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-RG05-09**
Motor	**M3G055-CF**

Phase		1~
Nominal voltage	VAC	230
Frequency	Hz	50/60
Method of obtaining data		fa
Speed (rpm)	min^{-1}	2550
Power consumption	W	60
Current draw	A	0.55
Min. ambient temperature	°C	-25
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	0.7 kg
Fan size	220 mm
Rotor surface	Thick-film passivated
Electronics housing material	Die-cast aluminum
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
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 electronics/motor - Line undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
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	EAC

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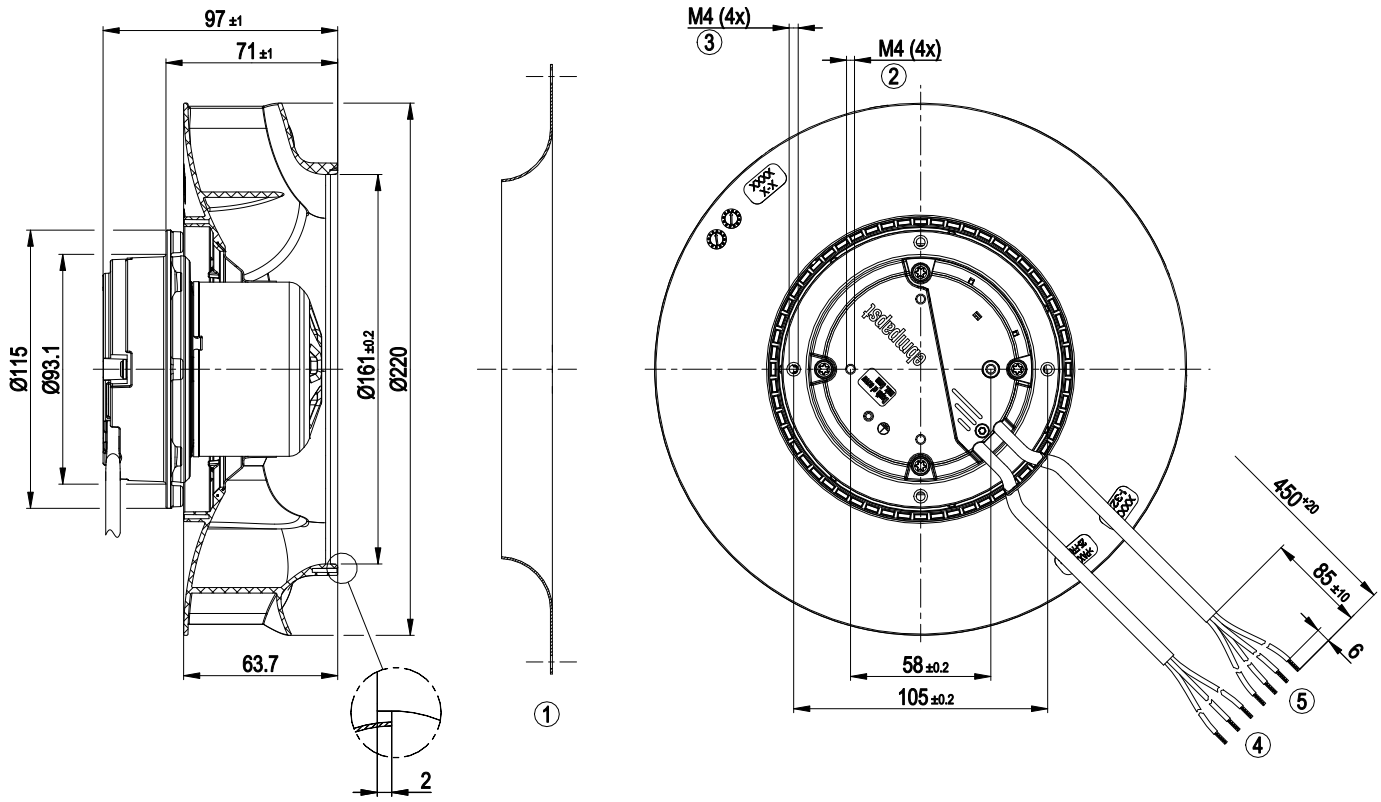
Product drawing



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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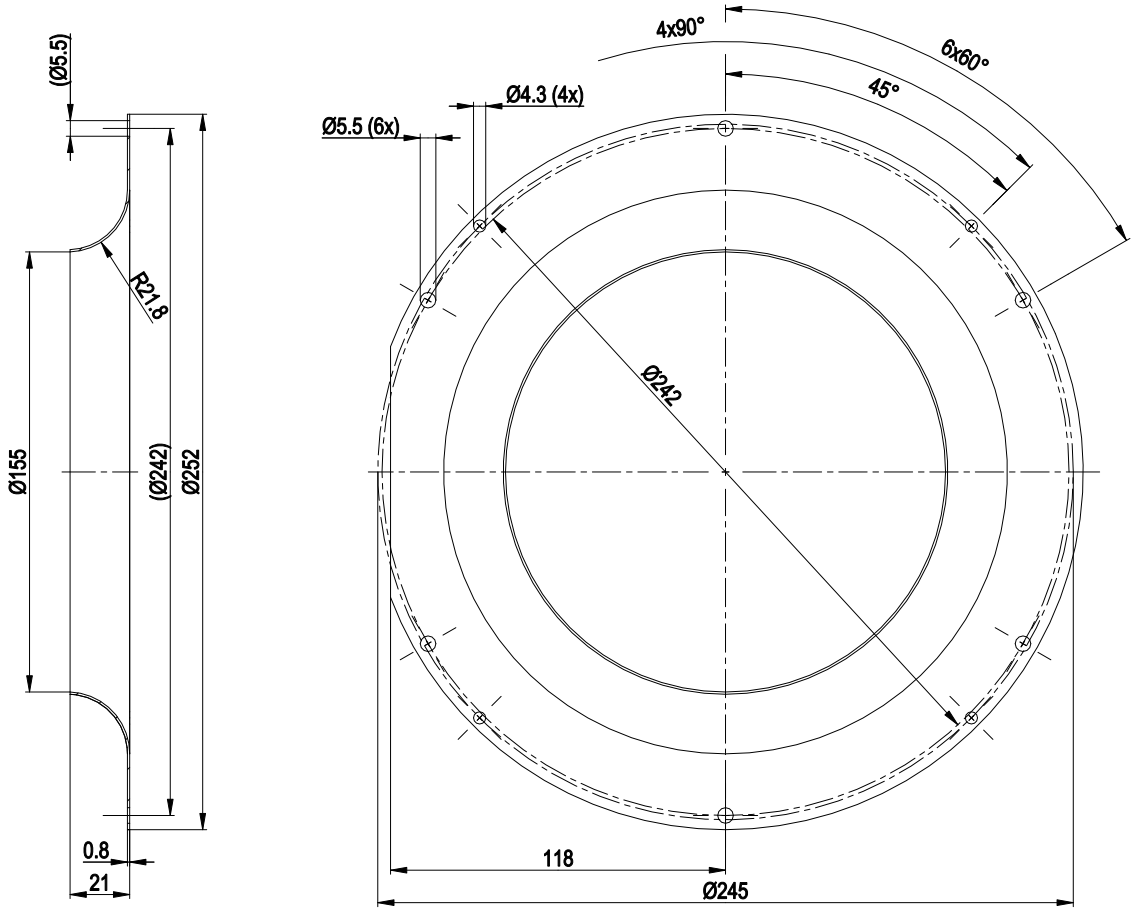
Accessory part



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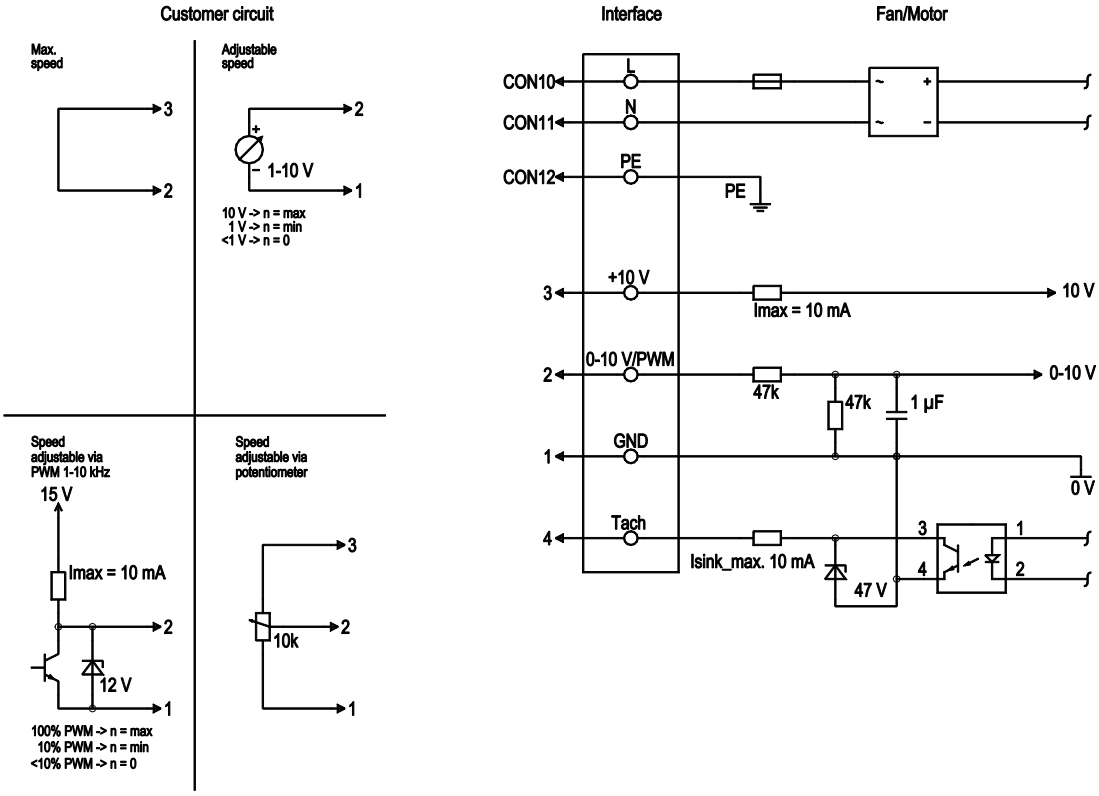
Connection diagram



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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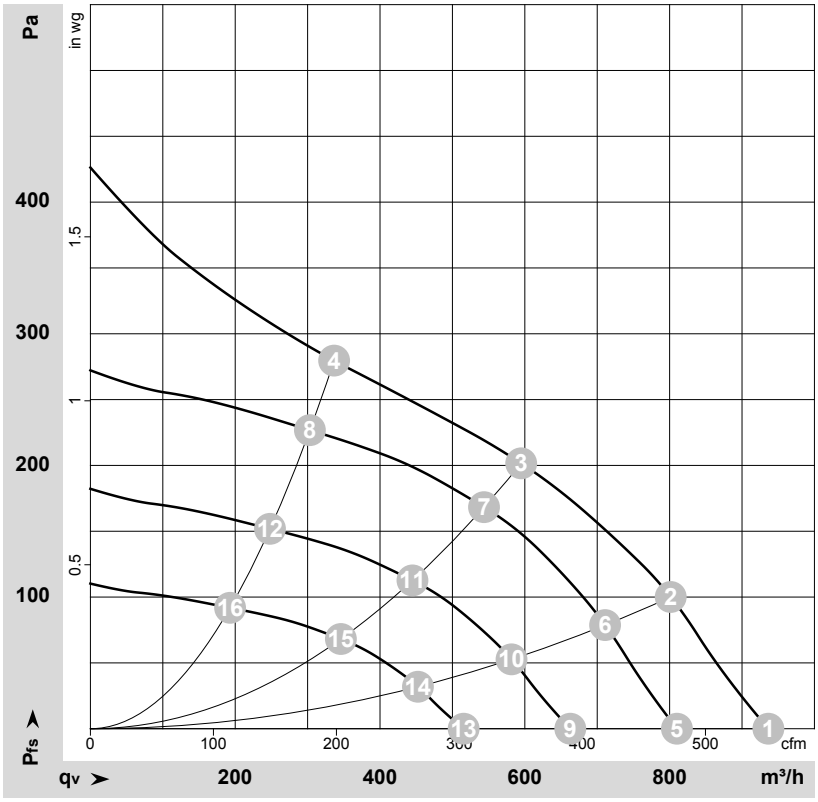
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-174755-1

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}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	230	50	2550	60	0.55	61	69	935	0	550	0.00
2	230	50	2485	65	0.57	57	65	800	100	470	0.40
3	230	50	2410	71	0.62	54	62	595	200	350	0.80
4	230	50	2440	67	0.59	57	65	335	280	200	1.12
5	230	50	2200	39	0.35	57	65	810	0	475	0.00
6	230	50	2200	45	0.40	54	62	710	81	420	0.33
7	230	50	2200	54	0.47	52	60	545	168	320	0.67
8	230	50	2200	49	0.43	53	62	305	227	180	0.91
9	230	50	1800	21	0.19	52	60	665	0	390	0.00
10	230	50	1800	25	0.22	49	57	580	54	345	0.22
11	230	50	1800	29	0.26	47	55	445	113	260	0.45
12	230	50	1800	27	0.24	48	57	250	152	145	0.61
13	230	50	1400	10.0	0.09	46	53	515	0	305	0.00
14	230	50	1400	12	0.10	42	50	450	33	265	0.13
15	230	50	1400	14	0.12	40	48	345	68	205	0.27
16	230	50	1400	13	0.11	42	50	195	92	115	0.37

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
qv = Air flow · p_{fs} = Pressure increase