W3G400-XN12-W1

EC axial fan - AxiEco

with inlet ring and guard grill

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Nominal data

Type	**W3G400-XN12-W1**
Motor	**M3G084-GF**

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}	2400
Power consumption	W	1150
Current draw	A	1.8
Max. back pressure	Pa	500
Max. back pressure	in. wg	2.01
Min. ambient temperature	°C	-40
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}	%	51.9	33.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		58.1	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	1.03
09 Air flow q_v	m^3/h	5050
09 Pressure increase p_{fs}	Pa	365
10 Speed (rpm) n	min^{-1}	2400
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-212963

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Technical description

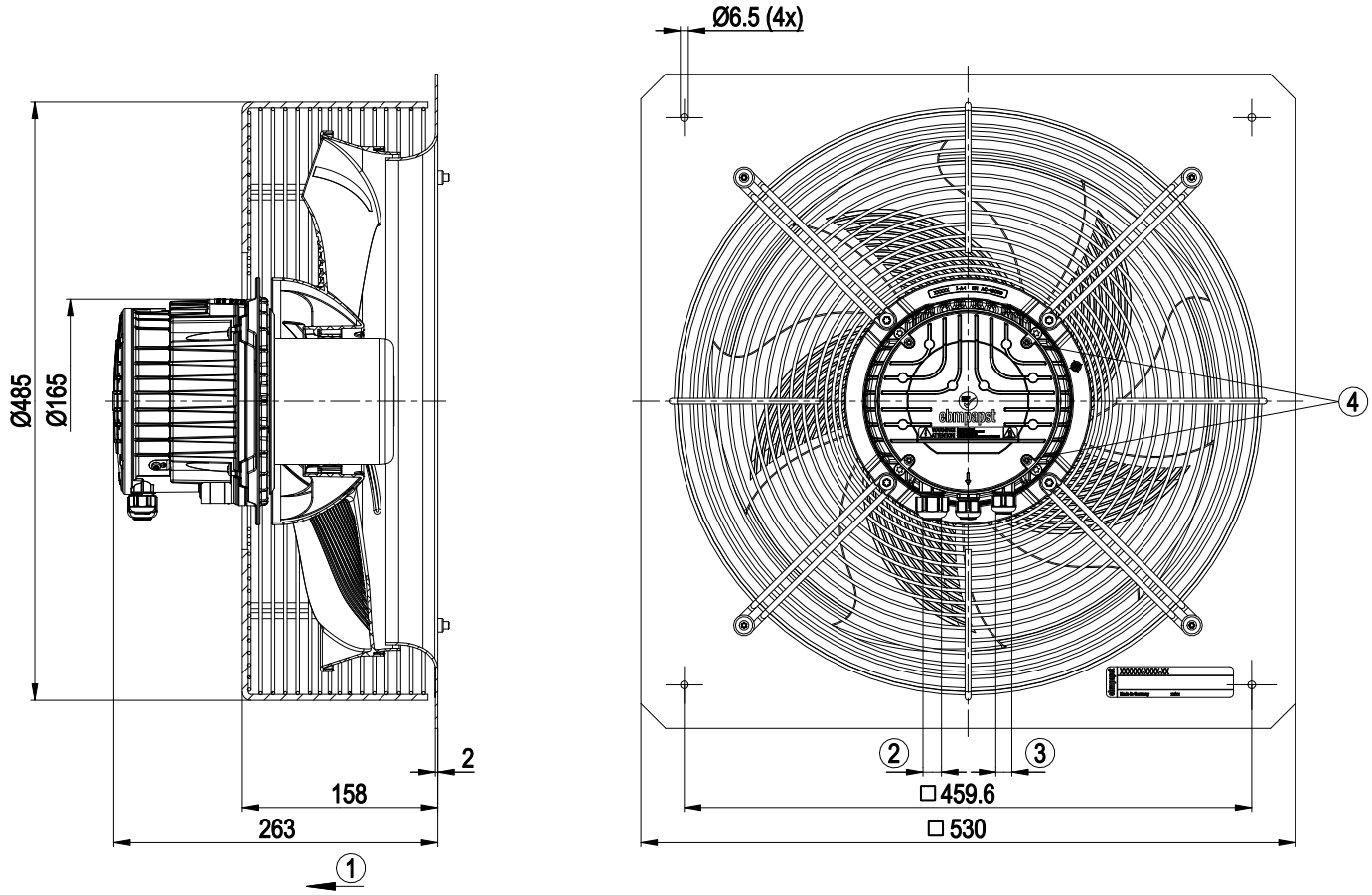
Size	400 mm
Motor size	84
Rotor surface	Painted black
Terminal box material	PP plastic
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PP plastic, galvanized sheet-metal plate
Inlet ring material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
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
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; EAC; UL 1004-7 + 60730-1

