R3G280-RB02-19

EC centrifugal fan - RadiCal

backward-curved, single-intake

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Nominal data

Type	**R3G280-RB02-19**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1910
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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	64.4	43.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		83.1	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	1400
09 Pressure increase p_{fs}	Pa	240
10 Speed (rpm) n	min^{-1}	1775
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

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Technical description

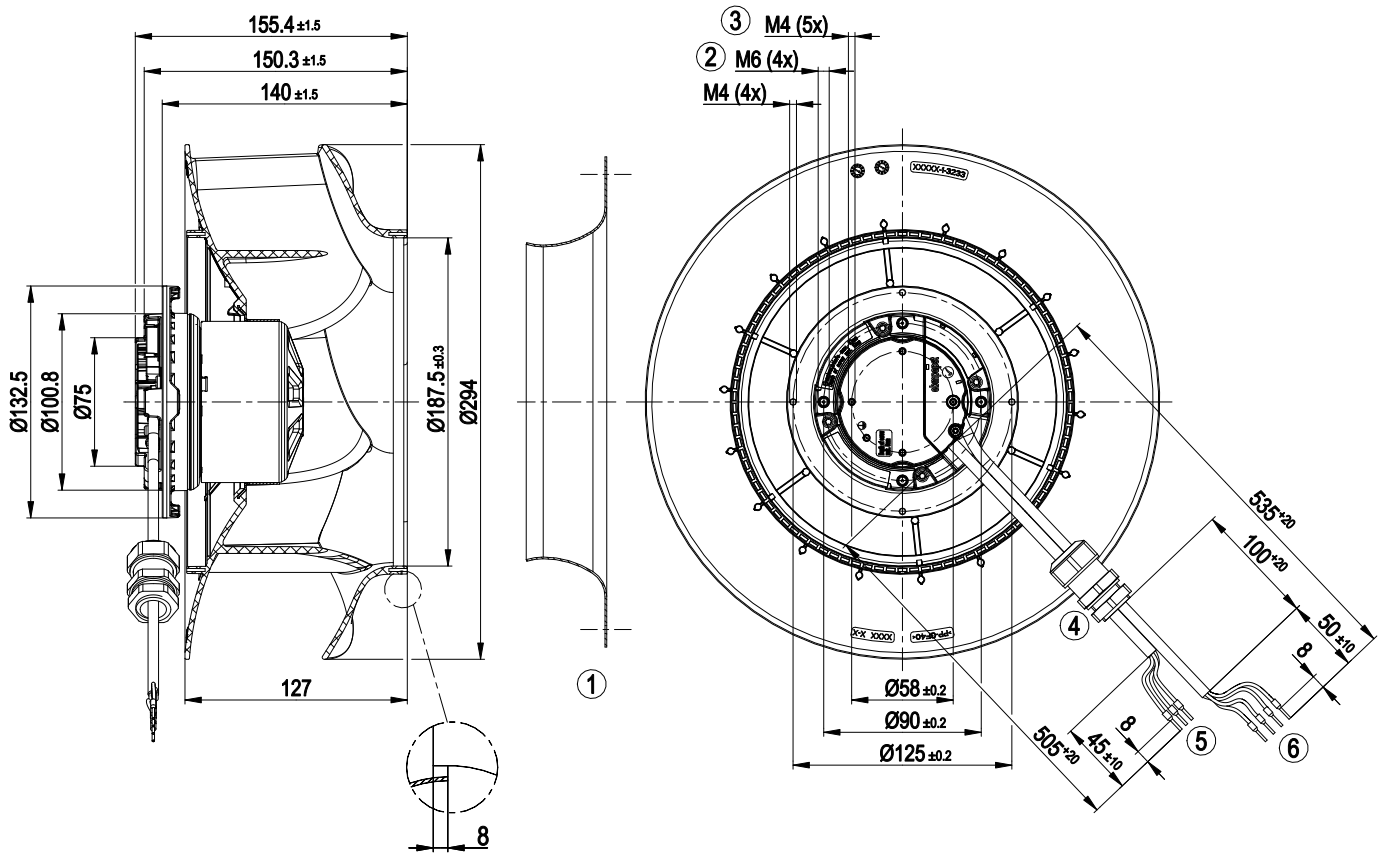
Weight	2.5 kg
Size	280 mm
Motor size	74
Rotor surface	Galvanized
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
Condensation drainage holes	None, open rotor
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
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial 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	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE
Approval	EAC

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Product drawing



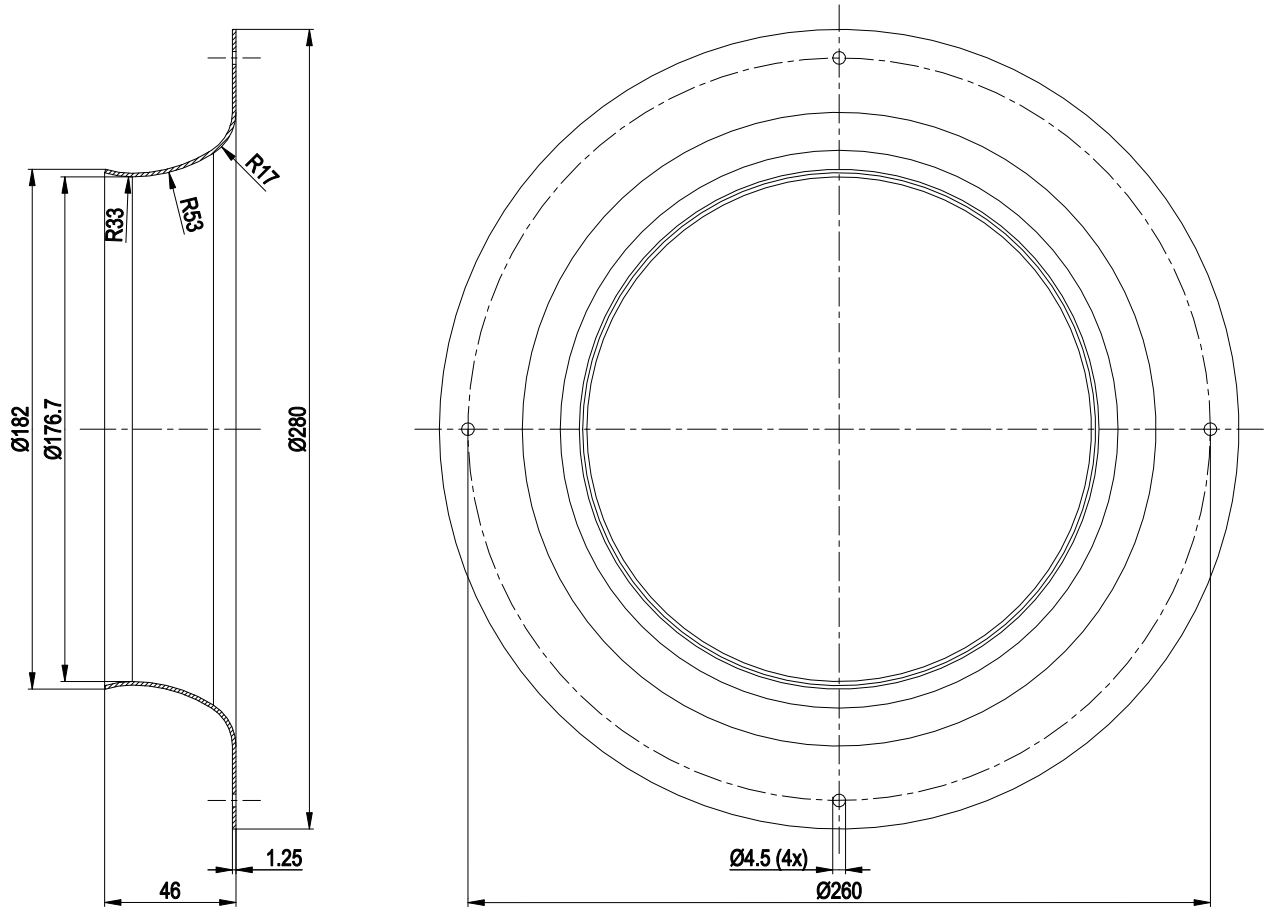
1	Accessory part: inlet ring 28000-2-4013 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Max. clearance for screw 5 mm
4	Cable diameter min. 5 mm, max. 7 mm, tightening torque 2±0.3 Nm
5	Cable PVC AWG20
	3x wire-end ferrule
6	Cable PVC AWG22
	4x wire-end ferrule

