W3G450-SP02-42

EC axial fan - AxiCool

sickle-shaped blades (S series), single-intake

Fan housing with guide vanes

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Nominal data

Type	**W3G450-SP02-42**
Motor	**M3G074-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		fa
Speed (rpm)	min^{-1}	1100
Power consumption	W	163
Current draw	A	1.34
Max. back pressure	Pa	74
Max. back pressure	in. wg	0.3
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}	%	37.7	28.7
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		49	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	2630
09 Pressure increase p_{fs}	Pa	74
10 Speed (rpm) n	min^{-1}	965
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-156903

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Technical description

Weight	10 kg
Size	450 mm
Motor size	74
Rotor surface	Painted black
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
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	IP54
Insulation class	"B"
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
Condensation drainage holes	On rotor side
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE

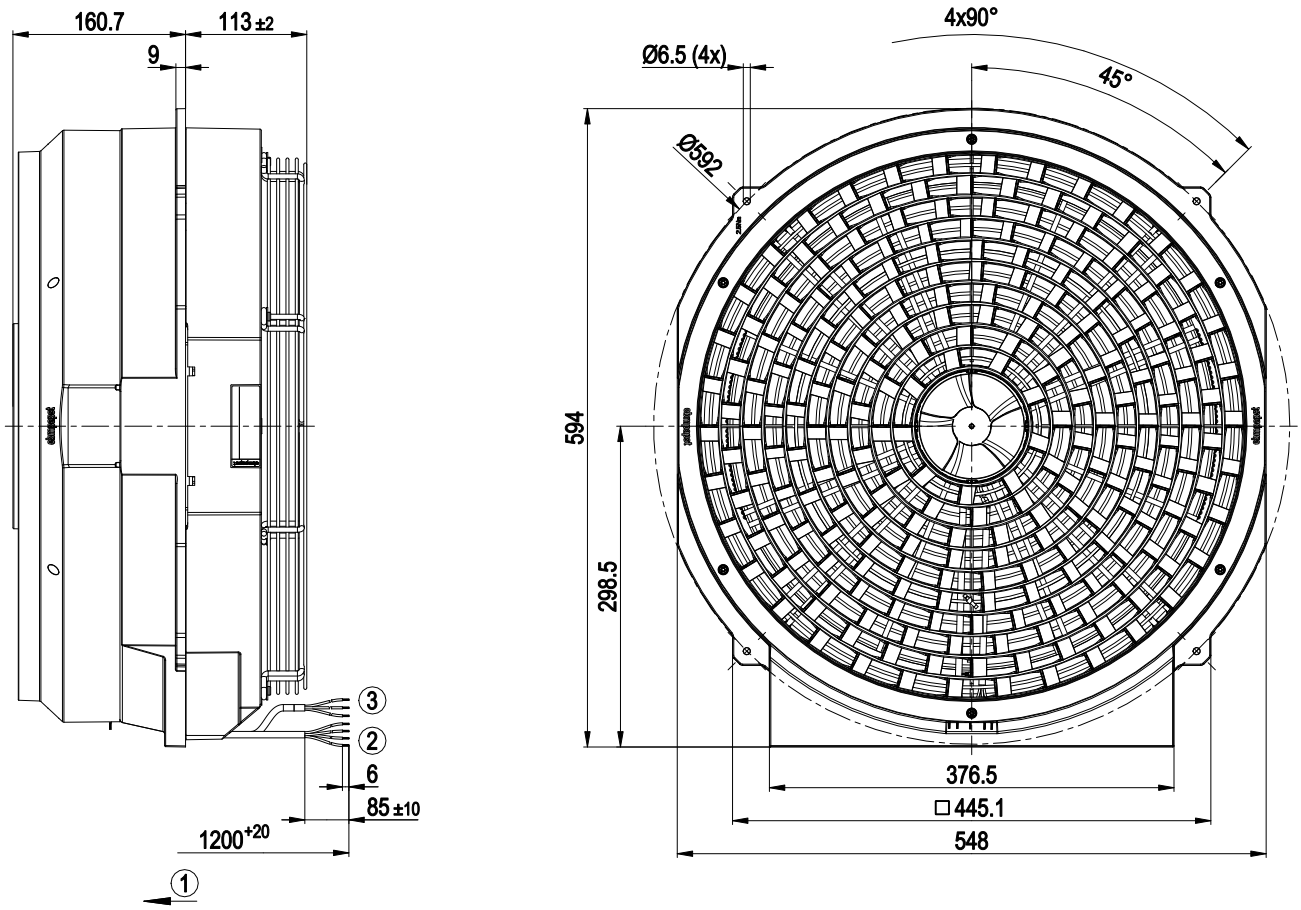
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Product drawing



1	Airflow direction "V"
2	Cable PVC AWG22
	4x splice
3	Cable PVC AWG20
	3x splice

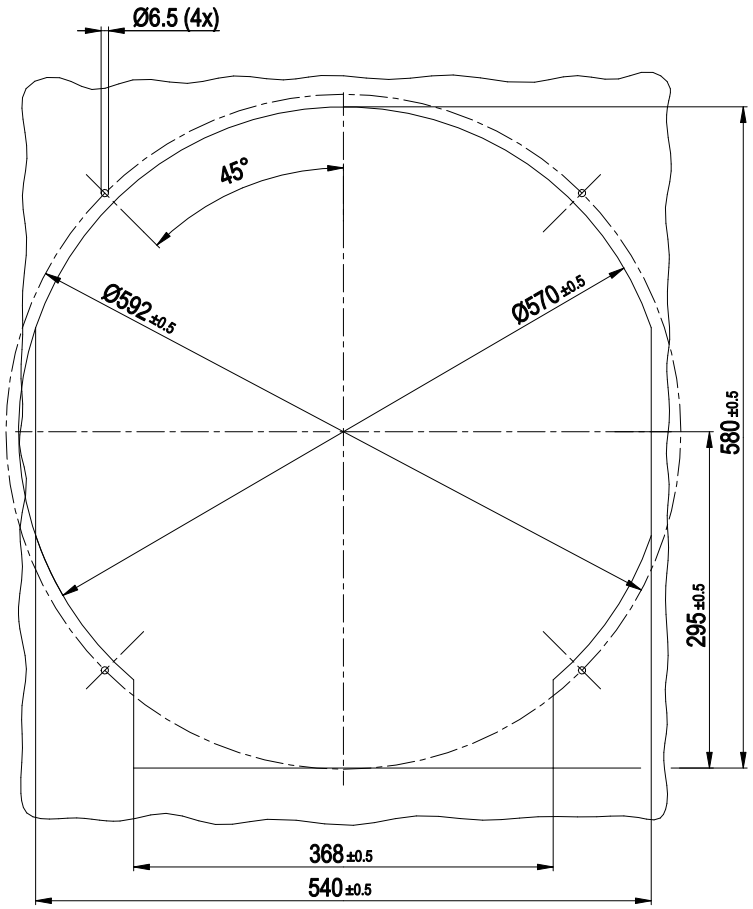
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Mounting dimensions



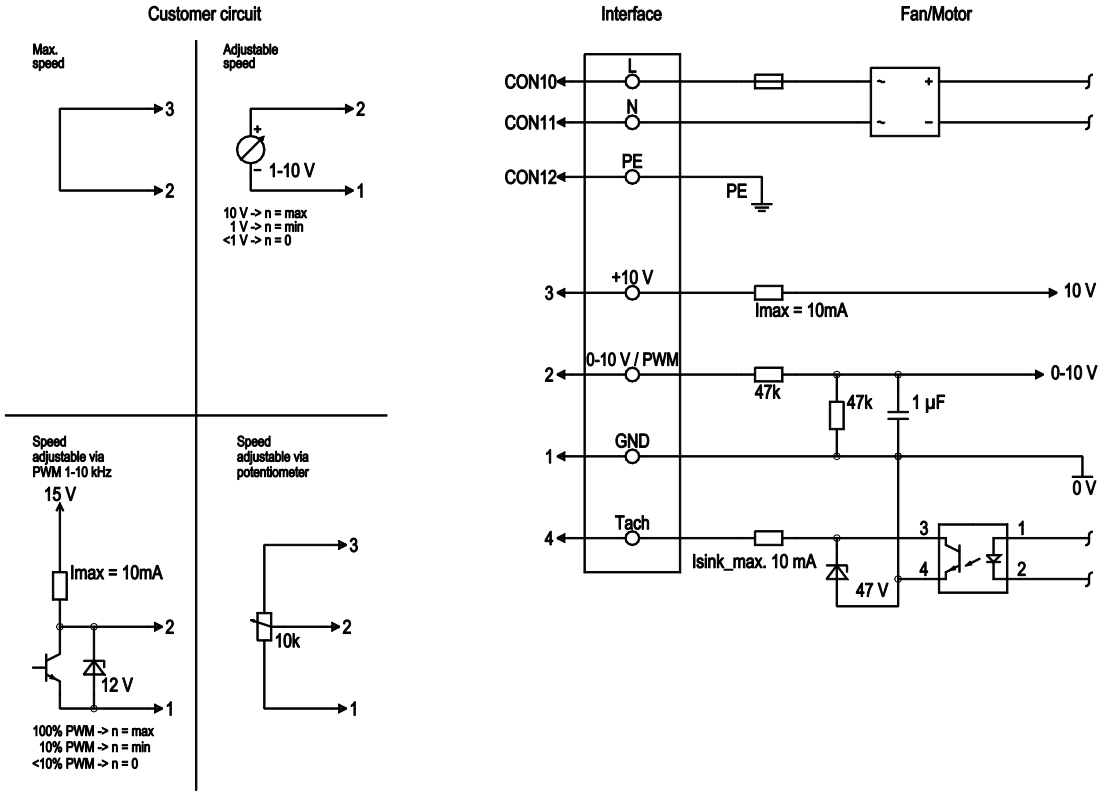
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / PWM control input, Ri=100 kΩ, SELV
	4	Tach	white	Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV
	1	GND	blue	Reference ground for control interface, SELV

