

A3G710-AO85-23

EC axial fan - HyBlade®

sickled blades (S series)



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Nominal data

Type	A3G710-AO85-23	
Motor	M3G112-IA	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed	min ⁻¹	830
Power input	W	700
Current draw	A	3.1
Max. back pressure	Pa	100
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

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

* Specific ratio = $1 + p_b / 100\,000\text{ Pa}$

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	41.3	28.5	32.5
Efficiency grade N		48.8	36	40
Power input P_{ed}	kW	0.66		
Air flow q_v	m ³ /h	10435		
Pressure increase p_{fs}	Pa	87		
Speed n	min ⁻¹	835		

Data definition with optimum efficiency. LU-120942
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



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Technical features

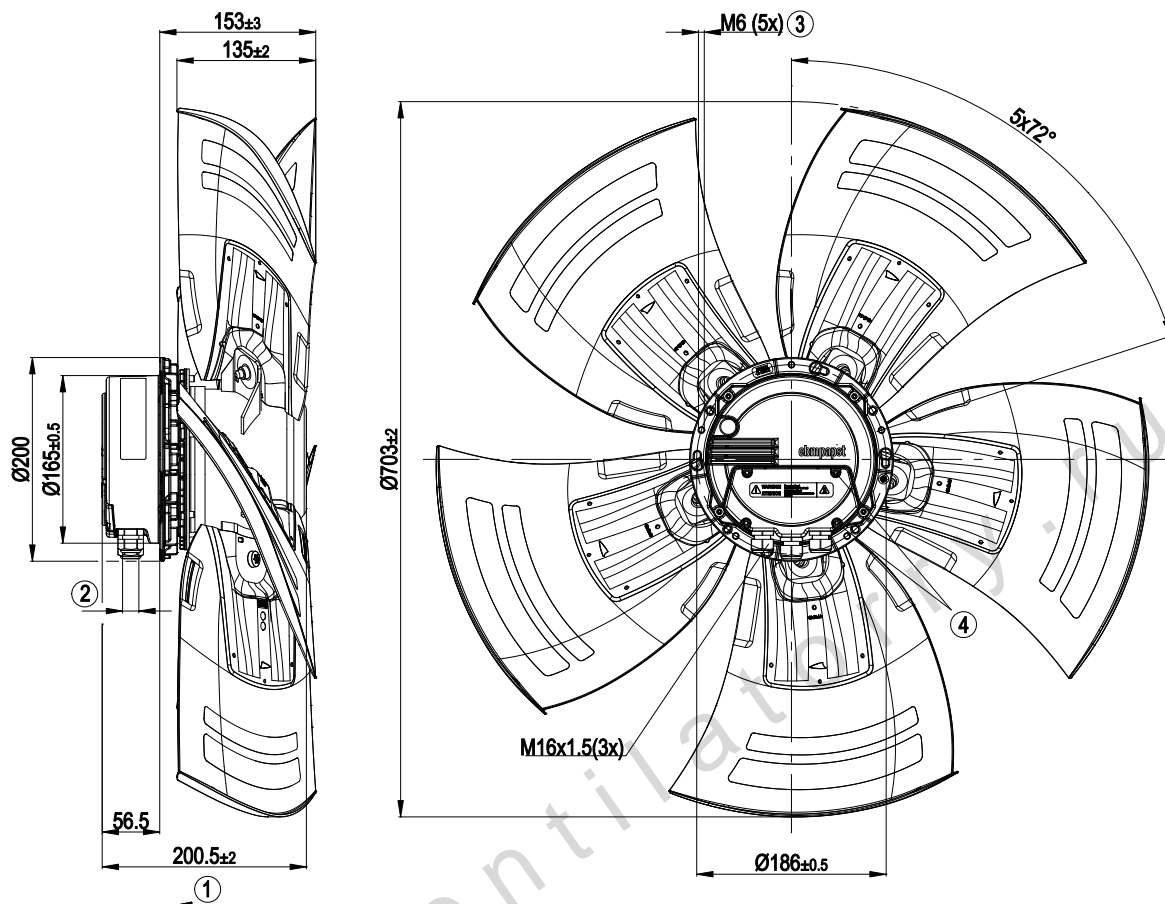
Mass	15 kg
Size	710 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Aluminium sheet insert, sprayed with PP plastic
Number of blades	5
Blade angle	0°
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity class	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	<ul style="list-style-type: none"> - Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - Alarm relay - Integrated PID controller - Motor current limit - PFC, active - RS485 ebmBUS - Soft start - Control input 0-10 VDC / PWM - Over-temperature protected electronics / motor - Line undervoltage 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 61000-6-4 (industrial 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
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	EAC

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Product drawing



1	Direction of air flow "V"
2	Cable diameter: min. 4 mm, max. 10 mm, tightening torque: 2.5±0.4 Nm
3	Depth of screw 12 - 16 mm
4	Tightening torque 3.5±0.5 Nm

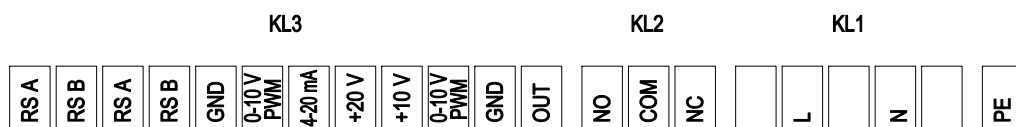


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Connection screen



No.	Conn.	Designation	Function / assignment
PE		PE	Protective earth
KL1		N	Mains 50/60 Hz, neutral
KL1		L	Mains 50/60 Hz, phase
KL2		COM	Alarm relay, COMMON (2A, 250 VAC, AC1)
KL2		NC	Alarm relay, normally closed connection
KL2		NO	Alarm relay, close with error
KL3		+10 V	Supply for external potentiometer, 10 VDC (+10%) @ 10 mA
KL3		+20 V	Supply for external sensor, 20 VDC (±20%) @ 50 mA
KL3		0-10 V/PWM	Control / Actual sensor value input
KL3		0-10 V/PWM	Control / Actual sensor value input (impedance 100 kΩ)
KL3		4-20 mA	Control / Actual sensor value input
KL3		GND	GND
KL3		GND	GND
KL3		OUT	Master output 0-10 V max. 3 mA
KL3		RSA	RS485 interface for ebmBUS; RS A
KL3		RSA	RS485 interface for ebmBUS; RS A
KL3		RSB	RS485 interface for ebmBUS; RS B
KL3		RSB	RS485 interface for ebmBUS; RS B

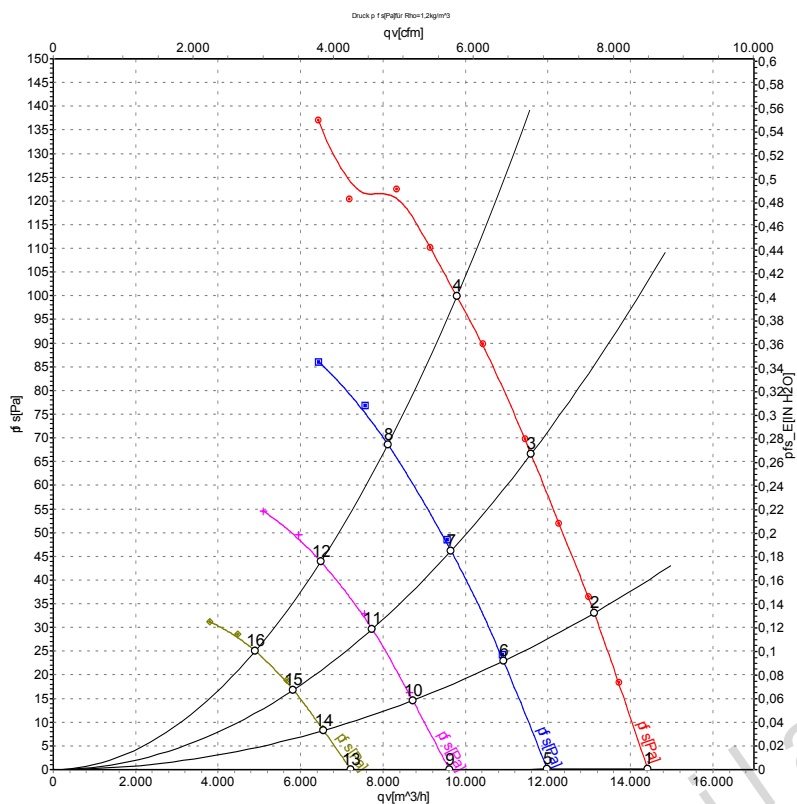


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Charts: Air flow 50 Hz



Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. 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}	qv	p _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa
1	230	50	830	448	2.10	62	69	68	14420	0
2	230	50	830	536	2.45	61	67	67	13120	33
3	230	50	830	618	2.78	62	68	68	11590	67
4	230	50	830	700	3.10	66	73	72	9795	100
5	230	50	690	260	1.23	58	64	63	11980	0
6	230	50	690	302	1.41	58	63	63	10920	24
7	230	50	690	352	1.64	58	64	64	9650	47
8	230	50	690	394	1.82	62	68	68	8115	69
9	230	50	550	144	0.68	53	59	58	9610	0
10	230	50	550	170	0.81	53	58	58	8720	15
11	230	50	550	190	0.90	54	60	59	7735	30
12	230	50	550	211	0.99	57	63	63	6490	44
13	230	50	415	74	0.43	48	53	52	7220	0
14	230	50	415	84	0.48	47	52	52	6555	8
15	230	50	415	92	0.51	49	54	54	5825	17
16	230	50	415	100	0.51	51	57	57	4900	25

U = Supply voltage · f = Frequency · n = Speed · 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
 qv = Air flow · p_{fs} = Pressure increase

