R3G310-RB02-12

EC centrifugal fan - RadiCal

backward-curved

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Nominal data

Type	**R3G310-RB02-12**
Motor	**M3G074-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}	1585
Power consumption	W	168
Current draw	A	1.4
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

Data according to Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	65.7	43.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		84.6	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	1555
09 Pressure increase p_{fs}	Pa	222
10 Speed (rpm) n	min^{-1}	1580
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-182291

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Technical description

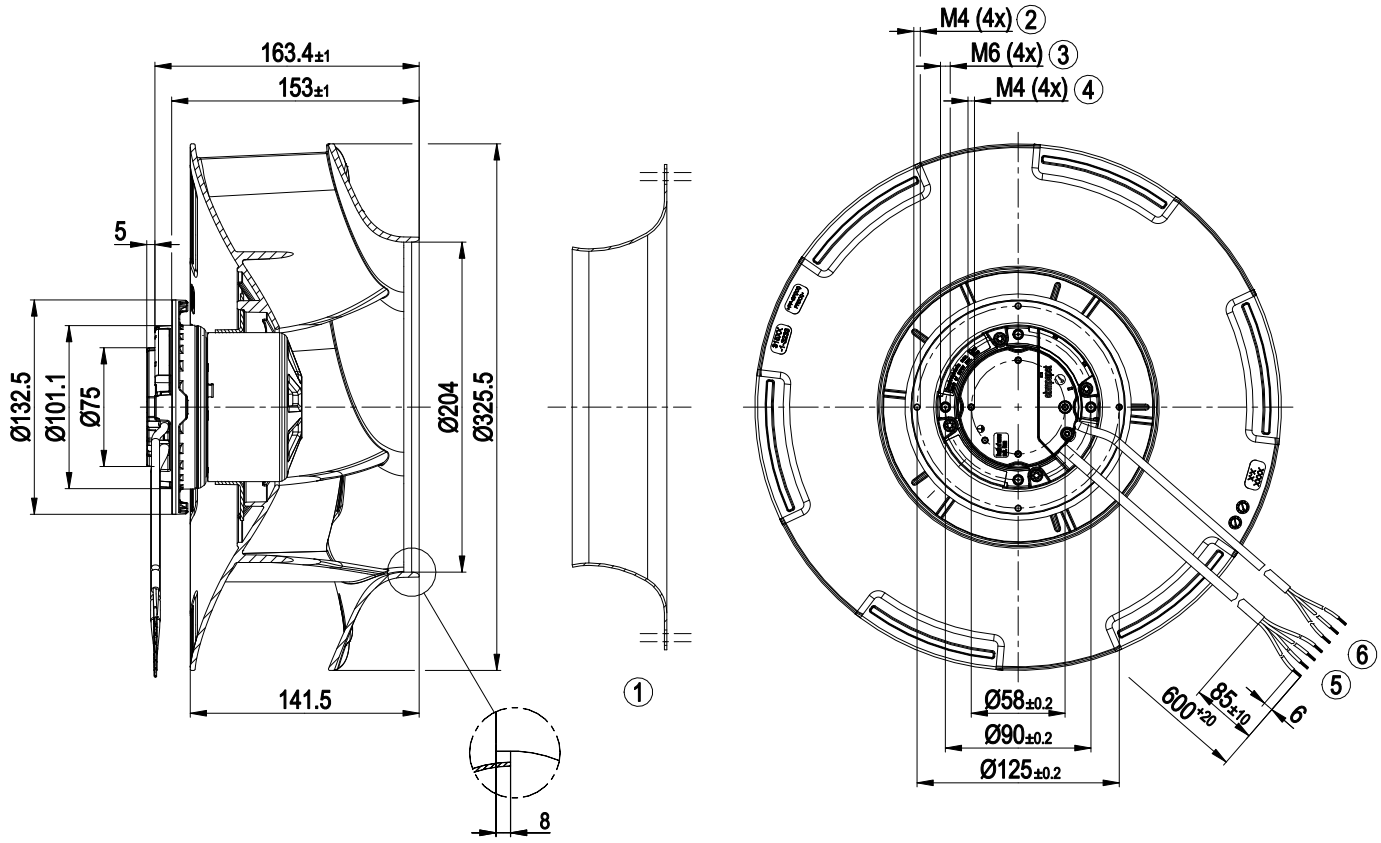
Weight	3.0 kg
Fan size	310 mm
Rotor surface	Thick-film passivated
Impeller material	PP plastic
Housing material	Die-cast aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H0 - dry environment
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
Cooling hole/opening	On rotor side
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
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	PTC thermistor
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE

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Product drawing



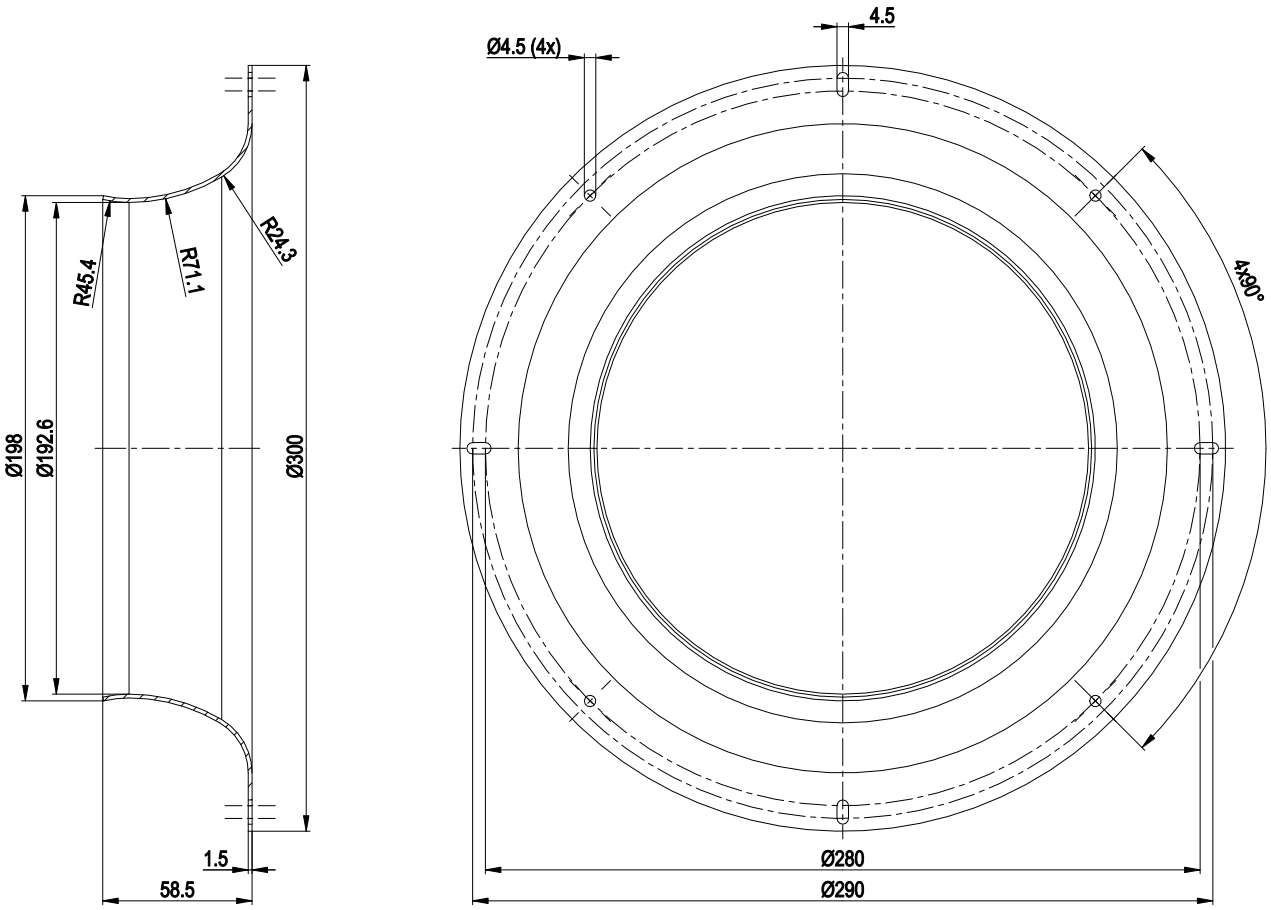
1	Accessory part: Inlet ring 31000-2-4013 not included in scope of delivery, other inlet rings on request
2	Max. clearance for screw 10 mm
3	Max. clearance for screw 10 mm
4	Max. clearance for screw 10 mm
5	Cable PVC AWG22, 4x crimped splices
6	Cable PVC AWG20, 3x crimped splices