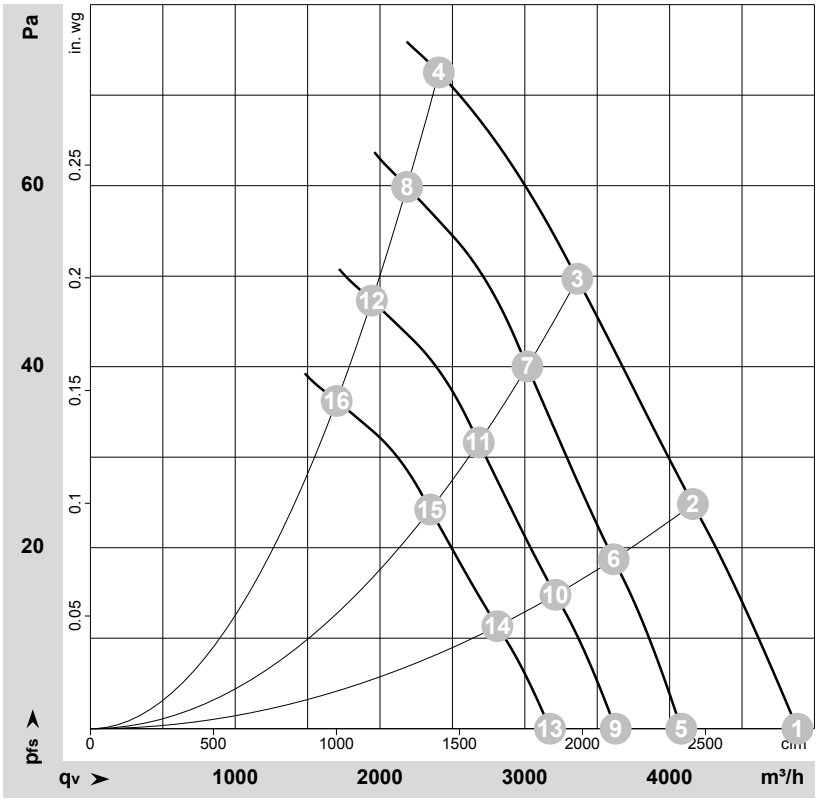
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-191924-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	1~	230	50	1100	163	1.34	4885	0	2875	0.00
2	1~	230	50	1035	163	1.34	4160	25	2450	0.10
3	1~	230	50	1005	163	1.34	3365	50	1980	0.20
4	1~	230	50	980	163	1.34	2405	74	1415	0.30
5	1~	230	50	900	97	0.84	4080	0	2400	0.00
6	1~	230	50	900	108	0.94	3615	19	2125	0.08
7	1~	230	50	900	120	1.05	3015	40	1775	0.16
8	1~	230	50	900	124	1.08	2185	60	1285	0.24
9	1~	230	50	800	68	0.59	3625	0	2135	0.00
10	1~	230	50	800	76	0.66	3210	15	1890	0.06
11	1~	230	50	800	84	0.73	2680	32	1580	0.13
12	1~	230	50	800	87	0.76	1945	47	1145	0.19
13	1~	230	50	700	46	0.40	3175	0	1870	0.00
14	1~	230	50	700	51	0.44	2810	11	1655	0.04
15	1~	230	50	700	56	0.49	2345	24	1380	0.10
16	1~	230	50	700	58	0.51	1700	36	1000	0.14

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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