EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G225-RE19-27 ebmpapst Datasheet
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Nominal data

Type	**R3G225-RE19-27**
Motor	**M3G055-DF**

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}	2800
Power consumption	W	156
Current draw	A	2.2
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

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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	58.2	43
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		77.2	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.15
09 Air flow q_v	m^3/h	740
09 Pressure increase p_{fs}	Pa	388
10 Speed (rpm) n	min^{-1}	2805
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-198309

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Technical description

Weight	1.7 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
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
Electrical hookup	Connector with cable
Motor protection	Electronic motor protection
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; EN 60335-2-31; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

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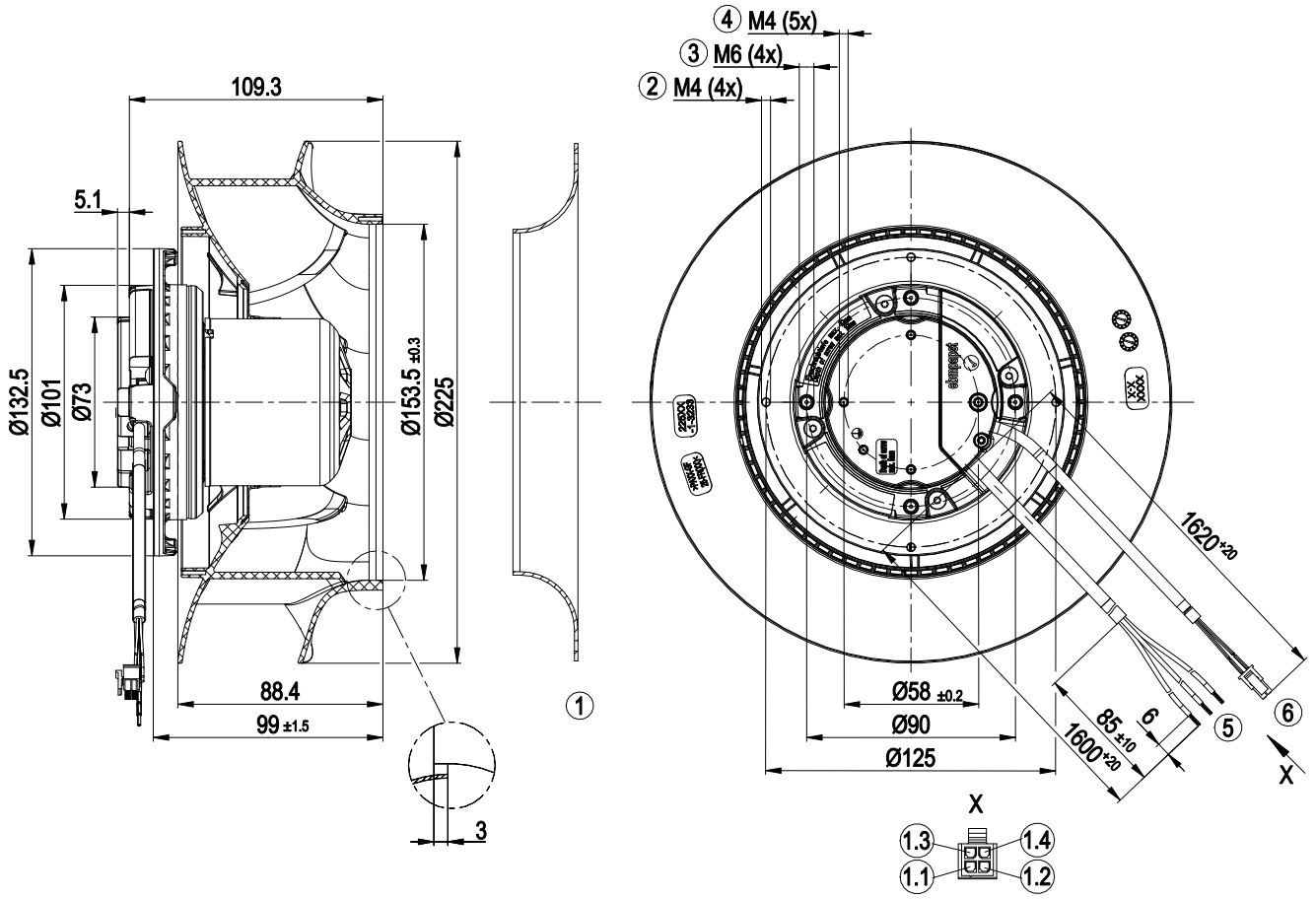
Product drawing



1	Accessory part: inlet ring 96358-2-4013 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Max. clearance for screw 10 mm
4	Max. clearance for screw 5 mm
5	Cable PVC AWG20
	3x splice
6	Cable PVC AWG22
	4-pole connector housing Molex 43025-0400, 4x socket Molex 43030-0001
6.1	+10 V (red)
6.2	0-10 V/PWM (yellow)
6.3	Tach (white)
6.4	GND (blue)

