

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	W3G910-KV12-03	
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 ⁻¹	1050
Power consumption	W	3200
Current draw	A	4.9
Max. back pressure	Pa	260
Max. back pressure	in. wg	1.04
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

Data according to Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	53	36.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		56.4	40
05 Variable speed drive		Yes	

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

09 Power consumption P_{ed}	kW	2.9
09 Air flow q_v	m ³ /h	25680
09 Pressure increase p_{fs}	Pa	205
10 Speed (rpm) n	min ⁻¹	1050
11 Specific ratio*		1.00

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

LU-187254



EC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

Technical description

Weight	58.5 kg
Size	910 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted gray
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
Blade pitch	0°
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
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 mounting	Ball bearing
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6.0 - Motor current limitation - RFID - ISO 15693 compatible - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730

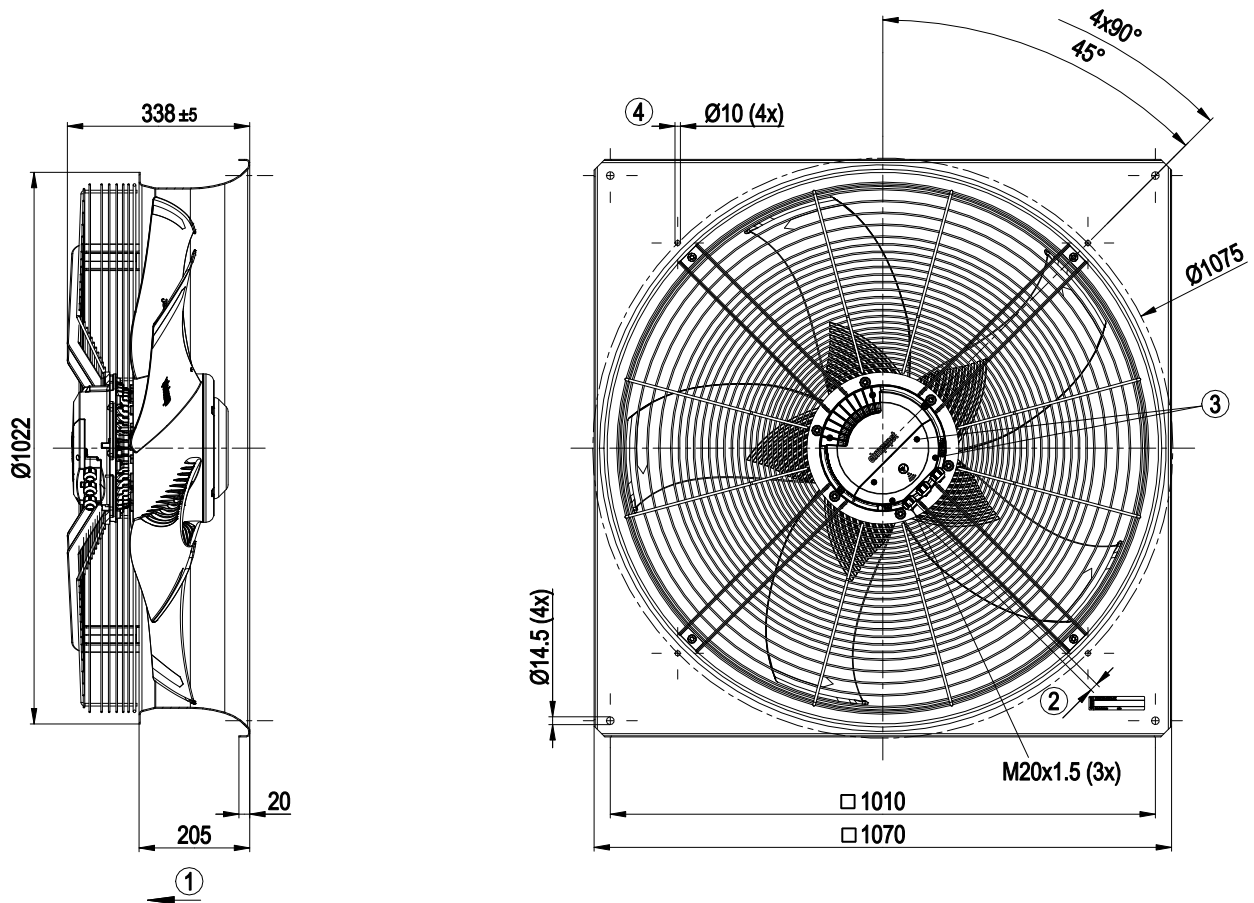


EC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

Product drawing



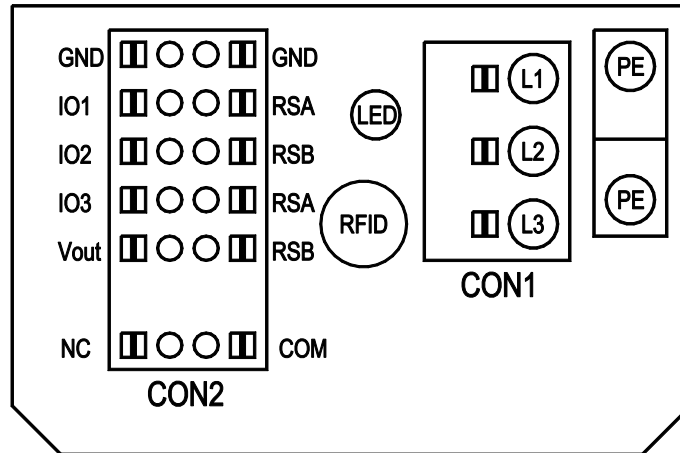
1	Airflow direction "V"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 2 ± 0.3 Nm
3	Tightening torque 1.5 ± 0.2 Nm
4	Mounting holes for FlowGrid

EC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

Connection diagram



No.	Conn.	Designation	Function/assignment
CON1	-	L1, L2, L3	Supply connection, power supply, protection class 1
PE	-	PE	Ground connection, PE connection
CON2	-	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
CON2	-	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
CON2	-	GND	GND reference ground for control interface, SELV
CON2	-	IO1	IN2: Digital input - positive logic (factory setting: Enable) function parameterizable, SELV - normal: Pin open or applied voltage < 1.5 VDC - inverse: applied voltage 3.5-50 VDC
CON2	-	IO2	IN1: Analog input 0-10 V 0-10 V, Ri=100 K, parameterizable as set value or measured value (factory setting: set value) characteristic curve parameterizable, SELV
