

# AC axial fan - HyBlade

sickle-shaped blades (S series)

with round full nozzle, Transformer fan

W6E500-CJ03-81 ebmpapst Datasheet

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## Nominal data

Type	W6E500-CJ03-81		
Motor	M6E110-EF		
Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Method of obtaining data		fa	fa
Valid for approval/standard		-	-
Speed (rpm)	min <sup>-1</sup>	935	1075
Power consumption	W	225	360
Current draw	A	1.0	1.6
Capacitor	µF	8	8
Capacitor voltage	VDB	400	400
Capacitor standard		S0 (CE)	S0 (CE)
Max. back pressure	Pa	70	90
Max. back pressure	in. wg	0.28	0.36
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	65	65
Starting current	A	2.3	2.2

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>	17.66 kg
<b>Size</b>	500 mm
<b>Motor size</b>	110
<b>Rotor surface</b>	Painted black
<b>Terminal box material</b>	PC/ABS plastic
<b>Blade material</b>	Press-fitted sheet steel blank, sprayed with PP plastic
<b>Fan housing material</b>	Sheet steel, galvanized and coated with cement-gray plastic (RAL 7033)
<b>Guard grille material</b>	Steel, coated with cement-gray plastic (RAL 7033)
<b>Number of blades</b>	5
<b>Airflow direction</b>	A
<b>Direction of rotation</b>	Clockwise, viewed toward rotor
<b>Degree of protection</b>	IP54
<b>Insulation class</b>	"F"
<b>Moisture (F) / Environmental (H) protection class</b>	H2+T
<b>Ambient temperature note</b>	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
<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 top; rotor on bottom on request
<b>Condensation drainage holes</b>	On stator 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>	<= 3.5 mA
<b>Electrical hookup</b>	Terminal box
<b>Motor protection</b>	Thermal overload protector (TOP) with basic insulation
<b>With cable</b>	Axial
<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>Motor capacitor according to EN 60252-1 in safety protection class</b>	S0
<b>Conformity with standards</b>	EN 60034-1 (2010)
<b>Comment on CE</b>	Operation only permitted outside the European Economic Area
<b>Approval</b>	EAC; CSA C22.2 No. 100; VDE; UL 1004-1



