EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G220-RG53-17 ebmpapst Datasheet

sales@fansco.com

www.fansco.com

Nominal data

Type	**R3G220-RG53-17**
Motor	**M3G055-CF**

Phase		1~
Nominal voltage	VAC	115
Nominal voltage range	VAC	100 .. 130
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2450
Power consumption	W	75
Current draw	A	1.2
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

R3G220-RG53-17 ebmpapst Datasheet sales@fansco.com www.fansco.com

EC centrifugal fan - RadiCal

backward-curved, single-intake

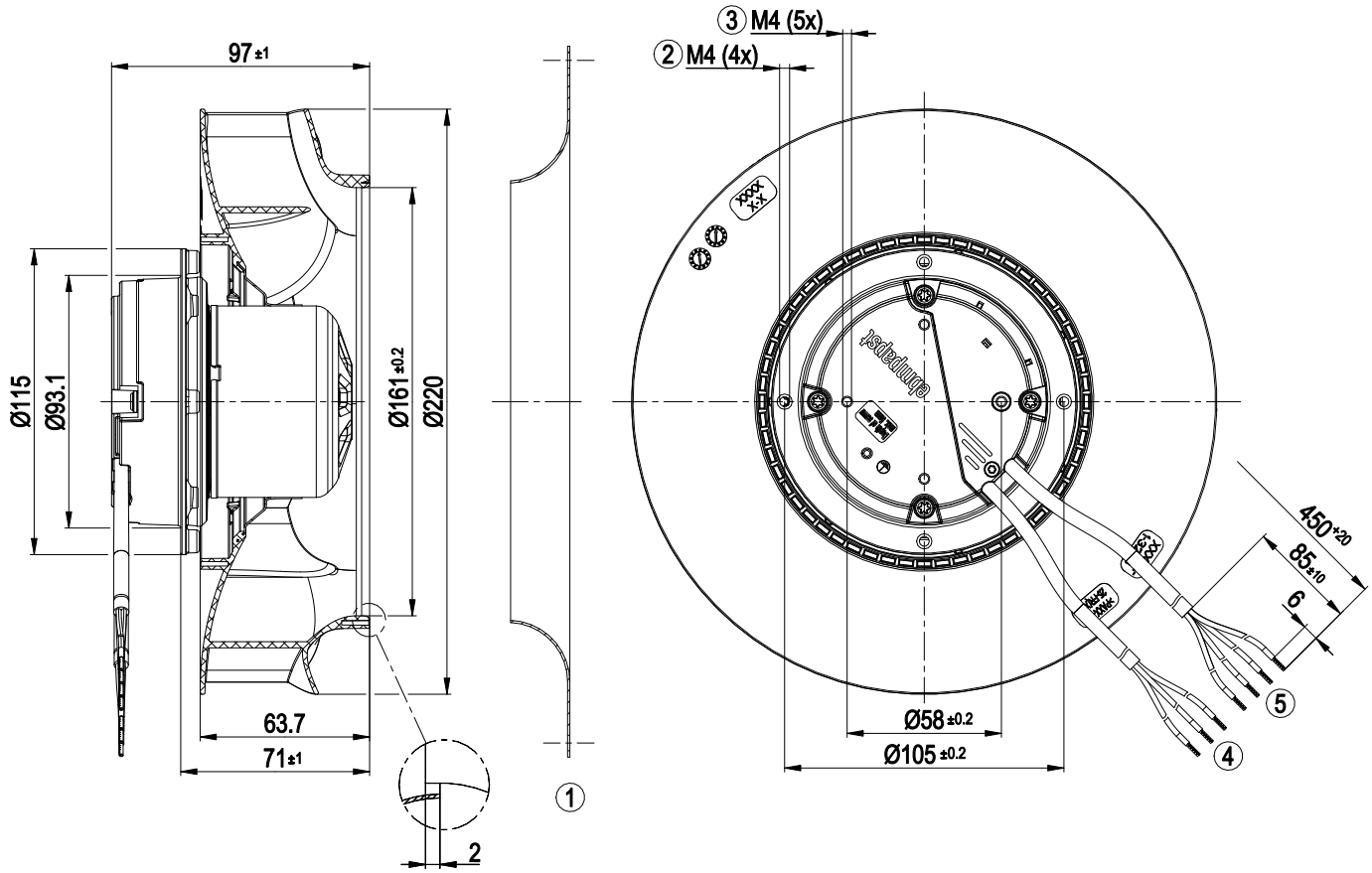
Technical description

Weight	1.36 kg
Size	220 mm
Motor size	55
Rotor surface	Thick-film passivated
Impeller material	PP 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
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
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	Electronic motor protection
With cable	Variable
Protection class assignment	I; If a protective earth is connected by the customer This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Conformity with standards	EN 60034-1; EN 60204-1; EN 60335-1; UKCA; CE
Comment on CE	Ecodesign Directive 2009/125/EC + Fan Directive (EC) No. 327/2011 does not apply, as power consumption <125W.
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

