R3G280-RO18-A1

EC centrifugal fan - RadiCal

backward-curved, single-intake

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G280-RO18-A1**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2550
Power consumption	W	460
Current draw	A	2.0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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}	%	64.7	47.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		78.8	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.45
09 Air flow q_v	m^3/h	2000
09 Pressure increase p_{fs}	Pa	480
10 Speed (rpm) n	min^{-1}	2535
11 Specific ratio*		1.01

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-136485

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Technical description

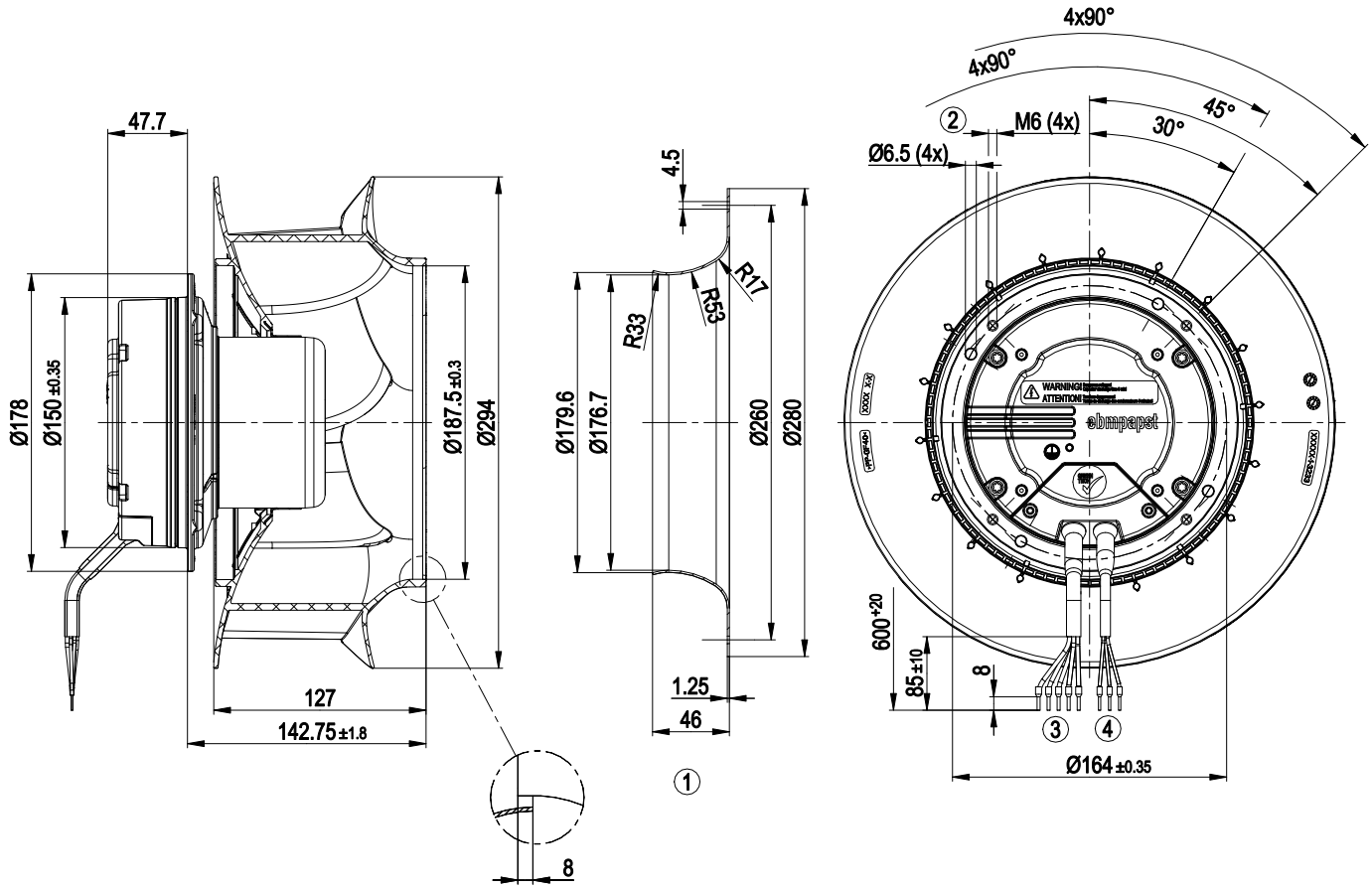
Weight	4.3 kg
Fan size	280 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Motor current limitation - PFC, active - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
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
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1
Approval	CCC; EAC; UL 2111; CSA C22.2 No. 77

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Product drawing



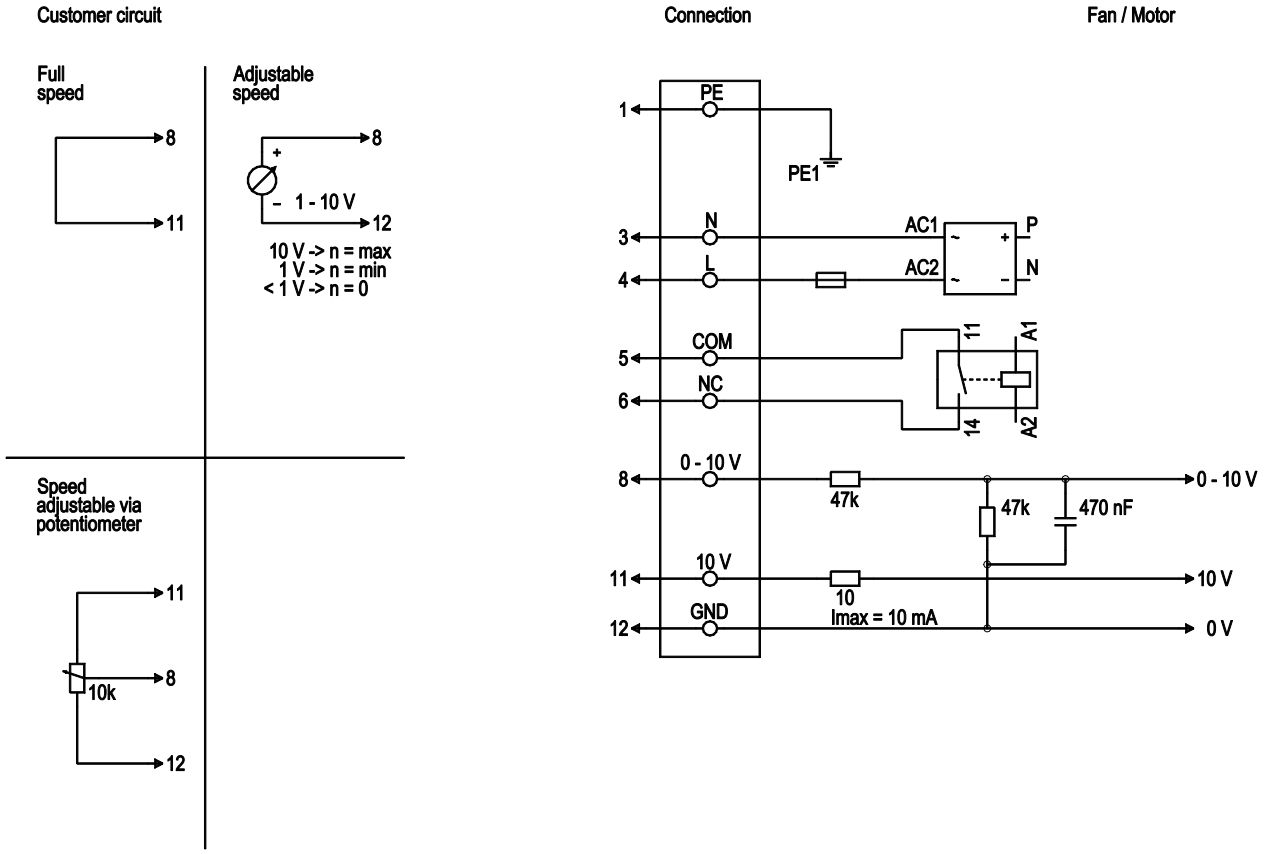
1	Accessory part: inlet ring 28000-2-4013 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Cable PVC AWG18, 5x crimped ferrules
4	Cable PVC AWG22, 3x crimped ferrules

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Connection diagram



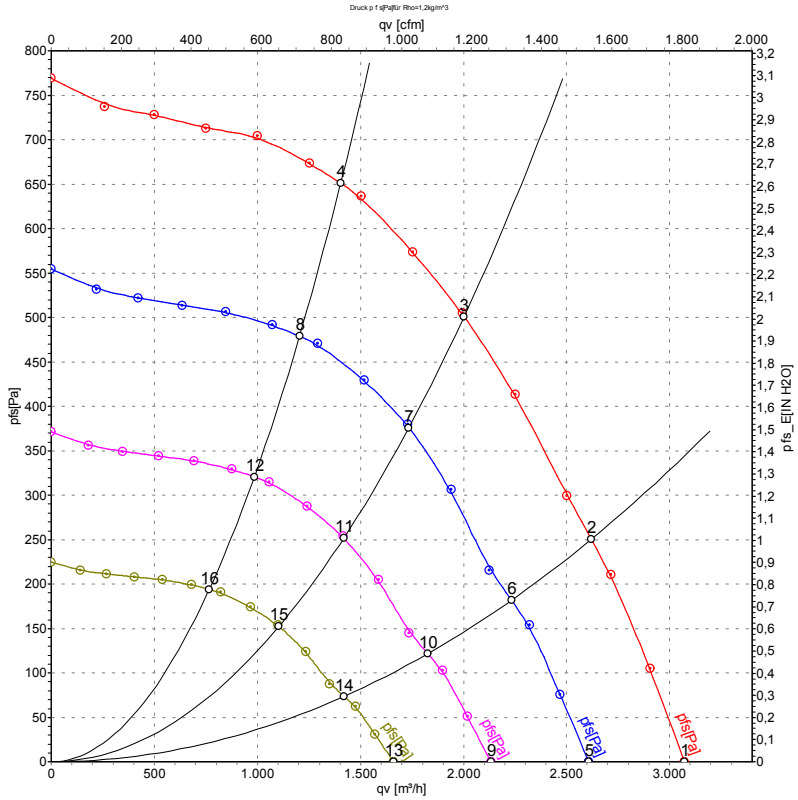
No.	Conn.	Designation	Color	Function/assignment
1	1	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, 50/60 Hz
1	4	L	black	Power supply, phase, 50/60 Hz
1	5	COM	white 1	Floating status contact, break for failure (2 A, max. 250 VAC, min. 10 mA)
1	6	NC	white 2	Floating status contact, break for failure
2	8	0 - 10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kΩ, SELV
2	11	10 VDC	red	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference ground for control interface, SELV

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Curves: Air performance 50 Hz



Measurement: LU-136485-1

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	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	230	50	2570	353	1.56	3070	0	1810	0.00
2	230	50	2570	424	1.86	2620	250	1540	1.00
3	230	50	2550	460	2.00	2000	500	1180	2.01
4	230	50	2570	437	1.91	1405	650	825	2.61
5	230	50	2200	216	0.95	2610	0	1535	0.00
6	230	50	2200	262	1.15	2235	182	1315	0.73
7	230	50	2200	298	1.30	1735	378	1020	1.52
8	230	50	2200	276	1.21	1205	479	710	1.92
9	230	50	1800	118	0.52	2135	0	1255	0.00
10	230	50	1800	144	0.63	1825	122	1075	0.49
11	230	50	1800	163	0.71	1420	253	835	1.02
12	230	50	1800	151	0.66	985	321	580	1.29
13	230	50	1400	56	0.25	1660	0	975	0.00
14	230	50	1400	68	0.30	1420	74	835	0.30
15	230	50	1400	77	0.34	1105	153	650	0.61
16	230	50	1400	71	0.31	765	194	450	0.78

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

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