R3G220-RV83-05

EC centrifugal fan - RadiCal

backward curved, single inlet

R3G220-RV83-05 ebmpapst Datasheet
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Nominal data

Type	**R3G220-RV83-05**	
Motor	**M3G074-CF**	
Nominal voltage	VDC	110
Type of data definition		ml
Speed (rpm)	min^{-1}	3360
Power input	W	180
Current draw	A	1.65
Min. ambient temperature	°C	-40
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 in accordance with ecodesign regulation EU 327/2011

		Actual	Request 2015
01 Overall efficiency η_{es}	%	51.6	43.7
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		69.9	62
05 Variable speed drive		Yes	

09 Power input P_e	kW	0.18
09 Air flow q_v	m^3/h	800
09 Pressure increase p_{fs}	Pa	373
10 Speed (rpm) n	min^{-1}	3310
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-158319

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Technical features

Mass	2.3 kg
Size	220 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PA UL94 V0 plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44; Depending on installation and position
Insulation class	"B"
Humidity (F)/environmental protection class (H)	F3-1
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 top; rotor on bottom on request
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Run monitoring - Output limit - Motor current limit - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 15085-1, CPC3: 2007; EN 45545-2, HL3: 2013; EN 50155: 2008; EN 61373, Cat. 1B: 2010
Remark	Only suitable for indoor use

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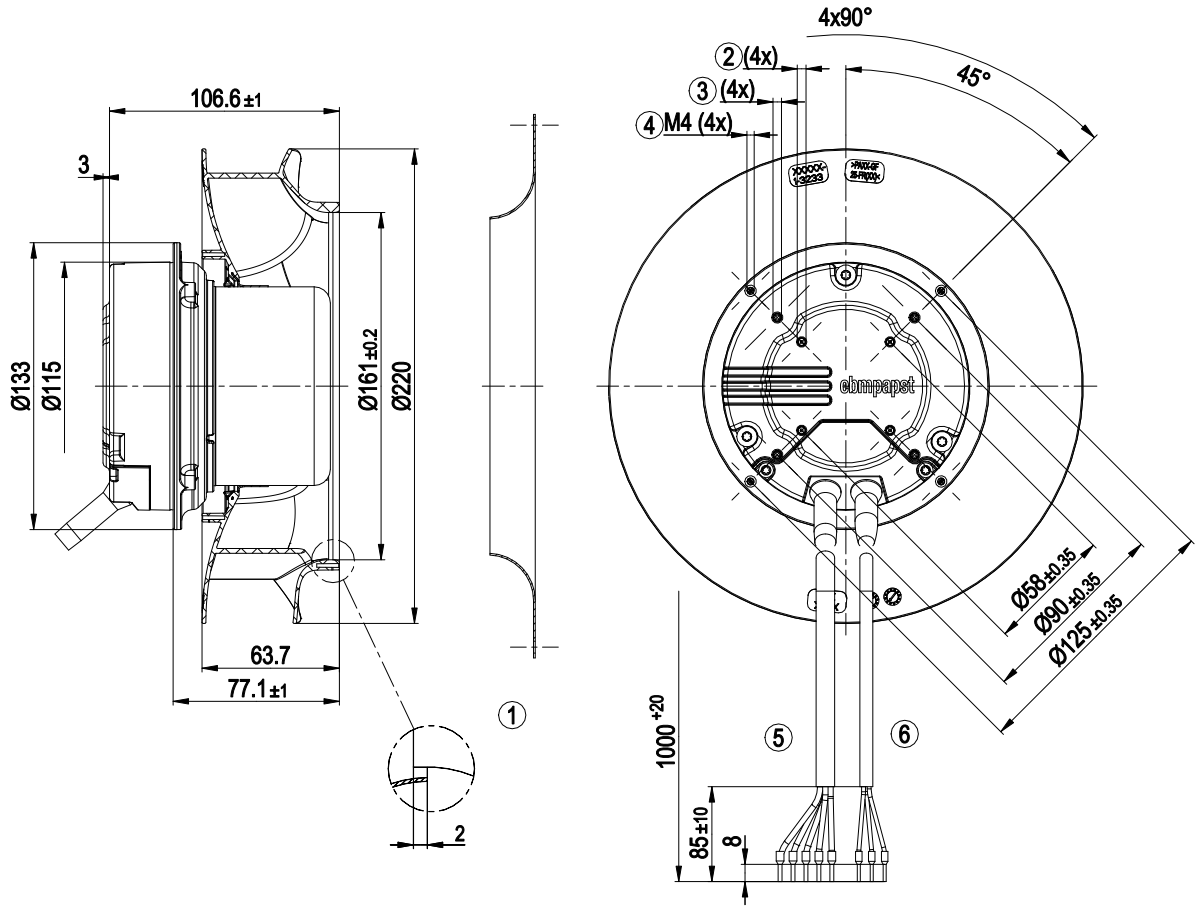
Product drawing



1	Accessory part: Inlet nozzle 09609-2-4013 not included in scope of delivery
2	Pilot hole prepared for M4 self-tapping screw, thread reach max. 8 mm
3	Pilot hole prepared for M4 self-tapping screw, thread reach max. 6 mm
4	Thread reach max. 10 mm
5	Connection line halogen-free, BETAtrans® 3 GKW flex, 5G 1.0 mm², 5x crimped core-end sleeves
6	Connection line halogen-free, BETAtrans® 3 GKW flex, 3x 0.33 mm², 3x crimped core-end sleeves

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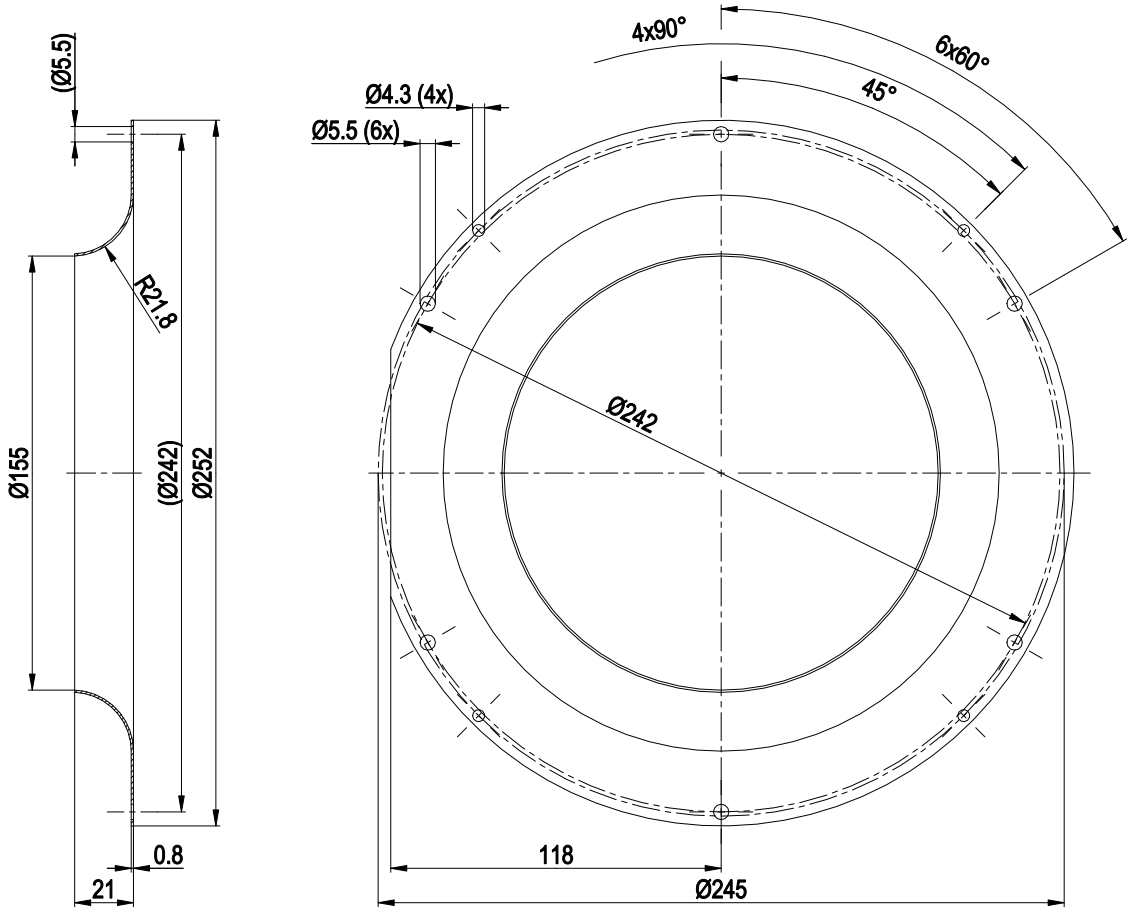
Accessory part



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

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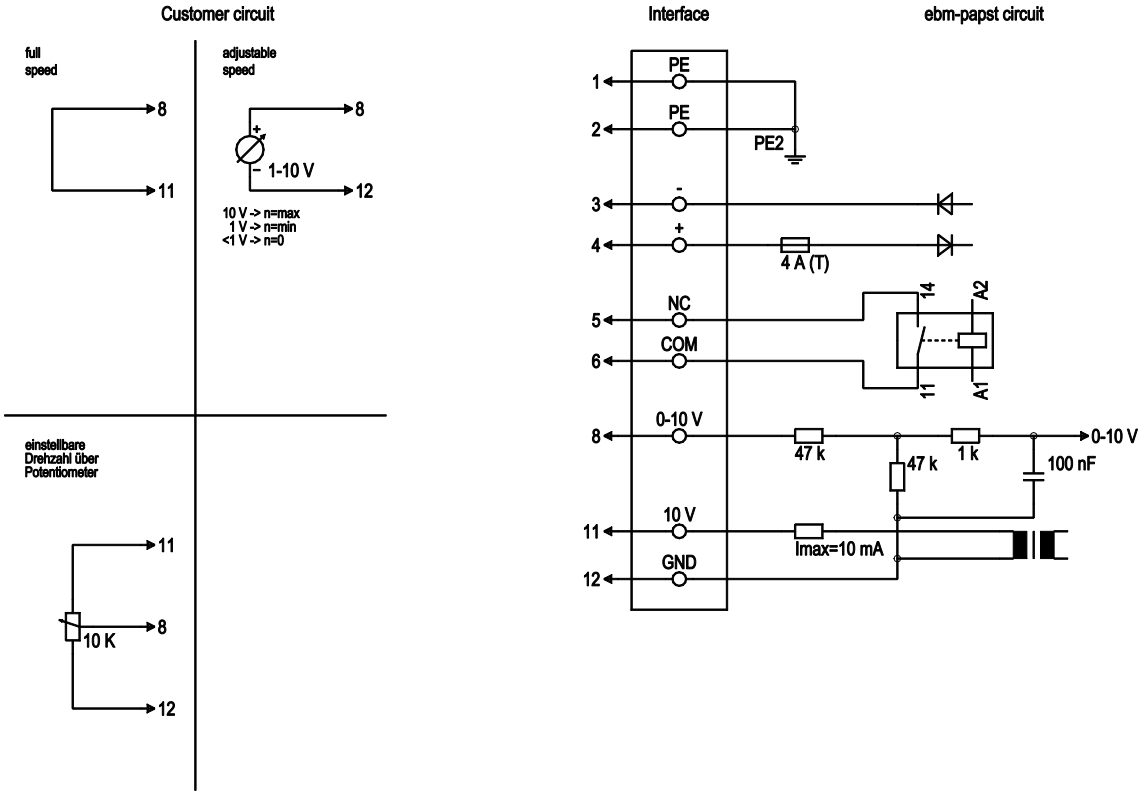
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	-	blue	Supply voltage, GND (110 VDC)
1	4	+	red	Supply voltage, 110 VDC
1	5	NC	white 2	Floating status contact (0.3 A - 110 VDC, 1A - 60 VDC, 3A - 30 VDC), closed at n>= 100 rpm, break for failure
1	6	COM	white 1	Floating status contact, closed at n>= 100 rpm, break for failure
2	8	0-10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kΩ, SELV
2	11	10 VDC	red	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference ground for control interface (SELV)

