

W3G500-GN33-05

EC axial fan

sickle-shaped blades (S series)

with square full nozzle

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	W3G500-GN33-05	
Motor	M3G112-GA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min ⁻¹	1440
Power consumption	W	720
Current draw	A	1.25
Max. back pressure	Pa	160
Max. back pressure	in. wg	0.64
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}	%	44.2	32.8	09 Power consumption P_{ed}	kW	0.74
02 Measurement category		A		09 Air flow q_v	m ³ /h	5995
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	180
04 Efficiency grade N		51.4	40	10 Speed (rpm) n	min ⁻¹	1450
05 Variable speed drive		Yes		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 = $1 + p_b / 100\,000\text{ Pa}$

LU-127973



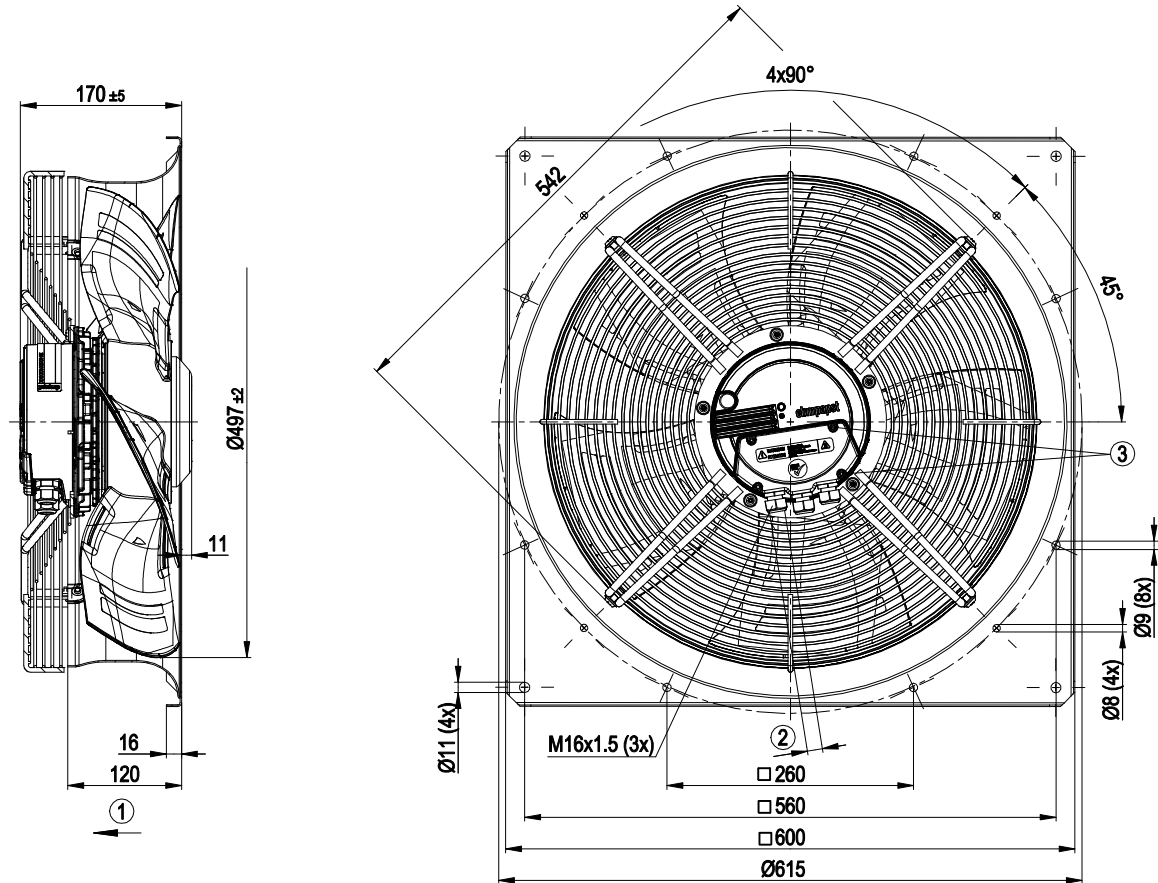
Technical description

Weight	16 kg
Size	500 mm
Motor size	112
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	Sheet steel, pre-galvanized and coated with black plastic (RAL 9005)
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	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H2
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 - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 ebmBUS - 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
Electrical hookup	Terminal box
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE

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Product drawing



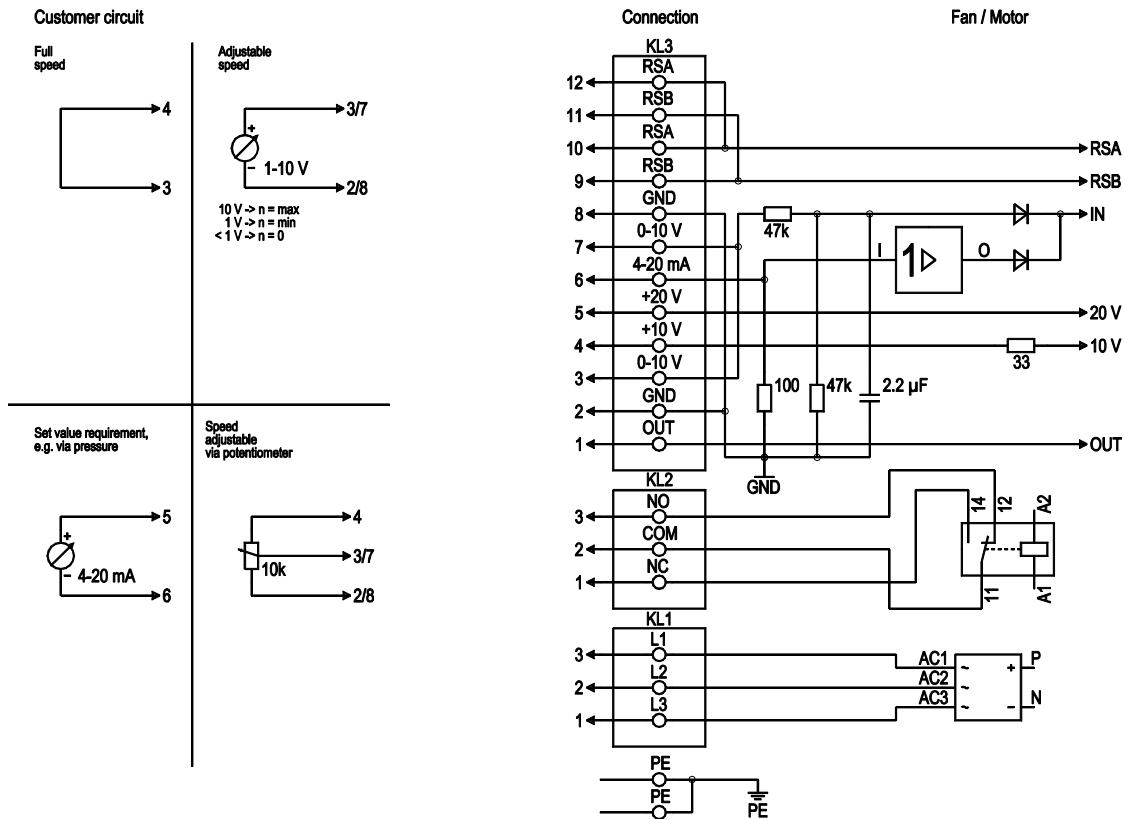
- | | |
|---|--|
| 1 | Direction of air flow "V" |
| 2 | Cable diameter min. 4 mm, max. 10 mm, tightening torque 2.5 ± 0.4 Nm |
| 3 | Tightening torque 3.5 ± 0.5 Nm |

