W3G500-KK07-G3

EC axial fan

sickle-shaped blades (S series)

with integrated diffuser

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Nominal data

Type	**W3G500-KK07-G3**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	970
Power consumption	W	250
Current draw	A	1.1
Max. back pressure	Pa	70
Max. back pressure	inH2O	0.28
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	38.6	29.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		48.8	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.24
09 Air flow q_v	m^3/h	3975
09 Pressure increase p_{fs}	Pa	78
10 Speed (rpm) n	min^{-1}	970
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-181658

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Technical description

Weight	9.4 kg
Fan size	500 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Fan housing material	PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
Ambient temperature note	If there is a risk of ice formation, the fan is only to be operated with a heating tape in the fan housing. For more detailed information, consult ebm-papst. 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 design with special low-temperature bearings.
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; EN 60335-1; CE

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Approval	UL 1004-7 + 60730; C22.2 No.77 + CAN/CSA-E60730-1; EAC

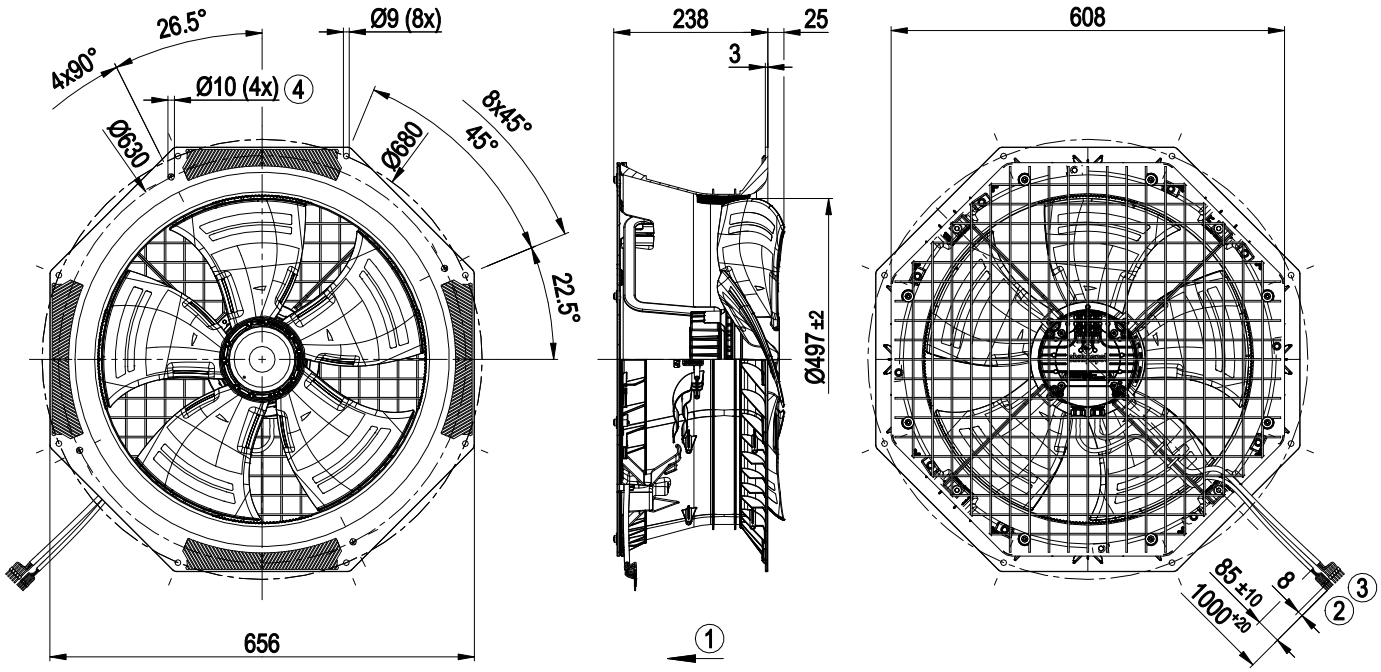
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Product drawing



1	Airflow direction "V"
2	Cable PVC AWG22, 5x crimped ferrules
3	Cable PVC AWG18, 5x crimped ferrules
4	Mounting holes for FlowGrid