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Product drawing



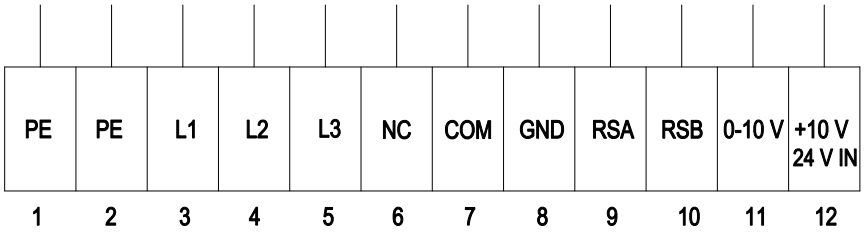
1	Airflow direction "V"
2	Cable diameter min. 8 mm, max. 12 mm, tightening torque 1.8±0.3 Nm (use must be made of seal provided) Cable diameter min. 4 mm, max. 10 mm, tightening torque 1.8±0.3 Nm
3	Cable diameter min. 6 mm, max. 10 mm, tightening torque 1.8±0.3 Nm (use must be made of seal provided) Cable diameter min. 4 mm, max. 7 mm, tightening torque 1.8±0.3 Nm
4	Tightening torque 1.5 ± 0.2 Nm

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Connection diagram



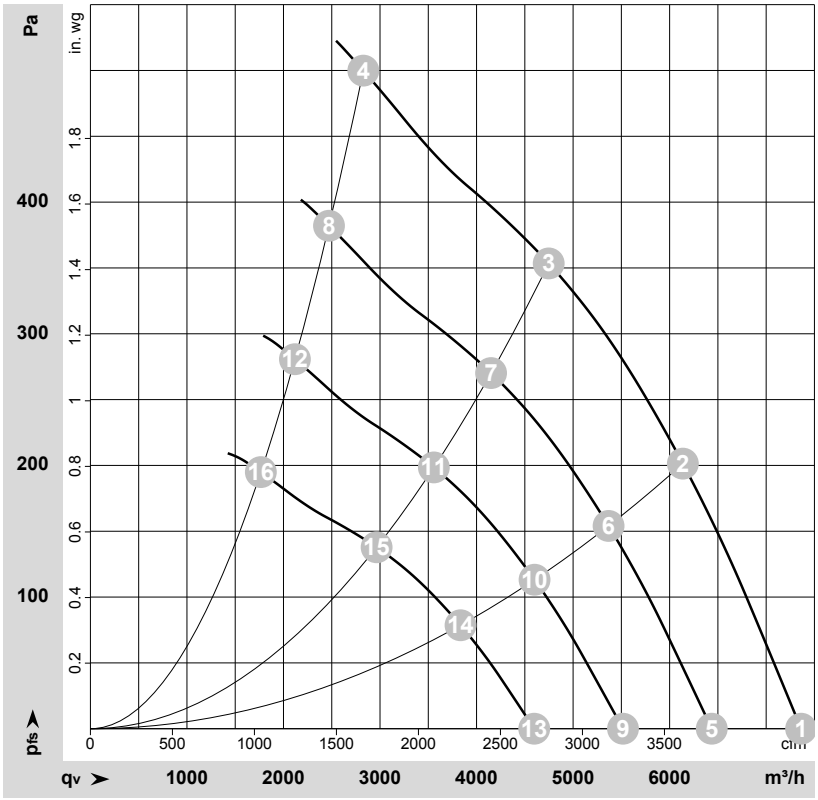
No.	Conn.	Designation	Function/assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	L1	Power supply
	4	L2	Power supply
	5	L3	Power supply
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic 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 supply side and basic insulation on control interface side
	8	GND	Reference ground for control interface, SELV
	9	RSA	RS485 interface for MODBUS, RSA; SELV
	10	RSB	RS485 interface for MODBUS, RSB; SELV
	11	0-10 V	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
	12	+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

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-211971-1

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)	m^3/h	Pa	cfm	in. wg
1	3~	400	50	2400	760	1.19	75	82	87	7360	0	4335	0.00
2	3~	400	50	2400	955	1.48	72	79	84	6135	200	3610	0.80
3	3~	400	50	2400	1063	1.64	71	78	84	4745	350	2795	1.41
4	3~	400	50	2400	1150	1.80	77	84	89	2825	500	1665	2.01
5	3~	400	50	2100	508	0.80	72	78	84	6435	0	3790	0.00
6	3~	400	50	2100	639	0.99	69	76	80	5370	155	3160	0.62
7	3~	400	50	2100	710	1.10	68	75	80	4150	271	2445	1.09
8	3~	400	50	2100	756	1.16	74	81	86	2470	382	1455	1.53
9	3~	400	50	1800	320	0.50	68	75	80	5515	0	3245	0.00
10	3~	400	50	1800	403	0.62	65	72	76	4600	114	2710	0.46
11	3~	400	50	1800	447	0.69	64	71	77	3560	199	2095	0.80
12	3~	400	50	1800	476	0.73	70	77	82	2120	281	1245	1.13
13	3~	400	50	1500	185	0.29	63	70	75	4595	0	2705	0.00
14	3~	400	50	1500	233	0.36	60	67	72	3835	79	2255	0.32
15	3~	400	50	1500	259	0.40	60	66	72	2965	138	1745	0.55
16	3~	400	50	1500	276	0.42	66	72	77	1765	195	1040	0.78

Wired = Wiring · 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

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