

EC axial fan - HyBlade

sickle-shaped blades (S series)
with round full nozzle

W3G500-ED59-07 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

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	09 Power consumption P_{ed}	kW	1.28
02 Measurement category		A		09 Air flow q_v	m³/h	7060
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	247
04 Efficiency grade N		46.4	40	10 Speed (rpm) n	min ⁻¹	1750
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 = $1 + p_s / 100\,000\text{ Pa}$ LU-196489



EC axial fan - HyBlade

sickle-shaped blades (S series)

with round full nozzle

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



W3G500-ED59-07

EC axial fan - HyBlade

sickle-shaped blades (S series)

with round full nozzle

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

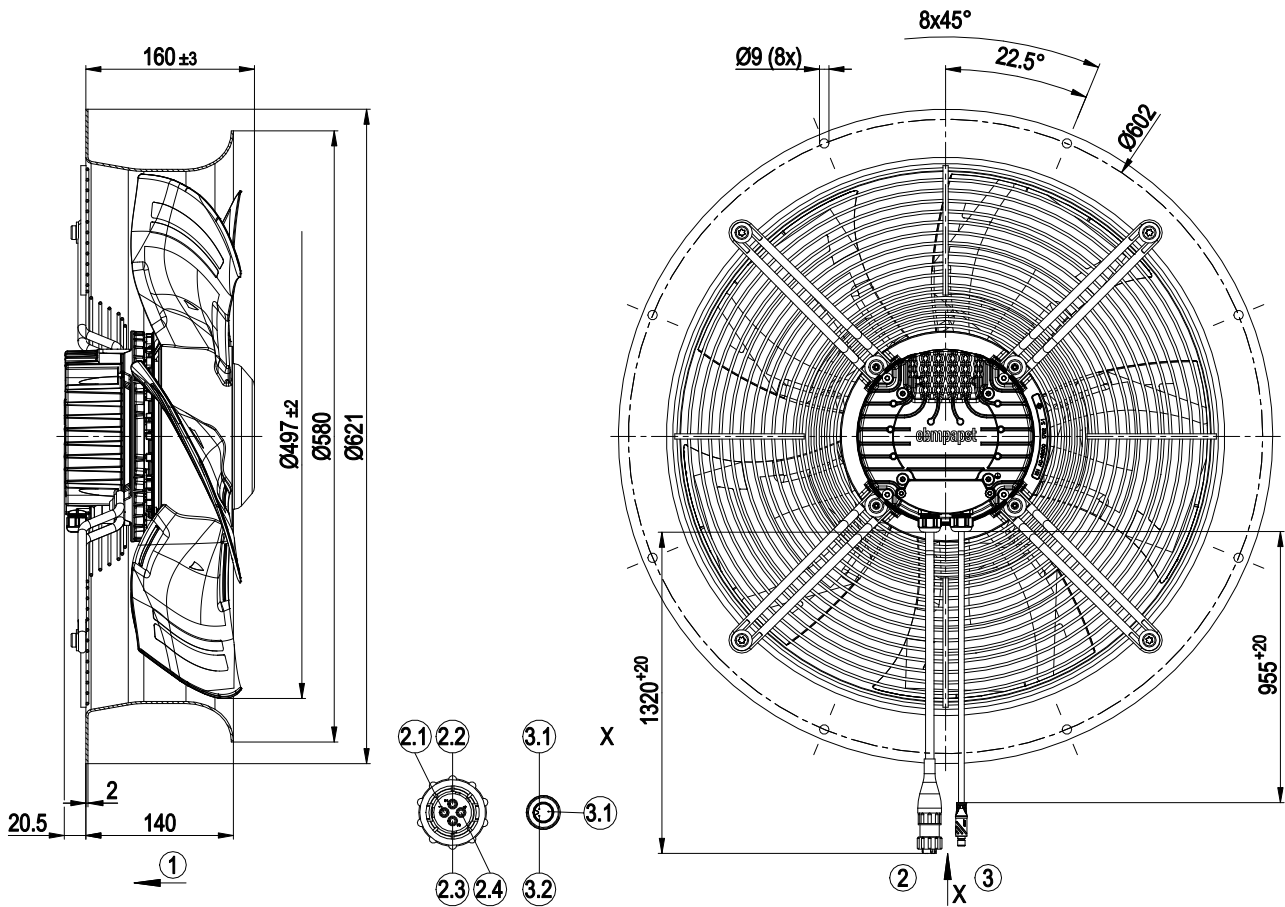


EC axial fan - HyBlade

sickle-shaped blades (S series)

with round full nozzle

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

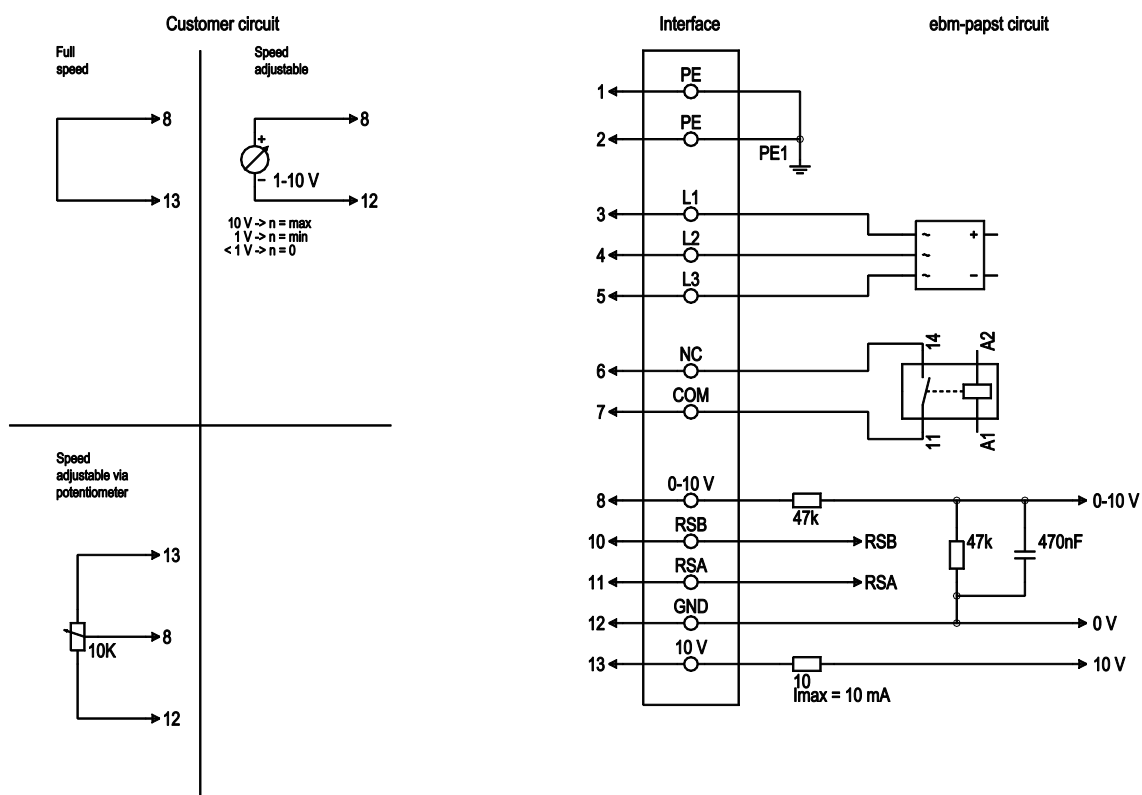


EC axial fan - HyBlade

sickle-shaped blades (S series)

with round full nozzle

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

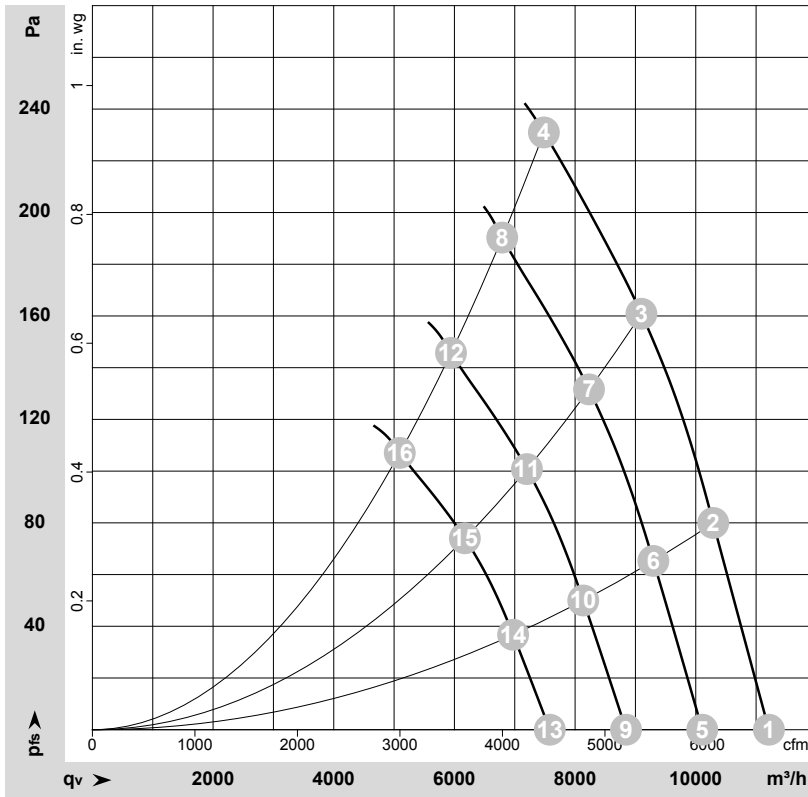


EC axial fan - HyBlade

sickle-shaped blades (S series)

with round full nozzle

Curves: Air performance 50 Hz



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

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

