R3G250-PR02-J1

EC centrifugal fan - RadiPac

backward curved, single inlet

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Nominal data

Type	**R3G250-PR02-J1**
Motor	**M3G084-DF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	4000
Power input	W	1180
Current draw	A	1.8
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	65.6	52.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		75.5	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	1.14
09 Air flow q_v	m^3/h	2405
09 Pressure increase p_{fs}	Pa	1042
10 Speed (rpm) n	min^{-1}	3985
11 Specific ratio*		1.01

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-174905

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Technical features

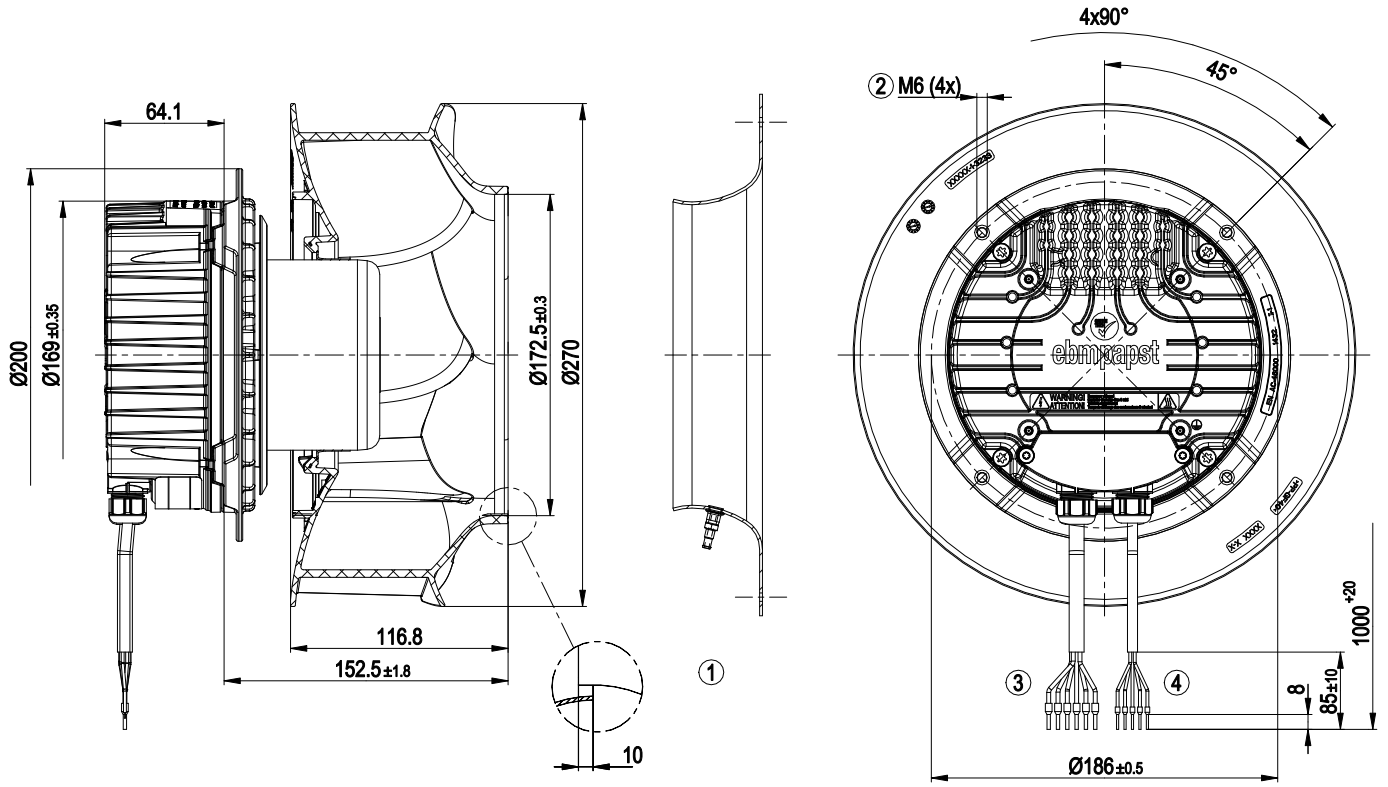
Mass	4.8 kg
Size	250 mm
Surface of rotor	Coated in black
Material of impeller	PA plastic
Housing material	Die-cast aluminium
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	H1
Note ambient temperature	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at ambient temperatures below -25°C (e.g. refrigeration applications) we recommend our fan version with special low-temperature bearings.
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (programming) - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used devices with a total rated power greater than 1 kW
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer at the connection point of the housing)
Product conforming to standard	EN 61800-5-1; CE
Approval	EAC; UL 1004-7 + 60730; C22.2 Nr.77 + CAN/CSA-E60730-1

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Product drawing



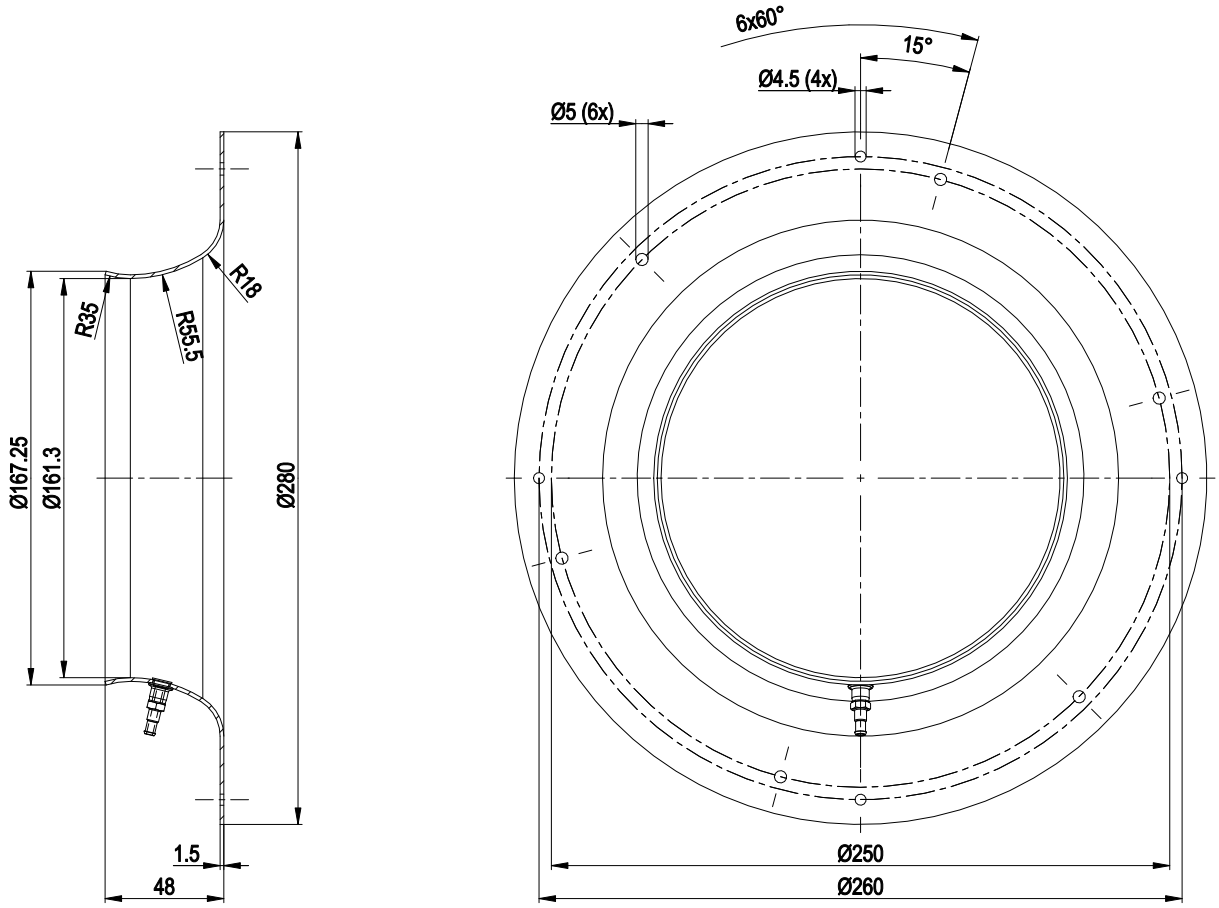
1	Accessory part: Inlet nozzle 96355-2-4013 with pressure tap (k-factor: 76) not included in scope of delivery
2	Thread reach max. 16 mm
3	Connection line PVC AWG18, 6x crimped core-end sleeves
4	Connection line PVC AWG22, 5x crimped core-end sleeves

