S4D500-AM09-29

AC axial fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**S4D500-AM09-29**
Motor	**M4D110-GF**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	480	480
Wiring		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Method of obtaining data		ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE
Speed (rpm)	min^{-1}	1350	1100	1590	1250
Power consumption	W	690	480	1050	690
Current draw	A	1.34	0.81	1.57	0.98
Max. back pressure	Pa	155	105	160	100
Max. back pressure	in. wg	0.62	0.42	0.64	0.4
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	65	65	60	60
Starting current	A	6.5	2.2	7.5	2.5

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

Data according to Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	33.4	32.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40.8	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.67
09 Air flow q_v	m^3/h	5950
09 Pressure increase p_{fs}	Pa	137
10 Speed (rpm) n	min^{-1}	1355
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-105632

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Technical description

Weight	13.2 kg
Size	500 mm
Motor size	110
Rotor surface	Cast in aluminum
Electronics housing 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	H2
Ambient temperature note	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.
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	Terminal box with cable
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 60034-1 (2010); CE
Approval	VDE; EAC

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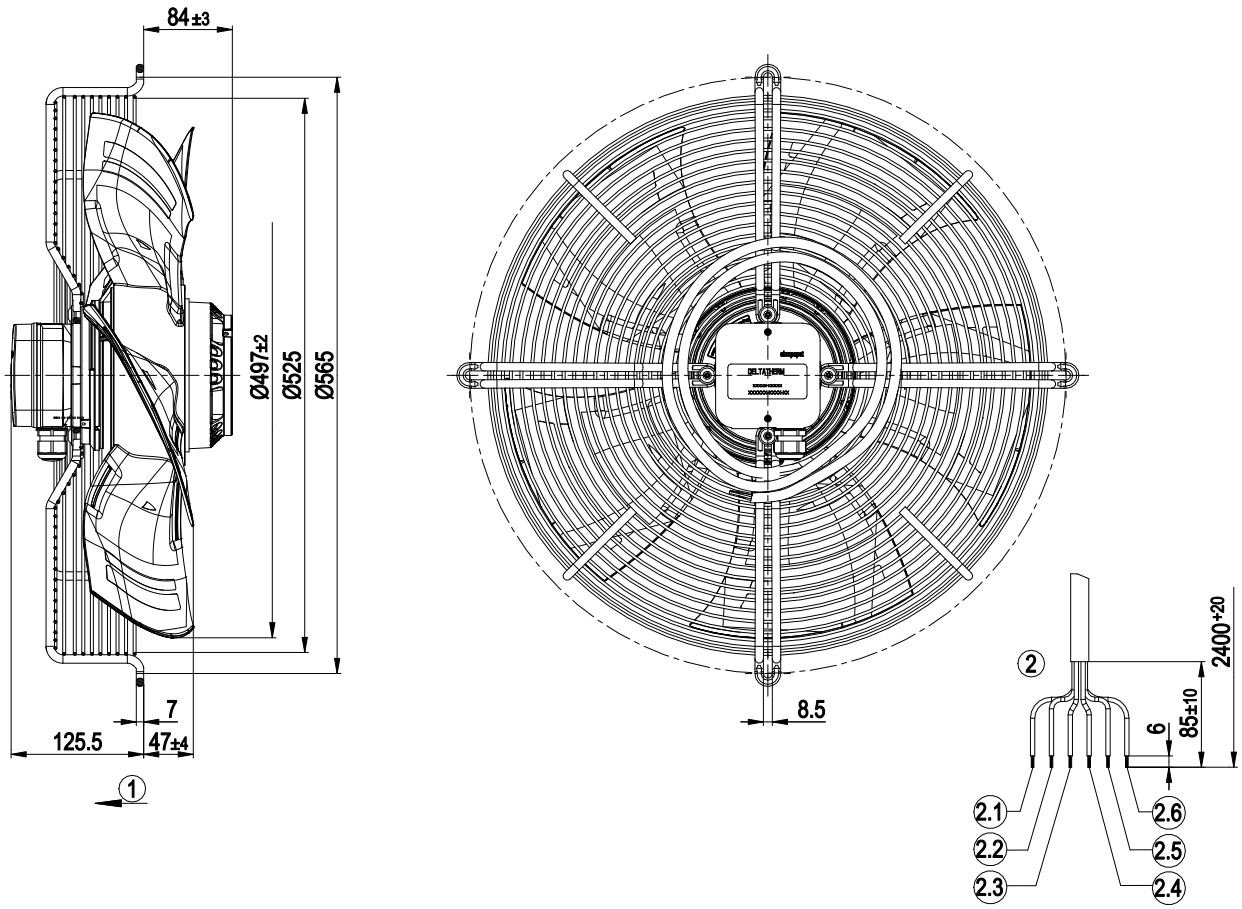
Product drawing



