.9
Max. back pressure	Pa	140
Max. back pressure	in. wg	0.56
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}	%	38	31.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		46.1	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.51
09 Air flow q_v	m^3/h	4100
09 Pressure increase p_{fs}	Pa	155
10 Speed (rpm) n	min^{-1}	1500
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

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Technical description

Weight	12.1 kg
Size	450 mm
Motor size	84
Rotor surface	Painted black
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Support ring material	Steel, coated with black plastic (RAL 9005)
Fan housing material	PP plastic, white
Guard grille material	Steel, coated with pure-white plastic (RAL 9010)
Number of blades	5
Airflow direction	V
Direction of rotation	Counterclockwise, 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
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; EN 61800-5-1; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1; EAC

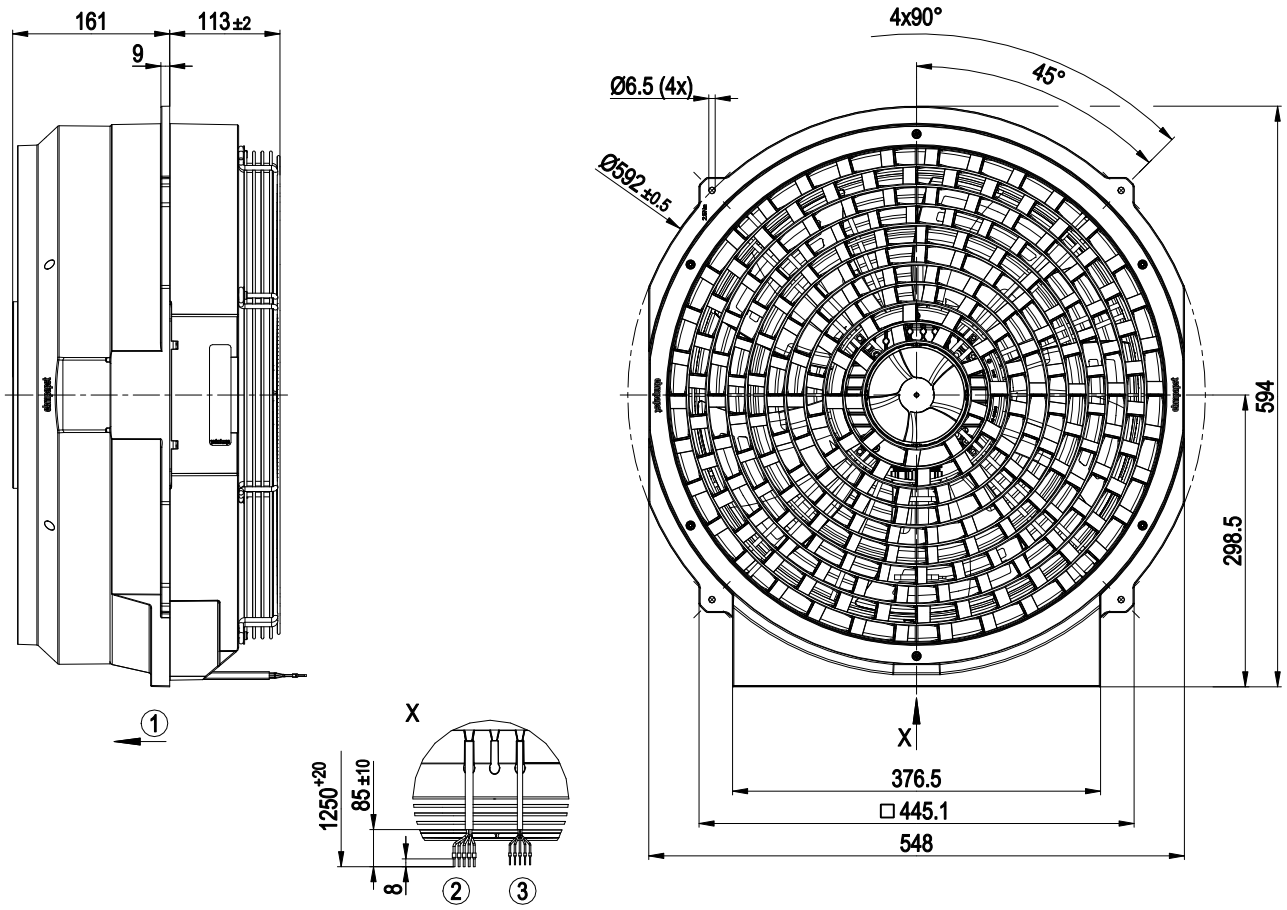
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Product drawing