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Accessory part



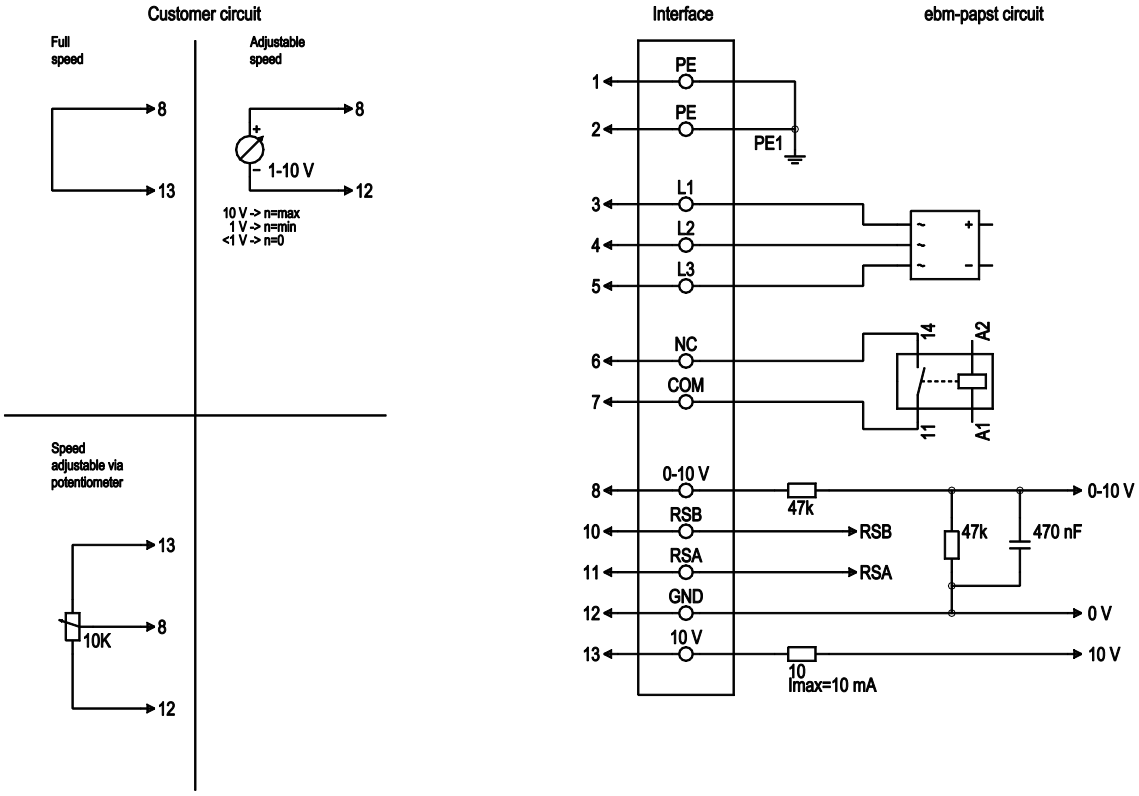
Inlet nozzle 96355-2-4013 with pressure tap not included in scope of delivery

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Connection screen



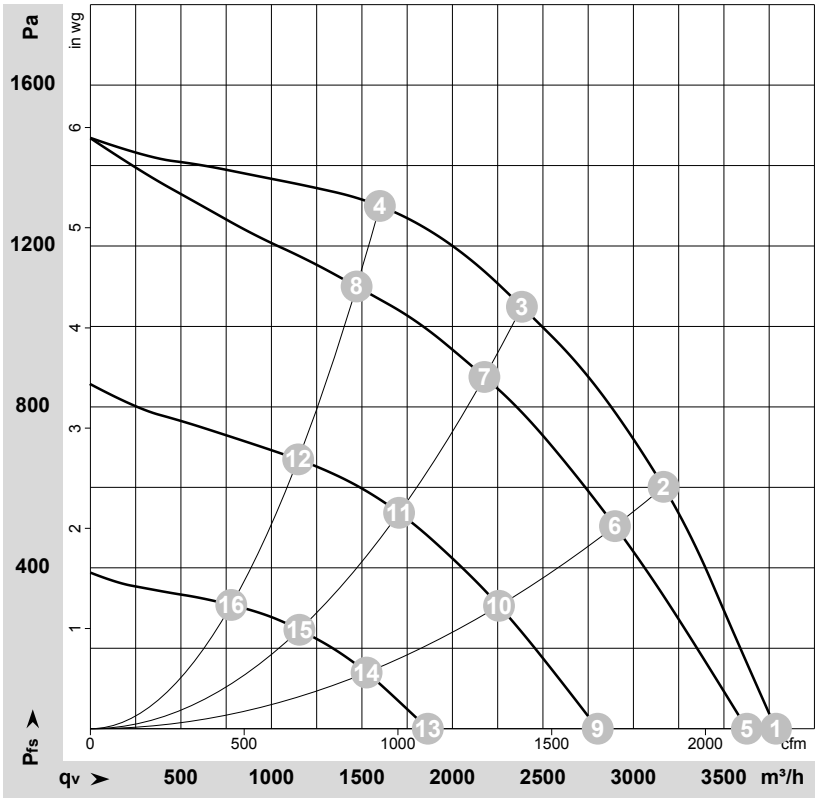
No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	L1	black	Power supply
1	4	L2	black	Power supply
1	5	L3	black	Power supply
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains 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 mains side and basic insulation on control interface side
2	8	0-10V	yellow	Analogue input (set value), 0-10 V, Ri=100 kΩ; parametrisable curve, SELV
2	10	RSB	brown	RS-485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS-485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Signal 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. potentiometer); SELV Fixed voltage input 24 VDC for parameter setting via MODBUS without mains power supply

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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-174905-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

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	inH2O
1	400	50	4000	816	1.27	84	91	3785	0	2230	0.00
2	400	50	4000	1114	1.72	79	86	3165	600	1865	2.41
3	400	50	4000	1180	1.80	75	83	2385	1050	1405	4.22
4	400	50	4000	1061	1.64	76	83	1600	1300	940	5.22
5	400	50	3835	719	1.13	83	90	3625	0	2135	0.00
6	400	50	3665	865	1.34	77	84	2900	504	1705	2.02
7	400	50	3660	885	1.37	73	81	2175	875	1280	3.51
8	400	50	3700	840	1.31	72	81	1470	1099	865	4.41
9	400	50	2965	354	0.61	76	85	2805	0	1650	0.00
10	400	50	2875	433	0.72	70	78	2255	308	1330	1.24
11	400	50	2860	442	0.73	65	72	1705	538	1005	2.16
12	400	50	2885	415	0.69	67	75	1150	670	675	2.69
13	400	50	1995	131	0.32	65	73	1865	0	1095	0.00
14	400	50	1960	158	0.36	60	67	1525	140	900	0.56
15	400	50	1955	162	0.36	55	63	1155	246	680	0.99
16	400	50	1965	153	0.35	57	64	780	308	460	1.24

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · q_V = Air flow
p_{fs} = Pressure increase

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