A3G500-BK07-G1

EC axial fan - HyBlade

sickled blades (S series)

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Nominal data

Type	**A3G500-BK07-G1**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	970
Power input	W	250
Current draw	A	1.1
Max. back pressure	Pa	80
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	29.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		50	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.24
09 Air flow q_v	m^3/h	3975
09 Pressure increase p_{fs}	Pa	80
10 Speed (rpm) n	min^{-1}	970
11 Specific ratio*		1.00

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

* Specific ratio = 1 + p_{fs} / 100 000 Pa

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Technical features

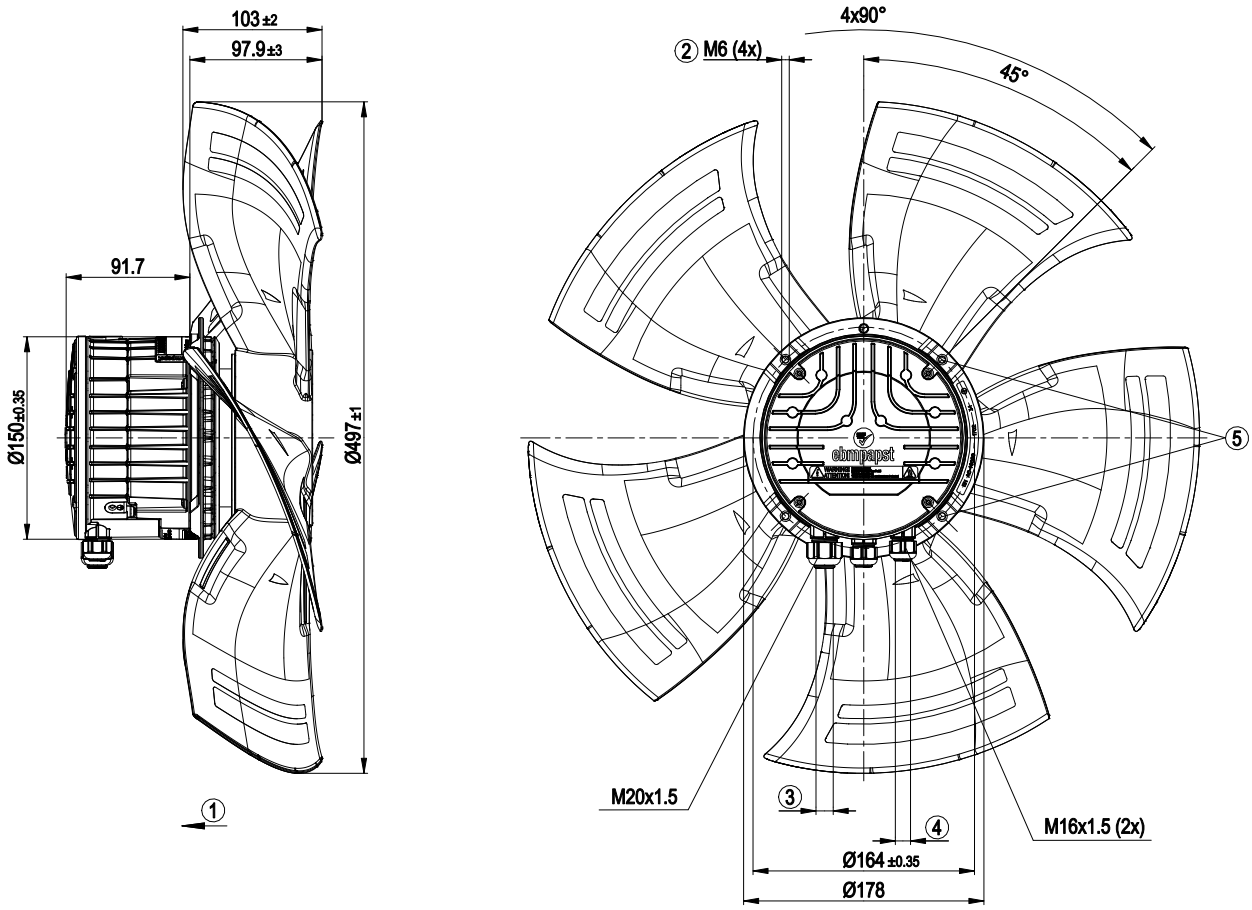
Mass	4.6 kg
Size	500 mm
Surface of rotor	Coated in black
Material of terminal box	PP plastic
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F4-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, active - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC harmonics	Acc. to EN 61000-3-2/3
EMC interference emission	Acc. to EN 61000-6-3 (household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	C22.2 Nr.77 + CAN/CSA-E60730-1; UL 1004-7 + 60730; EAC
Remark	Standard conformity as per EN 60335-1 in preparation

