

# S4D450-GA20-13

Güntner

# AC axial fan

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



S4D450-GA20-13 ebmpapst Datasheet

sales@fansco.com

www.fansco.com

## Nominal data

Type	S4D450-GA20-13						
Motor	M4D094-HA						
Phase		3~	3~	3~	3~	3~	3~
Nominal voltage	VAC	230	265	400	400	460	480
Wiring		Δ	Δ	Y	Y	Y	Y
Frequency	Hz	60	60	50	60	60	60
Method of obtaining data		ce	ce	ce	ce	ce	ce
Valid for approval/standard		-	-	-	-	-	-
Speed (rpm)	min <sup>-1</sup>	1290	1415	1270	1290	1415	1440
Power consumption	W	520	590	380	520	590	610
Current draw	A	1.55	1.55	0.66	0.88	0.88	0.86
Max. back pressure	Pa	72	85	70	72	85	90
Max. back pressure	in. wg	0.29	0.34	0.28	0.29	0.34	0.36
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	60	60	90	60	60	60
Starting current	A	3.0	3.4	1.8	1.7	1.96	2.06

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 (EN 17166)

		Actual	Req. 2015			
01 Overall efficiency $\eta_{es}$	%	32.9	30.9	09 Power consumption $P_e$	kW	0.36
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	4020
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	115
04 Efficiency grade N		42	40	10 Speed (rpm) n	min <sup>-1</sup>	1285
05 Variable speed drive		No		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

\* Specific ratio =  $1 + p_{fs} / 100\,000\text{ Pa}$

LU-201706

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings). The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again. The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).



S4D450-GA20-13

Güntner

# AC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

## Technical description

<b>Weight</b>	10.2 kg
<b>Size</b>	450 mm
<b>Motor size</b>	94
<b>Rotor surface</b>	Painted black
<b>Terminal box material</b>	PP plastic
<b>Blade material</b>	Sheet steel, painted black
<b>Guard grille material</b>	Steel, coated with black plastic (RAL 9005)
<b>Number of blades</b>	5
<b>Airflow direction</b>	V
<b>Direction of rotation</b>	Counterclockwise, viewed toward rotor
<b>Degree of protection</b>	IP54
<b>Insulation class</b>	"F"
<b>Moisture (F) / Environmental (H) protection class</b>	H2
<b>Ambient temperature note</b>	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.
<b>Max. permitted ambient temp. for motor (transport/storage)</b>	+80 °C
<b>Min. permitted ambient temp. for motor (transport/storage)</b>	-40 °C
<b>Installation position</b>	Shaft horizontal or rotor on bottom; rotor on top on request
<b>Condensation drainage holes</b>	On rotor side
<b>Mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)</b>	<= 3.5 mA
<b>Electrical hookup</b>	Terminal box
<b>Motor protection</b>	Thermal overload protector (TOP) with basic insulation
<b>Protection class</b>	I (with customer connection of protective earth)
<b>Conformity with standards</b>	EN 60034-1 (2010); UKCA; CE
<b>Approval</b>	UL 1004-1; CSA C22.2 No. 100; EAC



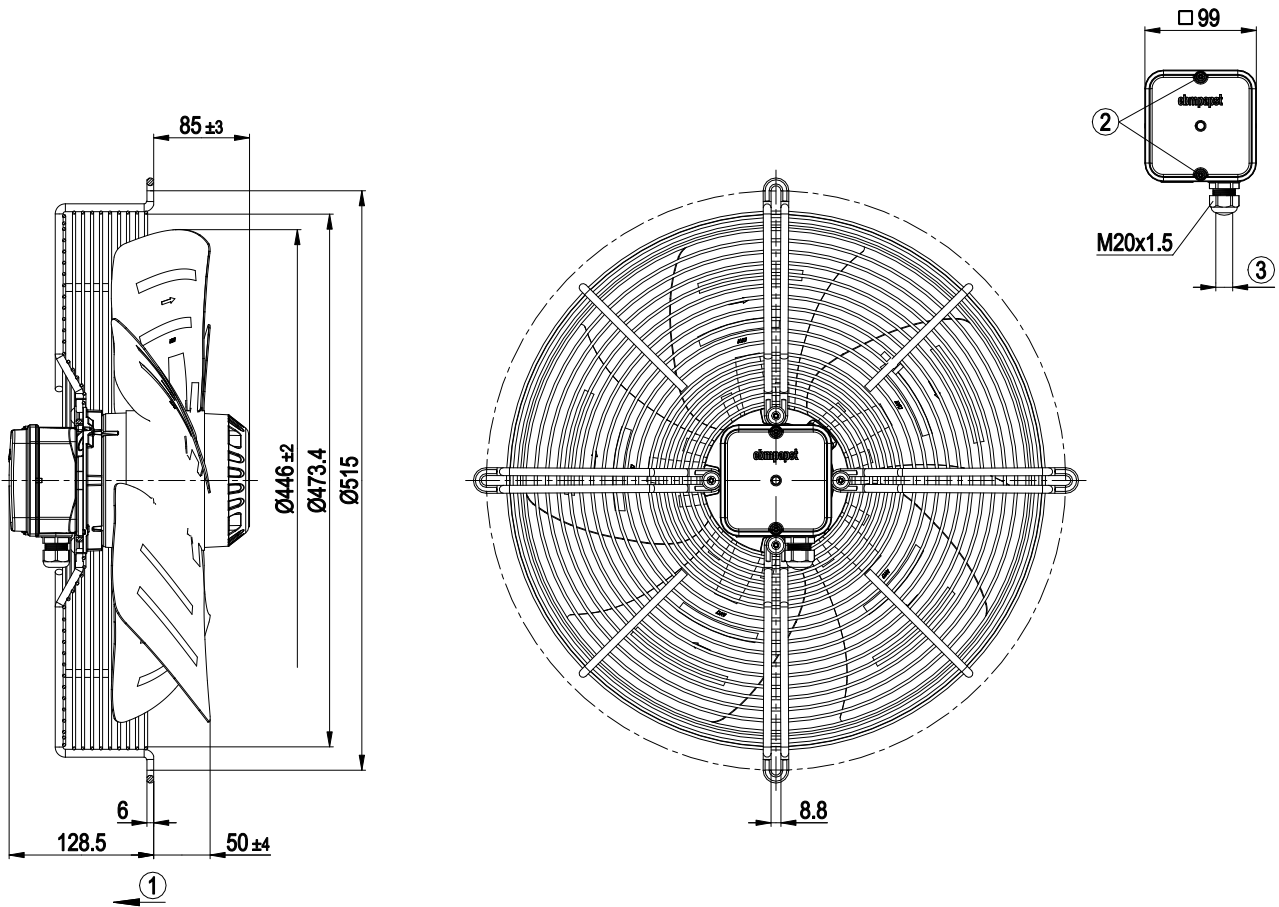
S4D450-GA20-13

Güntner

# AC axial fan

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

## Product drawing



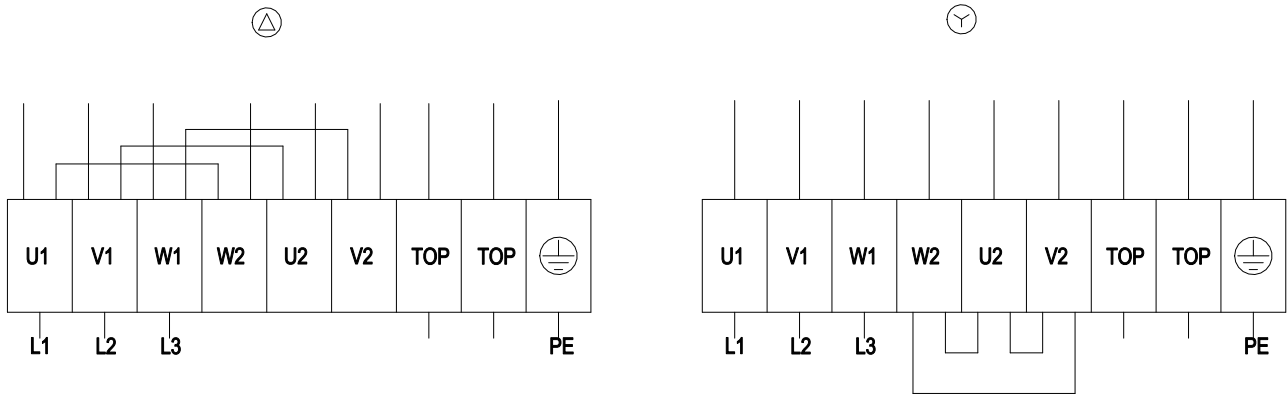
1	Direction of air flow "V"
2	Tightening torque $1.5 \pm 0.2$ Nm
3	Cable diameter min. 6 mm, max. 12 mm, tightening torque $2 \pm 0.3$ Nm



