R3G220-RD53-17

EC centrifugal fan - RadiCal

backward curved, single inlet

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Nominal data

Type	**R3G220-RD53-17**
Motor	**M3G055-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	3000
Power input	W	140
Current draw	A	1.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	54	42.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		73.8	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.13
09 Air flow q_v	m^3/h	805
09 Pressure increase p_{fs}	Pa	285
10 Speed (rpm) n	min^{-1}	3025
11 Specific ratio*		1.00

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-175848

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Technical features

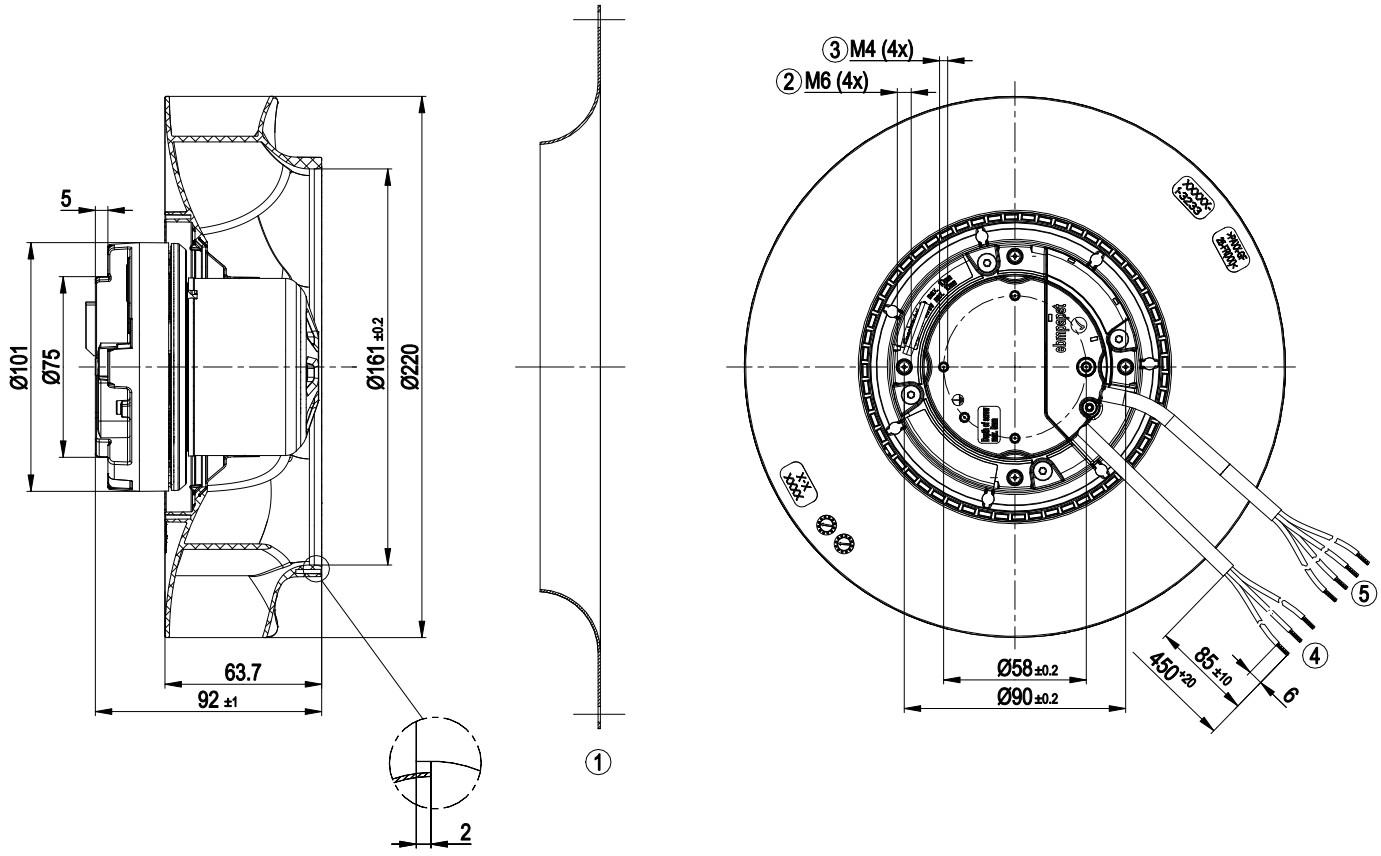
Mass	1.5 kg
Size	220 mm
Surface of rotor	Thick layer passivated
Material of impeller	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Any
Condensate discharge holes	None, open rotor
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Output limit - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Over-temperature protected electronics / motor - Line undervoltage detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-4 (industrial environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Locked-rotor protection
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE

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Product drawing



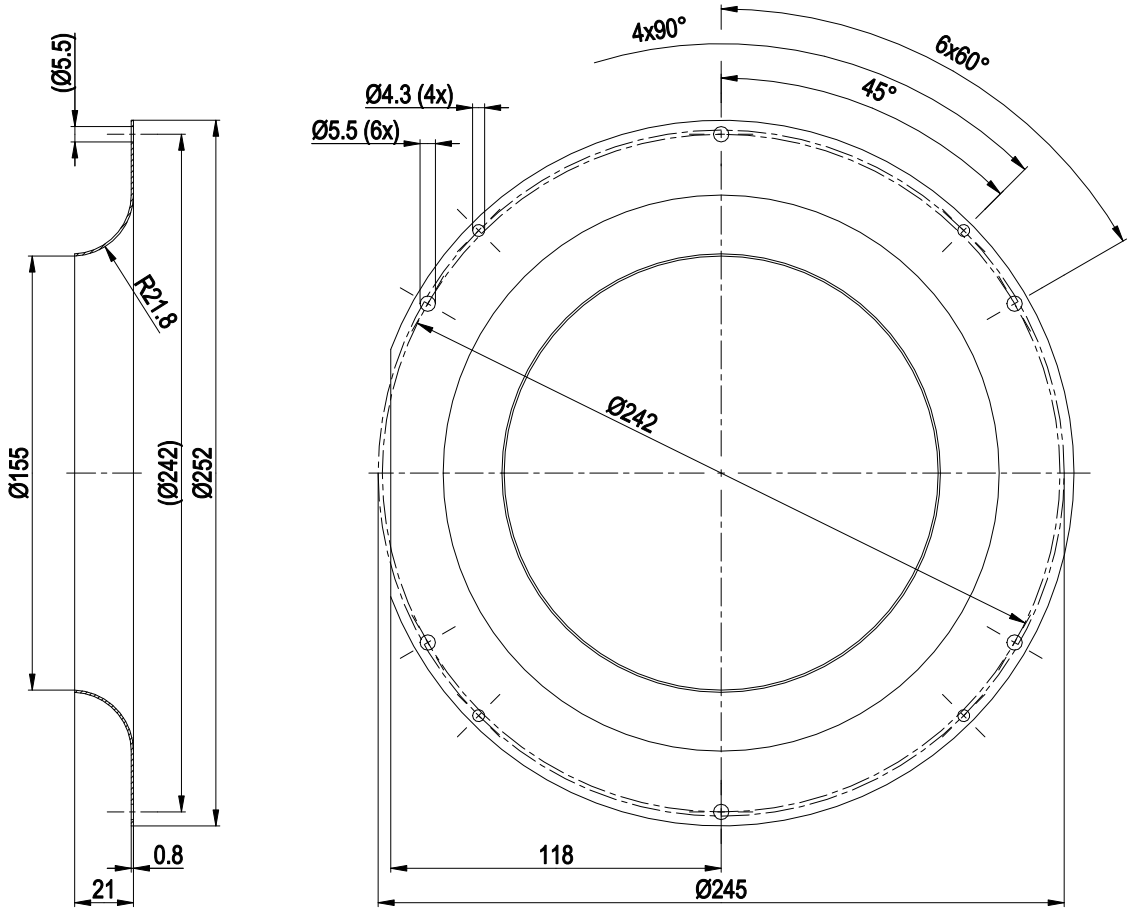
1	Accessory part: Inlet nozzle 09609-2-4013 not included in scope of delivery
2	Thread reach max. 10 mm
3	Thread reach max. 5 mm
4	Connection line PVC AWG20, 3x lead tips crimped
5	Connection line PVC AWG22, 4x lead tips crimped

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Accessory part



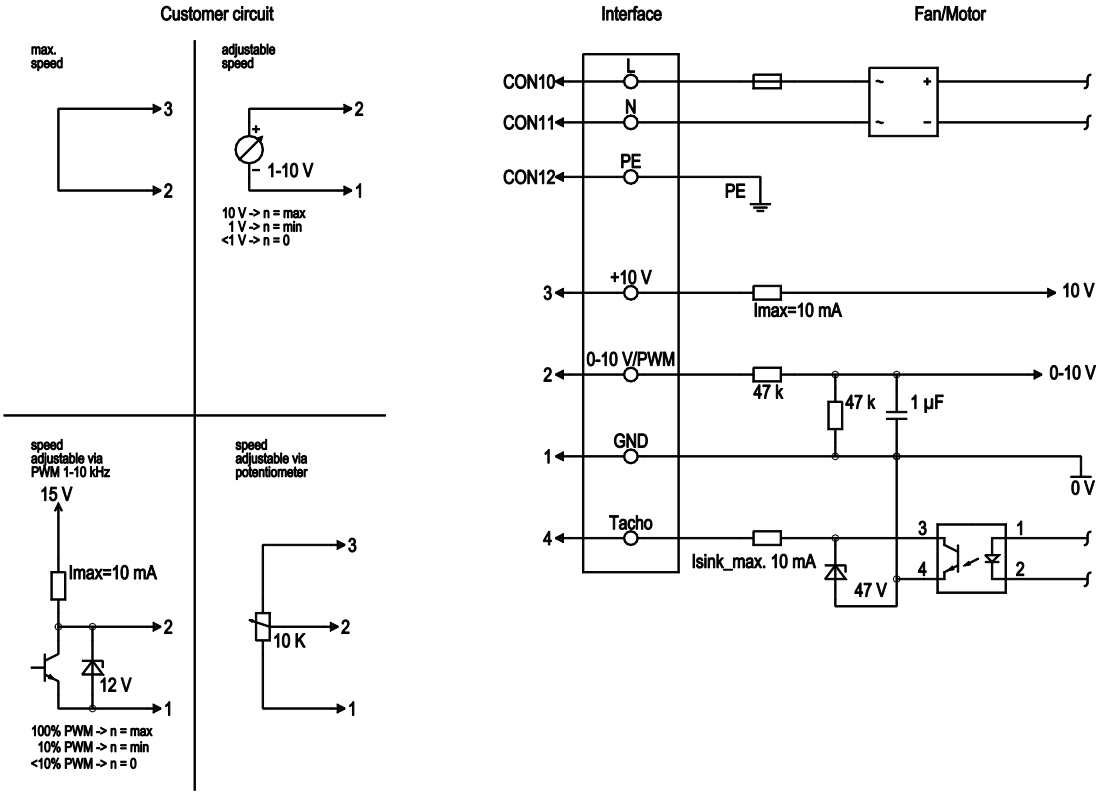
Inlet nozzle 09609-2-4013 not included in scope of delivery

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Connection screen



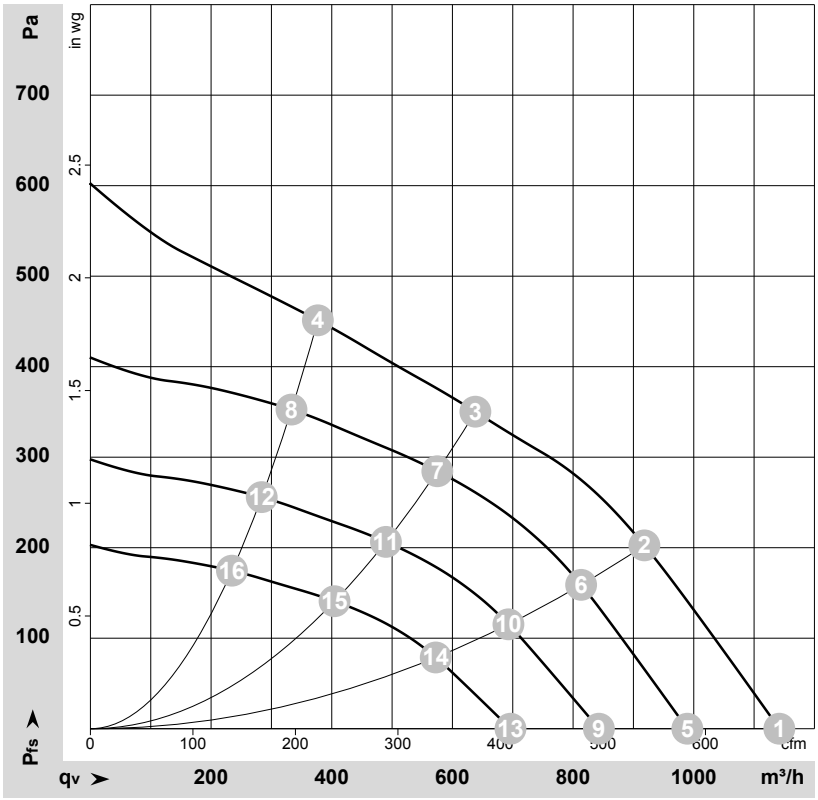
No.	Conn.	Designation	Colour	Function / assignment
	CON10	L	black	Mains connection, power supply, phase, see type plate for voltage range
	CON11	N	blue	Mains connection, power supply, neutral conductor, see type plate for voltage range
	CON12	PE	green/yellow	Earth connection
	2	0- 10V PWM	yellow	0-10 V/PWM control input, Ri=100 kΩ, SELV
	4	Tach	white	Speed monitoring 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. potentiometer), SELV
	1	GND	blue	Signal ground for control interface, SELV

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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-175848-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

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	inH2O
1	230	50	3115	115	0.97	66	74	1140	0	670	0.00
2	230	50	3050	128	1.07	63	71	920	200	540	0.80
3	230	50	3000	140	1.20	61	69	640	350	375	1.41
4	230	50	3055	126	1.06	64	72	375	450	220	1.81
5	230	50	2700	75	0.63	63	71	990	0	580	0.00
6	230	50	2700	89	0.74	60	68	815	160	480	0.64
7	230	50	2700	100	0.83	58	66	575	285	340	1.14
8	230	50	2700	87	0.73	61	69	335	353	195	1.42
9	230	50	2300	46	0.39	59	67	845	0	495	0.00
10	230	50	2300	55	0.46	55	63	695	116	410	0.47
11	230	50	2300	62	0.52	54	62	490	206	290	0.83
12	230	50	2300	54	0.45	57	65	285	256	165	1.03
13	230	50	1900	26	0.22	54	62	695	0	410	0.00
14	230	50	1900	31	0.26	51	59	570	79	335	0.32
15	230	50	1900	35	0.29	49	57	405	141	240	0.57
16	230	50	1900	30	0.26	52	60	235	175	140	0.70

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · q_V = Air flow
p_{fs} = Pressure increase

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