R3G250-BB01-J7

EC centrifugal fan - RadiPac

backward-curved, single-intake

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Nominal data

Type	**R3G250-BB01-J7**
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}	4000
Power consumption	W	1090
Current draw	A	1.73
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	65

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}	%	62.7	51.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		72.8	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	1.07
09 Air flow q_v	m^3/h	2405
09 Pressure increase p_{fs}	Pa	935
10 Speed (rpm) n	min^{-1}	4010
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-176460

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Technical description

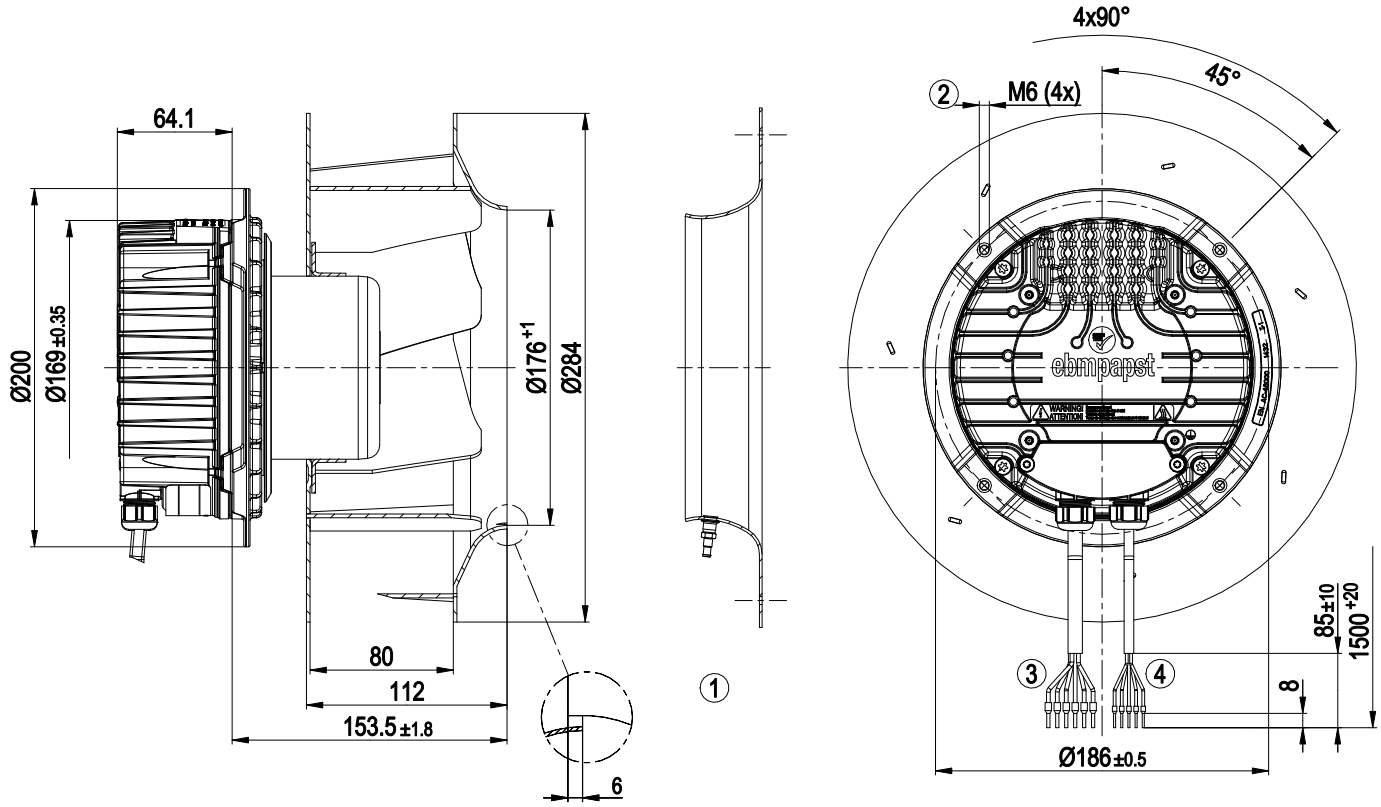
Weight	4.6 kg
Fan size	250 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H0 - dry environment
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
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	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
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
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; CE
Approval	UL 1004-7 + 60730; C22.2 No.77 + CAN/CSA-E60730-1; EAC

