

S4D500-AM01-20 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-AM01-20						
Motor	M4D110-GF						
Phase		3~	3~	3~	3~	3~	3~
Nominal voltage	VAC	230	230	277	400	400	480
Wiring		$\Delta$	$\Delta$	$\Delta$	Y	Y	Y
Frequency	Hz	50	60	60	50	60	60
Method of obtaining data		ml	ml	ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE	CE	CE
Speed (rpm)	min <sup>-1</sup>	1350	1510	1590	1350	1510	1590
Power consumption	W	690	950	1050	690	950	1050
Current draw	A	2.34	2.77	2.72	1.35	1.6	1.57
Max. back pressure	Pa	155	145	160	155	145	160
Max. back pressure	inH <sub>2</sub> O	0.62	0.58	0.64	0.62	0.58	0.64
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	65	60	60	65	60	60
Starting current	A	10.6	9.7	12.1	6.1	5.6	7.0

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 $\eta_{es}$	%	33.3	32.5	09 Power consumption $P_e$	kW	0.66
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	5985
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	134
04 Efficiency grade N		40.8	40	10 Speed (rpm) n	min <sup>-1</sup>	1355
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-110665



# AC axial fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

## Technical description

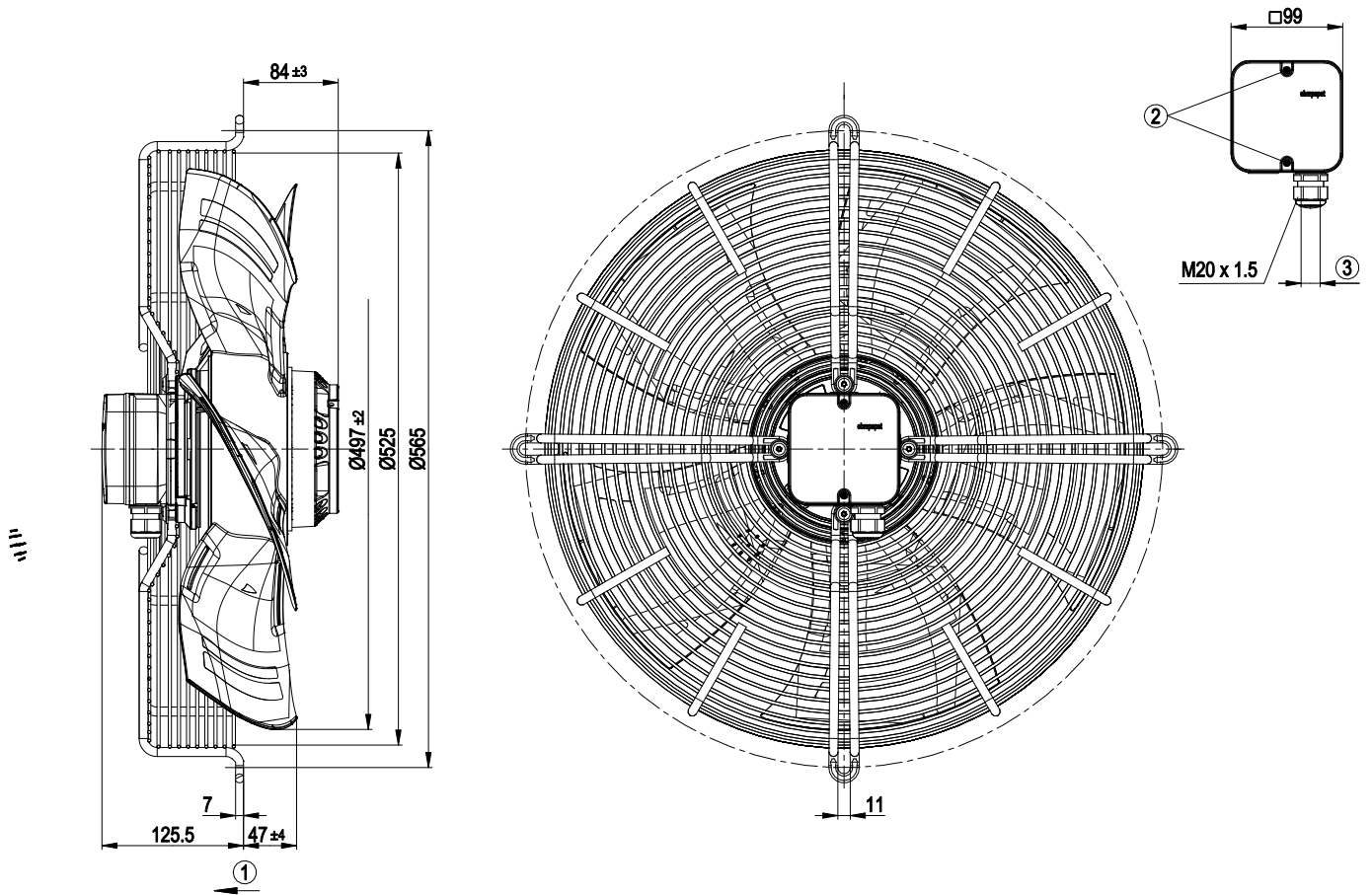
Weight	13.3 kg
Fan size	500 mm
Rotor surface	Painted black
Terminal box material	PP plastic
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	"V"
Direction of rotation	Counterclockwise, 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 top; rotor on bottom on request
Condensation drainage holes	On stator 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



# AC axial fan - HyBlade

sickle-shaped blades (S series)  
with guard grille for short nozzle

## 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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sickle-shaped blades (S series)  
with guard grille for short nozzle

## Connection diagram



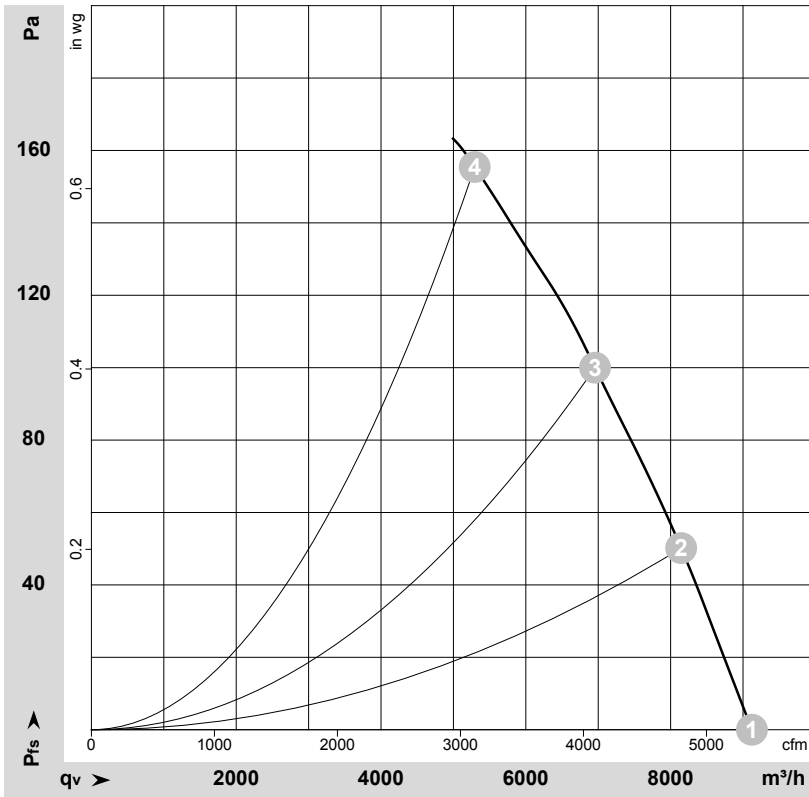
Δ	Delta connection	Y	Star connection	L1	= V1 = blue
L2	= U1 = black	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2x gray
PE	green/yellow				



# AC axial fan - HyBlade

sickle-shaped blades (S series)  
with guard grille for short nozzle

## Curves: Air performance 50 Hz



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

Measurement: LU-110665-1

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>	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)	m <sup>3</sup> /h	Pa	cfm	inH2O
1	Y	400	50	1400	505	1.15	68	75	75	9125	0	5370	0.00
2	Y	400	50	1380	570	1.22	65	72	73	8145	50	4795	0.20
3	Y	400	50	1365	626	1.27	64	71	71	6955	100	4095	0.40
4	Y	400	50	1350	690	1.35	66	73	72	5295	155	3115	0.62

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 · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

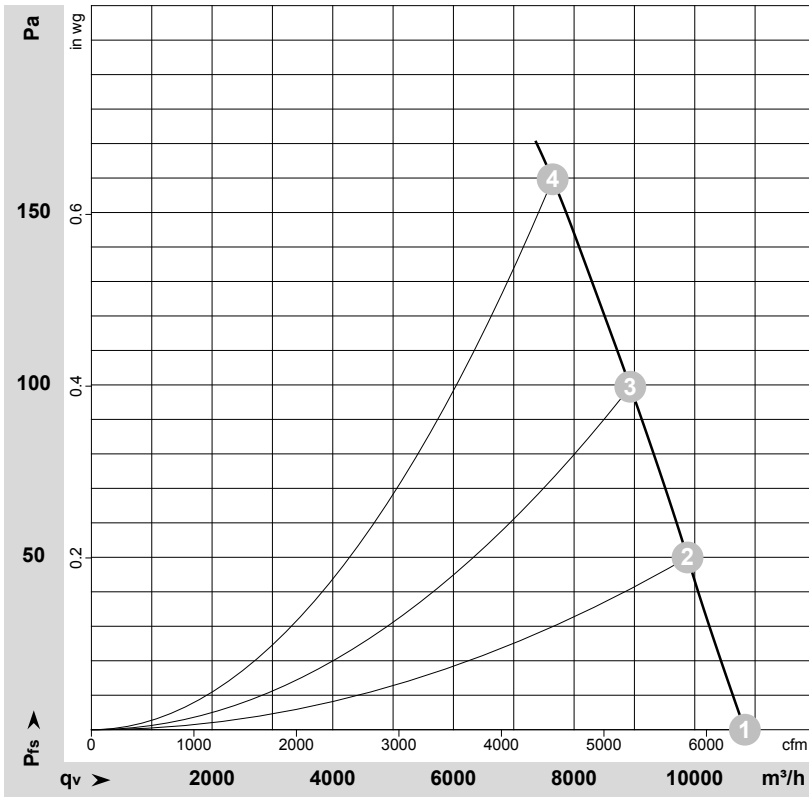


# AC axial fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

## Curves: Air performance 60 Hz



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

Measurement: LU-110667-1

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>	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)	m <sup>3</sup> /h	Pa	cfm	inH <sub>2</sub> O
1	Y	480	60	1650	817	1.33	71	78	79	10830	0	6375	0.00
2	Y	480	60	1630	895	1.41	69	76	77	9880	50	5815	0.20
3	Y	480	60	1615	966	1.48	68	75	75	8930	100	5255	0.40
4	Y	480	60	1590	1050	1.57	67	74	75	7645	160	4500	0.64

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 · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