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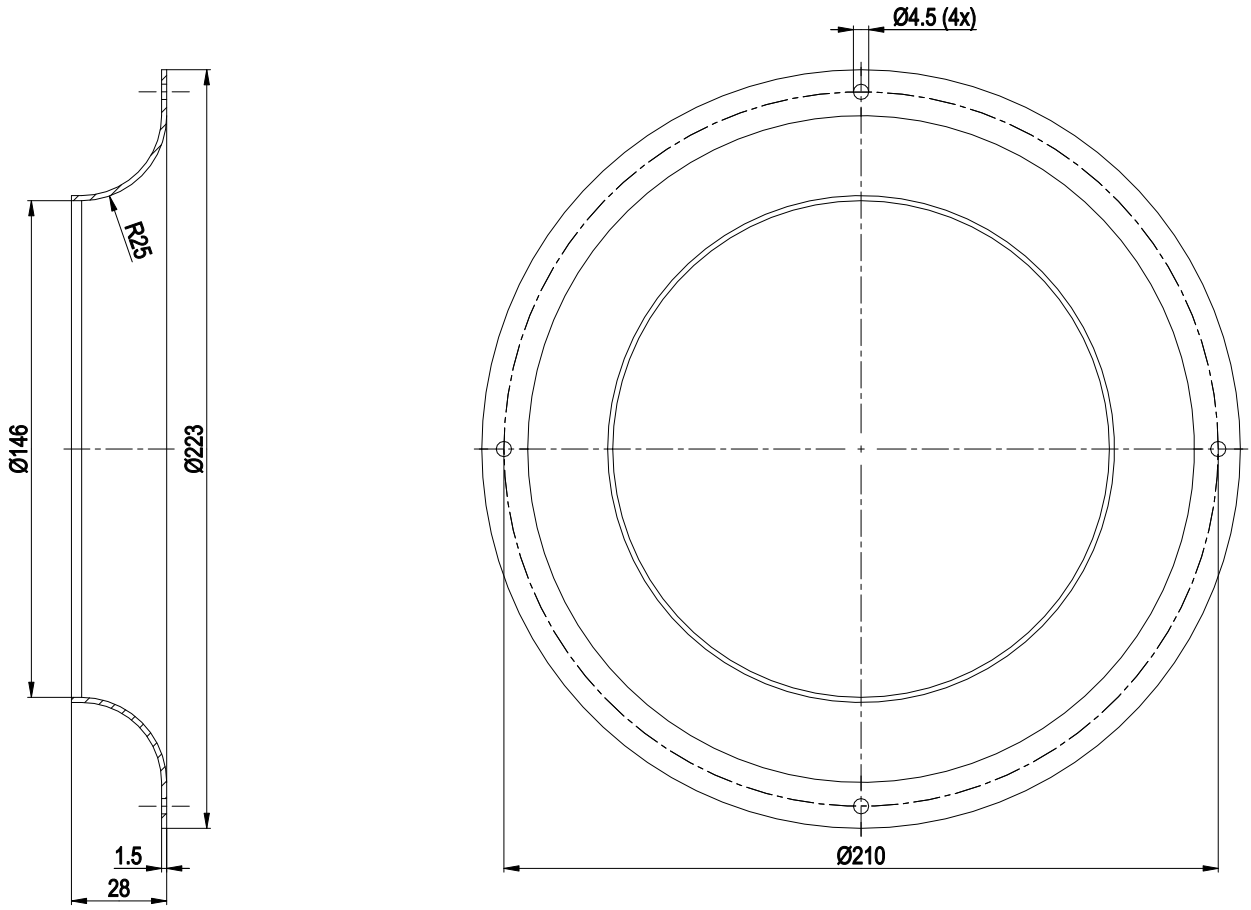
Accessory part



