A4D450-AO14-01

AC axial fan - HyBlade

sickled blades (S series)

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Nominal data

Type	**A4D450-AO14-01**
Motor	**M4D094-HA**

Phase		3~	3~	3~	3~	3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400	460	460	480	480
Connection		Δ	Y	Δ	Y	Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60	60	60	60	60
Type of data definition		ml	ml	ml	ml	ml	ml	ml	ml
Valid for approval / standard		CE	CE	CE	CE	CE	CE	CE	CE
Speed (rpm)	min^{-1}	1360	1110	1510	1060	1580	1190	1600	1240
Power input	W	480	340	690	400	740	490	760	520
Current draw	A	0.98	0.58	1.2	0.72	1.17	0.74	1.17	0.75
Max. back pressure	Pa	140	90	145	70	155	90	160	95
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	65	65	50	50	50	50	50	50
Starting current	A	3.9	1.3	3.5	1.2			3.9	1.3

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}	%	35.4	31.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		43.9	40
05 Variable speed drive		No	

09 Power input P_e	kW	0.46
09 Air flow q_v	m^3/h	4530
09 Pressure increase p_{fs}	Pa	133
10 Speed (rpm) n	min^{-1}	1365
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-107893

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Technical features

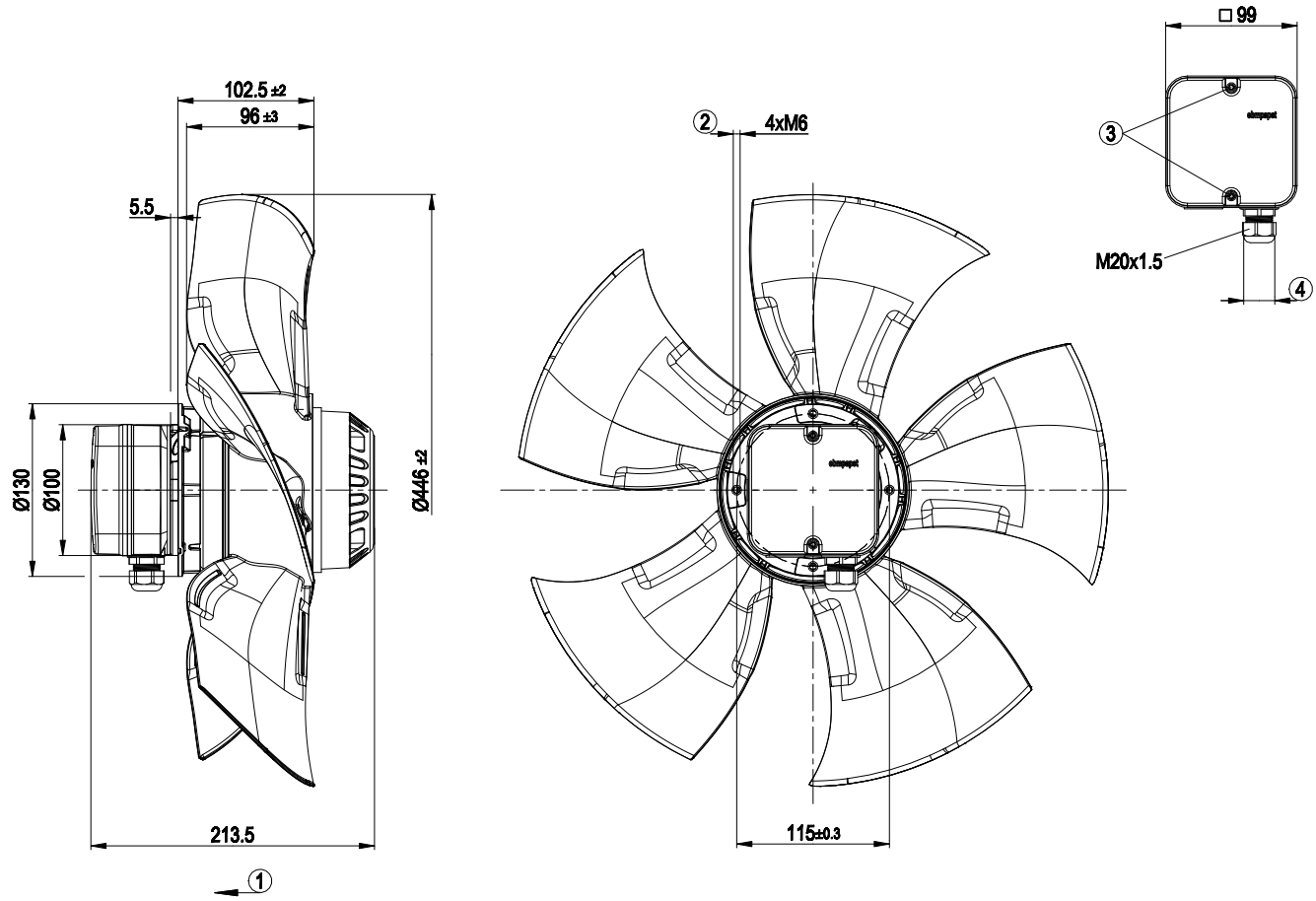
Mass	7.2 kg
Size	450 mm
Surface of rotor	Coated in black
Material of terminal box	ABS plastic
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation 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 60034-1 (2010); CE
Approval	EAC; CCC

