EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G160-RG53-03 ebmpapst Datasheet
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Amtsgericht (court of registration) Stuttgart · HRA 590344

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Nominal data

Type	**R3G160-RG53-03**
Motor	**M3G055-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	4950
Power consumption	W	115
Current draw	A	1.0
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	1.24 kg
Size	160 mm
Motor size	55
Rotor surface	Thick-film passivated
Impeller material	PP plastic, galvanized sheet-metal plate
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 electronics/motor - Line undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
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 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

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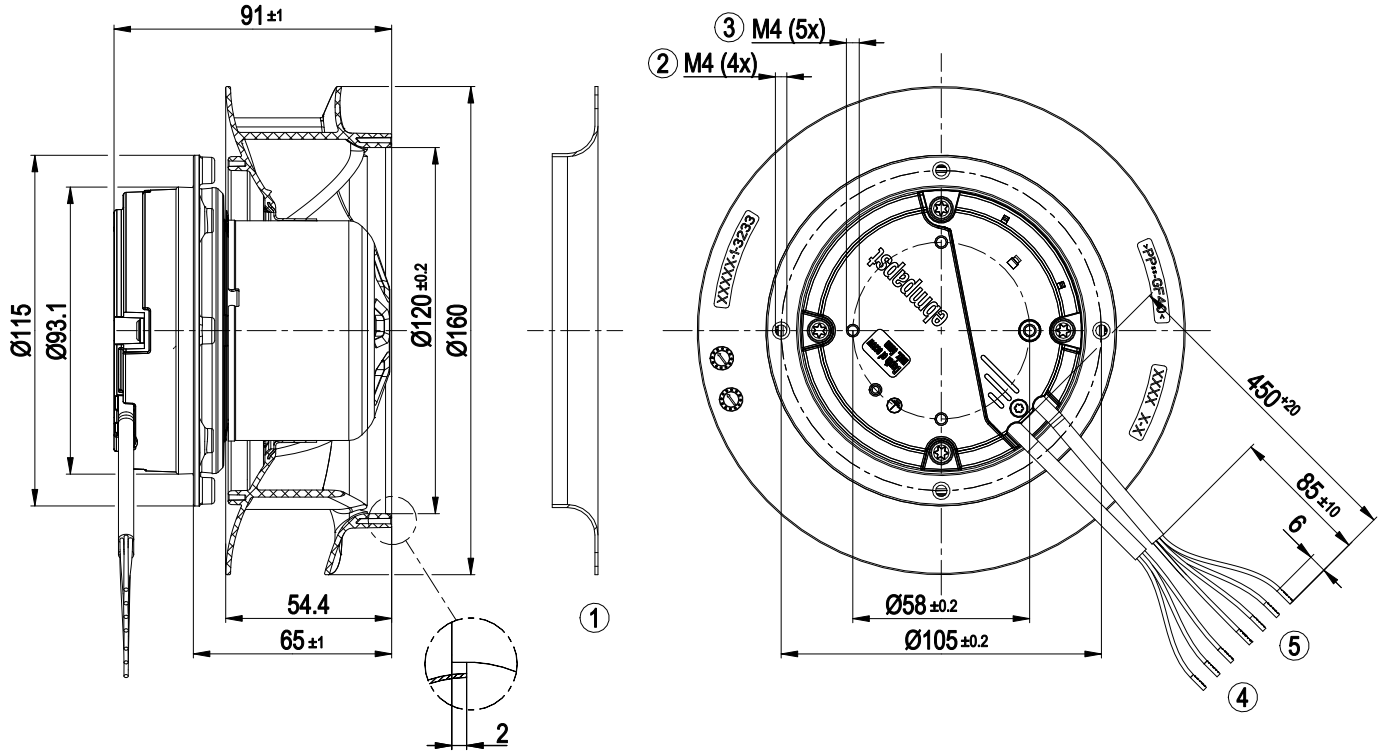
Product drawing



1	Accessory part: Inlet ring 09567-2-4013 not included in scope of delivery
2	Max. clearance for screw 6 mm
3	Max. clearance for screw 5 mm
4	Cable AWG20
	3x splice
5	Cable PVC AWG22
	4x splice

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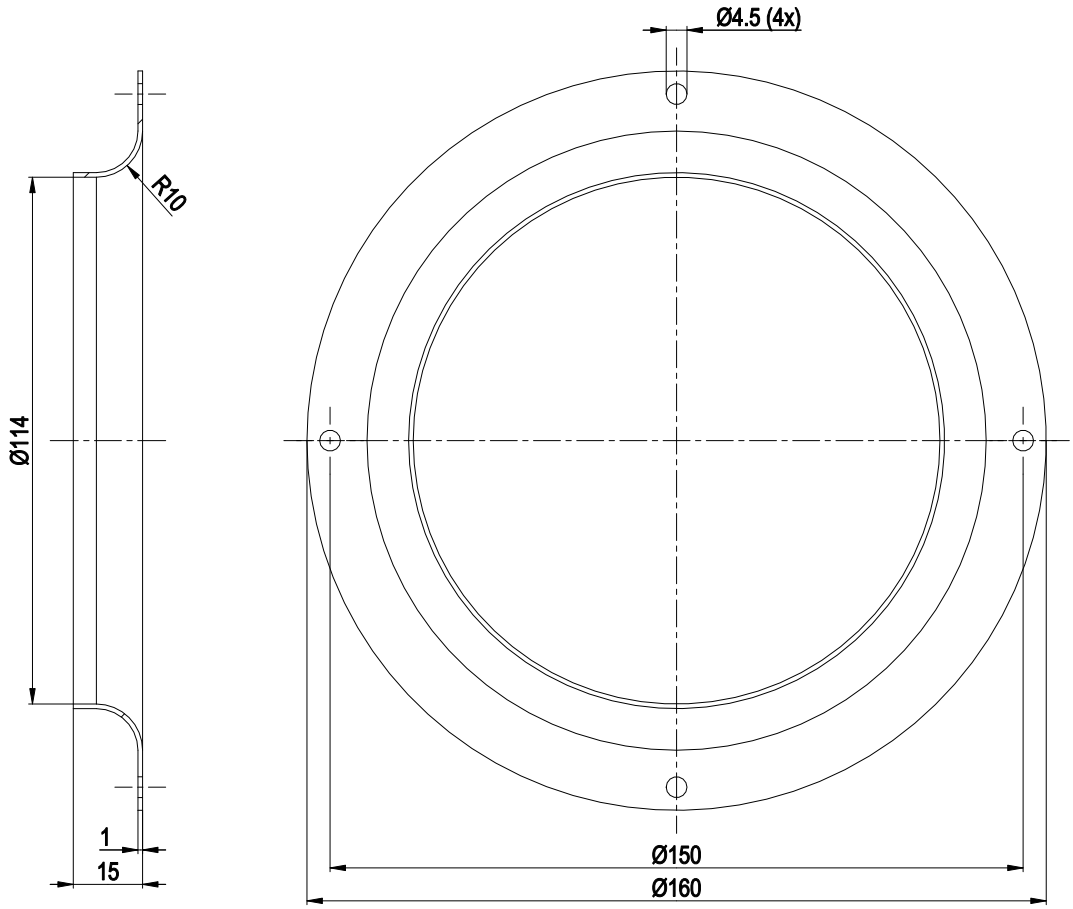
Accessory part



Inlet ring 09567-2-4013

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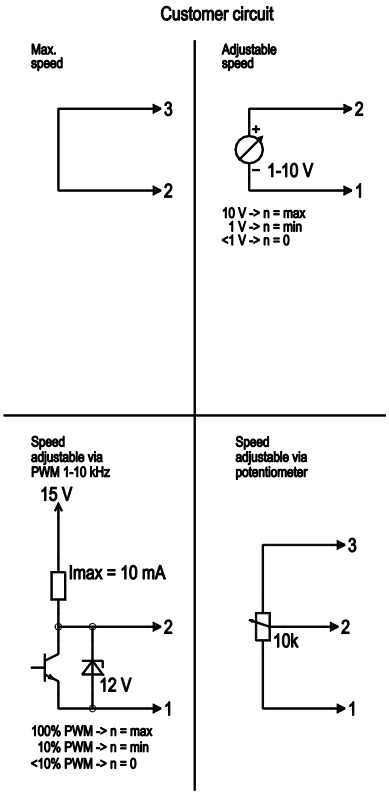
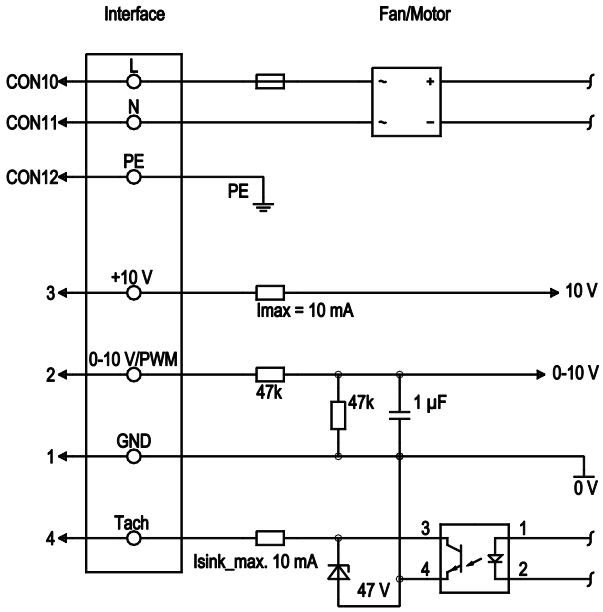
Connection diagram





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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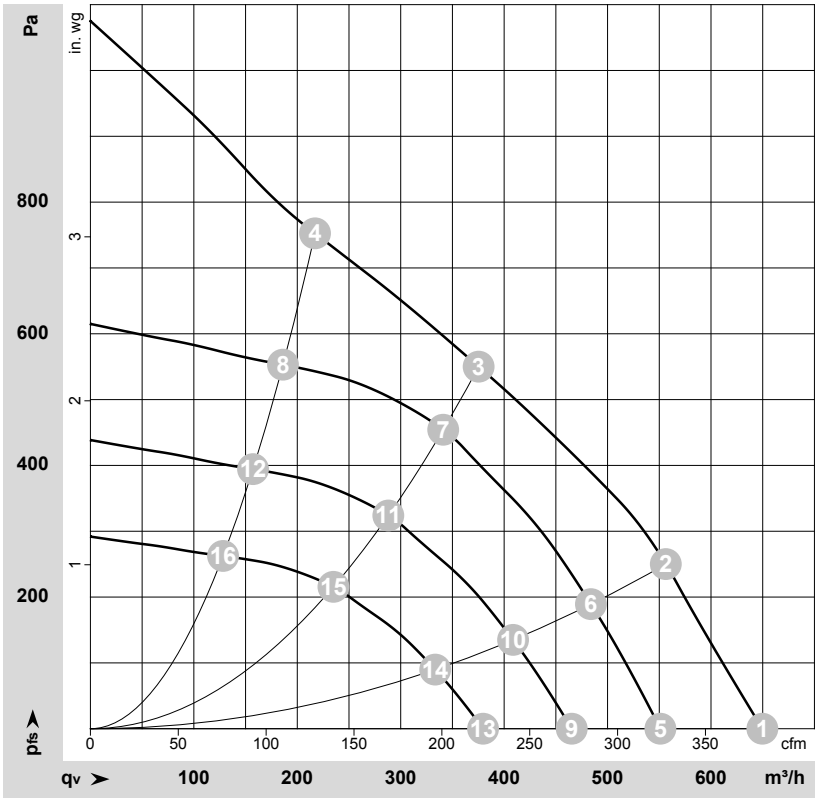
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-193221-1

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	1~	230	50	5305	115	1.00	650	0	385	0.00
2	1~	230	50	5175	115	1.00	555	250	325	1.00
3	1~	230	50	4950	115	1.00	375	550	220	2.21
4	1~	230	50	5250	115	1.00	215	750	130	3.01
5	1~	230	50	4500	74	0.61	550	0	325	0.00
6	1~	230	50	4500	79	0.66	485	190	285	0.76
7	1~	230	50	4500	90	0.75	340	459	200	1.84
8	1~	230	50	4500	76	0.63	185	553	110	2.22
9	1~	230	50	3800	44	0.37	465	0	275	0.00
10	1~	230	50	3800	48	0.39	410	135	240	0.54
11	1~	230	50	3800	54	0.45	290	327	170	1.31
12	1~	230	50	3800	46	0.38	155	394	90	1.58
13	1~	230	50	3100	24	0.20	380	0	225	0.00
14	1~	230	50	3100	26	0.21	335	90	195	0.36
15	1~	230	50	3100	29	0.24	235	218	140	0.88
16	1~	230	50	3100	25	0.21	130	262	75	1.05

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