EC centrifugal fan - RadiCal

backward-curved, single-intake

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**R3G220-RG15-15**
Motor	**M3G055-CF**

Phase		1~
Nominal voltage	VAC	115
Nominal voltage range	VAC	100 .. 130
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	2480
Power consumption	W	85
Current draw	A	1.3
Min. back pressure	Pa	0
Min. back pressure	inH2O	0
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

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Technical description

Weight	1.4 kg
Fan size	220 mm
Rotor surface	Thick-film passivated
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
Condensation drainage holes	None, open rotor
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for motor - Line undervoltage detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Locked-rotor protection
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE
Approval	UL 1004-7 + 60730; C22.2 No.77 + CAN/CSA-E60730-1

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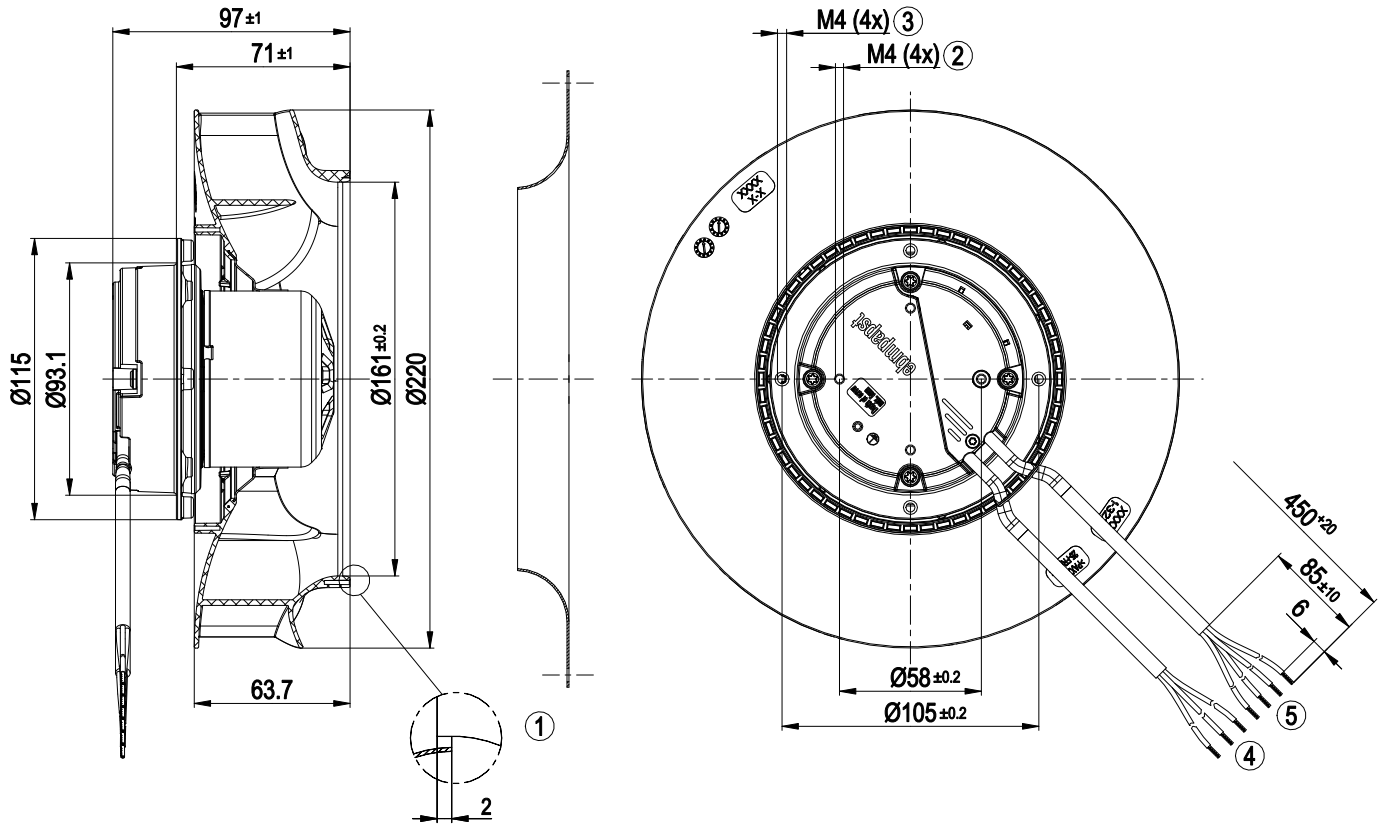
Product drawing



1	Accessory part: inlet ring 09609-2-4013 not included in scope of delivery
2	Max. clearance for screw 5 mm
3	Max. clearance for screw 5 mm
4	Cable PVC 3G 0.5 mm²; 3x crimped splices
5	Cable PVC 4X 0.25 mm²; 4x crimped splices