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Accessory part



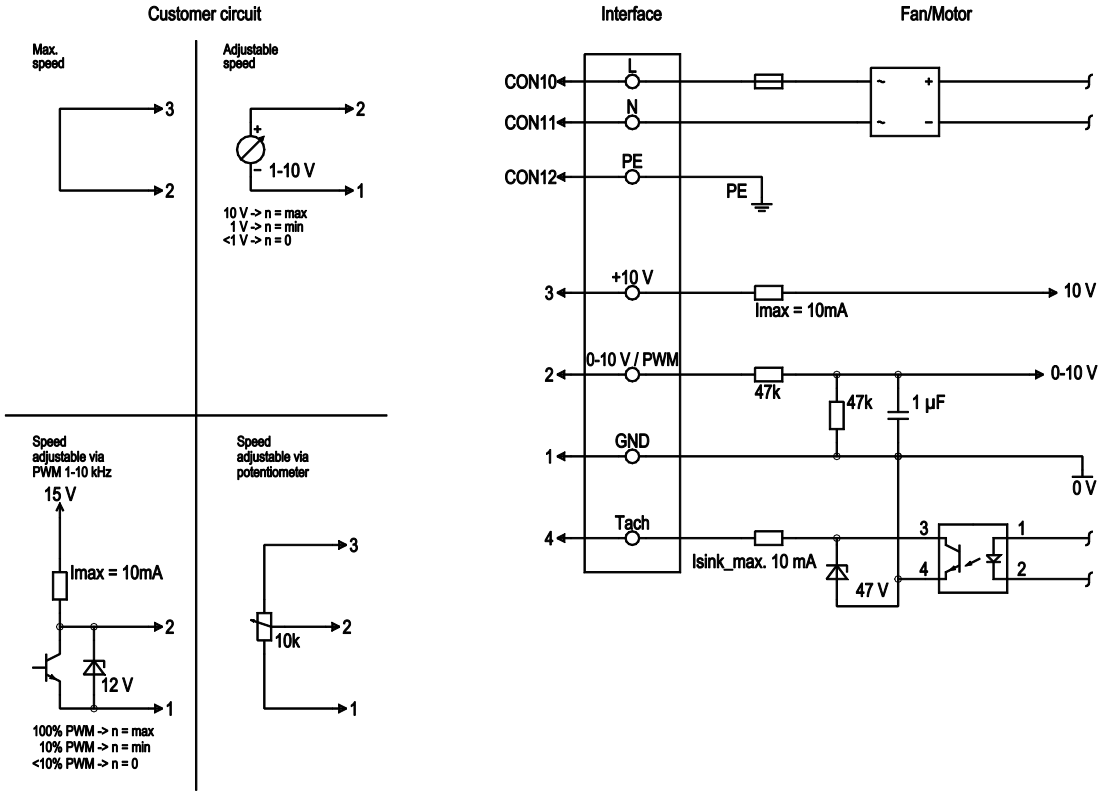
Accessory part: inlet ring 31000-2-4013 not included in scope of delivery

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Connection diagram



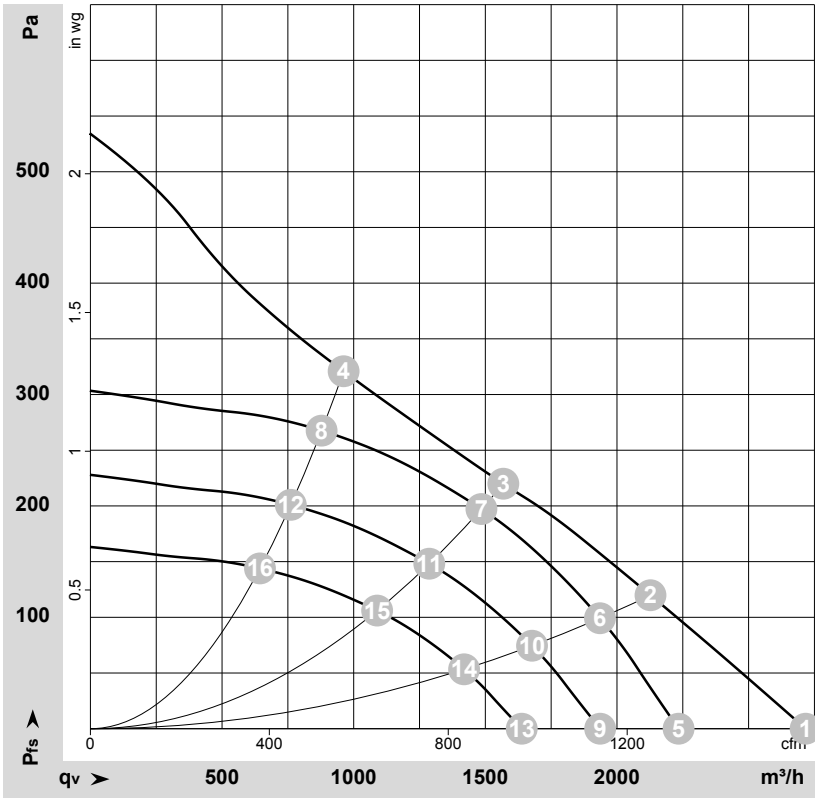
No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / 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-182291-1

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	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	230	50	1825	168	1.40	2715	0	1600	0.00
2	230	50	1650	168	1.40	2125	120	1250	0.48
3	230	50	1585	168	1.40	1570	220	925	0.88
4	230	50	1640	168	1.40	960	320	565	1.28
5	230	50	1500	92	0.75	2235	0	1315	0.00
6	230	50	1500	125	1.01	1935	99	1140	0.40
7	230	50	1500	142	1.15	1485	198	875	0.79
8	230	50	1500	129	1.04	880	268	515	1.08
9	230	50	1300	60	0.49	1935	0	1140	0.00
10	230	50	1300	81	0.66	1675	75	985	0.30
11	230	50	1300	92	0.75	1285	149	755	0.60
12	230	50	1300	84	0.68	760	201	450	0.81
13	230	50	1100	36	0.29	1640	0	965	0.00
14	230	50	1100	49	0.40	1420	53	835	0.21
15	230	50	1100	56	0.45	1090	106	640	0.43
16	230	50	1100	51	0.41	645	144	380	0.58

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

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