AC axial fan - HyBlade

sickled blades (S series)

A6D500-AJ05-02 ebmpapst Datasheet
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Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**A6D500-AJ05-02**
Motor	**M6D110-EF**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	480	480
Connection		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Type of data definition		ml	ml	ml	ml
Valid for approval / standard		CE	CE	CE	CE
Speed (rpm)	min^{-1}	920	785	1090	880
Power input	W	260	190	410	290
Current draw	A	0.63	0.32	0.72	0.41
Max. back pressure	Pa	70	50	95	62
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	80	80	80	80
Starting current	A	2.2	0.73	2.4	0.8

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}	%	29.9	29.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40	40
05 Variable speed drive		No	

09 Power input P_e	kW	0.25
09 Air flow q_v	m^3/h	4105
09 Pressure increase p_{fs}	Pa	64
10 Speed (rpm) n	min^{-1}	925
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_{fs} / 100 000 Pa

LU-140967

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Technical features

Mass	7.5 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
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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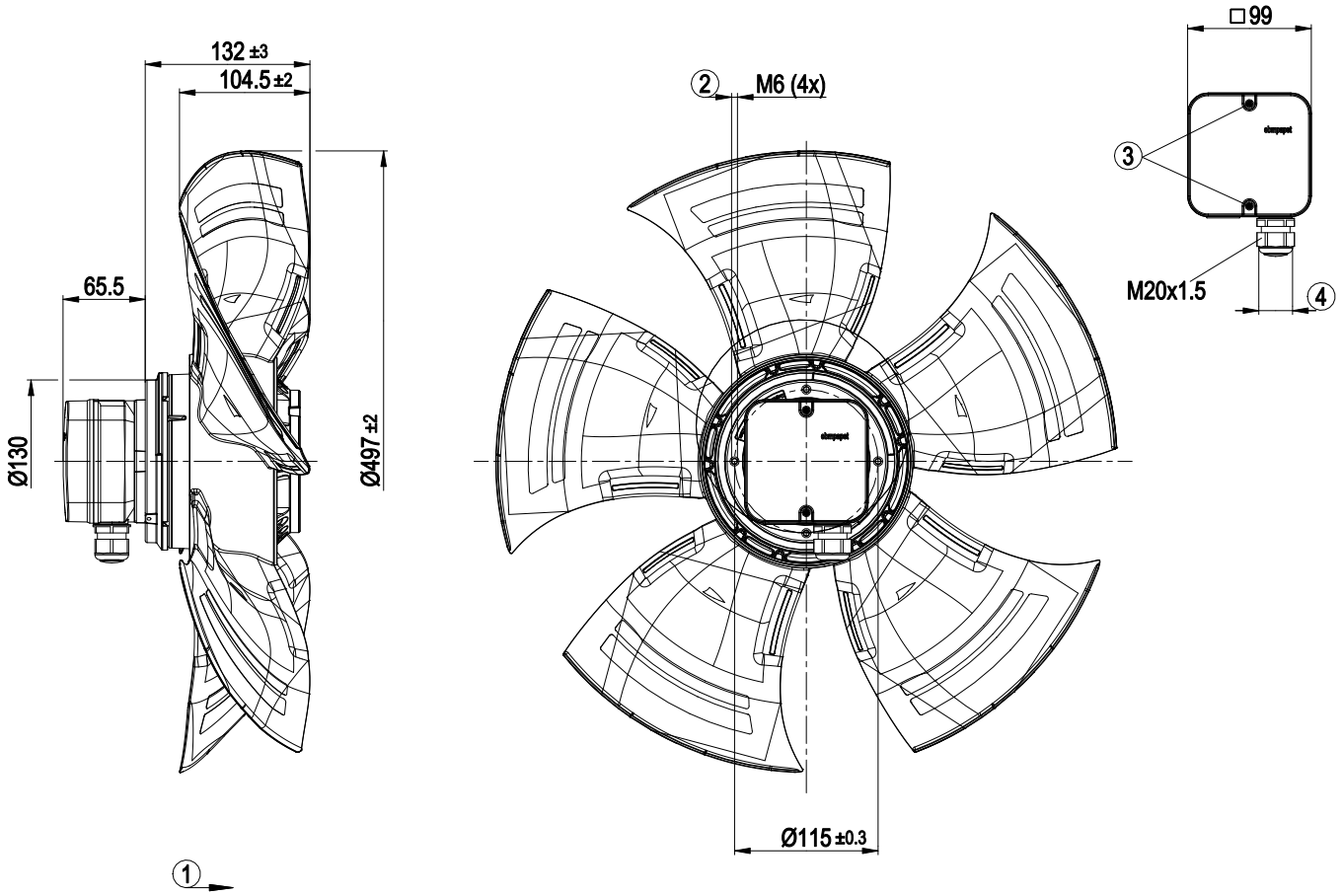
Product drawing



1	Direction of air flow "A"
2	Thread reach max. 12 mm
3	Tightening torque 1.5±0.2 Nm
4	Cable diameter: min. 6 mm, max. 12 mm; tightening torque 2±0.3 Nm

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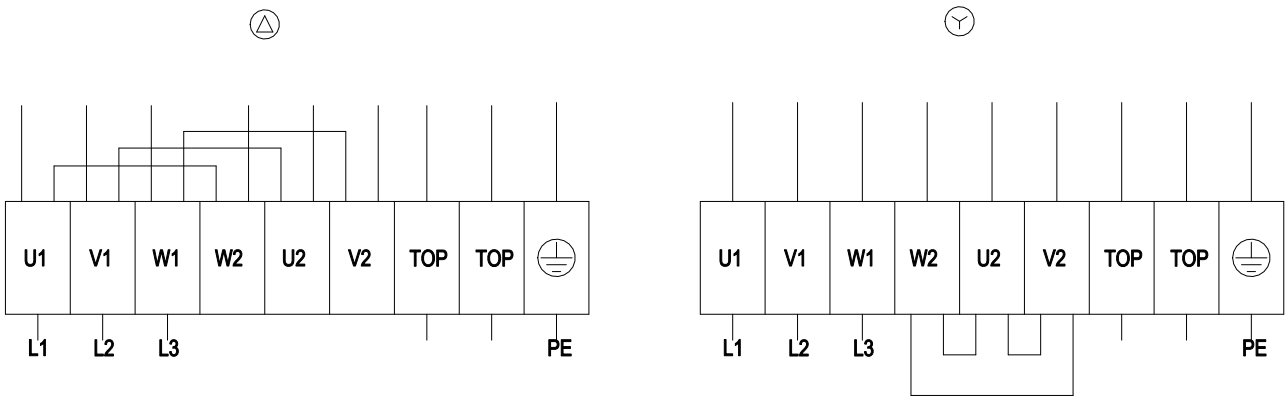
Connection screen



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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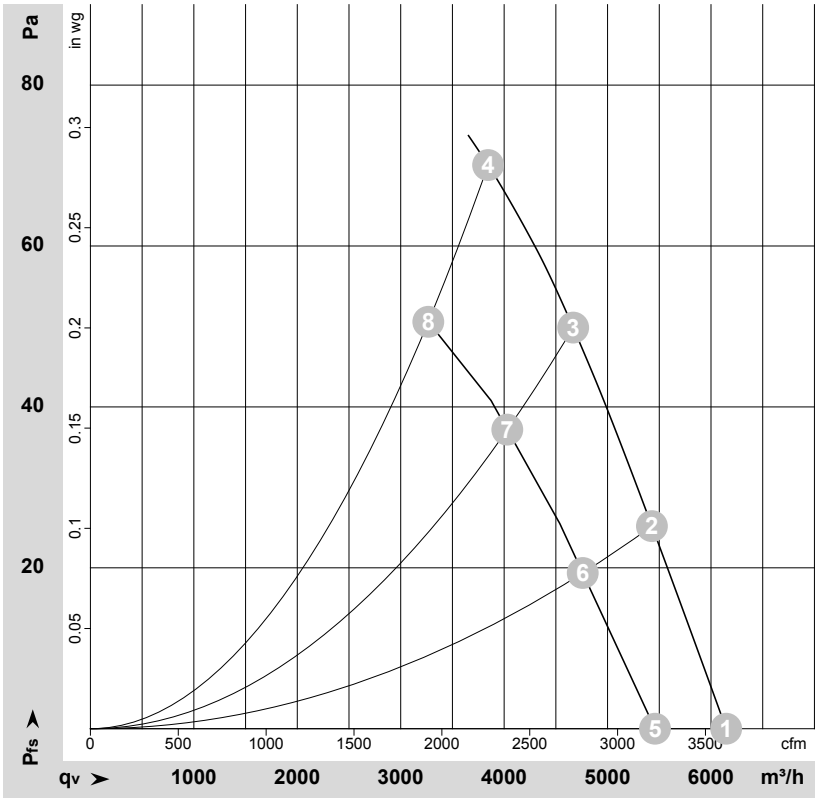
Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-152524-1
Measurement: LU-167953-1

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)	m^3/h	Pa	cfm	inH2O
1	Δ	400	50	945	202	0.58	62	68	68	6145	0	3620	0.00
2	Δ	400	50	940	225	0.59	59	66	65	5430	25	3195	0.10
3	Δ	400	50	930	245	0.60	56	63	63	4670	50	2745	0.20
4	Δ	400	50	920	260	0.63	55	62	62	3845	70	2265	0.28
5	Y	400	50	845	148	0.26	59	66	65	5460	0	3215	0.00
6	Y	400	50	820	163	0.28	56	63	62	4760	19	2800	0.08
7	Y	400	50	800	175	0.30	53	60	60	4030	37	2370	0.15
8	Y	400	50	785	190	0.32	51	58	57	3265	51	1925	0.20

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

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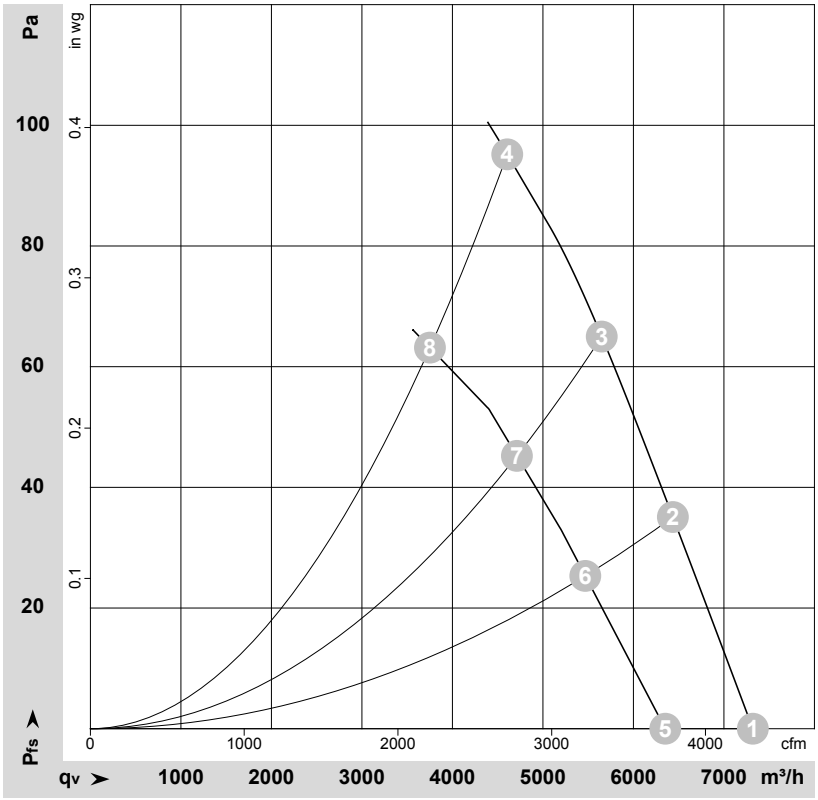
Charts: Air flow 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-152527-1
Measurement: LU-167955-1

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)	m^3/h	Pa	cfm	inH2O
1	Δ	480	60	1120	314	0.62	65	72	71	7320	0	4310	0.00
2	Δ	480	60	1110	350	0.65	62	69	69	6435	35	3790	0.14
3	Δ	480	60	1100	378	0.67	60	67	67	5650	65	3325	0.26
4	Δ	480	60	1090	410	0.72	59	66	66	4605	95	2710	0.38
5	Y	480	60	975	234	0.33	62	69	68	6350	0	3740	0.00
6	Y	480	60	940	257	0.36	59	65	65	5470	25	3220	0.10
7	Y	480	60	915	272	0.38	56	63	63	4715	45	2775	0.18
8	Y	480	60	880	290	0.41	54	61	61	3750	63	2210	0.25

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

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