

# AC axial fan

sickle-shaped blades (S series)

Fan housing with guard grille

W4D250-CA36-01 ebmpapst Datasheet

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## Nominal data

Type	W4D250-CA36-01				
Motor	M4D068-CF				
Phase		3~	3~	3~	3~
Nominal voltage	VAC	230	230	400	400
Wiring		Δ	Δ	Y	Y
Frequency	Hz	50	60	50	60
Method of obtaining data		fa	fa	fa	fa
Valid for approval/standard		CE	CE	CE	CE
Speed (rpm)	min <sup>-1</sup>	1420	1640	1420	1640
Power consumption	W	27	33	27	33
Current draw	A	0.14	0.12	0.08	0.07
Max. back pressure	Pa	100	110	100	110
Max. back pressure	in. wg	0.4	0.44	0.4	0.44
Min. ambient temperature	°C	-25	-25	-25	-25
Max. ambient temperature	°C	85	85	85	85
Starting current	A	0.38	0.36	0.22	0.21

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



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## Technical description

<b>Weight</b>	2.8 kg
<b>Size</b>	250 mm
<b>Motor size</b>	68
<b>Rotor surface</b>	Painted black
<b>Blade material</b>	Sheet steel, painted black
<b>Fan housing material</b>	Sheet steel, galvanized and coated with black plastic (RAL 9005)
<b>Guard grille material</b>	Steel, coated with black plastic (RAL 9005)
<b>Number of blades</b>	5
<b>Airflow direction</b>	V
<b>Direction of rotation</b>	Counterclockwise, viewed toward rotor
<b>Degree of protection</b>	IP44; installation- and position-dependent as per EN 60034-5
<b>Insulation class</b>	"B"
<b>Moisture (F) / Environmental (H) protection class</b>	H1
<b>Max. permitted ambient temp. for motor (transport/storage)</b>	+ 80 °C
<b>Min. permitted ambient temp. for motor (transport/storage)</b>	- 40 °C
<b>Installation position</b>	Shaft horizontal or rotor on bottom; rotor on top on request
<b>Condensation drainage holes</b>	On rotor side
<b>Mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)</b>	< 0.75 mA
<b>With cable</b>	Lateral
<b>Protection class assignment</b>	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.
<b>Conformity with standards</b>	EN 60034-1; EN 60204-1; EN 60335-1, motor not provided with overheating protection at the factory; CE
<b>Comment on CE</b>	Ecodesign Directive 2009/125/EC + Fan Directive (EC) No. 327/2011 does not apply, as power consumption <125W.

