A4D450-AP01-01

AC axial fan

sickle-shaped blades (S series)

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Nominal data

Type	**A4D450-AP01-01**
Motor	**M4D074-GA**

Phase		3~	3~	3~	3~	3~
Nominal voltage	VAC	230	230	400	400	480
Wiring		Δ	Δ	Y	Y	Y
Frequency	Hz	50	60	50	60	60
Method of obtaining data		fa	fa	fa	fa	fa
Valid for approval/standard		CE	CE	CE	CE	CE
Speed (rpm)	min^{-1}	1380	1540	1380	1540	1620
Power consumption	W	200	285	200	285	310
Current draw	A	0.83	0.92	0.48	0.53	0.55
Max. back pressure	Pa	120	70	120	70	100
Max. back pressure	in. wg	0.48	0.28	0.48	0.28	0.4
Min. ambient temperature	°C	-25	-25	-25	-25	-25
Max. ambient temperature	°C	60	60	60	60	50

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

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	36.6	30.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		46.5	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.27
09 Air flow q_v	m^3/h	3765
09 Pressure increase p_{fs}	Pa	96
10 Speed (rpm) n	min^{-1}	1315
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-194765

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.

The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

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Technical description

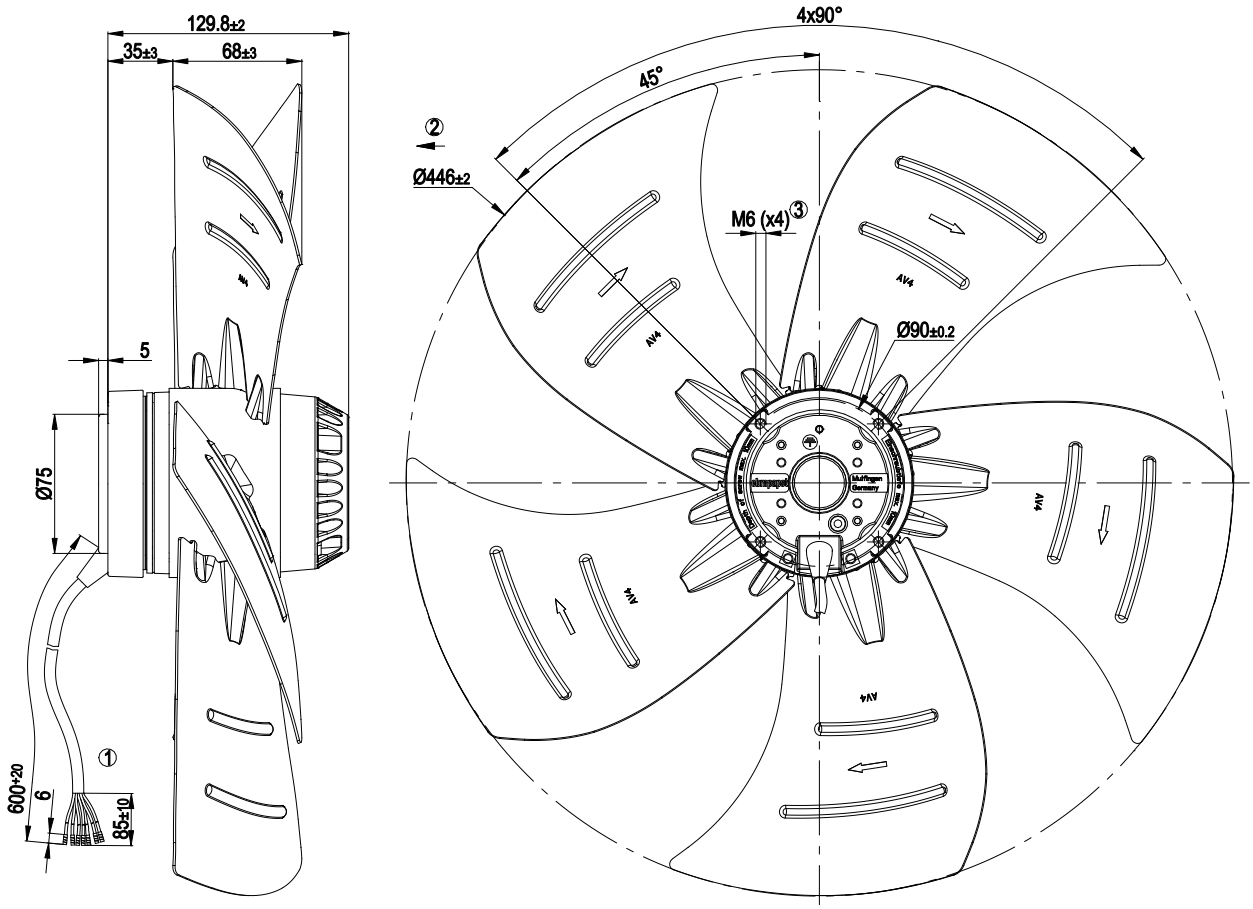
Weight	5 kg
Size	450 mm
Motor size	74
Rotor surface	Painted black
Impeller material	Sheet steel (painted black)
Number of blades	5
Airflow direction	V
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent as per EN 60034-5
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
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
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	< 0.75 mA
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 60034-1; EN 60204-1; EN 60335-1, motor not provided with overheating protection at the factory; CE
Approval	EAC; CCC

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Product drawing



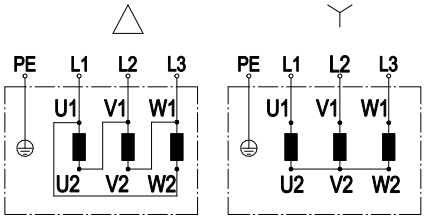
1	Cable halogen-silicone-free 7x0.5 mm², 7x crimped splices
2	Direction of air flow "V"
3	Max. clearance for screw 10 mm

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Connection diagram



Change of rotation direction by reversing two phases

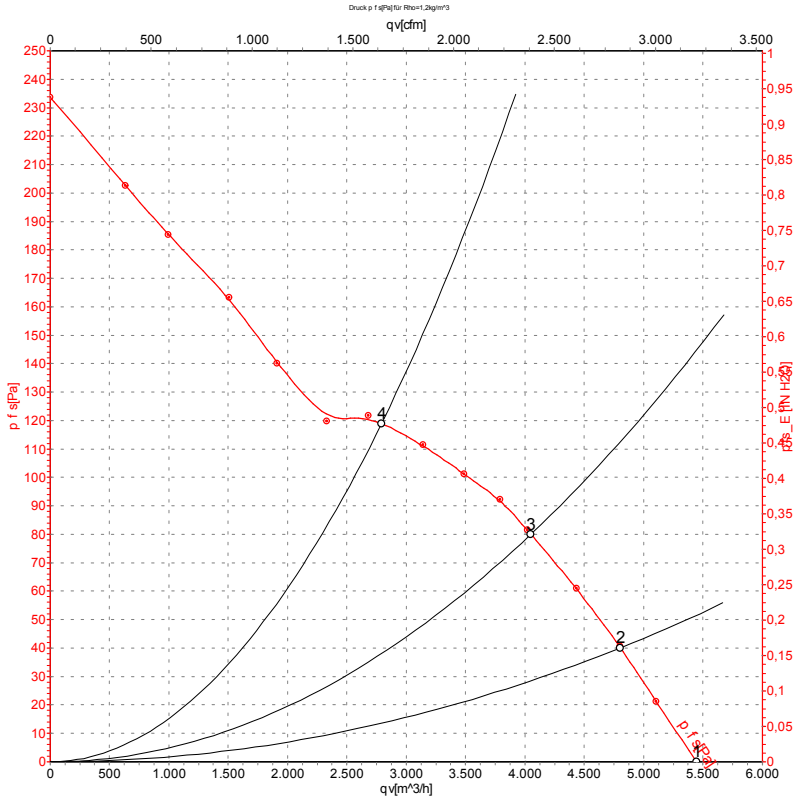
	Three-phase motor	Δ	Delta connection	Y	Star connection
L1	= U1 = black	L2	= V1 = blue	L3	= W1 = brown
U2	green	V2	white	W2	yellow
PE	green/yellow				

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AC axial fan

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Curves: Air performance 50 Hz



Measurement: LU-27634-1

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

	U	f	n	P_e	I	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	400	50	1380	200	0.48	5445	0	3205	0.00
2	400	50	1345	235	0.53	4800	40	2825	0.16
3	400	50	1320	264	0.57	4050	80	2385	0.32
4	400	50	1285	301	0.61	2790	120	1645	0.48

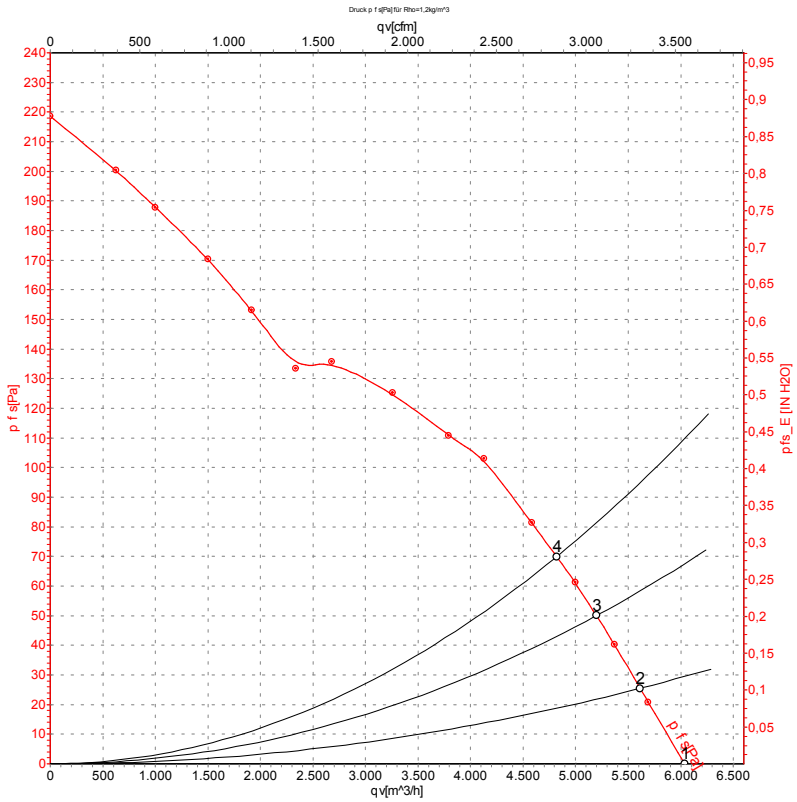
U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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Curves: Air performance 60 Hz



Measurement: LU-27635-1

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

	U	f	n	P_e	I	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	400	60	1540	285	0.53	6040	0	3555	0.00
2	400	60	1505	314	0.58	5615	25	3305	0.10
3	400	60	1475	337	0.62	5200	50	3060	0.20
4	400	60	1450	355	0.64	4820	70	2835	0.28

U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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