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-RD19-18**
Motor	**M3G055-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	3085
Power consumption	W	145
Current draw	A	1.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

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

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	58.1	42.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		77.5	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.14
09 Air flow q_v	m^3/h	805
09 Pressure increase p_{fs}	Pa	328
10 Speed (rpm) n	min^{-1}	3095
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-135496

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Technical description

Weight	1.5 kg
Size	220 mm
Motor size	55
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	- Tach output - Power limiter - Soft start - PWM control input - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Connector with cable
Motor protection	Electronic motor protection
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; EN 60335-2-31; CE
Approval	VDE; CCC

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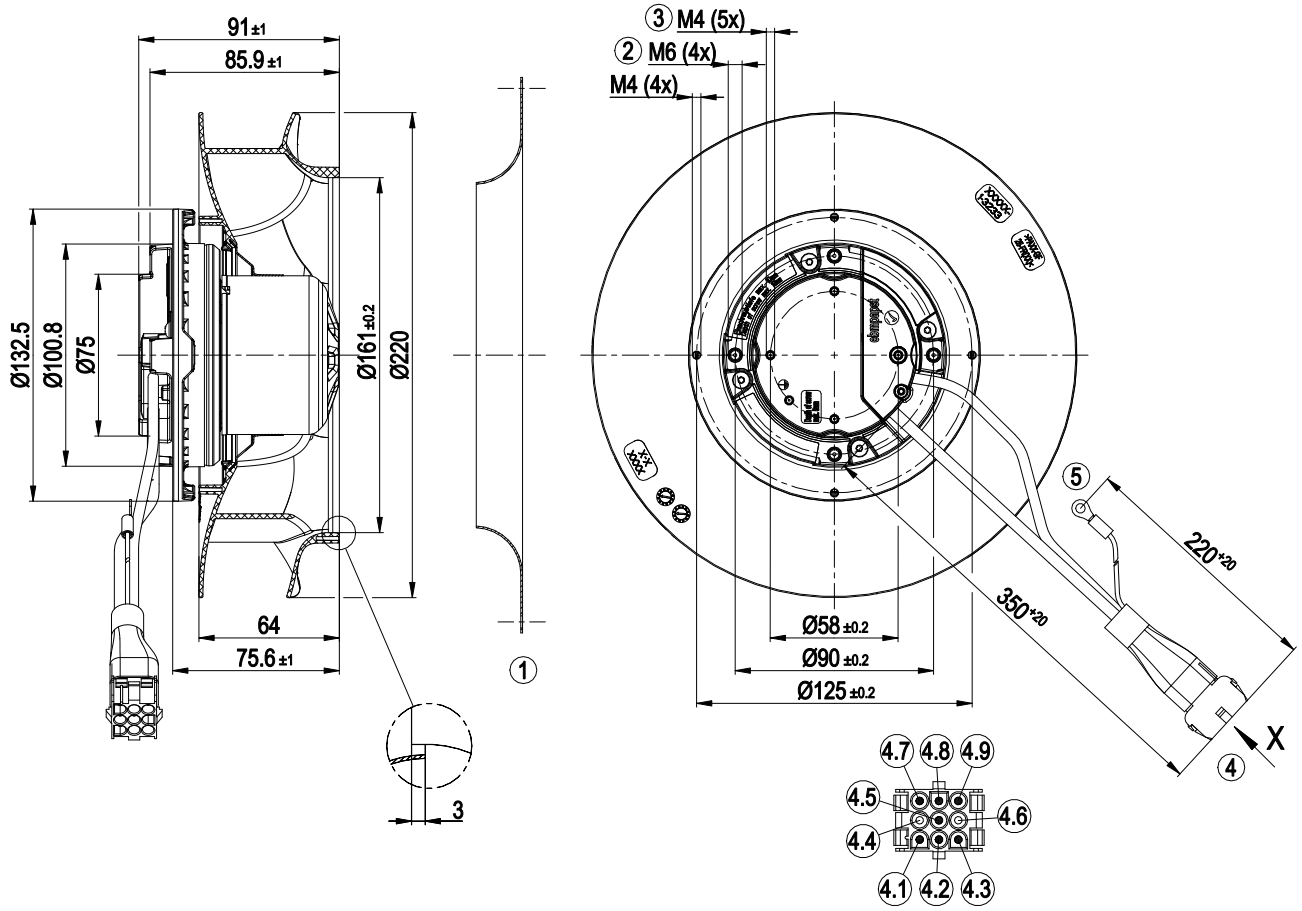
Product drawing



1	Accessory part: inlet ring 09609-2-4013 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Max. clearance for screw 5 mm
4	Cable PVC AWG20
	Cable PVC AWG22
	9-pole connector housing TE 927231-7, 7x socket TE 926884-1
4.1	PE (green/yellow)
4.2	L (black)
4.3	N (blue)
4.4	not used
4.5	gray
4.6	not used
4.7	GND (blue)
4.8	PWM (yellow)
4.9	Tach (white)
5	Cable PVC AWG18 (gray)
	Ring terminal dia. 4.3

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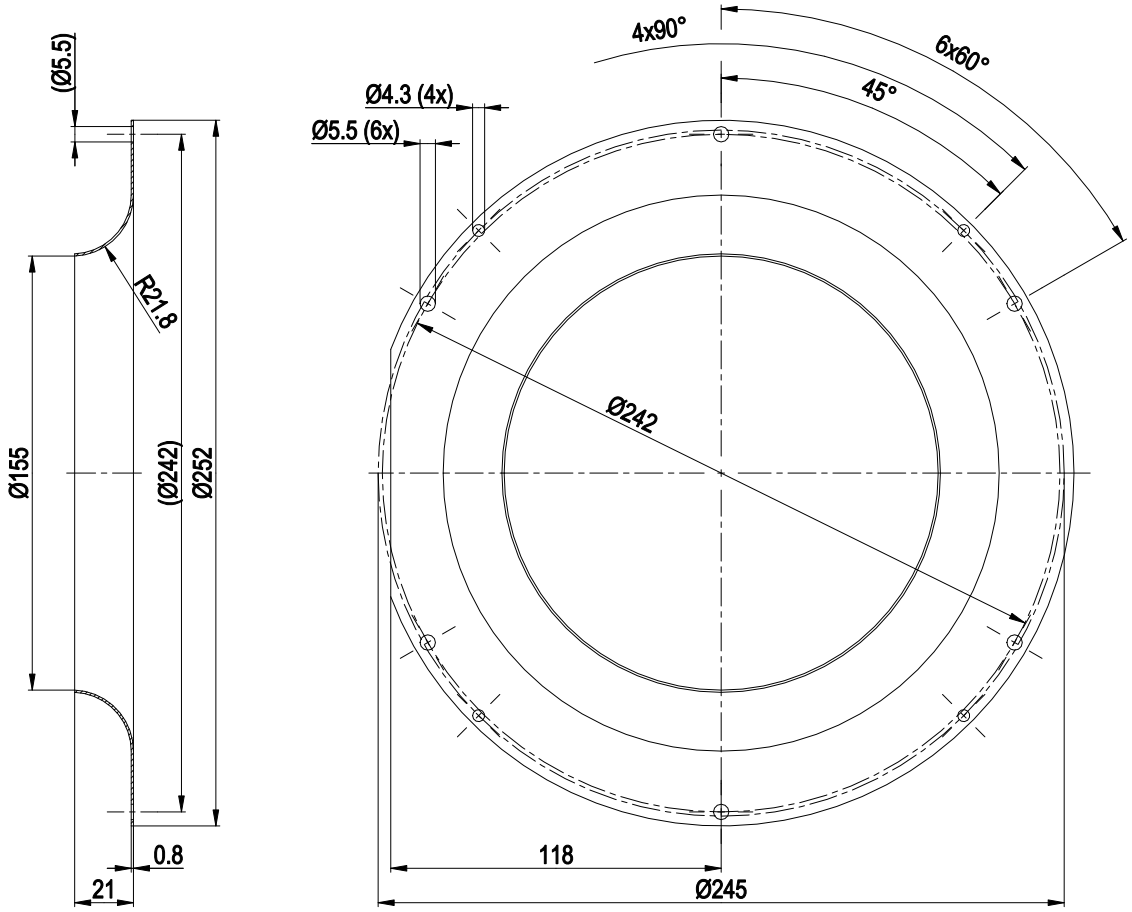
Accessory part



