EC axial panel fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

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Amtsgericht (court of registration) Stuttgart · HRA 590344

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

Nominal data

Type	**S3G500-AN33-01**
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}	1600
Power consumption	W	980
Current draw	A	1.6
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 (prEN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	45	33.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		51.4	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.98
09 Air flow q_v	m^3/h	7265
09 Pressure increase p_{fs}	Pa	203
10 Speed (rpm) n	min^{-1}	1610
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-192802

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.

The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

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Technical description

Weight	12.7 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
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 - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from supply - 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 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal switch auto reset, internally connected
With cable	Variable
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 61800-5-1; UKCA; CE
Approval	CCC; EAC

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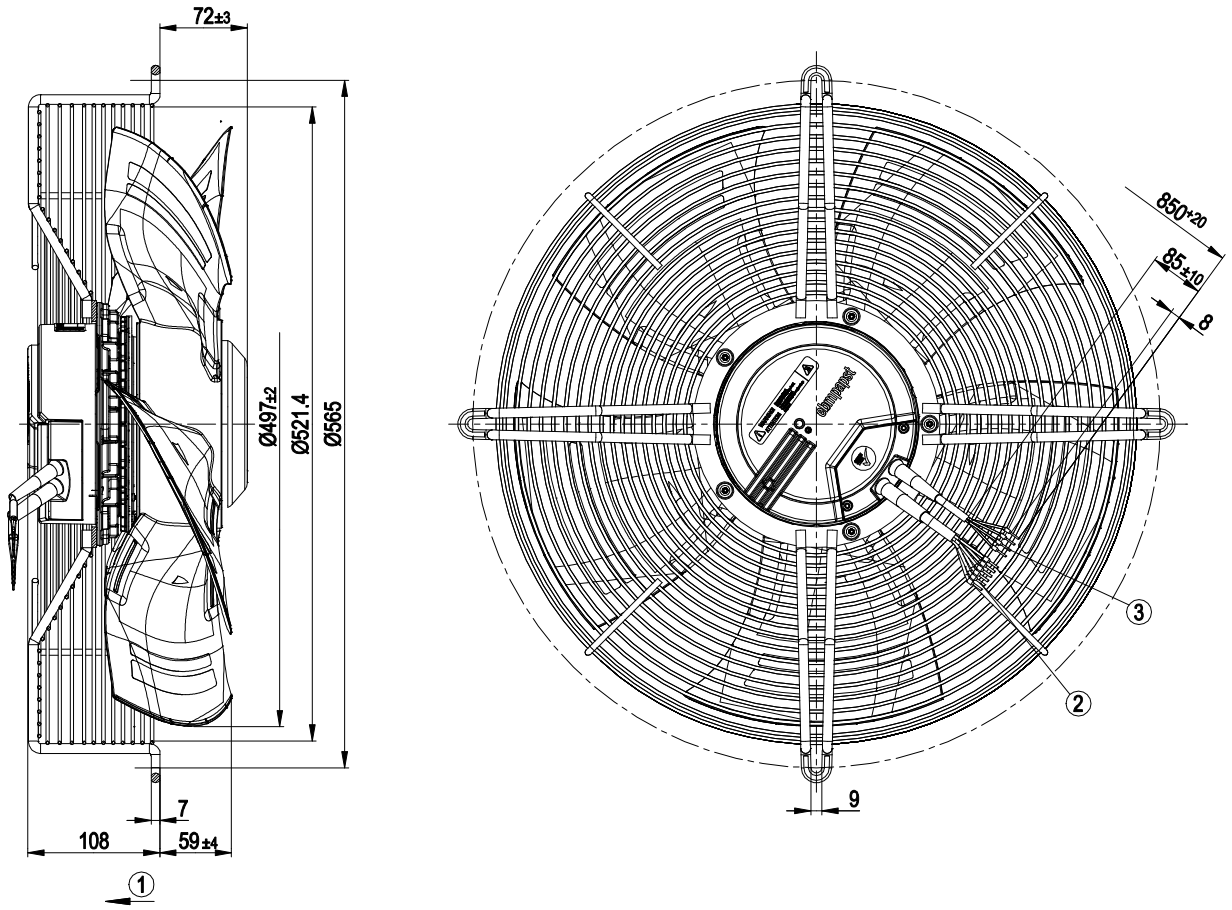
Product drawing



1	Direction of air flow "V"
2	Cable PVC AWG18, 6x crimped ferrules
3	Cable PVC AWG22, 3x crimped ferrules

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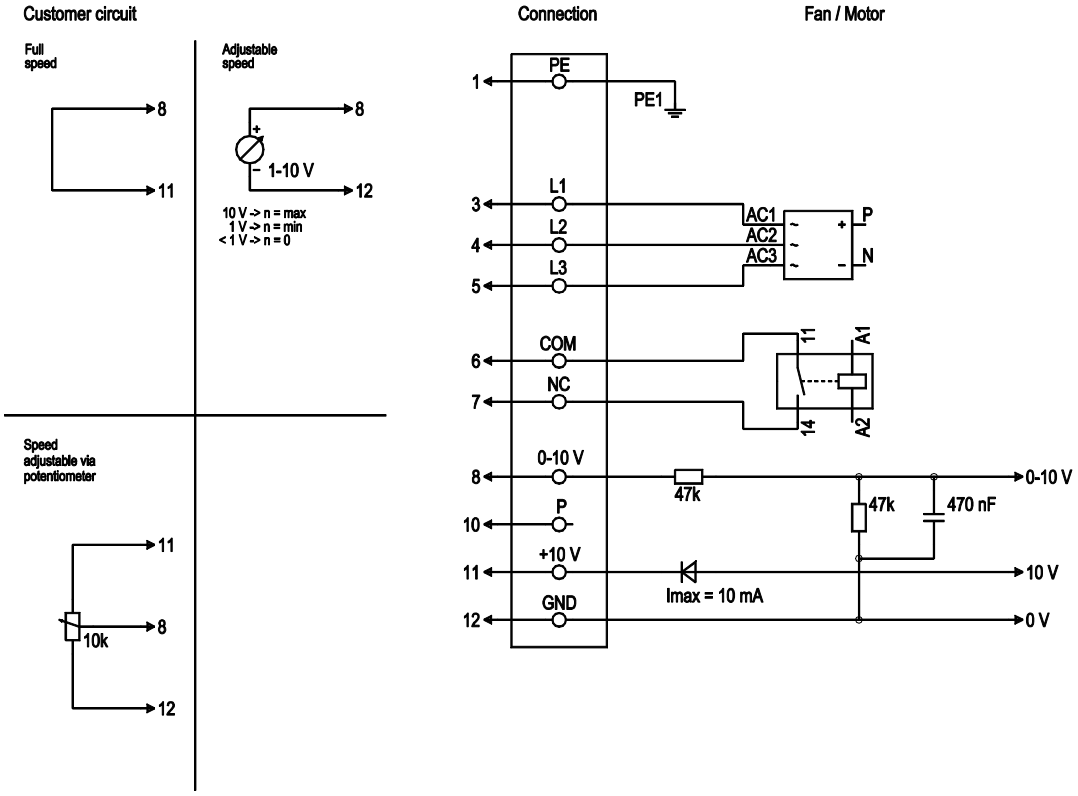
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1	PE	green/yellow	Protective earth
1	3	L1	black	Power supply 50/60 Hz
1	4	L2	black	Power supply 50/60 Hz
1	5	L3	black	Power supply 50/60 Hz
1	6	COM	white 1	Floating status contact, break for failure (2 A, max. 250 VAC, min. 10 mA, AC1)
1	7	NC	white 2	Floating status contact, break for failure
2	8	0-10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kΩ, SELV
2	10	P	orange	Do not use
2	11	+10 V	red	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference ground for control interface, SELV

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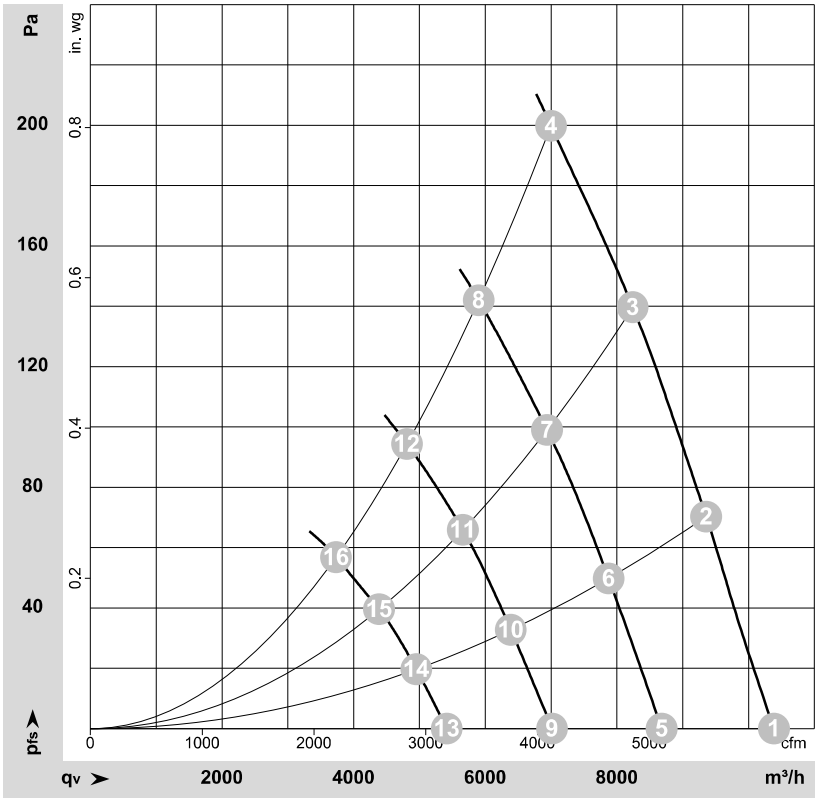
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-121588-1
Date: 2009-10-01
Housing: 90000-2-4037

Measurement: LU-125150-1
Date: 2009-10-01
Housing: 90000-2-4037

Measurement: LU-125151-1
Date: 2009-10-01
Housing: 90000-2-4037

Measurement: LU-125149-1
Date: 2009-10-01
Housing: 90000-2-4037

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	1600	680	1.20	72	80	80	10385	0	6115	0.00
2	3~	400	50	1600	831	1.33	70	77	77	9355	70	5505	0.28
3	3~	400	50	1600	913	1.42	68	75	75	8240	140	4850	0.56
4	3~	400	50	1600	980	1.60	68	76	75	7000	200	4120	0.80
5	3~	400	50	1350	434	0.78	69	76	76	8680	0	5110	0.00
6	3~	400	50	1350	492	0.85	66	73	73	7875	52	4635	0.21
7	3~	400	50	1350	542	0.91	64	71	71	6940	99	4085	0.40
8	3~	400	50	1350	581	0.96	64	71	71	5900	142	3475	0.57
9	3~	400	50	1100	256	0.51	64	72	71	7015	0	4130	0.00
10	3~	400	50	1100	284	0.56	62	69	68	6385	34	3760	0.14
11	3~	400	50	1100	310	0.61	59	67	66	5660	66	3330	0.26
12	3~	400	50	1100	331	0.64	59	66	66	4810	94	2830	0.38
13	3~	400	50	850	133	0.31	60	67	66	5415	0	3185	0.00
14	3~	400	50	850	145	0.33	57	64	63	4950	21	2915	0.08
15	3~	400	50	850	156	0.35	55	61	61	4385	40	2580	0.16
16	3~	400	50	850	164	0.36	53	60	60	3730	57	2195	0.23

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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