G3G250-MW50-05

EC centrifugal fan

backward-curved, single-intake

with housing (flange), Gas blower for condensing boilers



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**G3G250-MW50-05**
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 ErP Directive

		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	23 kg
Fan size	250 mm
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	F0
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 - Control interface with SELV potential safely disconnected from supply - 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	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
Approval	UL 1004-7 + 60730
Comment	Complete unit must be tested for required approvals.

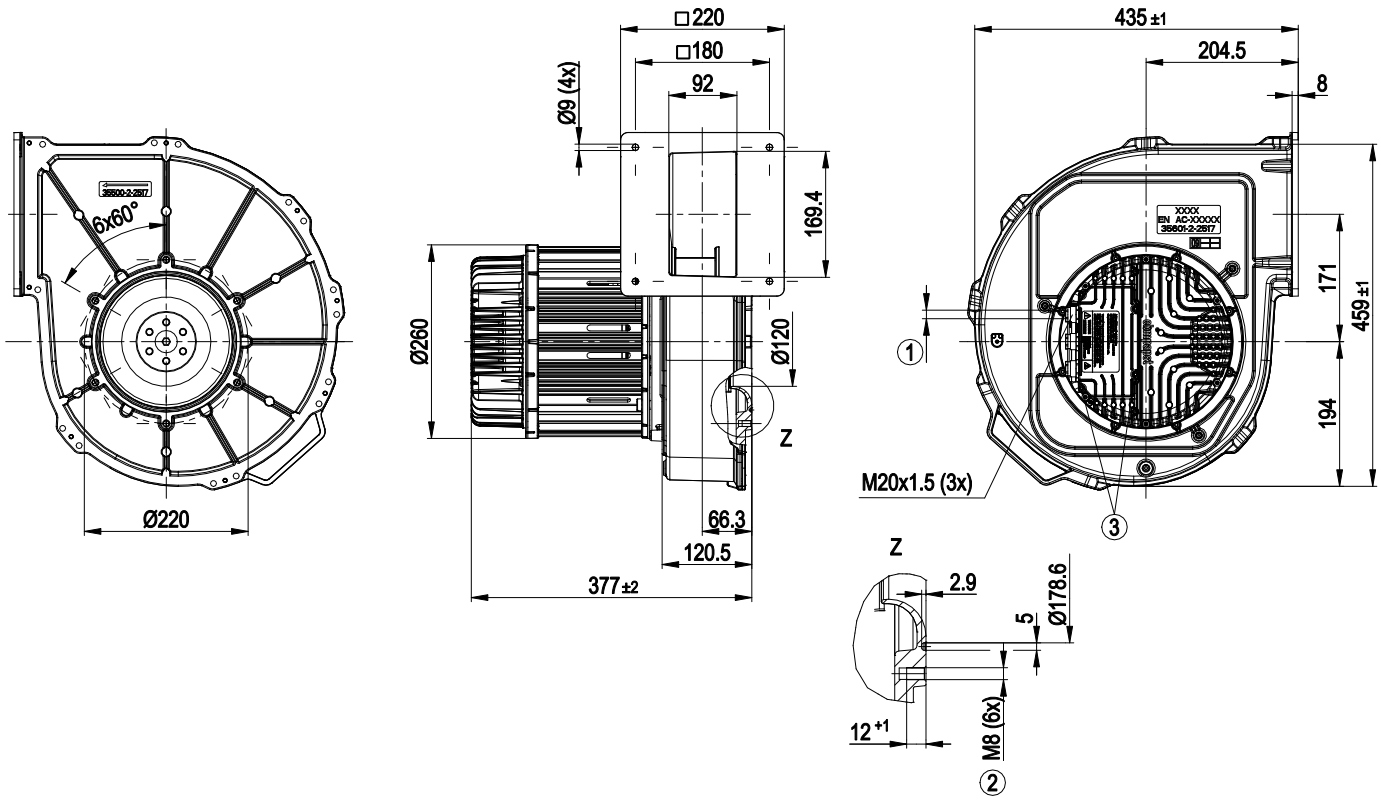
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Product drawing



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 ± 0.3 Nm

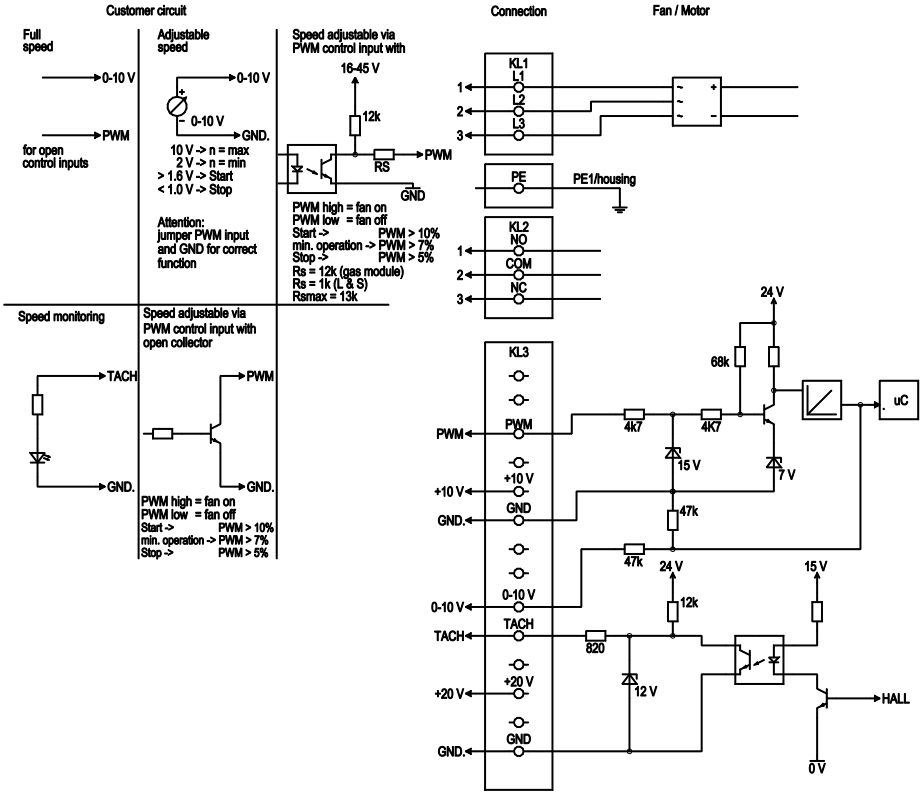
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Connection diagram



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

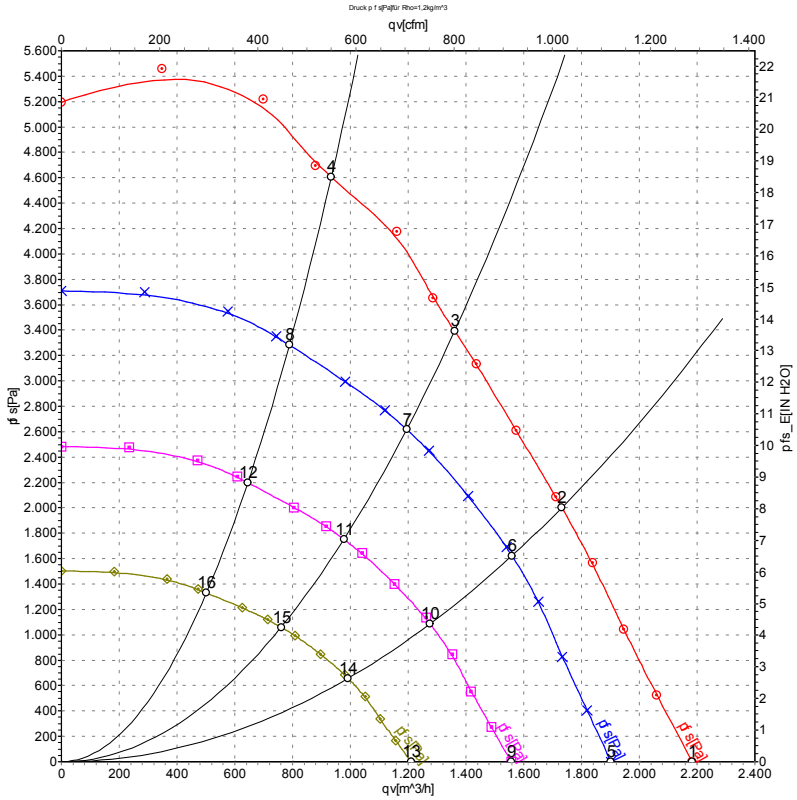
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Curves: Air performance 50 Hz



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

	U	f	n	P_{ed}	I	LwA_{in}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	m^3/h	Pa	CFM	inH2O
1	400	50	6315	2301	3.75	100	2185	0	1285	0.00
2	400	50	6100	2400	4.00	96	1730	2000	1020	8.03
3	400	50	6260	2343	3.80	94	1360	3400	800	13.65
4	400	50	6505	2063	3.40	92	935	4600	550	18.47
5	400	50	5500	1522	2.32		1900	0	1120	0.00
6	400	50	5500	1755	2.67		1560	1628	920	6.54
7	400	50	5500	1588	2.38		1195	2617	705	10.51
8	400	50	5500	1247	1.89		790	3286	465	13.19
9	400	50	4500	834	1.27		1555	0	915	0.00
10	400	50	4500	961	1.46		1275	1090	750	4.38
11	400	50	4500	870	1.30		980	1752	575	7.03
12	400	50	4500	683	1.04		645	2200	380	8.83
13	400	50	3500	392	0.60		1210	0	710	0.00
14	400	50	3500	452	0.69		990	659	585	2.65
15	400	50	3500	409	0.61		760	1060	445	4.26
16	400	50	3500	321	0.49		500	1331	295	5.34

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

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