R3G280-RB02-03

EC centrifugal fan - RadiCal

backward-curved, single-intake

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G280-RB02-03**
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	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 ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	64.4	43.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		83.3	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 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

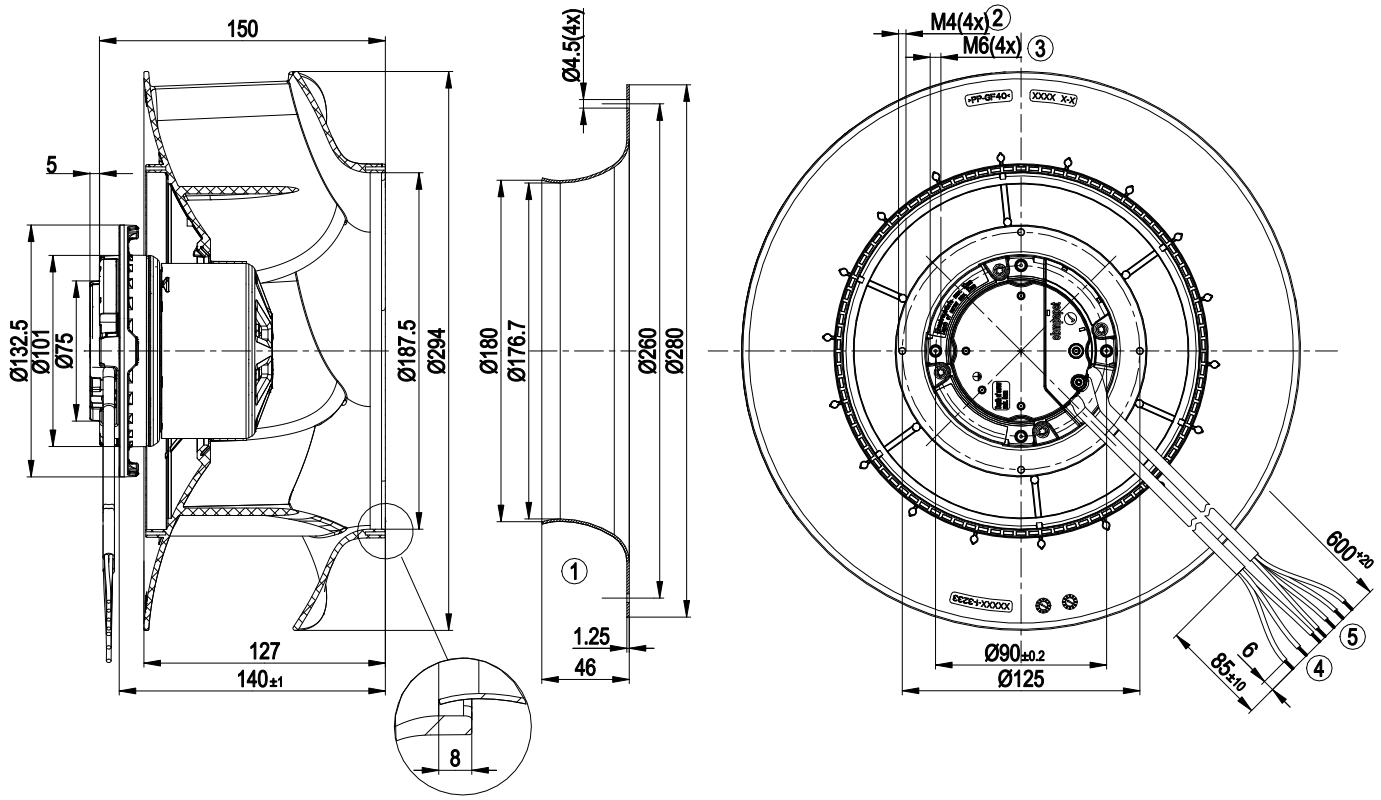
Weight	2.7 kg
Fan size	280 mm
Impeller material	PP-GF40 plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
Condensation drainage holes	On rotor side
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Thermal overload protection for electronics/motor
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
Approval	CCC; CSA C22.2 No. 77; EAC; UL 2111

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Product drawing



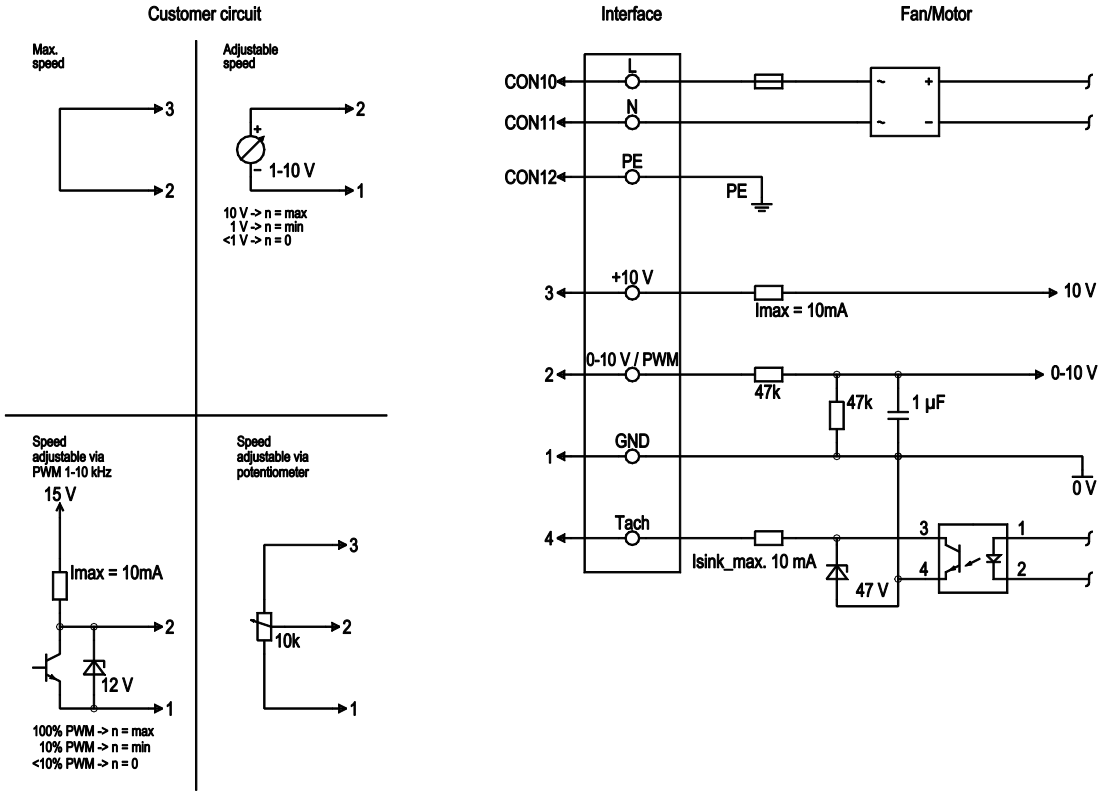
1	Accessory part: inlet ring 28000-2-4013 not included in scope of delivery, additional inlet rings on request
2	Max. clearance for screw 10 mm
3	Max. clearance for screw 10 mm
4	Cable AWG20, 3x crimped ferrules
5	Cable AWG22, 4x crimped ferrules

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Connection diagram



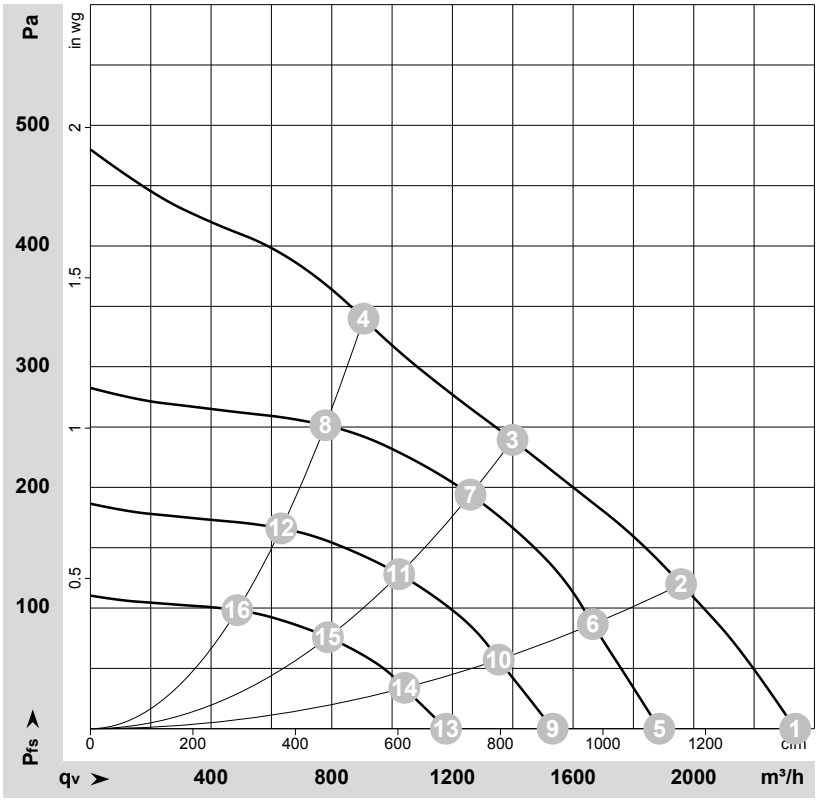
No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / 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 = 1.163 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}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	230	50	1980	152	1.05	67	75	2335	0
2	230	50	1910	168	1.40	62	69	1960	120
3	230	50	1775	165	1.30	56	63	1400	240
4	230	50	1860	166	1.30	57	64	905	340
5	230	50	1600	80	0.55	62	69	1885	0
6	230	50	1600	101	0.71	58	65	1665	87
7	230	50	1600	121	0.94	54	61	1260	195
8	230	50	1600	106	0.83	53	61	780	251
9	230	50	1300	43	0.30	57	64	1530	0
10	230	50	1300	54	0.38	53	60	1355	57
11	230	50	1300	65	0.50	48	56	1025	129
12	230	50	1300	57	0.44	48	55	635	166
13	230	50	1000	19	0.13	50	58	1180	0
14	230	50	1000	25	0.17	46	53	1040	34
15	230	50	1000	30	0.23	42	49	785	76
16	230	50	1000	26	0.20	41	49	485	98

U = Power supply · f = Frequency · n = Speed · 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

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