

A3G910-AV02-01

# EC axial fan - HyBlade®

sickled blades (S series)



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## Nominal data

Type	A3G910-AV02-01	
Motor	M3G150-NA	
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>	1000
Power input	W	2880
Current draw	A	4.4
Max. back pressure	Pa	190
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	65

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 $\eta_{es}$	%	44.5	32.6	36.6
Efficiency grade N		47.9	36	40
Power input $P_{ed}$	kW	2.93		
Air flow $q_v$	m <sup>3</sup> /h	22085		
Pressure increase $p_{fs}$	Pa	202		
Speed n	min <sup>-1</sup>	1005		

Data definition with optimum efficiency.

LU-119173

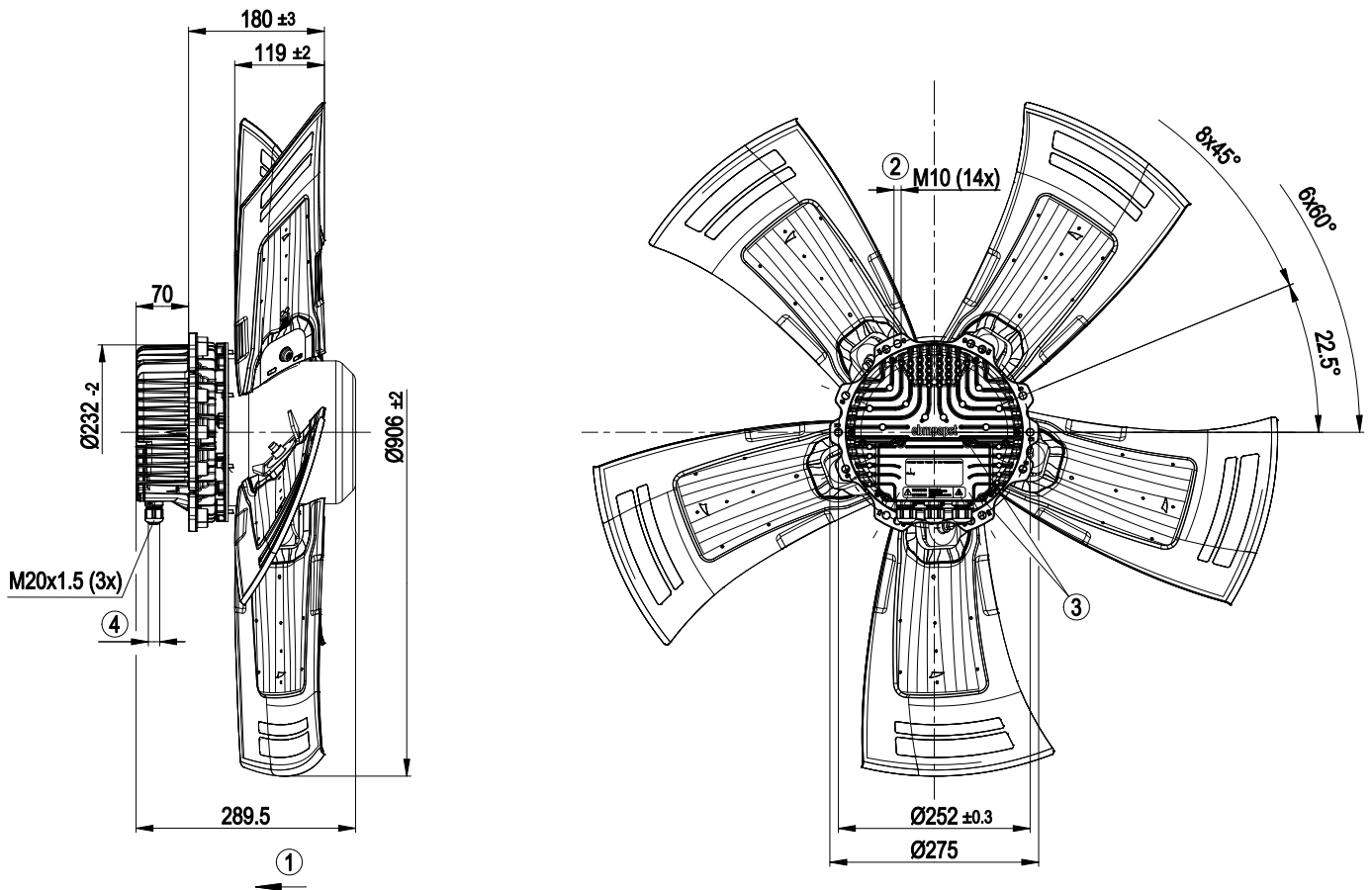
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



