W3G450-AD53-01

EC axial fan

sickle-shaped blades (S series)

with square short nozzle, Automotive

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	**W3G450-AD53-01**	
Motor	**M3G084-FA**	
Nominal voltage	VDC	27.5
Method of obtaining data		fa
Speed (rpm)	min^{-1}	2380
Power consumption	W	525
Current draw	A	19
Max. back pressure	Pa	260
Max. back pressure	in. wg	1.04
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60
Starting current	A	22

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

EC axial fan

sickle-shaped blades (S series)

with square short nozzle, Automotive

Technical description

Weight	8.32 kg
Size	450 mm
Motor size	84
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Fan housing material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	V
Balancing grade according to DIN ISO 1940-1	G 10
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP24 KM
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H2
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)
Technical features	- Power limiter - Load dump protection - Motor current limitation - Soft start - Control input 0-5 VDC - Thermal overload protection for electronics - Reverse polarity protection
Electrical hookup	Plug

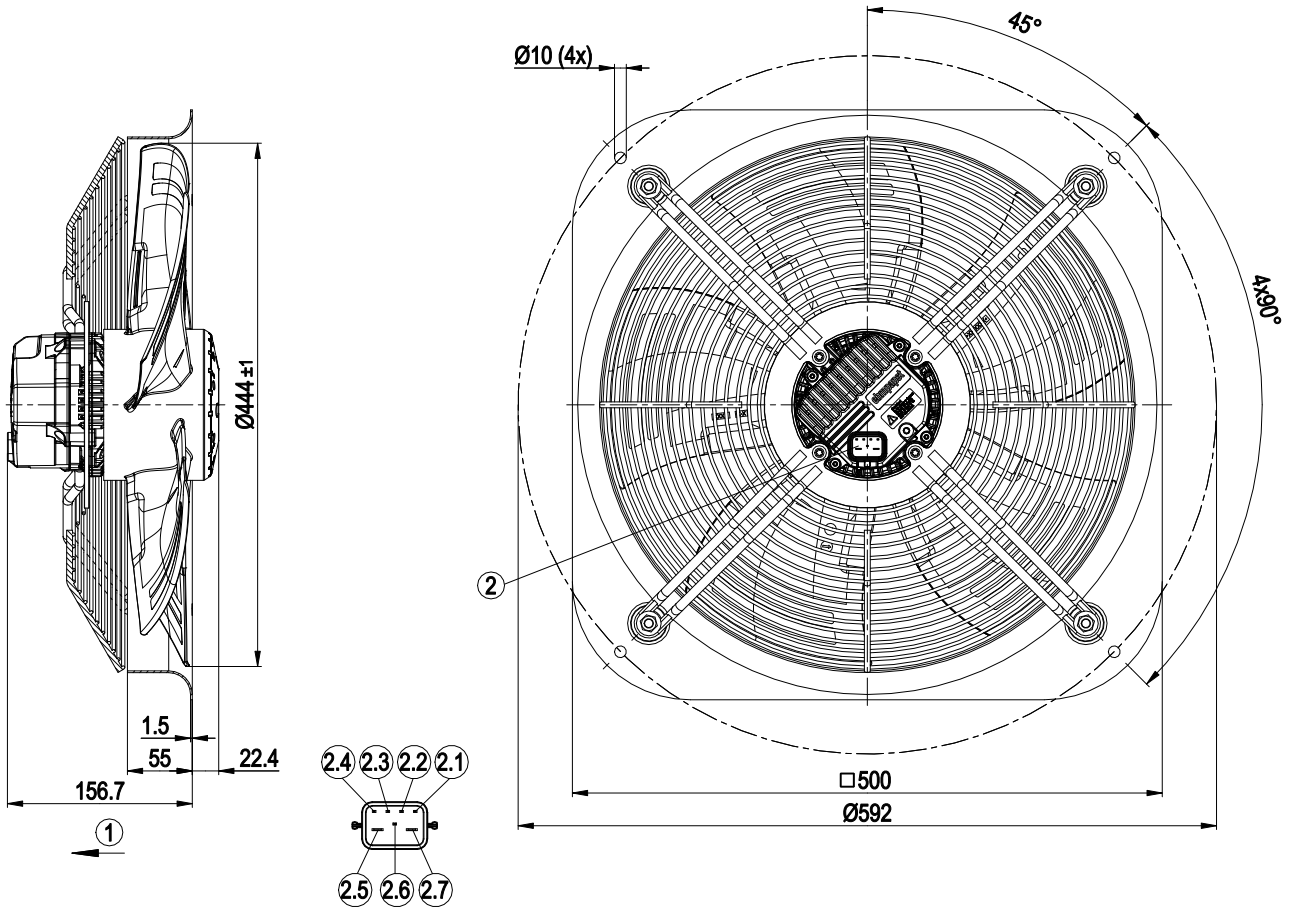
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC axial fan

sickle-shaped blades (S series)

with square short nozzle, Automotive

Product drawing



1	Airflow direction "V"
2	Socket for 7-pole coded mating connector DELPHI 12059472
	7-pole coded mating connector Delphi 12059472, not included in scope of delivery
2.1	not used
2.2	0–5 V (PWM/LIN)
2.3	CGND
2.4	not used
2.5	GND
2.6	Error
2.7	+ UB

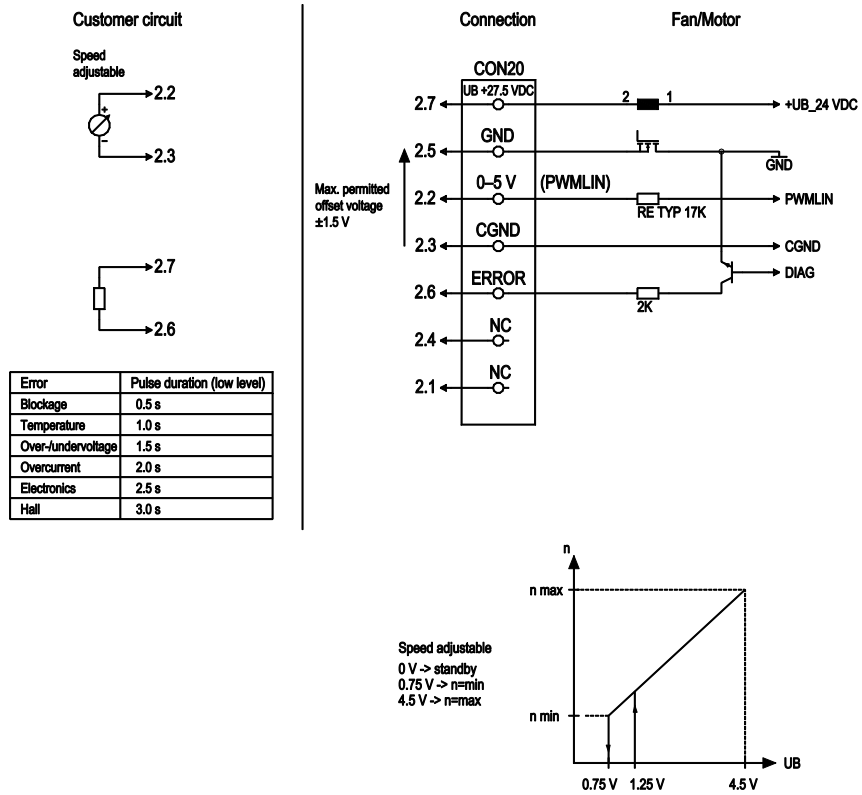
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC axial fan

sickle-shaped blades (S series)

with square short nozzle, Automotive

Connection diagram



Error	Pulse duration (low level)
Blockage	0.5 s
Temperature	1.0 s
Over-/undervoltage	1.5 s
Overcurrent	2.0 s
Electronics	2.5 s
Hall	3.0 s

No.	Conn.	Designation	Function/assignment
CON20	2.1	NC	not used
CON20	2.2	PWM/LIN	Analog voltage control input 0-5 V
CON20	2.3	CGND	Reference ground for control input, permitted offset +1.5 V
CON20	2.4	NC	not used
CON20	2.5	GND	Power supply, GND
CON20	2.6	ERROR	Fault output OC
CON20	2.7	UB +27,5 VDC	Power supply 27.5 VDC

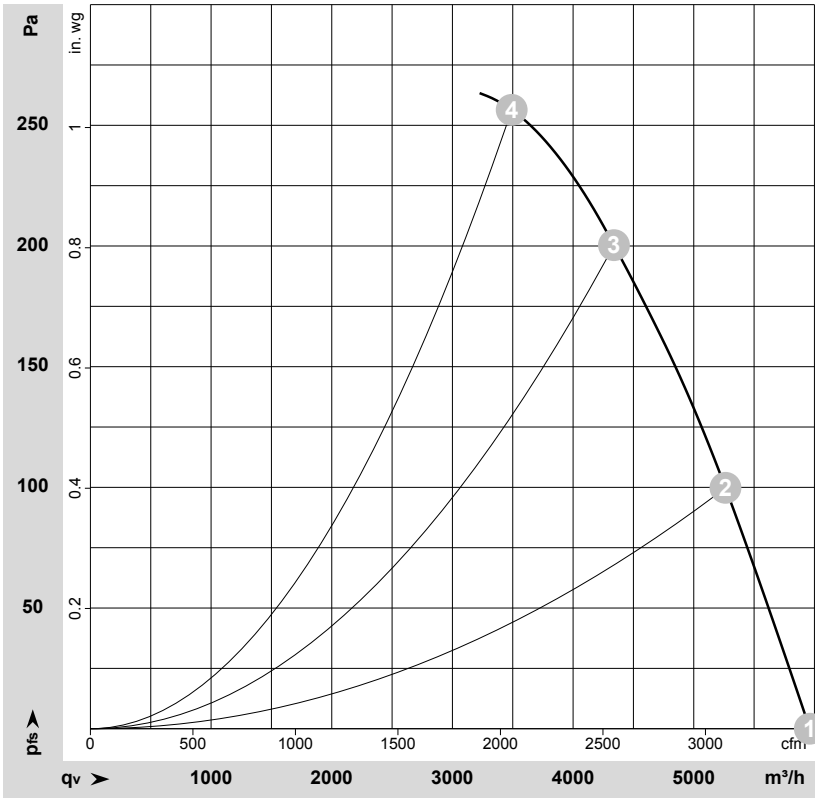
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC axial fan

sickle-shaped blades (S series)

with square short nozzle, Automotive

Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-129841-1

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	n	P_{ed}	I	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	27.5	2380	525	19.00	5960	0	3510	0.00
2	27.5	2335	576	20.97	5265	100	3100	0.40
3	27.5	2290	619	22.53	4340	200	2555	0.80
4	27.5	2275	645	23.47	3490	260	2055	1.04

U = Voltage · n = Speed (rpm) · P_{ed} = 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