W3G500-GF48-51

EC axial fan - HyBlade®

sickled blades (S series)

with full square nozzle

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**W3G500-GF48-51**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	870
Power input	W	180
Current draw	A	1.2
Max. back pressure	Pa	70
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	+65

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		39	25	29
Efficiency grade N		50	36	40
Power input P_{ed}	kW	0.18		
Air flow q_v	m^3/h	3880		
Pressure increase p_{fs}	Pa	58		
Speed n	min^{-1}	880		

Data definition with optimum efficiency.

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Technical features

Mass	10.5 kg
Size	500 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Material of wall ring	Sheet steel, pre-galvanised and coated in black plastic (RAL 9005)
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC harmonics	Acc. to EN 61000-3-2/3
EMC interference emission	Acc. to EN 61000-6-3 (household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	GOST

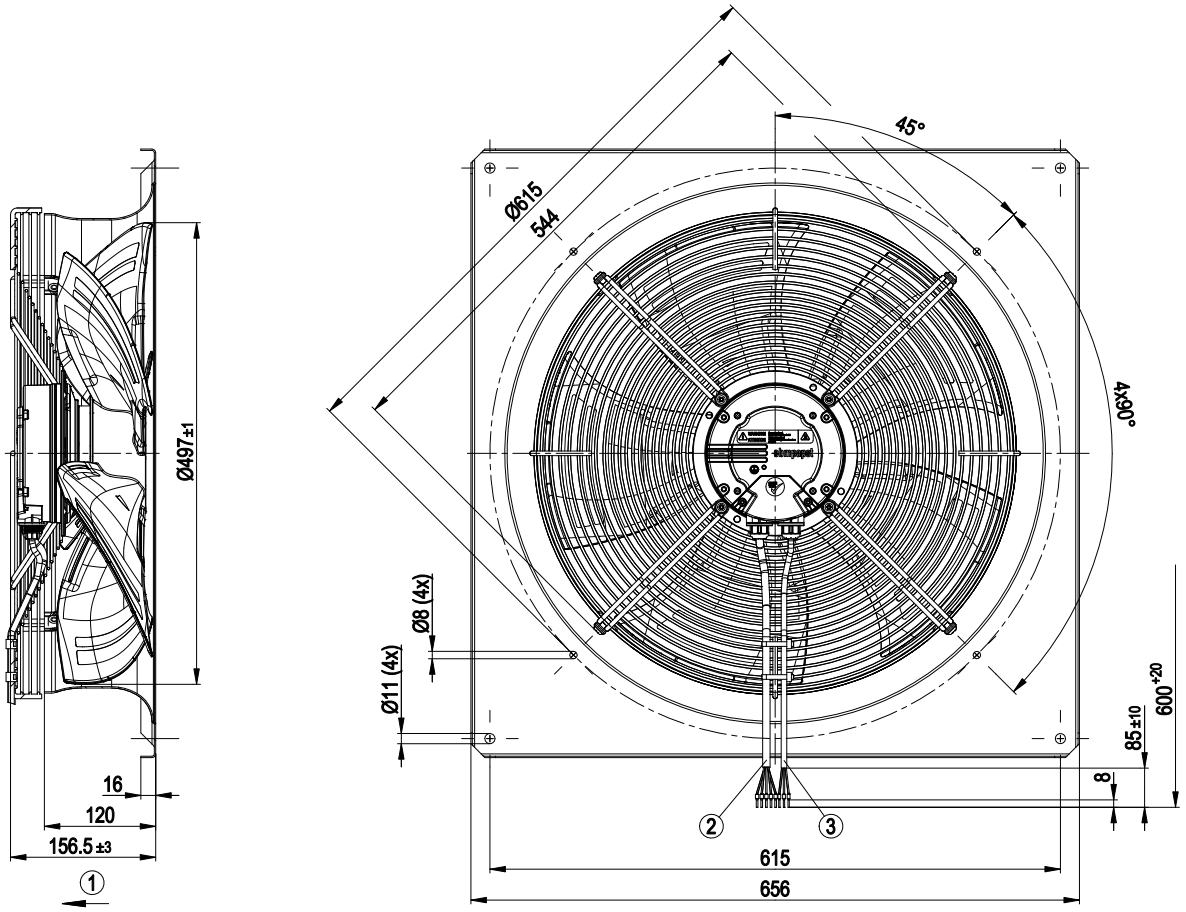
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Product drawing



1	Direction of air flow "V"
2	Connection line PVC AWG18, 5x crimped core-end sleeves
3	Connection line PVC AWG22, 3x crimped core-end sleeves

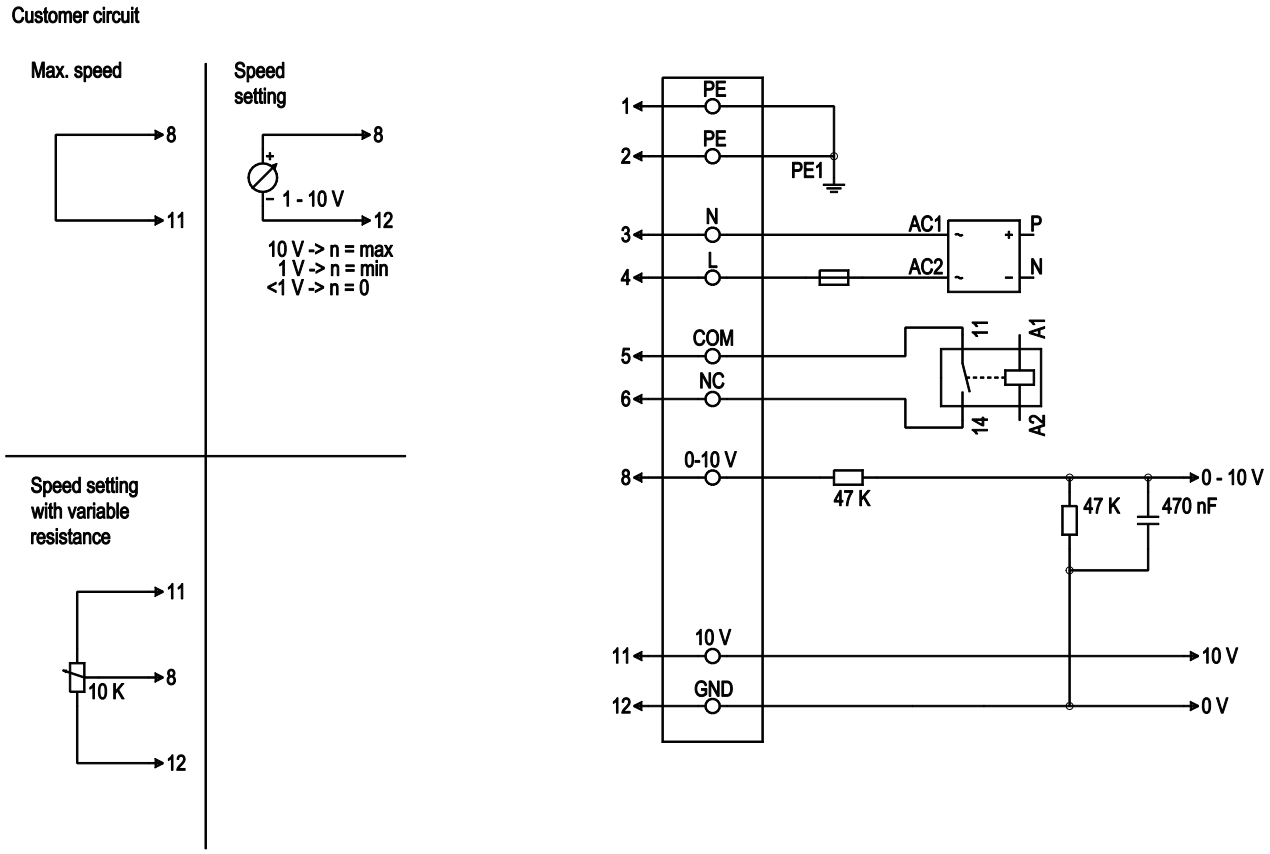
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Connection screen



Line	No.	Signal	Colour	Function / assignment
1	1,2	PE	green/yellow	Protective earth
1	3	N	blue	Supply voltage, neutral conductor, 50/60 Hz
1	4	L	black	Supply voltage, phase, 50/60 Hz
1	5	COM	white 1	Floating status message contact, break for failure (2 A, max. 250 VAC, min. 10 mA, AC1)
1	6	NC	white 2	Floating status message contact, break for failure
2	8	0 - 10 V	yellow	Control input, set value 0 - 10 VDC, impedance 100 kOhm, SELV
2	11	10 VDC	red	Voltage output 10 VDC (+/-3%), max. 10 mA, supply voltage for ext. devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference mass for control interface, SELV

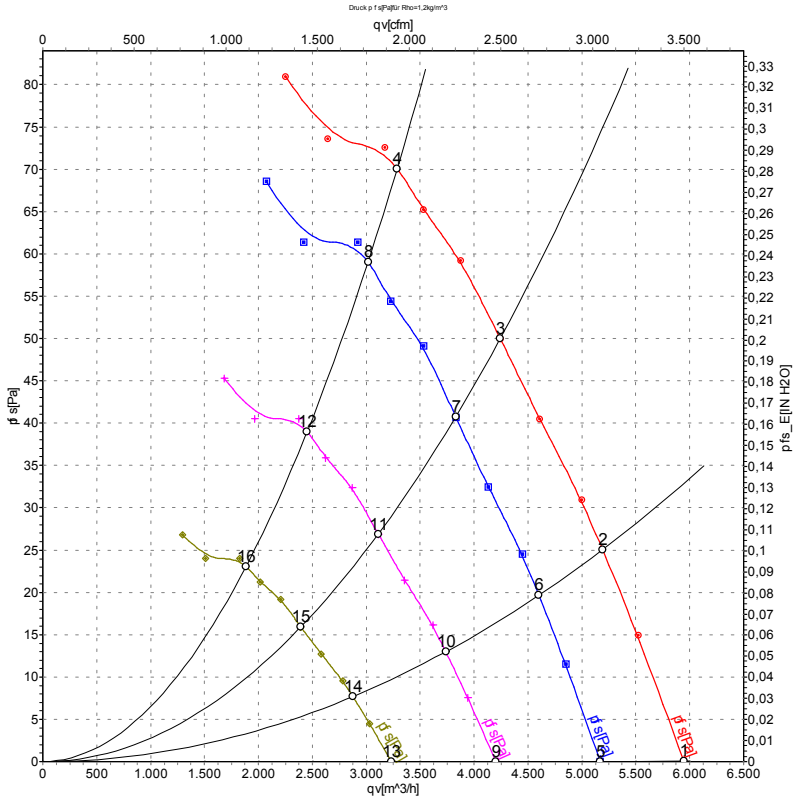
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Charts: Air flow 50 Hz



Measurement: LU-118060

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	230	50	920	152	0.97	61	68	67	5945	0
2	230	50	905	166	1.05	57	64	63	5190	25
3	230	50	885	175	1.10	53	60	60	4240	50
4	230	50	870	180	1.20	54	61	61	3285	70
5	230	50	800	100	0.64	58	65	64	5170	0
6	230	50	800	115	0.73	54	61	60	4600	20
7	230	50	800	129	0.82	51	58	57	3830	41
8	230	50	800	143	0.90	52	60	59	3015	59
9	230	50	650	54	0.34	53	60	59	4200	0
10	230	50	650	62	0.39	50	57	56	3740	13
11	230	50	650	69	0.44	47	53	53	3110	27
12	230	50	650	77	0.48	48	55	55	2450	39
13	230	50	500	24	0.16	48	54	54	3230	0
14	230	50	500	28	0.18	44	51	50	2875	8
15	230	50	500	31	0.20	41	48	47	2395	16
16	230	50	500	35	0.22	42	49	49	1885	23

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side
qv = Air flow · p_{fs} = Pressure increase

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