A3G710-BB77-41

EC axial fan - HyBlade

sickled blades (S series)

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Nominal data

Type	**A3G710-BB77-41**
Motor	**M3G112-EA**

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}	620
Power input	W	250
Current draw	A	1.1
Max. back pressure	Pa	60
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}	%	46.4	29.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		56.8	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.23
09 Air flow q_v	m^3/h	6515
09 Pressure increase p_{fs}	Pa	54
10 Speed (rpm) n	min^{-1}	620
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-161725

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Technical features

Mass	9.3 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
Note ambient temperature	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at ambient temperatures below -25°C (e.g. refrigeration applications) we recommend our fan version with special low-temperature bearings.
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 - 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; EAC; UL 1004-7 + 60730

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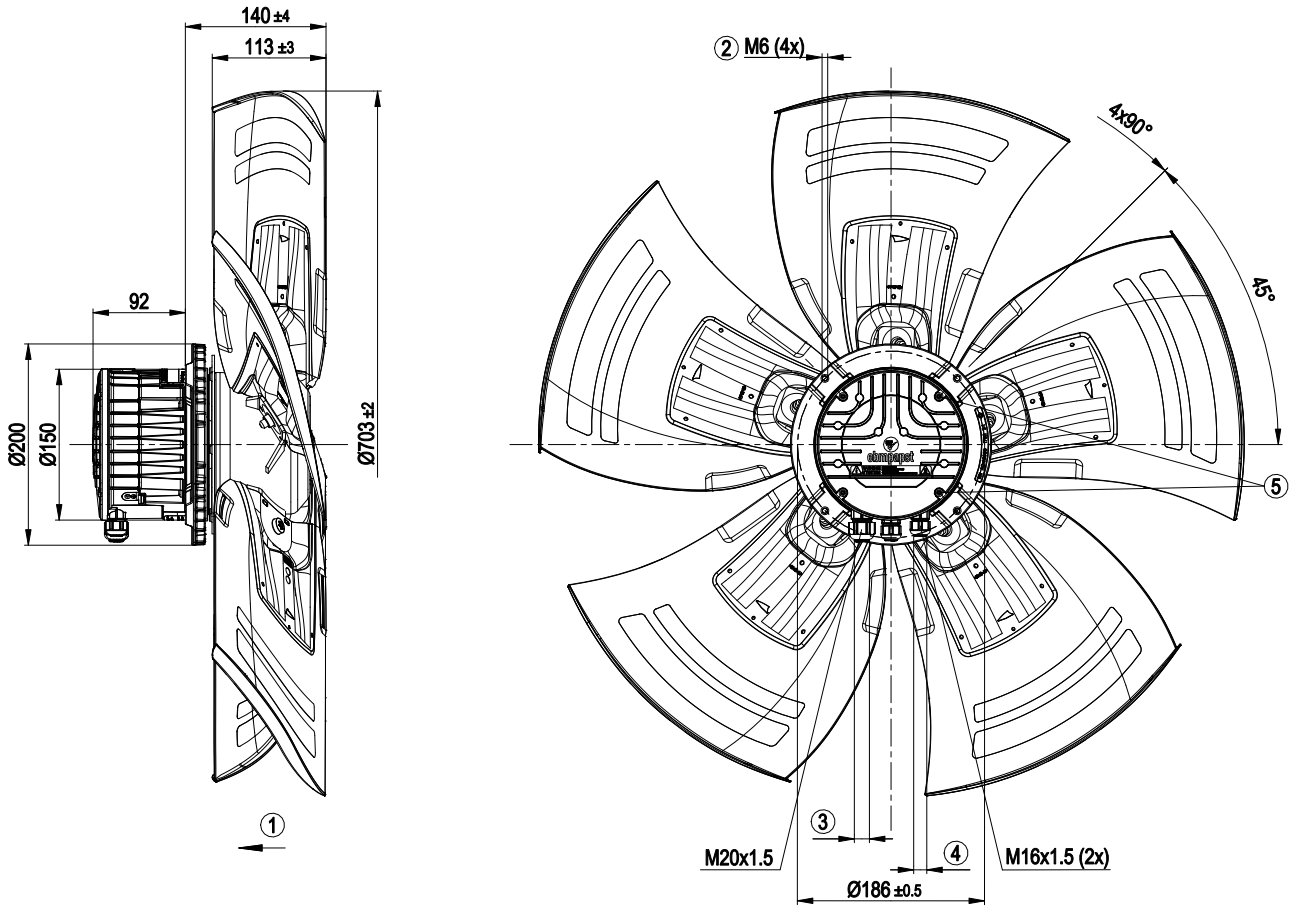
Remark	Standard conformity as per EN 60335-1 in preparation

