W3G800-GA77-51

EC axial fan - HyBlade

sickled blades (S series)

with full square nozzle

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Nominal data

Type	**W3G800-GA77-51**
Motor	**M3G112-EA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	520
Power input	W	275
Current draw	A	0.49
Max. back pressure	Pa	55
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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	49.1	29.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		59.2	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.25
09 Air flow q_v	m^3/h	8475
09 Pressure increase p_{fs}	Pa	47
10 Speed (rpm) n	min^{-1}	520
11 Specific ratio*		1.00

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

* Specific ratio = 1 + p_{fs} / 100 000 Pa

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Technical features

Mass	25.6 kg
Size	800 mm
Surface of rotor	Coated in black
Material of terminal box	PP plastic
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Material of wall ring	Sheet steel, pre-galvanised and coated in black plastic (RAL 9005)
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	H2
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (programming) - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Temperature derating - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	EAC; UL 1004-7 + 60730; C22.2 Nr.77 + CAN/CSA-E60730-1
Remark	Standard conformity as per EN 60335-1 in preparation

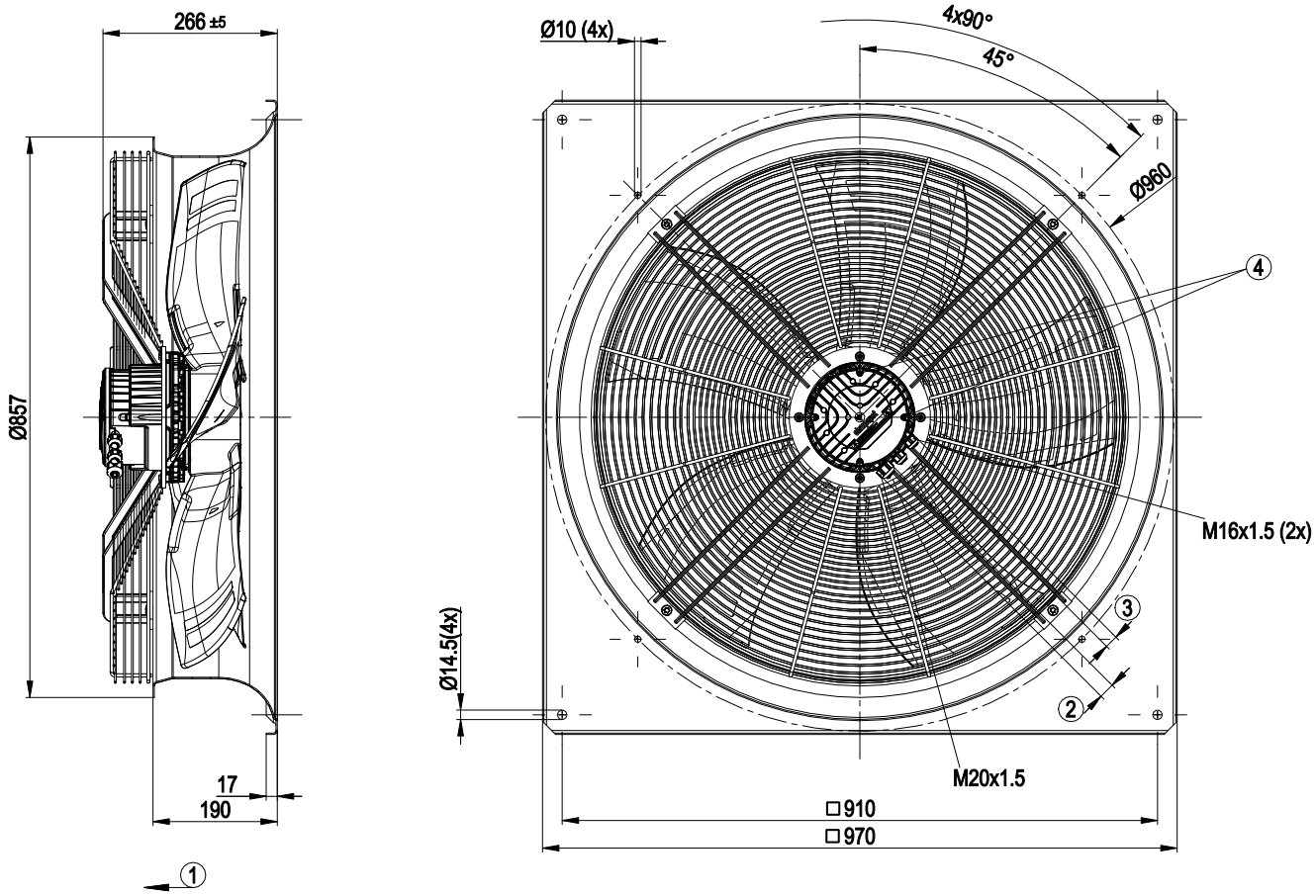
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Product drawing



1	Direction of air flow "V"
2	Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5±0.4 Nm
3	Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5±0,4 Nm Cable diameter min. 4 mm, max. 7 mm, tightening torque 2.5±0.4 Nm (use must be made of sealing ring provided)
4	Tightening torque 1.5±0.2 Nm

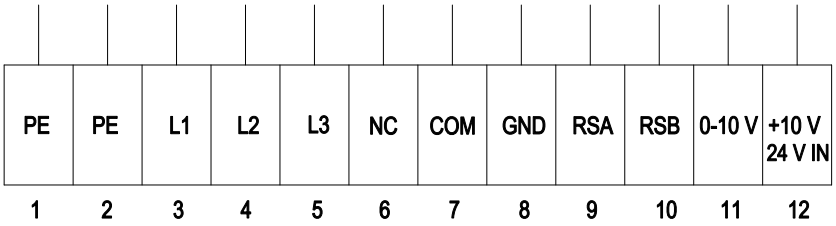
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Connection screen



No.	Conn.	Designation	Function / assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	L1	Power supply
	4	L2	Power supply
	5	L3	Power supply
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic insulation on control interface side
	7	COM	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic insulation on control interface side
	8	GND	Signal ground for control interface, SELV
	9	RSA	RS-485 interface for MODBUS, RSA; SELV
	10	RSB	RS-485 interface for MODBUS, RSB; SELV
	11	0-10 V	Analogue input (set value) SELV, 0-10 V, Ri=100kΩ, parametrisable curve
	12	+10 V	Fixed voltage output 10 VDC, SELV, +10 V +/-3%, max. 10 mA short-circuit-proof, power supply for ext. devices (e.g. potentiometer); Fixed voltage input 24 VDC for parameter setting via MODBUS without mains power supply

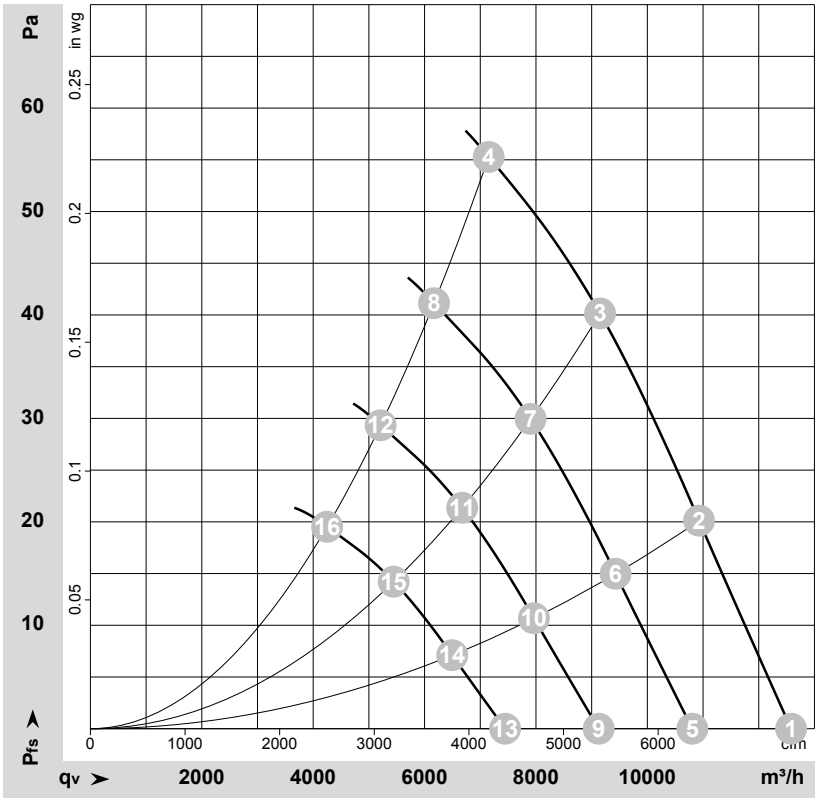
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-180191-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. 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_{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	inH2O
1	400	50	520	177	0.37	56	62	62	12580	0	7405	0.00
2	400	50	520	212	0.41	52	59	58	10930	20	6435	0.08
3	400	50	520	242	0.45	51	57	56	9150	40	5385	0.16
4	400	50	520	275	0.49	54	61	61	7150	55	4210	0.22
5	400	50	450	112	0.23	52	59	58	10810	0	6360	0.00
6	400	50	450	136	0.26	49	55	54	9430	15	5550	0.06
7	400	50	450	156	0.29	47	54	53	7905	30	4650	0.12
8	400	50	450	172	0.31	50	57	57	6170	41	3630	0.16
9	400	50	380	68	0.14	48	54	54	9125	0	5370	0.00
10	400	50	380	82	0.16	44	51	50	7965	11	4685	0.04
11	400	50	380	94	0.17	43	49	48	6675	21	3930	0.08
12	400	50	380	104	0.19	46	53	53	5210	29	3065	0.12
13	400	50	310	37	0.08	43	49	48	7445	0	4380	0.00
14	400	50	310	44	0.09	39	46	45	6495	7	3825	0.03
15	400	50	310	51	0.09	38	44	43	5445	14	3205	0.06
16	400	50	310	56	0.10	40	48	48	4250	20	2500	0.08

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side
q_V = Air flow · p_{fs} = Pressure increase

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