R3G220-RD21-01

EC centrifugal fan - RadiCal

backward curved, single inlet



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G220-RD21-01**	
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	min^{-1}	3230
Power input	W	168
Current draw	A	1.4
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	+45

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

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		53.7	39.1	43.1
Efficiency grade N		72.6	58	62
Power input P_{ed}	kW	0.16		
Air flow q_v	m^3/h	805		
Pressure increase p_{fs}	Pa	350		
Speed n	min^{-1}	3210		

Data established at point of optimum efficiency

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Technical features

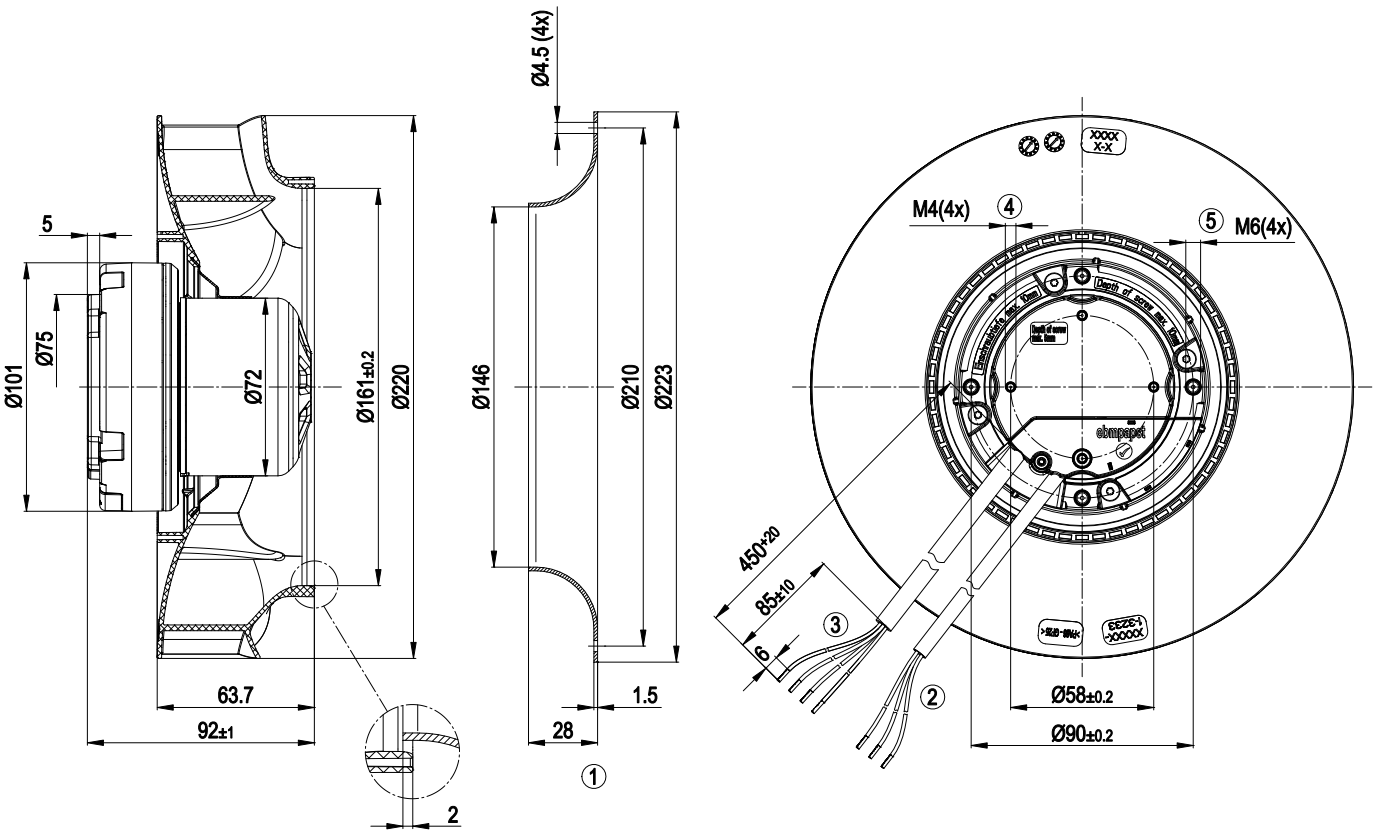
Mass	1.4 kg
Size	220 mm
Surface of rotor	Thick layer passivated
Material of electronics housing	Die-cast aluminium
Material of impeller	Plastic PA6, fibreglass-reinforced
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Max. permissible ambient 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	- Speed adjustment input (230 V) - Motor current limit - Soft start - Over-temperature protected electronics / motor - Line undervoltage detection
Speed steps	2
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

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Product drawing



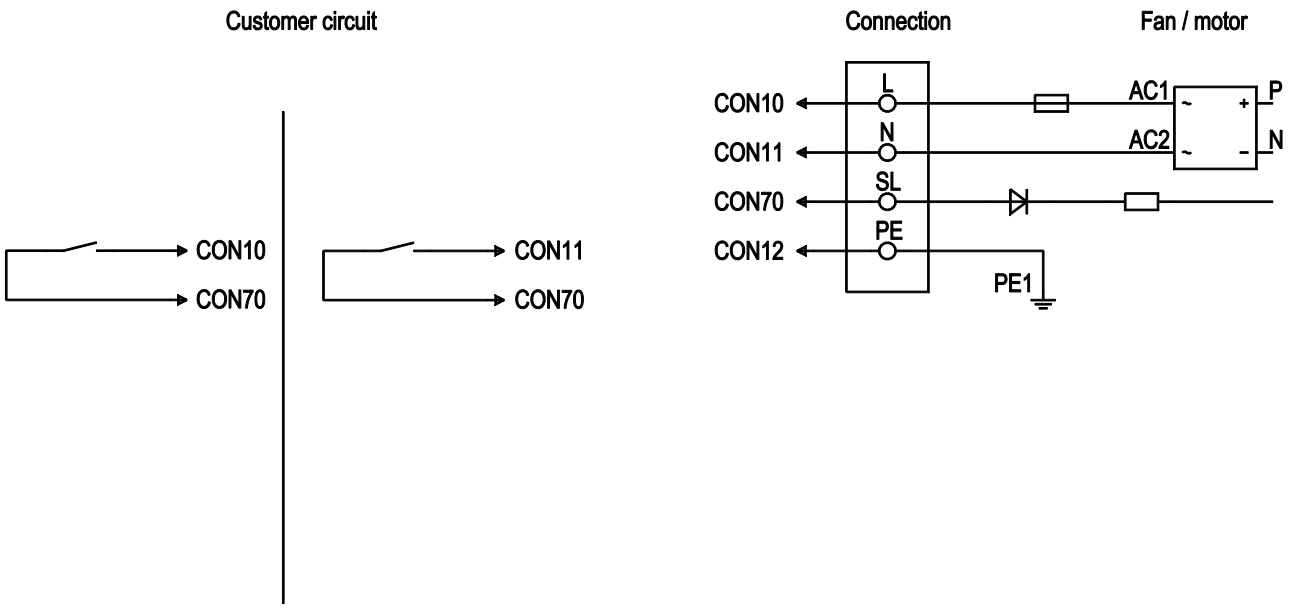
1	Accessory part: Inlet nozzle 96358-2-4013, not included in the standard scope of delivery
2	Connection line PVC 3G AWG20; 3 x brass lead tips crimped
3	Connection line PVC 4X AWG22; 4 x brass lead tips crimped
4	Depth of screw max. 5 mm
5	Depth of screw max. 10 mm

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Connection screen



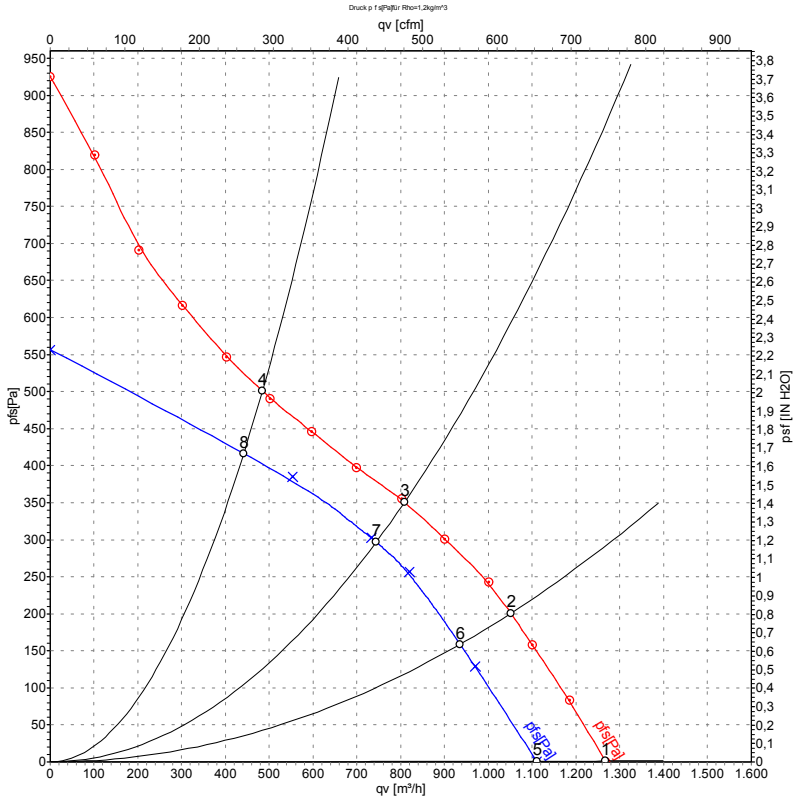
Line	No.	Signal	Colour	Function / assignment
	CON 10	L	black	Power supply 230 VAC, 50 - 60 Hz, see type plate for voltage range
	CON 11	N	blue	Neutral conductor
	CON 12	PE	green/yellow	Protective earth
	CON 70	SL	brown	Speed selection: switch open = speed 1; switch closed = speed 2

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Charts: Air flow 50 Hz



Measurement: LU-132488
Measurement: LU-132858

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}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	230	50	3490	161	1.30	69	77	1265	0
2	230	50	3350	166	1.36	65	73	1050	200
3	230	50	3230	168	1.40	62	70	810	350
4	230	50	3240	165	1.35	64	72	485	500
5	230	50	3070	102	0.92	65	74	1110	0
6	230	50	2990	112	1.00	62	70	935	159
7	230	50	2945	120	1.07	60	68	745	297
8	230	50	3005	112	1.05	61	70	440	420

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

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