W3G500-ED59-07

EC axial fan - HyBlade

sickle-shaped blades (S series)

with round full nozzle

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
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**W3G500-ED59-07**
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}	1770
Power consumption	W	1300
Current draw	A	2.1
Max. back pressure	Pa	230
Max. back pressure	in. wg	0.92
Min. ambient temperature	°C	-40
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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	40.7	34.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		46.4	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	1.28
09 Air flow q_v	m^3/h	7060
09 Pressure increase p_{fs}	Pa	247
10 Speed (rpm) n	min^{-1}	1750
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-196489

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Technical description

Weight	16.12 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, 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	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2+S
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a 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 - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - 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 interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Connector with cable
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable

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Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1

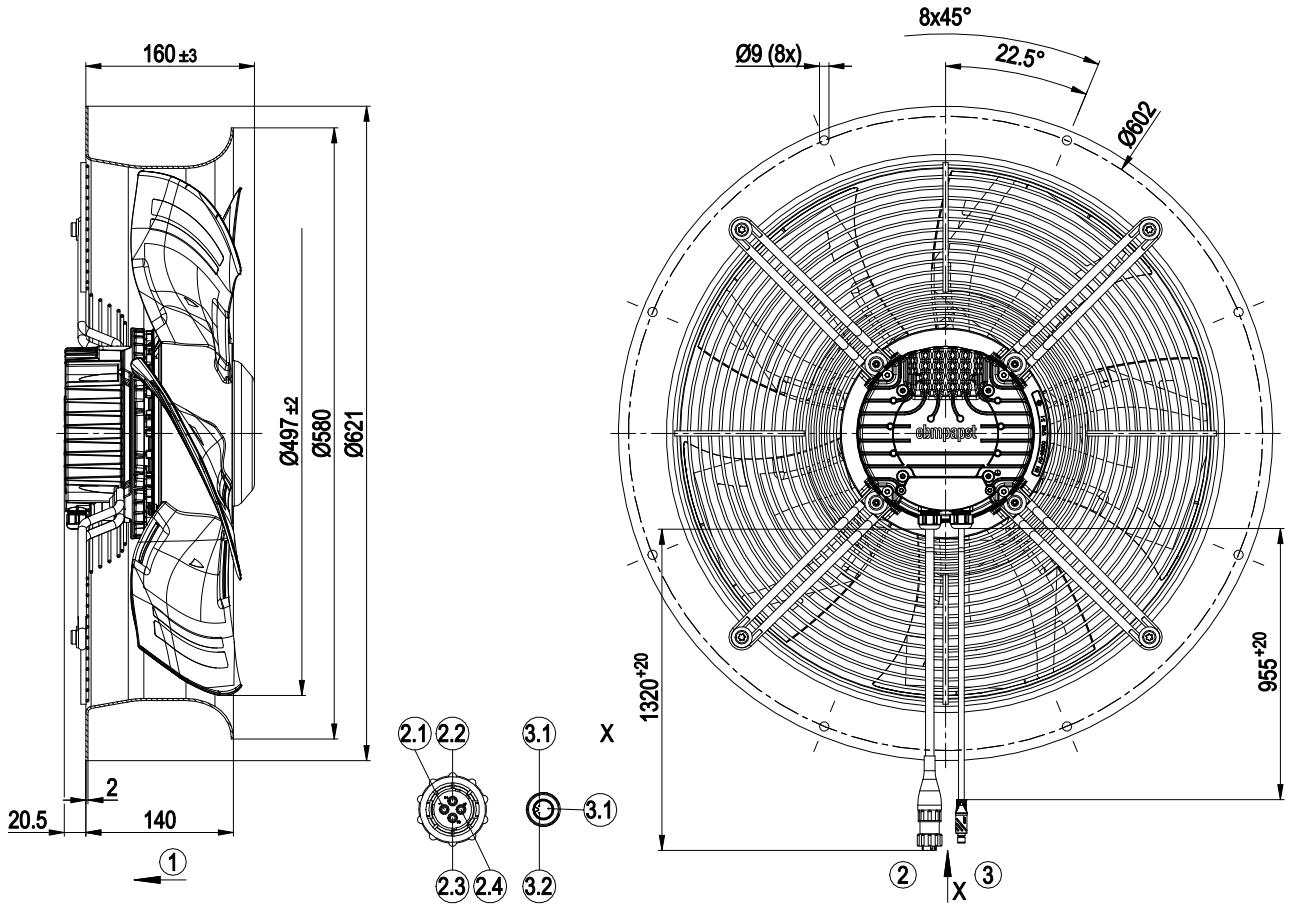
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Product drawing



1	Airflow direction "V"
2	Cable PVC AWG18
	4-pole connector housing TE 796094-2, 4x plug contact TE 66101-4, strain relief TE 54010-1
2.1	L1
2.2	L3
2.3	L2
2.4	PE
3	Cable with plug Amphenol ASB1-AMQ03000027
3.1	RSA
3.2	RSB
3.3	GND

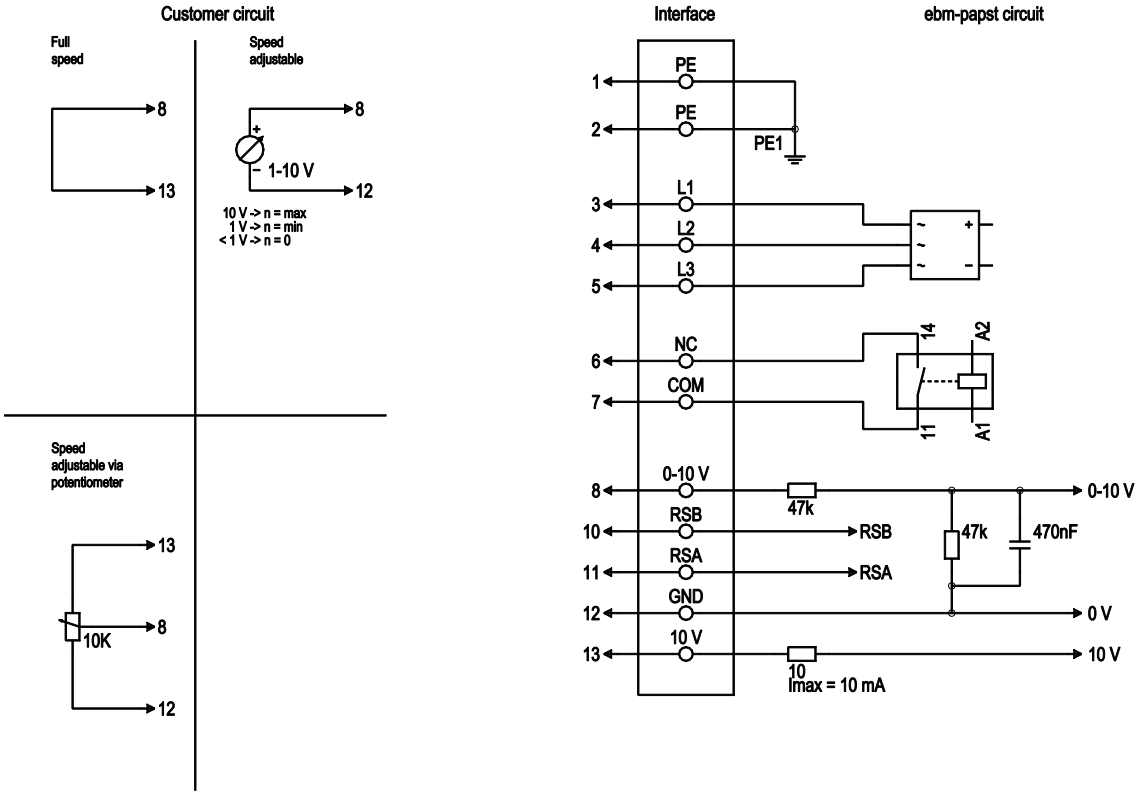
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1	PE	green/yellow	Protective earth
1	2	PE		not brought out via wire
1	3	L1	black	Power supply
1	4	L2	black	Power supply
1	5	L3	black	Power supply
1	6	NC		not brought out via wire
1	7	COM		not brought out via wire
2	8	0-10 V		not brought out via wire
2	10	RSB	brown	RS485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10 V		not brought out via wire

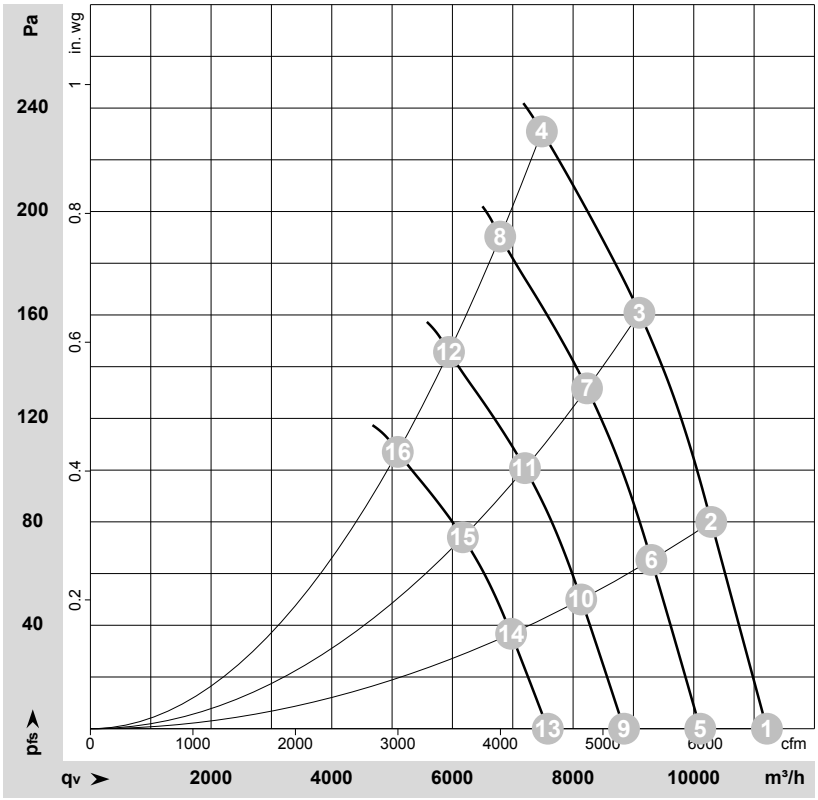
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-196489-1

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

	Wired	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	3~	400	50	1770	991	1.53	76	81	82	11215	0	6600	0.00
2	3~	400	50	1770	1096	1.69	73	79	80	10290	80	6055	0.32
3	3~	400	50	1770	1211	1.86	72	78	78	9100	160	5355	0.64
4	3~	400	50	1770	1300	2.10	73	79	79	7485	230	4405	0.92
5	3~	400	50	1600	726	1.12	73	79	80	10110	0	5950	0.00
6	3~	400	50	1600	809	1.24	71	77	77	9295	65	5470	0.26
7	3~	400	50	1600	897	1.37	70	75	76	8230	132	4845	0.53
8	3~	400	50	1600	965	1.48	71	76	77	6790	190	4000	0.76
9	3~	400	50	1400	486	0.75	70	76	77	8845	0	5205	0.00
10	3~	400	50	1400	542	0.83	67	73	74	8135	50	4790	0.20
11	3~	400	50	1400	601	0.92	66	72	72	7200	101	4240	0.41
12	3~	400	50	1400	646	0.99	67	73	73	5945	146	3500	0.59
13	3~	400	50	1200	306	0.47	66	72	73	7580	0	4460	0.00
14	3~	400	50	1200	341	0.52	64	69	70	6975	37	4105	0.15
15	3~	400	50	1200	378	0.58	62	68	68	6175	74	3635	0.30
16	3~	400	50	1200	407	0.62	64	69	69	5095	107	3000	0.43

Wired = Wiring · 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

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