1	Airflow direction "V"
2	Cable halogen-free 6G 0.75 mm², 4GMH4G-J LEVATOP
	6x splice
2.1	L1 (blue)
2.2	L2 (black)
2.3	L3 (brown)
2.4	TOP (gray)
2.5	TOP (gray)
2.6	PE (green/yellow)

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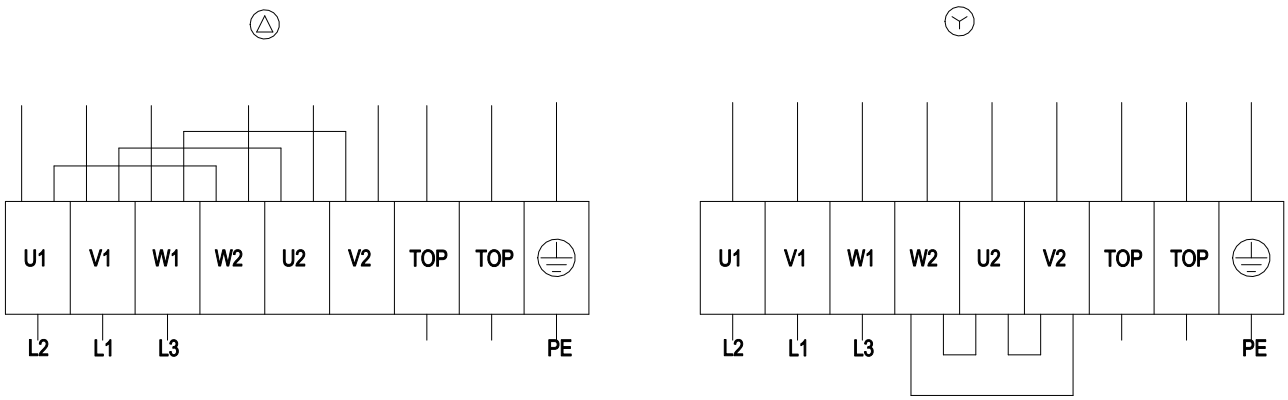
Connection diagram



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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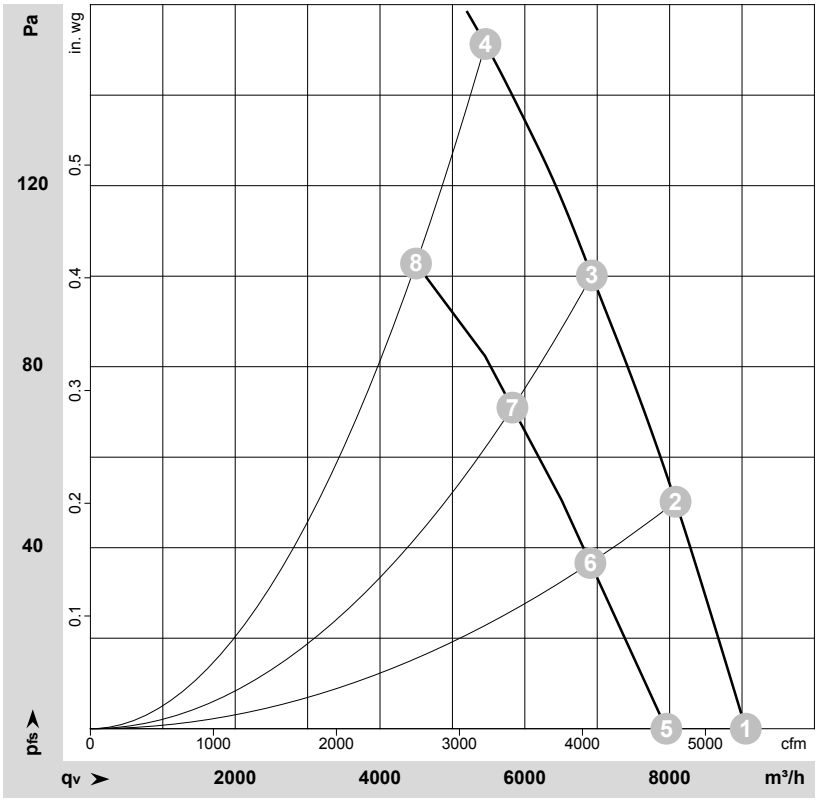
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-105632-1
Measurement: LU-106081-1