1	Airflow direction "V"
2	Cable PVC AWG18
	5x wire-end ferrule
3	Cable PVC AWG22
	5x wire-end ferrule

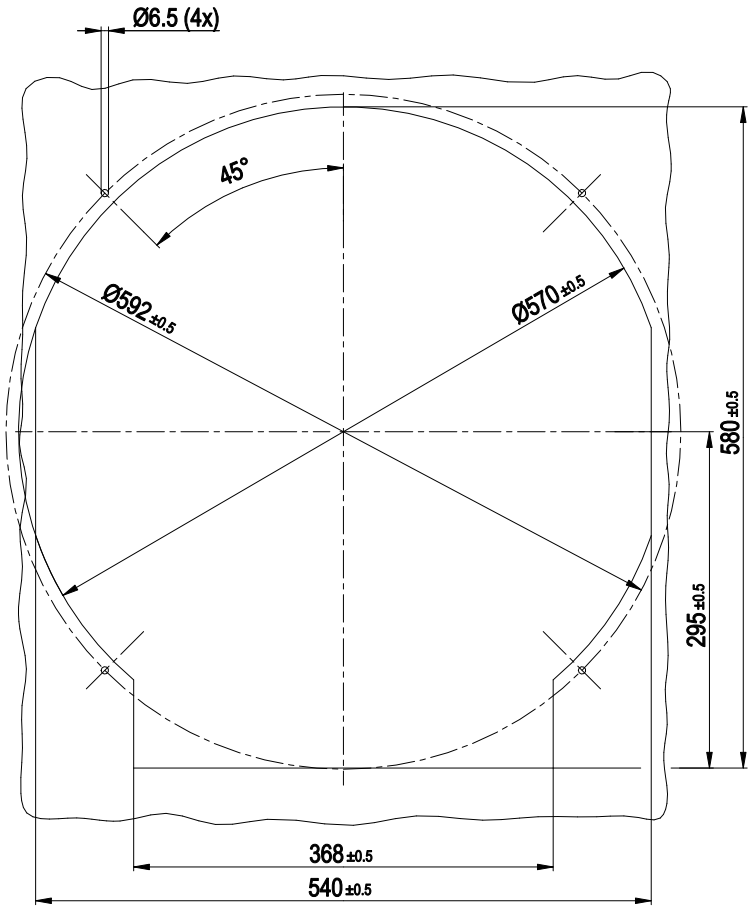
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Mounting dimensions



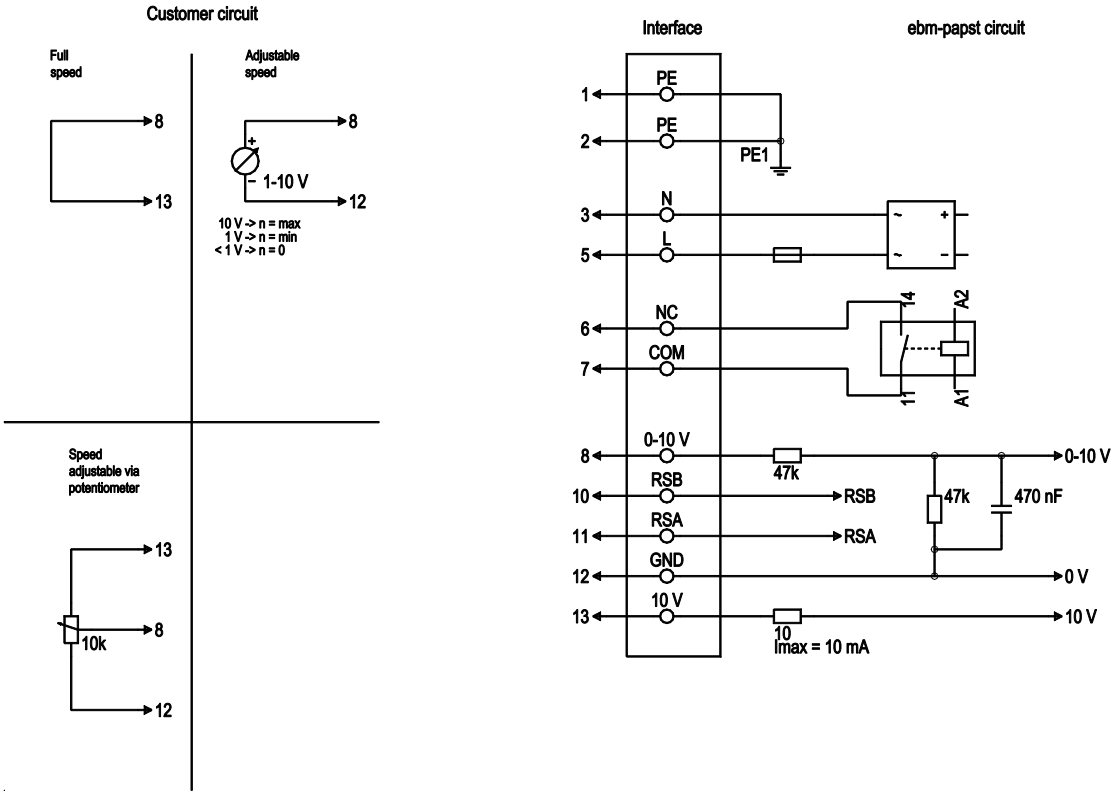
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, 50/60 Hz
1	5	L	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact; break for failure, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact; common connection, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
2	8	0-10V	yellow	Analog input (set value); 0-10 V; Ri = 100 kΩ; adjustable curve
2	10	RSB	brown	RS485 interface for MODBUS, RSB
2	11	RSA	white	RS485 interface for MODBUS, RSA
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC, +10 V ±3%; max. 10 mA; short-circuit-proof; power supply for external devices (e.g. pot)

