R3G190-RD45-21

EC centrifugal fan - RadiCal

backward curved, single inlet

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Nominal data

Type	**R3G190-RD45-21**
Motor	**M3G055-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	4120
Power input	W	169
Current draw	A	1.35
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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}	%	56	43.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		74.9	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	565
09 Pressure increase p_{fs}	Pa	524
10 Speed (rpm) n	min^{-1}	4055
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-132500

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Technical features

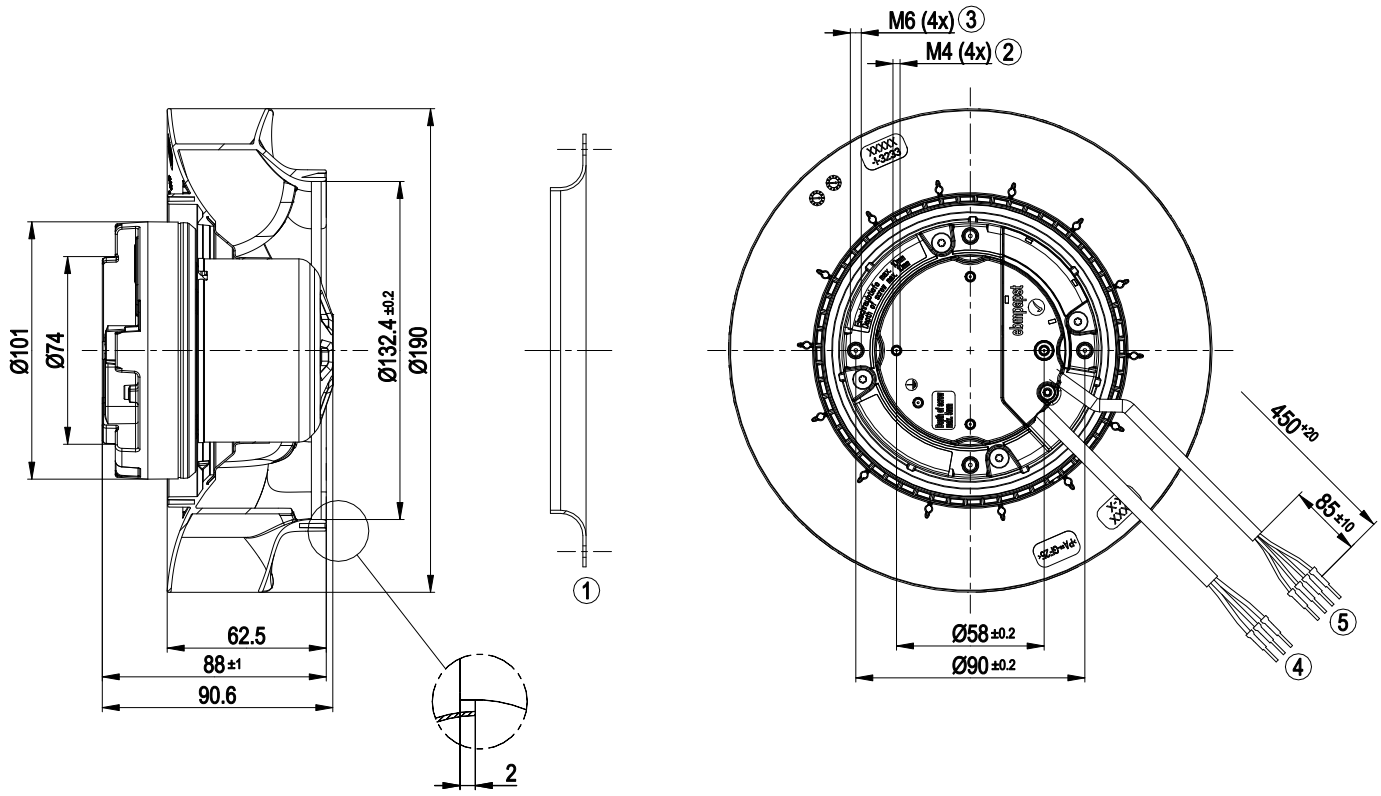
Mass	1.4 kg
Size	190 mm
Surface of rotor	Thick layer passivated
Material of impeller	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Any
Condensate discharge holes	None, open rotor
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Output limit - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Over-temperature protected electronics / motor - Line undervoltage detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Locked-rotor protection
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE

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Product drawing



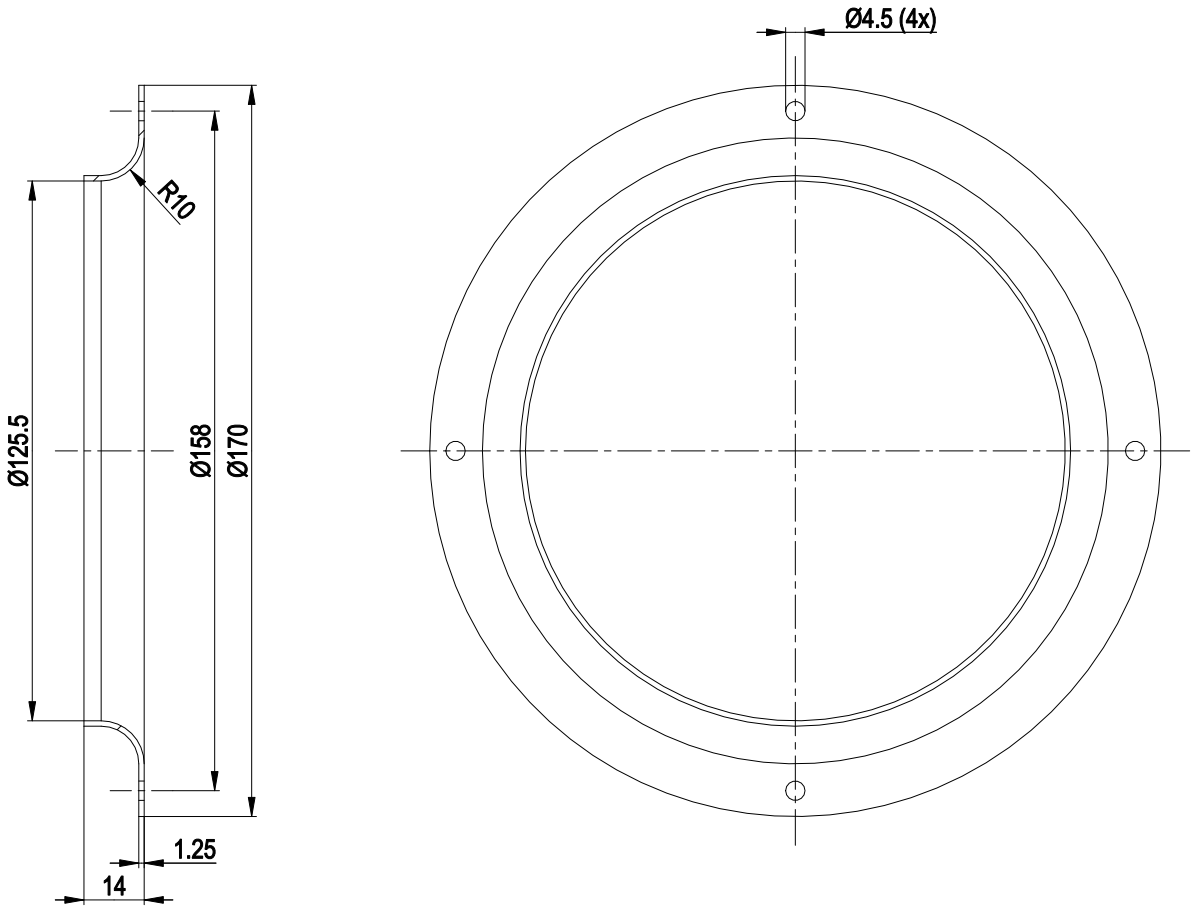
1	Accessory part: Inlet nozzle 09576-2-4013, not included in scope of delivery
2	Thread reach max. 5 mm
3	Thread reach max. 5 mm
4	Connection line PVC AWG20, 3x plug pin SSM-21T-P1.4 crimped
5	Connection line PVC AWG22, 4x plug pin SYM-001T-P0.6 crimped

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Accessory part



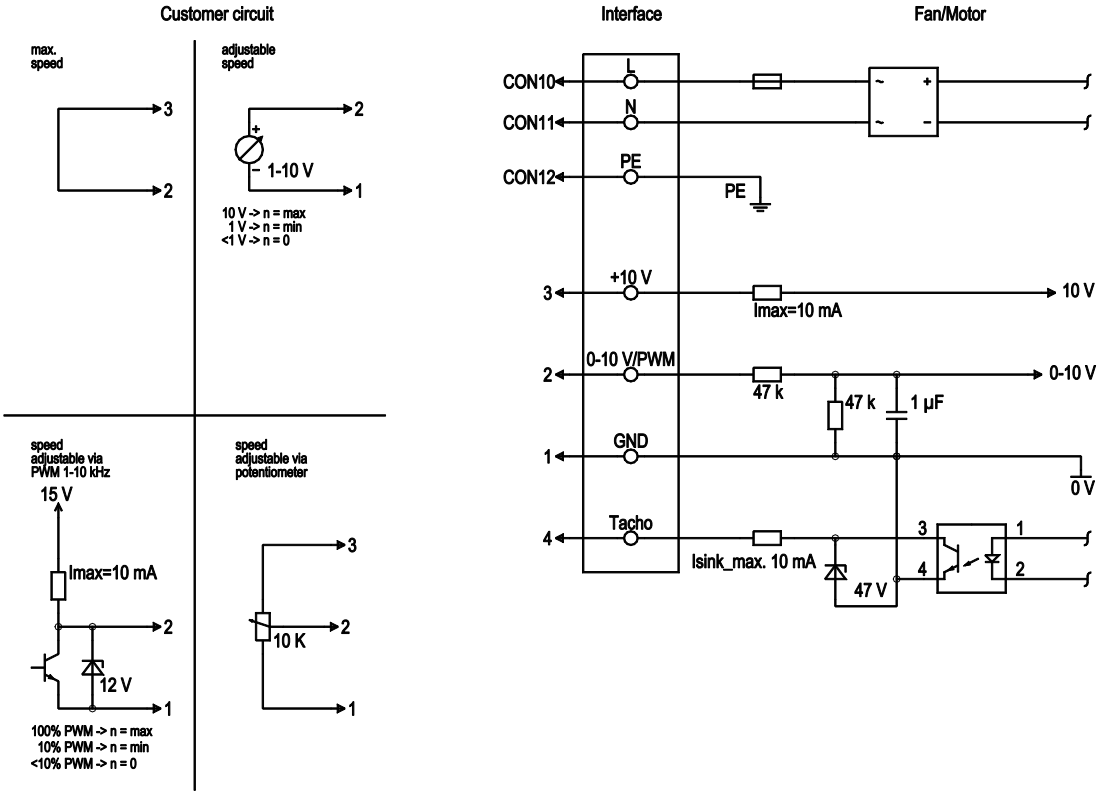
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Connection screen



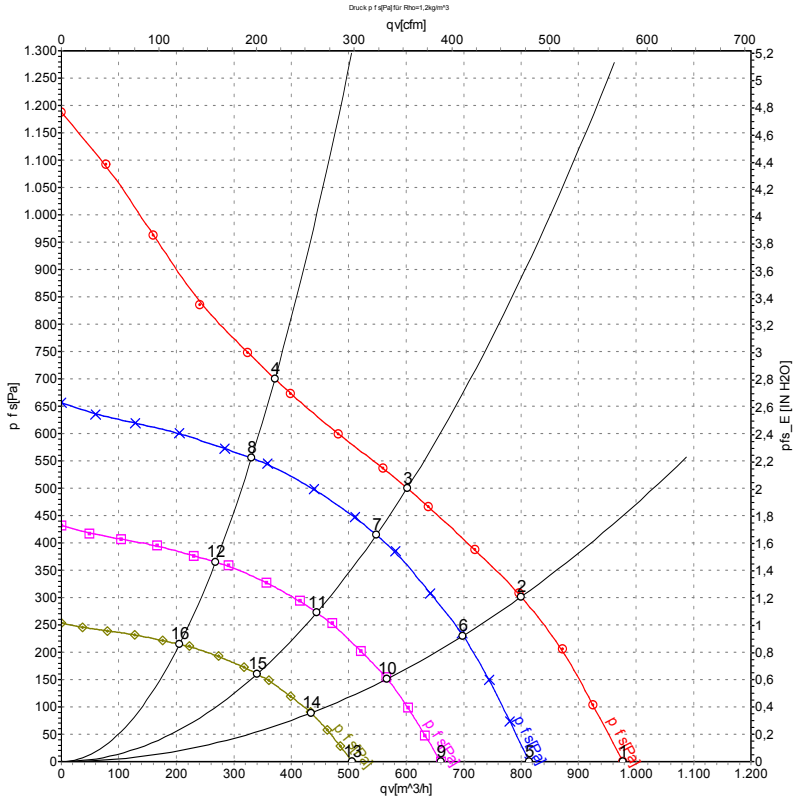
No.	Conn.	Designation	Colour	Function / assignment
	CON10	L	black	Mains connection, power supply, phase, see type plate for voltage range
	CON11	N	blue	Mains connection, power supply, neutral conductor, see type plate for voltage range
	CON12	PE	green/yellow	Earth connection
	2	0- 10V PWM	yellow	0-10 V/PWM control input, Ri=100 kΩ, SELV
	4	Tach	white	Speed monitoring output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometer), SELV
	1	GND	blue	Signal ground for control interface, SELV

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Charts: Air flow 50 Hz



Measurement: LU-132500-1

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	230	50	4440	161	1.35	72	81	975	0	575	0.00
2	230	50	4235	165	1.35	67	75	800	300	470	1.20
3	230	50	4120	169	1.35	63	72	600	500	355	2.01
4	230	50	4150	160	1.35	66	74	370	700	220	2.81
5	230	50	3700	93	0.81	69	77	815	0	480	0.00
6	230	50	3700	110	0.93	64	72	700	233	410	0.94
7	230	50	3700	125	1.06	61	70	550	415	325	1.67
8	230	50	3700	114	0.97	64	72	330	556	195	2.23
9	230	50	3000	50	0.43	64	73	660	0	390	0.00
10	230	50	3000	59	0.50	59	68	565	153	335	0.61
11	230	50	3000	67	0.57	56	65	445	273	260	1.10
12	230	50	3000	61	0.52	59	67	270	365	160	1.47
13	230	50	2300	22	0.19	58	67	505	0	300	0.00
14	230	50	2300	26	0.22	53	62	435	90	255	0.36
15	230	50	2300	30	0.26	51	59	340	160	200	0.64
16	230	50	2300	27	0.23	54	61	205	215	120	0.86

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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