R3G280-BB04-J9

EC centrifugal fan - RadiPac

backward-curved, single-intake

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Nominal data

Type	**R3G280-BB04-J9**
Motor	**M3G084-DF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	3140
Power consumption	W	1040
Current draw	A	1.64
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 Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	63.3	51.7
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		73.6	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	1.04
09 Air flow q_v	m^3/h	2700
09 Pressure increase p_{fs}	Pa	814
10 Speed (rpm) n	min^{-1}	3150
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-176654

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Technical description

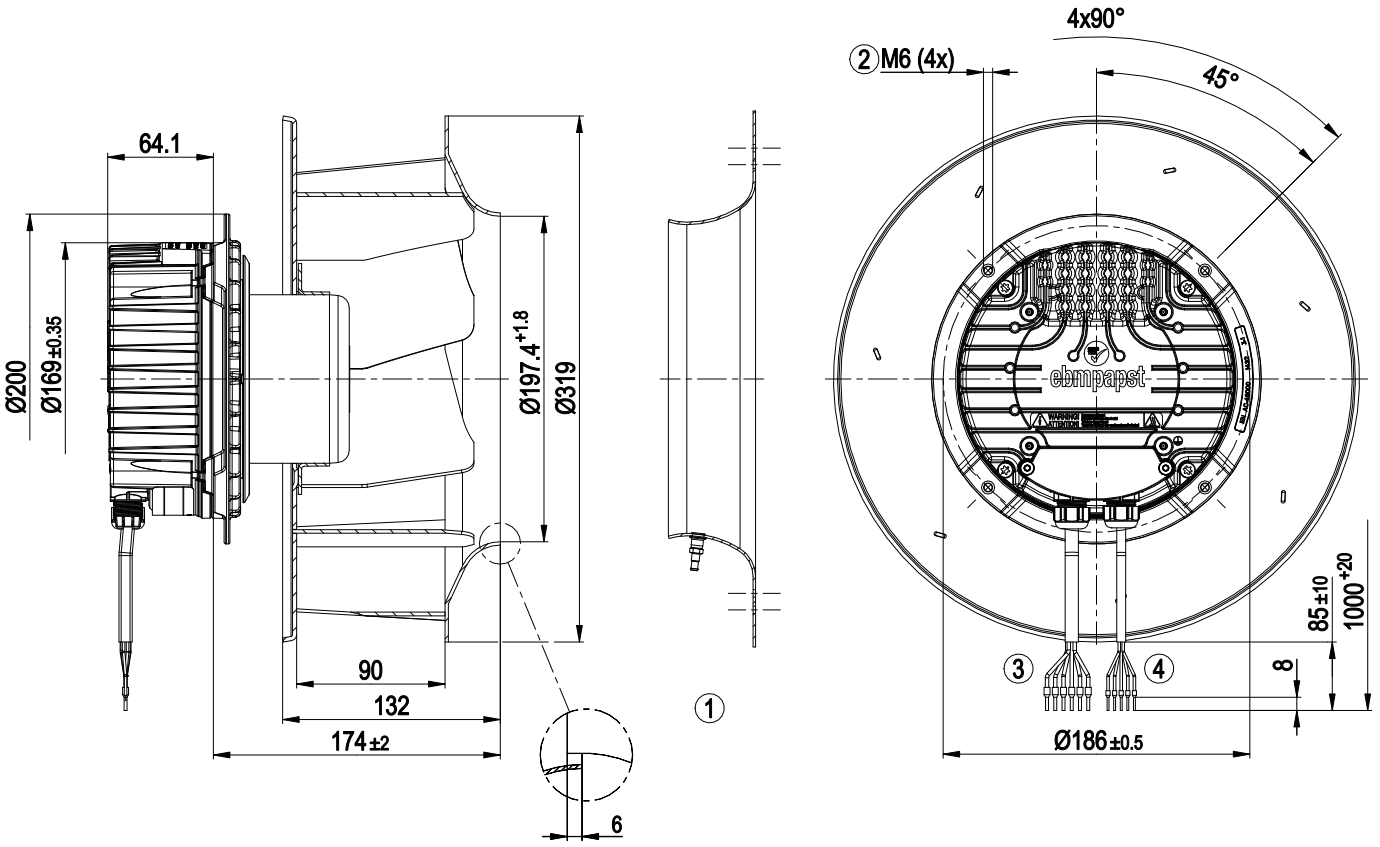
Weight	0 kg
Size	280 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor mounting	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Integrated PID controller - Power limiter - 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 - Temperature derating - 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 (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730

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Product drawing



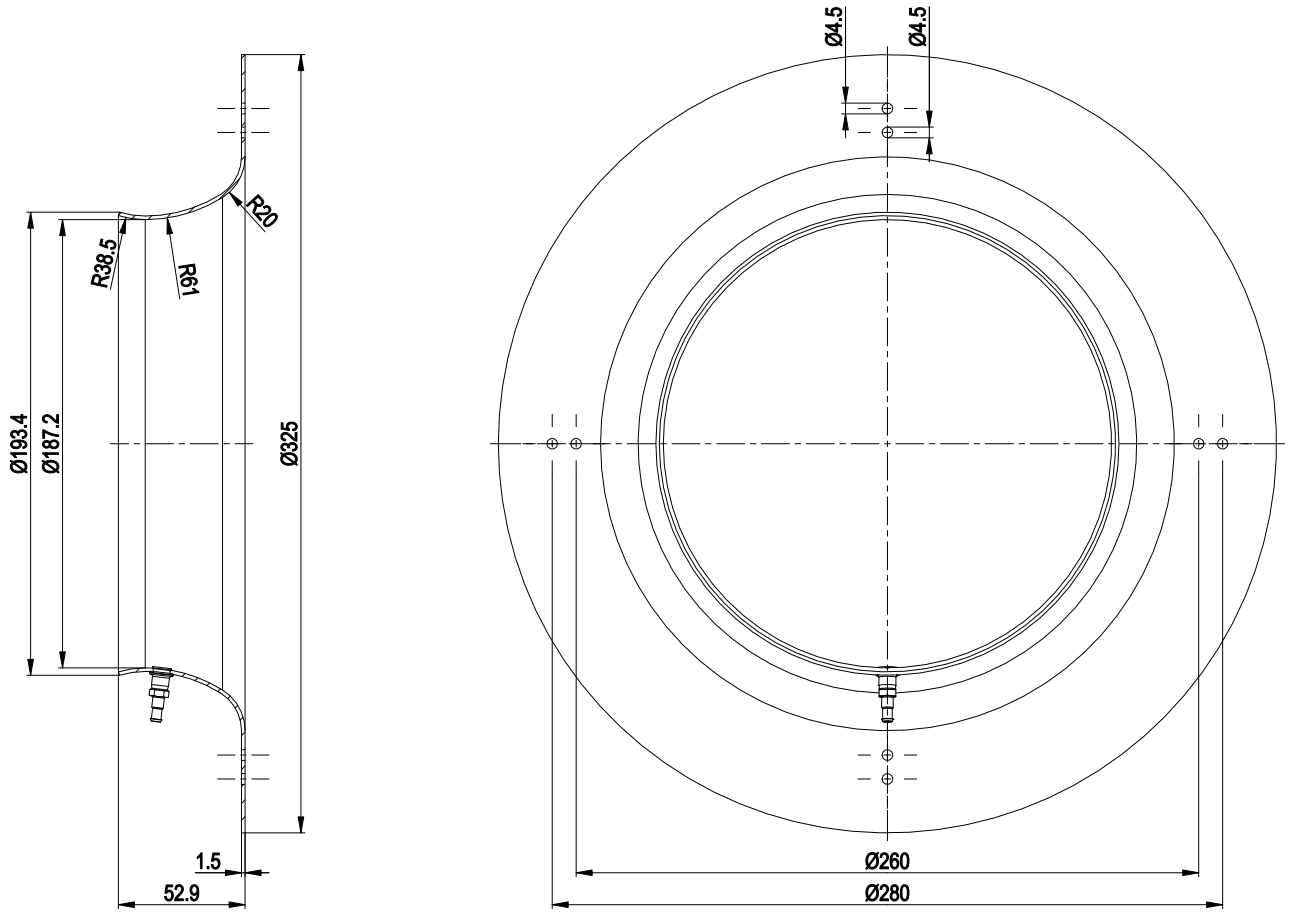
1	Accessory part: Inlet ring 28075-2-4013 with pressure tap (k-factor: 93) not included in scope of delivery
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18
	6x wire-end ferrule
4	Cable PVC AWG22
	5x wire-end ferrule

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Accessory part



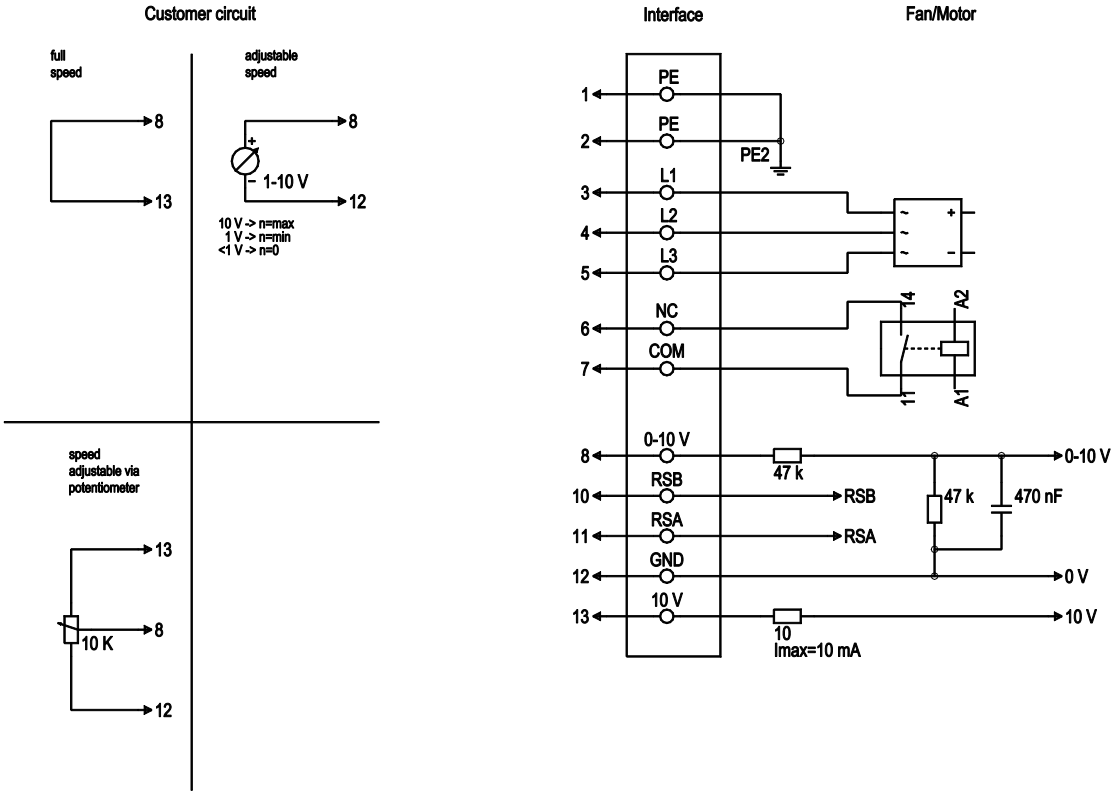
Inlet ring 28075-2-4013 with pressure tap not included in scope of delivery

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Connection diagram



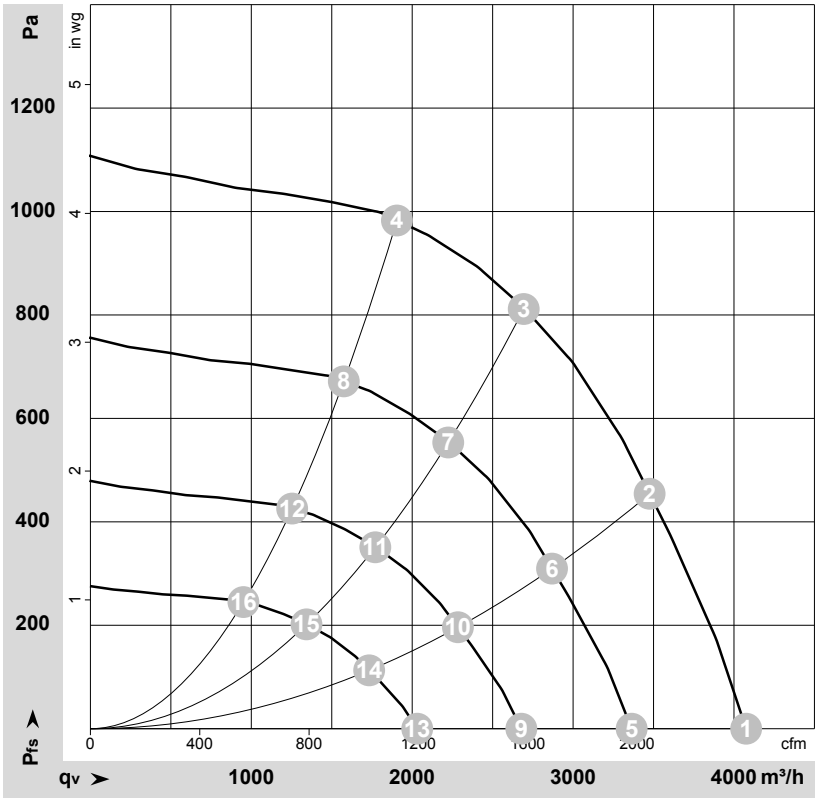
No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3, 4, 5	L1, L2, L3	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 30 VDC 5 A minimum contact separation 1 mA / 5 VDC, reinforced insulation on supply side, basic insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact, common connection, contact rating 250 VAC / 30 VDC 5 A minimum contact separation 1 mA / 5 VDC, reinforced insulation on supply side, basic insulation on control interface side
2	8	0-10V	yellow	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
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, SELV, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometers)

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-176654-1

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	400	50	3140	665	1.08	78	86	4075	0	2400	0.00
2	400	50	3140	893	1.43	75	83	3475	450	2045	1.81
3	400	50	3140	1040	1.64	73	80	2700	810	1590	3.25
4	400	50	3140	936	1.49	74	82	1905	980	1120	3.93
5	400	50	2600	374	0.61			3365	0	1980	0.00
6	400	50	2600	502	0.80			2870	310	1690	1.24
7	400	50	2600	587	0.92			2225	555	1310	2.23
8	400	50	2600	529	0.84			1575	672	925	2.70
9	400	50	2070	189	0.31			2680	0	1575	0.00
10	400	50	2070	253	0.40			2285	196	1345	0.79
11	400	50	2070	296	0.47			1770	352	1040	1.41
12	400	50	2070	267	0.43			1255	426	740	1.71
13	400	50	1570	82	0.13			2030	0	1195	0.00
14	400	50	1570	111	0.18			1735	113	1020	0.45
15	400	50	1570	129	0.20			1345	203	790	0.81
16	400	50	1570	116	0.19			950	245	560	0.98

U = Power supply · 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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