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Product drawing



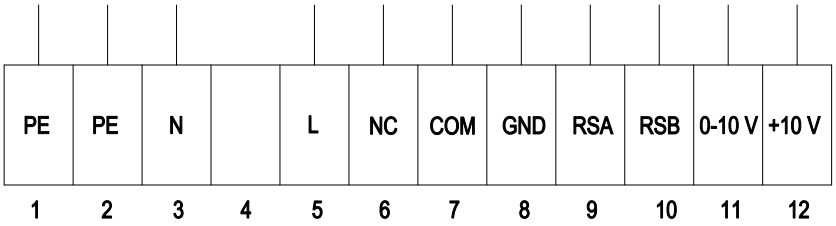
1	Direction of air flow "V"
2	Thread reach max. 16 mm
3	Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5±0.4 Nm
4	Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5±0,4 Nm Cable diameter min. 4 mm, max. 7 mm, tightening torque 2.5±0.4 Nm (use must be made of sealing ring provided)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

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Connection screen



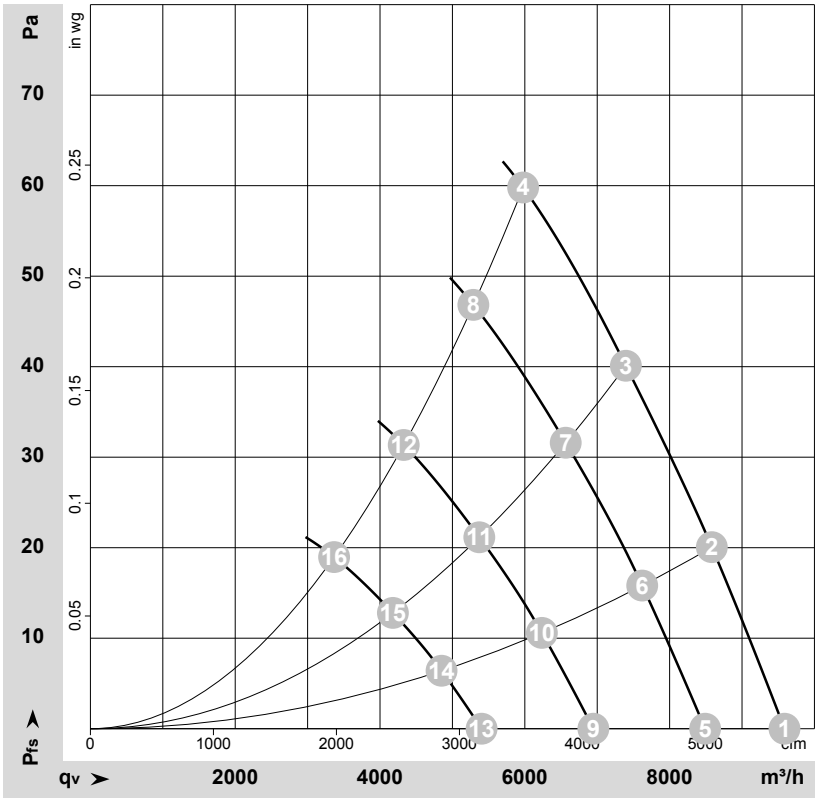
No.	Conn.	Designation	Function / assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	N	Power supply, neutral conductor
	4	-	not used
	5	L	Power supply, phase
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on mains 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 = 1.175 kg/m³ ± 2 %

Measurement: LU-161725-1

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	620	141	0.65	57	63	62	9585	0	5640	0.00
2	230	50	620	177	0.80	54	60	59	8585	20	5050	0.08
3	230	50	620	213	0.95	55	61	60	7395	40	4355	0.16
4	230	50	620	250	1.10	58	65	64	5975	60	3520	0.24
5	230	50	550	98	0.45	54	60	59	8490	0	4995	0.00
6	230	50	550	124	0.56	51	57	56	7620	16	4485	0.06
7	230	50	550	149	0.66	52	58	57	6565	32	3865	0.13
8	230	50	550	172	0.76	55	62	61	5290	47	3115	0.19
9	230	50	450	53	0.25	49	55	54	6945	0	4090	0.00
10	230	50	450	68	0.31	46	52	51	6235	11	3670	0.04
11	230	50	450	82	0.36	47	53	52	5370	21	3160	0.08
12	230	50	450	94	0.42	50	57	56	4325	31	2545	0.12
13	230	50	350	25	0.12	42	49	48	5405	0	3180	0.00
14	230	50	350	32	0.14	39	46	45	4850	6	2855	0.02
15	230	50	350	38	0.17	40	47	46	4180	13	2460	0.05
16	230	50	350	44	0.20	43	50	50	3365	19	1980	0.08

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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