A4D500-AM13-09

AC axial fan - HyBlade

sickle-shaped blades (S series)

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**A4D500-AM13-09**
Motor	**M4D110-GF**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	208	208	208	208
Wiring		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Method of obtaining data		ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE
Speed (rpm)	min^{-1}	1320	1060	1460	1050
Power consumption	W	720	490	970	560
Current draw	A	2.54	1.6	3.1	1.88
Max. back pressure	Pa	155	95	140	68
Max. back pressure	inH2O	0.62	0.38	0.56	0.27
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	65	65	50	50
Starting current	A	12.2	7.1	11.5	6.7

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	32.8	32.7
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40.1	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.69
09 Air flow q_v	m^3/h	6035
09 Pressure increase p_{fs}	Pa	136
10 Speed (rpm) n	min^{-1}	1335
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-116400

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Technical description

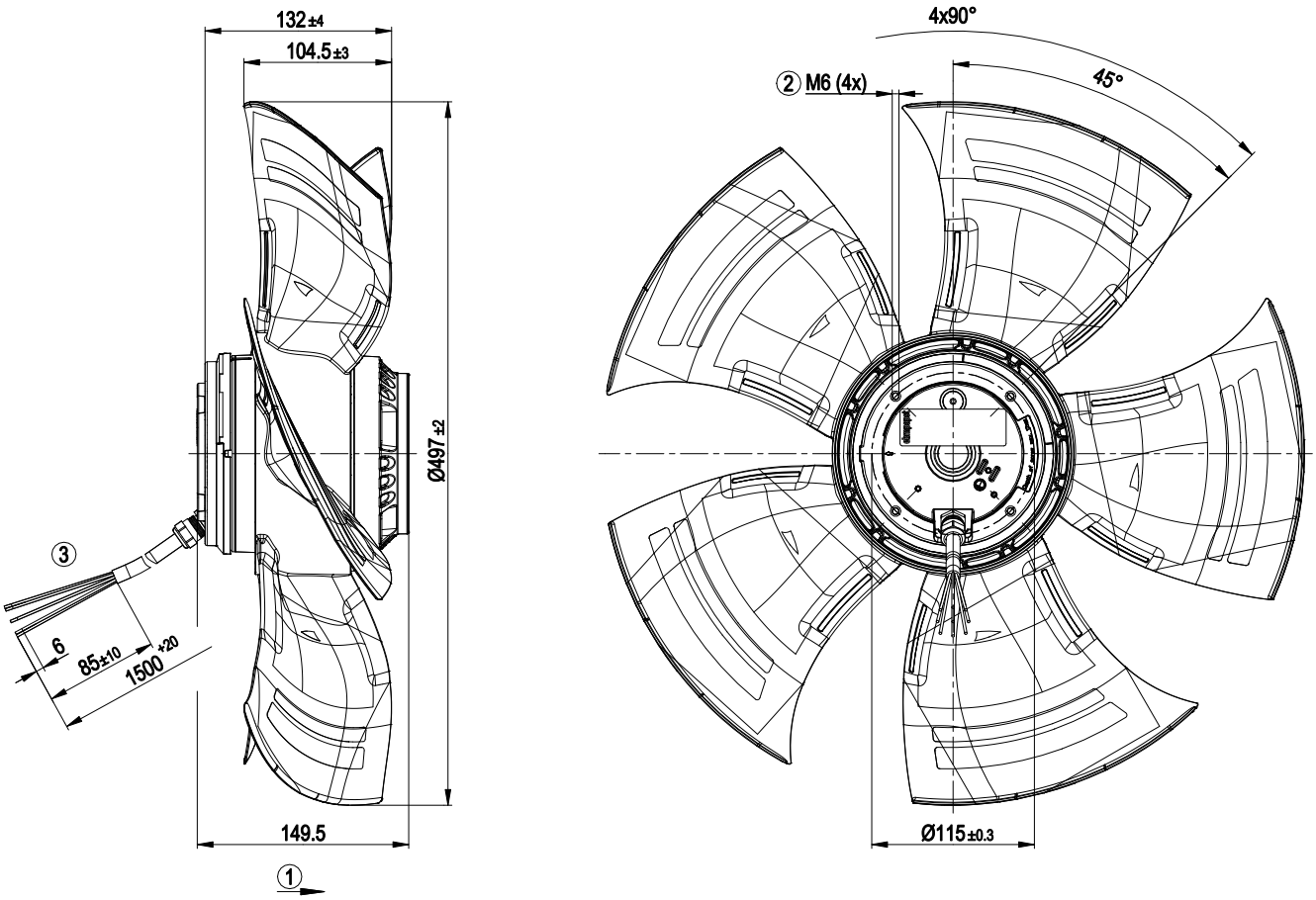
Weight	9.8 kg
Fan size	500 mm
Rotor surface	Painted black
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Number of blades	5
Airflow direction	"A"
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F4-1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing with low-temperature lubricant
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) with basic insulation
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	EAC; VDE; UL 1004-1; CSA C22.2 No. 100

