W3G500-CN33-84

EC axial fan

sickled blades (S series)

with full round nozzle

W3G500-CN33-84 ebmpapst Datasheet
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County court Stuttgart · HRA 590344

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County court Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**W3G500-CN33-84**
Motor	**M3G112-GA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		fa
State		prelim.
Speed	min^{-1}	1600
Power input	W	680
Current draw	A	1.2
Max. back pressure	Pa	200
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 2013	Request 2015
Overall efficiency η_{es}	%	43.5	29.7	33.7
Efficiency grade N		49.8	36	40
Power input P_{ed}	kW	1		
Air flow q_v	m^3/h	6630		
Pressure increase p_{fs}	Pa	218		
Speed n	min^{-1}	1610		

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

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Technical features

Mass	20.8 kg
Size	500 mm
Material of electronics housing	Die-cast aluminium, coated in black
Material of impeller	PP plastic
Material of wall ring	Sheet steel, pre-galvanised and plastic-coated in cement grey (RAL 7033)
Material of guard grille	Steel, galvanised and plastic-coated in cement grey (RAL 7033)
Number of blades	5
Direction of air flow	"A"
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity class	F4-2
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 top
Condensate discharge holes	On the stator side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Operation and alarm display - Direction of rotation selection counter-clockwise / clockwise - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - Alarm relay - Integrated PID controller - 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
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)

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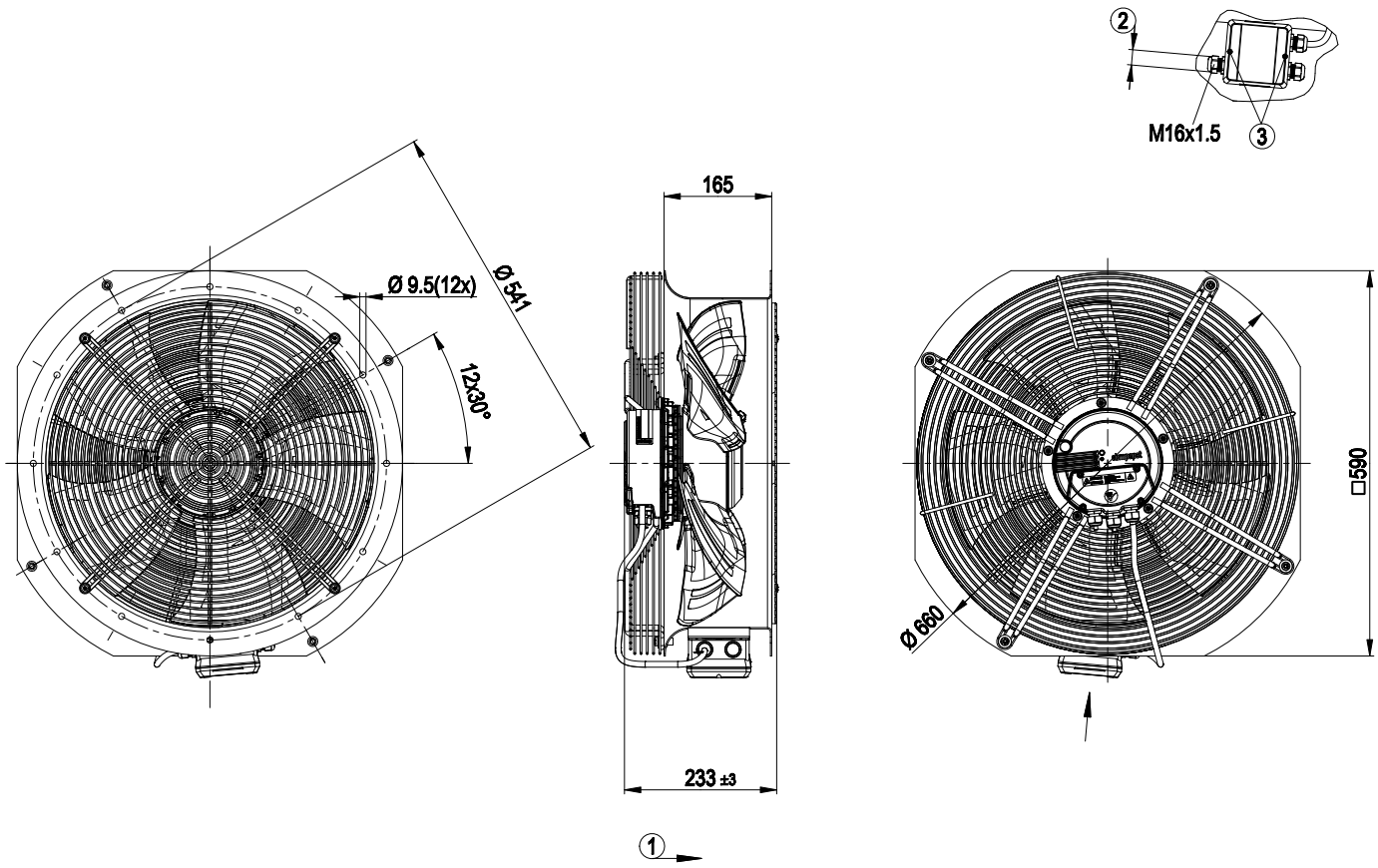
Product drawing



1	Direction of air flow "A"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 2±0.3 Nm
3	Tightening torque 2±0.3 Nm

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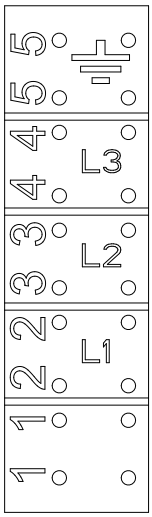
Connection screen



1	Not assigned	2	L1 (blue)	3	L2 (black)
4	Not assigned	5	PE (green/yellow)		

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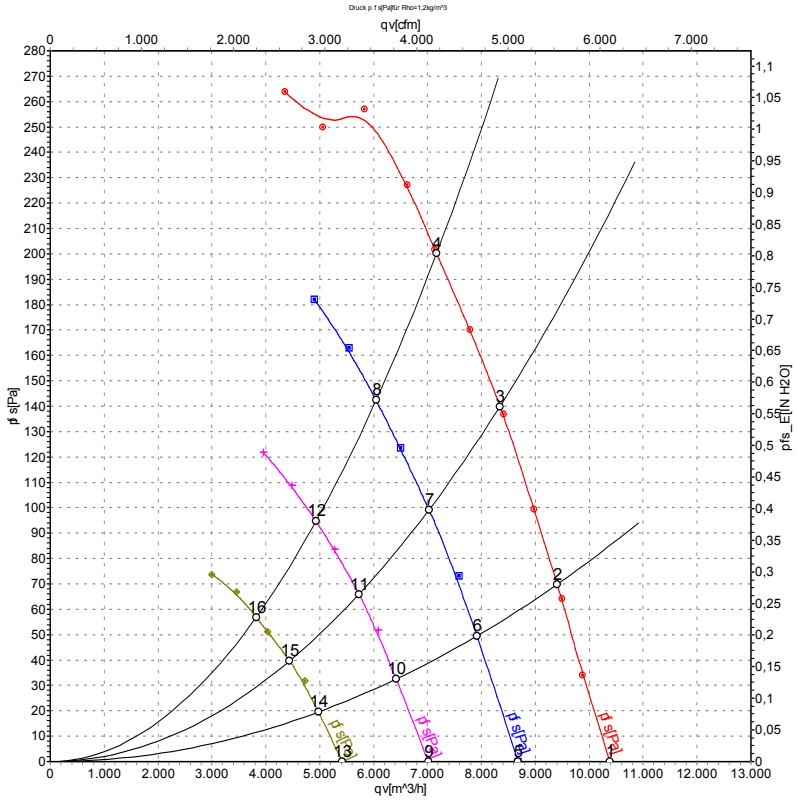
Charts: Air flow 50 Hz



Measurement: LU-121588
Measurement: LU-125150
Measurement: LU-125151
Measurement: LU-125149

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	400	50	1600	680	1.20	72	80	80	10390	0
2	400	50	1600	827	1.33	70	77	77	9405	70
3	400	50	1600	907	1.41	68	75	75	8345	140
4	400	50	1600	980	1.60	68	76	75	7170	200
5	400	50	1350	434	0.78	69	76	76	8680	0
6	400	50	1350	489	0.85	66	73	73	7915	51
7	400	50	1350	538	0.91	64	71	71	7025	99
8	400	50	1350	577	0.95	64	71	71	6045	142
9	400	50	1100	256	0.51	64	72	71	7015	0
10	400	50	1100	282	0.55	62	69	68	6420	33
11	400	50	1100	308	0.60	59	67	66	5730	66
12	400	50	1100	329	0.64	59	66	65	4930	95
13	400	50	850	133	0.31	60	67	66	5415	0
14	400	50	850	145	0.32	57	64	63	4975	20
15	400	50	850	155	0.34	55	62	61	4445	40
16	400	50	850	163	0.36	53	60	60	3820	57

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