S4D450-AP01-05

AC axial fan

sickled blades (S series)

with guard grille for short nozzle



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**S4D450-AP01-05**
Motor	**M4D074-GA**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	230	230	400	400
Connection		Δ	Δ	Y	Y
Frequency	Hz	50	60	50	60
Type of data definition		fa	fa	fa	fa
Valid for approval / standard		CE	CE	CE	CE
Speed	min^{-1}	1380	1540	1380	1540
Power input	W	200	285	200	285
Current draw	A	0.83	0.92	0.48	0.53
Max. back pressure	Pa	120	70	120	70
Min. ambient temperature	°C	-25	-25	-25	-25
Max. ambient temperature	°C	50	50	50	50

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}	%	34.9	26.1	30.1
Efficiency grade N		44.8	36	40
Power input P_e	kW	0.27		
Air flow q_v	m^3/h	3795		
Pressure increase p_{fs}	Pa	91		
Speed n	min^{-1}	1310		

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	Sheet steel, coated in black
Material of guard grille	Steel, phosphated and coated in black plastic
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 44; Depending on installation and position as per EN 60034-5
Insulation class	"F"
Humidity class	F1-2
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)	< 0.75 mA
Electrical leads	Via terminal box
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1, motor does not have factory-installed overheating protection

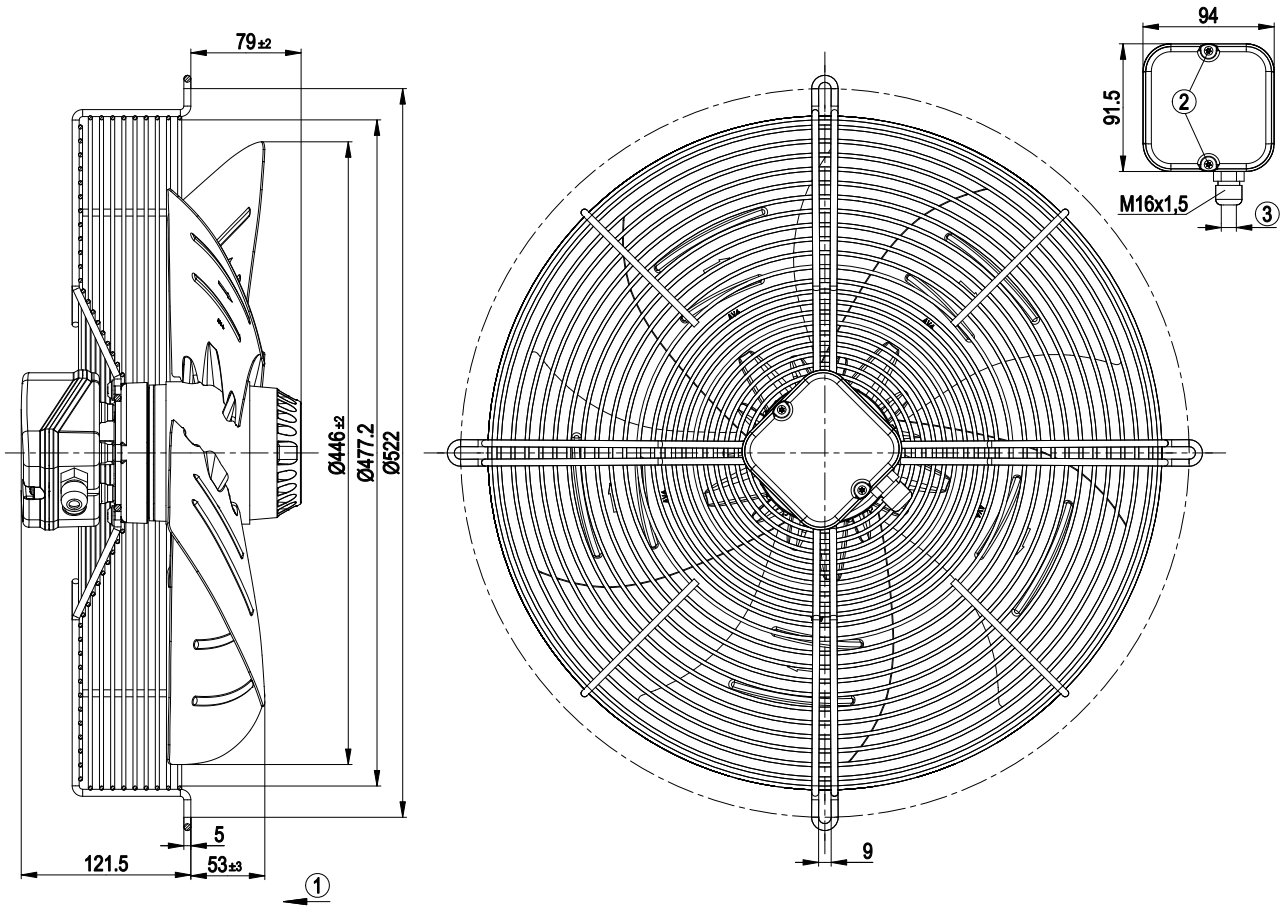
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Product drawing