## Technical features

<b>Mass</b>	32 kg
<b>Size</b>	910 mm
<b>Surface of rotor</b>	Coated in black
<b>Material of electronics housing</b>	Die-cast aluminium, coated in black
<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>	Clockwise, seen on rotor
<b>Type of protection</b>	IP 54
<b>Insulation class</b>	"F"
<b>Humidity class</b>	F4-1
<b>Max. permissible ambient motor temp. (transp./ storage)</b>	+ 80 °C
<b>Min. permissible ambient motor temp. (transp./storage)</b>	- 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>- Output 20 VDC, max. 50 mA</li> <li>- Output for slave 0-10 V</li> <li>- Operation and alarm display</li> <li>- Input for sensor 0-10 V or 4-20 mA</li> <li>- External 24 V input (programming)</li> <li>- External release input</li> <li>- Alarm relay</li> <li>- Integrated PID controller</li> <li>- Motor current limit</li> <li>- PFC, passive</li> <li>- RS485 MODBUS RTU</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 interference emission</b>	Acc. to EN 61000-6-3 (household environment)
<b>Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)</b>	<= 3.5 mA
<b>Electrical leads</b>	Via terminal box
<b>Motor protection</b>	Reverse polarity and locked-rotor protection
<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>	C22.2 Nr.77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730

Product drawing



1	Direction of air flow "V"
2	Depth of screw max. 25 mm
3	Tightening torque 3.5±0.5 Nm
4	Cable diameter: min. 4 mm, max. 10 mm, tightening torque: 4±0.6 Nm

## Connection screen

	8	Din 2
	9	Din 3
	10	GND
	11	Ain 2 U
	12	+ 20 V
	13	Ain 2 I
	14	Aout
1	RSA	
2	RSB	
3	GND	
4	Ain 1 U	
5	+ 10 V	
6	Ain 1 I	
7	Din 1	