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Product drawing



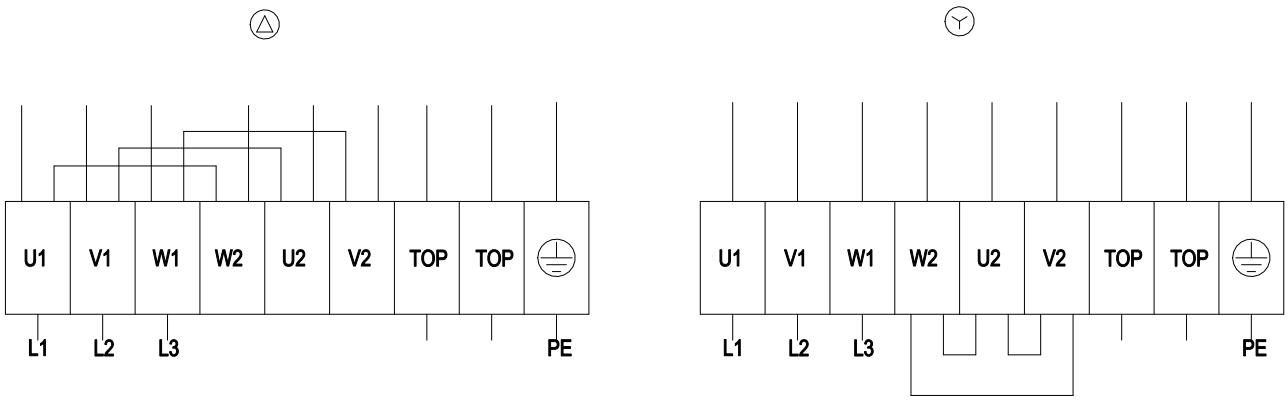
1	Direction of air flow "V"
2	Thread reach max. 12 mm
3	Tightening torque 0.8±0.15 Nm
4	Cable diameter: min. 6 mm, max. 12 mm; tightening torque: 2±0,2 Nm

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Connection screen



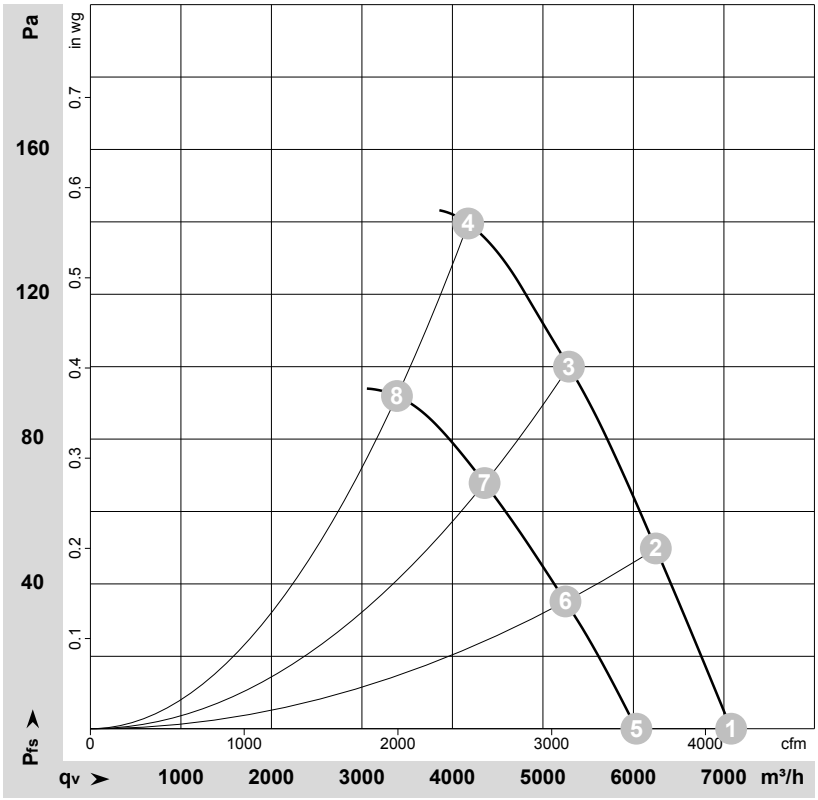
Δ	Delta-connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2 x grey
PE	green / yellow				

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Charts: Air flow 50 Hz



ρ = 1.19 kg/m³ ± 2 %

Measurement: LU-107893-1
Measurement: LU-107309-1

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	1400	386	0.88	65	71	72	7080	0	4165	0.00
2	Δ	400	50	1385	423	0.91	62	68	69	6250	50	3675	0.20
3	Δ	400	50	1370	456	0.95	61	68	68	5290	100	3110	0.40
4	Δ	400	50	1360	480	0.98	63	69	70	4175	140	2455	0.56
5	Y	400	50	1195	285	0.49				6035	0	3550	0.00
6	Y	400	50	1155	309	0.52				5250	35	3090	0.14
7	Y	400	50	1130	328	0.55				4355	68	2565	0.27
8	Y	400	50	1110	340	0.58				3385	92	1995	0.37

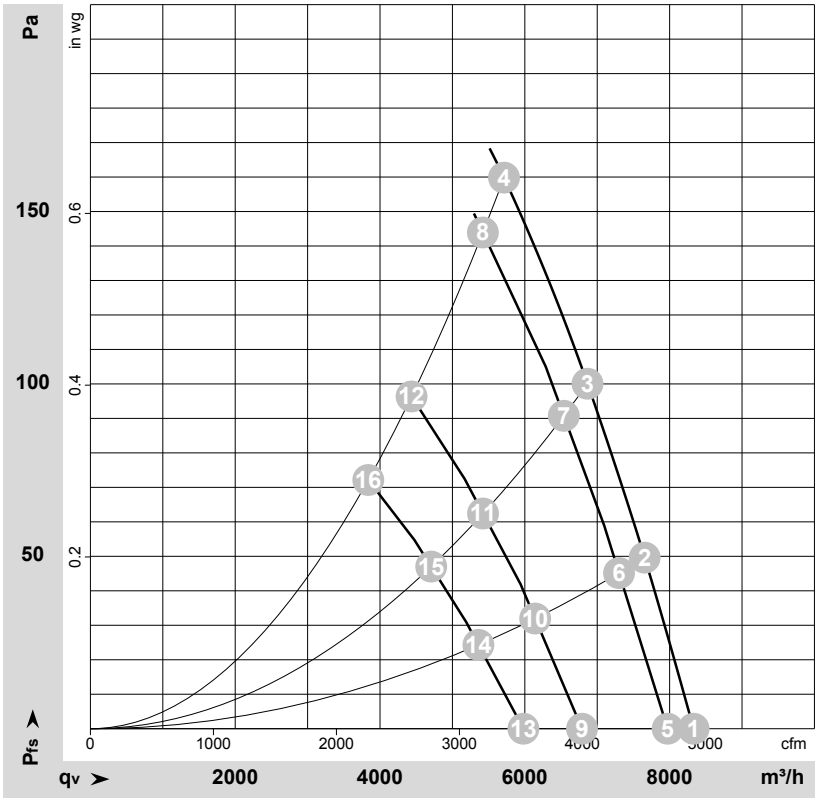
Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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Charts: Air flow 60 Hz



ρ = 1.19 kg/m³ ± 2 %

Measurement: LU-107898-1
Measurement: LU-108207-1
Measurement: LU-108205-1
Measurement: LU-108206-1

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	1645	628	1.03	68	74	76	8330	0	4905	0.00
2	Δ	480	60	1630	674	1.08	66	72	74	7655	50	4505	0.20
3	Δ	480	60	1615	716	1.12	65	71	73	6865	100	4040	0.40
4	Δ	480	60	1600	760	1.17	65	72	72	5715	160	3365	0.64
5	Δ	400	60	1570	580	1.03	67	73	74	7975	0	4695	0.00
6	Δ	400	60	1550	620	1.09	65	71	73	7300	45	4295	0.18
7	Δ	400	60	1530	657	1.15	64	70	71	6540	90	3850	0.36
8	Δ	400	60	1510	690	1.20	64	70	71	5420	145	3190	0.58
9	Y	480	60	1335	459	0.65	64	70	71	6790	0	3995	0.00
10	Y	480	60	1300	480	0.69	61	67	68	6145	32	3615	0.13
11	Y	480	60	1265	499	0.72	60	66	67	5425	62	3190	0.25
12	Y	480	60	1240	520	0.75	59	65	65	4435	96	2610	0.39
13	Y	400	60	1175	375	0.65	62	67	68	5980	0	3520	0.00
14	Y	400	60	1130	388	0.68	59	64	65	5360	24	3155	0.10
15	Y	400	60	1095	398	0.70	57	63	63	4705	47	2770	0.19
16	Y	400	60	1060	400	0.72	56	62	62	3840	72	2260	0.29

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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