

R3G220-RD53-17 ebmpapst Datasheet

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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 <sup>-1</sup>	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 $\eta_{es}$	%	54	42.2	09 Power input $P_{ed}$	kW	0.13
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	805
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	285
04 Efficiency grade N		73.8	62	10 Speed (rpm) $n$	min <sup>-1</sup>	3025
05 Variable speed drive		Yes		11 Specific ratio <sup>*</sup>		1.00

Data definition with optimum efficiency.

The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

<sup>\*</sup> Specific ratio =  $1 + p_{fs} / 100\,000\text{ Pa}$

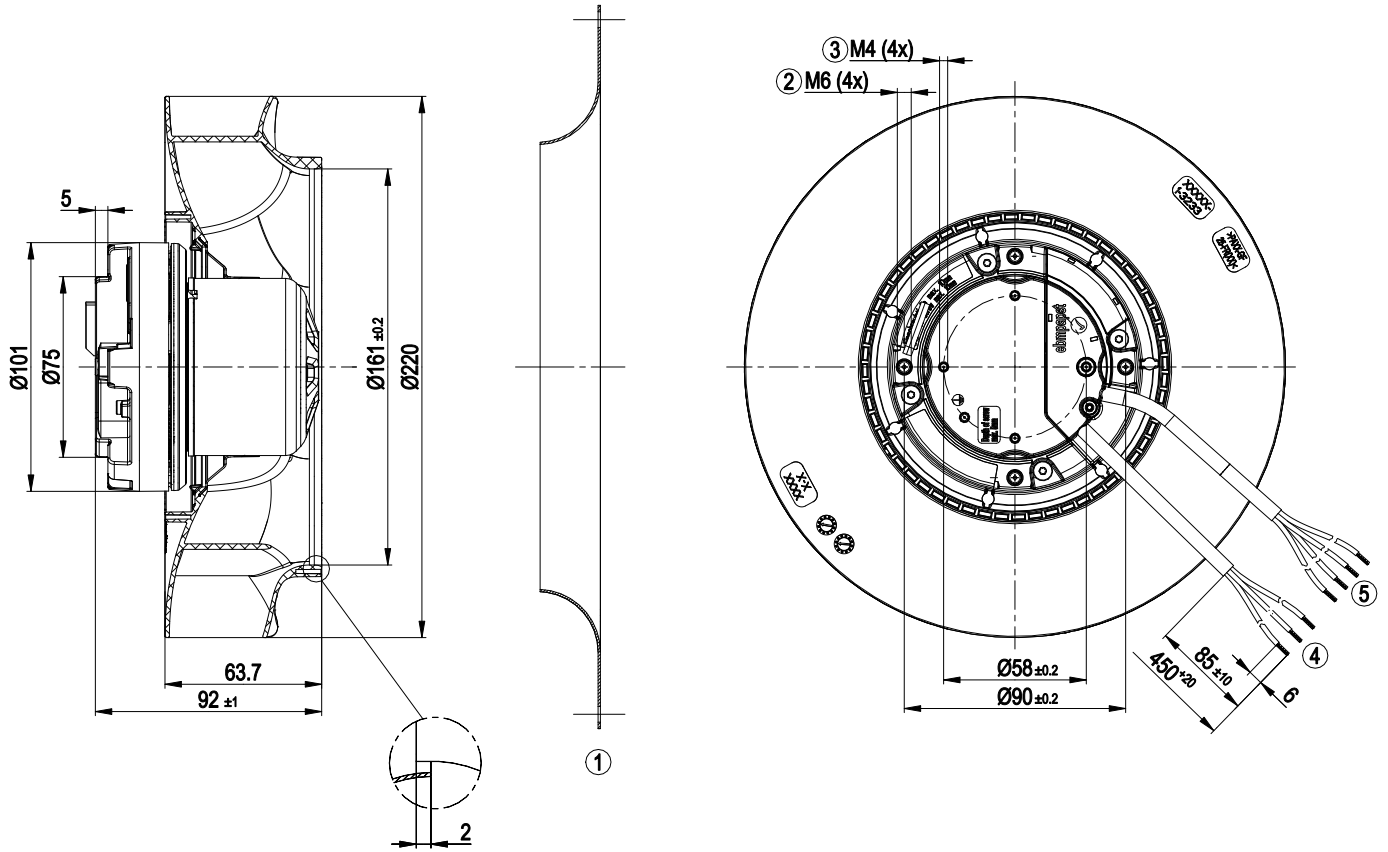
LU-175848



### Technical features

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

Product drawing

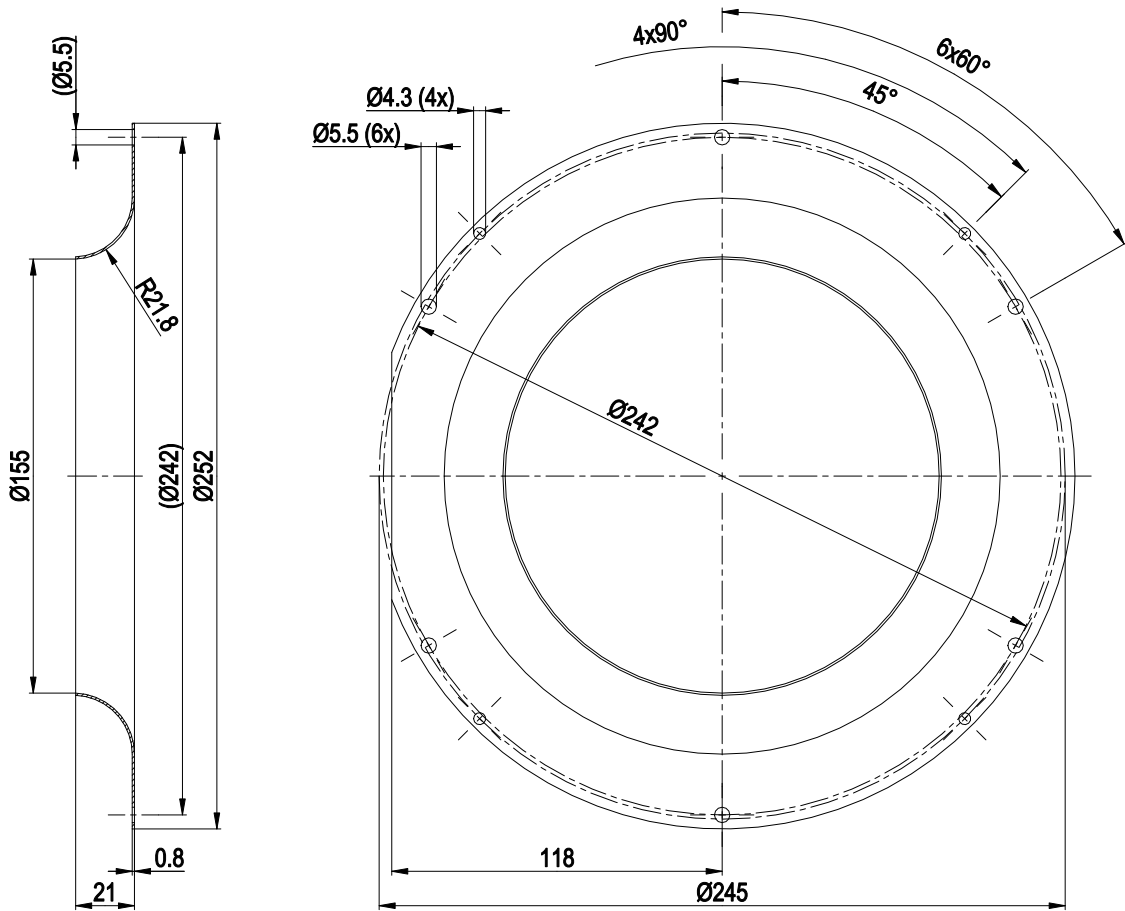


1	Accessory part: Inlet nozzle 09609-2-4013 not included in scope of delivery
2	Thread reach max. 10 mm
3	Thread reach max. 5 mm
4	Connection line PVC AWG20, 3x lead tips crimped
5	Connection line PVC AWG22, 4x lead tips crimped

# EC centrifugal fan - RadiCal

backward curved, single inlet

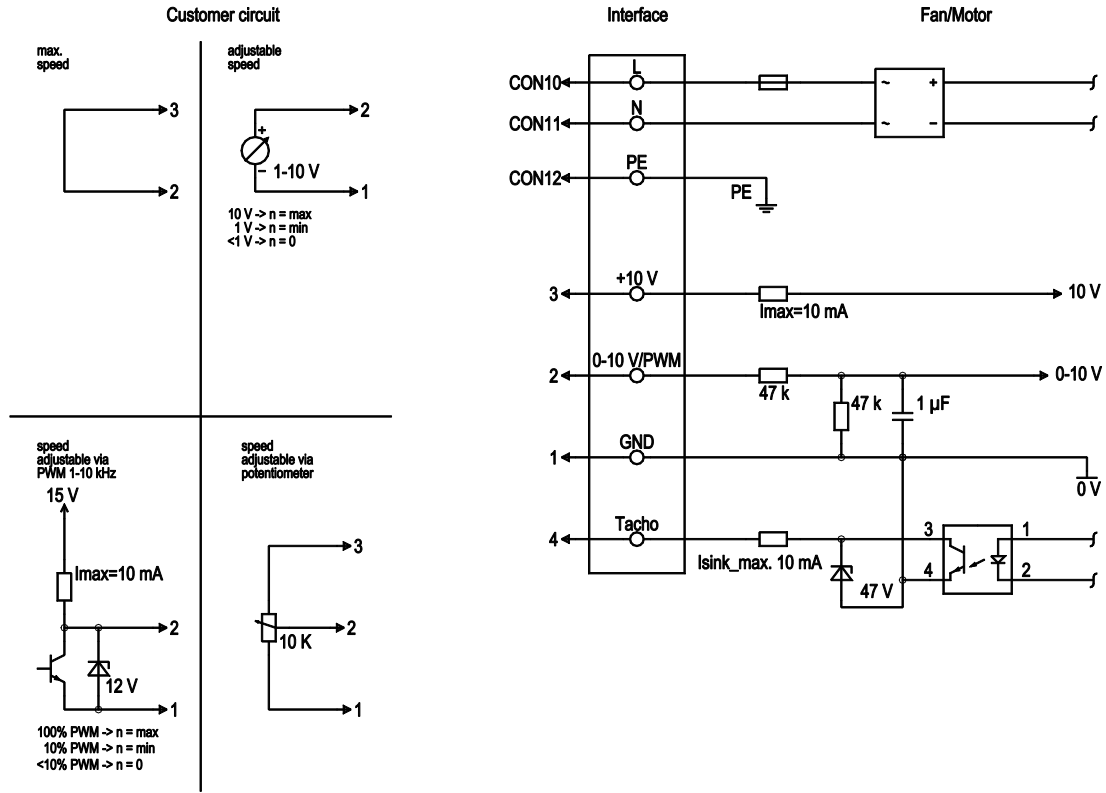
## Accessory part



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

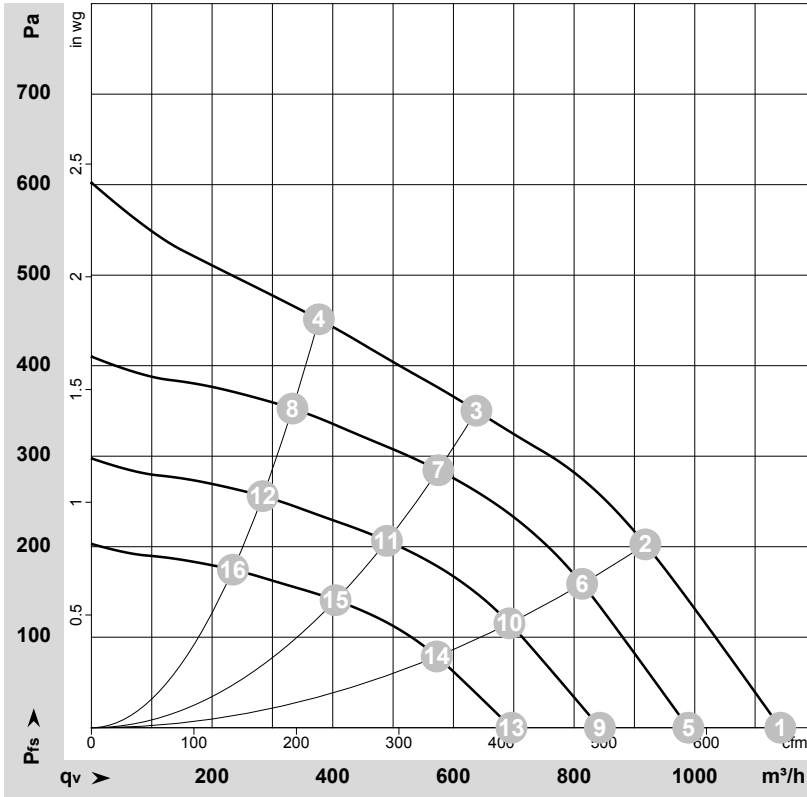


## Connection screen



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, R <sub>i</sub> =100 kΩ, SELV
	4	Tach	white	Speed monitoring output, open collector, 1 pulse per revolution, I <sub>sink max</sub> = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, I <sub>max</sub> . 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometer), SELV
	1	GND	blue	Signal ground for control interface, SELV

## Charts: Air flow 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-175848-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. 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 <sub>ed</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	q <sub>v</sub>	P <sub>fs</sub>	q <sub>v</sub>	P <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	cfm	inH <sub>2</sub> O
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<sub>ed</sub> = Power input · I = Current draw · LpA<sub>in</sub> = Sound pressure level inlet side · LwA<sub>in</sub> = Sound power level inlet side · q<sub>v</sub> = Air flow  
P<sub>fs</sub> = Pressure increase