CON2	-	IO3	OUT1: Analog output 0-10 V 0-10 V, max 5 mA, function parameterizable (factory setting: modulation level) max output frequency 300 Hz, SELV
CON2	-	V out	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, nominal voltage 250 VAC; max 2 A (AC1): min 10 mA; Reinforced insulation in accordance with EN60335-1, EN61800-5-1, UL60730-1
CON2	-	NC	Status relay, floating status contact, break for failure

EC axial fan - AxiBlade

sickle-shaped blades (S series)

with square full nozzle

Terminal/plug assignment

○ configurable option																	
For further information and additional functions see EC Control Software, Fan-Set-App, or MODBUS Parameter Specification V6.0																	
Factory setting:																	
Din1 (high aktiv)																	
Ain2 0-10V/PWM																	
Aout3 0-10V																	
RS485 Busschnittstelle																	
configurable IO functions: normal / inverse																	
MODBUS Register for IO mode configuration																	
CON2	configurable IO mode	electrical specification	D158 [0]														
IO1		active: applied voltage 3.5-50VDC, SELV															
		RI=100K, characteristic curve parameterizable, f _{PWM} =1k..10KHz SEL V															
		Umax=50VDC, lmax=20mA SELV															
		Umax=50VDC, lmax=20mA SELV															
IO2		not active: pin open or applied voltage < 1.5VDC															
		active: applied voltage 3.5-50VDC, SELV															
		RI=100K, characteristic curve parameterizable, f _{PWM} =1k..10KHz, SELV															
		RI=125R, characteristic curve parameterizable, SELV															
IO3		not active: pin open or applied voltage < 1.5VDC															
		active: applied voltage 3.5-50VDC, SELV															
		active: pin open or applied voltage 3.5-50VDC															
		not active: applied voltage < 1.5VDC, SEL V															
		40Hz - 10kHz, characteristics parameterizable															
		not active: pin open or applied voltage 3.5-50VDC															
		active: applied voltage < 1.5VDC, SELV	○														
		function parameterizable, max. 5mA, max output frequency 300Hz, SELV															
		0-10V max. 5mA, max output frequency 300Hz SELV															
		0-10V max. 5mA, max output frequency 300Hz SELV															
		MODBUS RTU, specification V6.0, SELV	○														
Vout																	
		alternatively: input auxiliary power supply for parameterization via RS485/MODBUS RTU without line															

○ configurable option

For further information and additional functions see EC Control Software, Fan-Set-App, or MODBUS Parameter Specification V6.0

Factory setting:

Din1 (high aktiv)	switch: fan enable / disable
Ain2 0-10V/PWM	source: set value
Aout3 0-10V	signal: fan modulation level %
RS485 Busschnittstelle	switch: parameter set: #1 / #2; switch: control function: heating (pos.) / cooling

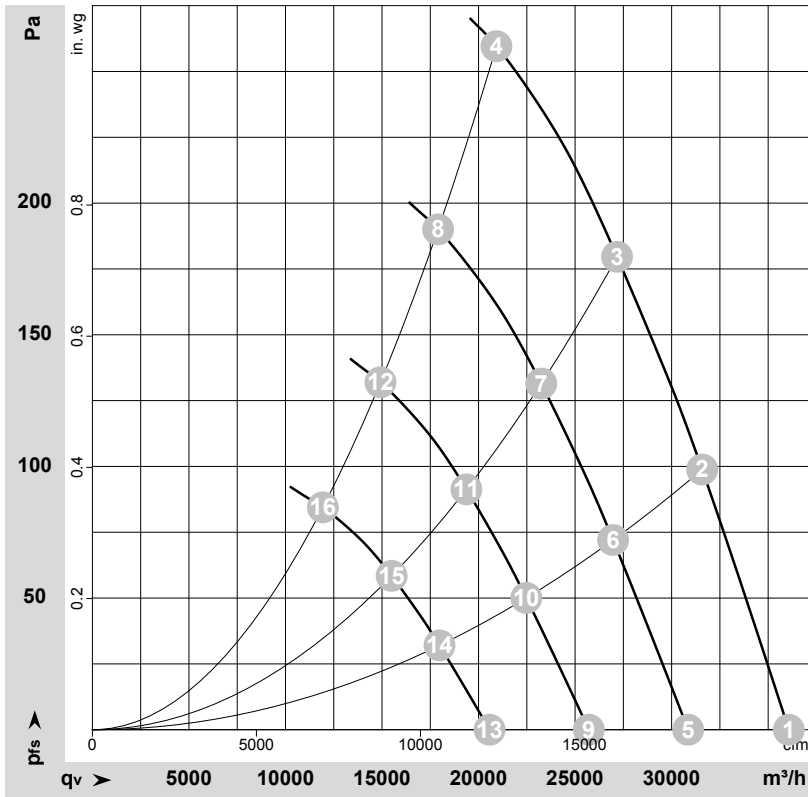


EC axial fan - AxiBlade

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-187254-1

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 _{ed}	I	LpA _{in}	LwA _{in}	LwA _{out}	q _v	p _{fs}	q _v	p _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m³/h	Pa	cfm	in. wg
1	3~	400	50	1050	1897	2.98	73	81	82	36070	0	21230	0.00
2	3~	400	50	1050	2436	3.77	71	78	79	31580	100	18590	0.40
3	3~	400	50	1050	2791	4.30	72	79	80	27175	180	15995	0.72
4	3~	400	50	1050	3200	4.90	78	84	85	20925	260	12315	1.04
5	3~	400	50	900	1187	1.86	69	77	78	30855	0	18160	0.00
6	3~	400	50	900	1511	2.34	67	74	75	26965	74	15870	0.30
7	3~	400	50	900	1747	2.69	68	75	76	23245	131	13680	0.53
8	3~	400	50	900	2009	3.08	74	80	81	17905	191	10540	0.77
9	3~	400	50	750	687	1.08	65	72	73	25715	0	15135	0.00
10	3~	400	50	750	874	1.35	62	69	70	22475	51	13225	0.20
11	3~	400	50	750	1011	1.56	64	71	71	19370	91	11400	0.37
12	3~	400	50	750	1162	1.78	69	76	76	14920	132	8780	0.53
13	3~	400	50	600	352	0.55	59	67	67	20570	0	12110	0.00
14	3~	400	50	600	448	0.69	56	63	65	17980	33	10580	0.13
15	3~	400	50	600	518	0.80	58	65	66	15500	58	9120	0.23
16	3~	400	50	600	595	0.91	63	70	71	11935	85	7025	0.34

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_v = Air flow · p_{fs} = Pressure increase

