

# AC axial fan - HyBlade

sickle-shaped blades (S series)

with guard grille for full nozzle

S4D500-CJ03-01 ebmpapst Datasheet

sales@fansco.com

www.fansco.com

Limited partnership · Headquarters Muldingen

Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Muldingen GmbH · Headquarters Muldingen

Amtsgericht (court of registration) Stuttgart · HRB 590142



## Nominal data

Type	S4D500-CJ03-01				
Motor	M4D110-EF				
Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400
Wiring		$\Delta$	$\Delta$	Y	Y
Frequency	Hz	50	50	50	50
Method of obtaining data		ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE
Speed (rpm)	min <sup>-1</sup>	1340	1340	1060	1060
Power consumption	W	710	710	480	480
Current draw	A	1.4	1.4	0.8	0.8
Max. back pressure	Pa	140	140	87	87
Max. back pressure	inH <sub>2</sub> O	0.56	0.56	0.35	0.35
Min. ambient temperature	°C	-25	-25	-25	-25
Max. ambient temperature	°C	60	60	60	60
Starting current	A	4.6	4.6		

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 $\eta_{es}$	%	32.7	32.7	09 Power consumption $P_e$	kW	0.69
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	5995
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	132
04 Efficiency grade N		40	40	10 Speed (rpm) n	min <sup>-1</sup>	1345
05 Variable speed drive		No		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 =  $1 + p_{fs} / 100\,000\text{ Pa}$

LU-105607



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## Technical description

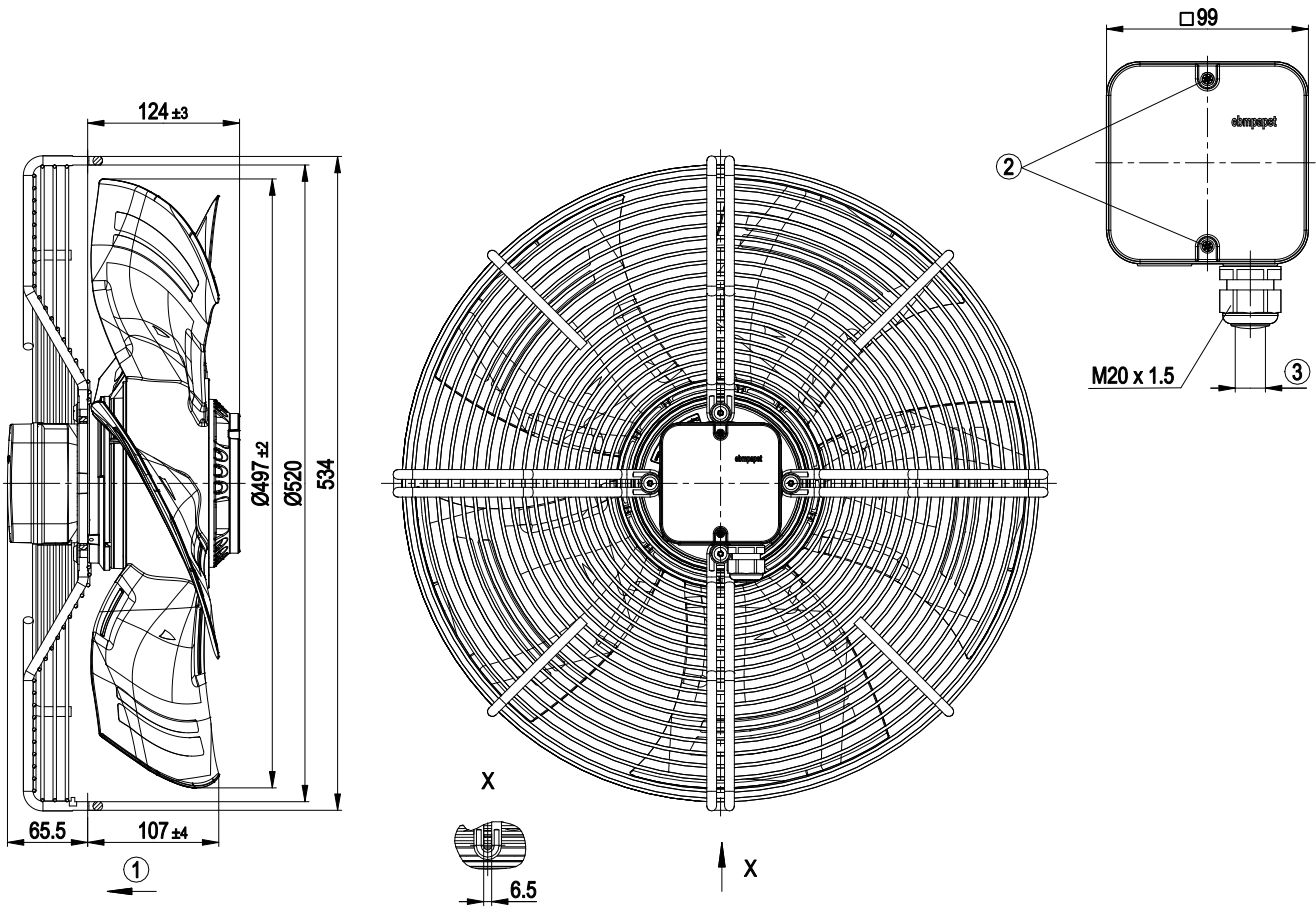
Weight	10.1 kg
Fan size	500 mm
Rotor surface	Painted black
Terminal box material	PP plastic
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F4-1
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)	<= 3.5 mA
Electrical hookup	Via terminal box
Motor protection	Thermal overload protector (TOP) with basic insulation
With cable	Axial
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	VDE; EAC



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## Product drawing



1	Direction of air flow "V"
2	Tightening torque 1.5 ± 0.2 Nm
3	Cable diameter: min. 6 mm, max. 12 mm; tightening torque 2±0.3 Nm

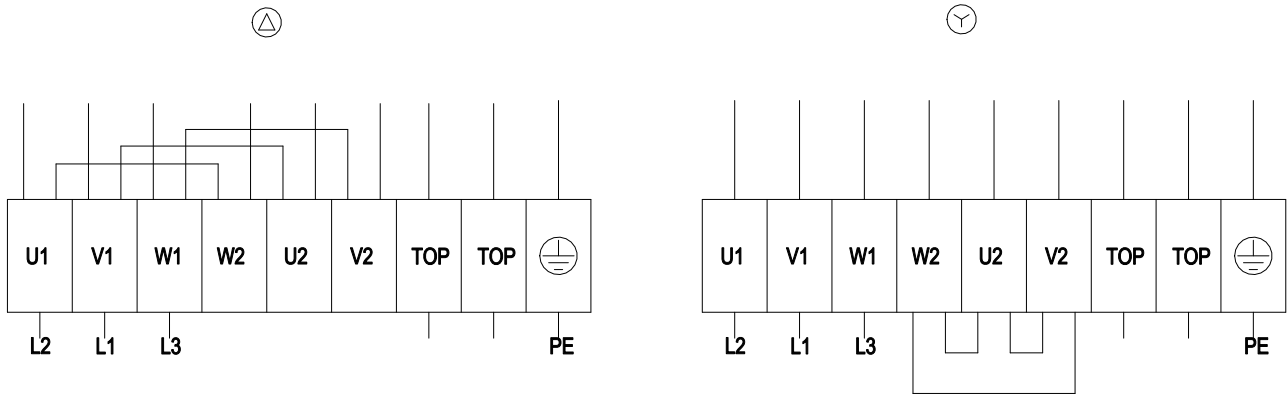


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## Connection diagram



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

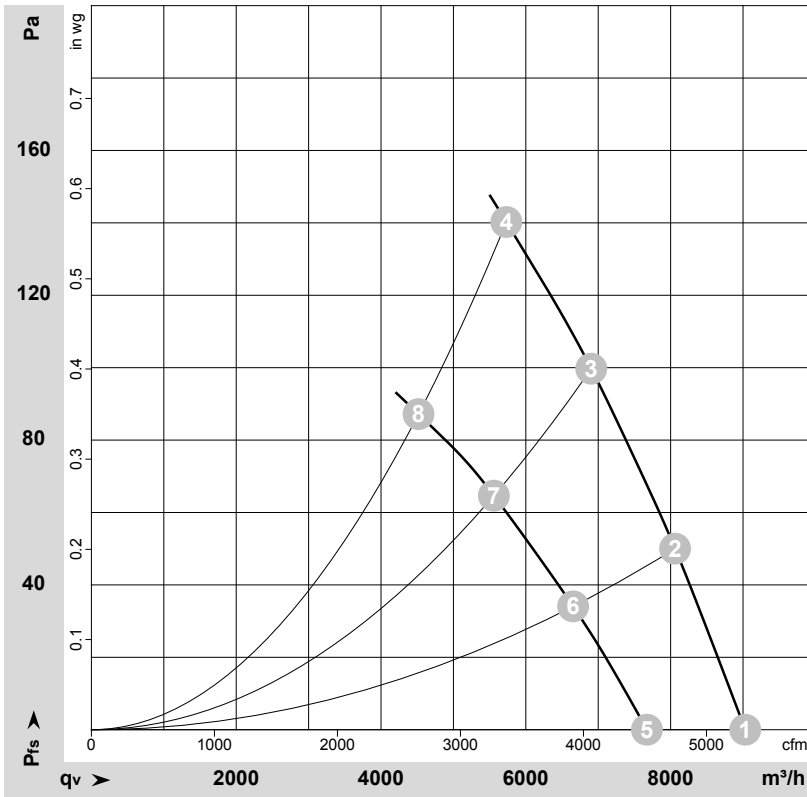


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## Curves: Air performance 50 Hz



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

Measurement: LU-105607-1  
Measurement: LU-105610-1

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 <sub>e</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	qv	p <sub>fs</sub>	qv	p <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	CFM	inH2O
1	Δ	400	50	1395	537	1.25	68	75	75	9030	0	5315	0.00
2	Δ	400	50	1375	601	1.30	65	72	72	8060	50	4745	0.20
3	Δ	400	50	1360	661	1.35	64	71	71	6905	100	4065	0.40
4	Δ	400	50	1340	710	1.40	64	71	71	5730	140	3375	0.56
5	Y	400	50	1180	393	0.65	65	71	71	7675	0	4515	0.00
6	Y	400	50	1135	429	0.71	61	68	68	6655	34	3915	0.14
7	Y	400	50	1095	458	0.76	59	66	66	5560	65	3270	0.26
8	Y	400	50	1060	480	0.80	58	65	65	4520	87	2660	0.35

Wired = Wiring · U = Power supply · 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 · qv = Air flow · p<sub>fs</sub> = Pressure increase