KL 3

1	NO
2	COM
3	NC

KL 2

PE
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PE

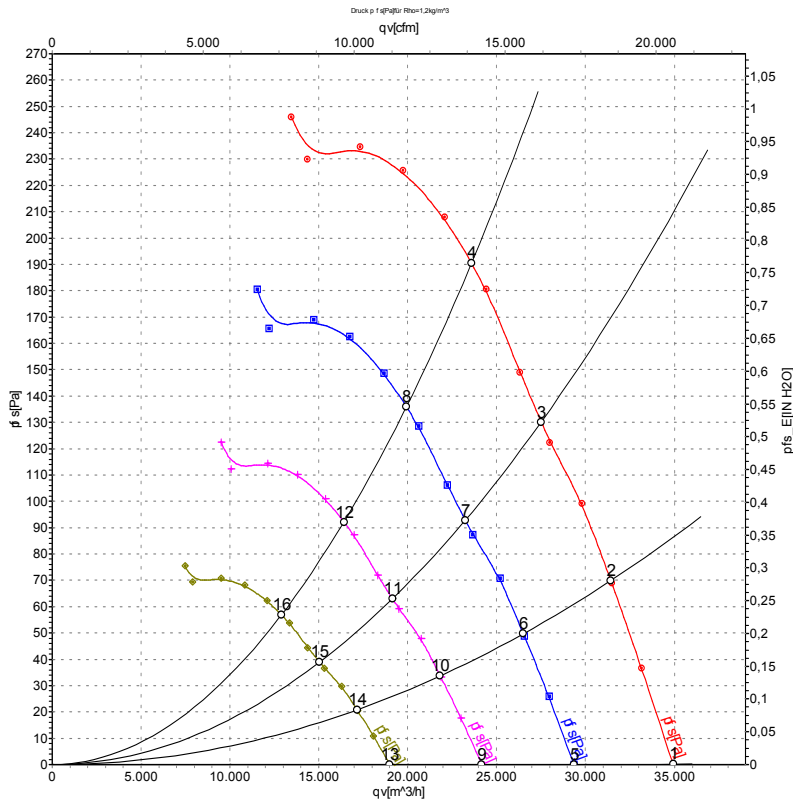
1	L1
2	L2
3	L3

KL 1

No.	Conn.	Designation	Function / assignment
KL 1	1	L1	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1	2	L2	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1	3	L3	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
PE		PE	Earth connection, PE connection
KL 2	1	NO	Status relay, floating status contact; normally open; close with error
KL2	2	COM	Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL2	3	NC	Status relay, floating status contact; break with error
KL 3	1	RSA	Bus connection RS-485, RSB, MODBUS RTU; SELV
KL 3	2	RSB	Bus connection RS-485, RSA, MODBUS RTU; SELV
KL 3	3 / 10	GND	Signal ground for control interface; SELV
KL 3	4	Ain1 U	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain1; SELV
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer), SELV
KL 3	6	Ain1 I	Analogue input 1, set value: 4-20 mA; Ri = 100 Ω, parametrisable curve, only usable as alternative to input Ain1 U; SELV
KL 3	7	Din1	Digital input 1: enabling of electronics, enabling: open pin or applied voltage 5-50 VDC disabling: bridge to GND or applied voltage <1 VDC reset function: triggers software reset after a level change to <1 VDC; SELV
KL 3	8	Din2	Digital input 2: parameter set switch 1/2, according to EEPROM setting, the valid/used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: open pin or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage <1 VDC; SELV
KL 3	9	Din3	Digital input 3: controller function of integrated controller, according to EEPROM setting, the controller function of the integrated controller is normally/inversely selectable per bus or per digital input normal: open pin or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage <1 VDC; SELV
KL 3	11	Ain2 U	Analogue input 2, actual value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain2; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V ±5/-10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors); SELV

No.	Conn.	Designation	Function / assignment
KL 3	13	Ain2 I	Analogue input 2, actual value: 4-20 mA, $R_i = 100 \Omega$ , parametrisable curve, only usable as alternative to input Ain2 U; SELV
KL 3	14	Aout	Analogue output 0-10 VDC, max. 5 mA, output of the current motor level control coefficient / motor speed parametrisable curve; SELV

## 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 <sub>ed</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</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	1000	1922	2.91	72	79	80	34930	0
2	400	50	1000	2286	3.49	71	78	78	31420	70
3	400	50	1000	2581	3.94	71	78	78	27520	130
4	400	50	1000	2880	4.40	74	82	81	23590	190
5	400	50	850	1139	1.73	65	72	72	29340	0
6	400	50	850	1371	2.09	67	74	74	26500	50
7	400	50	850	1555	2.37	67	75	74	23240	93
8	400	50	850	1722	2.66	71	78	77	19920	136
9	400	50	700	636	0.96	61	68	68	24160	0
10	400	50	700	766	1.17	63	70	70	21820	34
11	400	50	700	869	1.33	63	70	70	19140	63
12	400	50	700	962	1.48	67	74	73	16410	92
13	400	50	550	309	0.47	56	63	63	18980	0
14	400	50	550	371	0.57	57	65	65	17150	21
15	400	50	550	421	0.64	58	65	65	15040	39
16	400	50	550	467	0.72	61	68	68	12890	57

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

