S4D450-BO14-14

AC axial fan

sickle-shaped blades (S series)

with guard grille, for rail applications

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

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	**S4D450-BO14-14**
Motor	**M4D094-HA**

Phase		3~	3~
Nominal voltage	VAC	400	400
Wiring		Δ	Y
Frequency	Hz	50	50
Method of obtaining data		ml	ml
Valid for approval/standard		-	-
Speed (rpm)	min^{-1}	1360	1100
Power consumption	W	450	325
Current draw	A	0.95	0.55
Max. back pressure	Pa	130	85
Max. back pressure	in. wg	0.52	0.34
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	60	60
Starting current	A	3.6	1.2

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

AC axial fan

sickle-shaped blades (S series)

with guard grille, for rail applications

Technical description

Weight	9.6 kg
Size	450 mm
Motor size	94
Rotor surface	Painted black
Blade material	Press-fitted sheet steel blank, sprayed with PA plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	A
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
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; (sealed)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) with basic insulation
Protection class	I (with customer connection of protective earth)
Conformity with standards	CE
Approval	EAC

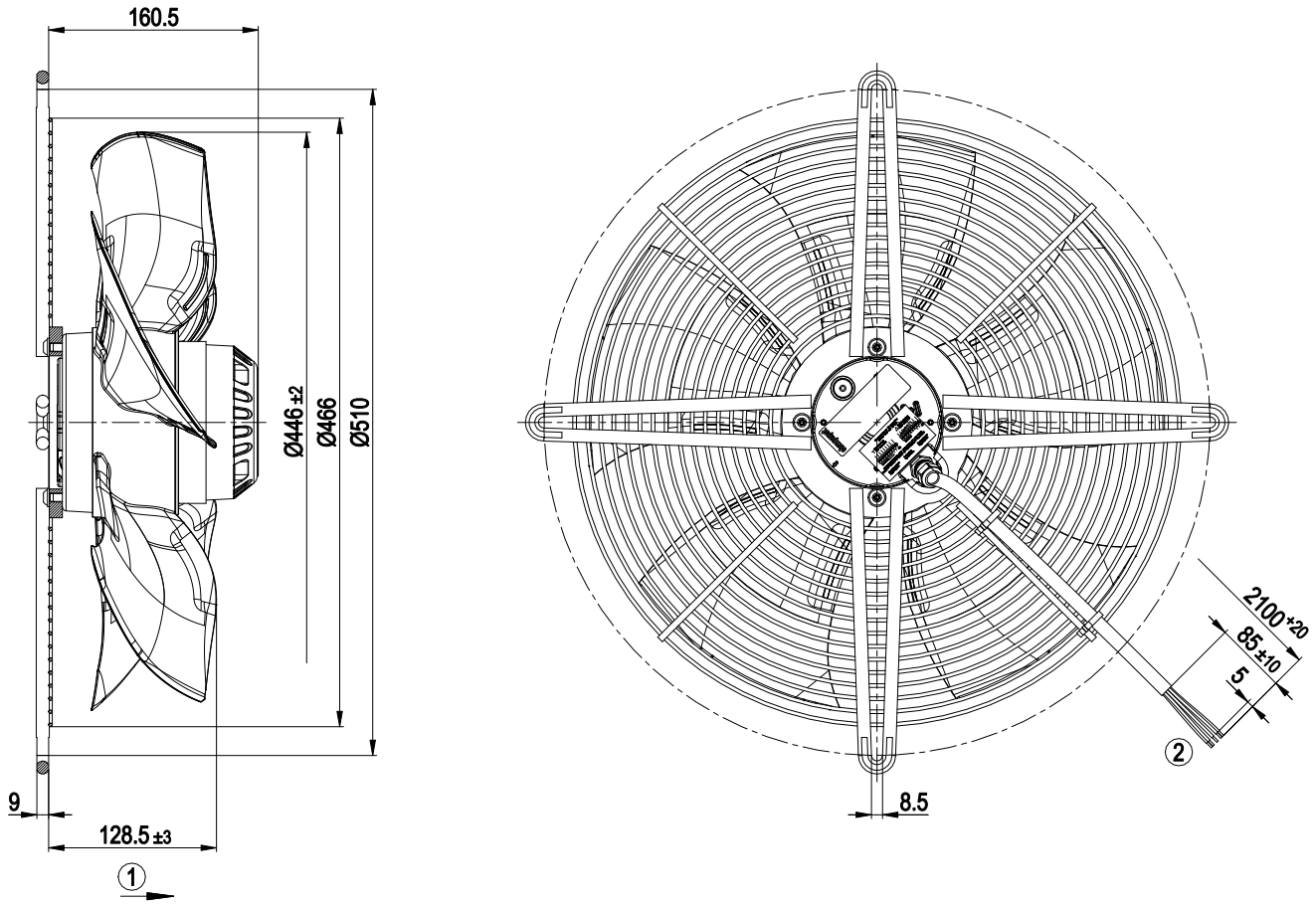
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series)

with guard grille, for rail applications

Product drawing



1	Direction of air flow "A"
2	Cable halogen-free, BETAtrans® GKW flex R, 9G 0.5 mm²
	9x splice
	Attention: The axial fan is only to be used with an appropriate fan housing (not a standard fan housing). Contact ebm-papst for details.

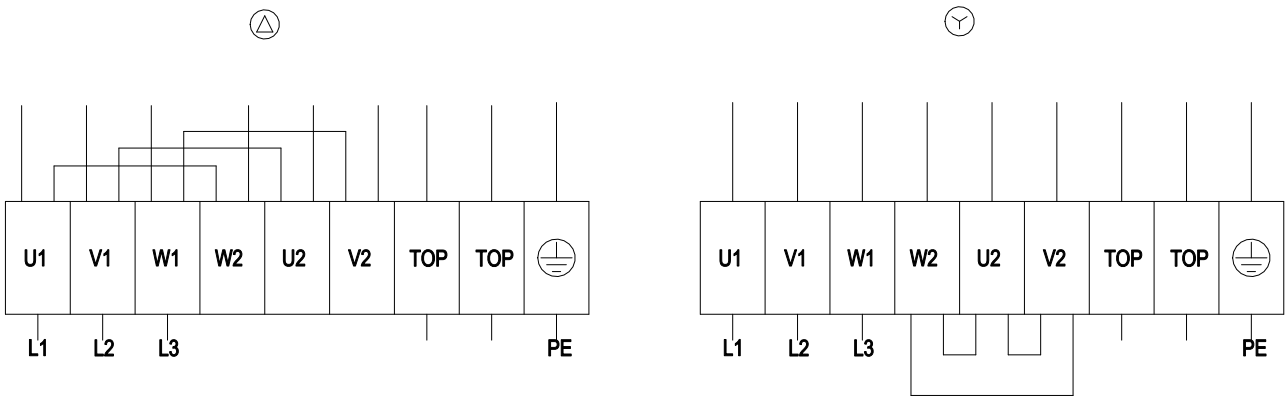
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series)

with guard grille, for rail applications

Connection diagram



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

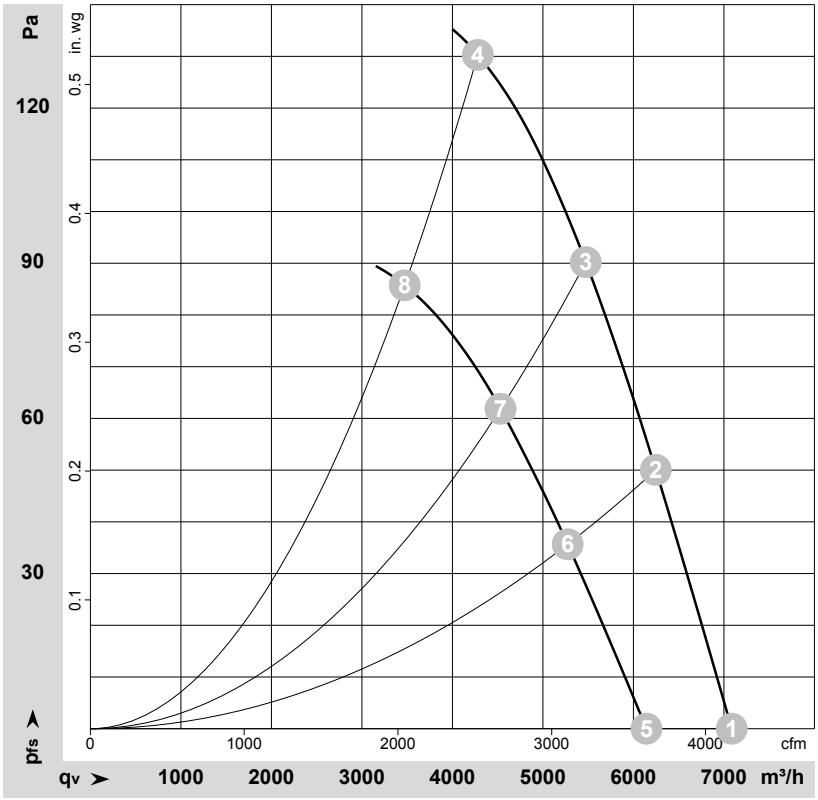
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series)

with guard grille, for rail applications

Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-180418-1
Measurement: LU-180611-1

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	1405	346	0.84	67	74	72	7085	0	4170	0.00
2	Δ	400	50	1385	391	0.88	63	70	71	6245	50	3675	0.20
3	Δ	400	50	1375	422	0.91	62	68	70	5475	90	3220	0.36
4	Δ	400	50	1360	450	0.95	64	71	72	4280	130	2520	0.52
5	Y	400	50	1215	264	0.45	64	70	71	6145	0	3615	0.00
6	Y	400	50	1170	292	0.49	60	66	67	5275	36	3105	0.14
7	Y	400	50	1135	309	0.52	58	64	65	4530	62	2665	0.25
8	Y	400	50	1100	325	0.55	59	66	67	3475	86	2045	0.35

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

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com