

EC axial fan

sickled blades (S series), single inlet
Wall ring with air-guiding system

W3G450-SO02-42 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Nominal data

Type	W3G450-SO02-42	
Motor	M3G074-DF	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min ⁻¹	980
Power input	W	163
Current draw	A	1.34
Max. back pressure	Pa	74
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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 η_{es}	%	39.8	28.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		51.2	40
05 Variable speed drive		Yes	

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

09 Power input P_{ed}	kW	0.16
09 Air flow q_v	m³/h	3505
09 Pressure increase p_{fs}	Pa	61
10 Speed (rpm) n	min ⁻¹	1000
11 Specific ratio*		1.00

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$ LU-138244



EC axial fan

sickled blades (S series), single inlet

Wall ring with air-guiding system

Technical features

Mass	10 kg
Size	450 mm
Surface of rotor	Galvanised
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Material of wall ring	PP plastic, white
Material of guard grille	Steel, coated in pure white plastic (RAL 9010)
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity (F)/environmental protection class (H)	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Any
Condensate discharge holes	None, open rotor
Cooling bore / aperture	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Output limit - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Over-temperature protected electronics / motor - Line undervoltage detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	PTC resistor
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE

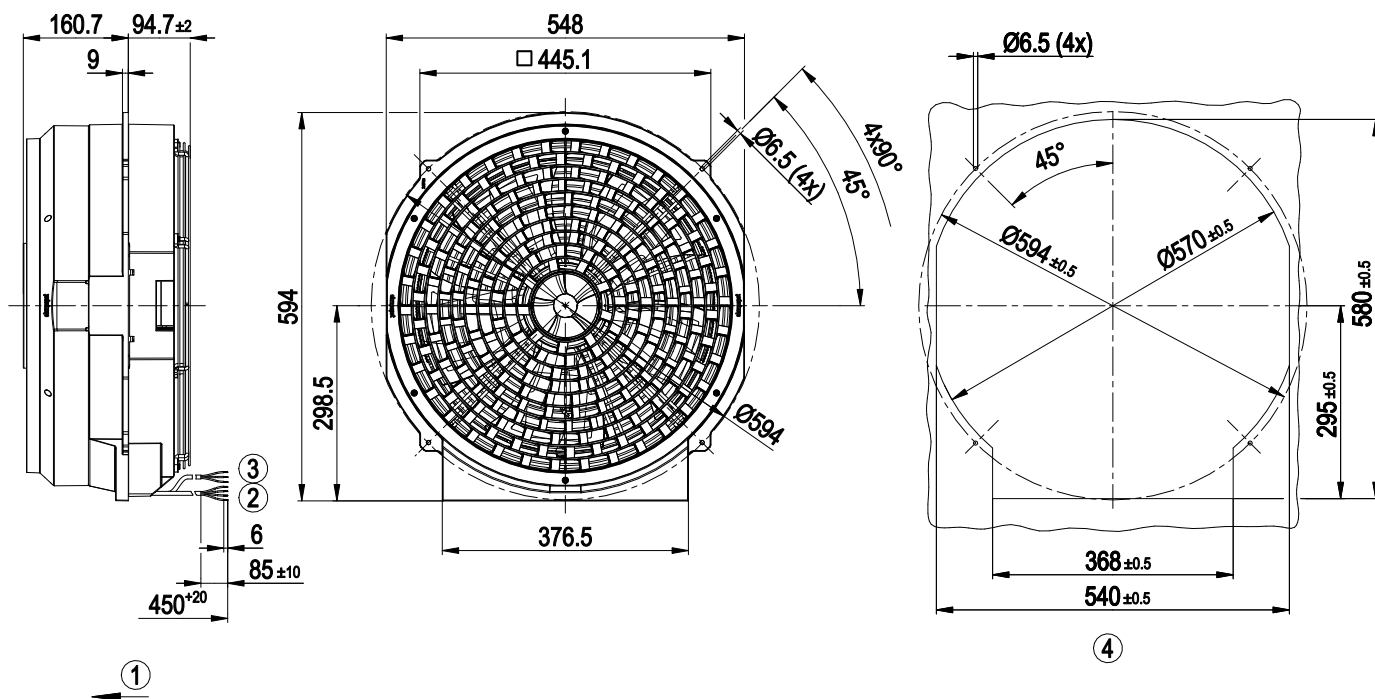


EC axial fan

sickled blades (S series), single inlet

Wall ring with air-guiding system

Product drawing



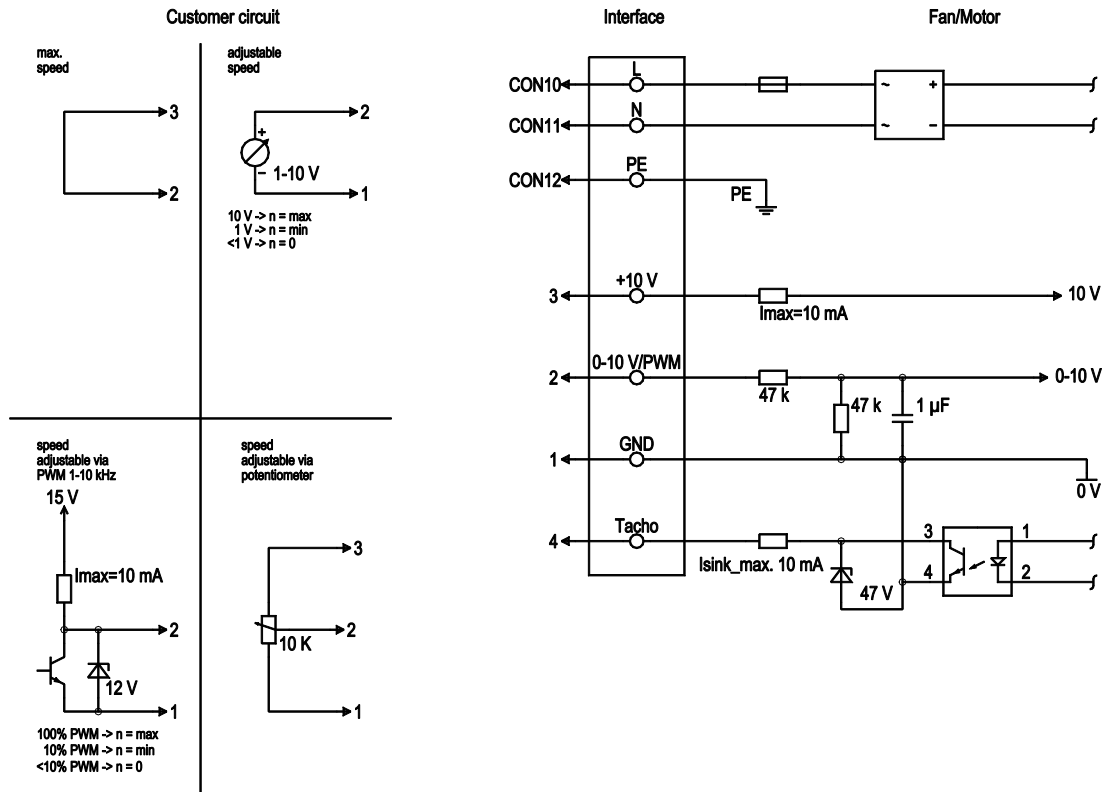
1	Direction of air flow "V"
2	Connection line PVC AWG22, 4x lead tips crimped
3	Connection line PVC AWG20, 3x lead tips crimped
4	Mounting dimensions

EC axial fan

sickled blades (S series), single inlet

Wall ring with air-guiding system

Connection screen



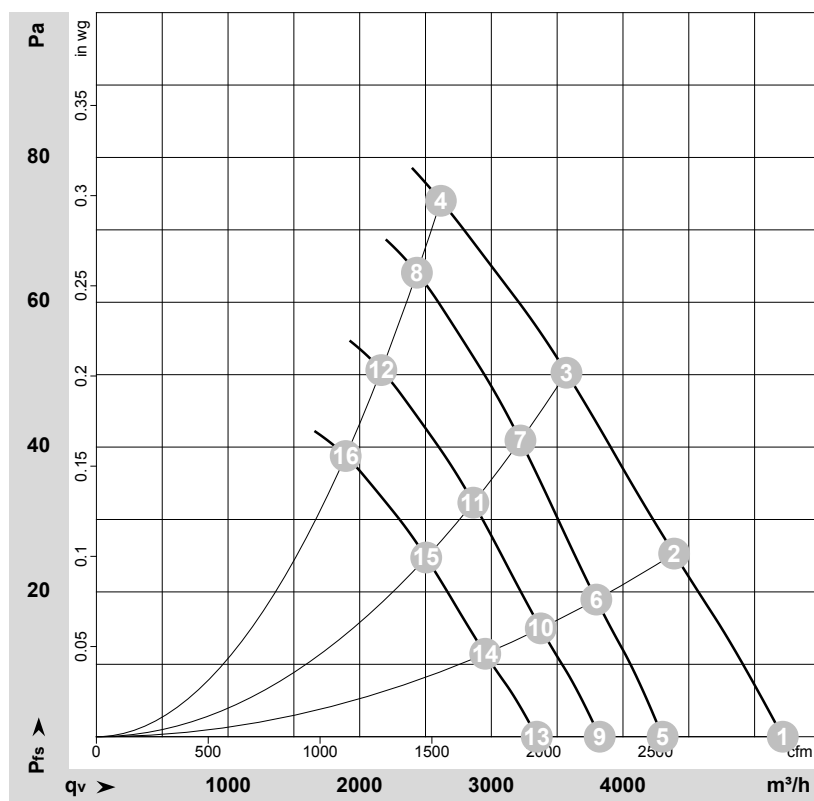
No.	Conn.	Designation	Colour	Function / assignment
	CON10	L	black	Mains connection, power supply, phase, see type plate for voltage range
	CON11	N	blue	Mains connection, power supply, neutral conductor, see type plate for voltage range
	CON12	PE	green/yellow	Earth connection
	2	0- 10V PWM	yellow	0-10 V/PWM control input, R _i =100 kΩ, SELV
	4	Tach	white	Speed monitoring output, open collector, 1 pulse per revolution, I _{sink} max = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, I _{max} . 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometer), SELV
	1	GND	blue	Signal ground for control interface, SELV

EC axial fan

sickled blades (S series), single inlet

Wall ring with air-guiding system

Charts: Air flow 50 Hz



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-156903-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. 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	P _{ed}	I	LpA _{in}	LwA _{in}	q _v	P _{fs}	q _v	P _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m³/h	Pa	cfm	inH ₂ O
1	230	50	1090	163	1.34	63	70	5215	0	3070	0.00
2	230	50	1040	163	1.34	62	69	4390	25	2585	0.10
3	230	50	1000	163	1.34	58	66	3570	50	2100	0.20
4	230	50	980	163	1.34	61	68	2615	74	1540	0.30
5	230	50	900	93	0.77	58	65	4300	0	2530	0.00
6	230	50	900	107	0.88	59	65	3800	19	2235	0.08
7	230	50	900	121	1.01	56	63	3220	41	1895	0.16
8	230	50	900	133	1.10	59	66	2435	64	1435	0.26
9	230	50	800	65	0.54	55	62	3825	0	2250	0.00
10	230	50	800	75	0.62	56	62	3375	15	1985	0.06
11	230	50	800	85	0.71	53	60	2865	32	1685	0.13
12	230	50	800	93	0.77	56	63	2165	51	1275	0.20
13	230	50	700	44	0.36	52	59	3345	0	1970	0.00
14	230	50	700	50	0.42	52	59	2955	11	1740	0.04
15	230	50	700	57	0.47	49	57	2505	25	1475	0.10
16	230	50	700	62	0.52	53	60	1895	39	1115	0.16

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · q_v = Air flow
P_{fs} = Pressure increase

