EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G250-RE07-20 ebmpapst Datasheet
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Nominal data

Type	**R3G250-RE07-20**
Motor	**M3G055-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2750
Power consumption	W	220
Current draw	A	1.8
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

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}	%	55.2	44.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		72.6	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.22
09 Air flow q_v	m^3/h	920
09 Pressure increase p_{fs}	Pa	421
10 Speed (rpm) n	min^{-1}	2760
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-177861

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Technical description

Weight	1.9 kg
Fan size	250 mm
Rotor surface	Thick-film passivated
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
Condensation drainage holes	None, open rotor
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Power limiter - Soft start - Control input 0-10 VDC / PWM - Thermal overload protection for motor - Line undervoltage detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Locked-rotor protection
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE

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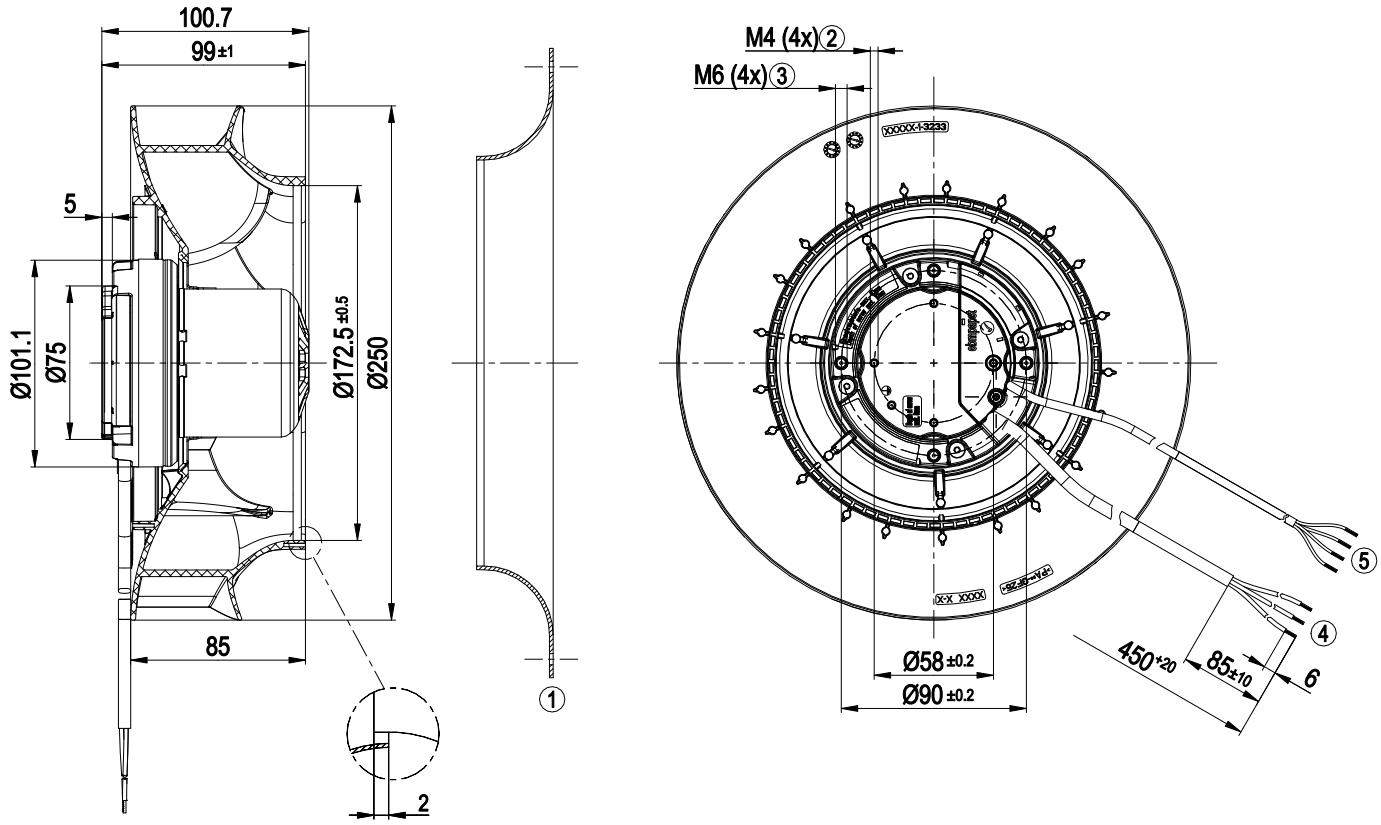
Product drawing



1	Accessory part: Inlet ring 96359-2-4013, not included in scope of delivery
2	Max. clearance for screw 5 mm
3	Max. clearance for screw 10 mm
4	Cable PVC AWG20, 3x crimped splices
5	Cable PVC AWG22, 4x crimped splices

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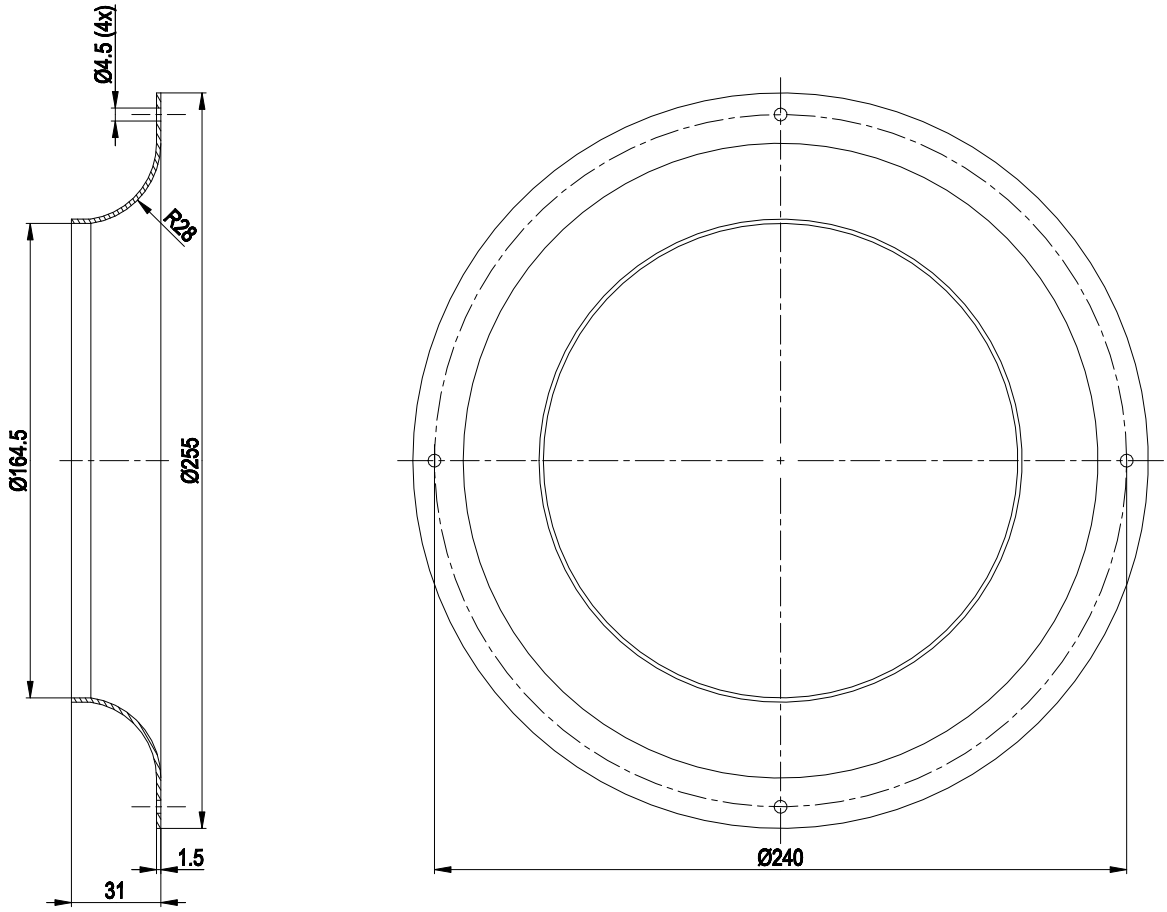
Accessory part



