R3G280-RB52-16

EC centrifugal fan - RadiCal

backward-curved, single-intake

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Nominal data

Type	**R3G280-RB52-16**
Motor	**M3G074-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}	1815
Power consumption	W	165
Current draw	A	2.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

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	43.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		83.6	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	1405
09 Pressure increase p_{fs}	Pa	247
10 Speed (rpm) n	min^{-1}	1785
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-144843

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Technical description

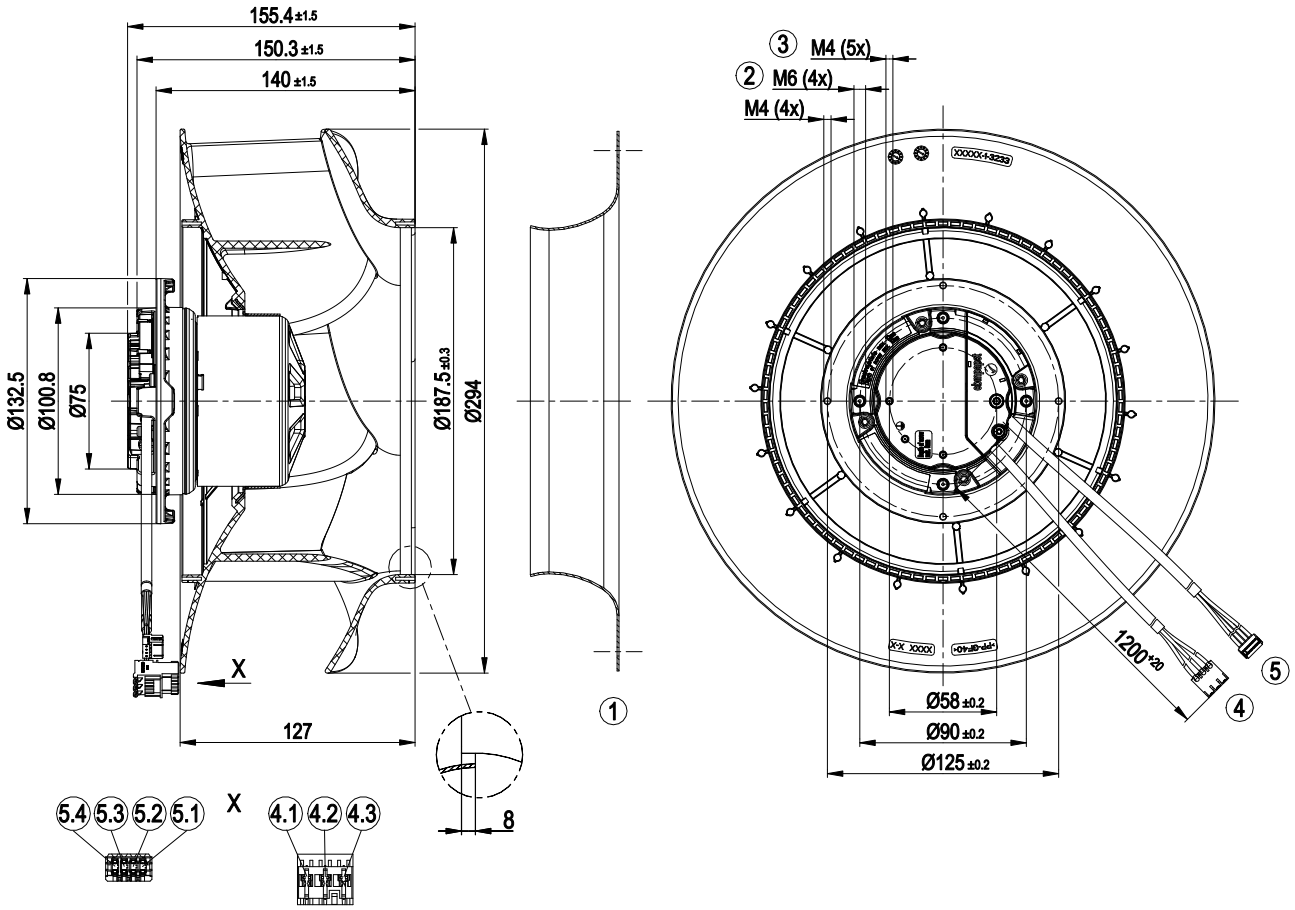
Weight	2.6 kg
Size	280 mm
Motor size	74
Rotor surface	Galvanized
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (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. 1.1 mA - 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 61000-6-3 (household environment)
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; CE
Approval	CCC

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Product drawing



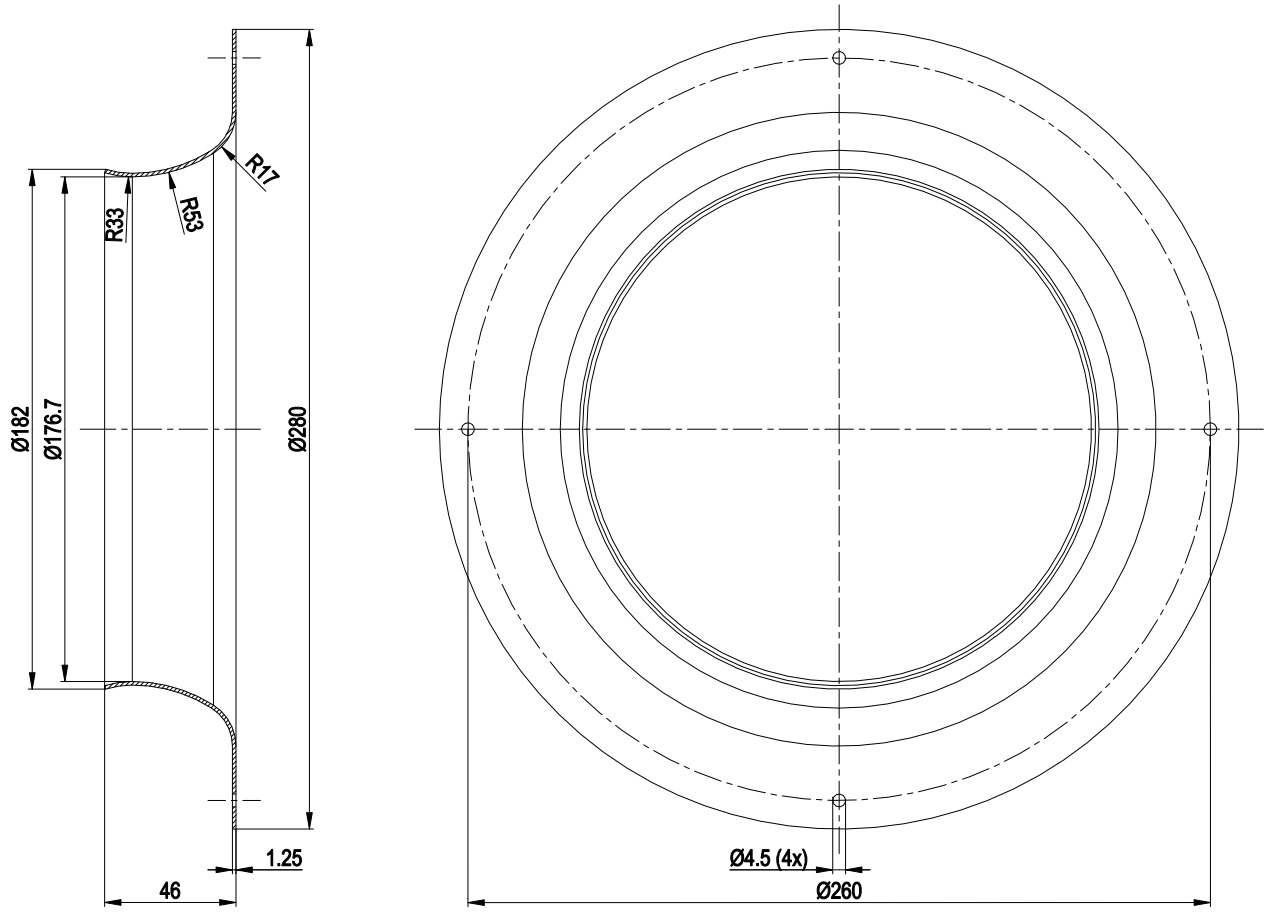
1	Accessory part: inlet ring 28000-2-4013 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Max. clearance for screw 5 mm
4	Cable PVC AWG20
	3-pole connector housing Stocko MFMP 9586-003-80D-960-000-00
4.1	L (black)
4.2	N (blue)
4.3	PE (green/yellow)
5	Cable PVC AWG22
	4-pole connector housing Stocko MFMP 7238-004-566-960-000-00-G
5.1	GND (blue)
5.2	0-10 V/PWM (yellow)
5.3	+10 V (red)
5.4	Tach (white)

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Accessory part



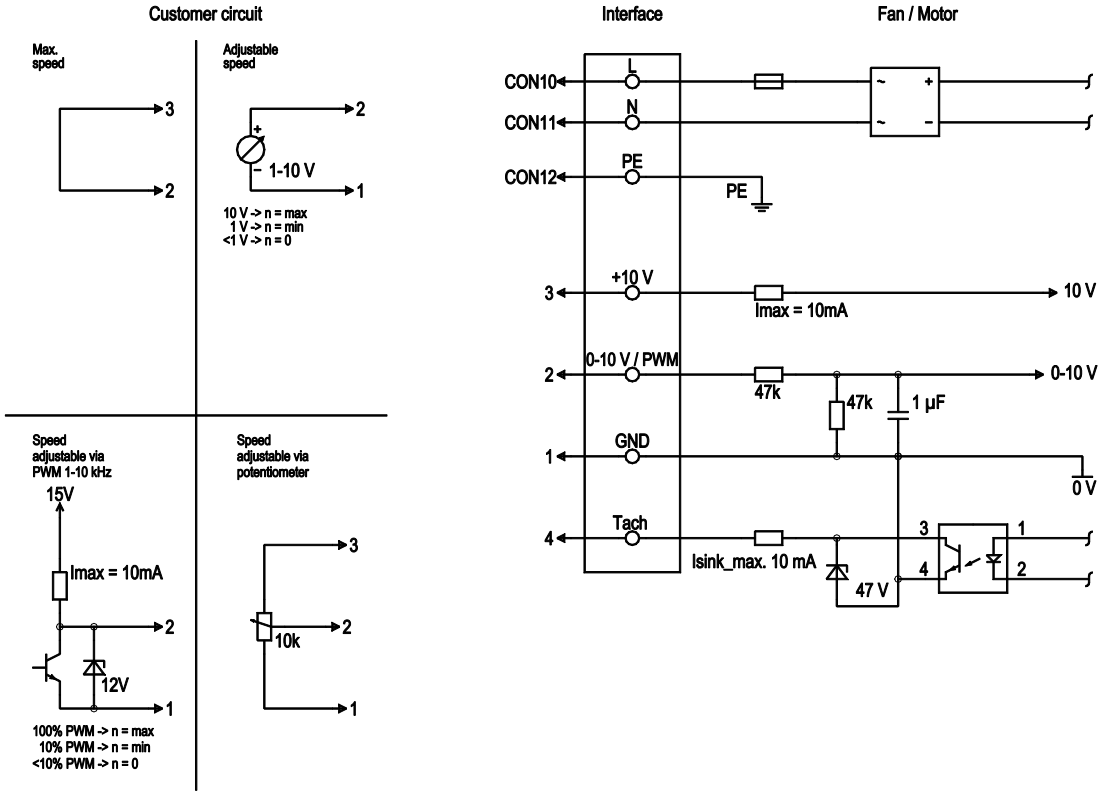
Accessory part: inlet ring 28000-2-4013 not included in scope of delivery

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Connection diagram



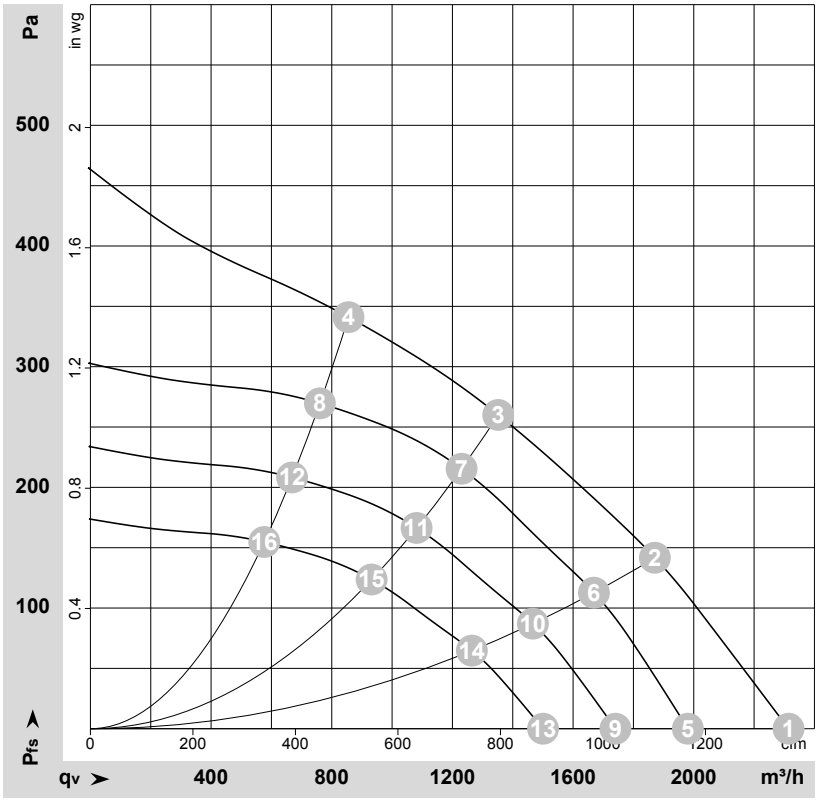
No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / 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-167584-1

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	in. wg
1	115	50	1930	138	1.95	2315	0	1360	0.00
2	115	50	1850	160	2.23	1870	140	1100	0.56
3	115	50	1815	165	2.30	1350	260	795	1.04
4	115	50	1855	157	2.19	855	340	505	1.36
5	115	50	1650	86	1.22	1980	0	1165	0.00
6	115	50	1650	114	1.58	1670	114	980	0.46
7	115	50	1650	123	1.71	1230	216	725	0.87
8	115	50	1650	110	1.54	760	270	450	1.08
9	115	50	1450	59	0.83	1740	0	1025	0.00
10	115	50	1450	77	1.08	1465	88	865	0.35
11	115	50	1450	84	1.16	1080	167	635	0.67
12	115	50	1450	75	1.04	670	208	395	0.84
13	115	50	1250	38	0.53	1500	0	885	0.00
14	115	50	1250	49	0.69	1265	65	745	0.26
15	115	50	1250	54	0.74	930	124	550	0.50
16	115	50	1250	48	0.67	575	155	340	0.62

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

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