

A3G710-AO81-01

# EC axial fan - HyBlade®

sickled blades (S series)



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### Nominal data

Type	A3G710-AO81-01	
Motor	M3G112-IA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed	min <sup>-1</sup>	900
Power input	W	930
Current draw	A	1.5
Max. back pressure	Pa	125
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 $\eta_{es}$	%	41.9	29.3	33.3
Efficiency grade N		48.6	36	40
Power input $P_{ed}$	kW	0.86		
Air flow $q_v$	m <sup>3</sup> /h	11370		
Pressure increase $p_{fs}$	Pa	105		
Speed n	min <sup>-1</sup>	905		

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



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## Technical features

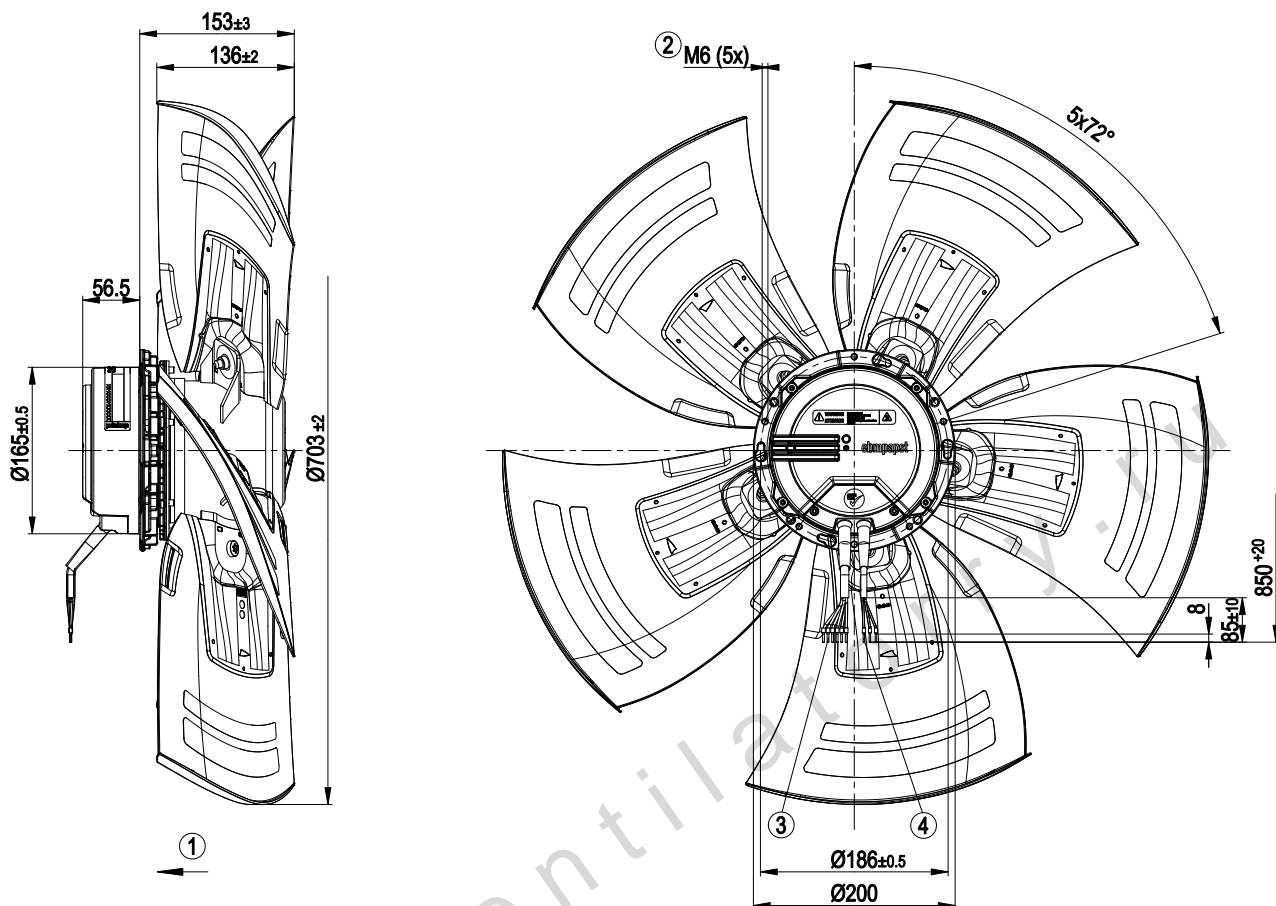
<b>Mass</b>	12.3 kg
<b>Size</b>	710 mm
<b>Surface of rotor</b>	Coated in black
<b>Material of electronics housing</b>	Die-cast aluminium
<b>Material of blades</b>	Aluminium sheet insert, sprayed with PP plastic
<b>Number of blades</b>	5
<b>Blade angle</b>	0°
<b>Direction of air flow</b>	"V"
<b>Direction of rotation</b>	Counter-clockwise, seen on rotor
<b>Type of protection</b>	IP 54
<b>Insulation class</b>	"B"
<b>Humidity class</b>	F4-1
<b>Max. permissible ambient motor temp. (transp./ storage)</b>	Max. +80 °C
<b>Min. permissible ambient motor temp. (transp./storage)</b>	Min. -40 °C
<b>Mounting position</b>	Shaft horizontal or rotor on bottom; rotor on top on request
<b>Condensate discharge holes</b>	Rotor-side
<b>Operation mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Technical features</b>	<ul style="list-style-type: none"> <li>- Output 10 VDC, max. 10 mA</li> <li>- Alarm relay</li> <li>- Integrated PID controller</li> <li>- Motor current limit</li> <li>- PFC, passive</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from the mains</li> <li>- Over-temperature protected electronics / motor</li> <li>- Line undervoltage / phase failure detection</li> </ul>
<b>EMC interference immunity</b>	Acc. to EN 61000-6-2 (industrial environment)
<b>EMC harmonics</b>	Acc. to EN 61000-3-2/3
<b>EMC interference emission</b>	Acc. to EN 61000-6-4 (industrial environment)
<b>Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)</b>	<= 3.5 mA
<b>Motor protection</b>	Thermal overload protector (TOP) wired internally
<b>Cable exit</b>	Variable
<b>Protection class</b>	I (if protective earth is connected by customer)
<b>Product conforming to standard</b>	EN 61800-5-1; CE
<b>Approval</b>	CCC; GOST

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## Product drawing



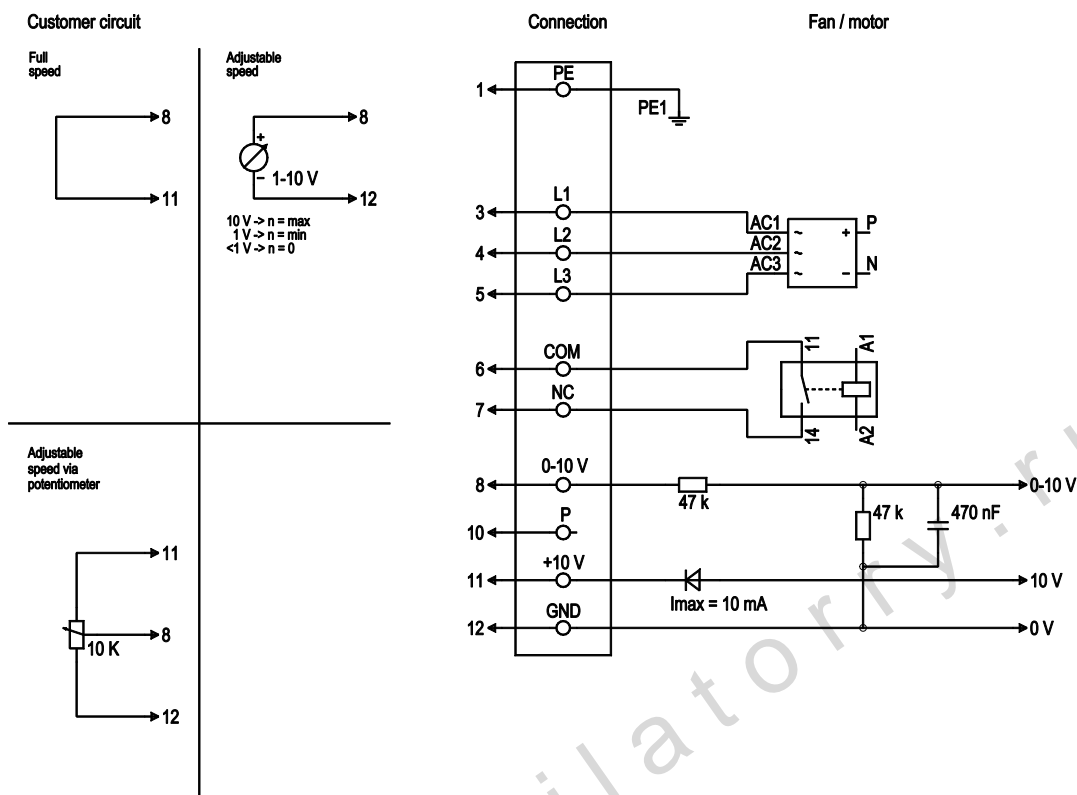
1	Direction of air flow "V"
2	Depth of screw max. 16 mm
3	Connection line PVC AWG18, 6x crimped core-end sleeves
4	Connection line PVC AWG22, 3x crimped core-end sleeves

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## Connection screen



Line	No.	Signal	Colour	Function / assignment
1	1	PE	green/yellow	Ground wire
1	3	L1	black	Supply voltage, 50/60 Hz
1	4	L2	black	Supply voltage, 50/60 Hz
1	5	L3	black	Supply voltage, 50/60 Hz
1	6	COM	white 1	Floating status message contact, normally closed connection (2 A, max. 250 VAC, min. 10 mA, AC1)
1	7	NC	white 2	Floating status message contact, normally closed connection
2	8	0-10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kΩ, SELV
2	10	P	orange	Do not use
2	11	+10 V	red	Voltage output 10 VDC (+/-3%), max. 10 mA, supply voltage for external devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference mass for control interface, SELV

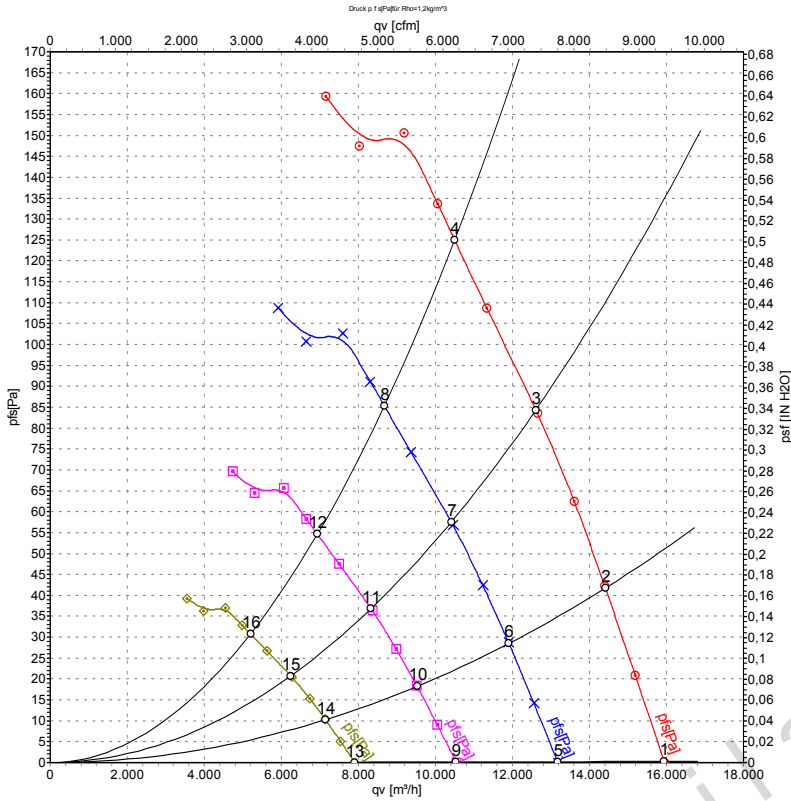


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## Charts: Air flow 50 Hz



Measurement: LU-123826

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 <sub>ed</sub>	I	Lp <sub>Ain</sub>	Lw <sub>Ain</sub>	Lw <sub>Aout</sub>	qv	p <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa
1	400	50	900	602	1.02	64	70	71	15940	0
2	400	50	900	718	1.17	63	69	69	14420	42
3	400	50	900	827	1.30	63	70	70	12610	85
4	400	50	900	930	1.50	69	75	75	10500	125
5	400	50	750	340	0.58	60	66	67	13170	0
6	400	50	750	405	0.66	59	65	65	11910	29
7	400	50	750	465	0.73	59	65	66	10410	58
8	400	50	750	523	0.82	65	71	71	8670	85
9	400	50	600	174	0.30	55	61	62	10540	0
10	400	50	600	208	0.34	54	60	60	9530	18
11	400	50	600	238	0.38	54	61	61	8330	37
12	400	50	600	268	0.42	60	66	66	6940	55
13	400	50	450	73	0.12	49	55	55	7905	0
14	400	50	450	88	0.14	47	54	54	7145	10
15	400	50	450	100	0.16	48	54	55	6245	21
16	400	50	450	113	0.18	54	60	60	5205	31

U = Supply voltage · f = Frequency · n = Speed · P<sub>ed</sub> = Power input · I = Current draw · Lp<sub>Ain</sub> = Sound pressure level inlet side · Lw<sub>Ain</sub> = Sound power level inlet side · Lw<sub>Aout</sub> = Sound power level outlet side  
 qv = Air flow · p<sub>fs</sub> = Pressure increase

