

EC axial fan - HyBlade

sickle-shaped blades (S series)
with square full nozzle with AxiTop diffuser

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Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	W3G800-HG95-01	
Motor	M3G112-IA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min ⁻¹	770
Power consumption	W	900
Current draw	A	1.5
Max. back pressure	Pa	120
Max. back pressure	in. wg	0.48
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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	50.3	33.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		57.2	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	0.81
09 Air flow q_v	m ³ /h	13000
09 Pressure increase p_{fs}	Pa	104
10 Speed (rpm) n	min ⁻¹	770
11 Specific ratio*		1.00

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

LU-165841



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Technical description

Weight	38.5 kg
Size	800 mm
Motor size	112
Rotor surface	Painted black
Terminal box material	PP plastic
Electronics housing material	Die-cast aluminum, painted black
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Support ring material	Steel, coated with black plastic (RAL 9005)
Fan housing material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Outer diffuser material	PP plastic
Internal diffuser material including cover	PP plastic
Number of blades	5
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 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.
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	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)



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Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1
Comment	Conformity with standard EN 60335-1 on request

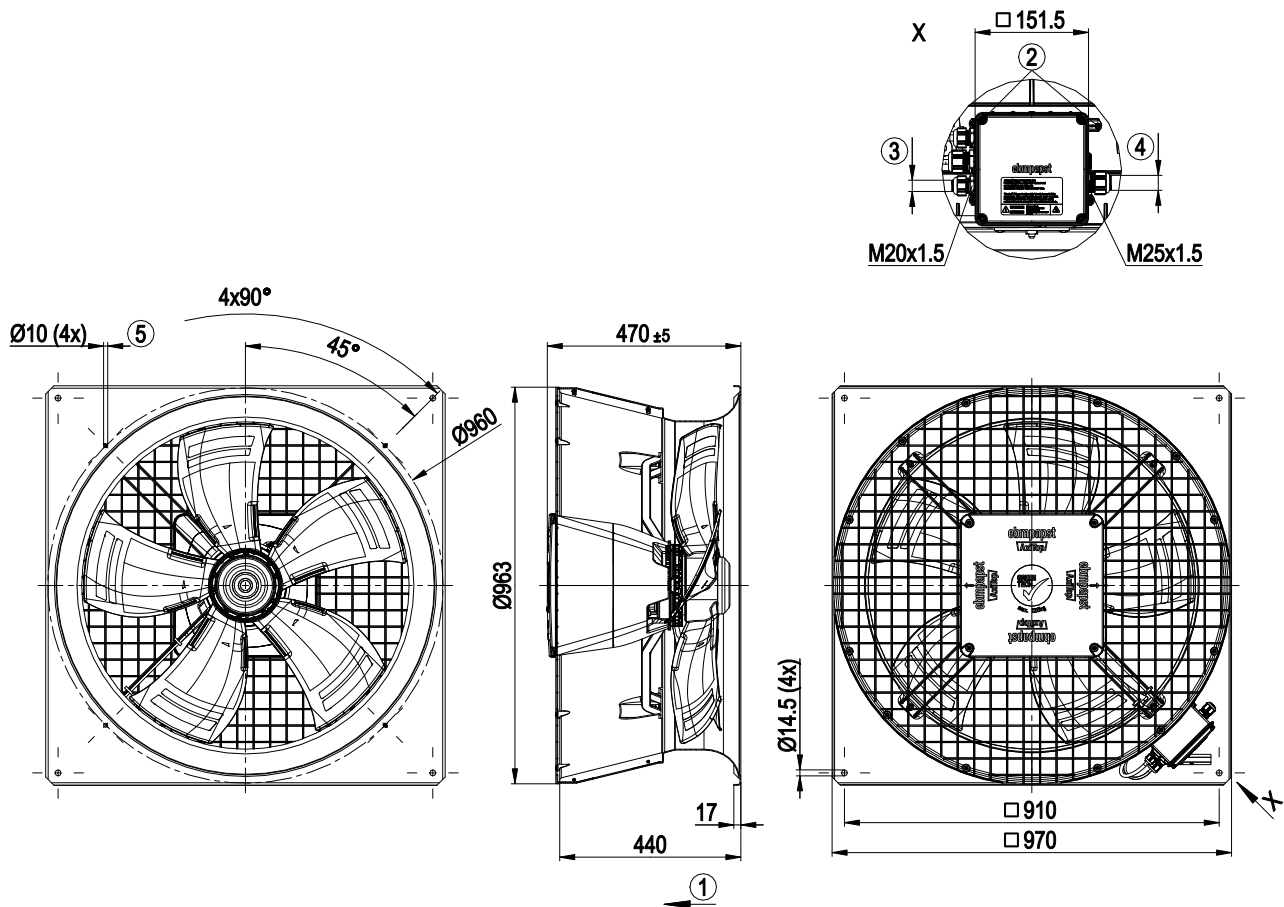


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Product drawing



1	Airflow direction "V"
2	Tightening torque 1.8 ± 0.3 Nm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 2.5 ± 0.4 Nm
4	Cable diameter min. 9 mm, max. 16 mm, tightening torque 2.5 ± 0.4 Nm
5	Attachment holes for FlowGrid (80000-2-2957 not included in scope of delivery)



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Connection diagram

0-10V	+10 V	RSB	RSA	GND			NC	COM
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KL 2

L1	L2	L3	PE
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KL 1

No.	Conn.	Designation	Color	Function/assignment
KL1		L1	black 1	Power supply, phase, see nameplate for voltage range
KL1		L2	black 2	Power supply, phase, see nameplate for voltage range
KL1		L3	black	Power supply, phase, see nameplate for voltage range
KL1		PE	green/yellow	Protective earth
KL2		0-10 V	yellow	Control input / current sensor value input 0-10 VDC, impedance 100 kΩ; SELV
KL2		+10 V	red	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer); SELV
KL2		RSB	brown	RS-485 interface for MODBUS, RSB; SELV
KL2		RSA	white	RS-485 interface for MODBUS, RSA; SELV
KL2		GND	blue	Reference ground for control interface, SELV
KL2				not used
KL2				not used
KL2		NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side
KL2		COM	white 2	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side

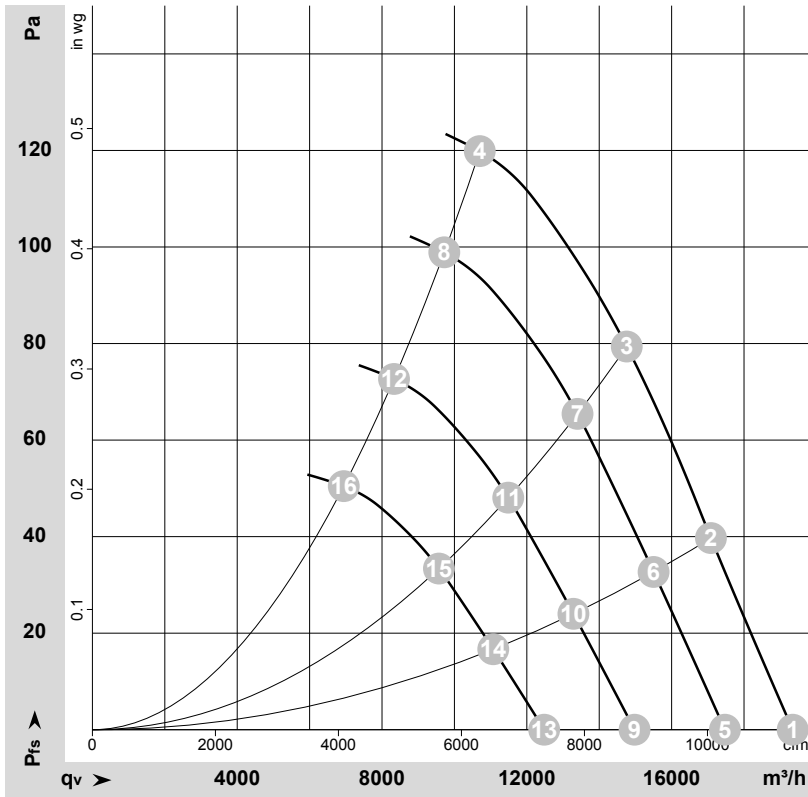


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Curves: Air performance 50 Hz



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

Measurement: LU-157406-1

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 _{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)	m ³ /h	Pa	cfm	in. wg
1	400	50	770	514	0.88	64	71	72	19345	0	11385	0.00
2	400	50	770	641	1.07	60	68	68	17085	40	10055	0.16
3	400	50	770	752	1.24	59	66	67	14760	80	8685	0.32
4	400	50	770	900	1.50	67	74	75	10700	120	6300	0.48
5	400	50	700	379	0.65	61	69	69	17470	0	10285	0.00
6	400	50	700	480	0.80	58	65	66	15500	33	9125	0.13
7	400	50	700	563	0.93	56	64	65	13400	66	7890	0.26
8	400	50	700	647	1.06	64	72	73	9720	99	5720	0.40
9	400	50	600	239	0.41	58	65	65	14975	0	8815	0.00
10	400	50	600	302	0.51	54	61	62	13285	24	7820	0.10
11	400	50	600	355	0.58	53	60	61	11485	48	6760	0.19
12	400	50	600	407	0.67	61	68	69	8330	73	4905	0.29
13	400	50	500	138	0.24	53	60	61	12480	0	7345	0.00
14	400	50	500	175	0.29	50	57	57	11075	17	6515	0.07
15	400	50	500	205	0.34	48	55	56	9570	34	5635	0.14
16	400	50	500	236	0.39	56	64	64	6945	50	4085	0.20

U = Voltage · 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

