

R3G220-RD21-03

EC centrifugal fan - RadiCal®

backward curved



ebm-papst Mulfingen GmbH & Co. KG

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.ebmpapst.com

www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142



Nominal data

Type	R3G220-RD21-03	
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 = $1 + p_{fs} / 100\,000\text{ Pa}$

		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

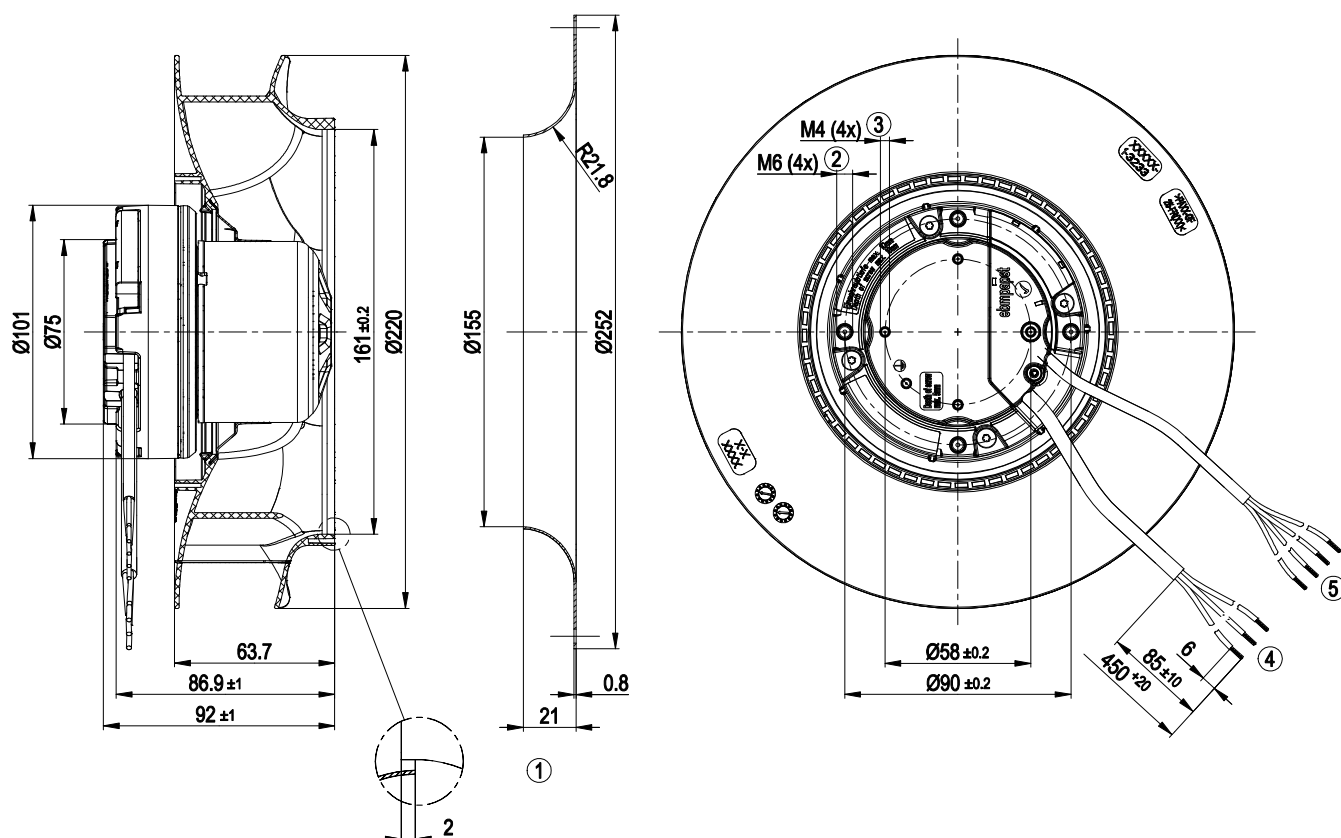


Technical features

Mass	1.45 kg
Size	220 mm
Surface of rotor	Thick layer passivated
Material of electronics housing	Die-cast aluminium
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	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	None, open rotor
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Over-temperature protected electronics / motor - Line undervoltage detection
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

