EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G225-RE19-22 ebmpapst Datasheet
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Amtsgericht (court of registration) Stuttgart · HRA 590344

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Nominal data

Type	**R3G225-RE19-22**
Motor	**M3G055-DF**

Phase		1~	1~
Nominal voltage	VAC	115	115
Nominal voltage range	VAC	100 .. 130	100 .. 130
Frequency	Hz	50/60	50/60
Method of obtaining data		ml	ce
Speed (rpm)	min^{-1}	2800	2900
Power consumption	W	170	155
Current draw	A	2.4	2.2
Min. back pressure	Pa		0
Min. back pressure	in. wg		0
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	50	60

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

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	59.7	43.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		78.4	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	805
09 Pressure increase p_{fs}	Pa	386
10 Speed (rpm) n	min^{-1}	2890
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-142355

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Technical description

Weight	1.8 kg
Size	225 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; (sealed)
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	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; CCC; UL 1004-7 + 60730-1

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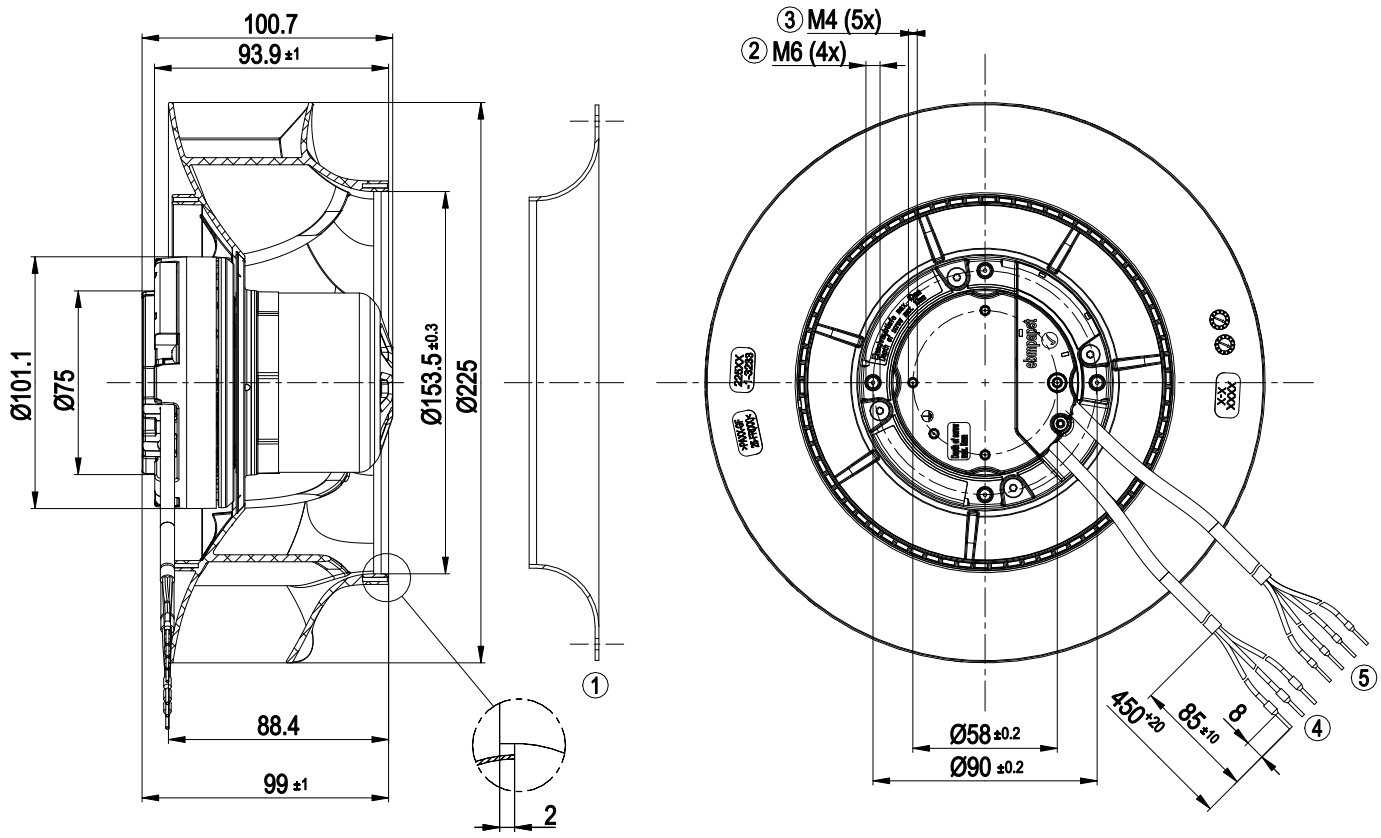
Product drawing



1	Accessory part: inlet ring 96358-2-4013 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 wire-end ferrule
5	Cable PVC AWG22
	4x wire-end ferrule

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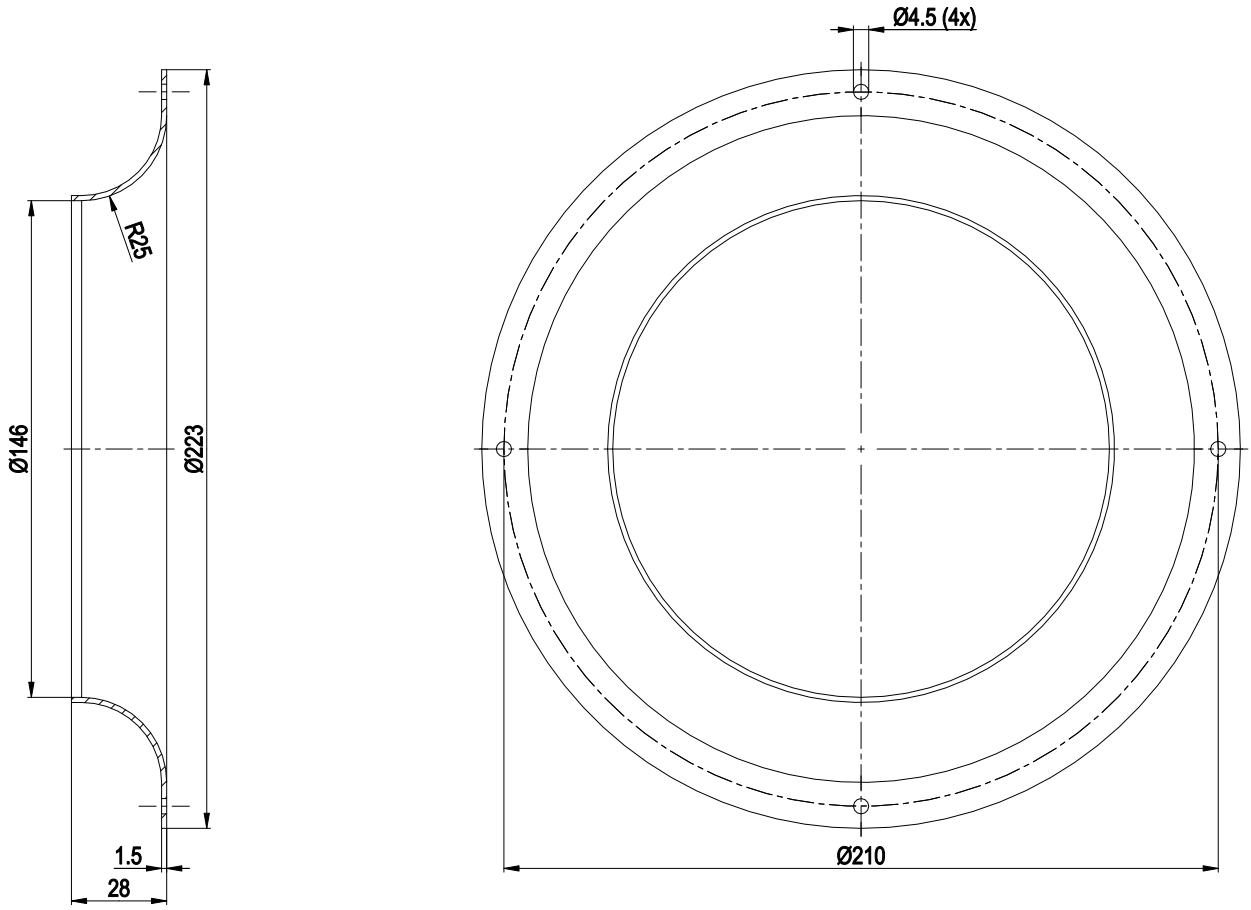
Accessory part



Inlet ring 96358-2-4013 not included in scope of delivery

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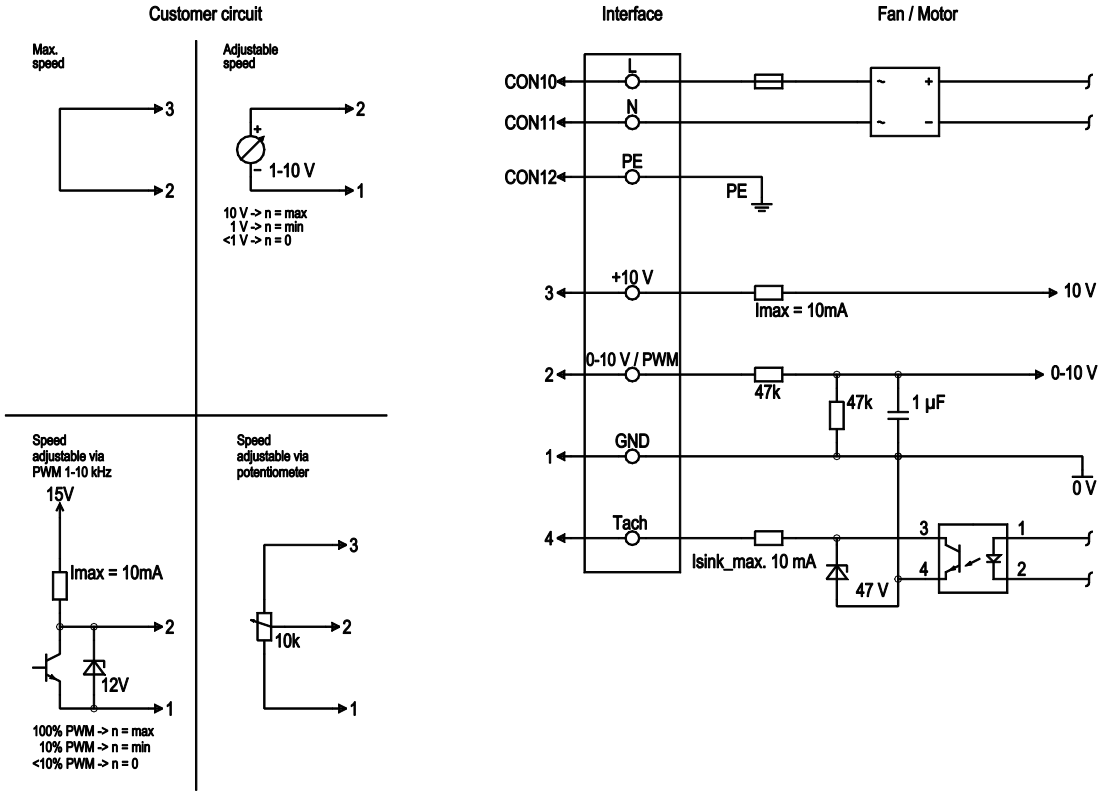
Connection diagram



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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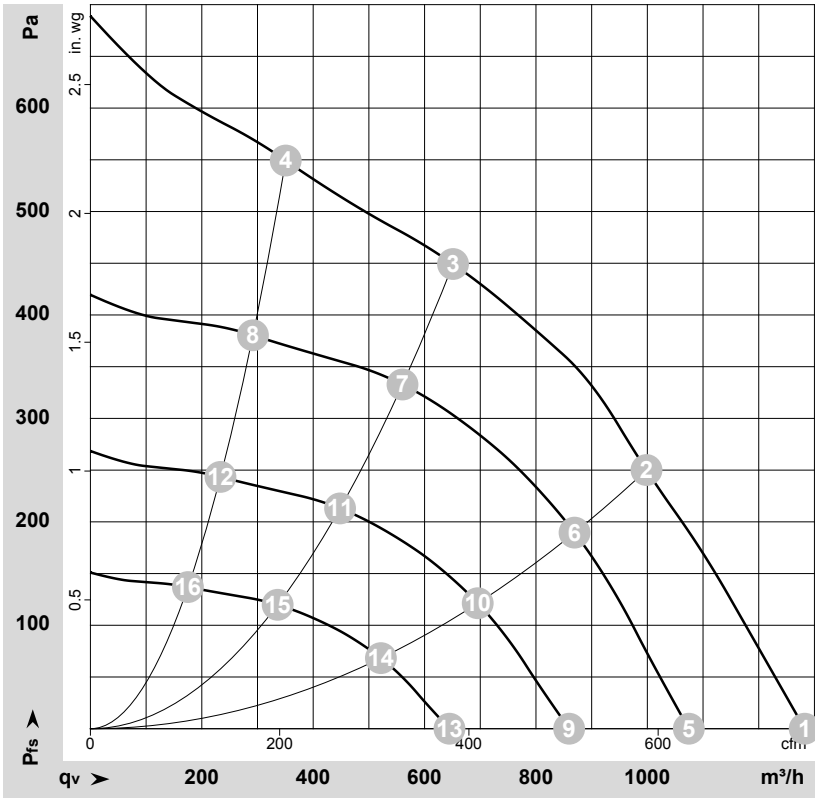
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-142355-1

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	2985	153	1.99	1280	0	755	0.00
2	115	50	2800	170	2.40	1000	250	585	1.00
3	115	50	2905	160	2.06	650	450	385	1.81
4	115	50	3005	145	1.88	350	550	205	2.21
5	115	50	2500	90	1.17	1075	0	630	0.00
6	115	50	2500	115	1.47	870	192	510	0.77
7	115	50	2500	102	1.32	560	333	330	1.34
8	115	50	2500	83	1.09	290	380	170	1.53
9	115	50	2000	46	0.60	860	0	505	0.00
10	115	50	2000	59	0.75	695	123	410	0.49
11	115	50	2000	52	0.67	450	213	265	0.86
12	115	50	2000	43	0.56	235	243	135	0.98
13	115	50	1500	19	0.25	645	0	380	0.00
14	115	50	1500	25	0.32	520	69	305	0.28
15	115	50	1500	22	0.28	335	120	200	0.48
16	115	50	1500	18	0.23	175	137	105	0.55

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