1	Direction of air flow "V"
2	Tightening torque 0.5±0.1 Nm
3	Cable diameter max. 7.5 mm, tightening torque 1.3±0.2 Nm

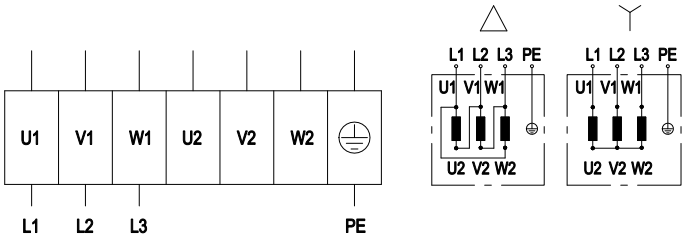
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Connection screen



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

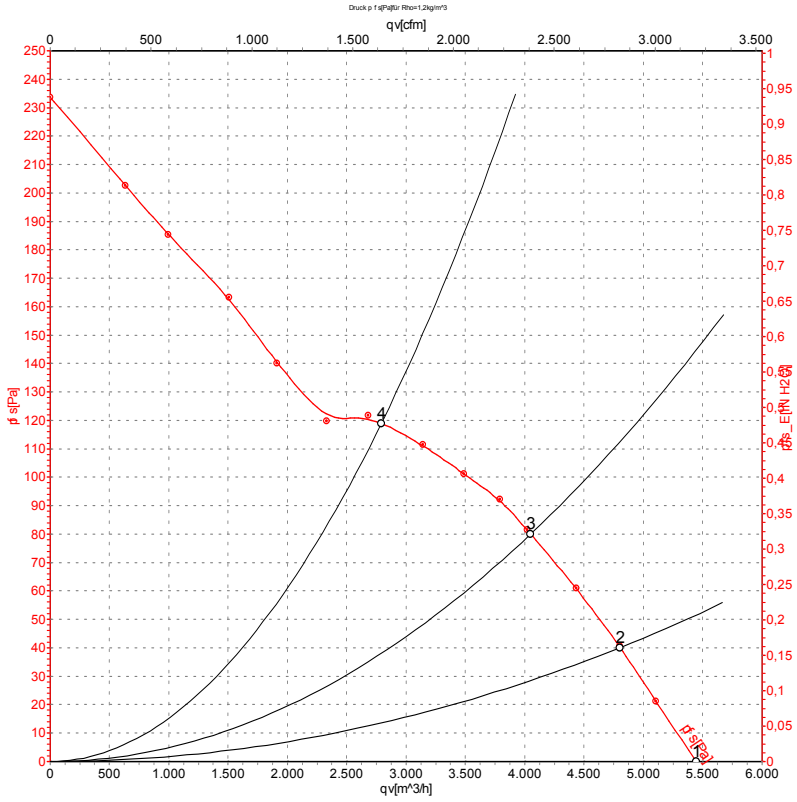
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Charts: Air flow 50 Hz



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

	U	f	n	P_e	I	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	400	50	1380	200	0.48	5445	0
2	400	50	1345	235	0.53	4800	40
3	400	50	1320	264	0.57	4050	80
4	400	50	1285	301	0.61	2790	120

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

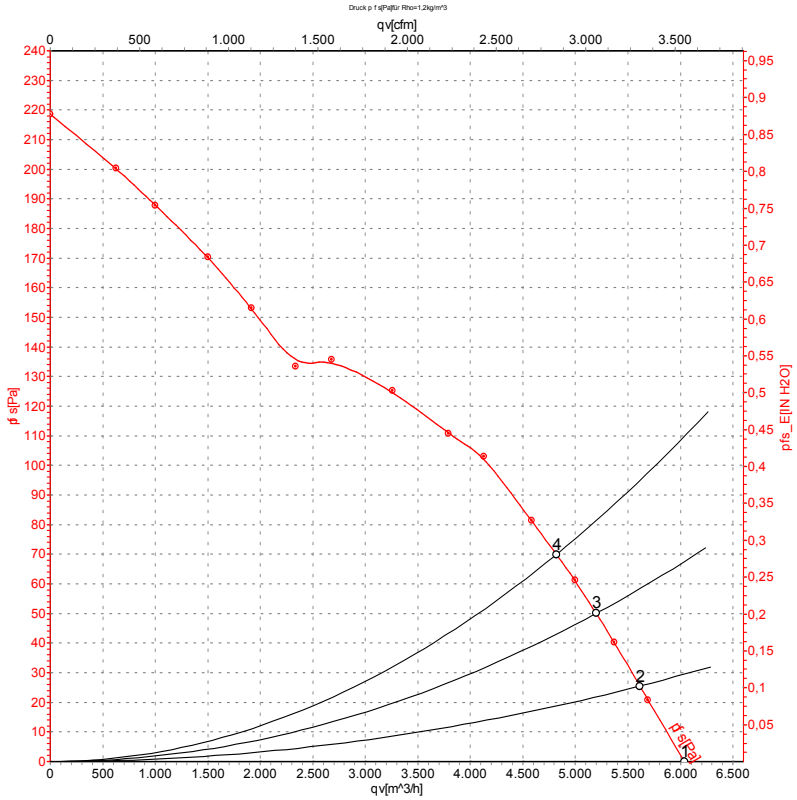
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Charts: Air flow 60 Hz



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

	U	f	n	P_e	I	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	400	60	1540	285	0.53	6040	0
2	400	60	1505	314	0.58	5615	25
3	400	60	1475	337	0.62	5200	50
4	400	60	1450	355	0.64	4820	70

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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