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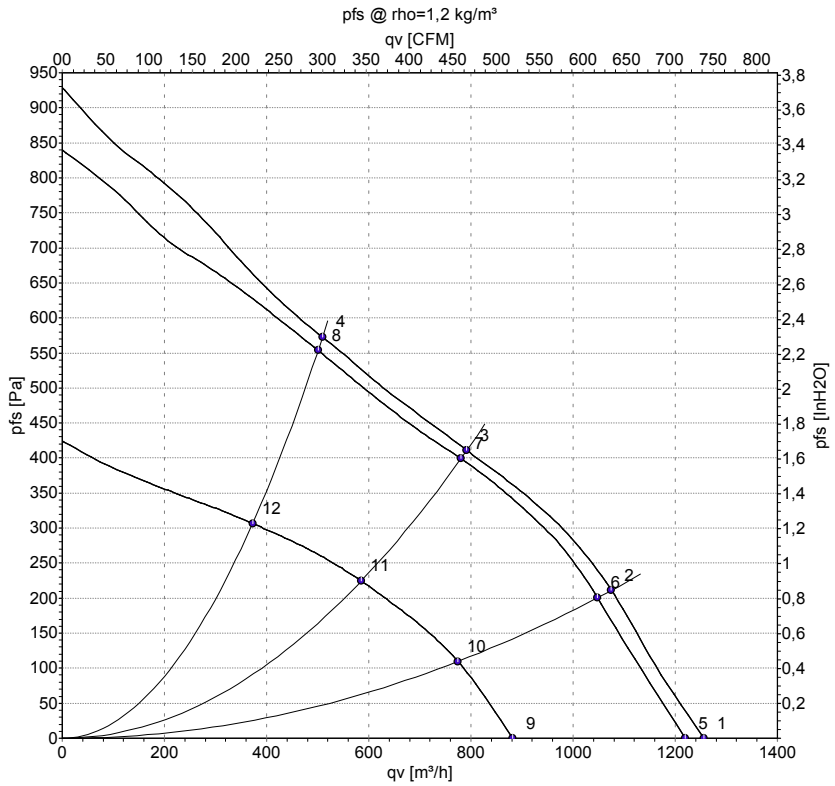
Charts: Air flow



Measurement: LU-158309-1
Measurement: LU-158319-1
Measurement: LU-158146-1

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	n	P_{ed}	I	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	138	3600	190	1.38	1255	0	740	0.00
2	138	3510	191	1.38	1075	215	635	0.86
3	138	3370	190	1.38	790	411	465	1.65
4	138	3455	187	1.36	510	573	300	2.30
5	110	3500	176	1.60	1220	0	715	0.00
6	110	3425	180	1.63	1050	200	615	0.80
7	110	3360	180	1.65	780	400	460	1.61
8	110	3390	174	1.59	500	550	295	2.21
9	77	2550	72	0.93	880	0	520	0.00
10	77	2535	76	0.99	775	110	455	0.44
11	77	2515	81	1.06	585	225	345	0.90
12	77	2540	78	1.01	375	307	220	1.23

U = Supply voltage · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase