G3G250-MW50-01

EC centrifugal fan

backward-curved, single-intake

with housing (flange), Gas blower for condensing boilers



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Nominal data

Type	**G3G250-MW50-01**
Motor	**M3G112-EA**

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}	6100
Power consumption	W	2400
Current draw	A	4.0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50
Min. temp. of flow medium	°C	-25
Max. temp. of flow medium	°C	+50

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}	%	59.8	54.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		66.5	61
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	2.29
09 Air flow q_v	m^3/h	1165
09 Pressure increase p_{fs}	Pa	4000
10 Speed (rpm) n	min^{-1}	6495
11 Specific ratio*		1.04

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-130108

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Technical description

Weight	22.3 kg
Size	250 mm
Motor size	112
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Housing material	Die-cast aluminum
Spacer material	Aluminum
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Tach output - Alarm relay - Motor current limitation - PFC, passive - Soft start - Control input 0-10 VDC / PWM - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
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)
Approval	UL 1004-7 + 60730; EAC

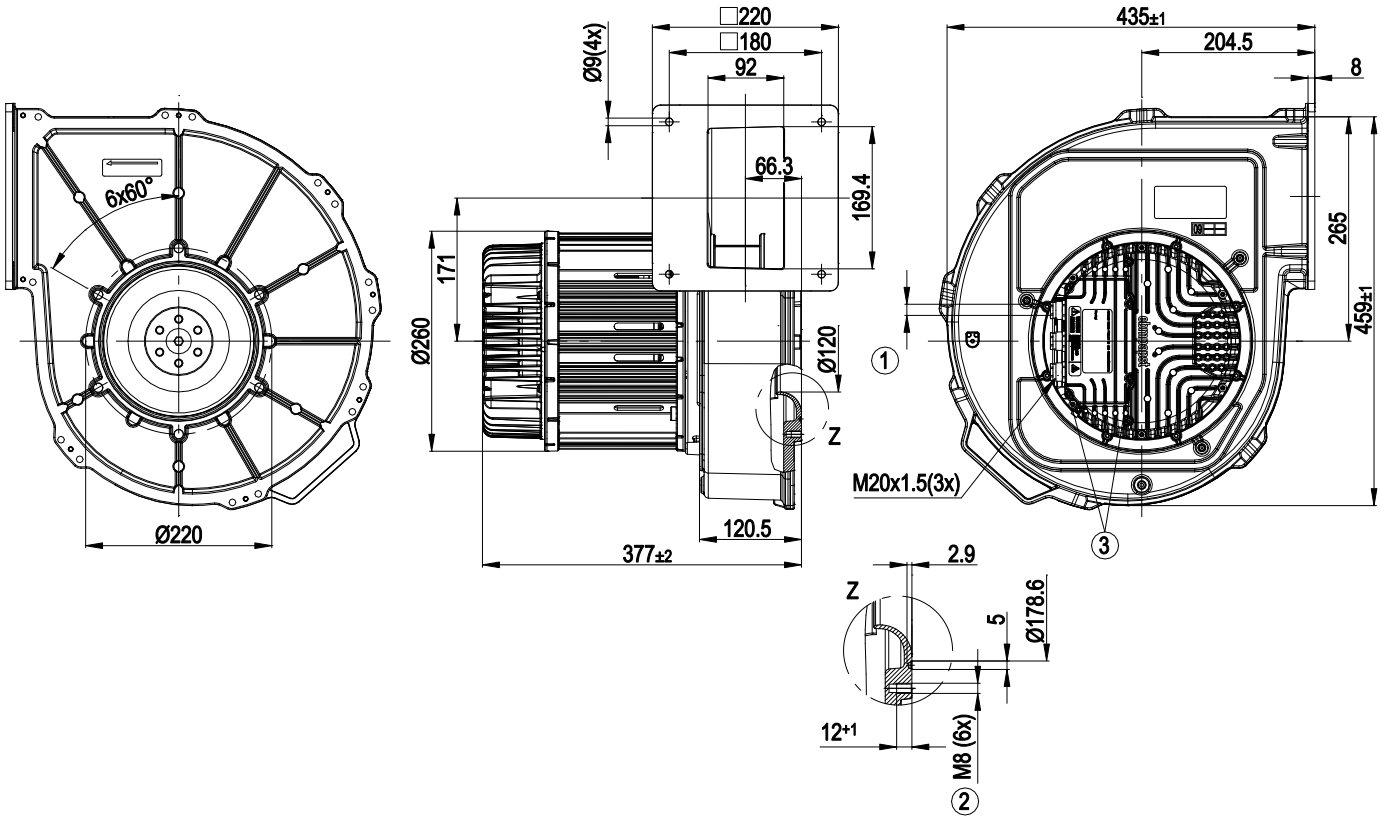
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Product drawing



1	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
2	Clearance for screw 10-12 mm, tightening torque 20 ± 3 Nm
3	Tightening torque 3.5 ± 0.5 Nm

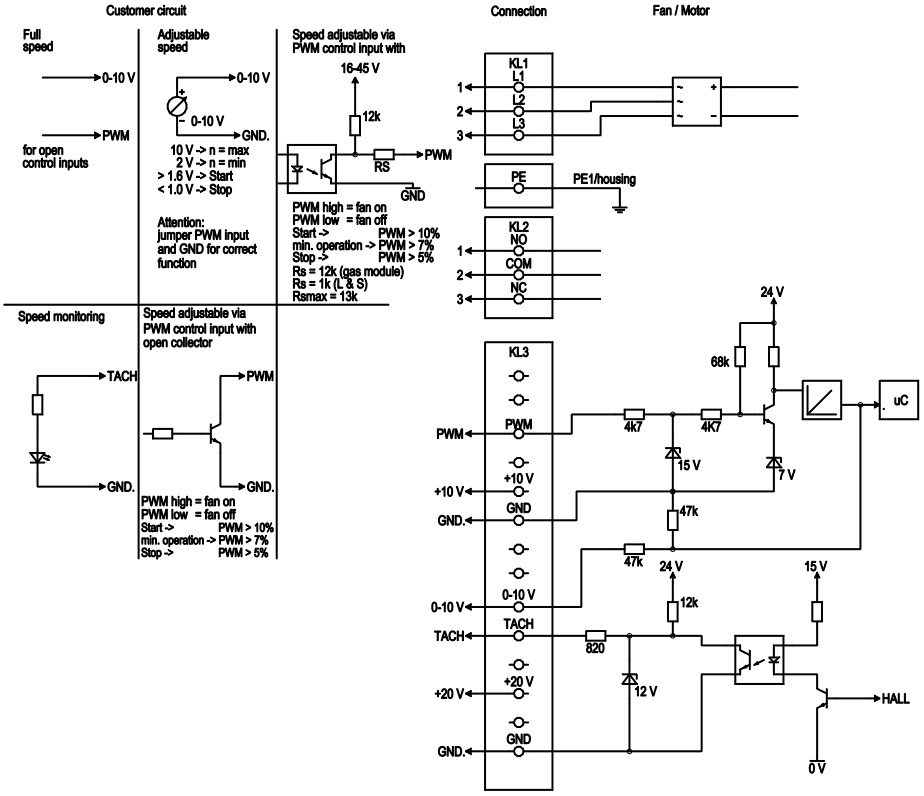
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Connection diagram



No.	Conn.	Designation	Function/assignment
1	1,2,3	L1,L2,L3	Power supply 3-phase, 50/60 Hz
		PE	Protective earth
2	1	NO	Alarm relay, make for failure
2	2	COM	Alarm relay, common connection (2 A, 250 VAC, AC1)
2	3	NC	Alarm relay, break for failure
3	PWM	PWM	Set value requirement via PWM, 16-45 V high level, 1-10 kHz, only usable as alternative to 0-10 V input
3	GND	GND	Reference ground for control interface
3	GND	GND	Reference ground for control interface
3	0 - 10 V	0 - 10 V	Analog set value input, 0-10 V (impedance 100 kΩ), only usable as alternative to connection PWM: for correct function bridge PWM input to GND.
3	+ 20 V	+ 20 V	Supply for external sensor, 20 VDC (±20%) max. 50 mA
3	+ 10 V	+ 10 V	Supply for external potentiometer, 10 VDC (±10%) max. 10 mA
3	Tach	Tach	Tach output; 12 VDC (±10%), max. 10 mA, impedance 1 kΩ; 4 pulses per revolution

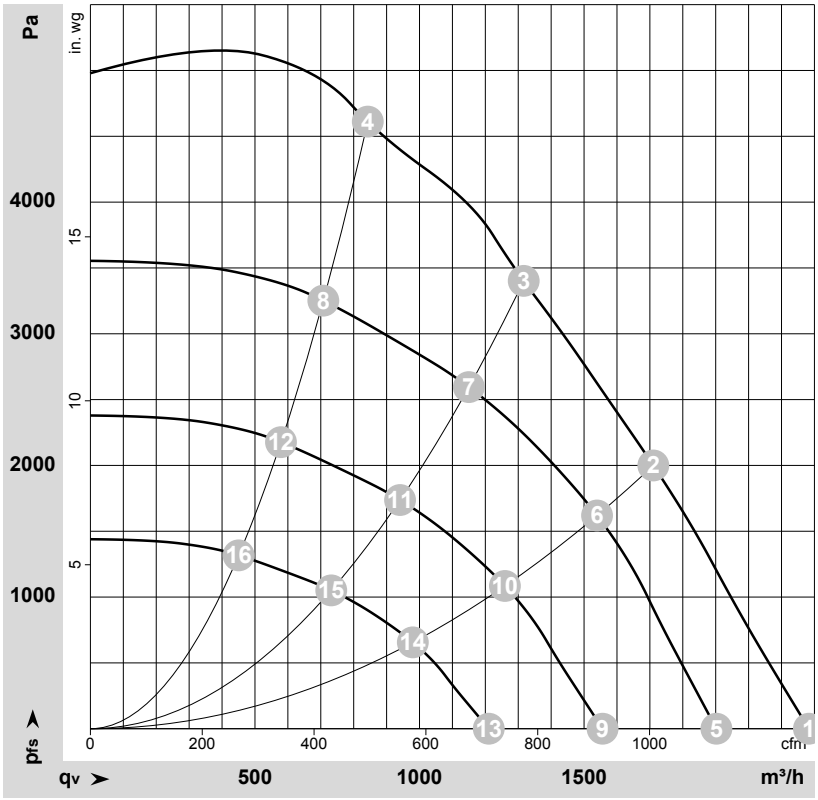
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-130108-1

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	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	m^3/h	Pa	cfm	in. wg
1	3~	400	50	6315	2301	3.51	100	2185	0	1285	0.00
2	3~	400	50	6100	2400	4.00	96	1710	2000	1005	8.03
3	3~	400	50	6290	2332	3.49	94	1315	3400	775	13.65
4	3~	400	50	6540	1973	2.99	92	845	4600	495	18.47
5	3~	400	50	5500	1522	2.32		1900	0	1120	0.00
6	3~	400	50	5500	1758	2.67		1540	1631	905	6.55
7	3~	400	50	5500	1557	2.33		1150	2598	675	10.43
8	3~	400	50	5500	1173	1.78		710	3255	415	13.07
9	3~	400	50	4500	834	1.27		1555	0	915	0.00
10	3~	400	50	4500	963	1.46		1260	1092	740	4.38
11	3~	400	50	4500	853	1.28		940	1739	555	6.98
12	3~	400	50	4500	643	0.97		580	2179	340	8.75
13	3~	400	50	3500	392	0.60		1210	0	710	0.00
14	3~	400	50	3500	453	0.69		980	661	575	2.65
15	3~	400	50	3500	401	0.60		730	1052	430	4.22
16	3~	400	50	3500	302	0.46		450	1318	265	5.29

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

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