R3G280-PR04-M4

EC centrifugal fan - RadiPac

backward-curved, single-intake

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Nominal data

Type	**R3G280-PR04-M4**
Motor	**M3G084-DF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2700
Power consumption	W	520
Current draw	A	0.85
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	45

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}	%	66.9	48.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		80.4	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.51
09 Air flow q_v	m^3/h	2100
09 Pressure increase p_{fs}	Pa	538
10 Speed (rpm) n	min^{-1}	2680
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-206141

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Technical description

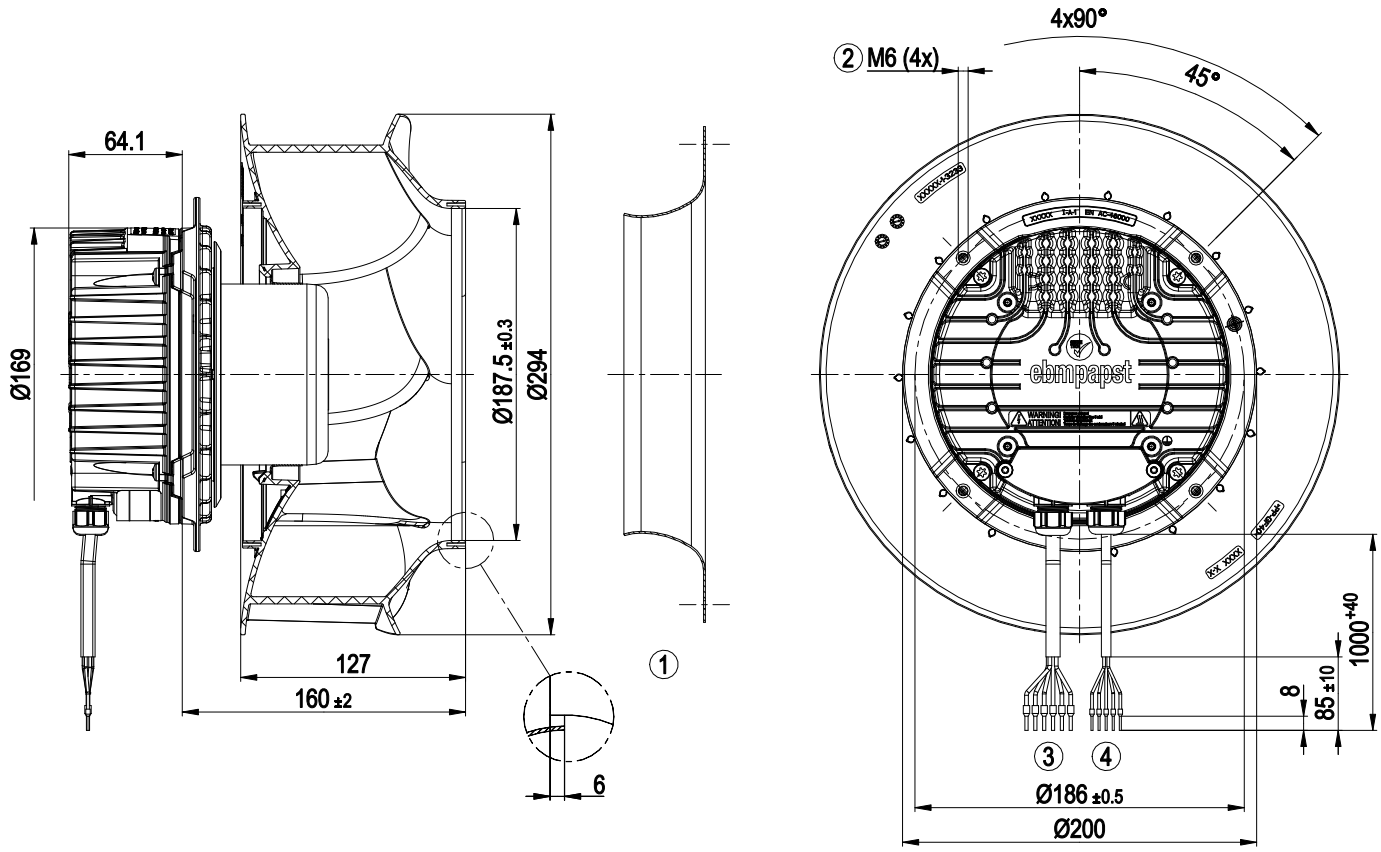
Size	280 mm
Motor size	84
Rotor surface	Painted black
Impeller material	PP plastic
Housing material	Die-cast aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
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 bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
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 (if protective earth is connected by customer to the housing's connection point)
Conformity with standards	EN 61800-5-1; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1

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Product drawing



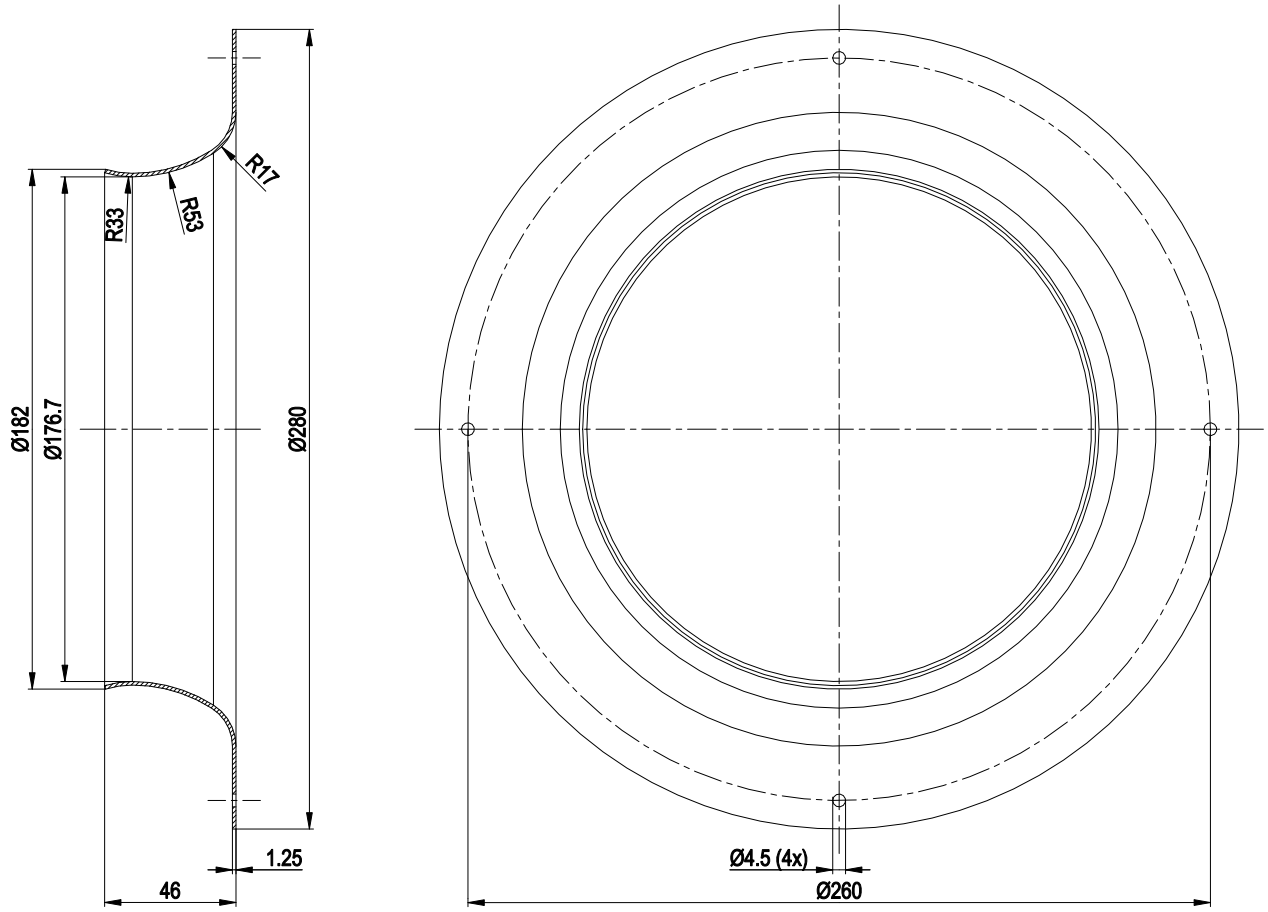
1	Accessory part: inlet ring 28000-2-4013 not included in scope of delivery
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18
	6x wire-end ferrule
4	Cable PVC AWG22
	5x wire-end ferrule

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Accessory part



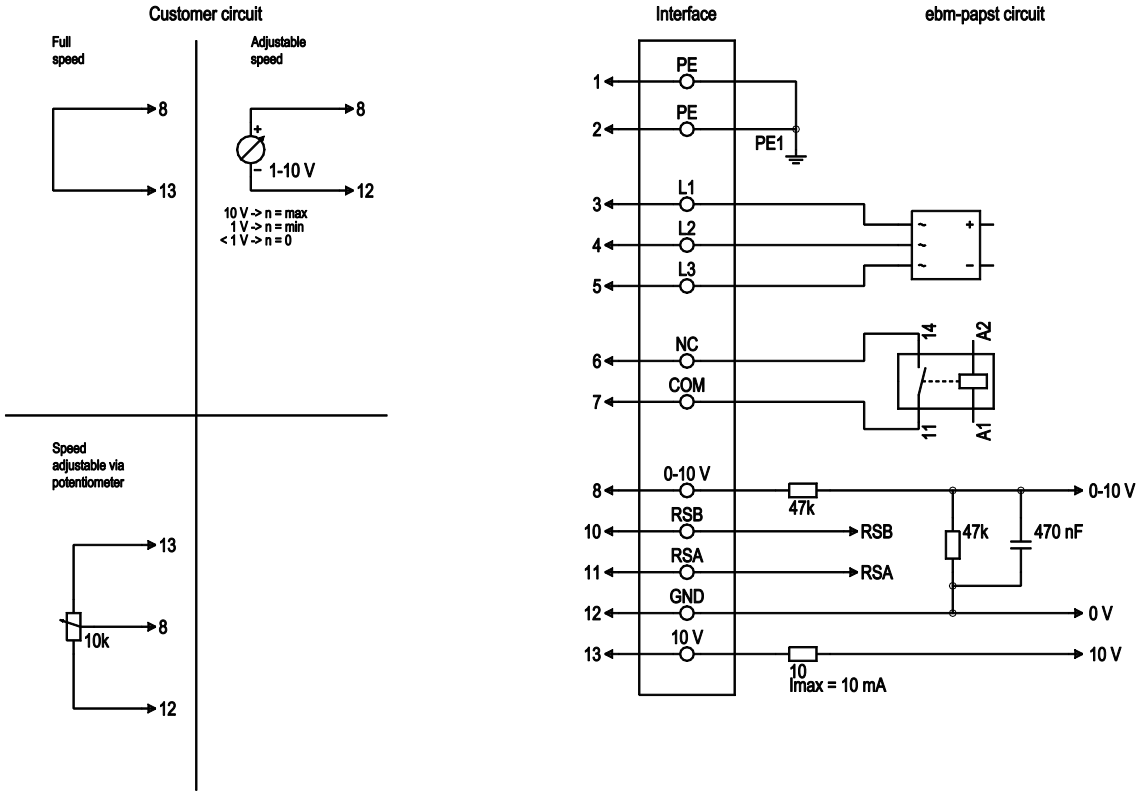
Accessory part: inlet ring 28000-2-4013 not included in scope of delivery

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Connection diagram



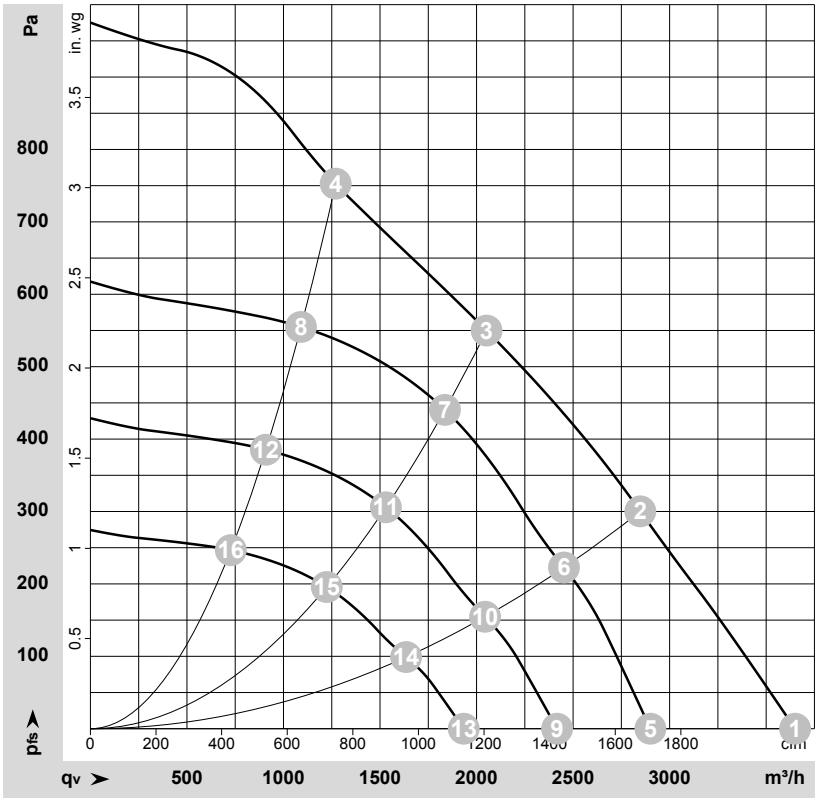
No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	L1	black	Power supply
1	4	L2	black	Power supply
1	5	L3	black	Power supply
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side
2	8	0-10V	yellow	Analog input (set value), 0-10 V, Ri = 100 kΩ, adjustable curve, SELV
2	10	RSB	brown	RS485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof power supply for external devices (e.g. pot), SELV fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-206141-1

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

	Wired	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	3~	400	50	3000	520	0.85	78	85	3650	0	2150	0.00
2	3~	400	50	2785	520	0.85	71	78	2850	300	1675	1.20
3	3~	400	50	2700	520	0.85	64	71	2050	550	1210	2.21
4	3~	400	50	2790	520	0.85	70	77	1270	750	745	3.01
5	3~	400	50	2400	257	0.41	72	79	2900	0	1705	0.00
6	3~	400	50	2400	331	0.53	67	74	2455	223	1445	0.90
7	3~	400	50	2400	372	0.60	61	69	1835	442	1080	1.77
8	3~	400	50	2400	329	0.53	66	73	1090	555	640	2.23
9	3~	400	50	2000	149	0.24	67	75	2415	0	1425	0.00
10	3~	400	50	2000	192	0.31	62	70	2045	155	1205	0.62
11	3~	400	50	2000	216	0.35	57	64	1530	307	900	1.23
12	3~	400	50	2000	190	0.31	61	68	910	386	535	1.55
13	3~	400	50	1600	76	0.12	62	69	1935	0	1140	0.00
14	3~	400	50	1600	98	0.16	57	64	1635	99	960	0.40
15	3~	400	50	1600	110	0.18	51	58	1225	196	720	0.79
16	3~	400	50	1600	97	0.16	56	63	725	247	430	0.99

Wired = Wiring · 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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