A3G710-BB80-51

EC axial fan - HyBlade

sickled blades (S series)

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Nominal data

Type	**A3G710-BB80-51**
Motor	**M3G112-EA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed (rpm)	min^{-1}	730
Power input	W	400
Current draw	A	0.67
Max. back pressure	Pa	85
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}	%	45.9	31
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		54.9	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.38
09 Air flow q_v	m^3/h	7600
09 Pressure increase p_{fs}	Pa	75
10 Speed (rpm) n	min^{-1}	730
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

LU-159848

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Technical features

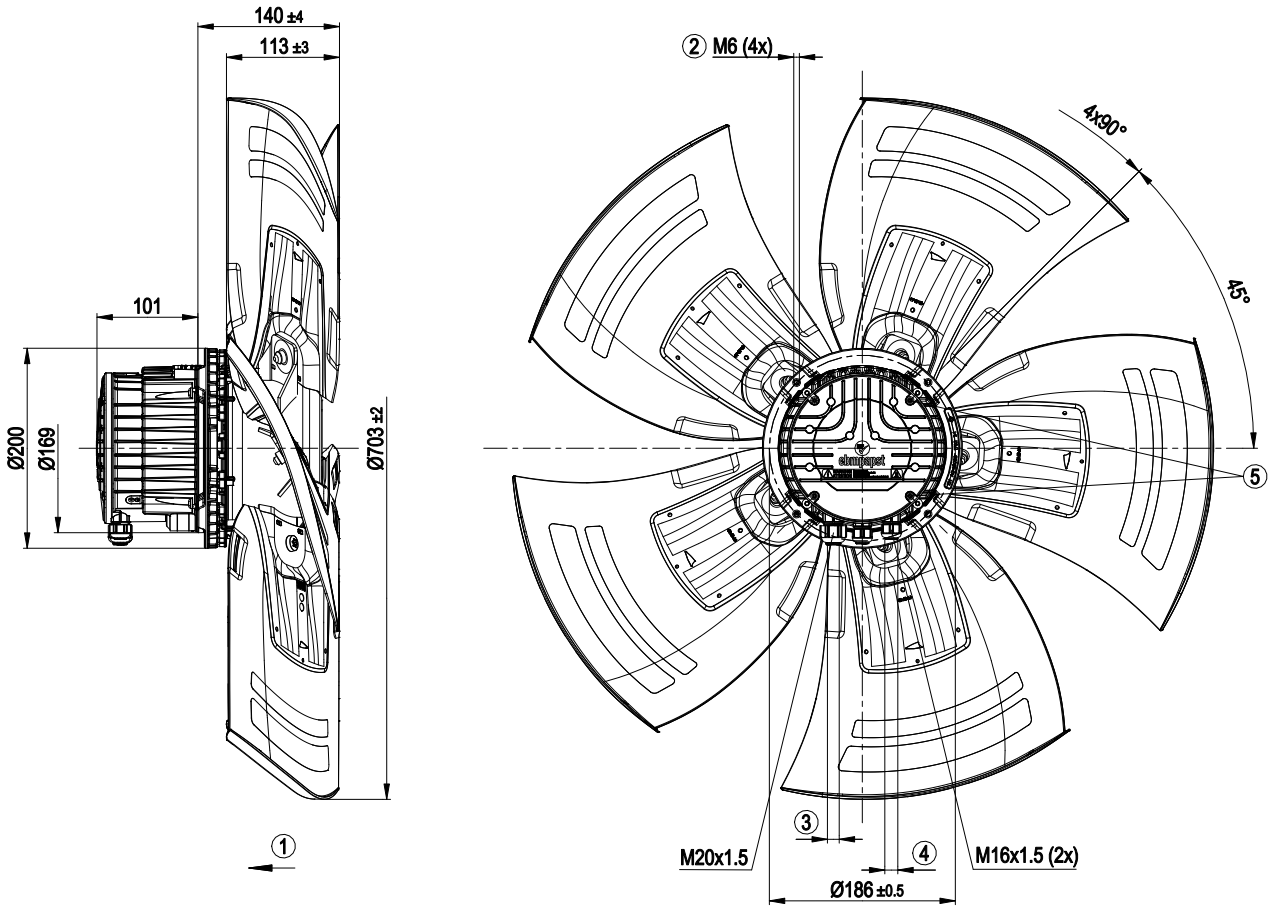
Mass	12.2 kg
Size	710 mm
Surface of rotor	Coated in black
Material of terminal box	PP plastic
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Aluminium sheet insert, sprayed with PP plastic
Number of blades	5
Blade angle	-5°
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	H2
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; (sealed)
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (programming) - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - 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
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	UL 1004-7 + 60730; EAC; C22.2 Nr.77 + CAN/CSA-E60730-1
Remark	Standard conformity as per EN 60335-1 in preparation

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Product drawing



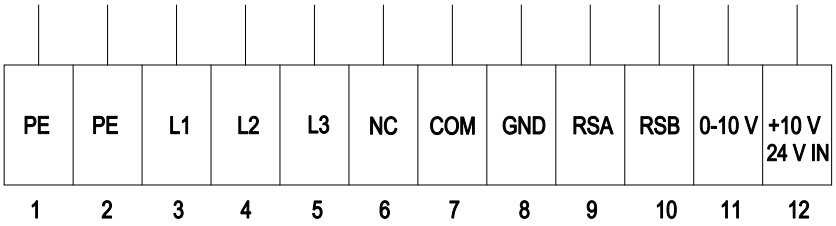
1	Direction of air flow "V"
2	Thread reach max. 16 mm
3	Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5±0.4 Nm
4	Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5±0,4 Nm Cable diameter min. 4 mm, max. 7 mm, tightening torque 2.5±0.4 Nm (use must be made of sealing ring provided)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

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Connection screen



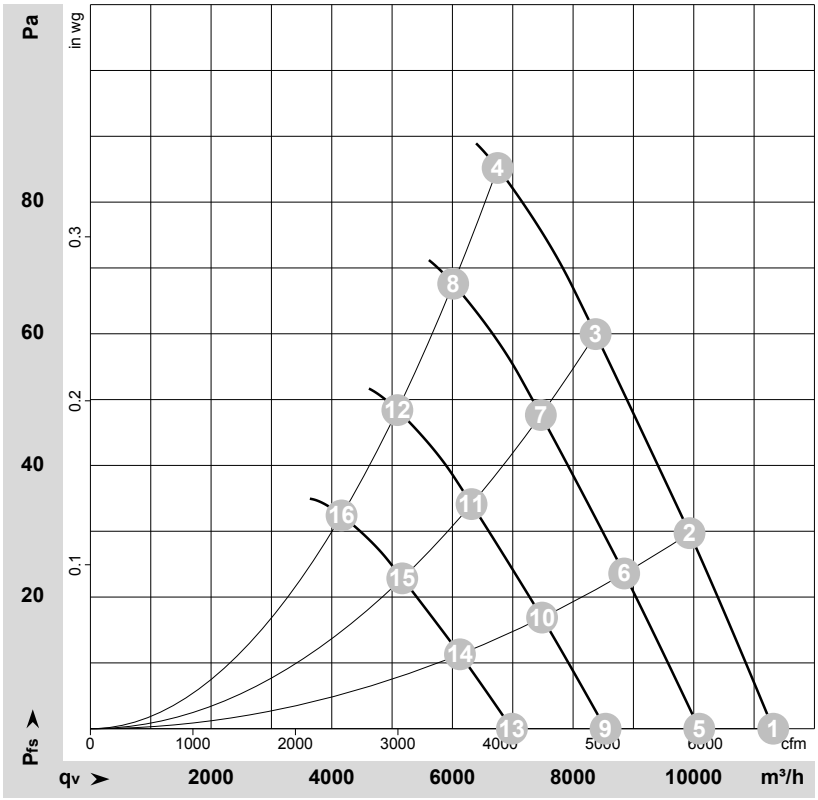
No.	Conn.	Designation	Function / assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	L1	Power supply
	4	L2	Power supply
	5	L3	Power supply
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic 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 mains side and basic 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 ext. devices (e.g. potentiometer); Fixed voltage input 24 VDC for parameter setting via MODBUS without mains power supply

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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-159848-1

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	400	50	730	219	0.41	60	67	66	11320	0	6660	0.00
2	400	50	730	288	0.50	58	65	64	9930	30	5845	0.12
3	400	50	730	350	0.59	60	66	66	8375	60	4930	0.24
4	400	50	730	400	0.67	64	71	71	6750	85	3970	0.34
5	400	50	650	155	0.29	58	64	63	10090	0	5940	0.00
6	400	50	650	204	0.35	55	62	61	8845	24	5205	0.10
7	400	50	650	248	0.42	57	64	63	7465	48	4395	0.19
8	400	50	650	286	0.47	61	68	68	6015	68	3540	0.27
9	400	50	550	94	0.17	53	59	59	8540	0	5025	0.00
10	400	50	550	123	0.22	51	57	57	7485	17	4405	0.07
11	400	50	550	150	0.25	53	59	59	6315	34	3720	0.14
12	400	50	550	173	0.29	56	63	64	5090	48	2995	0.19
13	400	50	450	51	0.10	48	54	54	6985	0	4110	0.00
14	400	50	450	68	0.12	46	52	52	6125	11	3605	0.04
15	400	50	450	82	0.14	48	54	54	5170	23	3040	0.09
16	400	50	450	95	0.16	51	58	59	4165	32	2450	0.13

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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