A4D450-AO10-04

AC axial fan - HyBlade®

sickled blades (S series)

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**A4D450-AO10-04**
Motor	**M4D094-HA**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	230	266	400	460
Connection		Δ	Δ	Y	Y
Frequency	Hz	50	60	50	60
Type of data definition		ml	ml	ml	ml
Valid for approval / standard		CE	UL 2111	CE	UL 2111
Speed	min^{-1}	1370	1620	1370	1620
Power input	W	455	720	455	720
Current draw	A	1.77	2.05	1.02	1.17
Max. back pressure	Pa	120	110	120	110
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	65	65	65	65
Starting current	A	7.0		4	

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

Installation category	A
Efficiency category	Static
Variable speed drive	No
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	33.9	27.5	31.5
Efficiency grade N		42.4	36	40
Power input P_e	kW	0.45		
Air flow q_v	m^3/h	4530		
Pressure increase p_{fs}	Pa	124		
Speed n	min^{-1}	1375		

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

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Technical features

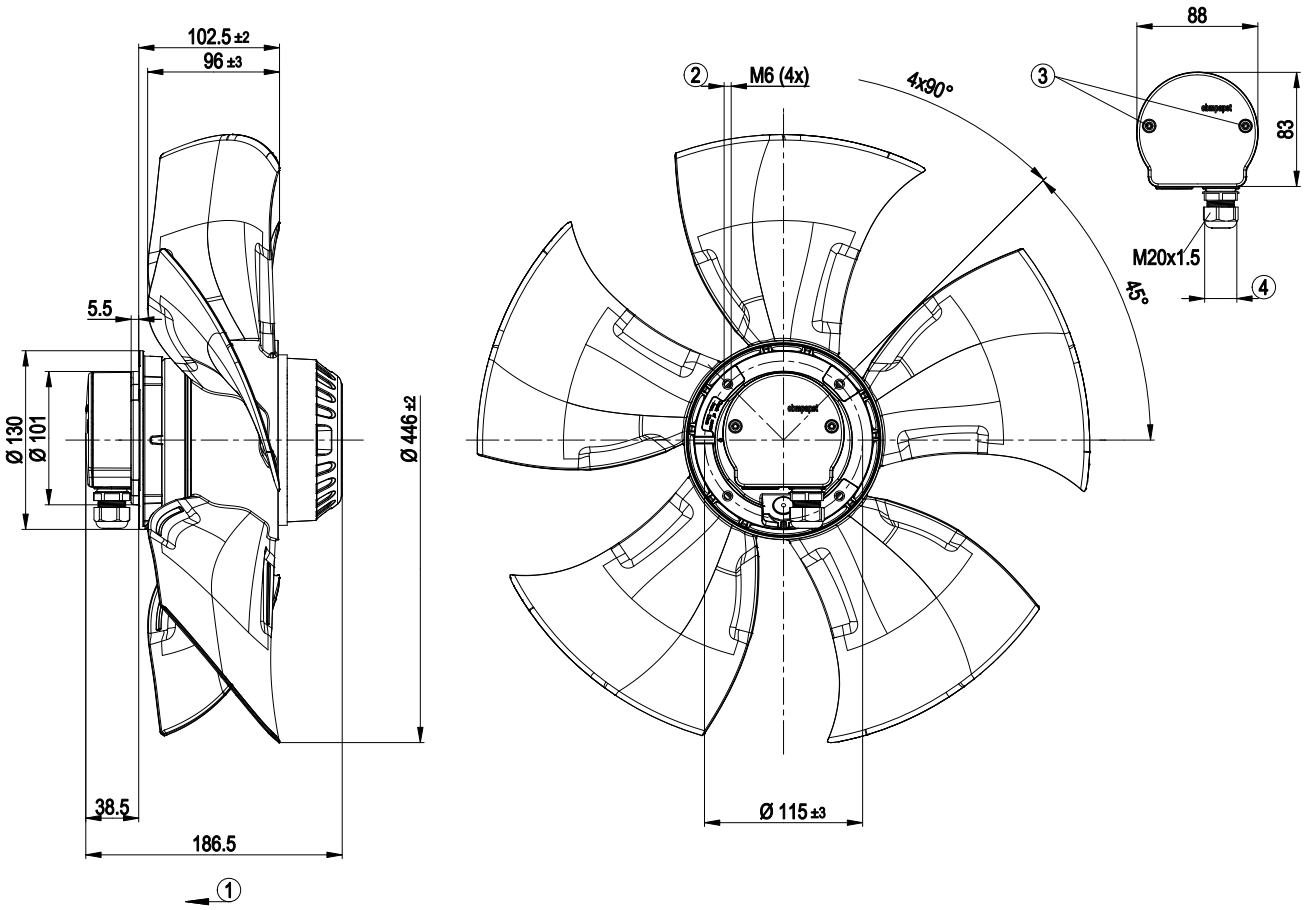
Mass	7.2 kg
Size	450 mm
Surface of rotor	Coated in black
Material of terminal box	ABS plastic, black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	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
Motor protection	Thermal overload protector (TOP) brought out
Cable exit	Axial
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60034-1 (2004); CE
Approval	UL 1004-1; CSA C22.2 Nr.100

