AC axial fan

sickle-shaped blades (S series)

A4D400-AP16-14 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**A4D400-AP16-14**
Motor	**M4D074-EI**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400
Wiring		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Method of obtaining data		fa	fa	fa	fa
Valid for approval/standard		CE	CE	CE	CE
Speed (rpm)	min^{-1}	1440	1300	1670	1360
Power consumption	W	170	115	210	160
Current draw	A	0.53	0.21	0.44	0.27
Max. back pressure	Pa	150	100	120	60
Max. back pressure	inH2O	0.6	0.4	0.48	0.24
Min. ambient temperature	°C	-25	-25	-25	-25
Max. ambient temperature	°C	35	65	45	50

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

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	31.6	29.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		42.1	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.22
09 Air flow q_v	m^3/h	2610
09 Pressure increase p_{fs}	Pa	100
10 Speed (rpm) n	min^{-1}	1400
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-43060

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Technical description

Weight	4.2 kg
Fan size	400 mm
Rotor surface	Painted black
Blade material	Sheet steel, painted black
Number of blades	5
Airflow direction	"A"
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent as per EN 60034-5
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H0+
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
Motor protection	Thermal overload protector (TOP) with basic insulation
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE

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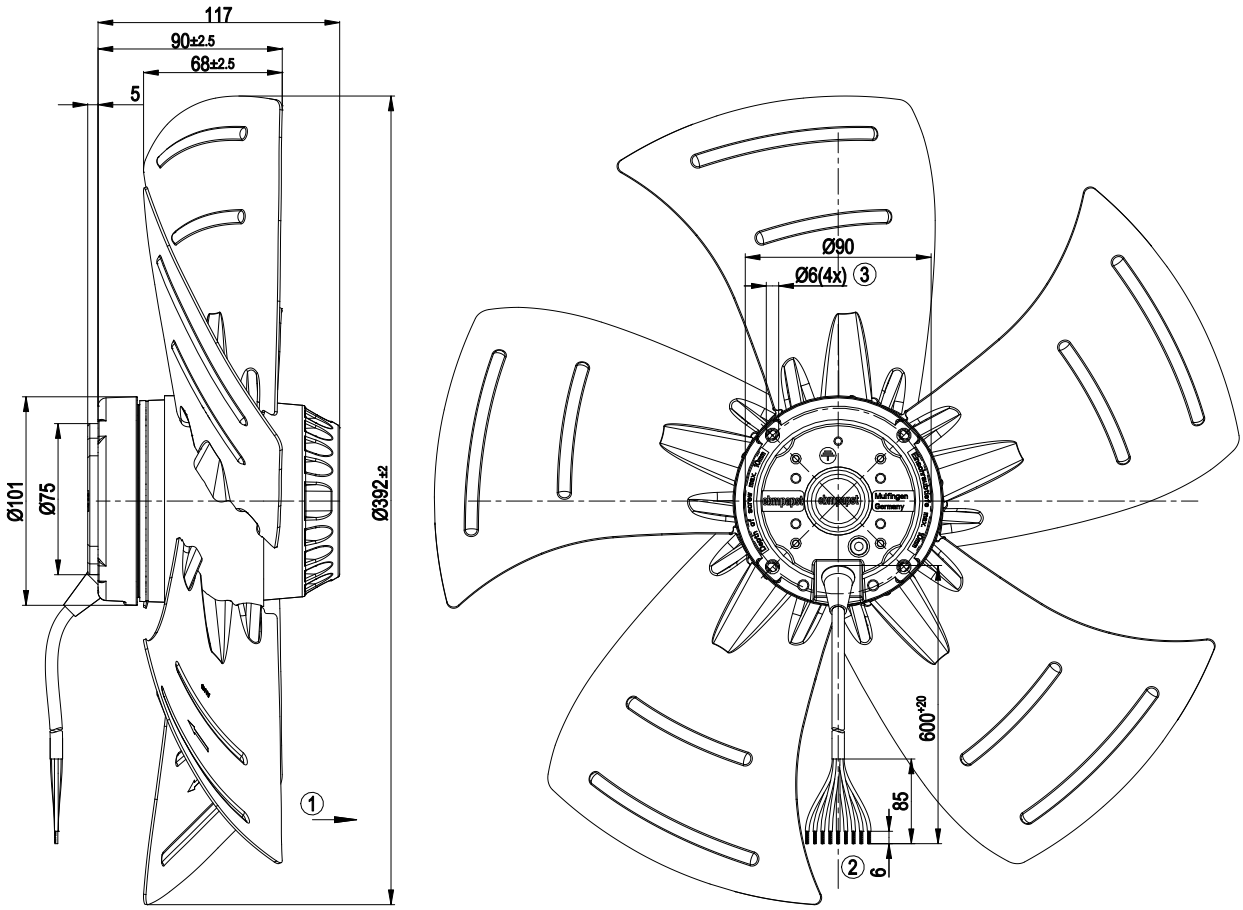
Product drawing



1	Direction of air flow "A"
2	Cable PVC AWG20, 9x crimped splices
3	Max. clearance for screw 10 mm

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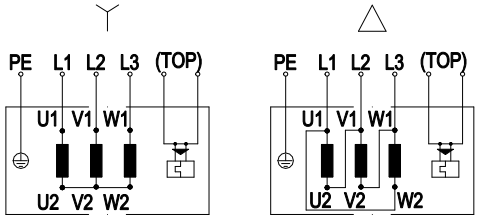
Connection diagram



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

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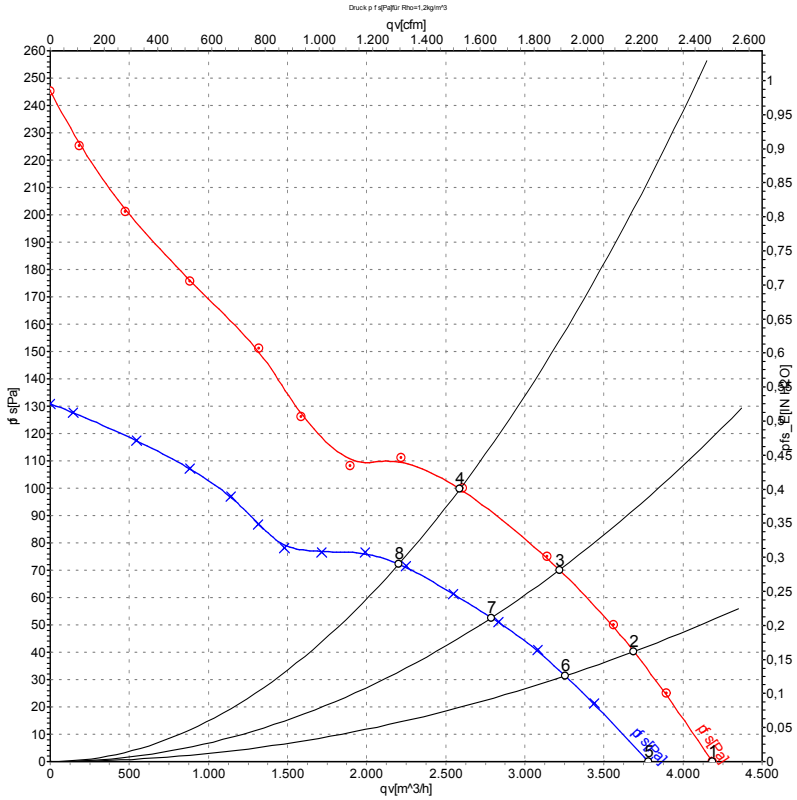
Curves: Air performance 50 Hz



Measurement: LU-43060-1
Measurement: LU-51669-1

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	qv	p_{fs}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	Δ	400	50	1440	170	0.53	4185	0	2465	0.00
2	Δ	400	50	1425	192	0.51	3690	40	2170	0.16
3	Δ	400	50	1415	211	0.51	3220	70	1895	0.28
4	Δ	400	50	1400	229	0.53	2590	100	1525	0.40
5	Y	400	50	1300	115	0.21	3780	0	2225	0.00
6	Y	400	50	1255	131	0.23	3255	31	1915	0.12
7	Y	400	50	1220	145	0.25	2790	53	1640	0.21
8	Y	400	50	1180	156	0.27	2205	72	1295	0.29

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

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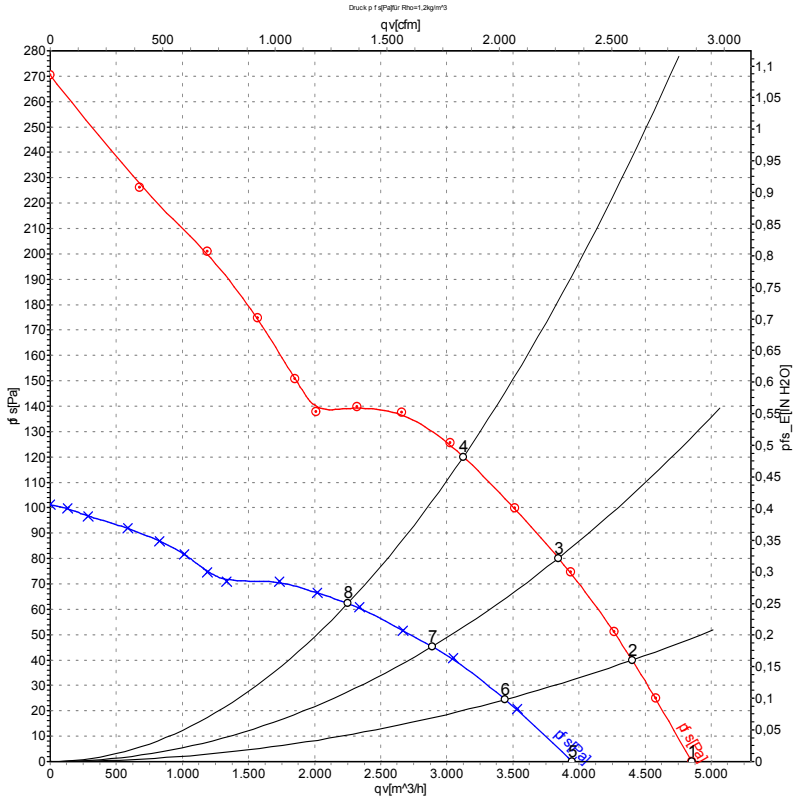
Curves: Air performance 60 Hz



Measurement: LU-43061-1
Measurement: LU-51672-1

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	qv	p_{fs}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	Δ	400	60	1670	210	0.44	4850	0	2855	0.00
2	Δ	400	60	1650	245	0.47	4400	40	2590	0.16
3	Δ	400	60	1625	279	0.51	3845	80	2260	0.32
4	Δ	400	60	1600	311	0.55	3125	120	1840	0.48
5	Y	400	60	1360	160	0.27	3950	0	2325	0.00
6	Y	400	60	1280	173	0.29	3440	25	2025	0.10
7	Y	400	60	1205	185	0.32	2890	45	1700	0.18
8	Y	400	60	1135	195	0.33	2250	62	1325	0.25

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