R3G220-RNA8-02

EC centrifugal fan - RadiCal

backward curved, single inlet

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G220-RNA8-02**	
Motor	**M3G074-CF**	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Type of data definition		fa
Speed	min^{-1}	3900
Power input	W	240
Current draw	A	5.0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	+60

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*	1.01

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		54.9	41.4	45.4
Efficiency grade N		71.5	58	62
Power input P_e	kW	0.26		
Air flow q_v	m^3/h	905		
Pressure increase p_{fs}	Pa	523		
Speed n	min^{-1}	3895		

Data established at point of optimum efficiency

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Technical features

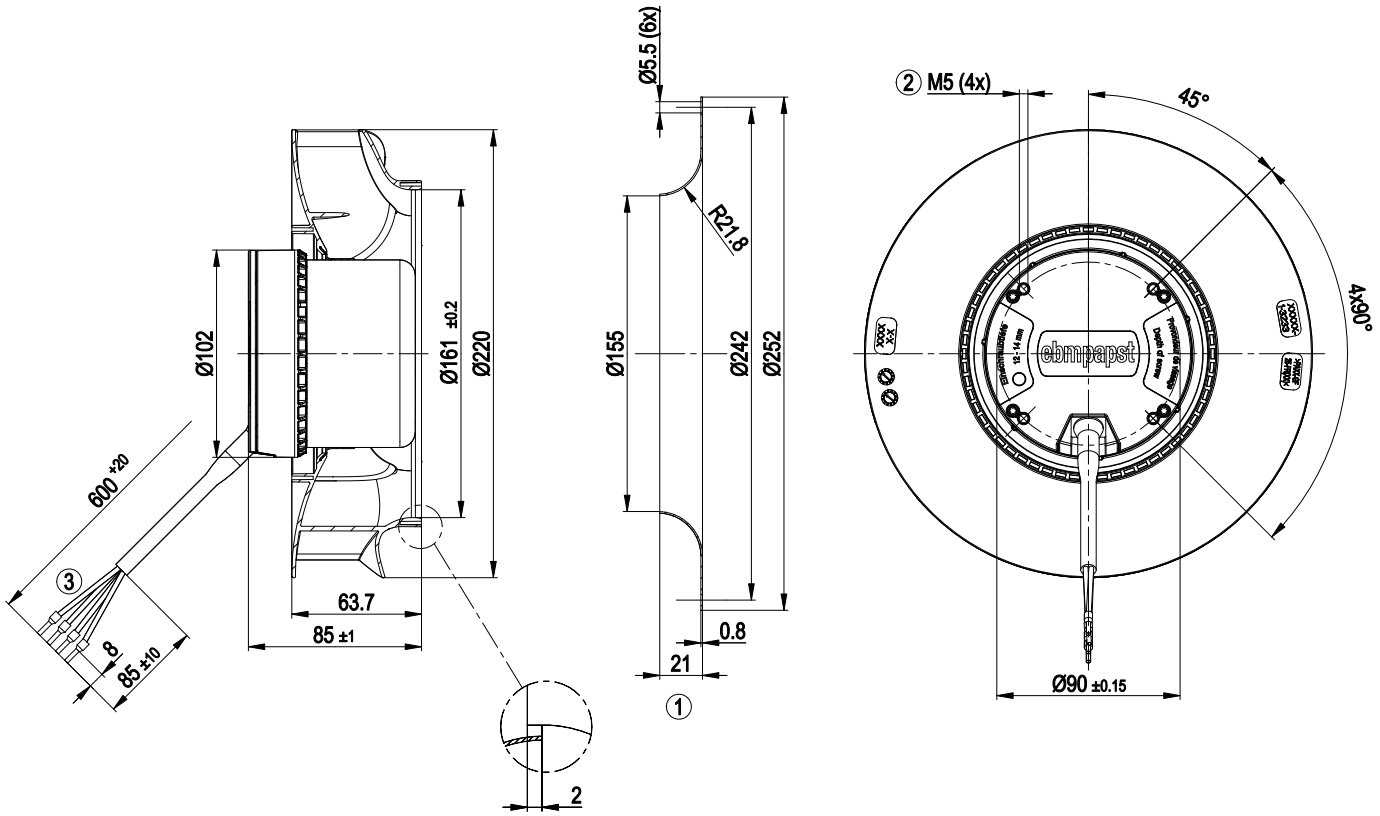
Mass	1.94 kg
Size	220 mm
Surface of rotor	Coated in black
Material of impeller	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44
Insulation class	"B"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Over-temperature protected electronics
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 55022 (Class B, household environment)
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Variable
Protection class	I (if protective earth is connected by customer at the connection point of the housing)
Product conforming to standard	EN 60950-1

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Product drawing



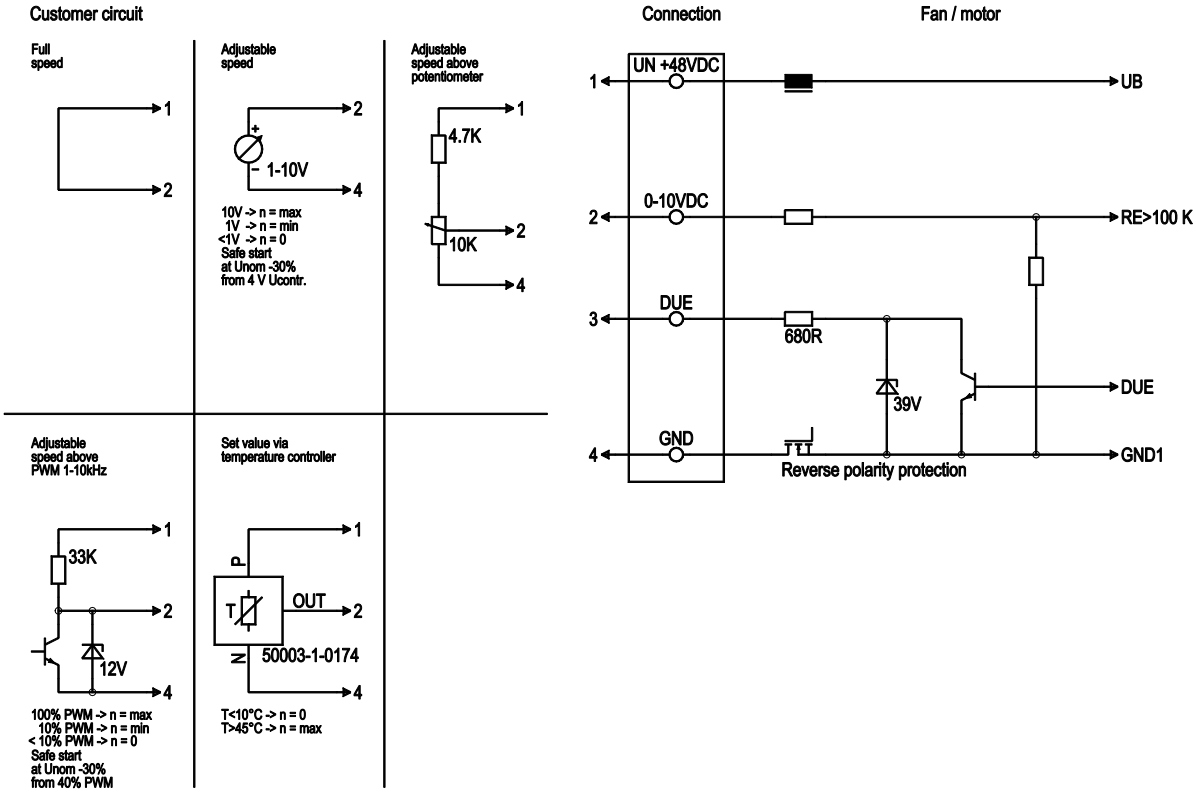
1	Accessory part: Inlet nozzle 09609-2-4013, not included in the standard scope of delivery
2	Depth of screw 12 - 14 mm
3	Connection line PVC AWG16, 4x crimped core-end sleeves

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Connection screen



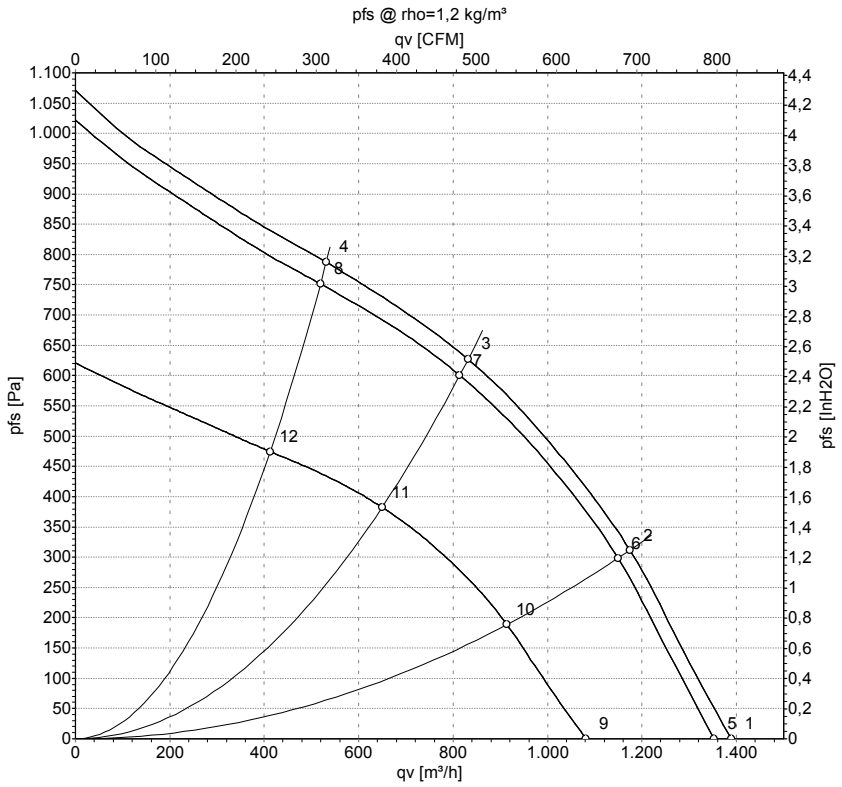
Line	No.	Signal	Colour	Function / assignment
	1	Un +48 VDC	red	Power supply 48 VDC, residual ripple 3.5 %
	2	0-10 VDC	yellow	Control input Re>100 K
	3	Tach	white	Speed monitoring output, 3 pulses per revolution, Isink max = 10 mA
	4	GND	blue	Reference mass

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Charts: Air flow



Measurement: LU-139772
Measurement: LU-139767
Measurement: LU-139770

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	n	P_{ed}	I	LpA_{in}	LwA_{in}	qv	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	57	4070	251	4.40			1390	0
2	57	4025	267	4.69			1175	313
3	57	3980	289	5.06			830	627
4	57	4040	271	4.75			530	787
5	48	4000	240	5.00	78	86	1350	0
6	48	3940	251	5.23	74	82	1150	300
7	48	3895	270	5.62	70	78	815	600
8	48	3950	252	5.26	73	80	520	750
9	36	3175	125	3.46			1080	0
10	36	3140	131	3.64			915	191
11	36	3105	141	3.91			650	382
12	36	3135	132	3.67			410	474

U = Supply voltage · 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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