

AC axial fan - HyBlade

sickled blades (S series)
with full round nozzle

W4D500-CJ03-02 ebmpapst Datasheet
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Nominal data

Type	W4D500-CJ03-02		
Motor	M4D110-EF		
Phase		3~	3~
Nominal voltage	VAC	400	400
Connection		Δ	Y
Frequency	Hz	50	50
Type of data definition		ml	ml
Valid for approval / standard		CE	CE
Speed (rpm)	min ⁻¹	1340	1060
Power input	W	710	480
Current draw	A	1.4	0.8
Max. back pressure	Pa	140	87
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	60	60
Starting current	A	4.6	

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

		Actual	Request 2015			
01 Overall efficiency η_{es}	%	32.7	32.7	09 Power input P_e	kW	0.69
02 Measurement category		A		09 Air flow q_v	m³/h	5995
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	132
04 Efficiency grade N		40	40	10 Speed (rpm) n	min ⁻¹	1345
05 Variable speed drive		No		11 Specific ratio*		1.00

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

* Specific ratio = $1 + p_g / 100\,000\text{ Pa}$

LU-105607



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Technical features

Mass	13.8 kg
Size	500 mm
Surface of rotor	Coated in black
Material of terminal box	PP plastic
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	"A"
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity (F)/environmental protection class (H)	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
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) brought out, basic insulation
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	VDE; EAC

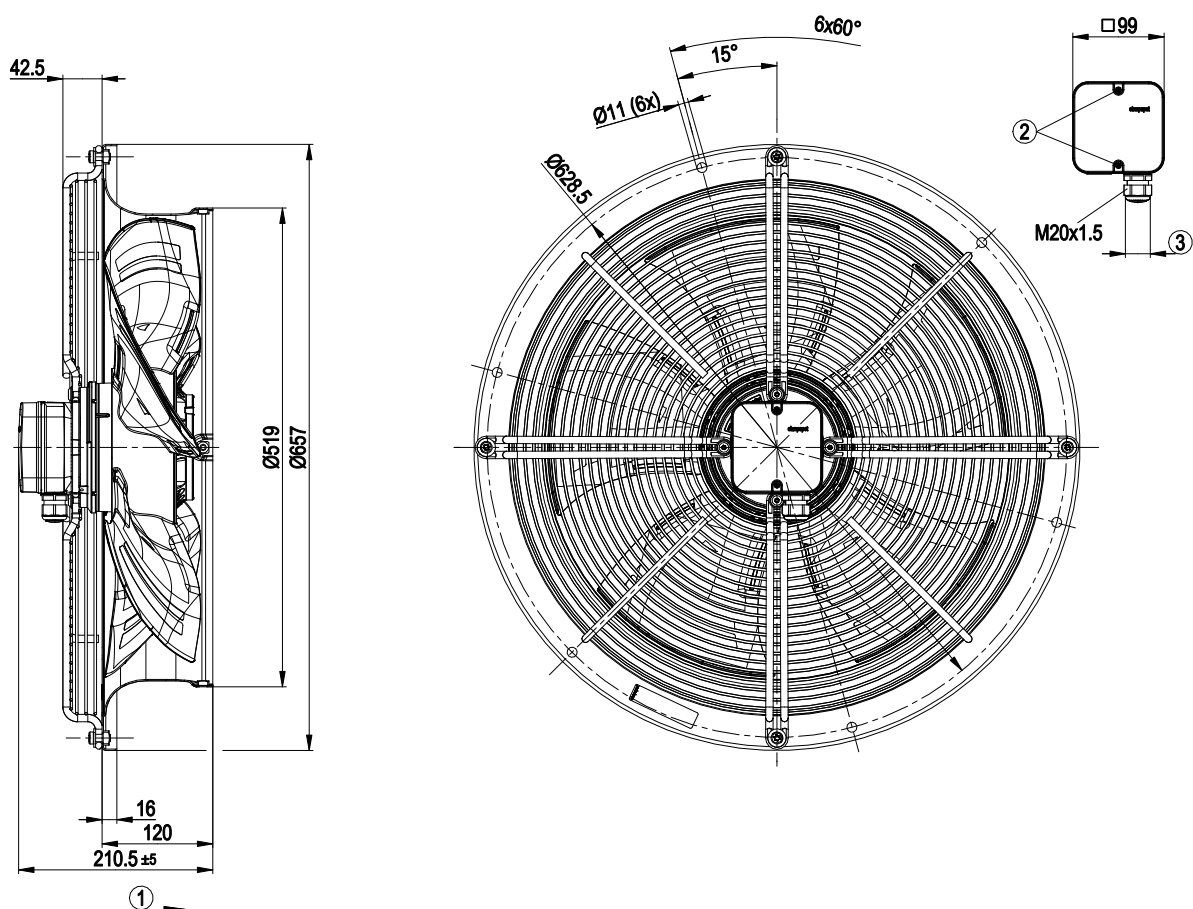


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Product drawing

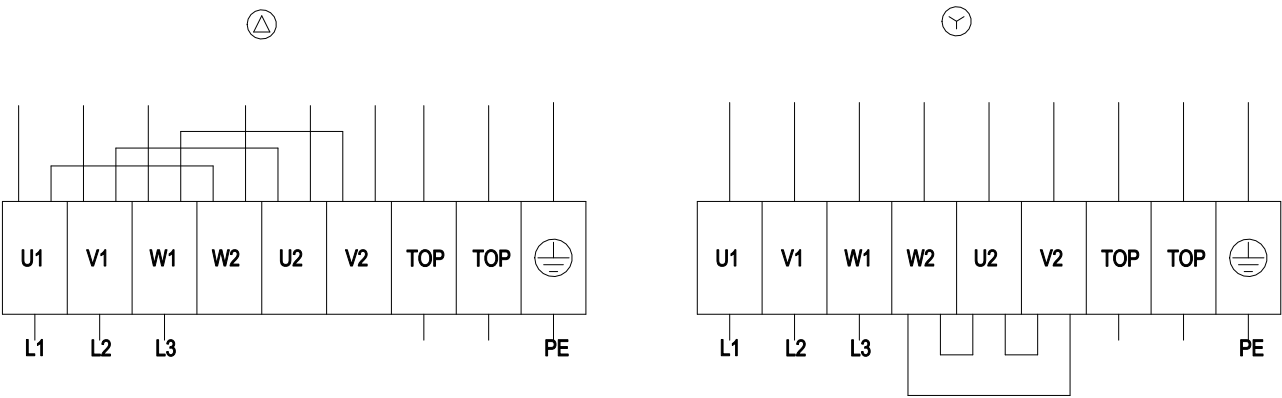


1	Direction of air flow "A"
2	Tightening torque 2.5 ± 0.4 Nm
3	Cable diameter: max. 12 mm; tightening torque 4 ± 0.4 Nm

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Connection screen



Δ	Delta connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2 x grey
PE	green/yellow				

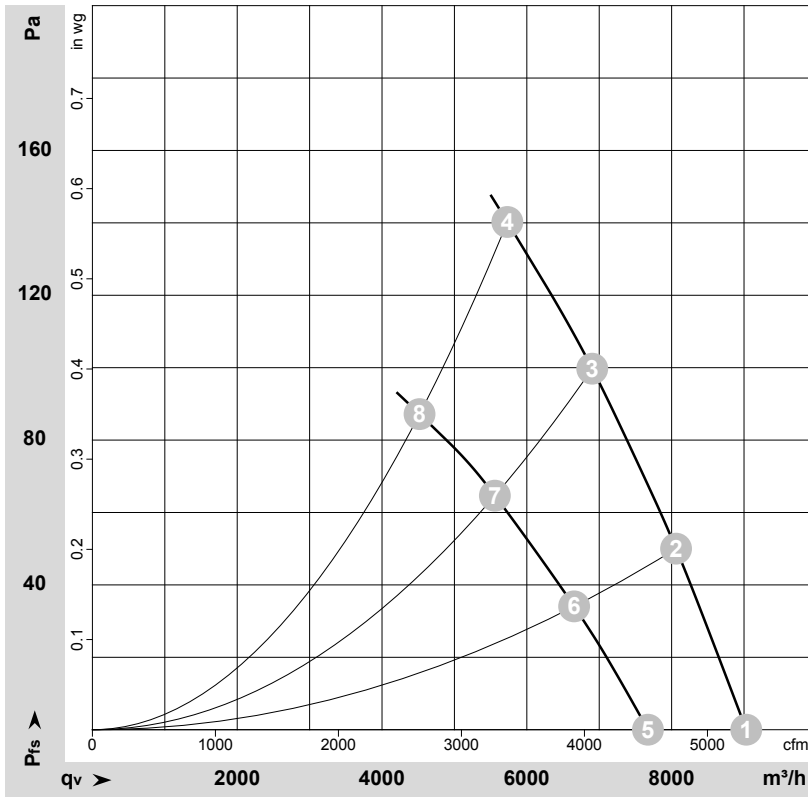


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Charts: Air flow 50 Hz



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

Measurement: LU-105607-1
Measurement: LU-105610-1

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 _e	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)	m³/h	Pa	cfm	inH ₂ O
1	Δ	400	50	1395	537	1.25	68	75	75	9030	0	5315	0.00
2	Δ	400	50	1375	601	1.30	65	72	72	8060	50	4745	0.20
3	Δ	400	50	1360	661	1.35	64	71	71	6905	100	4065	0.40
4	Δ	400	50	1340	710	1.40	64	71	71	5730	140	3375	0.56
5	Y	400	50	1180	393	0.65	65	71	71	7675	0	4515	0.00
6	Y	400	50	1135	429	0.71	61	68	68	6655	34	3915	0.14
7	Y	400	50	1095	458	0.76	59	66	66	5560	65	3270	0.26
8	Y	400	50	1060	480	0.80	58	65	65	4520	87	2660	0.35

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = 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 · q_V = Air flow · p_{fs} = Pressure increase

