A3G630-BG97-01

EC axial fan - HyBlade

sickled blades (S series)

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**A3G630-BG97-01**
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 (rpm)	min^{-1}	1160
Power input	W	1080
Current draw	A	1.7
Max. back pressure	Pa	190
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}	%	44.6	33.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		50.7	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	1.07
09 Air flow q_v	m^3/h	8455
09 Pressure increase p_{fs}	Pa	189
10 Speed (rpm) n	min^{-1}	1160
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	11.2 kg
Size	630 mm
Surface of rotor	Coated in black
Material of terminal box	PP plastic
Material of electronics housing	Die-cast aluminium
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Number of blades	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 top; rotor on bottom 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 - External 24 V input (programming) - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Temperature derating - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used devices with a total rated power greater than 1 kW
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)

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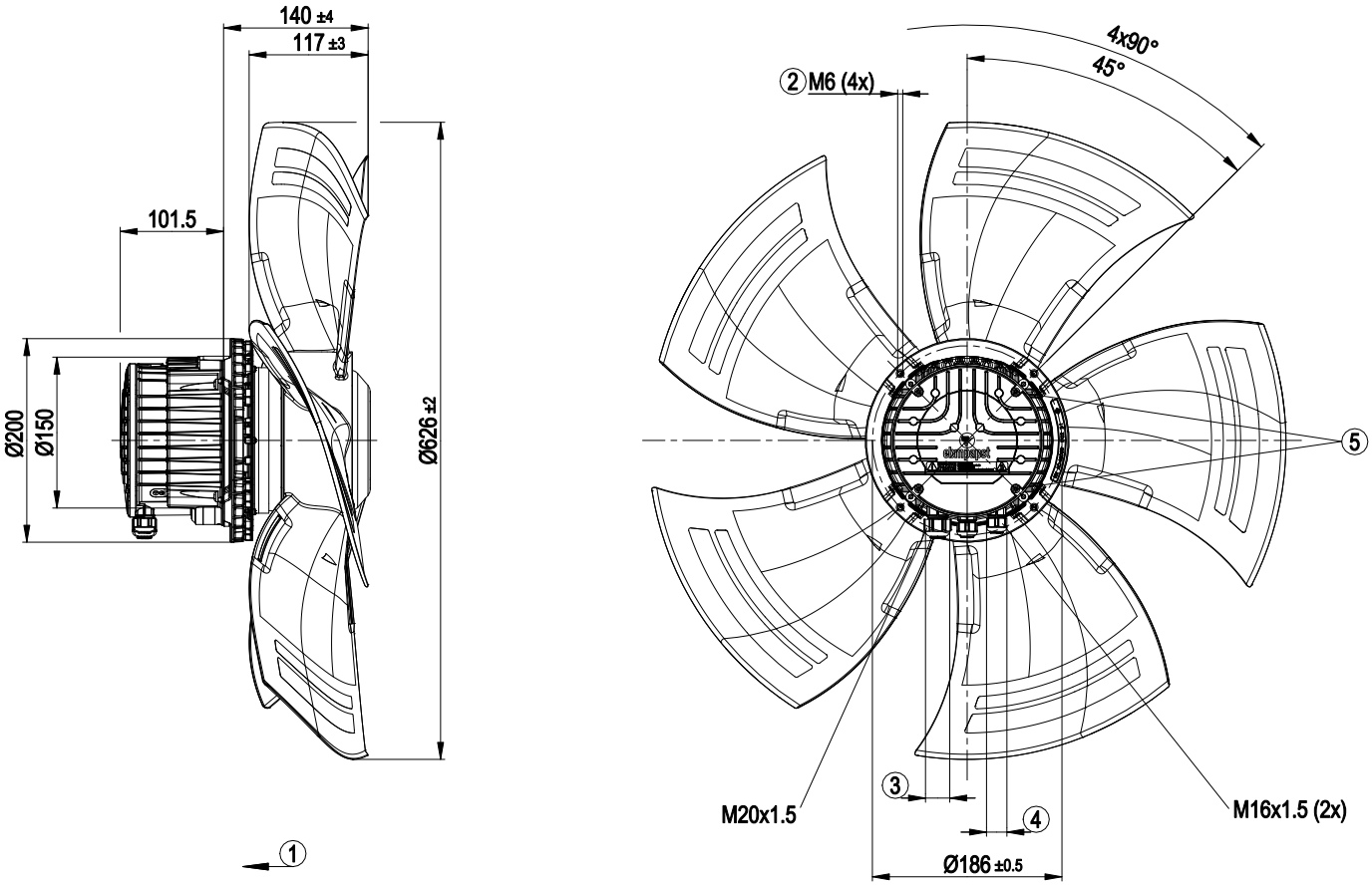
Product conforming to standard	EN 61800-5-1; CE
Approval	UL 1004-7 + 60730; EAC; C22.2 Nr.77 + CAN/CSA-E60730-1; CCC
Remark	Standard conformity as per EN 60335-1 in preparation

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Product drawing



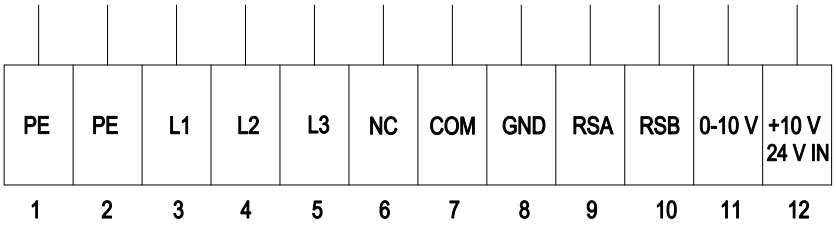
1	Direction of air flow "V"
2	Thread reach max. 16 mm
3	Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5±0.4 Nm
4	Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5±0,4 Nm Cable diameter min. 4 mm, max. 7 mm, tightening torque 2.5±0.4 Nm (use must be made of sealing ring provided)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

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Connection screen



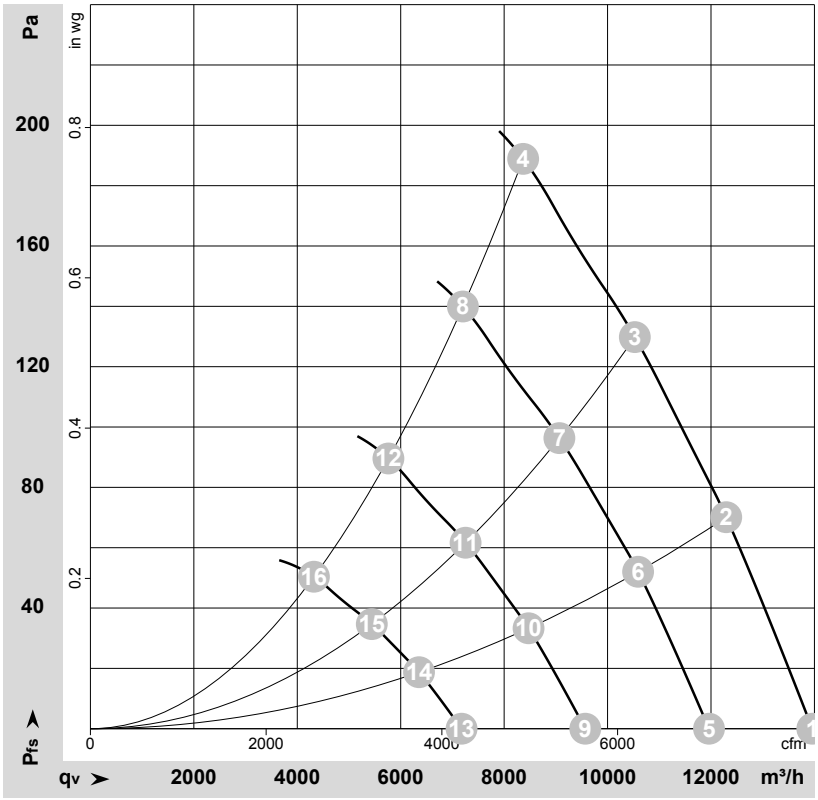
No.	Conn.	Designation	Function / assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	L1	Power supply
	4	L2	Power supply
	5	L3	Power supply
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic insulation on control interface side
	7	COM	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic 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 ext. devices (e.g. potentiometer); Fixed voltage input 24 VDC for parameter setting via MODBUS without mains power supply

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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-157256-1

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	400	50	1160	696	1.13	70	77	77	13960	0	8215	0.00
2	400	50	1160	836	1.35	67	74	74	12295	70	7235	0.28
3	400	50	1160	951	1.53	65	72	72	10525	130	6195	0.52
4	400	50	1160	1080	1.70	68	75	75	8370	190	4925	0.76
5	400	50	1000	438	0.71	67	73	73	11960	0	7040	0.00
6	400	50	1000	535	0.86	63	70	70	10590	53	6235	0.21
7	400	50	1000	608	0.98	62	69	68	9070	97	5335	0.39
8	400	50	1000	687	1.10	64	72	71	7205	141	4240	0.57
9	400	50	800	224	0.36	61	68	68	9570	0	5630	0.00
10	400	50	800	274	0.44	57	64	64	8470	34	4985	0.14
11	400	50	800	311	0.50	56	63	62	7255	62	4270	0.25
12	400	50	800	352	0.56	59	66	66	5760	90	3390	0.36
13	400	50	600	95	0.15	54	60	60	7175	0	4225	0.00
14	400	50	600	116	0.19	50	57	57	6355	19	3740	0.08
15	400	50	600	131	0.21	49	56	55	5440	35	3200	0.14
16	400	50	600	148	0.24	51	59	59	4320	51	2545	0.20

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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