Accessory part: inlet ring 96359-2-4013 not included in scope of delivery

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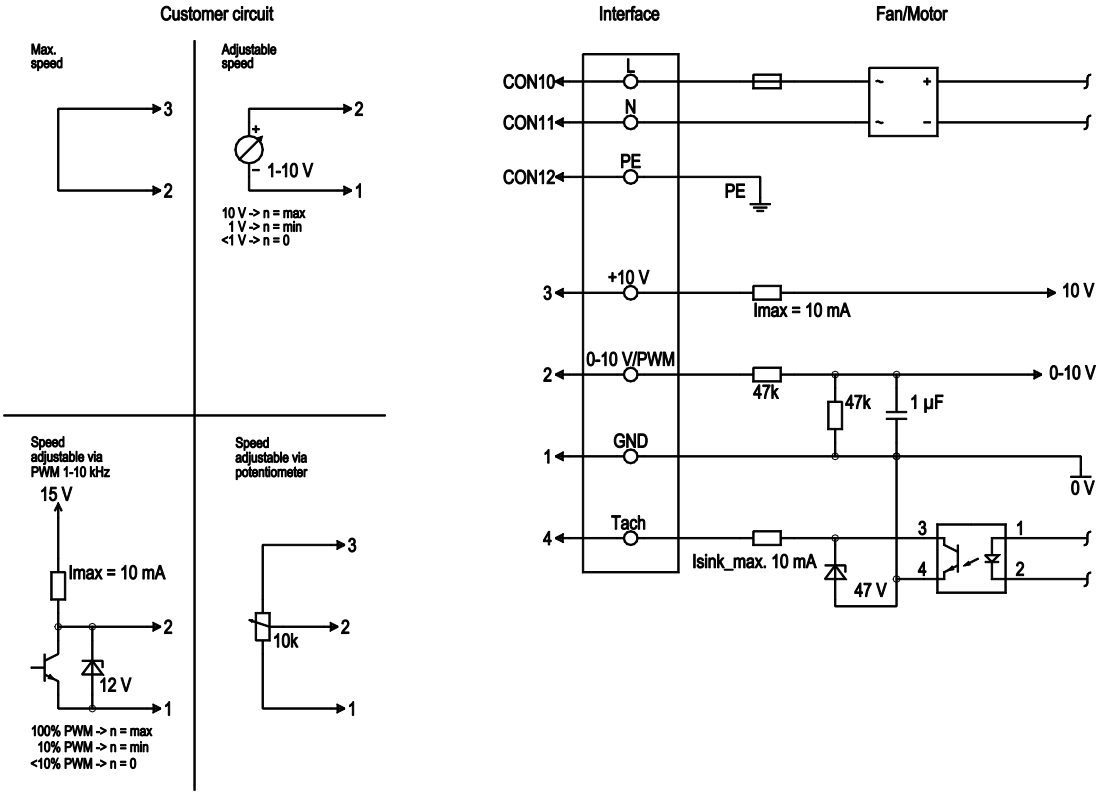
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / PWM control input, Ri=100 kΩ, SELV
	4	Tach	white	Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV
	1	GND	blue	Reference ground for control interface, SELV

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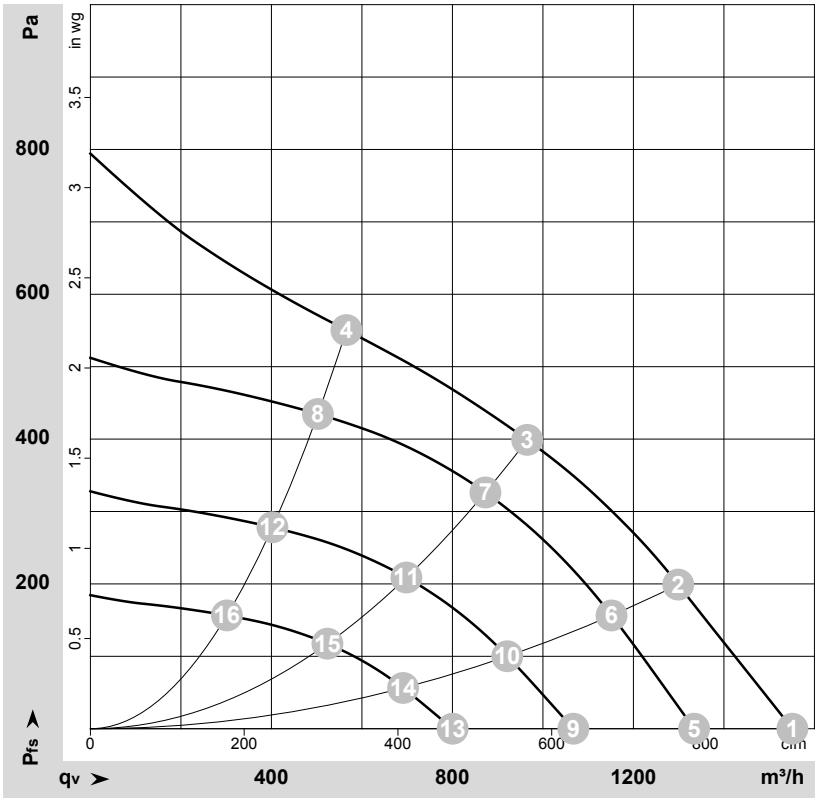
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-177861-1

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	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	230	50	2905	186	1.57	1550	0	915	0.00
2	230	50	2820	208	1.73	1300	200	765	0.80
3	230	50	2750	220	1.80	965	400	570	1.61
4	230	50	2815	205	1.71	565	550	335	2.21
5	230	50	2500	118	1.00	1335	0	785	0.00
6	230	50	2500	145	1.20	1150	156	680	0.63
7	230	50	2500	162	1.34	875	326	515	1.31
8	230	50	2500	144	1.20	505	435	295	1.75
9	230	50	2000	61	0.51	1065	0	630	0.00
10	230	50	2000	74	0.62	920	100	540	0.40
11	230	50	2000	83	0.69	700	209	410	0.84
12	230	50	2000	74	0.61	400	278	235	1.12
13	230	50	1500	26	0.22	800	0	470	0.00
14	230	50	1500	31	0.26	690	56	405	0.22
15	230	50	1500	35	0.29	525	118	310	0.47
16	230	50	1500	31	0.26	300	157	180	0.63

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase