EC centrifugal fan

backward-curved, single-intake

R3G175-RG49-08 ebmpapst Datasheet
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Amtsgericht (court of registration) Stuttgart · HRA 590344

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Nominal data

Type	**R3G175-RG49-08**	
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}	3650
Power consumption	W	85
Current draw	A	1.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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	1.1 kg
Size	175 mm
Motor size	55
Rotor surface	Thick-film passivated
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 - Tach output - 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 motor - Line undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household 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	CSA C22.2 No. 77; UL 1004-7 + 60730-1

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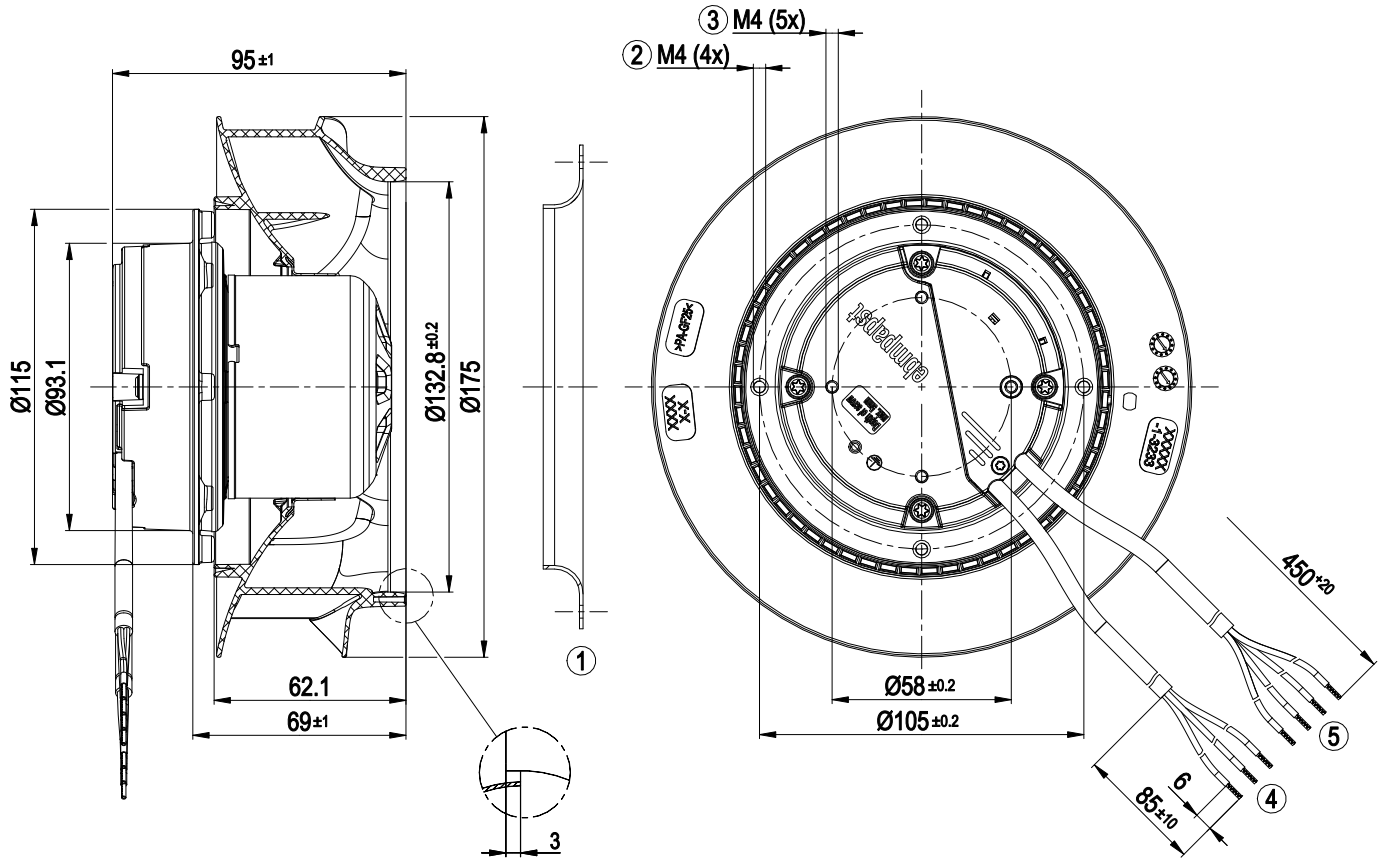
Product drawing



1	Accessory part: inlet ring 09576-2-4013 not included in scope of delivery
2	Max. clearance for screw 6 mm
3	Max. clearance for screw 5 mm
4	Cable PVC 3G 0.5 mm²
	3x splice
5	Cable PVC 4x 0.25 mm²
	4x splice

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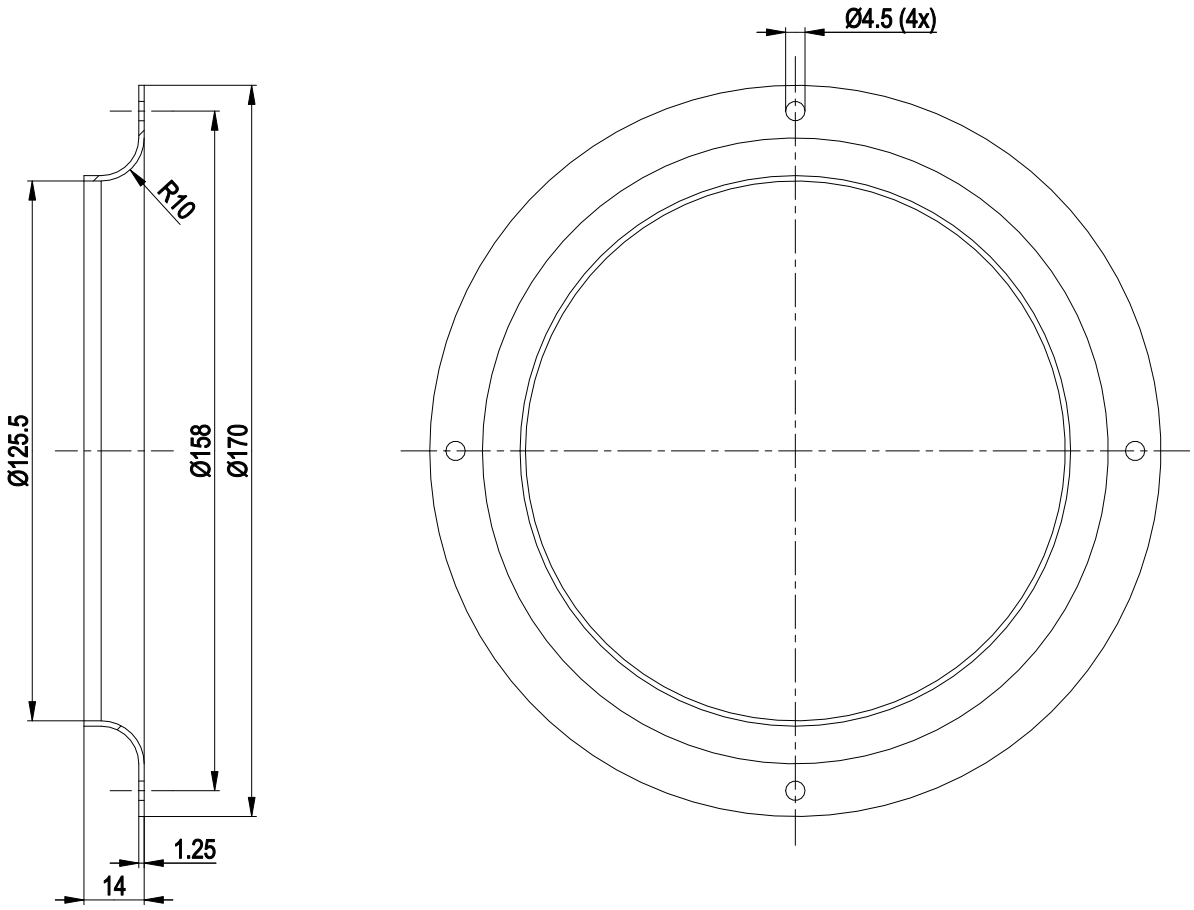
Accessory part



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

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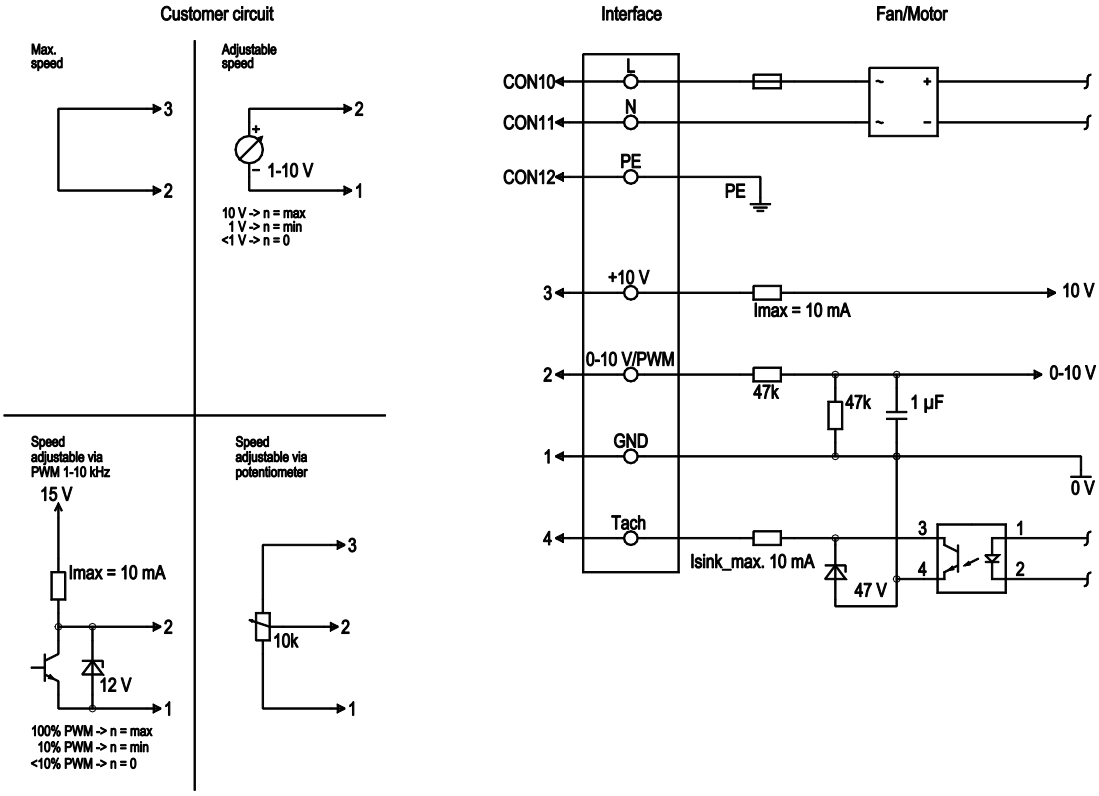
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	CON10	L	brown	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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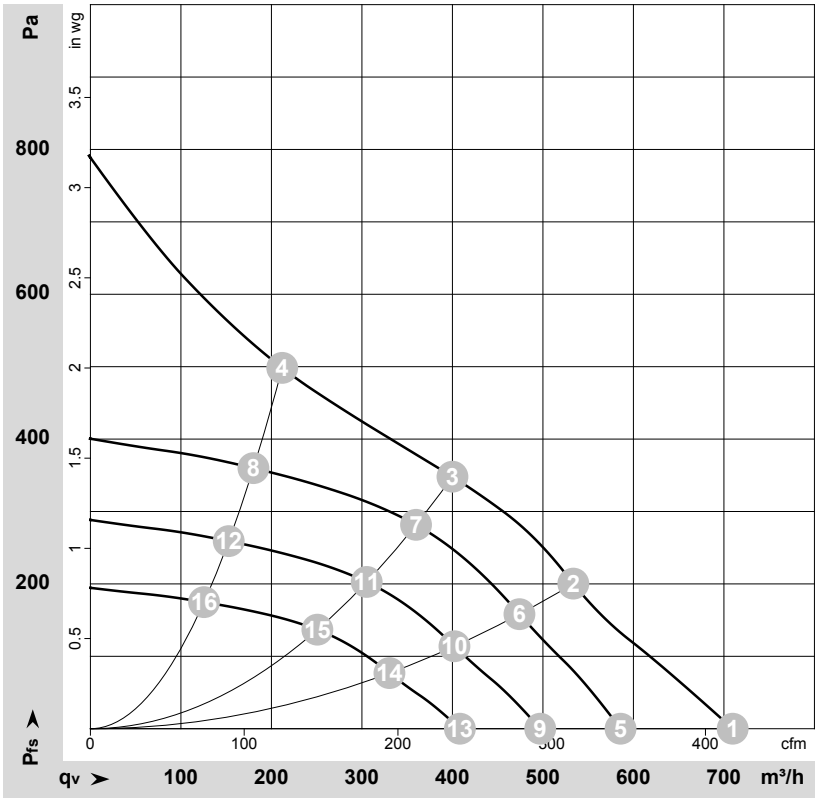
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-177344-1

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	115	50	4000	85	1.30	69	78	710	0	420	0.00
2	115	50	3715	85	1.30	63	70	535	200	315	0.80
3	115	50	3650	85	1.30	58	66	400	350	235	1.41
4	115	50	3875	85	1.30	63	71	210	500	125	2.01
5	115	50	3300	47	0.74	64	73	585	0	345	0.00
6	115	50	3300	59	0.91	60	67	475	158	280	0.63
7	115	50	3300	61	0.95	56	63	360	282	210	1.13
8	115	50	3300	51	0.80	59	66	180	360	105	1.45
9	115	50	2800	29	0.45	60	69	495	0	295	0.00
10	115	50	2800	36	0.56	56	63	400	114	235	0.46
11	115	50	2800	37	0.58	51	59	305	203	180	0.81
12	115	50	2800	31	0.49	54	62	155	259	90	1.04
13	115	50	2300	16	0.25	55	64	410	0	240	0.00
14	115	50	2300	20	0.31	51	58	330	77	195	0.31
15	115	50	2300	21	0.32	46	54	250	137	150	0.55
16	115	50	2300	17	0.27	49	57	125	175	75	0.70

U = Voltage · 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