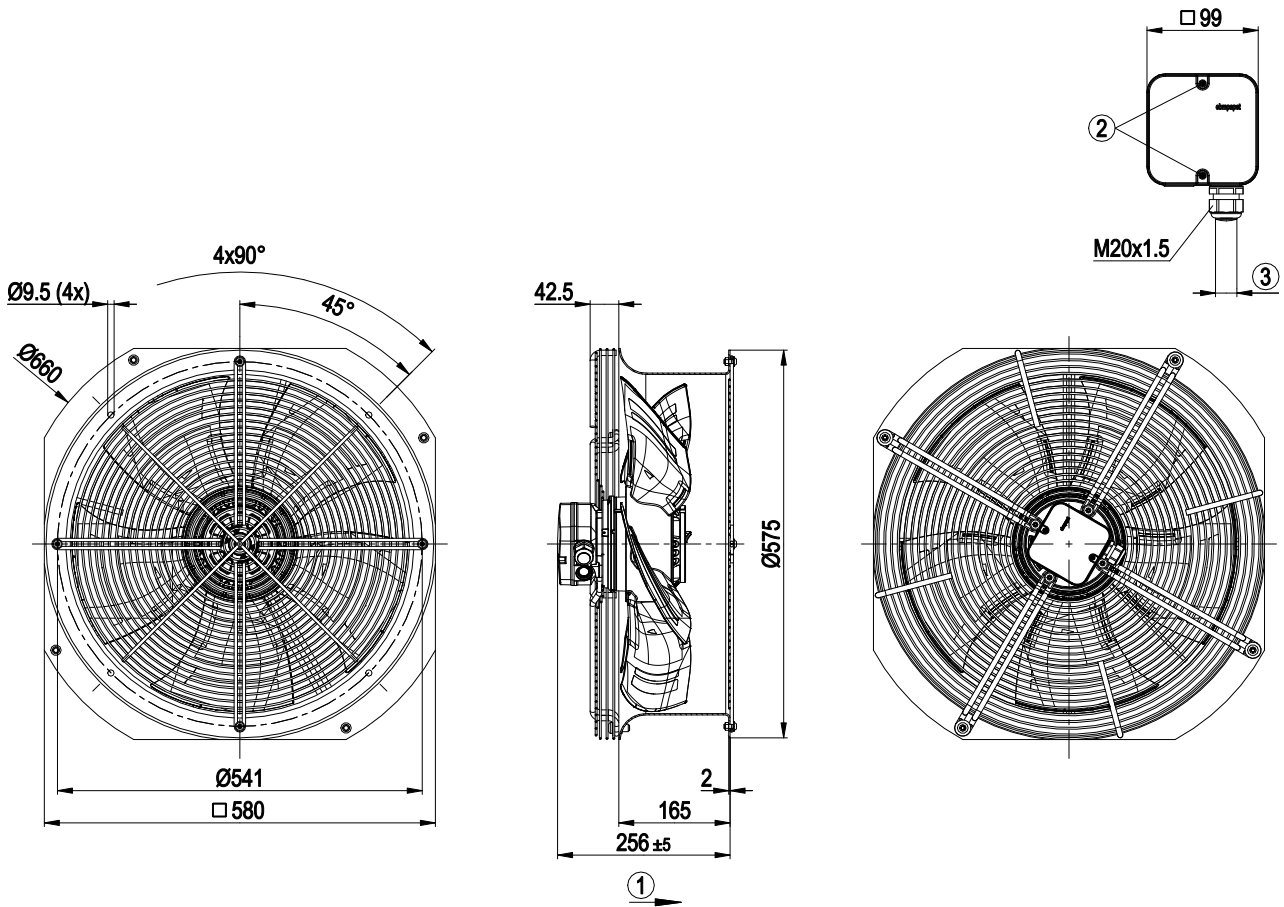
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## Product drawing



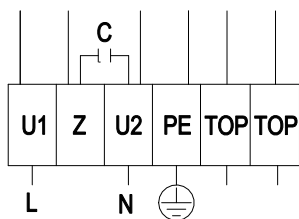
1	Direction of air flow "A"
2	Tightening torque $1.5 \pm 0.2$ Nm
3	Cable diameter min. 6 mm, max. 12 mm, tightening torque $2 \pm 0.15$ Nm



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## Connection diagram



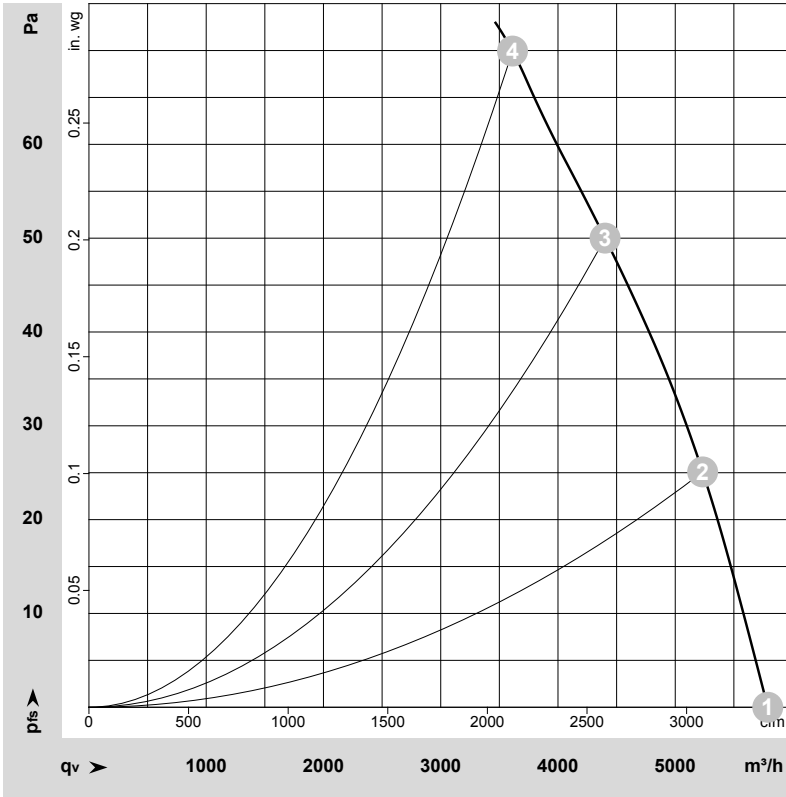
L	= U1 = blue	Z	brown	N	= U2 = black
PE	green/yellow	TOP	gray		