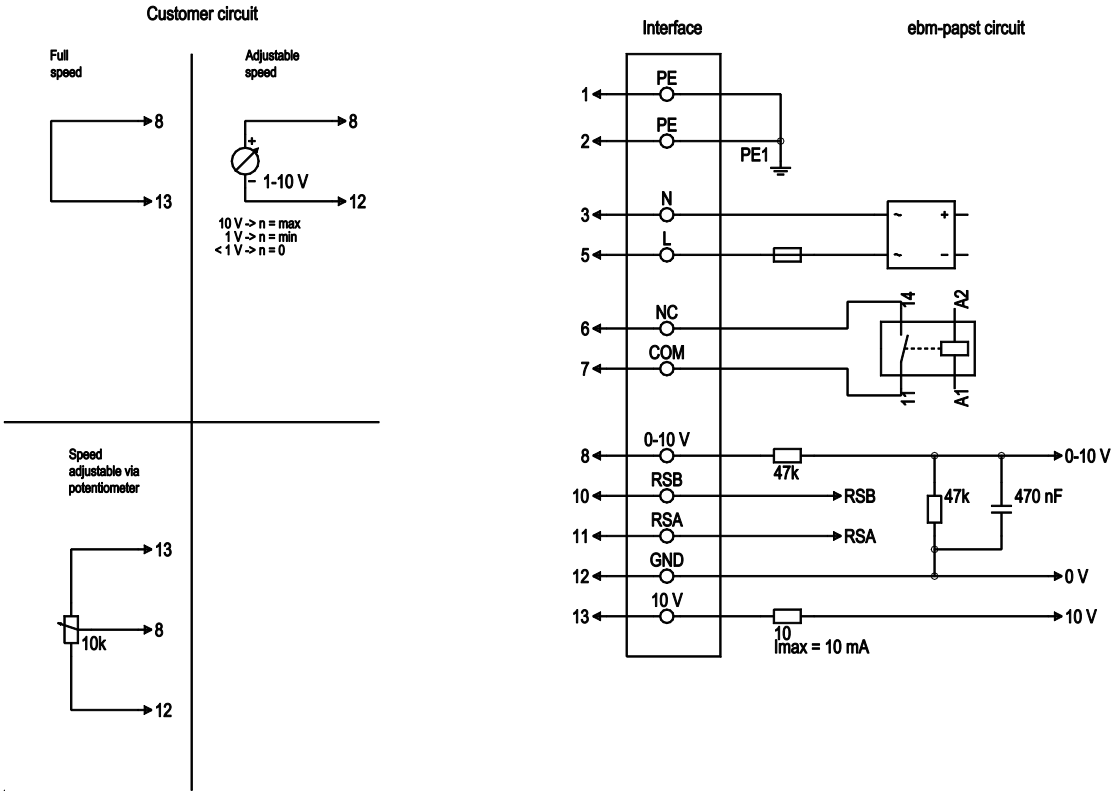
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, 50/60 Hz
1	5	L	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact; break for failure, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact; common connection, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
2	8	0-10V	yellow	Analog input (set value); 0-10 V; Ri = 100 kΩ; adjustable curve
2	10	RSB	brown	RS485 interface for MODBUS, RSB
2	11	RSA	white	RS485 interface for MODBUS, RSA
2	12	GND	blue	Reference 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. pot)

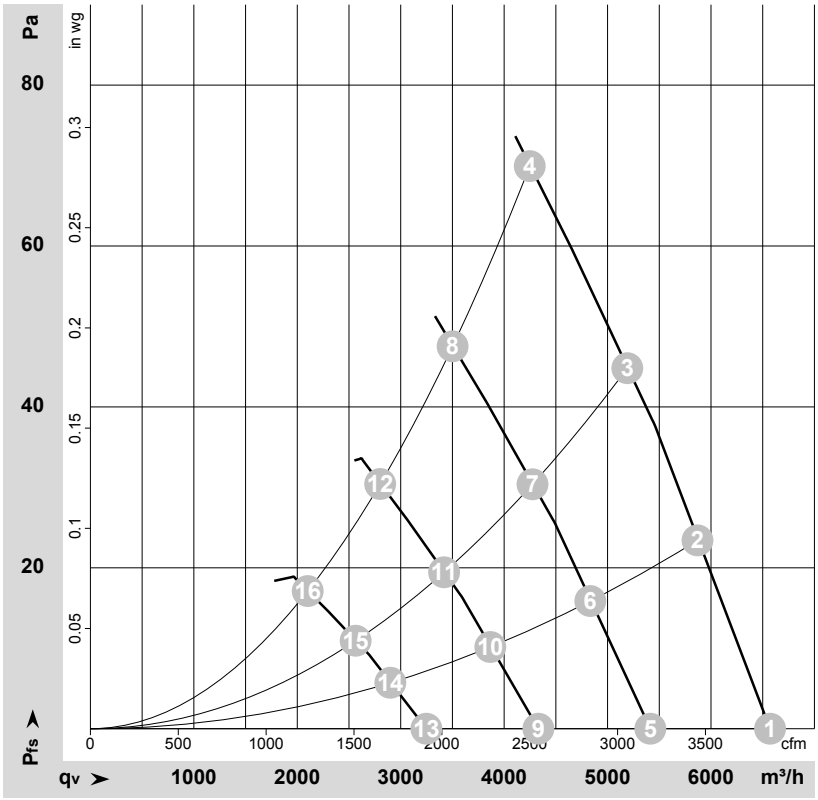
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-181658-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

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	970	165	0.73	59	66	66	6570	0	3870	0.00
2	230	50	970	196	0.86	58	65	66	5870	25	3455	0.10
3	230	50	970	221	0.97	57	64	65	5190	45	3055	0.18
4	230	50	970	250	1.10	57	65	66	4250	70	2500	0.28
5	230	50	800	92	0.41	54	61	61	5415	0	3185	0.00
6	230	50	800	109	0.48	53	60	61	4835	16	2845	0.06
7	230	50	800	124	0.54	52	59	60	4275	30	2515	0.12
8	230	50	800	137	0.60	52	60	61	3500	48	2060	0.19
9	230	50	640	47	0.21	49	55	56	4330	0	2550	0.00
10	230	50	640	56	0.25	48	54	55	3865	10	2275	0.04
11	230	50	640	63	0.28	47	54	55	3420	20	2010	0.08
12	230	50	640	70	0.31	47	54	55	2800	30	1650	0.12
13	230	50	480	20	0.09	41	48	49	3250	0	1910	0.00
14	230	50	480	24	0.10	41	47	48	2900	6	1705	0.02
15	230	50	480	27	0.12	40	46	47	2565	11	1510	0.04
16	230	50	480	30	0.13	39	47	48	2100	17	1235	0.07

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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