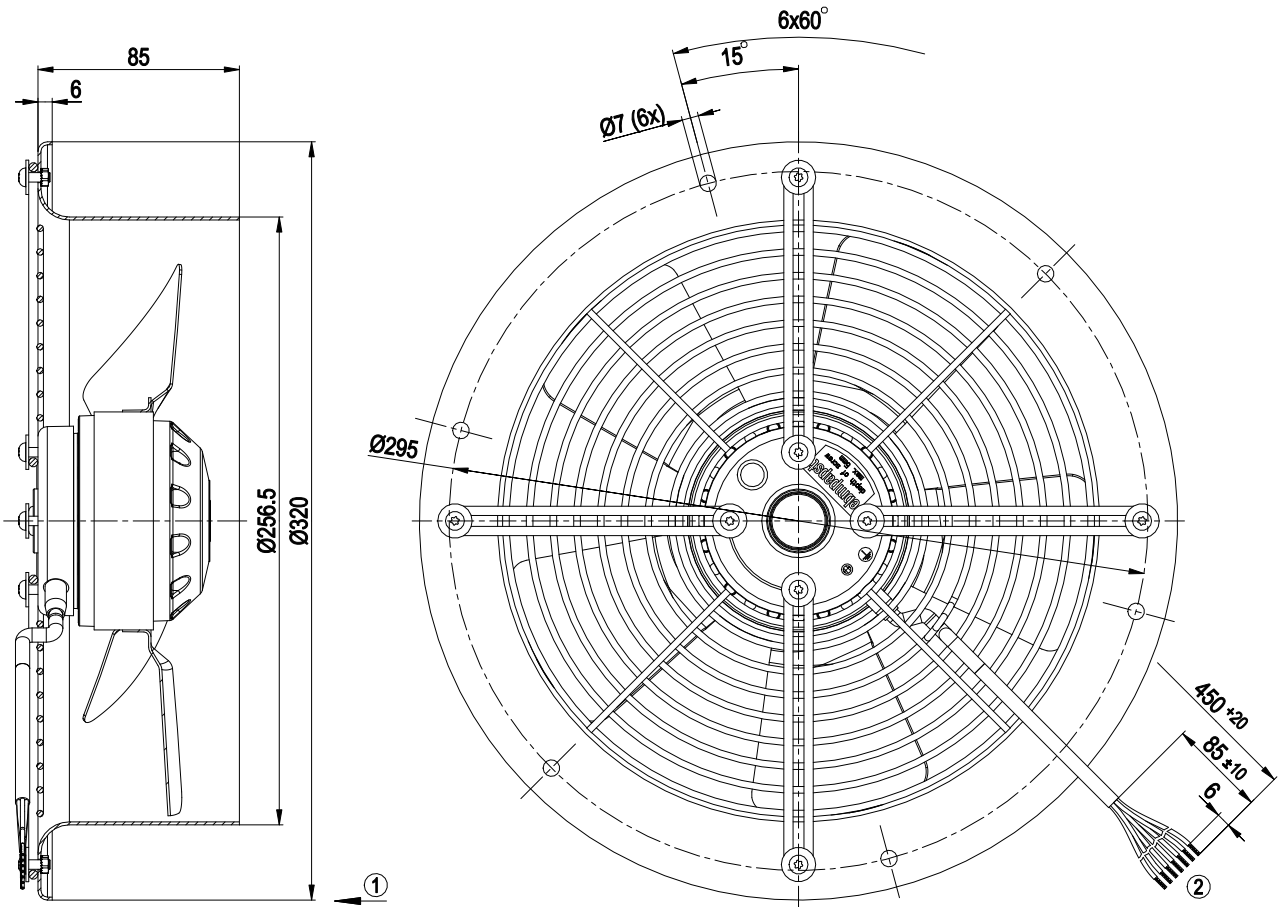


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## Product drawing



1	Airflow direction "V"
2	Cable PVC 7G 0.5 mm <sup>2</sup>
	7x splice

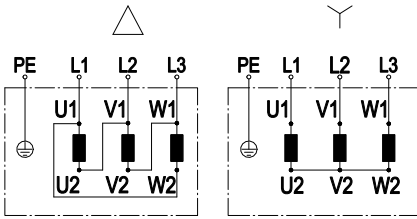


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## Connection diagram

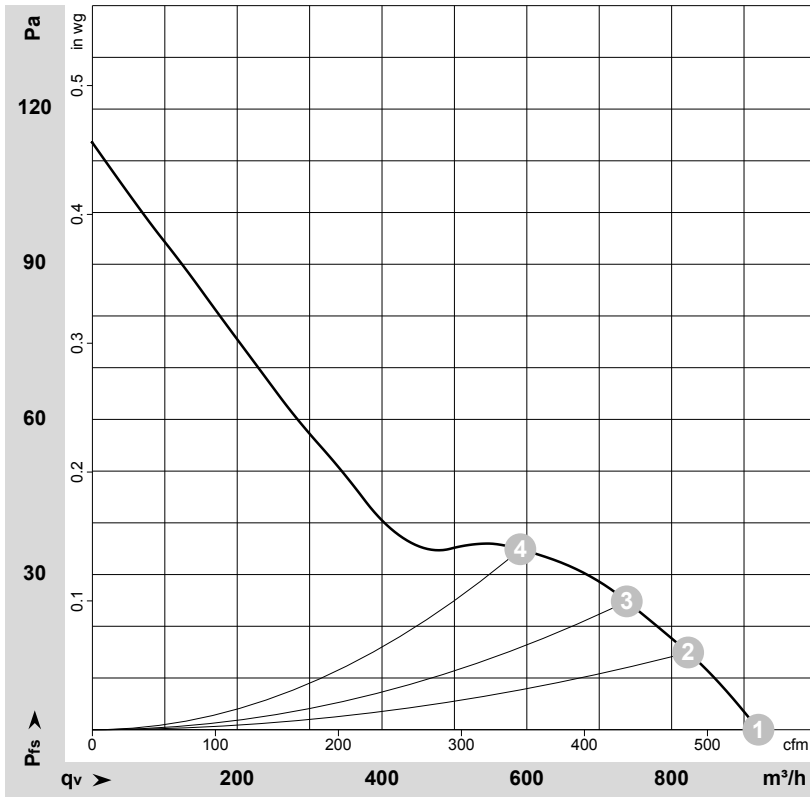


Change of rotation direction by reversing two phases

	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				



## Curves: Air performance 50 Hz



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-55427-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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 <sub>e</sub>	I	q <sub>v</sub>	p <sub>fs</sub>	q <sub>v</sub>	p <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	cfm	in. wg
1	400	50	1420	27	0.08	920	0	540	0.00
2	400	50	1410	28	0.08	825	15	485	0.06
3	400	50	1405	29	0.08	740	25	435	0.10
4	400	50	1405	29	0.08	590	35	350	0.14

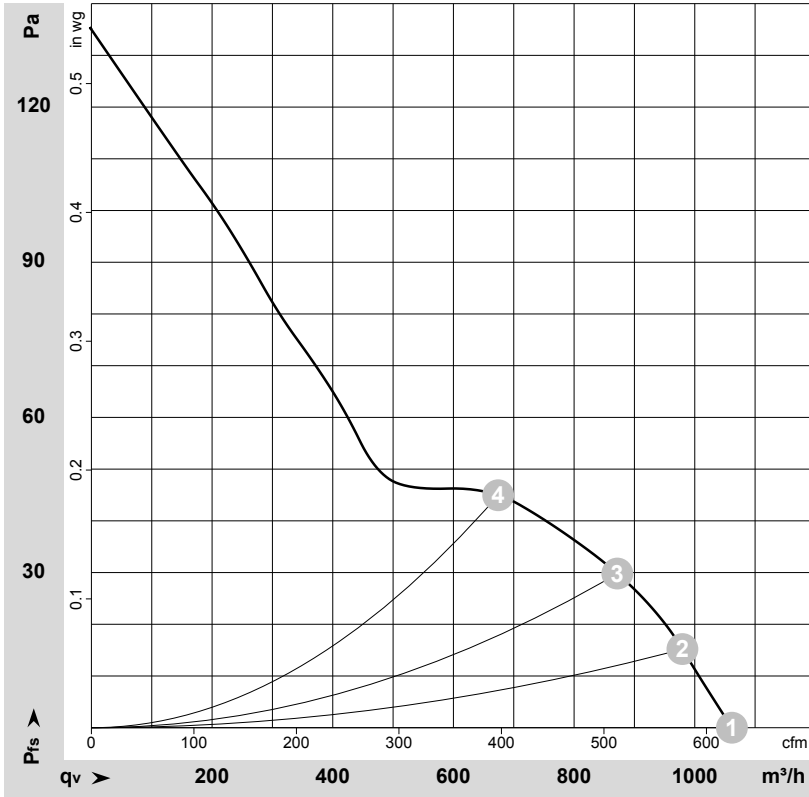
U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

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## Curves: Air performance 60 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-55428-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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 <sub>e</sub>	I	q <sub>v</sub>	P <sub>fs</sub>	q <sub>v</sub>	P <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	cfm	in. wg
1	400	60	1640	33	0.07	1060	0	625	0.00
2	400	60	1625	35	0.07	980	15	575	0.06
3	400	60	1615	36	0.08	870	30	515	0.12
4	400	60	1615	37	0.08	675	45	395	0.18

U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · P<sub>fs</sub> = Pressure increase