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## Curves: Air performance 50 Hz



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

Measurement: LU-222232-1

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

	Wired	U	f	n	P <sub>e</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	LwA	q <sub>v</sub>	p <sub>fs</sub>	q <sub>v</sub>	p <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	dB	m <sup>3</sup> /h	Pa	cfm	in. wg
1	1~	230	50	935	225	1.00	65	71	71	74	5790	0	3405	0.00
2	1~	230	50	925	239	1.05	64	70	70	73	5235	25	3080	0.10
3	1~	230	50	915	252	1.10	62	68	68	71	4400	50	2590	0.20
4	1~	230	50	915	270	1.18	60	66	67	70	3610	70	2125	0.28

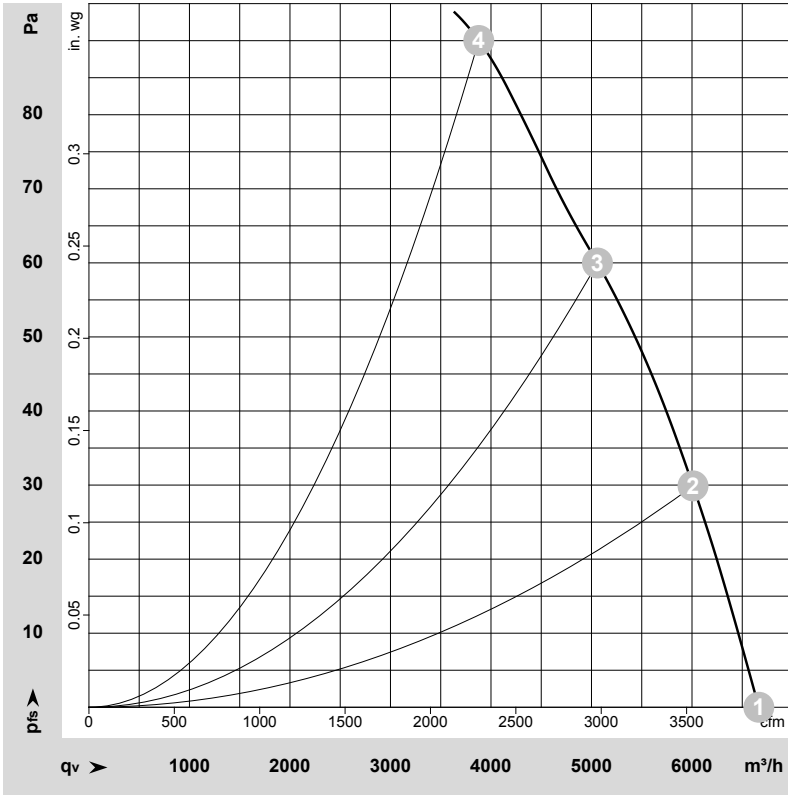
Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
LwA<sub>out</sub> = Sound power level outlet side · q<sub>v</sub> = Air flow · 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-222236-1

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

	Wired	U	f	n	P <sub>e</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	LwA	q <sub>v</sub>	p <sub>fs</sub>	q <sub>v</sub>	p <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	dB	m <sup>3</sup> /h	Pa	cfm	in. wg
1	1~	230	60	1075	360	1.60	68	75	74	77	6665	0	3925	0.00
2	1~	230	60	1055	370	1.64	66	73	73	76	6010	30	3535	0.12
3	1~	230	60	1030	381	1.67	64	71	71	74	5060	60	2980	0.24
4	1~	230	60	1015	390	1.72	62	69	69	72	3880	90	2285	0.36

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
LwA<sub>out</sub> = Sound power level outlet side · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