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

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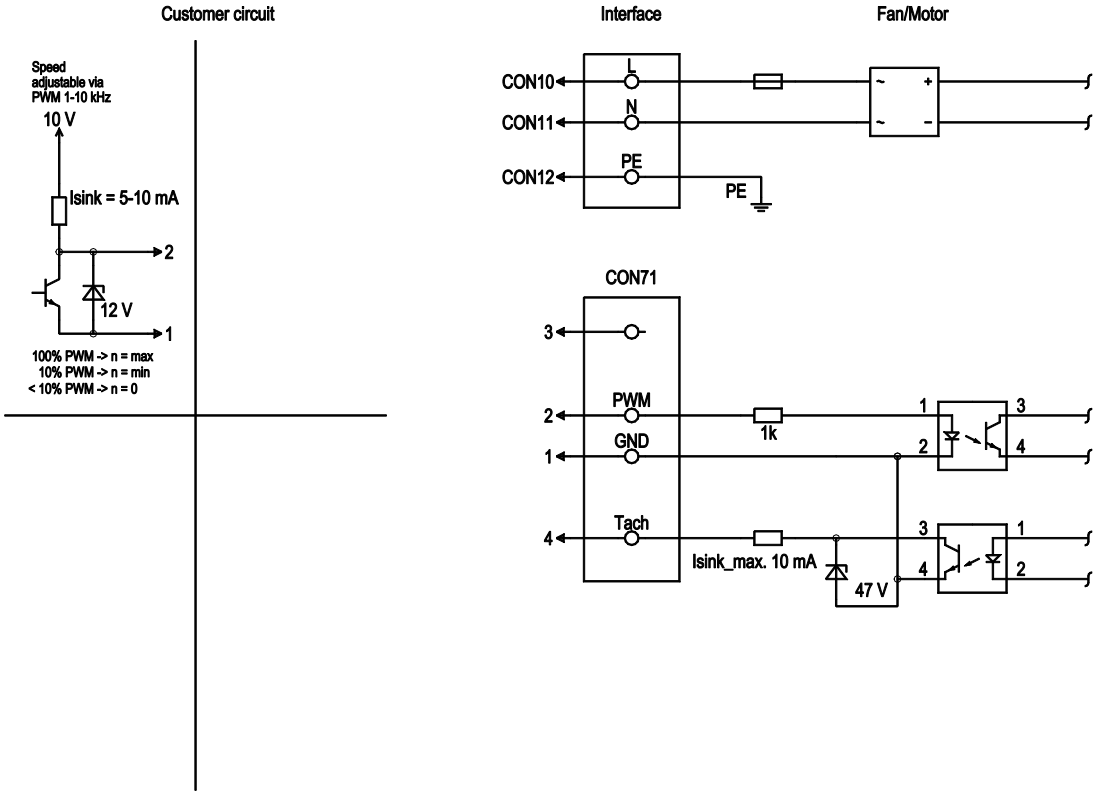
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Power supply, phase, see nameplate for voltage range
	CON11	N	blue	Power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Protective earth
CON71	3	leer		not used
CON71	2	PWM	yellow	PWM, impedance 1 kΩ; SELV
CON71	4	Tacho	white	Tach output: open collector, 1 pulse per revolution, Isink max = 10 mA, SELV
CON71	1	GND	blue	Reference ground for control interface, SELV

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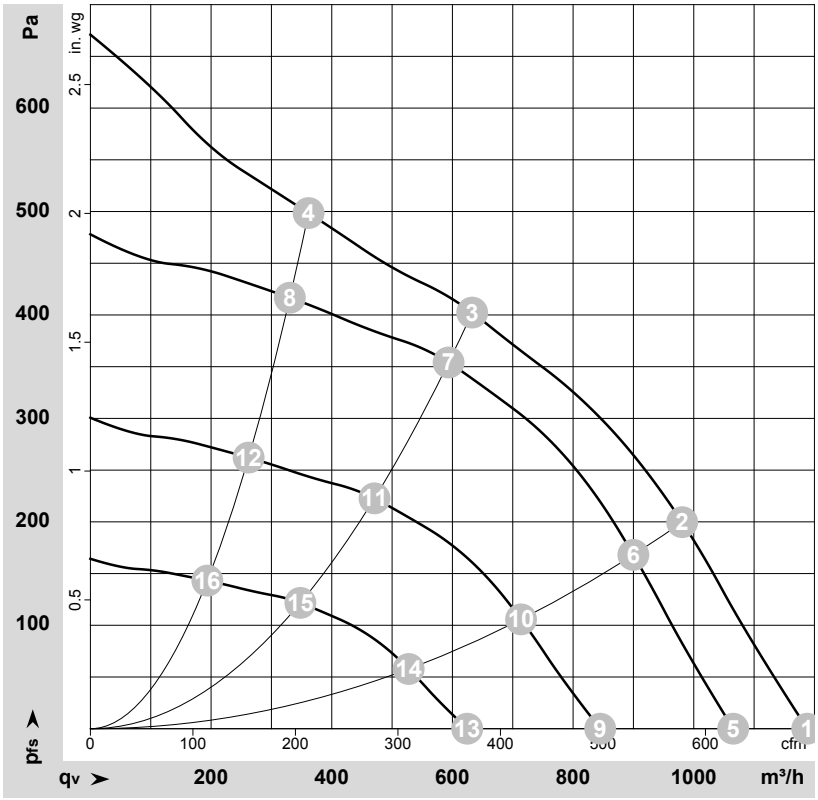
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-135496-1

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

	Wired	U	f	n	P_{ed}	I	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	1~	230	50	3235	120	0.98	1190	0	700	0.00
2	1~	230	50	3160	134	1.10	980	200	575	0.80
3	1~	230	50	3085	145	1.20	635	400	375	1.61
4	1~	230	50	3170	132	1.06	360	500	215	2.01
5	1~	230	50	2900	86	0.71	1065	0	625	0.00
6	1~	230	50	2900	103	0.84	900	169	530	0.68
7	1~	230	50	2900	118	0.95	595	354	350	1.42
8	1~	230	50	2900	101	0.81	330	417	195	1.67
9	1~	230	50	2300	43	0.35	845	0	495	0.00
10	1~	230	50	2300	52	0.42	715	106	420	0.43
11	1~	230	50	2300	59	0.48	470	223	275	0.90
12	1~	230	50	2300	50	0.40	260	262	155	1.05
13	1~	230	50	1700	17	0.14	625	0	370	0.00
14	1~	230	50	1700	21	0.17	530	58	310	0.23
15	1~	230	50	1700	24	0.19	350	122	205	0.49
16	1~	230	50	1700	20	0.16	195	143	115	0.57

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase