EC centrifugal fan

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Nominal data

Type	**R3G190-RD47-23**
Motor	**M3G055-CF**

Phase		1~
Nominal voltage	VAC	115
Nominal voltage range	VAC	100 .. 130
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	4180
Power consumption	W	170
Current draw	A	2.25
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

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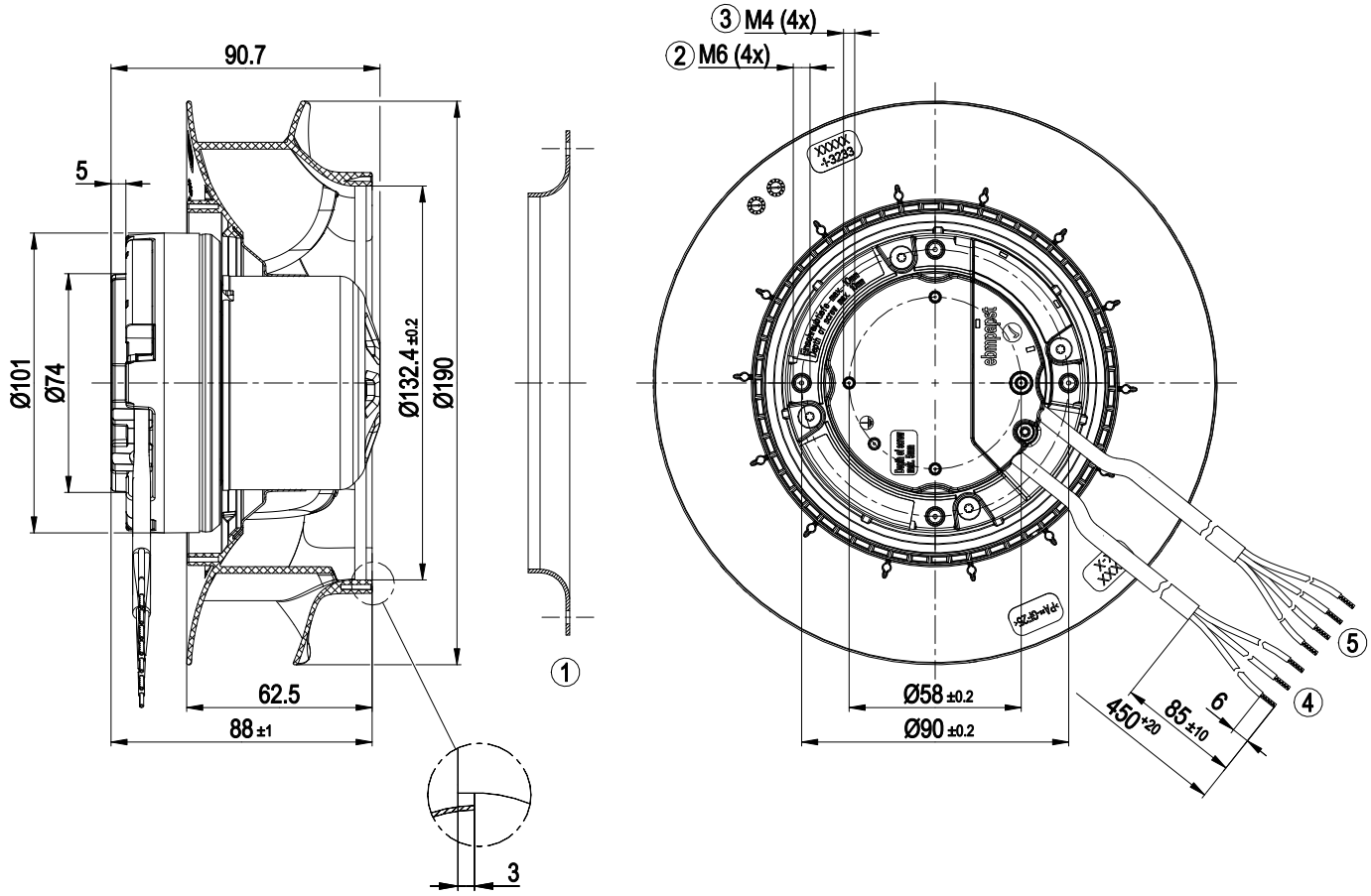
Technical description

Weight	1.4 kg
Fan size	190 mm
Rotor surface	Thick-film passivated
Electronics housing material	Die-cast aluminum
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
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	Any
Condensation drainage holes	None, open rotor
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE
Approval	UL 1004-7 + 60730; C22.2 No.77 + CAN/CSA-E60730-1

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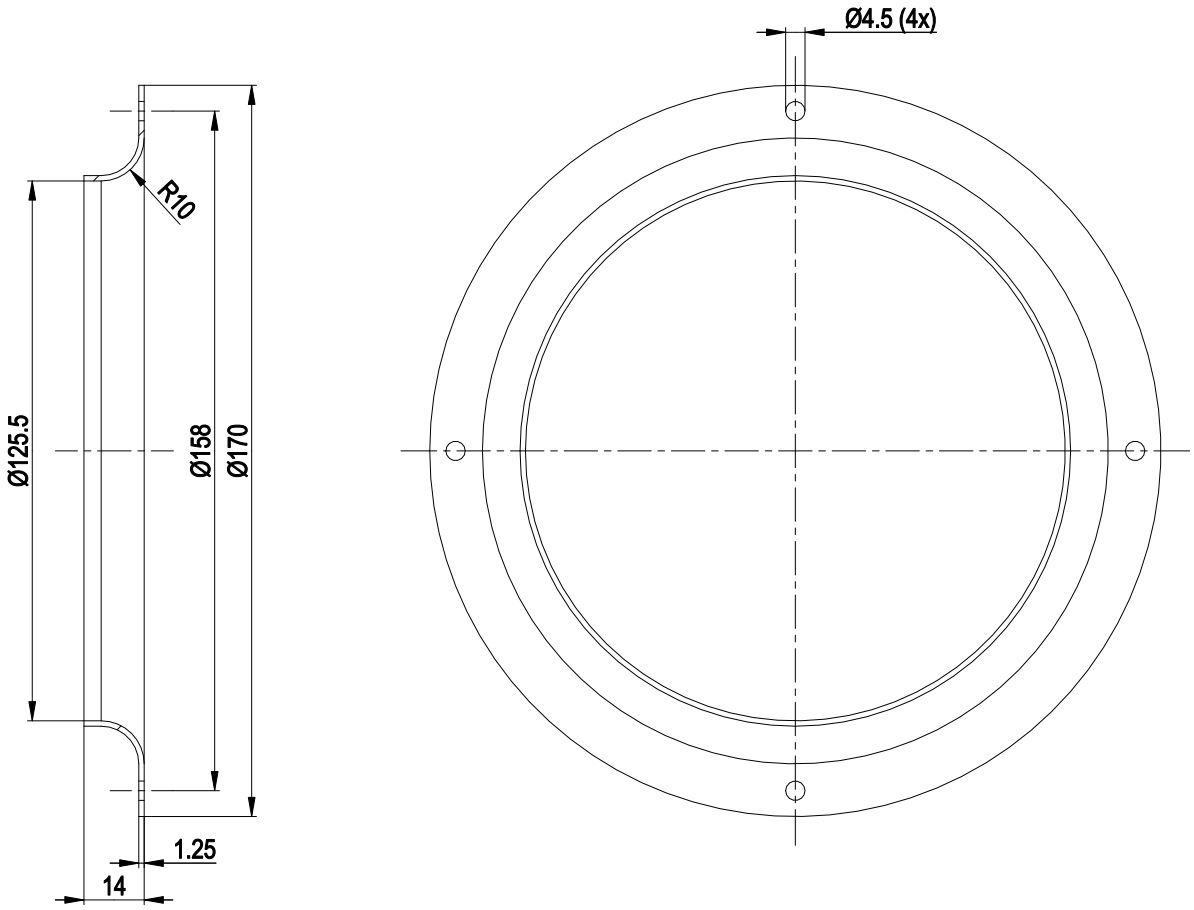
Product drawing



1	Accessory part: Inlet ring 09576-2-4013, not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Max. clearance for screw 5 mm
4	Cable PVC AWG20, 3x crimped splices
5	Cable PVC AWG22, 4x crimped splices

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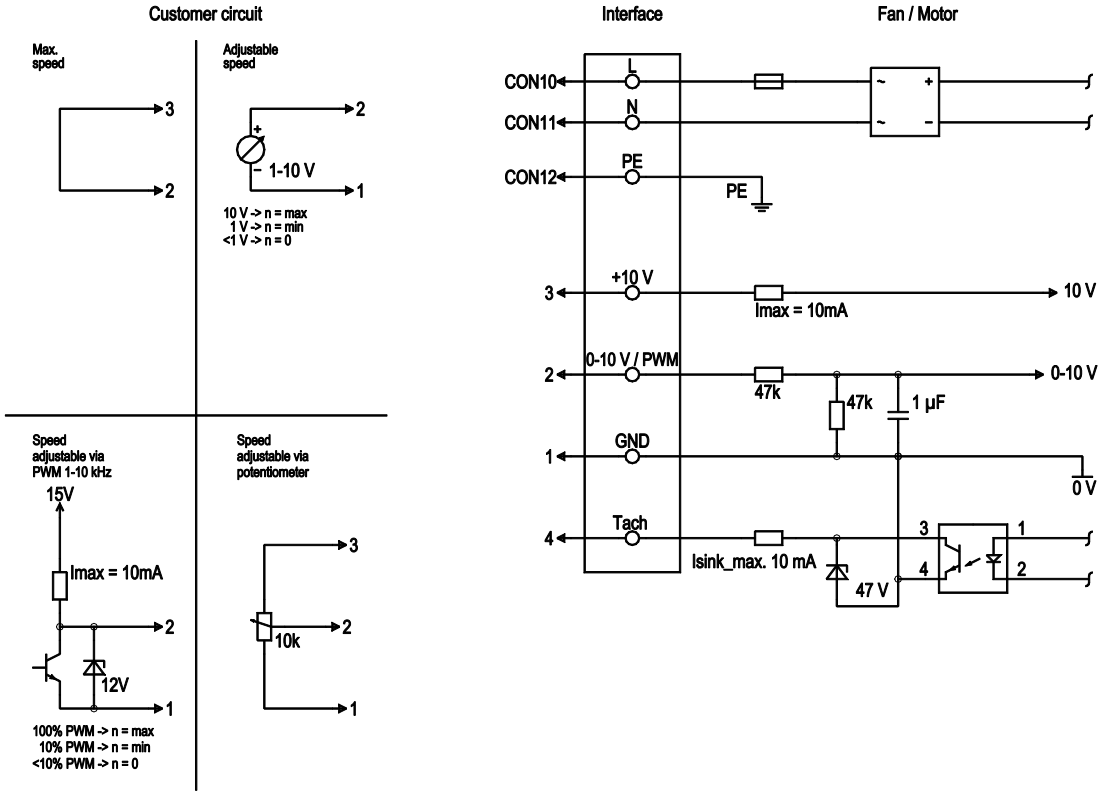
Accessory part



1	Accessory part: inlet ring 09576-2-4013 not included in scope of delivery

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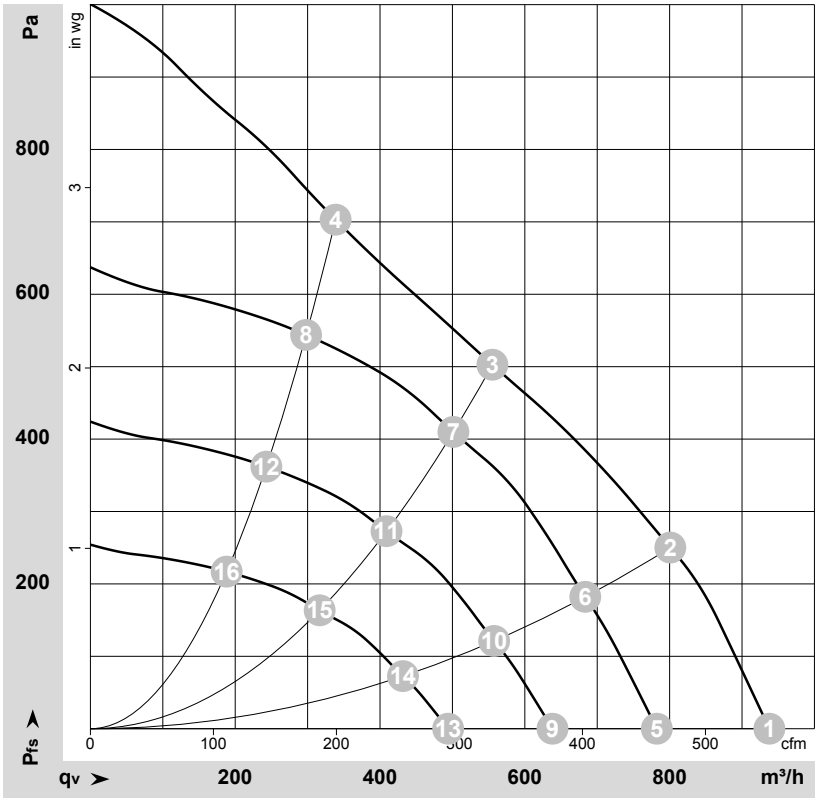
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / PWM control input, Ri=100 kΩ, SELV
	4	Tach	white	Tach 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. pot), SELV
	1	GND	blue	Reference ground for control interface, SELV

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-142350-1

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	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	115	50	4555	165	2.13	940	0	550	0.00
2	115	50	4455	170	2.18	800	250	470	1.00
3	115	50	4180	170	2.25	555	500	325	2.01
4	115	50	4320	170	2.16	340	700	200	2.81
5	115	50	3800	96	1.24	780	0	460	0.00
6	115	50	3800	106	1.36	685	182	400	0.73
7	115	50	3800	128	1.64	500	409	295	1.64
8	115	50	3800	115	1.47	300	544	175	2.18
9	115	50	3100	52	0.67	640	0	375	0.00
10	115	50	3100	58	0.74	560	121	330	0.49
11	115	50	3100	70	0.89	410	272	240	1.09
12	115	50	3100	62	0.80	245	362	145	1.45
13	115	50	2400	24	0.31	495	0	290	0.00
14	115	50	2400	27	0.34	430	73	255	0.29
15	115	50	2400	32	0.41	315	163	185	0.65
16	115	50	2400	29	0.37	190	217	110	0.87

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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