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Product drawing



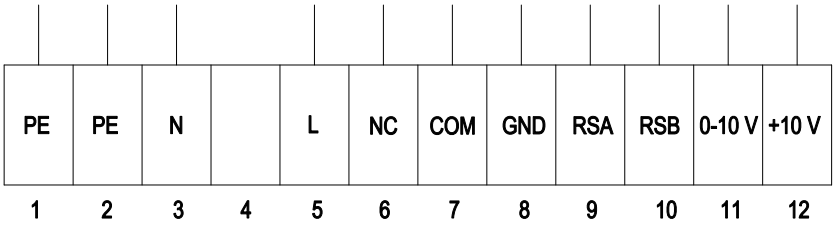
1	Direction of air flow "V"
2	Screw depth max. 16 mm
3	Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5±0.4 Nm
4	Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5±0,4 Nm Cable diameter min. 4 mm, max. 7 mm, tightening torque 2.5±0.4 Nm (use must be made of sealing ring provided)
5	Tightening torque 1.5±0.2 Nm

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Connection screen



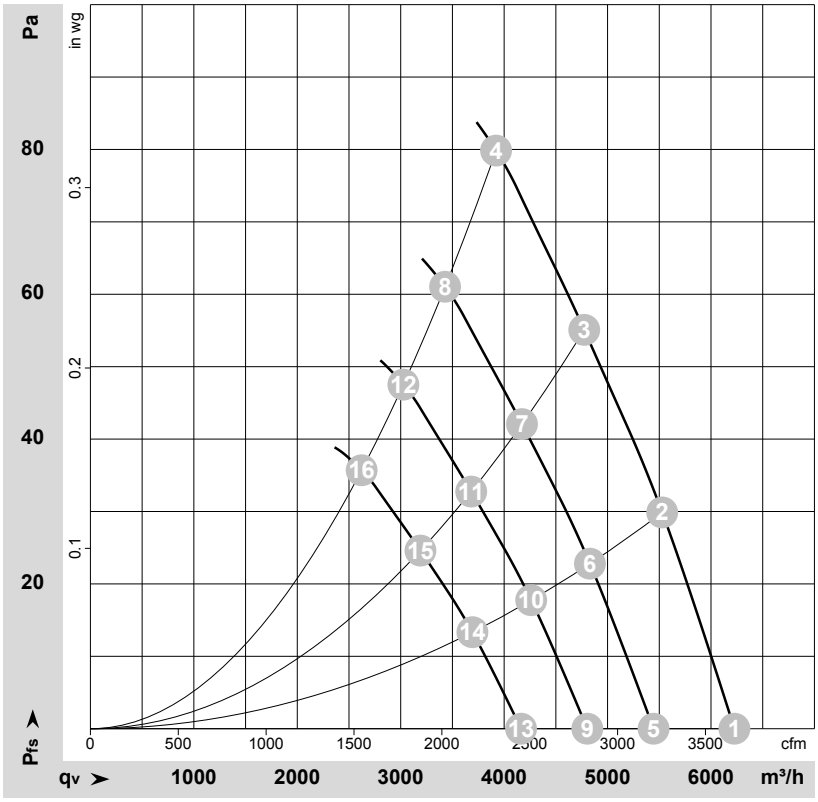
No.	Conn.	Designation	Function / assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	N	Power supply, neutral conductor
	4	-	not used
	5	L	Power supply, phase
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on mains 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 mains side and reinforced insulation on control interface side
	8	GND	Signal ground for control interface, SELV
	9	RSA	RS-485 interface for MODBUS, RSA; SELV
	10	RSB	RS-485 interface for MODBUS, RSB; SELV
	11	0-10 V	Analogue input (set value) SELV, 0-10 V, Ri=100kΩ, parametrisable 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. potentiometer)

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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-154661-1

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}	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	inH2O
1	230	50	970	177	0.82	62	68	68	6225	0	3665	0.00
2	230	50	970	207	0.94	58	65	64	5530	30	3255	0.12
3	230	50	970	228	1.03	56	62	62	4775	55	2810	0.22
4	230	50	970	250	1.10	56	63	62	3920	80	2310	0.32
5	230	50	850	118	0.55	58	65	64	5445	0	3205	0.00
6	230	50	850	138	0.63	55	61	61	4830	23	2845	0.09
7	230	50	850	152	0.69	52	59	58	4175	42	2455	0.17
8	230	50	850	166	0.75	53	60	59	3430	61	2020	0.24
9	230	50	750	81	0.38	55	62	61	4805	0	2830	0.00
10	230	50	750	95	0.43	52	58	57	4260	18	2510	0.07
11	230	50	750	105	0.47	49	56	55	3680	33	2165	0.13
12	230	50	750	114	0.51	49	57	56	3025	48	1780	0.19
13	230	50	650	53	0.24	52	58	57	4165	0	2450	0.00
14	230	50	650	62	0.28	48	54	54	3695	13	2175	0.05
15	230	50	650	68	0.31	46	52	52	3190	25	1880	0.10
16	230	50	650	74	0.33	46	53	52	2620	36	1545	0.14

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

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