W3G500-KD59-01

EC axial fan - AxiCool

sickled blades (S series)

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Nominal data

Type	**W3G500-KD59-01**
Motor	**M3G112-GA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed (rpm)	min^{-1}	1770
Power input	W	1300
Current draw	A	2.1
Max. back pressure	Pa	300
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	40

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data in accordance with ecodesign regulation EU 327/2011

		Actual	Request 2015
01 Overall efficiency η_{es}	%	48.2	34.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		53.8	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	1.3
09 Air flow q_v	m^3/h	7525
09 Pressure increase p_{fs}	Pa	280
10 Speed (rpm) n	min^{-1}	1760
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

LU-177630

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Technical features

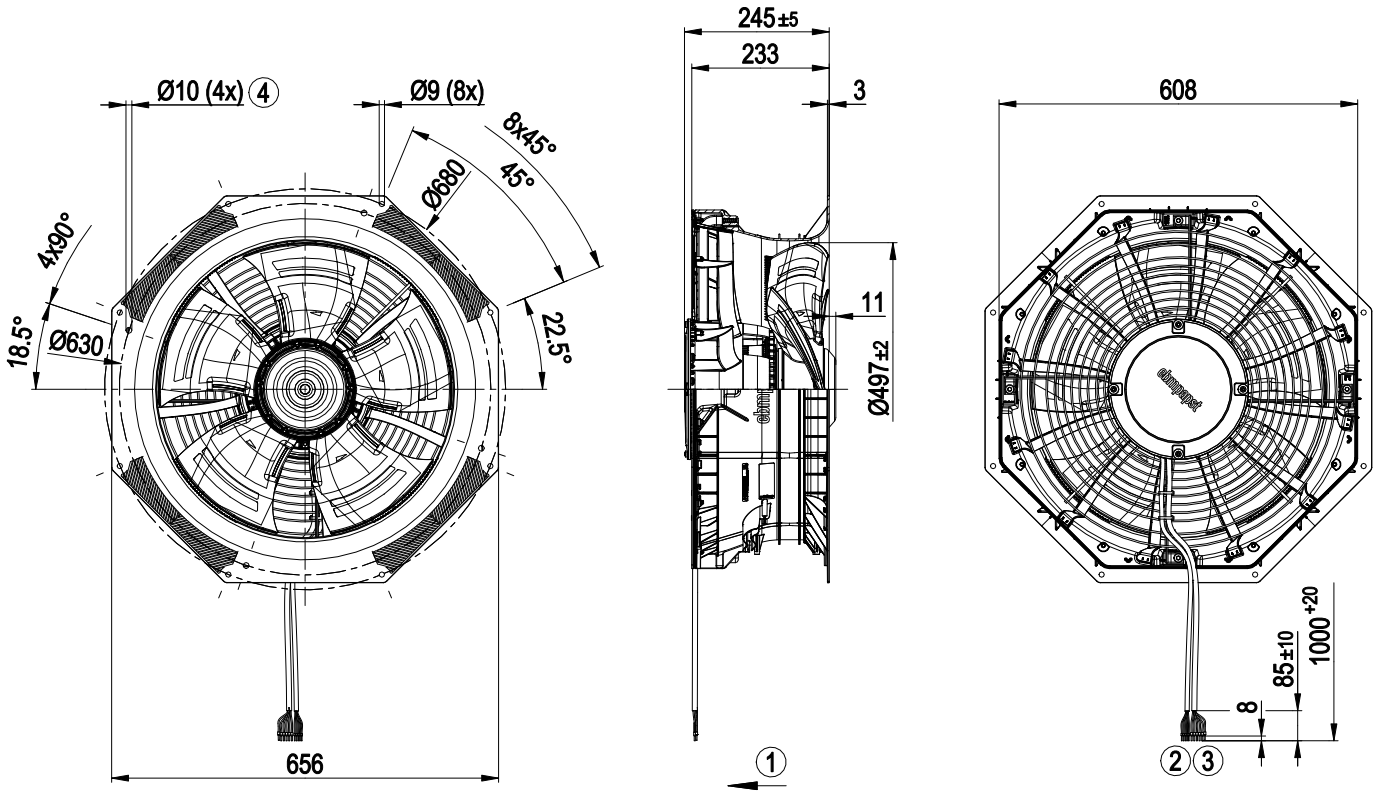
Mass	13.9 kg
Size	500 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Material of wall ring	PP plastic
Streamer material	PP plastic
Material of guard grille	Steel, coated in black plastic (RAL9005)
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	If there is a risk of ice formation, the fan is only to be operated with heating tape in the wall ring. Contact ebm-papst for more details.
Max. permissible ambient motor temp. (transp./ storage)	+70 °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 with anti-freezing grease
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (programming) - Alarm relay - Integrated PID controller - 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 - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
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	C22.2 Nr.77 + CAN/CSA-E60730-1; UL 1004-7 + 60730; EAC