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Accessory part



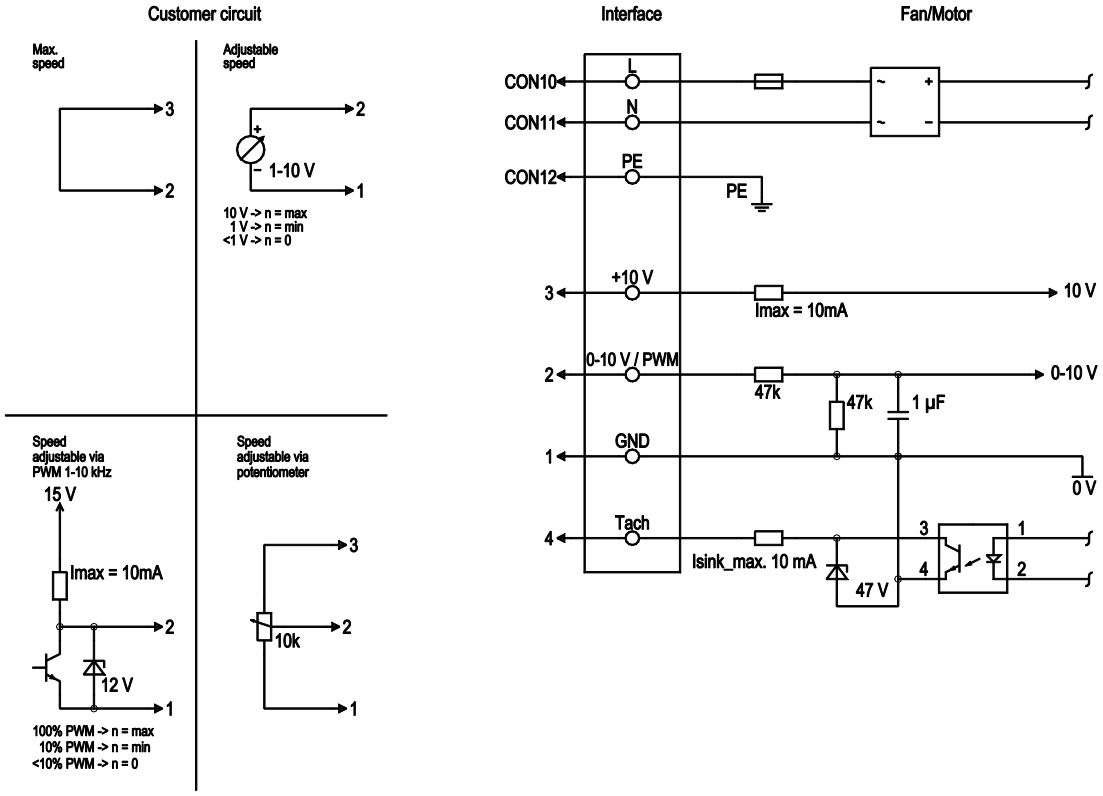
Accessory part: inlet ring 28000-2-4013 not included in scope of delivery

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Connection diagram



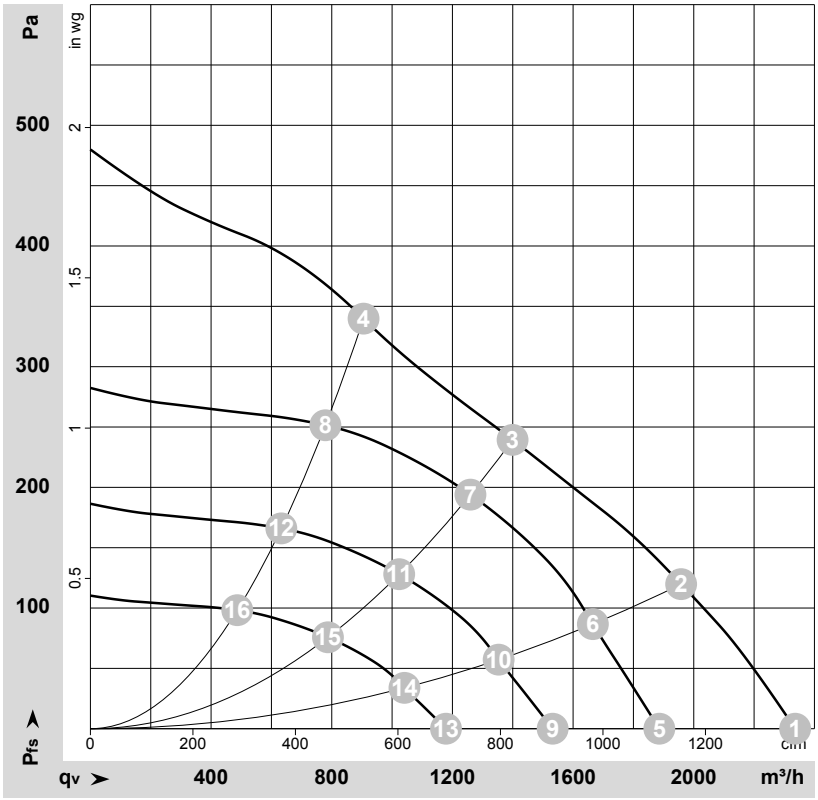
No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / 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-138462-1

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	230	50	1980	152	1.05	67	75	2335	0	1375	0.00
2	230	50	1910	168	1.40	62	69	1960	120	1150	0.48
3	230	50	1775	165	1.30	56	63	1400	240	825	0.96
4	230	50	1860	166	1.30	57	64	905	340	535	1.36
5	230	50	1600	80	0.55	62	69	1885	0	1110	0.00
6	230	50	1600	101	0.71	58	65	1665	87	980	0.35
7	230	50	1600	121	0.94	54	61	1260	195	740	0.78
8	230	50	1600	106	0.83	53	61	780	251	460	1.01
9	230	50	1300	43	0.30	57	64	1530	0	900	0.00
10	230	50	1300	54	0.38	53	60	1355	57	795	0.23
11	230	50	1300	65	0.50	48	56	1025	129	605	0.52
12	230	50	1300	57	0.44	48	55	635	166	375	0.67
13	230	50	1000	19	0.13	50	58	1180	0	695	0.00
14	230	50	1000	25	0.17	46	53	1040	34	615	0.14
15	230	50	1000	30	0.23	42	49	785	76	465	0.31
16	230	50	1000	26	0.20	41	49	485	98	285	0.39

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

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