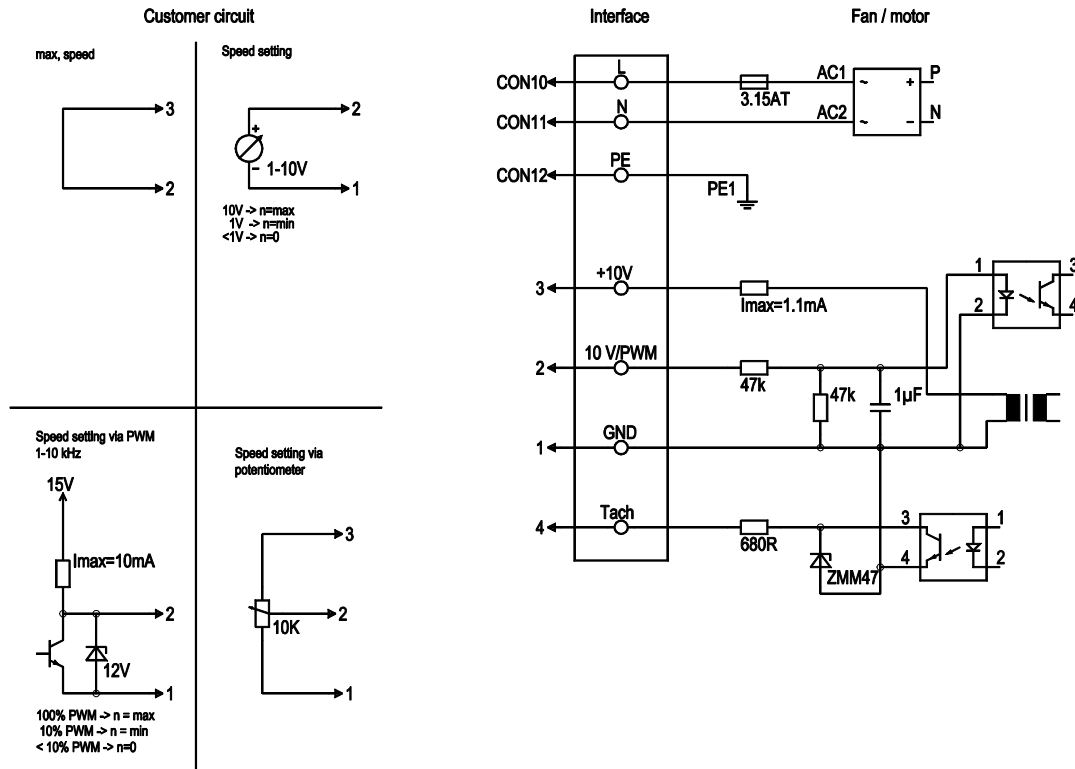


Product drawing



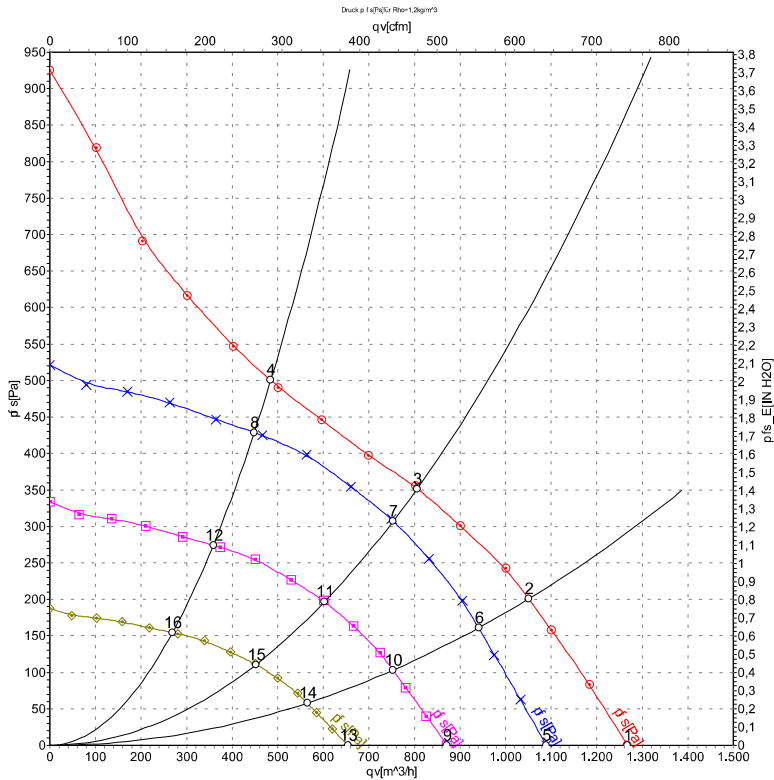
1	Accessory part: Inlet nozzle 09609-2-4013, not included in the standard scope of delivery
2	Depth of screw max. 10 mm
3	Depth of screw max. 5 mm
4	Connection line PVC 3G AWG20, 3x brass lead tips crimped
5	Connection line PVC 4X AWG22, 4x brass lead tips crimped

Connection screen



Line	No.	Signal	Colour	Function / assignment
	CON10	L	black	Power supply 230 VAC, 50-60 Hz, for voltage range refer to rating plate
	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	10V/ max 1.1mA	red	Voltage output 10V/ 1.1mA, electrically isolated, not short-circuit-proof.
	4	Tach	white	Tach output: open collector, 1 pulse per revolution, electrically isolated

Charts: Air flow 50 Hz



Measurement: LU-132488

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: L_{wA} measured as per ISO 13347 / L_{pA} 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	L _{pA_{in}}	L _{wA_{in}}	qv	P _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m³/h	Pa
1	230	50	3490	161	1.30	69	77	1270	0
2	230	50	3350	166	1.36	65	73	1050	200
3	230	50	3230	168	1.40	62	70	805	350
4	230	50	3240	165	1.35	64	72	485	500
5	230	50	3000	102	0.82	65	74	1090	0
6	230	50	3000	119	0.98	62	70	940	161
7	230	50	3000	135	1.10	60	68	755	309
8	230	50	3000	131	1.08	62	70	450	429
9	230	50	2400	52	0.42	60	69	870	0
10	230	50	2400	61	0.50	57	66	755	103
11	230	50	2400	69	0.57	55	64	600	198
12	230	50	2400	67	0.55	57	66	360	274
13	230	50	1800	22	0.18	54	62	655	0
14	230	50	1800	26	0.21	51	59	565	58
15	230	50	1800	29	0.24	49	57	450	111
16	230	50	1800	28	0.23	51	59	270	154

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