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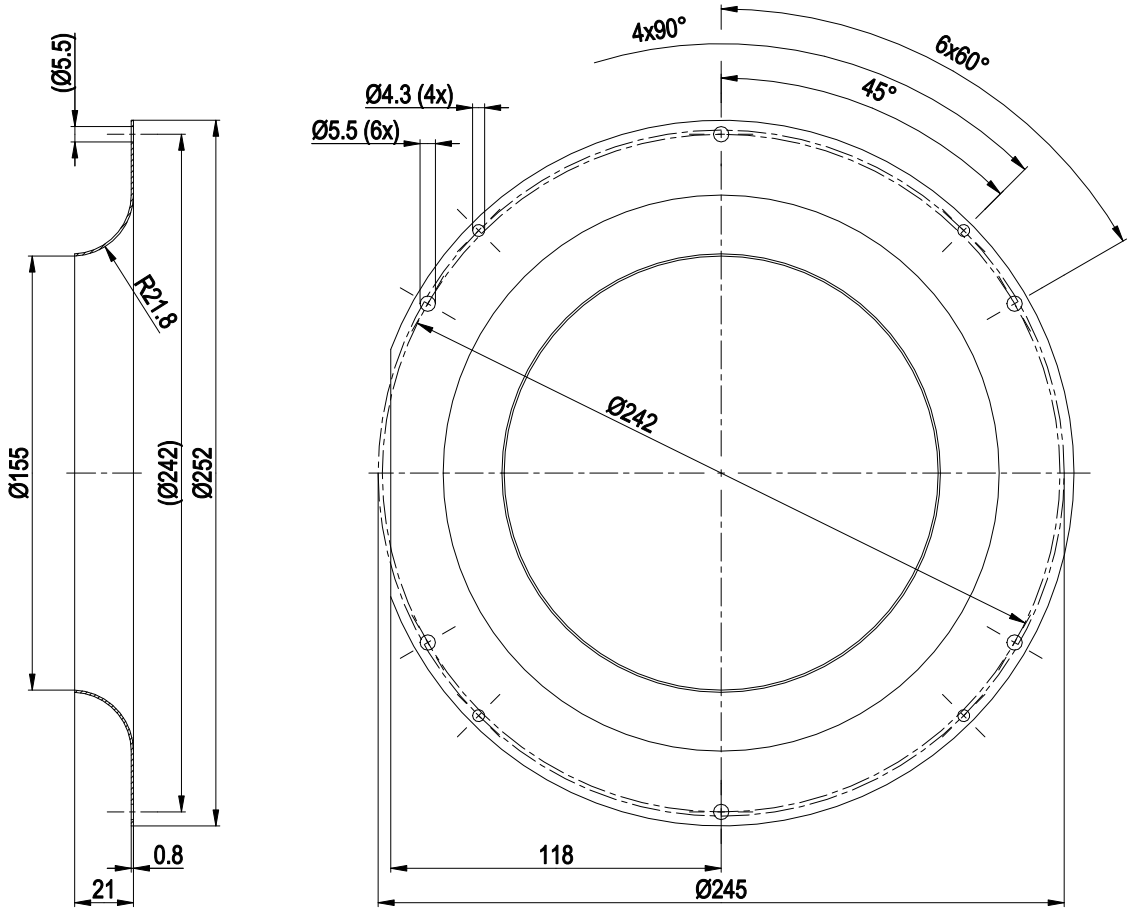
Accessory part



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

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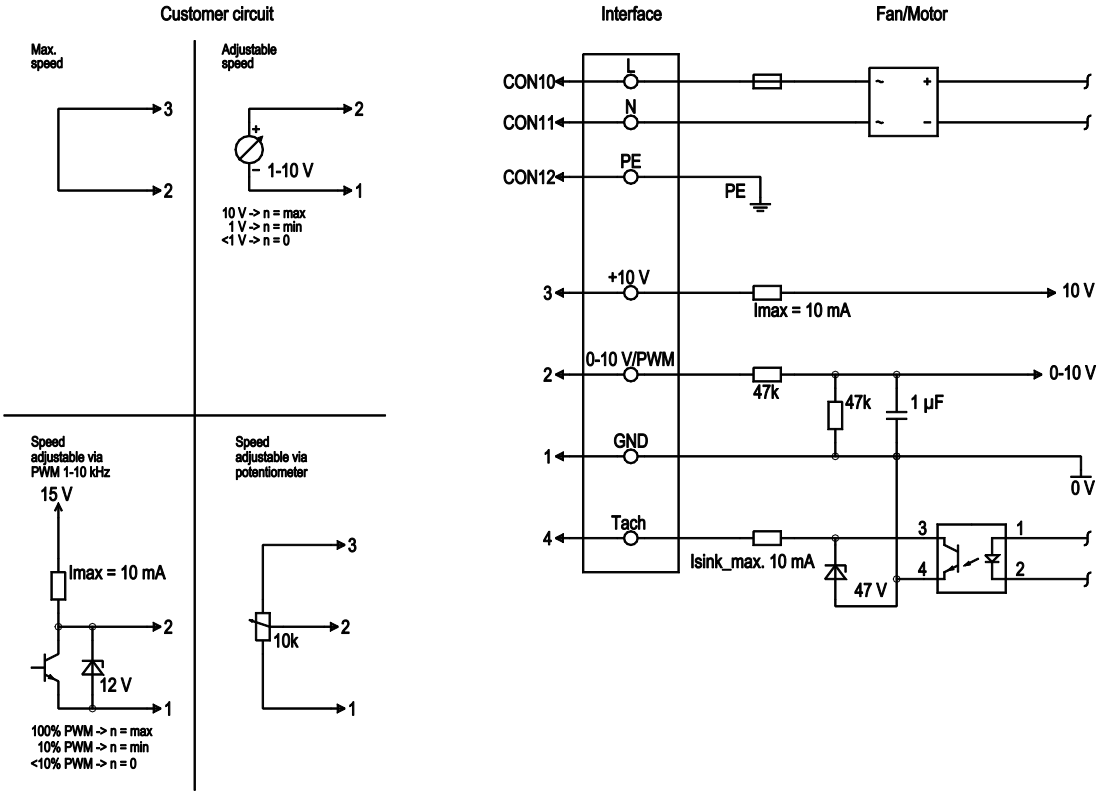
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	CON10	L	brown	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / PWM control input, Ri=100 kΩ, SELV
	4	Tach	white	Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV
	1	GND	blue	Reference ground for control interface, SELV

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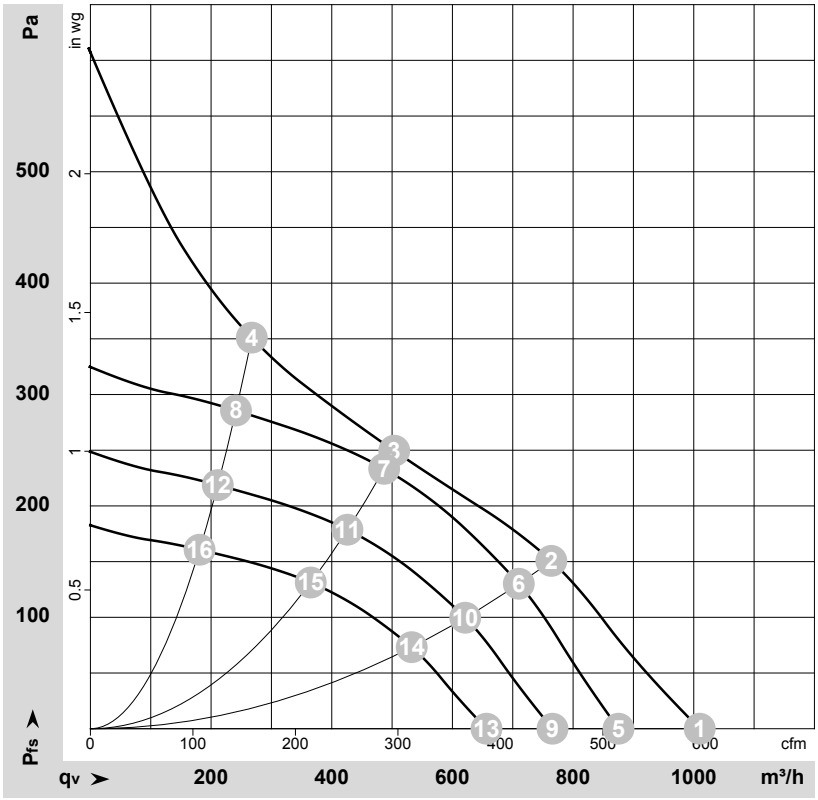
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-178438-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	115	50	2770	85	1.30	63	70	1010	0	595	0.00
2	115	50	2585	85	1.30	57	65	765	150	450	0.60
3	115	50	2480	85	1.30	57	65	505	250	295	1.00
4	115	50	2660	85	1.30	62	70	265	350	155	1.41
5	115	50	2400	54	0.84	59	67	875	0	515	0.00
6	115	50	2400	66	1.03	55	63	710	130	420	0.52
7	115	50	2400	74	1.17	55	63	485	235	285	0.94
8	115	50	2400	61	0.95	59	67	240	286	140	1.15
9	115	50	2100	36	0.57	56	63	765	0	450	0.00
10	115	50	2100	44	0.69	52	60	620	100	365	0.40
11	115	50	2100	50	0.78	52	60	425	180	250	0.72
12	115	50	2100	41	0.64	56	64	210	219	125	0.88
13	115	50	1800	23	0.36	52	60	655	0	385	0.00
14	115	50	1800	28	0.43	48	56	535	73	315	0.29
15	115	50	1800	31	0.49	48	56	365	132	215	0.53
16	115	50	1800	26	0.40	52	60	180	161	105	0.65

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
q_V = Air flow · p_{fs} = Pressure increase