# AC axial fan

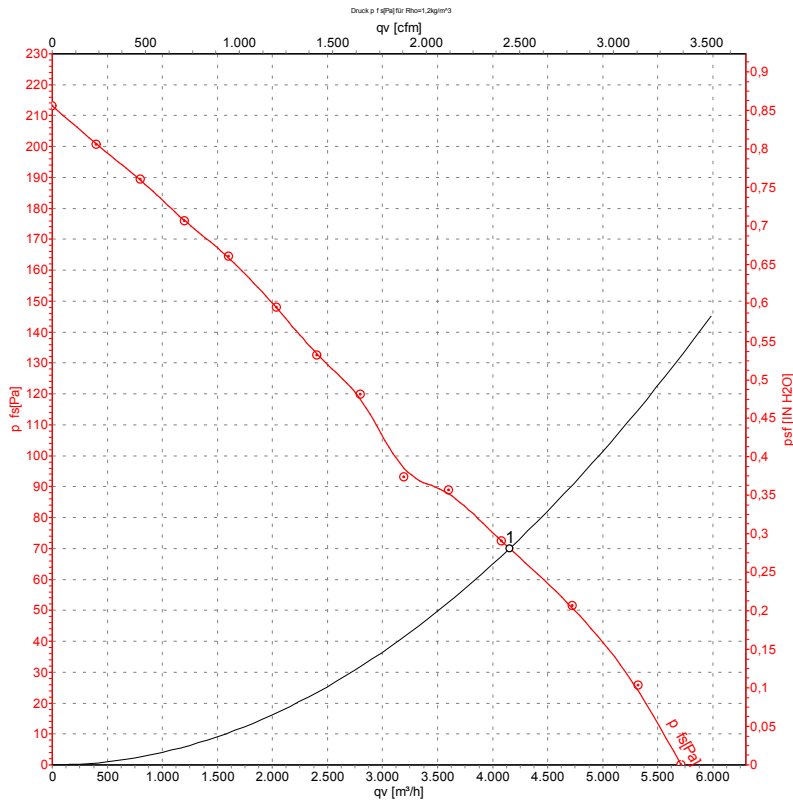
sickle-shaped blades (S series)  
with guard grille for short nozzle

## 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				

## Curves: Air performance 50 Hz



Measurement: LU-59825-1

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.

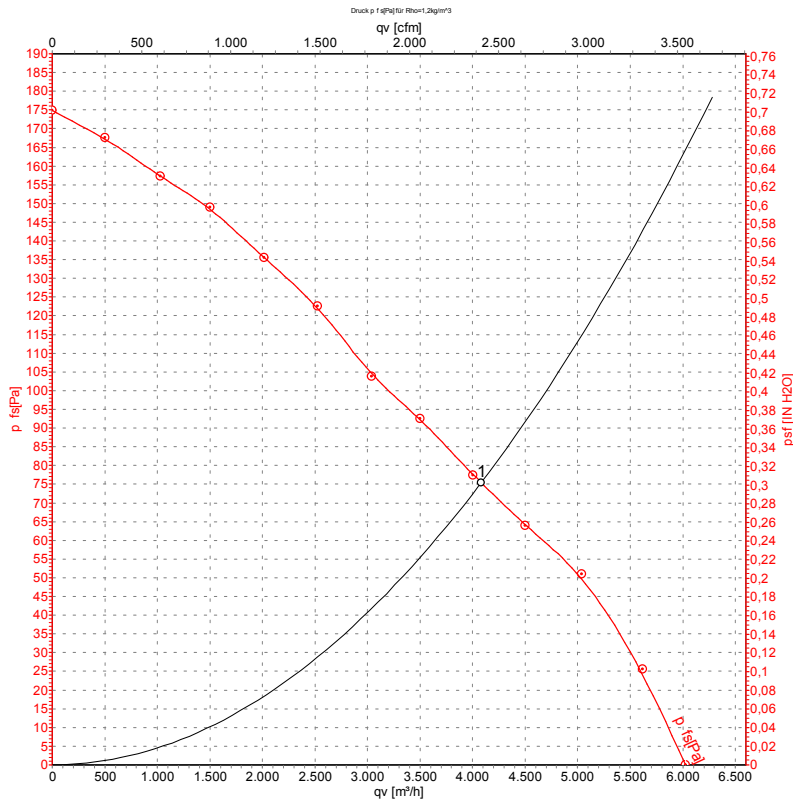
## Measured values

	U	f	n	P <sub>e</sub>	I	q <sub>v</sub>	p <sub>fs</sub>	q <sub>v</sub>	p <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	cfm	in. wg
1	400	50	1270	380	0.66	4155	70	2445	0.28

U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase



## Curves: Air performance 60 Hz



Measurement: LU-59824-1

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

	U	f	n	P <sub>e</sub>	I	q <sub>v</sub>	p <sub>fs</sub>	q <sub>v</sub>	p <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	cfm	in. wg
1	400	60	1290	520	0.88	4085	75	2405	0.30

U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