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Product drawing



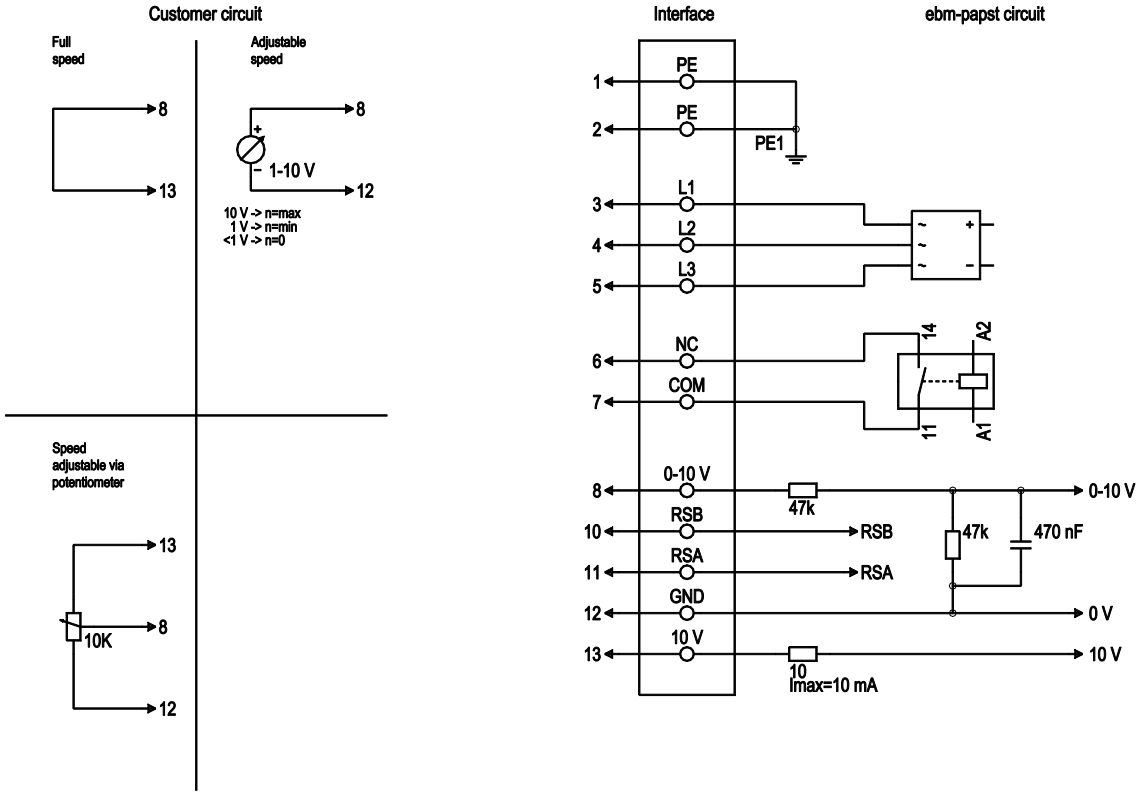
	Pay attention to installation position! The struts of the guard grille must be in X-position. See Section on Connection and Start-up in the operating instructions.
1	Direction of air flow "V"
2	Connection line PVC AWG22, 5x crimped core-end sleeves
3	Connection line PVC AWG18, 6x crimped core-end sleeves
4	Mounting holes for FlowGrid