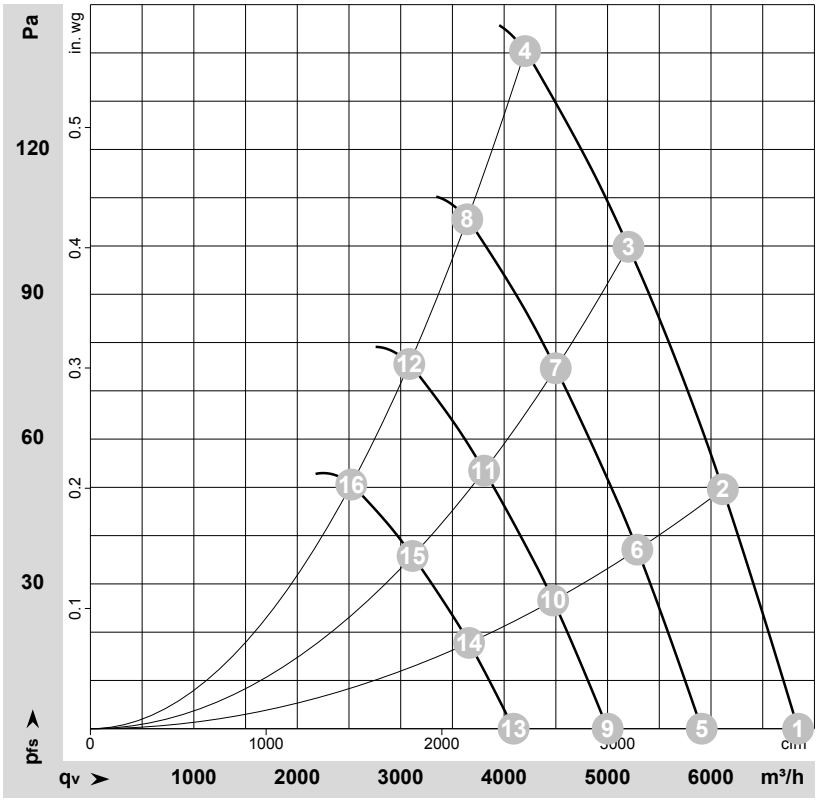
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-176430-1

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	1500	440	1.90	75	84	86	6840	0	4025	0.00
2	1~	230	50	1500	480	2.11	74	82	85	6115	50	3600	0.20
3	1~	230	50	1500	500	2.20	73	81	84	5200	100	3060	0.40
4	1~	230	50	1500	500	2.20	73	81	83	4200	140	2475	0.56
5	1~	230	50	1300	283	1.25	72	80	82	5910	0	3480	0.00
6	1~	230	50	1300	311	1.36	71	78	81	5290	38	3110	0.15
7	1~	230	50	1300	335	1.47	69	77	80	4500	75	2650	0.30
8	1~	230	50	1300	339	1.48	70	77	80	3645	106	2145	0.43
9	1~	230	50	1100	172	0.75	67	76	78	5000	0	2945	0.00
10	1~	230	50	1100	188	0.83	66	74	77	4475	27	2635	0.11
11	1~	230	50	1100	203	0.89	65	73	76	3805	53	2240	0.21
12	1~	230	50	1100	205	0.90	66	73	76	3085	76	1815	0.31
13	1~	230	50	900	94	0.41	62	71	73	4090	0	2410	0.00
14	1~	230	50	900	103	0.45	61	69	72	3660	18	2155	0.07
15	1~	230	50	900	111	0.49	60	68	71	3115	36	1835	0.14
16	1~	230	50	900	112	0.49	61	68	71	2520	51	1485	0.20

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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