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Product drawing



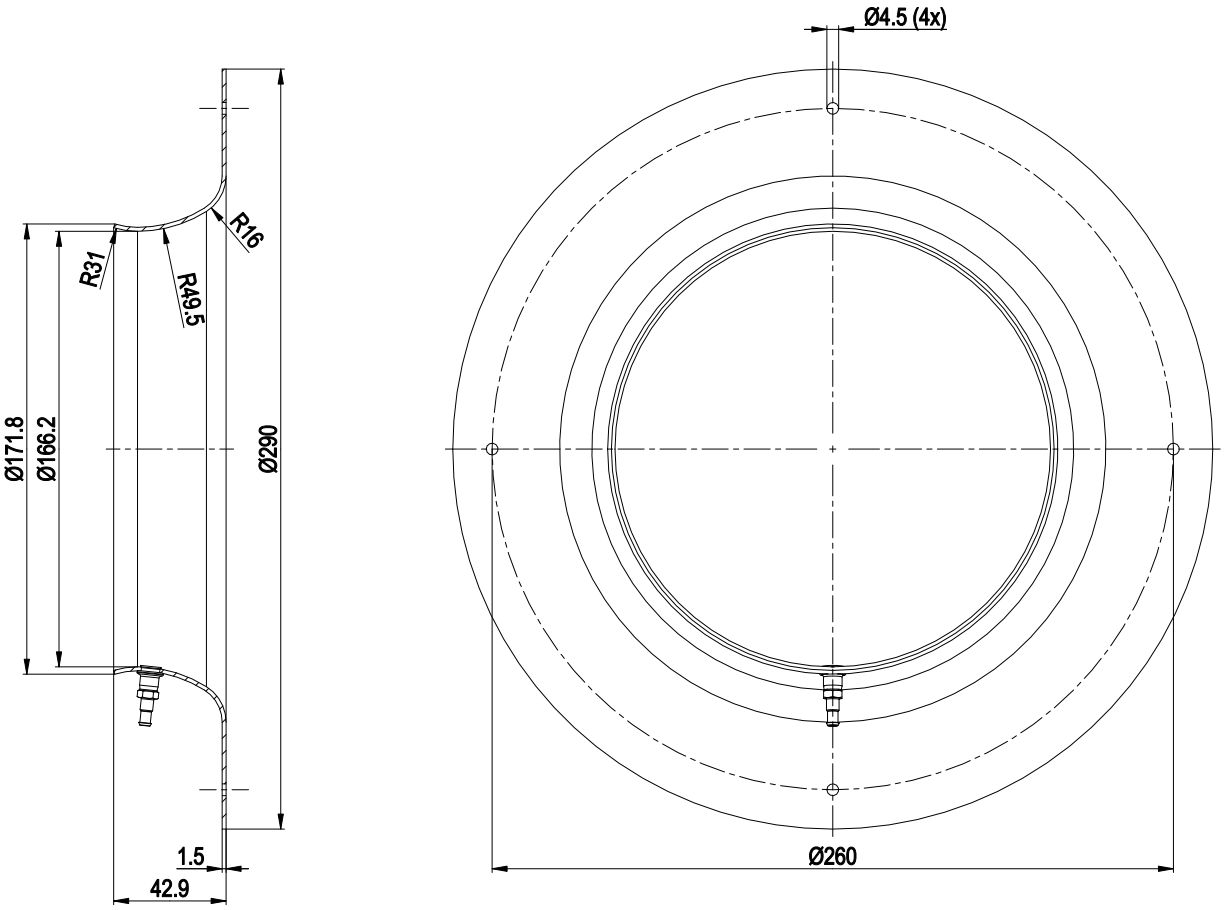
1	Accessory part: Inlet ring 25075-2-4013 with pressure tap (k-factor: 70) not included in scope of delivery
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18, 6x crimped ferrules
4	Cable PVC AWG22, 5x crimped ferrules

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Accessory part



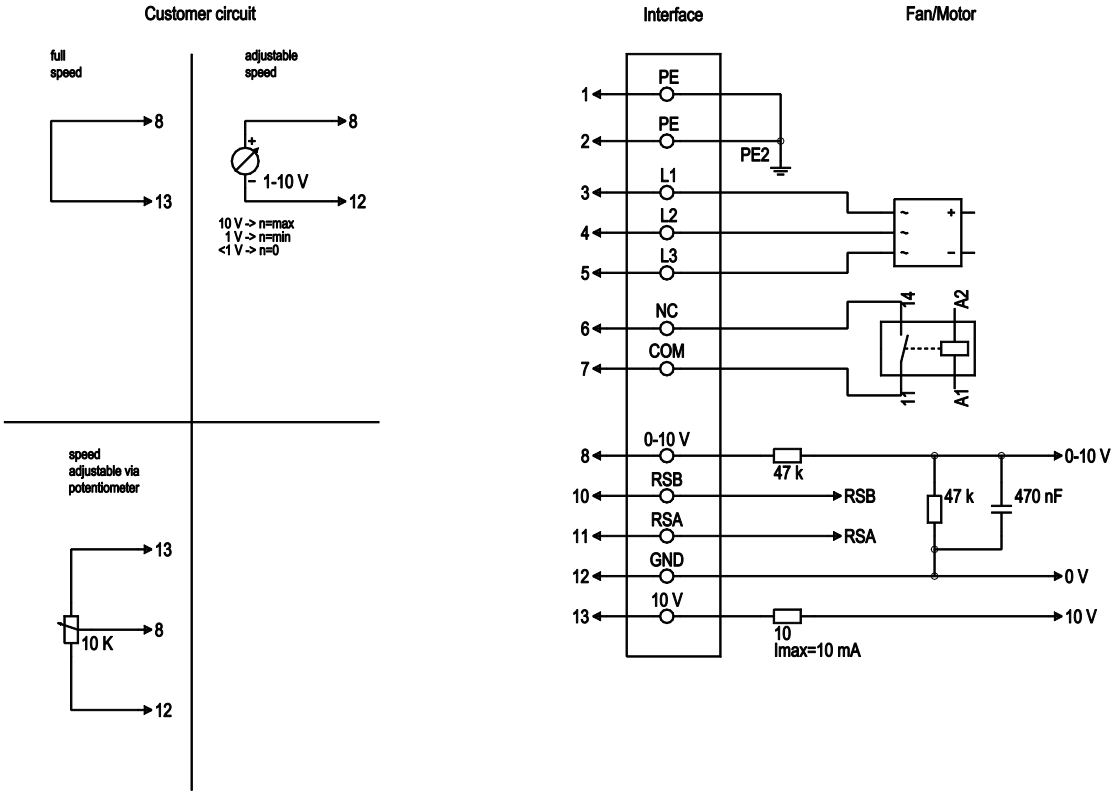
Inlet ring 25075-2-4013 with pressure tap not included in scope of delivery

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Connection diagram



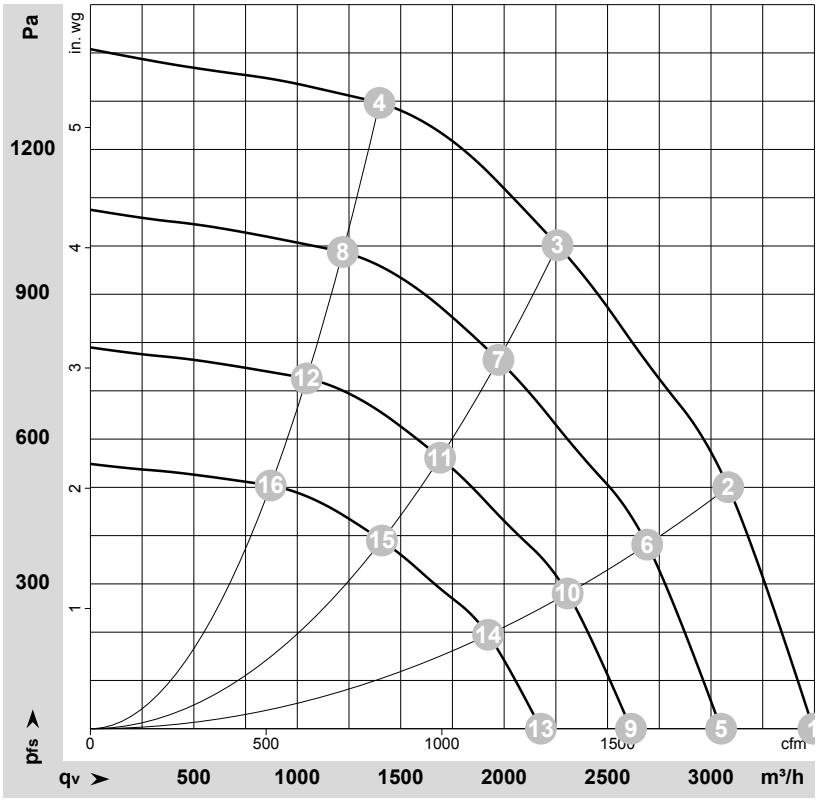
No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3, 4, 5	L1, L2, L3	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 30 VDC 5 A minimum contact separation 1 mA / 5 VDC, reinforced 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-176460-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	3~	400	50	4000	798	1.28	3495	0	2055	0.00
2	3~	400	50	4000	1036	1.65	3085	500	1815	2.01
3	3~	400	50	4000	1090	1.73	2260	1000	1330	4.01
4	3~	400	50	4000	1015	1.61	1400	1300	825	5.22
5	3~	400	50	3500	530	0.85	3050	0	1795	0.00
6	3~	400	50	3500	689	1.10	2690	383	1585	1.54
7	3~	400	50	3500	719	1.14	1970	764	1160	3.07
8	3~	400	50	3500	675	1.07	1220	988	720	3.97
9	3~	400	50	3000	334	0.53	2615	0	1540	0.00
10	3~	400	50	3000	434	0.69	2305	282	1360	1.13
11	3~	400	50	3000	453	0.72	1690	561	995	2.25
12	3~	400	50	3000	425	0.67	1045	726	615	2.91
13	3~	400	50	2500	193	0.31	2180	0	1280	0.00
14	3~	400	50	2500	251	0.40	1925	196	1130	0.79
15	3~	400	50	2500	262	0.41	1410	390	830	1.57
16	3~	400	50	2500	246	0.39	870	504	515	2.02

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

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