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	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	Δ	400	50	1395	504	1.13	68	75	75	9050	0	5330	0.00
2	Δ	400	50	1380	571	1.20	65	72	72	8080	50	4755	0.20
3	Δ	400	50	1365	631	1.26	64	71	71	6925	100	4075	0.40
4	Δ	400	50	1350	690	1.34	65	72	72	5455	155	3210	0.62
5	Y	400	50	1220	386	0.65	65	72	72	7955	0	4680	0.00
6	Y	400	50	1175	419	0.70	62	69	69	6905	37	4065	0.15
7	Y	400	50	1140	450	0.75	60	67	66	5830	71	3430	0.29
8	Y	400	50	1100	480	0.81	59	67	66	4495	105	2645	0.42

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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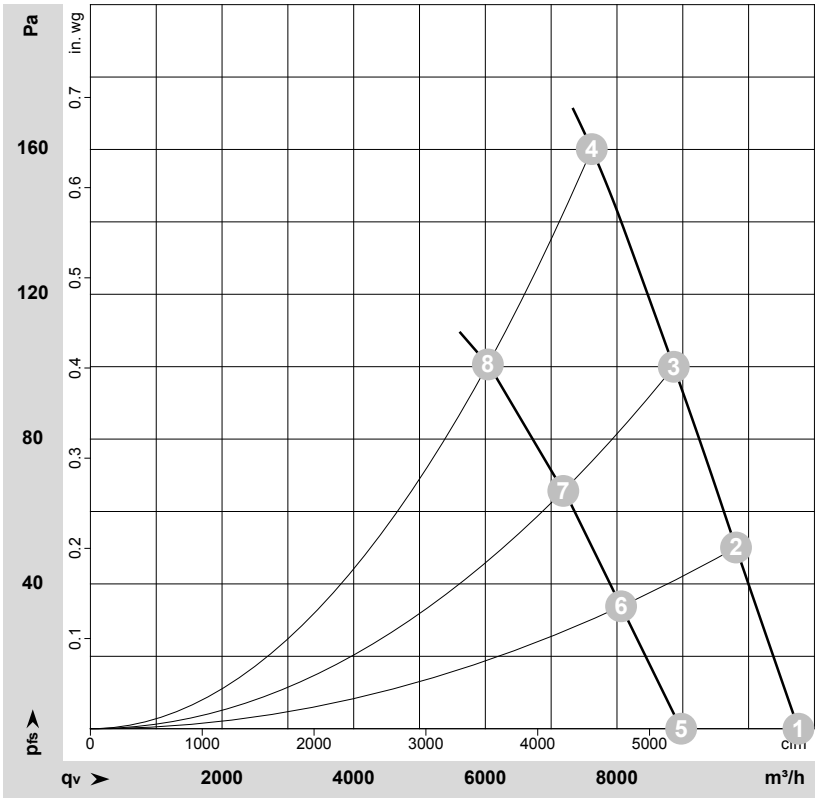
Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-105633-1
Measurement: LU-106114-1

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	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	Δ	480	60	1645	824	1.32	71	78	79	10755	0	6330	0.00
2	Δ	480	60	1625	898	1.40	69	76	77	9810	50	5775	0.20
3	Δ	480	60	1610	973	1.48	68	75	75	8865	100	5215	0.40
4	Δ	480	60	1590	1050	1.57	67	75	75	7615	160	4485	0.64
5	Y	480	60	1375	599	0.84	67	74	75	8975	0	5280	0.00
6	Y	480	60	1330	633	0.89	65	72	72	8065	34	4745	0.14
7	Y	480	60	1290	664	0.93	63	70	70	7185	66	4230	0.26
8	Y	480	60	1250	690	0.98	61	68	68	6040	100	3555	0.40

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase