A3G560-BB78-21

EC axial fan - HyBlade

sickled blades (S series)

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Nominal data

Type	**A3G560-BB78-21**
Motor	**M3G112-EA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed (rpm)	min^{-1}	1230
Power input	W	735
Current draw	A	3.2
Max. back pressure	Pa	150
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}	%	42.2	32.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		49.3	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.75
09 Air flow q_v	m^3/h	6235
09 Pressure increase p_{fs}	Pa	168
10 Speed (rpm) n	min^{-1}	1235
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

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Technical features

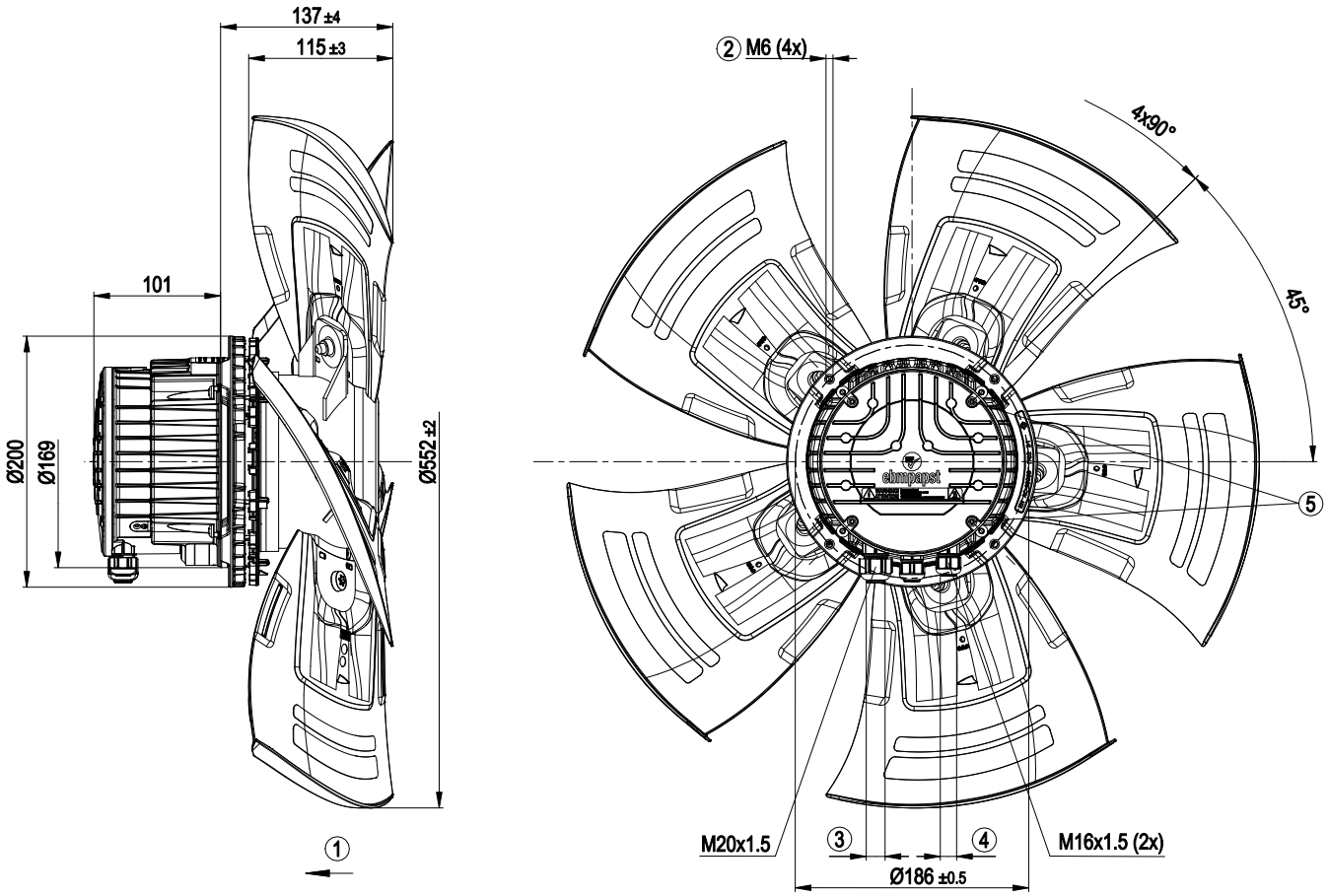
Mass	8.8 kg
Size	560 mm
Surface of rotor	Coated in black
Material of terminal box	PP plastic
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Aluminium sheet insert, sprayed with PP plastic
Number of blades	5
Blade angle	-5°
Direction of air flow	"V"
Direction of 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
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
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



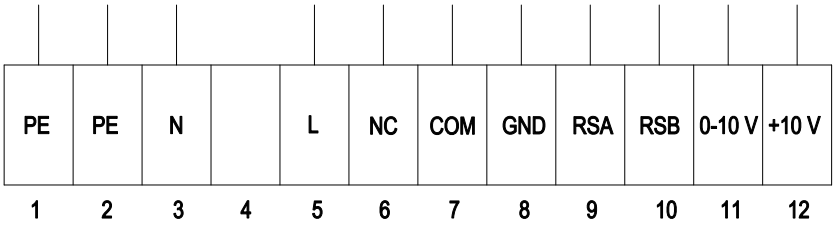
1	Direction of air flow "V"
2	Screw depth max. 16 mm
3	Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5±0.4 Nm
4	Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5±0,4 Nm Cable diameter min. 4 mm, max. 7 mm, tightening torque 2.5±0.4 Nm (use must be made of sealing ring provided)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

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Connection screen



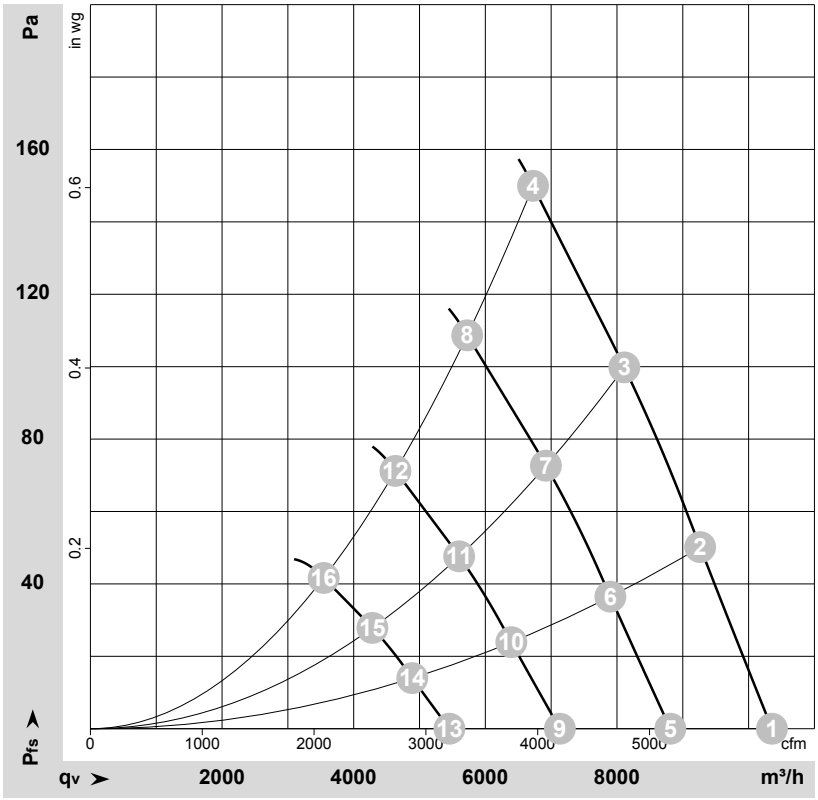
No.	Conn.	Designation	Function / assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	N	Power supply, neutral conductor
	4	-	not used
	5	L	Power supply, phase
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on mains 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 = 1.15 kg/m³ ± 2 %

Measurement: LU-157568-1

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	1230	531	2.38	66	73	73	10355	0	6095	0.00
2	230	50	1230	606	2.70	65	72	72	9265	50	5455	0.20
3	230	50	1230	668	2.96	65	71	71	8110	100	4775	0.40
4	230	50	1230	735	3.20	67	74	74	6725	150	3960	0.60
5	230	50	1050	327	1.47	62	69	69	8810	0	5185	0.00
6	230	50	1050	376	1.67	61	68	68	7900	36	4650	0.14
7	230	50	1050	415	1.84	61	67	67	6920	73	4075	0.29
8	230	50	1050	453	2.00	63	70	70	5725	109	3370	0.44
9	230	50	850	174	0.78	57	63	63	7135	0	4200	0.00
10	230	50	850	199	0.89	56	63	62	6395	24	3765	0.10
11	230	50	850	220	0.98	55	62	62	5600	48	3295	0.19
12	230	50	850	240	1.06	58	65	64	4635	71	2725	0.29
13	230	50	650	78	0.35	50	57	57	5455	0	3210	0.00
14	230	50	650	89	0.40	49	56	56	4890	14	2880	0.06
15	230	50	650	99	0.44	49	55	55	4285	28	2520	0.11
16	230	50	650	107	0.47	51	58	57	3545	42	2085	0.17

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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