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Product drawing



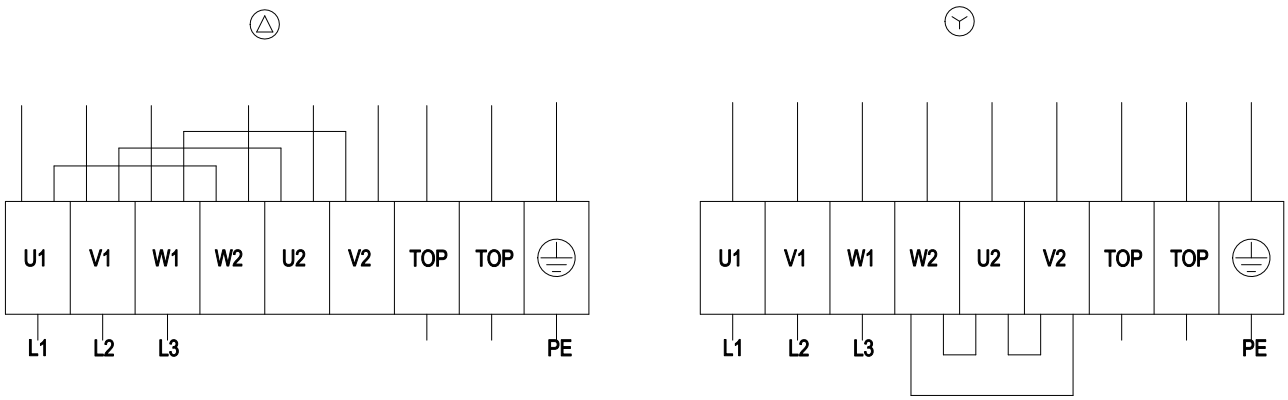
1	Direction of air flow "V"
2	Depth of screw max. 12 mm
3	Tightening torque 1.0 ± 0.15 Nm
4	Cable diameter: min. 6 mm, max. 12 mm; tightening torque: 2 ± 0.3 Nm

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Connection screen



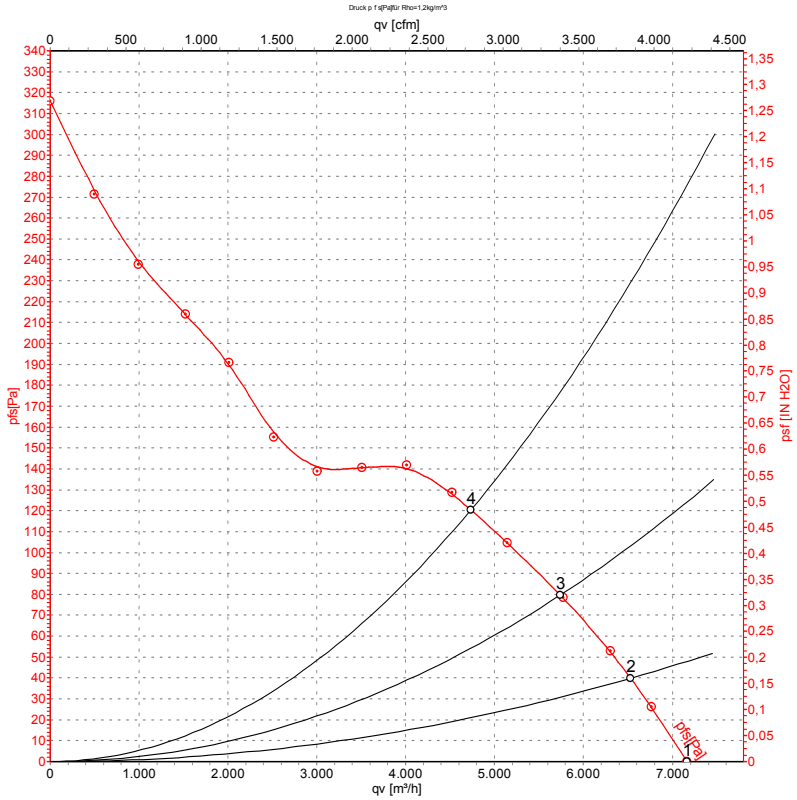
Δ	Delta-connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2 x grey
PE	green / yellow				

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Charts: Air flow 50 Hz



Measurement: LU-111305

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	qv	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa
1	Y. AUS	400	50	1405	372	0.93	7165	0
2	Y. AUS	400	50	1395	400	0.96	6530	40
3	Y. AUS	400	50	1385	427	0.98	5735	80
4	Y. AUS	400	50	1370	455	1.02	4735	120

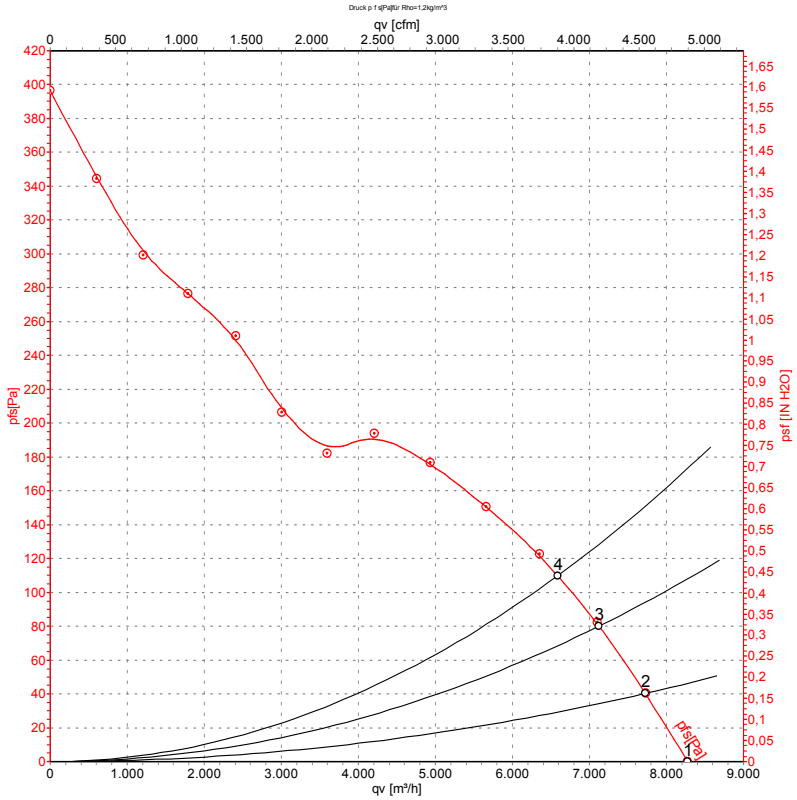
Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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Charts: Air flow 60 Hz



Measurement: LU-116995

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	qv	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa
1	Y	460	60	1640	606	1.03	8275	0
2	Y	460	60	1615	653	1.09	7725	40
3	Y	460	60	1605	680	1.12	7120	80
4	Y	460	60	1600	710	1.15	6590	110

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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