EC centrifugal fan - RadiCal

backward-curved, single-intake

Product drawing

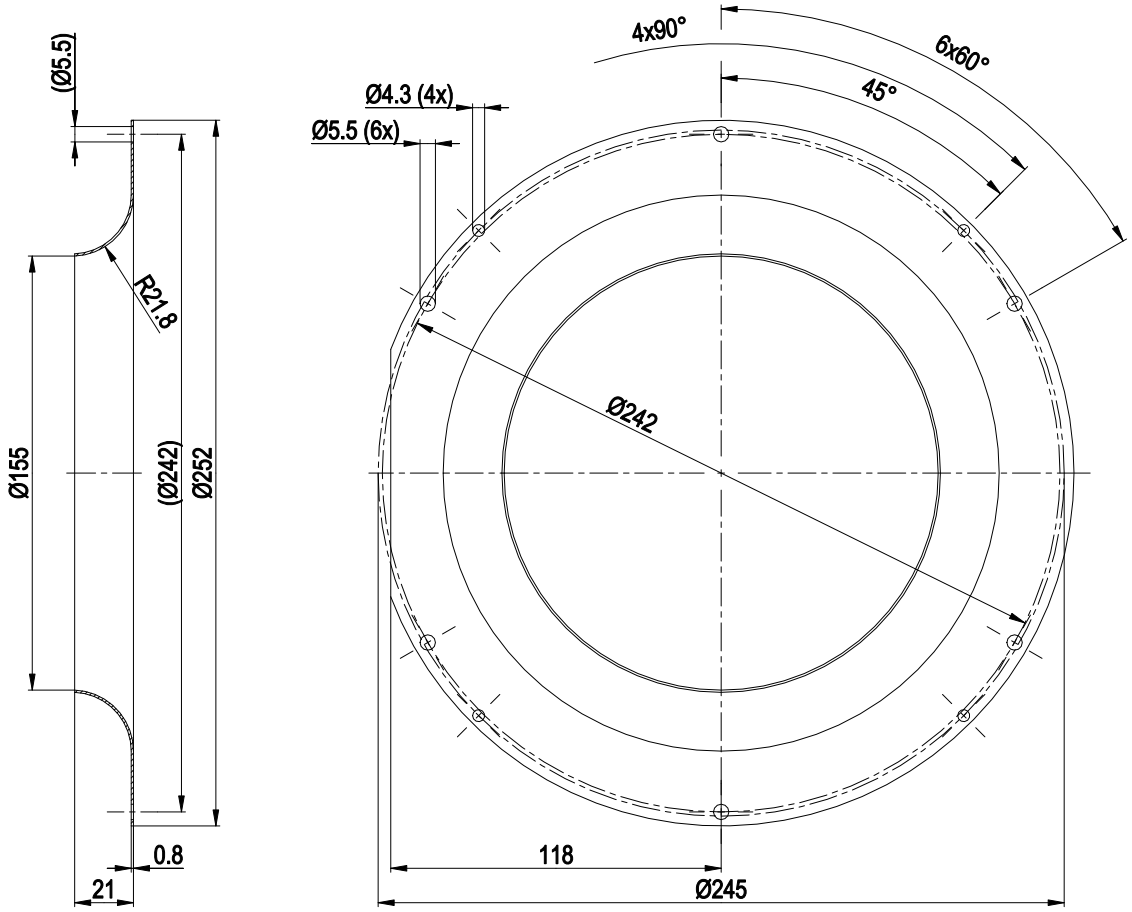


1	Accessory part: inlet ring 09609-2-4013 not included in scope of delivery
2	Max. clearance for screw 6 mm
3	Max. clearance for screw 5 mm
4	Cable PVC AWG20
	3x splice
5	Cable PVC AWG22
	4x splice

EC centrifugal fan - RadiCal

backward-curved, single-intake

Accessory part

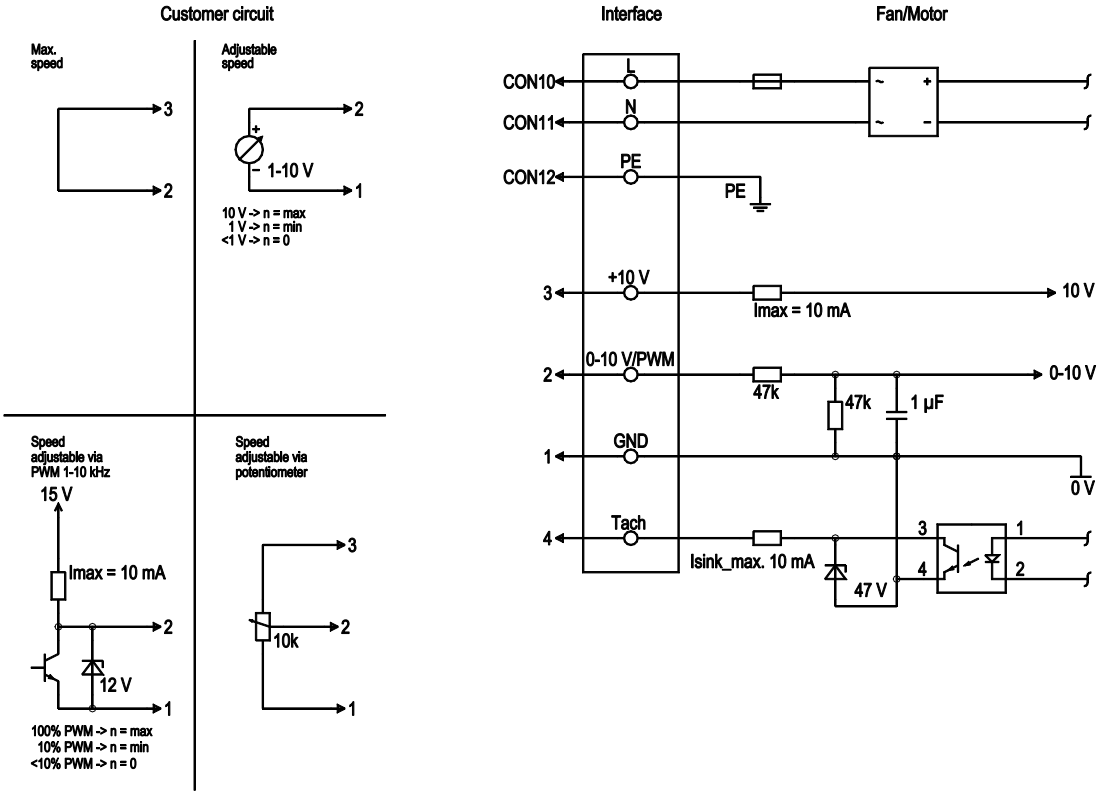


Inlet ring 09609-2-4013

EC centrifugal fan - RadiCal

backward-curved, single-intake

Connection diagram

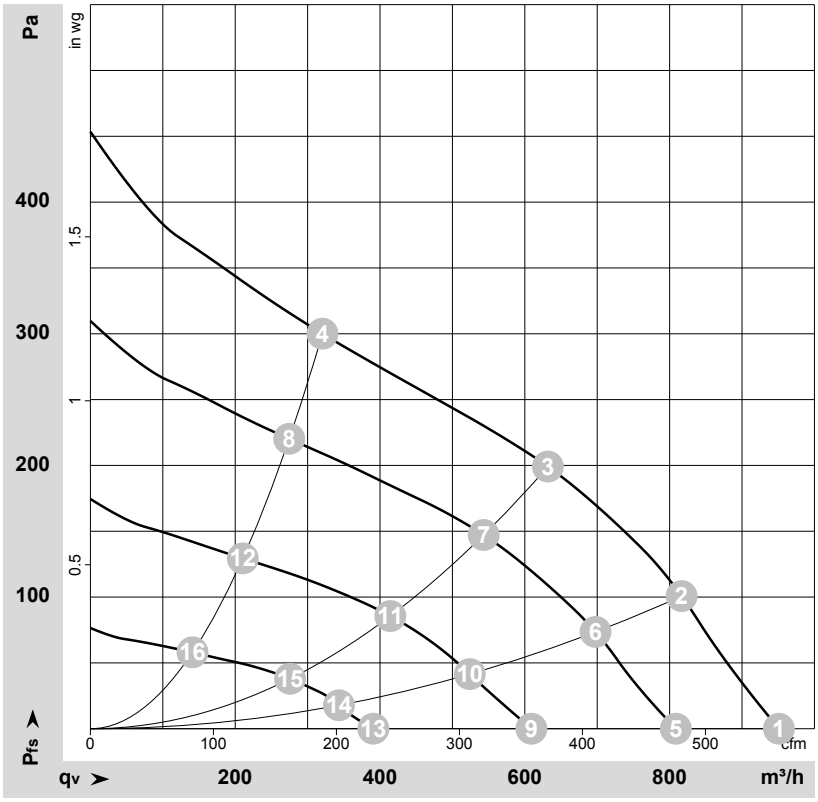


No.	Conn.	Designation	Color	Function/assignment
	CON10	L	brown	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / 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

EC centrifugal fan - RadiCal

backward-curved, single-intake

Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-177886-1

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	in. wg
1	115	50	2630	66	1.06	62	70	950	0	560	0.00
2	115	50	2555	71	1.14	58	66	815	100	480	0.40
3	115	50	2450	75	1.20	56	63	630	200	370	0.80
4	115	50	2520	72	1.15	58	65	320	300	190	1.20
5	115	50	2230	41	0.70			810	0	475	0.00
6	115	50	2180	44	0.75			700	75	410	0.30
7	115	50	2130	48	0.80			545	147	320	0.59
8	115	50	2160	46	0.77			275	220	160	0.88
9	115	50	1695	19	0.36			610	0	360	0.00
10	115	50	1670	21	0.39			525	41	310	0.16
11	115	50	1640	23	0.42			415	86	245	0.35
12	115	50	1660	22	0.40			210	129	125	0.52
13	115	50	1130	7.0	0.16			390	0	230	0.00
14	115	50	1115	8.0	0.17			345	18	200	0.07
15	115	50	1105	8.0	0.18			275	38	160	0.15
16	115	50	1110	8.0	0.18			140	58	85	0.23

U = Voltage · 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