EC centrifugal fan - RadiCal

backward-curved, single-intake

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**R3G220-RC05-24**
Motor	**M3G055-BI**

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}	2580
Power consumption	W	85
Current draw	A	0.7
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

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Technical description

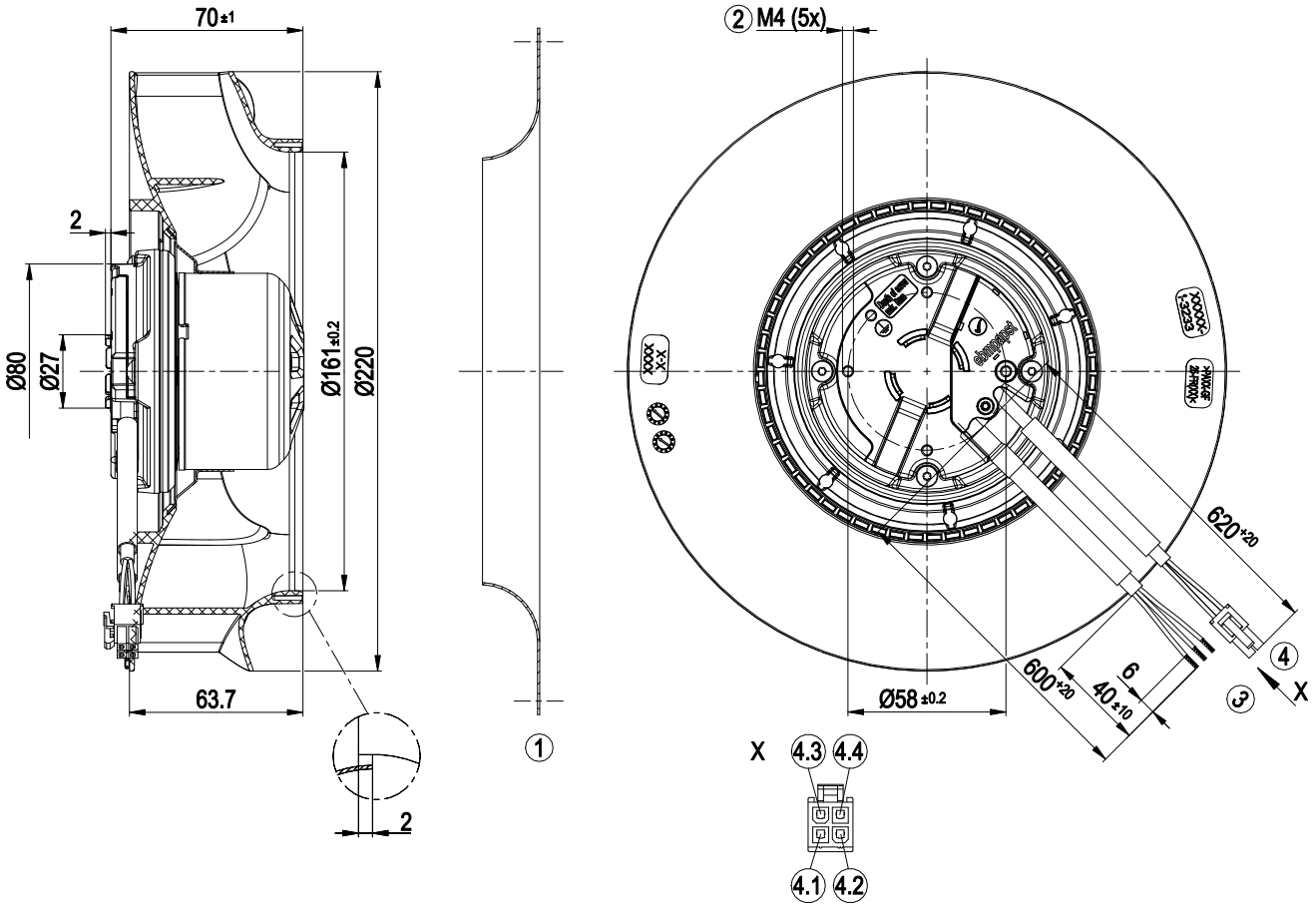
Weight	1.2 kg
Size	220 mm
Motor size	55
Rotor surface	Thick-film passivated
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
Condensation drainage holes	None, open rotor
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Connector with cable
Motor protection	Electronic motor protection
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60034-1; EN 60204-1; EN 60335-1; CE

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Product drawing



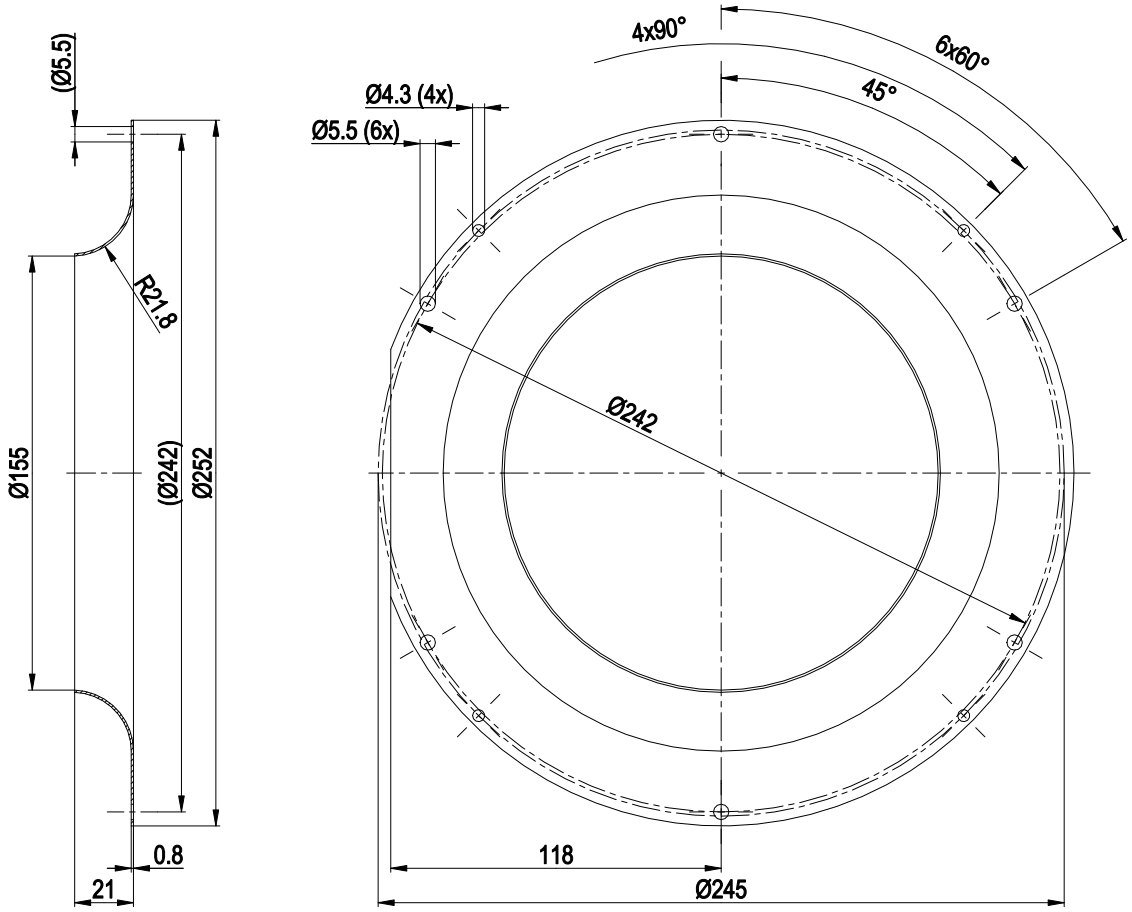
1	Accessory part: Inlet ring 09609-2-4013, not included in scope of delivery
2	Max. clearance for screw 5 mm
3	Cable PVC AWG20
	3x splice
4	Cable PVC AWG22
	4-pole connector housing Molex 46992-0410, 4x socket Molex 39-00-0059
4.1	GND (blue)
4.2	0-10 V/PWM (yellow)
4.3	Tach (white)
4.4	+10 V (red)

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Accessory part



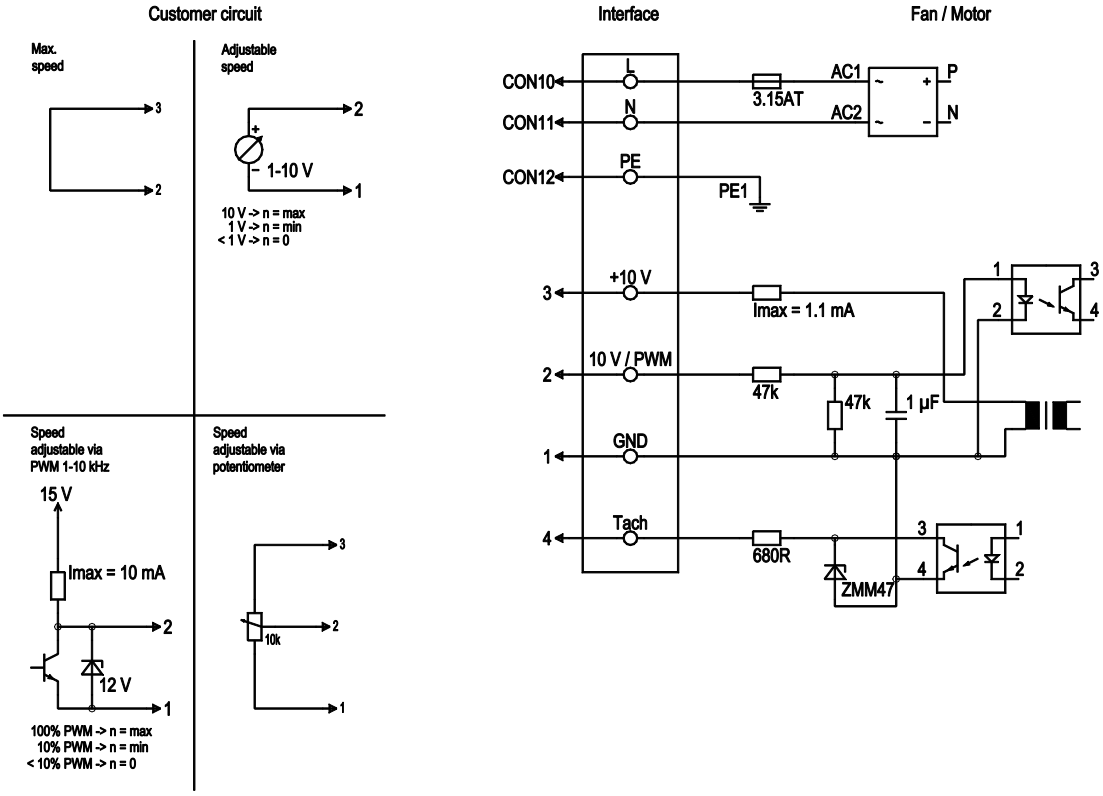
Inlet ring 09609-2-4013 not included in scope of delivery

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Connection diagram



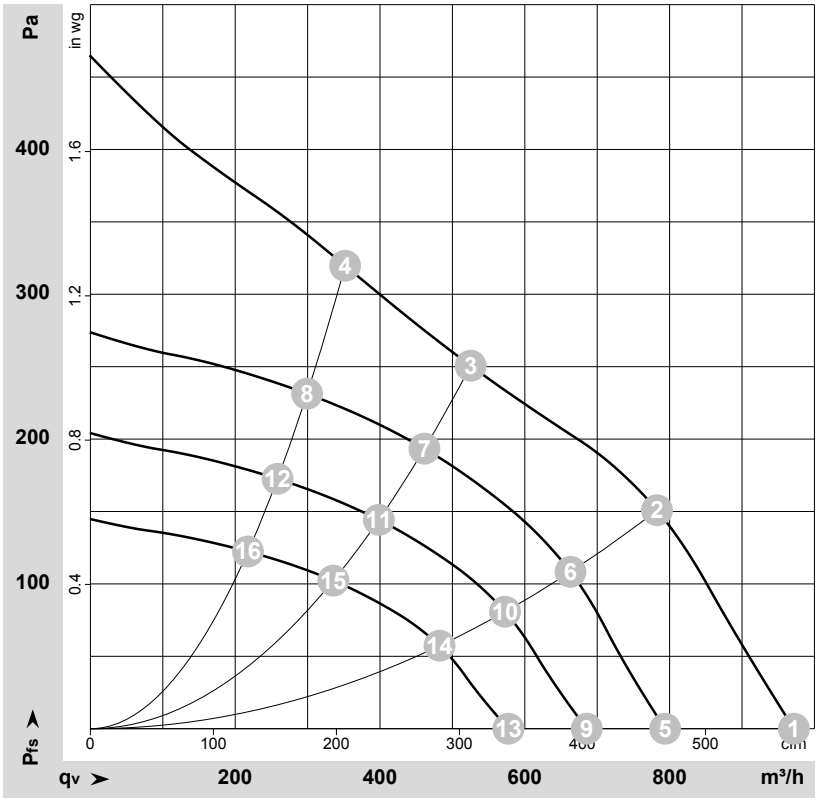
No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range
	CON11	N	blue	Neutral conductor
	CON12	PE	green/yellow	Protective earth
	1	GND	blue	GND connection for control interface
	2	0-10V PWM	yellow	Control input 0-10 V or PWM, electrically isolated
	3	10 V / max. 1,1 mA	red	Voltage output 10 VDC 1.1 mA, electrically isolated, short-circuit-proof
	4	Tacho	white	Tach output: open collector, 1 pulse per revolution, electrically isolated

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-178794-1

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	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	230	50	2695	78	0.69	62	70	970	0	570	0.00
2	230	50	2595	85	0.70	59	67	785	150	460	0.60
3	230	50	2580	85	0.70	57	65	525	250	310	1.00
4	230	50	2585	85	0.70	60	67	350	320	205	1.28
5	230	50	2200	42	0.38			795	0	465	0.00
6	230	50	2200	51	0.45			665	109	390	0.44
7	230	50	2200	56	0.50			460	194	270	0.78
8	230	50	2200	51	0.45			300	232	175	0.93
9	230	50	1900	27	0.24			685	0	405	0.00
10	230	50	1900	33	0.29			575	81	335	0.33
11	230	50	1900	36	0.32			400	144	235	0.58
12	230	50	1900	33	0.29			260	173	150	0.69
13	230	50	1600	16	0.15			575	0	340	0.00
14	230	50	1600	20	0.17			480	58	285	0.23
15	230	50	1600	22	0.19			335	102	195	0.41
16	230	50	1600	20	0.17			220	122	130	0.49

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
q_V = Air flow · p_{fs} = Pressure increase

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