

# EC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

## ASIA PACIFIC SHENGRUI LIMITED

Phone +00852 56261528

info@apacfan.com

www.apacfan.com

### Nominal data

Type	W3G800-KV05-03	
Motor	M3G150-NA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min <sup>-1</sup>	1150
Power consumption	W	3400
Current draw	A	5.2
Max. back pressure	Pa	330
Max. back pressure	in. wg	1.32
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

		Actual	Req. 2015		
01 Overall efficiency $\eta_{es}$	%	51.1	36.8	09 Power consumption $P_{ed}$	kW 3.13
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h 20545
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa 267
04 Efficiency grade N		54.3	40	10 Speed (rpm) n	min <sup>-1</sup> 1160
05 Variable speed drive		Yes		11 Specific ratio*	1.00

Data obtained at optimum efficiency level.  
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-187999



# EC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

## Technical description

<b>Weight</b>	51.5 kg
<b>Size</b>	800 mm
<b>Motor size</b>	150
<b>Rotor surface</b>	Painted black
<b>Electronics housing material</b>	Die-cast aluminum, painted gray
<b>Impeller material</b>	PP plastic
<b>Fan housing material</b>	Sheet steel, galvanized and coated with black plastic (RAL 9005)
<b>Guard grille material</b>	Steel, coated with black plastic (RAL 9005)
<b>Number of blades</b>	5
<b>Blade pitch</b>	0°
<b>Airflow direction</b>	V
<b>Direction of rotation</b>	Clockwise, viewed toward rotor
<b>Degree of protection</b>	IP55
<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>Technical features</b>	<ul style="list-style-type: none"> <li>- Operation and alarm display with LED</li> <li>- External 15-50 VDC input (parameterization)</li> <li>- Alarm relay</li> <li>- Integrated PI controller</li> <li>- Configurable inputs/outputs (I/O)</li> <li>- MODBUS V6.0</li> <li>- Motor current limitation</li> <li>- RFID - ISO 15693 compatible</li> <li>- RS-485 MODBUS-RTU</li> <li>- Soft start</li> <li>- Voltage output 3.3-24 VDC, Pmax = 800 mW</li> <li>- Control interface with SELV potential safely disconnected from the mains</li> <li>- Thermal overload protection for electronics/motor</li> <li>- Line undervoltage / phase failure detection</li> </ul>
<b>EMC immunity to interference</b>	According to EN 61000-6-2 (industrial environment)
<b>EMC interference emission</b>	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
<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>	Reverse polarity and locked-rotor protection

W3G800-KV05-03

## EC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

<b>Protection class</b>	I (with customer connection of protective earth)
<b>Conformity with standards</b>	EN 61800-5-1; CE
<b>Approval</b>	UL 1004-7 + 60730-1; CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC

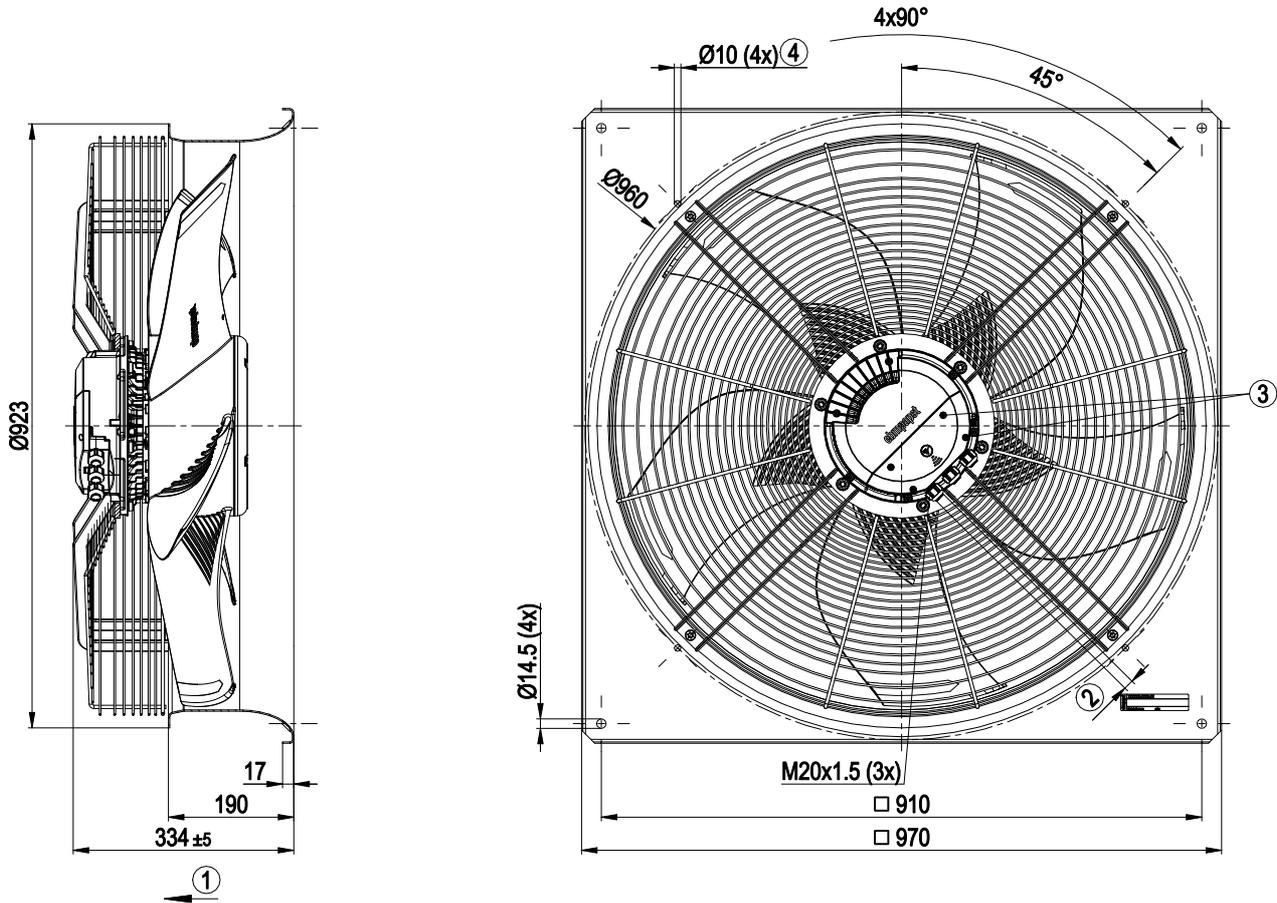


# EC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

## Product drawing



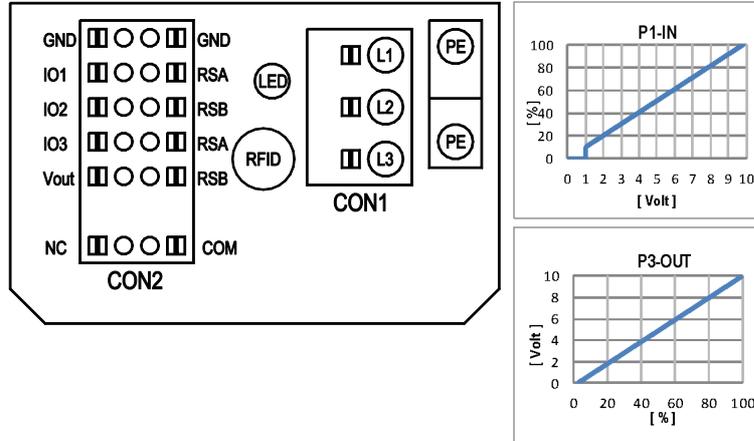
1	Airflow direction "V"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque $2 \pm 0.3$ Nm
3	Tightening torque $1.5 \pm 0.2$ Nm
4	Mounting holes for FlowGrid

# EC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

## Connection diagram



No.	Conn.	Designation	Function/assignment
	CON1	L1, L2, L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see "Optional interface functions" table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function: Triggering of error reset on change of state from "enabled" to "disabled"
	CON2	IO2	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog input 0-10 V / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog output 0-10 V, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve



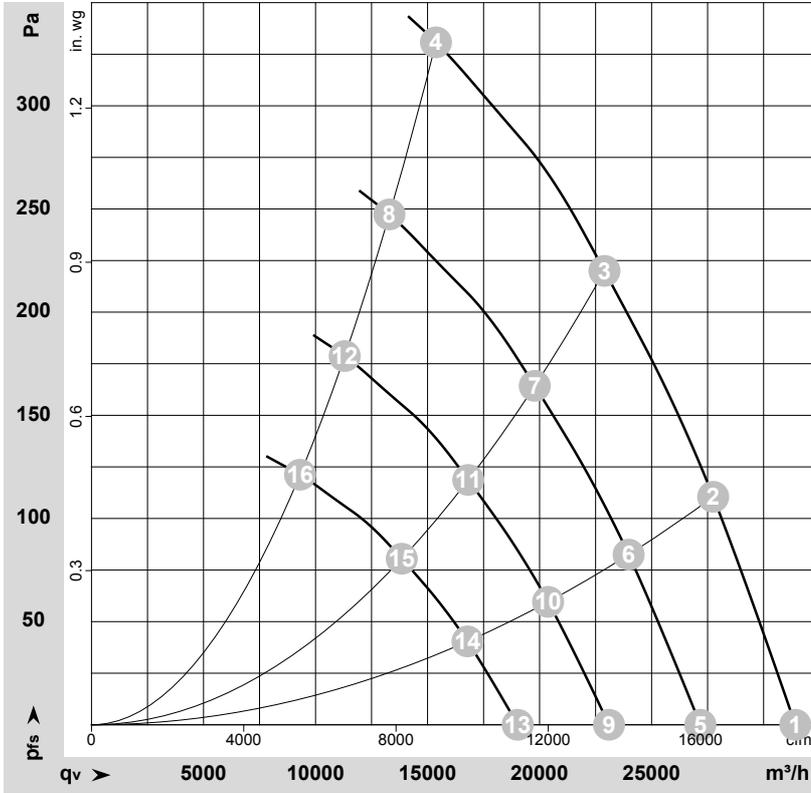


# EC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

## Curves: Air performance 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-187999-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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 <sub>ed</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	q <sub>v</sub>	p <sub>fs</sub>	q <sub>v</sub>	p <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	cfm	in. wg
1	3~	400	50	1150	2075	3.25	73	81	83	31415	0	18490	0.00
2	3~	400	50	1150	2537	3.93	71	78	81	27750	110	16330	0.44
3	3~	400	50	1150	2947	4.53	74	81	81	22895	220	13475	0.88
4	3~	400	50	1150	3400	5.20	86	94	95	15375	330	9050	1.32
5	3~	400	50	1000	1343	2.10	70	77	80	27175	0	15995	0.00
6	3~	400	50	1000	1637	2.53	68	75	77	23975	83	14110	0.33
7	3~	400	50	1000	1902	2.92	70	77	78	19785	164	11645	0.66
8	3~	400	50	1000	2201	3.37	83	90	91	13295	248	7825	1.00
9	3~	400	50	850	825	1.29	66	73	75	23100	0	13595	0.00
10	3~	400	50	850	1005	1.56	64	71	73	20380	60	11995	0.24
11	3~	400	50	850	1168	1.80	66	73	74	16815	119	9900	0.48
12	3~	400	50	850	1352	2.07	78	86	87	11300	179	6650	0.72
13	3~	400	50	700	461	0.72	61	68	71	19025	0	11195	0.00
14	3~	400	50	700	561	0.87	59	66	68	16785	41	9880	0.16
15	3~	400	50	700	652	1.00	61	68	69	13850	81	8150	0.33
16	3~	400	50	700	755	1.16	74	81	82	9310	121	5480	0.49

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
 LwA<sub>out</sub> = Sound power level outlet side · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

