S4D400-AM02-20

AC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

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	**S4D400-AM02-20**
Motor	**M4D094-EA**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400
Wiring		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Method of obtaining data		ml	ml	ml	ml
Valid for approval/standard		-	-	-	-
Speed (rpm)	min^{-1}	1315	995	1415	900
Power consumption	W	290	190	410	220
Current draw	A	0.53	0.31	0.68	0.37
Max. back pressure	Pa	100	55	110	45
Max. back pressure	inH2O	0.4	0.22	0.44	0.18
Min. ambient temperature	°C	-25	-25	-25	-25
Max. ambient temperature	°C	65	65	55	55
Starting current	A	1.7	0.55	1.57	0.51

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 short nozzle

Technical description

Weight	6.3 kg
Fan size	400 mm
Rotor surface	Painted black
Terminal box material	ABS 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
Ambient temperature note	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our 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	Via terminal box
Motor protection	Thermal overload protector (TOP) with basic insulation
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60034-1 (2010)

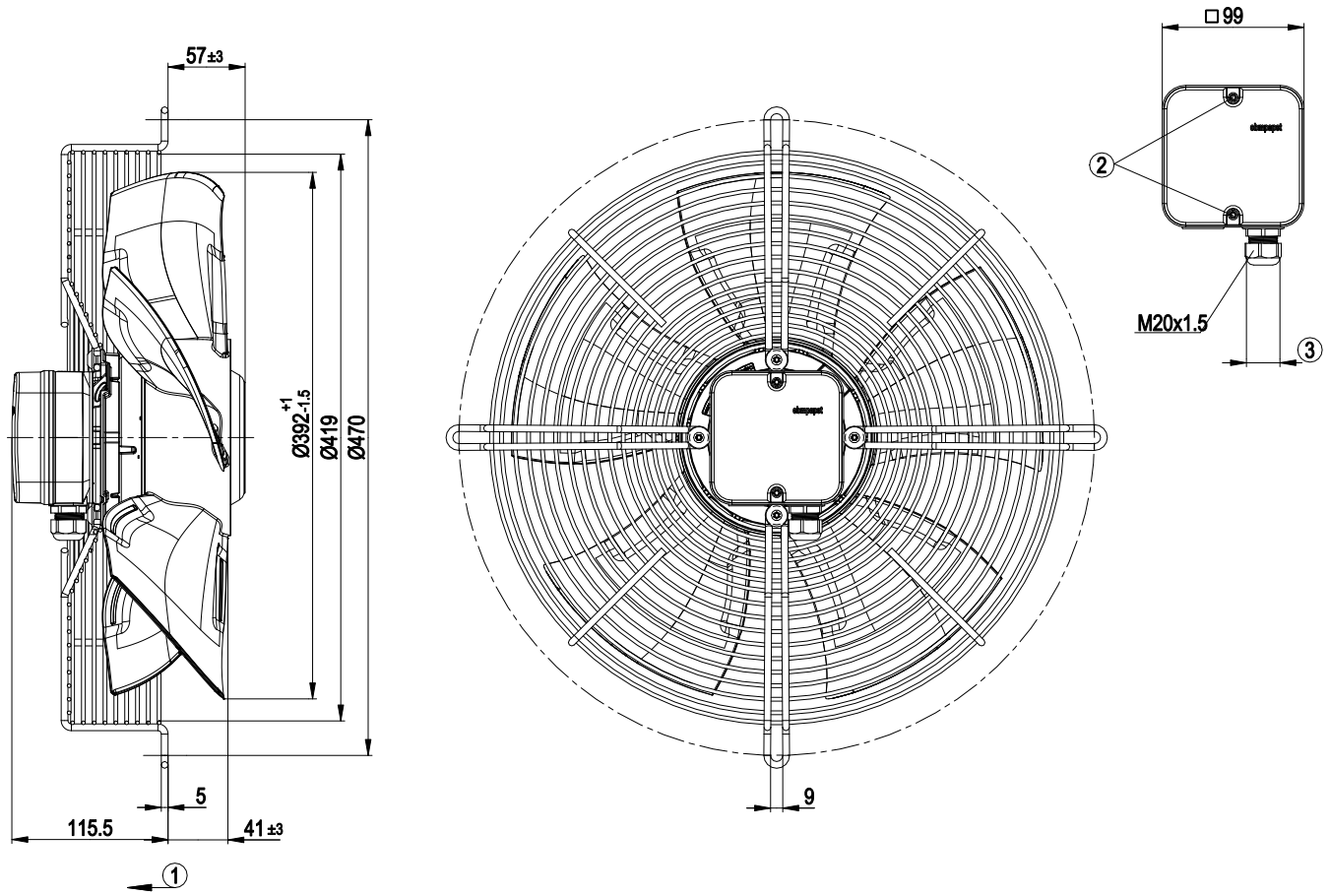
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

Product drawing



1	Direction of air flow "V"
2	Tightening torque 0.8 ± 0.15 Nm
3	Cable diameter min. 6 mm, max. 12 mm, tightening torque 2 ± 0.3 Nm

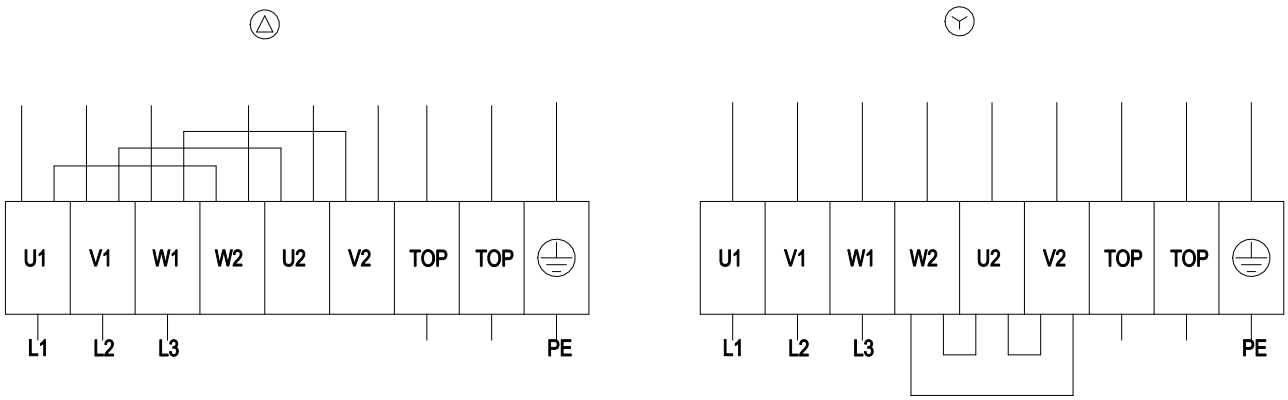
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

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				

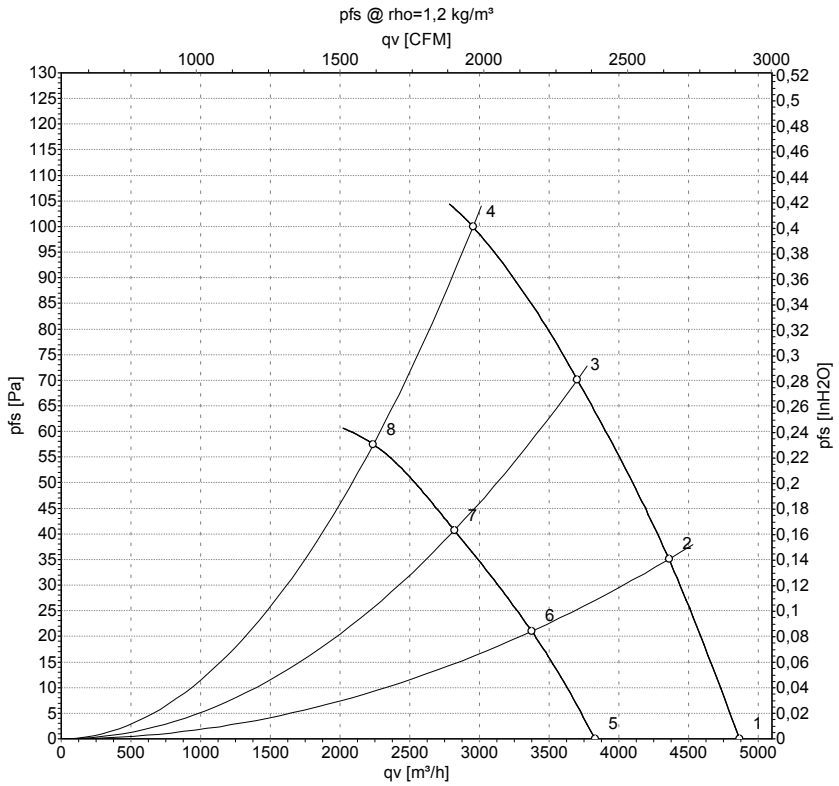
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

Curves: Air performance 50 Hz



Measurement: LU-108747-1
Measurement: LU-108754-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	Δ	400	50	1355	240	0.49	4865	0	2865	0.00
2	Δ	400	50	1340	259	0.51	4360	35	2565	0.14
3	Δ	400	50	1330	271	0.53	3705	70	2180	0.28
4	Δ	400	50	1315	290	0.53	2955	100	1740	0.40
5	Y	400	50	1075	170	0.28	3830	0	2255	0.00
6	Y	400	50	1040	179	0.29	3375	21	1985	0.08
7	Y	400	50	1020	184	0.30	2820	41	1660	0.16
8	Y	400	50	995	190	0.31	2240	58	1320	0.23

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

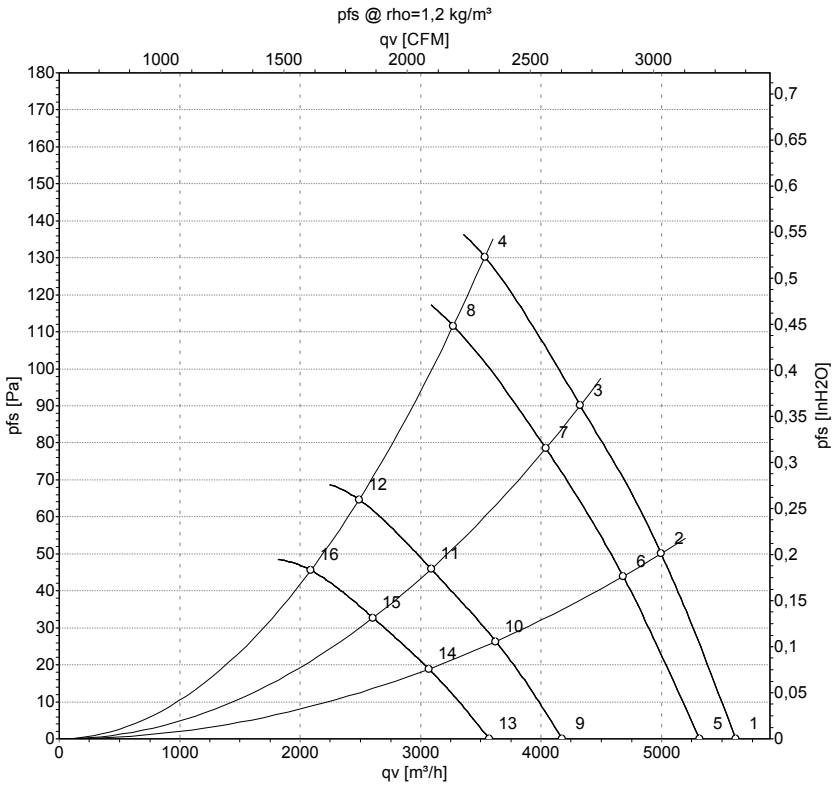
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

Curves: Air performance 60 Hz



Measurement: LU-108759-1
Measurement: LU-108752-1
Measurement: LU-108760-1
Measurement: LU-108757-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	Δ	480	60	1575	387	0.59	5615	0	3305	0.00
2	Δ	480	60	1555	417	0.62	4995	50	2940	0.20
3	Δ	480	60	1540	434	0.64	4325	90	2545	0.36
4	Δ	480	60	1525	450	0.66	3535	130	2080	0.52
5	Δ	400	60	1485	358	0.62	5315	0	3130	0.00
6	Δ	400	60	1455	381	0.65	4680	44	2755	0.18
7	Δ	400	60	1435	394	0.67	4040	79	2375	0.32
8	Δ	400	60	1415	410	0.68	3270	112	1925	0.45
9	Y	480	60	1175	261	0.36	4175	0	2460	0.00
10	Y	480	60	1125	271	0.37	3625	26	2135	0.10
11	Y	480	60	1100	276	0.38	3085	46	1815	0.18
12	Y	480	60	1080	280	0.39	2490	65	1465	0.26
13	Y	400	60	1000	207	0.34	3570	0	2100	0.00
14	Y	400	60	960	212	0.35	3070	19	1805	0.08
15	Y	400	60	930	213	0.36	2605	33	1535	0.13
16	Y	400	60	900	220	0.37	2090	46	1230	0.18

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · 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