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Product drawing



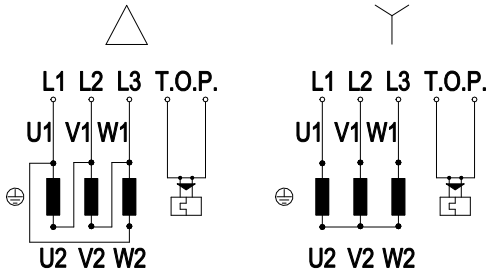
1	Direction of air flow "A"
2	Max. clearance for screw 12 mm
3	Cable silicone 9G 0.75 mm², 9x crimped splices

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Connection diagram



Note: Change of rotation direction by reversing two phases

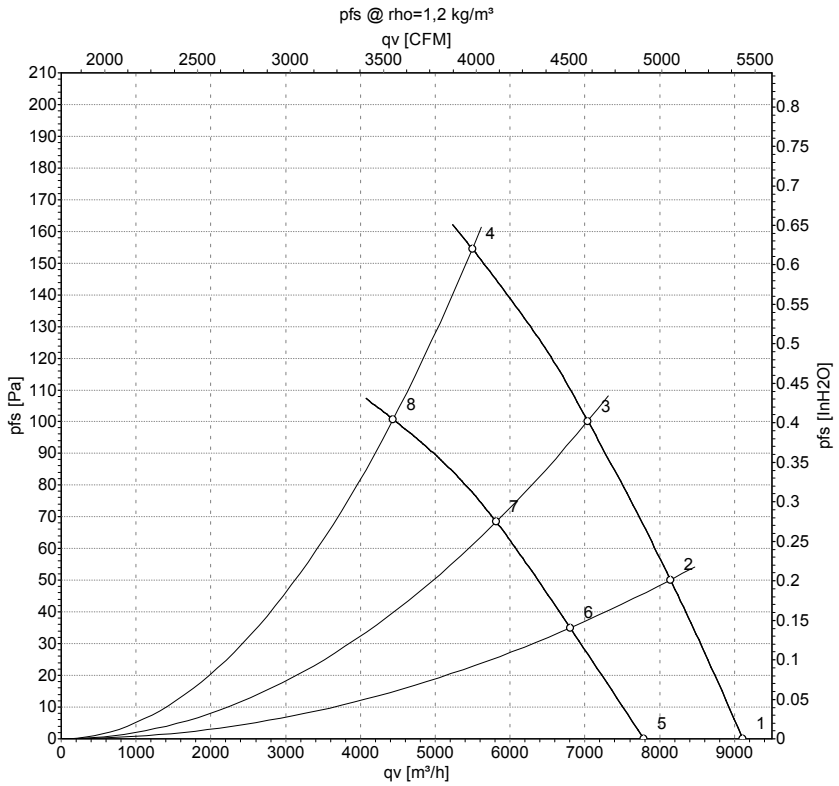
Δ	Delta connection	Y	Star connection	L1	black
L2	blue	L3	brown	U1	black
V1	blue	W1	brown	U2	green
V2	white	W2	yellow	TOP	gray

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Curves: Air performance 50 Hz



Measurement: LU-116400-1
Measurement: LU-121872-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	Wired	U	f	n	P_e	I	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	Δ	208	50	1380	539	2.16	70	77	76	9115	0	5365	0.00
2	Δ	208	50	1365	595	2.27	67	74	74	8145	50	4795	0.20
3	Δ	208	50	1345	648	2.38	64	71	71	7040	100	4140	0.40
4	Δ	208	50	1320	720	2.54	65	72	72	5495	155	3235	0.62
5	Y	208	50	1180	401	1.27	66	73	73	7785	0	4585	0.00
6	Y	208	50	1140	428	1.35	63	70	69	6805	35	4005	0.14
7	Y	208	50	1105	452	1.43	60	67	66	5815	68	3425	0.27
8	Y	208	50	1060	490	1.60	58	66	65	4435	101	2610	0.41

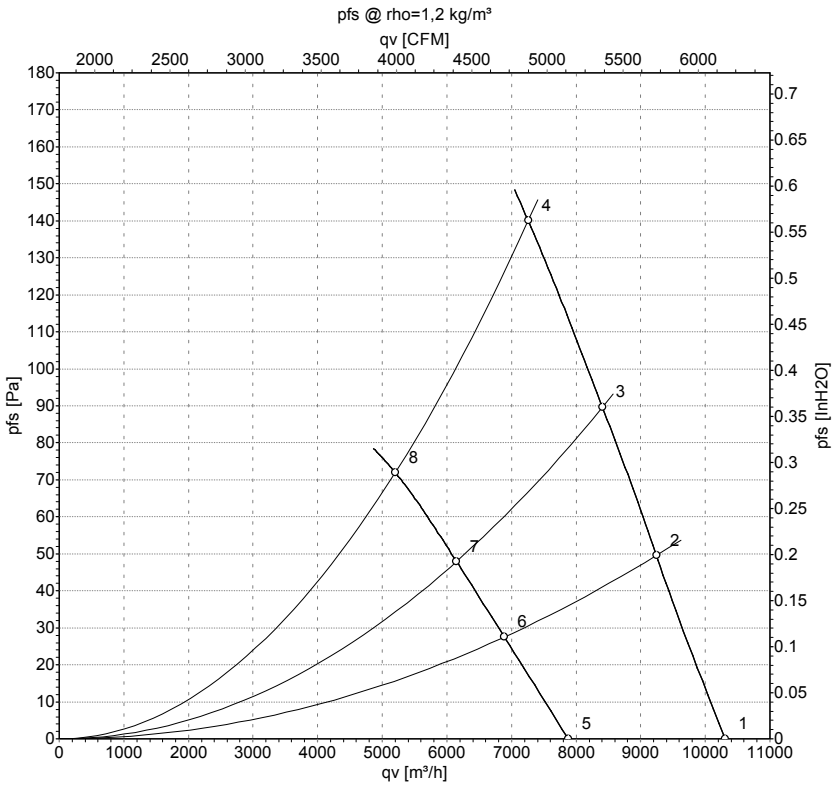
Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · qv = Air flow · p_{fs} = Pressure increase

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Curves: Air performance 60 Hz



Measurement: LU-116401-1
Measurement: LU-117665-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	Wired	U	f	n	P_e	I	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	Δ	208	60	1550	798	2.62	72	79	79	10310	0	6070	0.00
2	Δ	208	60	1515	865	2.79	70	77	77	9245	50	5440	0.20
3	Δ	208	60	1495	917	2.94	68	75	74	8410	90	4950	0.36
4	Δ	208	60	1460	970	3.10	66	73	73	7260	140	4270	0.56
5	Y	208	60	1175	499	1.60	66	73	73	7875	0	4635	0.00
6	Y	208	60	1120	515	1.66	63	70	69	6890	28	4055	0.11
7	Y	208	60	1080	527	1.70	60	67	67	6150	48	3620	0.19
8	Y	208	60	1050	560	1.88	58	65	64	5200	73	3060	0.29

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · qv = Air flow · p_{fs} = Pressure increase

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