A3G500-BM03-M4

EC axial fan

sickle-shaped blades (S series)

A3G500-BM03-M4 ebmpapst Datasheet
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Nominal data

Type	**A3G500-BM03-M4**
Motor	**M3G084-GF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1370
Power consumption	W	630
Current draw	A	1.0
Max. back pressure	Pa	150
Max. back pressure	in. wg	0.6
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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	42.4	32.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		50	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.64
09 Air flow q_v	m^3/h	5650
09 Pressure increase p_{fs}	Pa	159
10 Speed (rpm) n	min^{-1}	1370
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-162566

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Technical description

Weight	6 kg
Fan size	500 mm
Rotor surface	Painted black
Terminal box material	PP plastic
Electronics housing material	Die-cast aluminum, painted black
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Number of blades	5
Airflow direction	"A"
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Ambient temperature note	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our fan design with special low-temperature bearings.
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Rotor on top
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - 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	Via 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	UL 1004-7 + 60730; C22.2 No.77 + CAN/CSA-E60730-1; EAC

Comment	Conformity with EN 60335-1 in preparation

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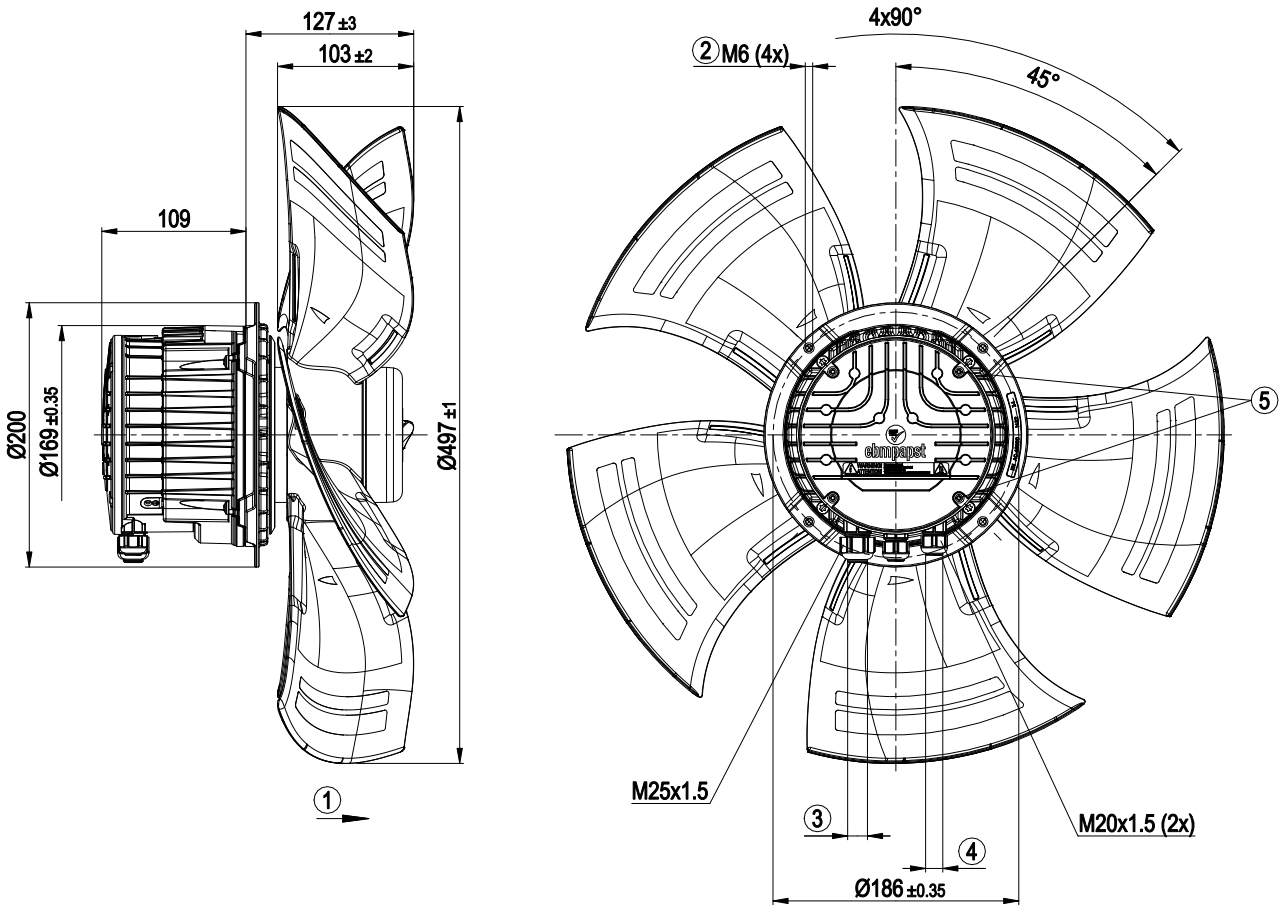
Product drawing



1	Direction of air flow "A"
2	Max. clearance for screw 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 (included seal must be used)
5	Tightening torque 1.5 ± 0.2 Nm

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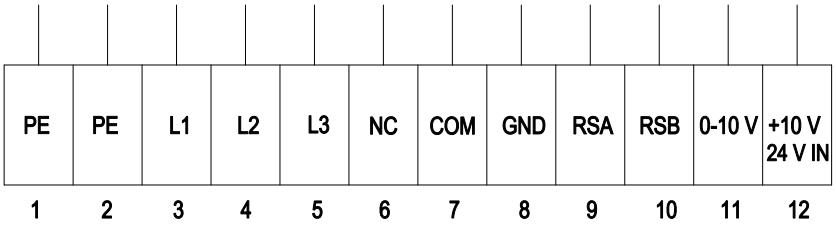
Connection diagram



No.	Conn.	Designation	Function/assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	L1	Power supply
	4	L2	Power supply
	5	L3	Power supply
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side
	7	COM	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic 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); fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply

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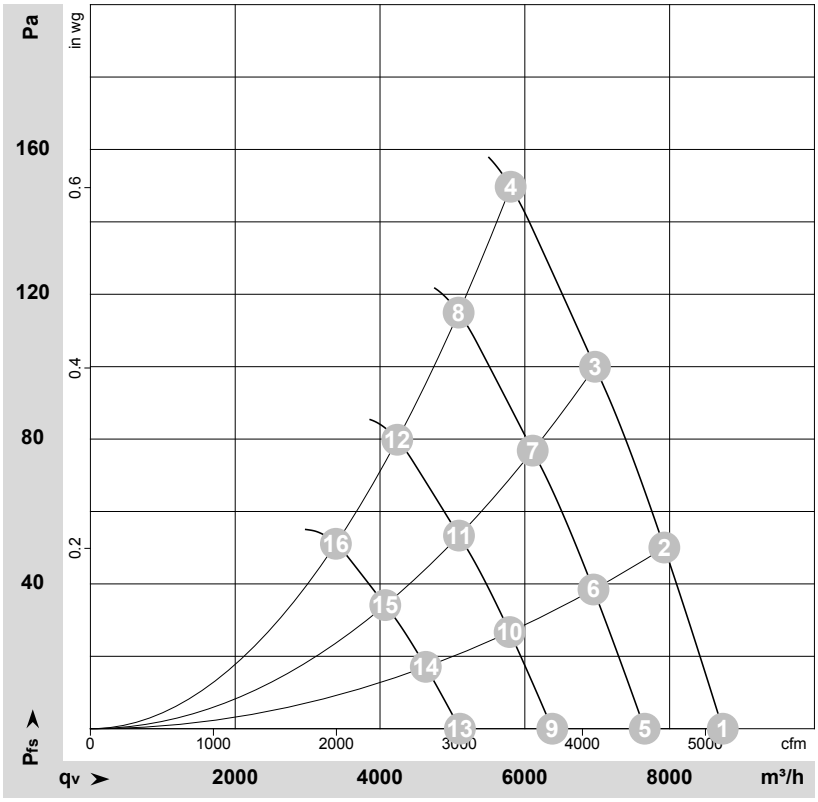
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-162566-1

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	Δ	400	50	1370	471	0.77	66	73	73	8735	0	5140	0.00
2	Δ	400	50	1370	537	0.86	64	71	70	7925	50	4665	0.20
3	Δ	400	50	1370	591	0.94	63	70	70	6970	100	4100	0.40
4	Δ	400	50	1370	630	1.00	65	72	71	5805	150	3415	0.60
5	Δ	400	50	1200	317	0.52	63	69	69	7655	0	4505	0.00
6	Δ	400	50	1200	361	0.58	61	67	67	6950	40	4090	0.16
7	Δ	400	50	1200	398	0.64	60	66	66	6110	77	3595	0.31
8	Δ	400	50	1200	430	0.68	62	69	68	5085	116	2995	0.47
9	Δ	400	50	1000	184	0.30	58	65	65	6380	0	3755	0.00
10	Δ	400	50	1000	209	0.34	56	63	63	5790	28	3410	0.11
11	Δ	400	50	1000	230	0.37	55	62	62	5090	53	2995	0.21
12	Δ	400	50	1000	249	0.40	57	64	63	4240	81	2495	0.33
13	Δ	400	50	800	94	0.15	53	59	59	5105	0	3005	0.00
14	Δ	400	50	800	107	0.17	50	57	57	4630	18	2725	0.07
15	Δ	400	50	800	118	0.19	49	56	56	4075	34	2395	0.14
16	Δ	400	50	800	127	0.20	52	58	58	3390	52	1995	0.21

Wired = Wiring · U = Power supply · 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