A4D500-AM03-30

AC axial fan - HyBlade

sickle-shaped blades (S series)

for rail applications

A4D500-AM03-30 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**A4D500-AM03-30**					
Motor	**M4D110-GF**					
Phase		3~	3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	460	480
Wiring		Δ	Y	Δ	Δ	Δ
Frequency	Hz	50	50	60	60	60
Method of obtaining data		ml	ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE	CE
Speed (rpm)	min^{-1}	1390	1180	1590	1640	1650
Power consumption	W	720	550	1020	1060	1090
Current draw	A	1.41	0.9	1.7	1.64	1.7
Max. back pressure	Pa	140	100	130	138	138
Max. back pressure	in. wg	0.56	0.4	0.52	0.55	0.55
Min. ambient temperature	°C	-40	-40	-40	-40	-40
Max. ambient temperature	°C	65	65	50	60	60
Starting current	A	6.5	2.2	5.9	6.8	7.4

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

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Technical description

Weight	9.74 kg
Size	500 mm
Motor size	110
Rotor surface	Painted black
Blade material	Press-fitted, painted sheet steel blank, sprayed with PP plastic
Number of blades	5
Airflow direction	V
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H3
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 top; rotor on bottom on request
Condensation drainage holes	On stator side
Mode	S1
Motor bearing	Ball bearing
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 assignment	I; If a protective earth is connected by the customer This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Conformity with standards	EN 45545-2, HL3: 2013 + A1:2015 for outdoor use only; EN 50155: 2008; EN 61373, Cat. 1B: 2010
Approval	EAC

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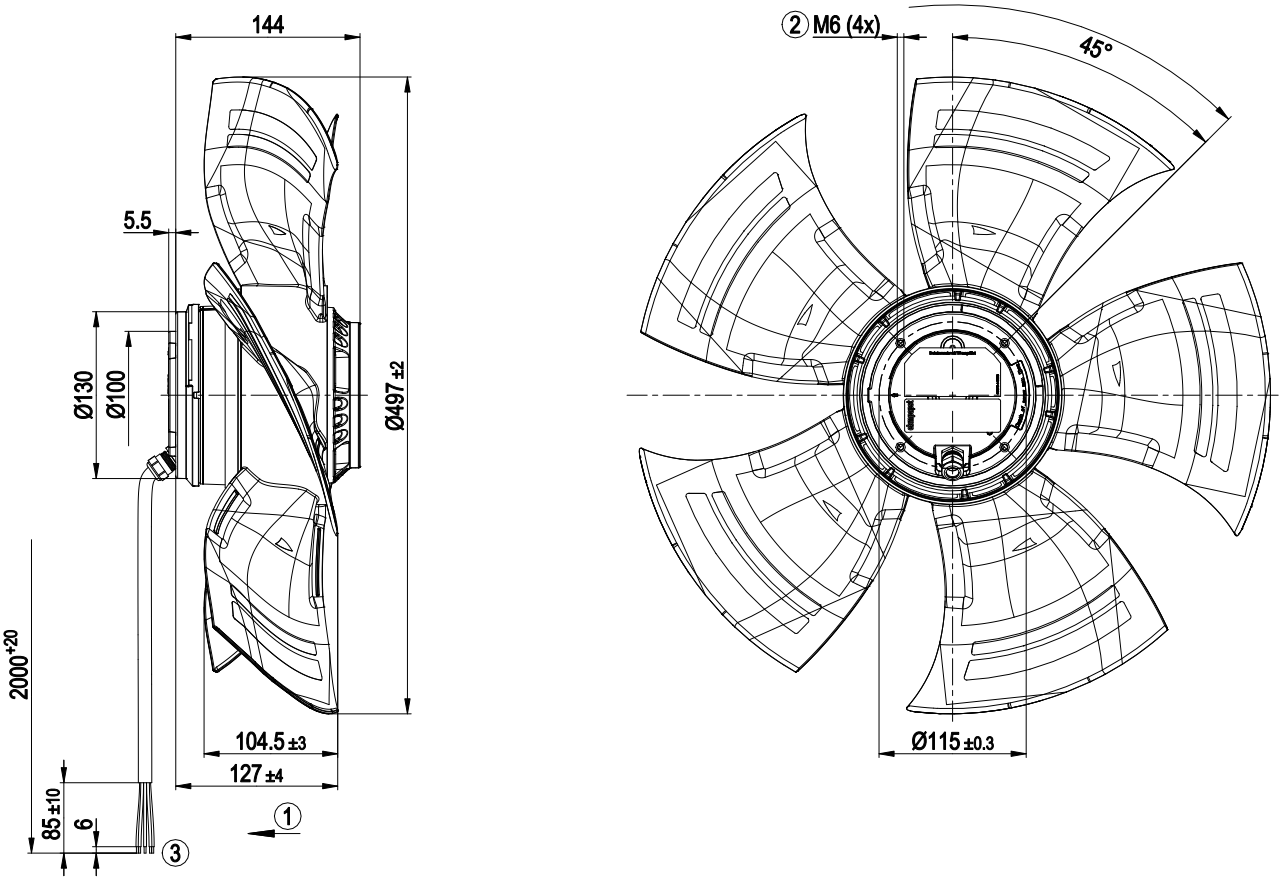
Product drawing



1	Airflow direction "V"
2	Max. clearance for screw 12 mm
3	Cable, halogen-free, railway application EN 45545, 9G 0.75 mm²
	9x splice

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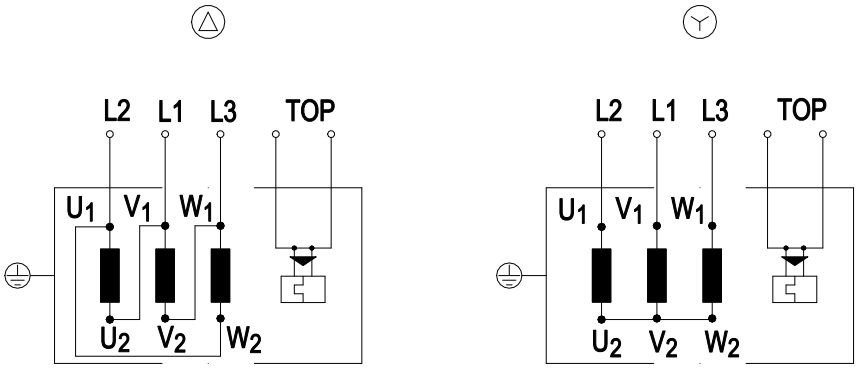
Connection diagram



Change of rotation direction by reversing two phases

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

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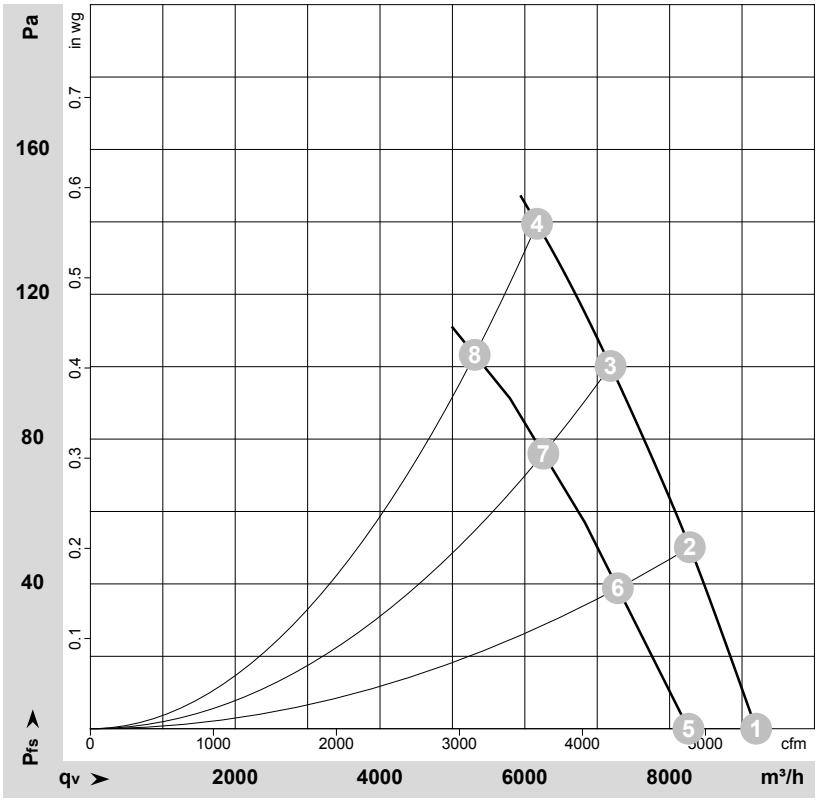
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-106631-1
Measurement: LU-106885-1

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}	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	in. wg
1	Δ	400	50	1420	540	1.20	68	75	75	9195	0	5410	0.00
2	Δ	400	50	1410	605	1.28	65	72	72	8280	50	4875	0.20
3	Δ	400	50	1400	663	1.35	64	71	71	7185	100	4230	0.40
4	Δ	400	50	1390	720	1.41	64	72	72	6170	140	3630	0.56
5	Y	400	50	1275	433	0.71		72	73	8260	0	4860	0.00
6	Y	400	50	1240	478	0.78		70	70	7285	39	4290	0.16
7	Y	400	50	1215	518	0.85		68	68	6255	76	3680	0.31
8	Y	400	50	1180	550	0.90		68	68	5310	103	3125	0.41

Wired = Wiring · U = Voltage · 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 · q_V = Air flow · p_{fs} = Pressure increase

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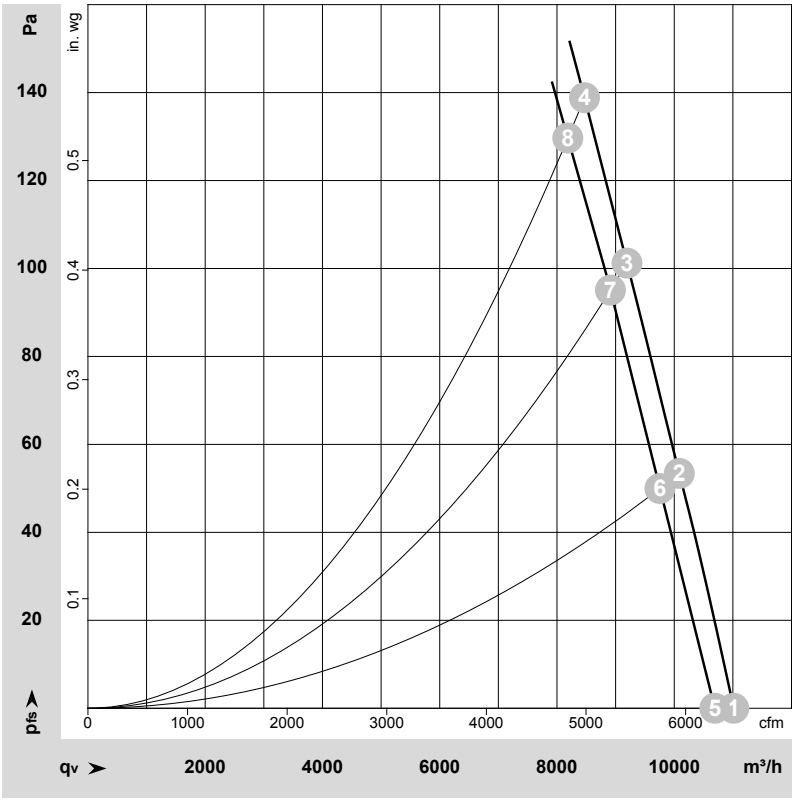
Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-106633-1
Measurement: LU-110173-1

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}	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	in. wg
1	Δ	480	60	1690	878	1.44	72	79	79	11015	0	6485	0.00
2	Δ	480	60	1675	957	1.51	70	77	77	10085	53	5935	0.21
3	Δ	480	60	1665	1032	1.58	68	75	76	9195	100	5410	0.40
4	Δ	480	60	1650	1090	1.70	68	75	75	8470	138	4985	0.55
5	Δ	400	60	1645	816	1.42	71	78	78	10690	0	6295	0.00
6	Δ	400	60	1625	893	1.53	69	76	76	9755	50	5740	0.20
7	Δ	400	60	1610	962	1.62	67	74	75	8910	95	5245	0.38
8	Δ	400	60	1590	1020	1.70	67	74	74	8185	130	4820	0.52

Wired = Wiring · U = Voltage · 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 · q_V = Air flow · p_{fs} = Pressure increase

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