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

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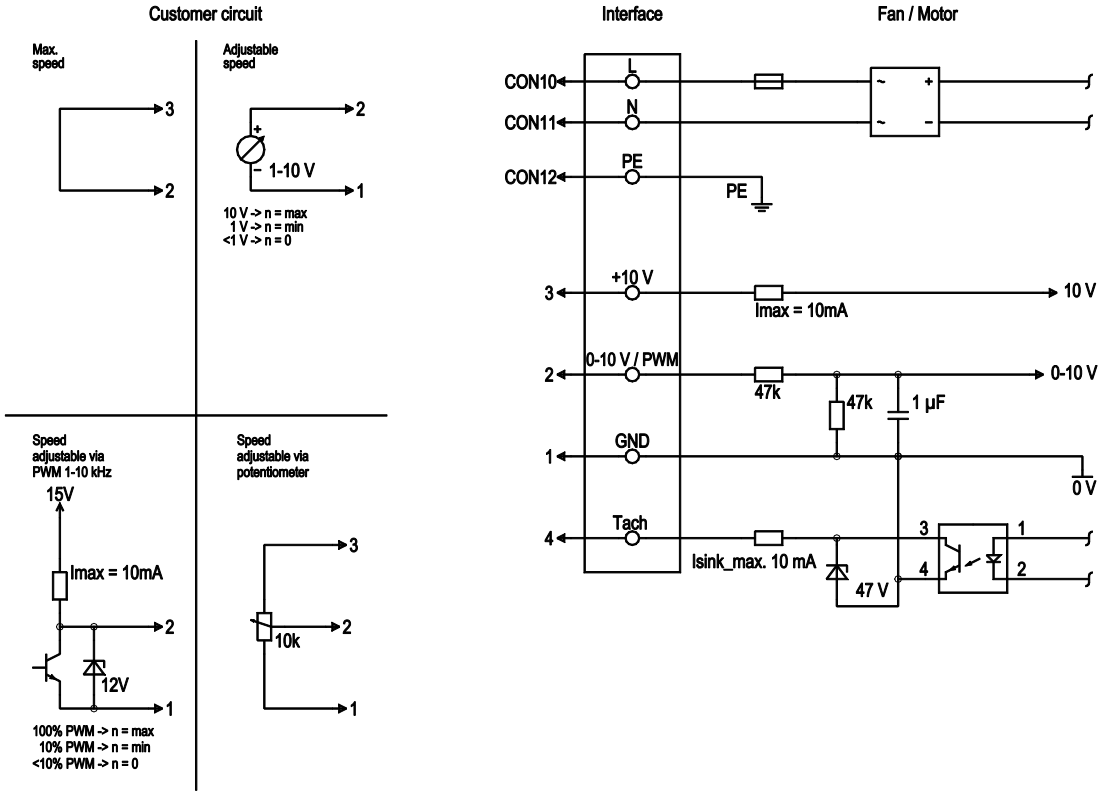
Connection diagram



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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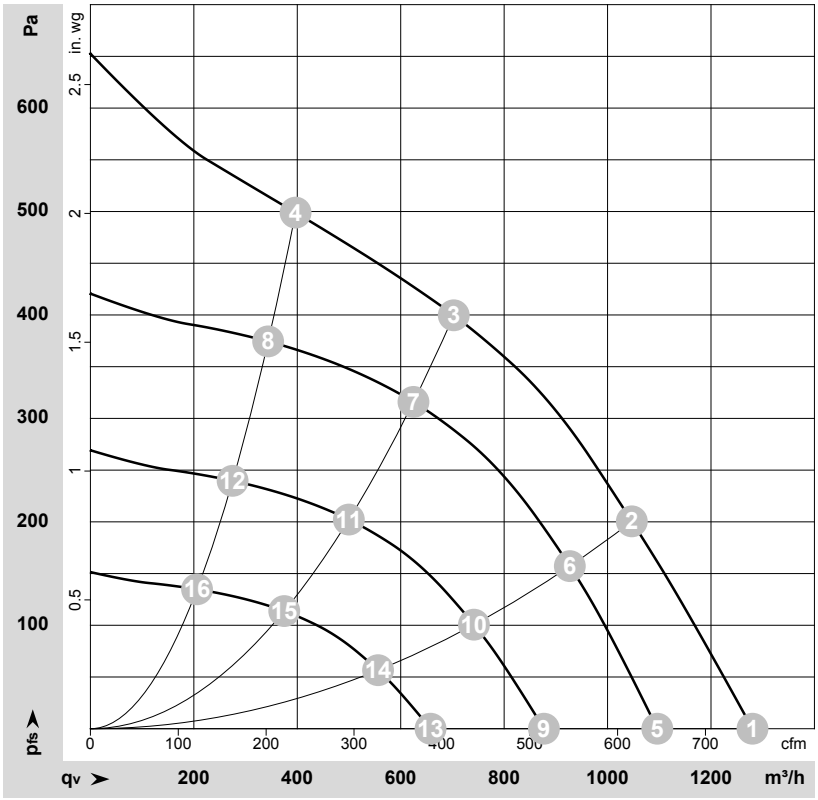
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-198309-1

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	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	1~	115	50	2920	132	1.91	68	76	1280	0	755	0.00
2	1~	115	50	2820	154	2.18	64	72	1045	200	615	0.80
3	1~	115	50	2800	156	2.20	60	68	705	400	415	1.61
4	1~	115	50	2885	139	1.99	64	72	395	500	235	2.01
5	1~	115	50	2500	83	1.20	64	72	1095	0	645	0.00
6	1~	115	50	2500	108	1.52	61	69	925	159	545	0.64
7	1~	115	50	2500	109	1.54	57	65	625	316	370	1.27
8	1~	115	50	2500	91	1.30	60	68	345	375	200	1.51
9	1~	115	50	2000	43	0.61	59	67	875	0	515	0.00
10	1~	115	50	2000	55	0.78	55	63	740	102	435	0.41
11	1~	115	50	2000	56	0.79	52	59	500	203	295	0.81
12	1~	115	50	2000	46	0.66	55	63	275	240	160	0.96
13	1~	115	50	1500	18	0.26	52	59	660	0	385	0.00
14	1~	115	50	1500	23	0.33	48	56	555	57	325	0.23
15	1~	115	50	1500	24	0.33	44	52	375	114	220	0.46
16	1~	115	50	1500	20	0.28	47	55	205	135	120	0.54

Wired = Wiring · 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