W3G500-GM06-H1

EC axial fan - HyBlade

sickled blades (S series)

with full square nozzle

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**W3G500-GM06-H1**
Motor	**M3G084-GF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	1260
Power input	W	500
Current draw	A	2.2
Max. back pressure	Pa	120
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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 2015
Overall efficiency η_{es}	%	42.2	31.8
Efficiency grade N		50.4	40
Power input P_{ed}	kW	0.51	
Air flow q_v	m^3/h	5195	
Pressure increase p_{fs}	Pa	138	
Speed n	min^{-1}	1255	

Data definition with optimum efficiency. LU-161824
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	11.7 kg
Size	500 mm
Surface of rotor	Coated in black
Material of terminal box	PP plastic
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Material of wall ring	Sheet steel, 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	"F"
Humidity class	F4-1
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 - Operation and alarm display - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, active - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
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
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	EAC
Remark	Standard conformity as per EN 60335-1 in preparation

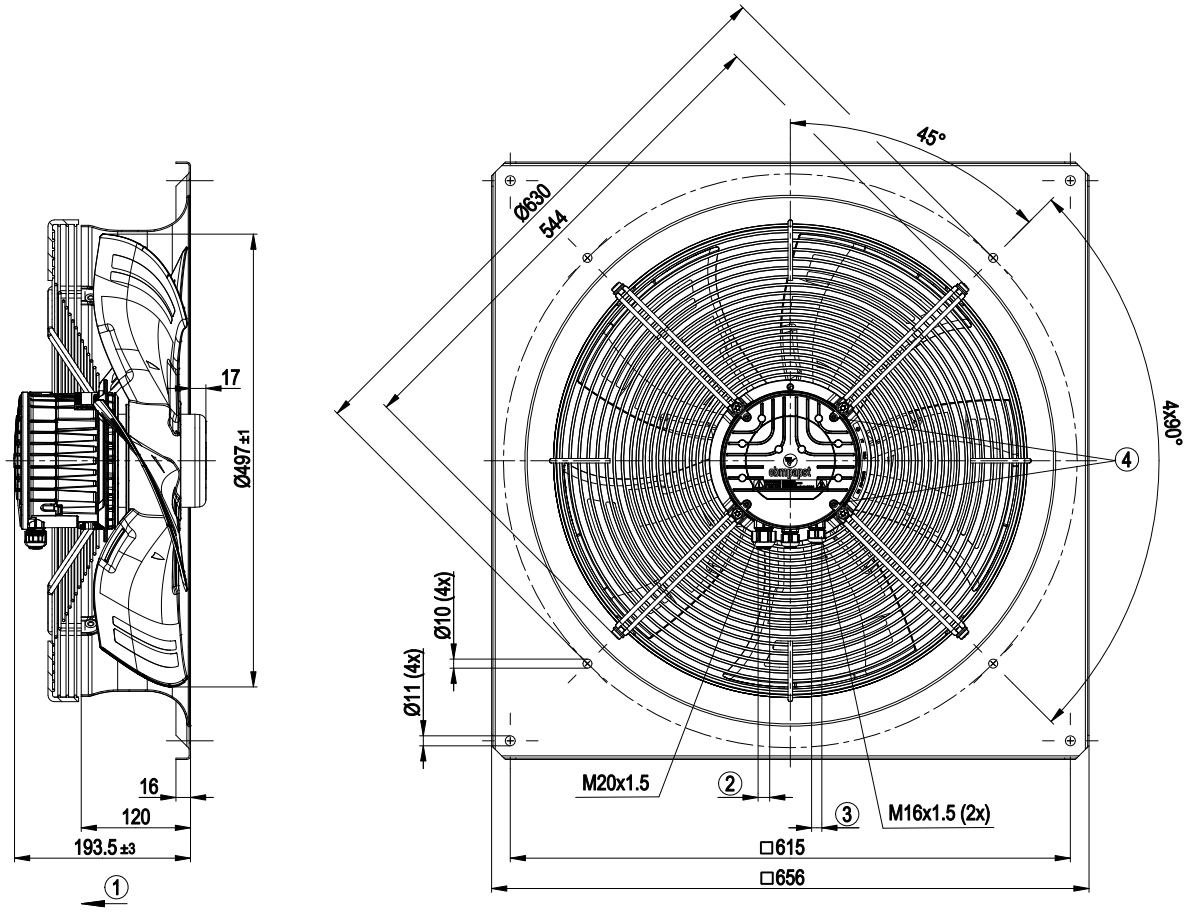
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Product drawing



1	Direction of air flow "V"
2	Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5±0.4 Nm
3	Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5±0,4 Nm Cable diameter min. 4 mm, max. 7 mm, tightening torque 2.5±0.4 Nm (use must be made of sealing ring provided)
4	Tightening torque 1.5±0.2 Nm

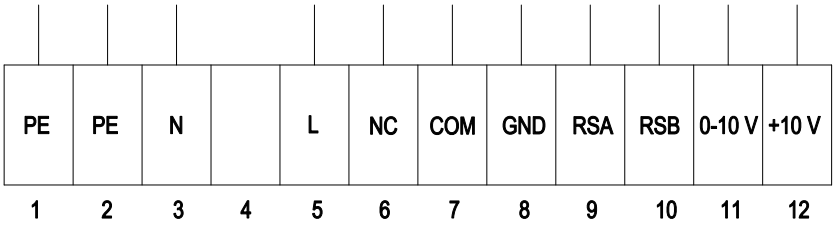
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Connection screen



No.	Conn.	Designation	Function / assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	N	Power supply, neutral conductor
	4	-	not used
	5	L	Power supply, phase
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
	7	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
	8	GND	Signal ground for control interface, SELV
	9	RSA	RS-485 interface for MODBUS, RSA; SELV
	10	RSB	RS-485 interface for MODBUS, RSB; SELV
	11	0-10 V	Analogue input (set value) SELV, 0-10 V, Ri=100kΩ, parametrisable curve
	12	+10 V	Fixed voltage output 10 VDC, SELV, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer)

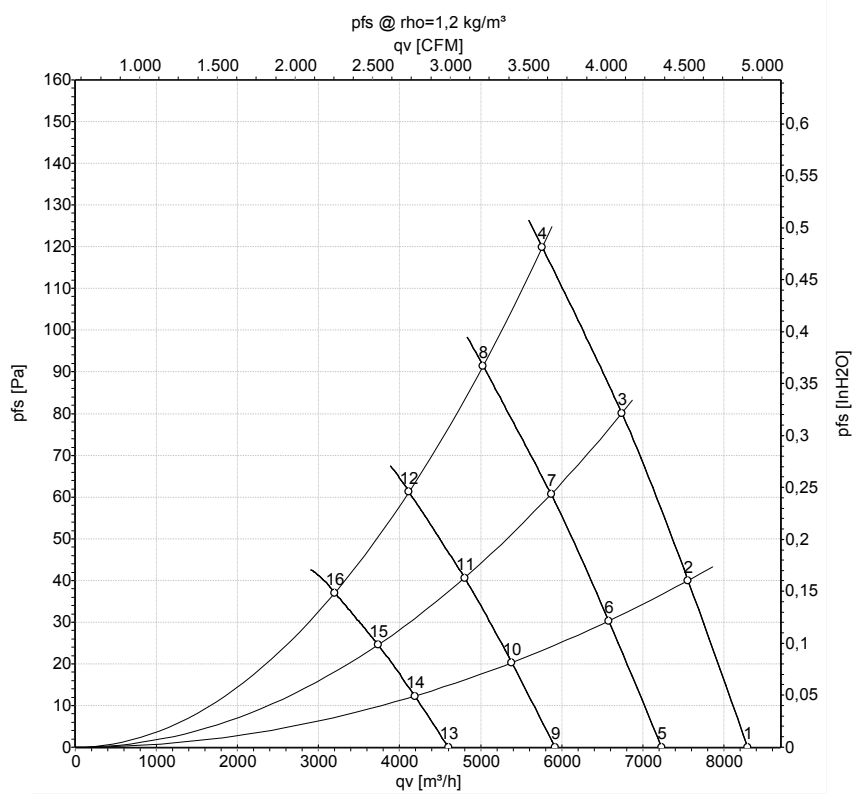
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Charts: Air flow 50 Hz



Measurement: LU-161824

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

	Conn.	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	Δ	230	50	1260	374	1.65	64	71	71	8295	0
2	Δ	230	50	1260	424	1.86	62	69	69	7560	40
3	Δ	230	50	1260	465	2.04	61	68	68	6740	80
4	Δ	230	50	1260	500	2.20	62	69	69	5760	120
5	Δ	230	50	1100	247	1.09	61	67	67	7230	0
6	Δ	230	50	1100	279	1.23	59	65	65	6580	31
7	Δ	230	50	1100	307	1.35	58	65	64	5870	61
8	Δ	230	50	1100	333	1.46	59	66	65	5030	91
9	Δ	230	50	900	135	0.60	56	62	62	5915	0
10	Δ	230	50	900	153	0.67	54	60	60	5385	21
11	Δ	230	50	900	168	0.74	53	59	59	4800	41
12	Δ	230	50	900	182	0.80	54	61	60	4115	61
13	Δ	230	50	700	64	0.28	50	56	56	4600	0
14	Δ	230	50	700	72	0.32	48	54	54	4185	13
15	Δ	230	50	700	79	0.35	47	53	53	3735	25
16	Δ	230	50	700	86	0.38	47	54	54	3200	37

Conn. = Connection · 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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