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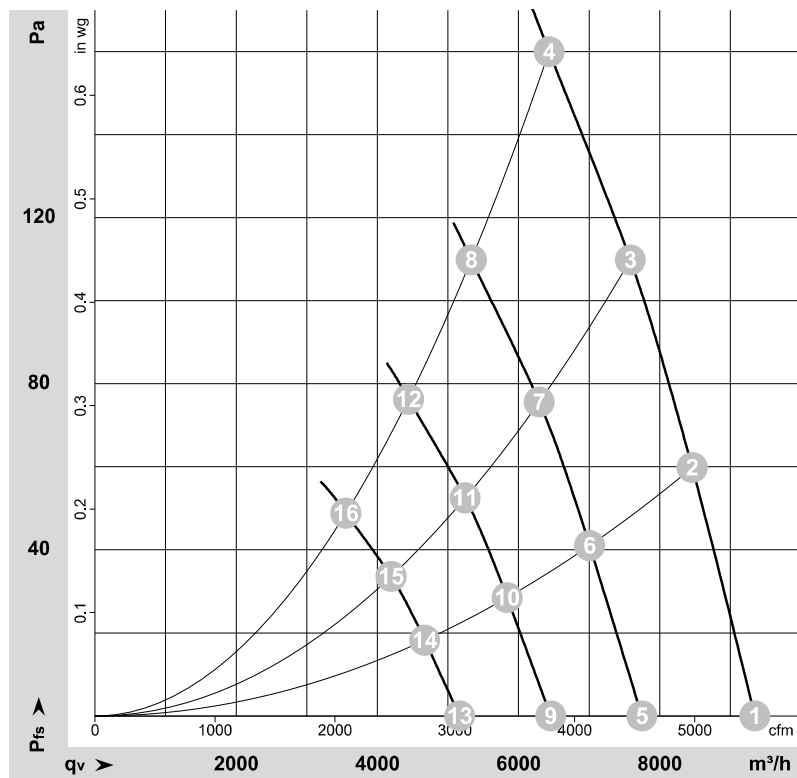
Connection diagram



No.	Conn.	Designation	Function/assignment
PE		PE	Protective earth terminal
KL1	1, 2, 3	L1, L2, L3	Power supply 50/60 Hz
KL2	1	NC	Floating status contact, break for failure
KL2	2	COM	floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status contact, make for failure
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of current motor modulation level: 1 V corresponds to 10% modulation level. 10 V corresponds to 100% modulation level.
KL3	2, 8	GND	Reference ground for control interface, SELV
KL3	3, 7	0-10 V	Use control / current sensor value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV
KL3	4	+10 V	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25%/-10%), max. 50 mA, power supply for external devices (e.g. sensors), SELV
KL3	6	4-20 mA	Use control / current sensor value input 4-20 mA, impedance 100 Ω only as alternative to 0-10 V input, SELV
KL3	9, 11	RSB	RS485 interface for ebmBUS, RSB, SELV
KL3	10, 12	RSA	RS485 interface for ebmBUS, RSA, SELV



Curves: Air performance 50 Hz



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-127973-1

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	in. wg
1	400	50	1440	559	0.93	70	77	77	9350	0	5500	0.00
2	400	50	1440	627	1.05	67	74	75	8460	60	4980	0.24
3	400	50	1440	679	1.12	65	73	72	7585	110	4465	0.44
4	400	50	1440	720	1.25	65	73	73	6435	160	3785	0.64
5	400	50	1200	318	0.53	65	72	72	7745	0	4560	0.00
6	400	50	1200	356	0.59	62	70	70	7005	41	4125	0.16
7	400	50	1200	388	0.64	60	68	68	6290	76	3705	0.31
8	400	50	1200	414	0.68	61	68	68	5330	110	3140	0.44
9	400	50	1000	184	0.31	60	68	68	6455	0	3800	0.00
10	400	50	1000	206	0.34	58	65	65	5840	28	3435	0.11
11	400	50	1000	225	0.37	56	63	63	5245	53	3085	0.21
12	400	50	1000	239	0.39	56	64	63	4445	76	2615	0.31
13	400	50	800	94	0.16	55	62	62	5165	0	3040	0.00
14	400	50	800	106	0.18	52	59	60	4670	18	2750	0.07
15	400	50	800	115	0.19	50	58	58	4195	34	2470	0.14
16	400	50	800	123	0.20	50	58	58	3555	49	2090	0.20

U = Voltage · 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

