EC axial fan - AxiCool

sickle-shaped blades (S series)

W3G800-NH94-57 ebmpapst Datasheet
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Nominal data

Type	**W3G800-NH94-57**	
Motor	**M3G112-IA**	
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}	750
Power consumption	W	700
Current draw	A	1.1
Max. back pressure	Pa	110
Max. back pressure	in. wg	0.44
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	40

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 η_{es}	%	55.8	32.7
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		63.1	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.69
09 Air flow q_v	m^3/h	12560
09 Pressure increase p_{fs}	Pa	101
10 Speed (rpm) n	min^{-1}	760
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_{fs} / 100 000 Pa

LU-182364

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Technical description

Weight	34 kg
Fan size	800 mm
Rotor surface	Painted black
Terminal box material	PP plastic
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PP plastic
Fan housing material	PP plastic
Material guide vanes	PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
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	If there is a risk of ice formation, the fan is only to be operated with a heating tape in the fan housing. Further information can be obtained from ebm-papst. As fan only suitable for use with industrial evaporators
Max. permitted ambient temp. for motor (transport/storage)	+70 °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 with low-temperature lubricant
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)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Via 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	C22.2 No.77 + CAN/CSA-E60730-1; UL 1004-7 + 60730; EAC

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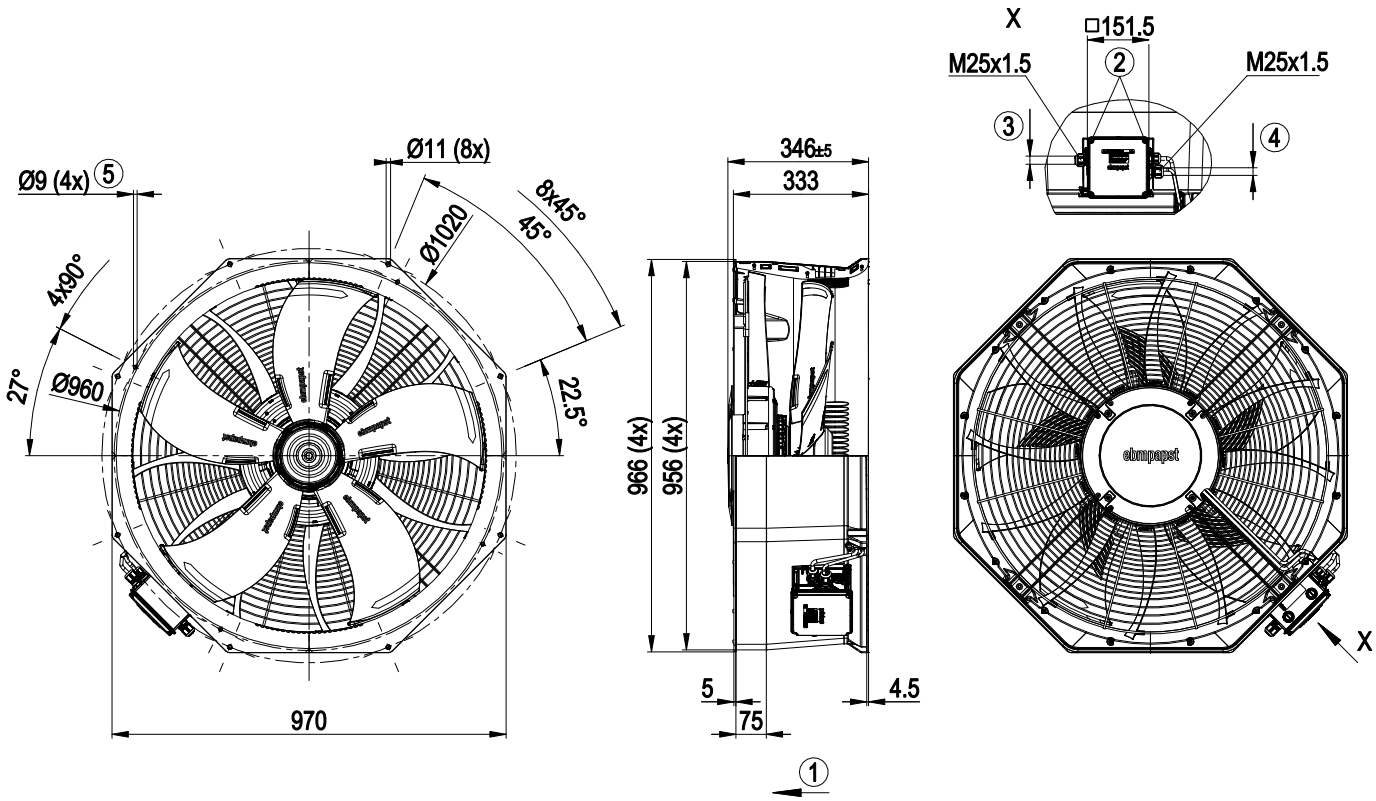
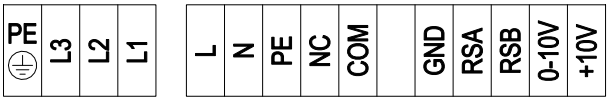
Product drawing



1	Airflow direction "V"
2	Tightening torque 1.8±0.3 Nm
3	Cable diameter min. 9 mm, max. 16 mm, tightening torque 2.5±0.4 Nm
4	Cable gland with seal 2x dia. 8 mm, cable diameter min. 6.9 mm, max. 7.9 mm, tightening torque 2.5±0.4 Nm
5	Mounting holes for FlowGrid

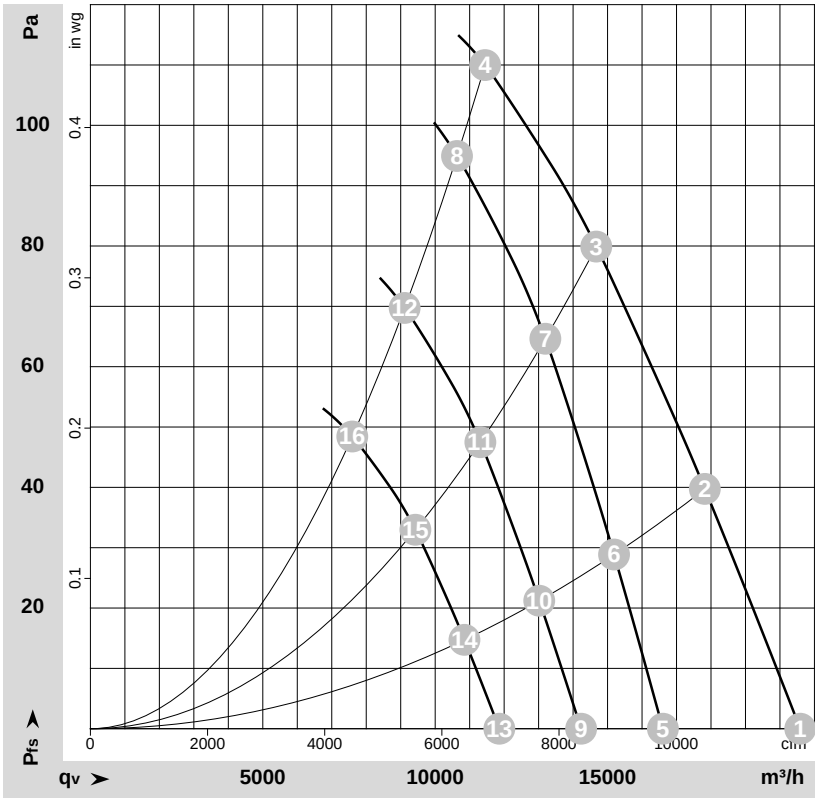
Connection diagram



KL 1 KL 2

No.	Conn.	Designation	Function/assignment
KL1		PE	Protective earth
KL1		L3	Supply connection, power supply 3-phase 380-480 VAC; 50/60 Hz
KL1		L2	Supply connection, power supply 3-phase 380-480 VAC; 50/60 Hz
KL1		L1	Supply connection, power supply 3-phase 380-480 VAC; 50/60 Hz
KL2		NC	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	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		GND	Reference ground for control interface; SELV
KL2		RSA	RS485 interface for MODBUS, RSA; SELV
KL2		RSB	RS485 interface for MODBUS, RSB; SELV
KL2		0-10 V	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
KL2		+ 10 V	Fixed voltage output 10 VDC, SELV, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply

Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-182364-1

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	870	700	1.10	66	73	73	20590	0	12120	0.00
2	400	50	820	700	1.10	64	71	70	17820	40	10490	0.16
3	400	50	780	700	1.10	62	70	69	14670	80	8635	0.32
4	400	50	750	700	1.10	68	75	76	11445	110	6735	0.44
5	400	50	700	366	0.58	60	68	68	16605	0	9775	0.00
6	400	50	700	432	0.68	60	67	66	15190	29	8940	0.12
7	400	50	700	506	0.80	60	67	67	13195	65	7765	0.26
8	400	50	700	554	0.87	66	73	74	10635	95	6260	0.38
9	400	50	600	231	0.36	57	64	64	14235	0	8375	0.00
10	400	50	600	272	0.43	56	63	62	13020	21	7660	0.08
11	400	50	600	319	0.50	56	63	63	11310	48	6655	0.19
12	400	50	600	349	0.55	62	70	70	9115	70	5365	0.28
13	400	50	500	133	0.21	52	59	59	11860	0	6980	0.00
14	400	50	500	157	0.25	51	58	58	10850	15	6385	0.06
15	400	50	500	185	0.29	51	59	58	9425	33	5545	0.13
16	400	50	500	202	0.32	58	65	65	7595	48	4470	0.19

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