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Connection screen



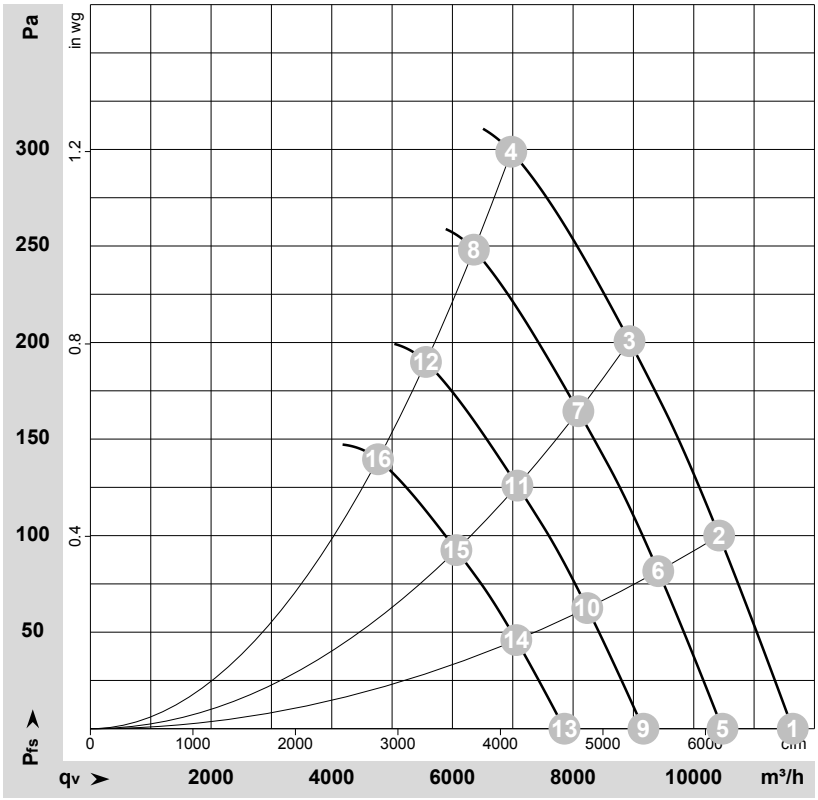
No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	L1	black	Power supply
1	4	L2	black	Power supply
1	5	L3	black	Power supply
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic insulation on control interface side
1	7	COM	white 2	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
2	8	0-10V	yellow	Analogue input (set value), 0-10 V, Ri=100 kΩ; parametrisable curve, SELV
2	10	RSB	brown	RS-485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS-485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Signal ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer); SELV 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-177630-1

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	1770	932	1.44	78	86	88	11640	0	6850	0.00
2	400	50	1770	1079	1.66	76	85	86	10420	100	6135	0.40
3	400	50	1770	1220	1.87	74	83	85	8935	200	5260	0.80
4	400	50	1770	1300	2.10	76	85	86	6975	300	4105	1.20
5	400	50	1600	679	1.05	75	83	85	10475	0	6165	0.00
6	400	50	1600	796	1.22	73	82	84	9410	85	5540	0.34
7	400	50	1600	904	1.38	71	81	82	8090	165	4760	0.66
8	400	50	1600	987	1.51	74	83	84	6355	248	3740	1.00
9	400	50	1400	455	0.70	72	80	82	9165	0	5395	0.00
10	400	50	1400	533	0.82	70	79	80	8235	65	4845	0.26
11	400	50	1400	605	0.93	68	77	79	7075	126	4165	0.51
12	400	50	1400	661	1.01	71	79	81	5560	190	3275	0.76
13	400	50	1200	287	0.44	68	76	78	7855	0	4625	0.00
14	400	50	1200	336	0.52	66	75	76	7060	48	4155	0.19
15	400	50	1200	381	0.58	64	73	75	6065	93	3570	0.37
16	400	50	1200	416	0.64	67	75	77	4765	140	2805	0.56

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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