

A3G450-AC28-51

# EC axial fan - HyBlade®

sickled blades (S series)

## 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

County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

County court Stuttgart · HRB 590142



### Nominal data

Type	A3G450-AC28-51	
Motor	M3G084-FA	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed	min <sup>-1</sup>	1300
Power input	W	345
Current draw	A	2.2
Max. back pressure	Pa	125
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit  
Subject to alterations

### Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency $\eta_{es}$	%	42.6	26.7	30.7
Efficiency grade N		51.9	36	40
Power input $P_{ed}$	kW	0.34		
Air flow $q_v$	m <sup>3</sup> /h	4005		
Pressure increase $p_{fs}$	Pa	118		
Speed n	min <sup>-1</sup>	1305		

Data definition with optimum efficiency. LU-124620  
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



A3G450-AC28-51

# EC axial fan - HyBlade®

sickled blades (S series)

## Technical features

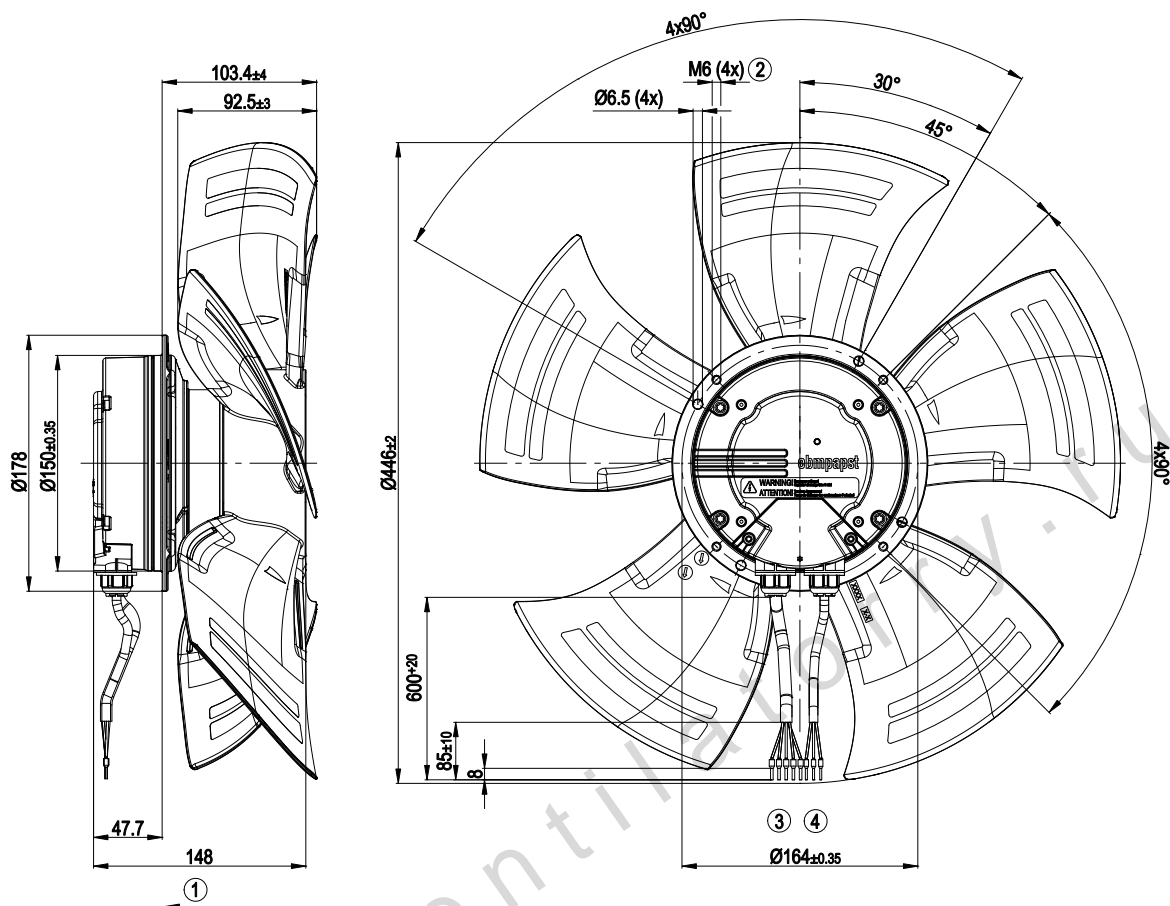
<b>Mass</b>	4.8 kg
<b>Size</b>	450 mm
<b>Surface of rotor</b>	Coated in black
<b>Material of electronics housing</b>	Die-cast aluminium
<b>Material of blades</b>	Press-fitted sheet steel blank, sprayed with PP plastic
<b>Number of blades</b>	5
<b>Direction of air flow</b>	"V"
<b>Direction of rotation</b>	Counter-clockwise, seen on rotor
<b>Type of protection</b>	IP 54
<b>Insulation class</b>	"B"
<b>Humidity class</b>	F3-1
<b>Max. permissible ambient motor temp. (transp./ storage)</b>	80 °C
<b>Min. permissible ambient motor temp. (transp./storage)</b>	-40 °C
<b>Mounting position</b>	Shaft horizontal or rotor on bottom; rotor on top on request
<b>Condensate discharge holes</b>	Rotor-side
<b>Operation mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Technical features</b>	<ul style="list-style-type: none"> <li>- Output 10 VDC, max. 1.1 mA</li> <li>- Alarm relay</li> <li>- Motor current limit</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from the mains</li> <li>- Over-temperature protected electronics / motor</li> <li>- Line undervoltage detection</li> </ul>
<b>EMC interference immunity</b>	Acc. to EN 61000-6-2 (industrial environment)
<b>EMC harmonics</b>	Acc. to EN 61000-3-2/3
<b>EMC interference emission</b>	Acc. to EN 61000-6-3 (household environment)
<b>Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)</b>	<= 3.5 mA
<b>Motor protection</b>	Thermal overload protector (TOP) wired internally
<b>Cable exit</b>	Variable
<b>Protection class</b>	I (if protective earth is connected by customer)
<b>Product conforming to standard</b>	EN 61800-5-1
<b>Approval</b>	CCC; CSA C22.2 Nr.77; EAC; UL 2111

A3G450-AC28-51

# EC axial fan - HyBlade®

sickled blades (S series)

## Product drawing



1	Direction of air flow "V"
2	Depth of screw 8 - 10 mm
3	Connection line PVC AWG18, 5x crimped core-end sleeves
4	Connection line PVC AWG22, 3x crimped core-end sleeves

A3G450-AC28-51

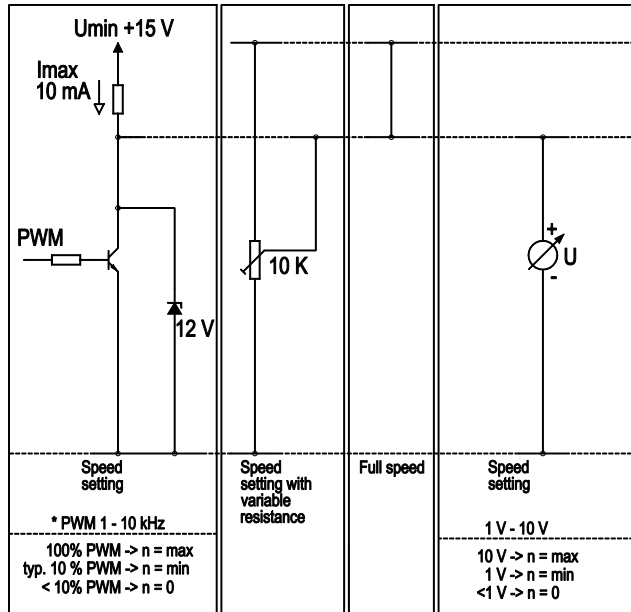
# EC axial fan - HyBlade®

sickled blades (S series)

## Connection screen

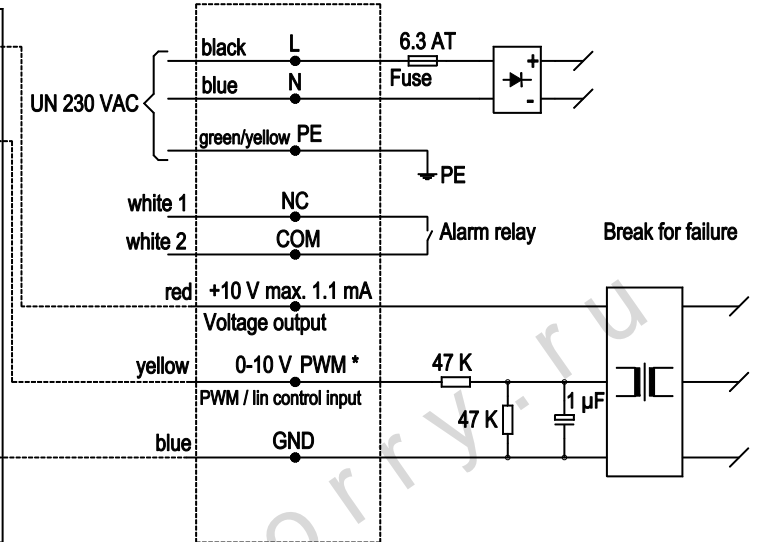
### Customer circuit

Notes on various control possibilities and their applications



### Connection

### Fan / motor

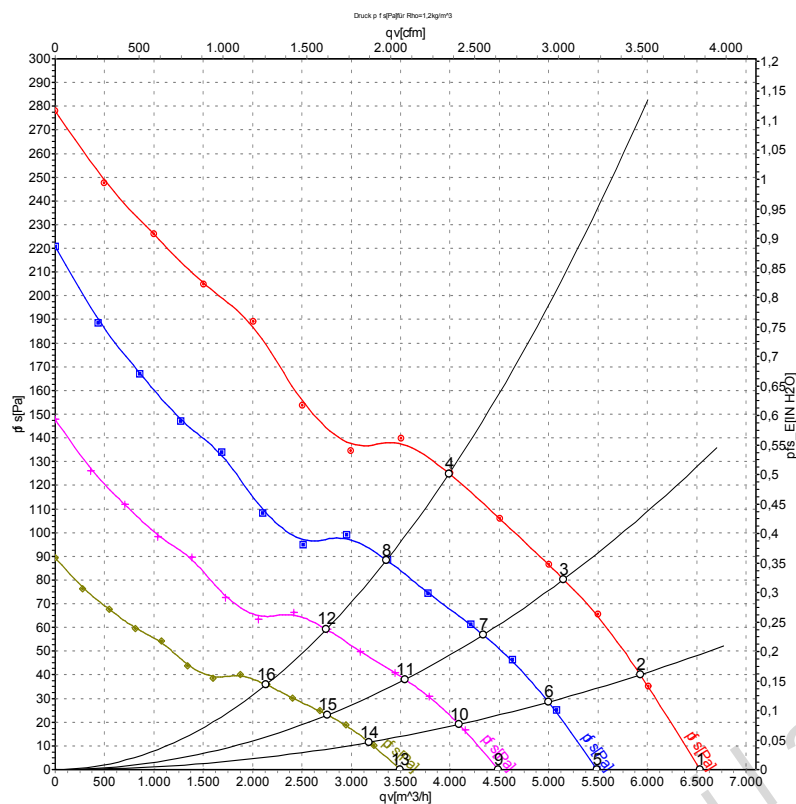


A3G450-AC28-51

EC axial fan - HyBlade®

sickled blades (S series)

Charts: Air flow 50 Hz



Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P <sub>ed</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	qv	p <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa
1	230	50	1300	270	1.72	65	71	72	6535	0
2	230	50	1300	298	1.91	62	68	69	5925	40
3	230	50	1300	326	2.07	60	65	67	5150	80
4	230	50	1300	345	2.20	61	67	68	3990	125
5	230	50	1100	160	1.02	61	67	68	5490	0
6	230	50	1100	179	1.15	58	64	65	4995	29
7	230	50	1100	194	1.23	56	62	63	4335	57
8	230	50	1100	205	1.30	57	63	64	3360	89
9	230	50	900	87	0.56	57	63	64	4490	0
10	230	50	900	98	0.63	54	60	61	4090	19
11	230	50	900	106	0.68	52	57	59	3545	38
12	230	50	900	112	0.71	53	59	60	2745	60
13	230	50	700	41	0.26	51	57	58	3490	0
14	230	50	700	46	0.30	48	55	56	3180	12
15	230	50	700	50	0.32	46	52	53	2760	23
16	230	50	700	53	0.34	47	54	54	2135	36

U = Supply voltage · f = Frequency · n = Speed · P<sub>ed</sub> = Power input · I = Current draw · LpA<sub>in</sub> = Sound pressure level inlet side · LwA<sub>in</sub> = Sound power level inlet side · LwA<sub>out</sub> = Sound power level outlet side  
 qv = Air flow · p<sub>fs</sub> = Pressure increase

