EC centrifugal fan - RadiCal

backward curved

R3G225-RG50-06 ebmpapst Datasheet
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County court Stuttgart · HRA 590344

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Nominal data

Type	**R3G225-RG50-06**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	3200
Power input	W	230
Current draw	A	1.8
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data in accordance with ecodesign regulation EU 327/2011 (prEN 17166)

		Actual	Request 2015
01 Overall efficiency η_{es}	%	59.7	44.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		77.1	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.22
09 Air flow q_v	m^3/h	840
09 Pressure increase p_{fs}	Pa	501
10 Speed (rpm) n	min^{-1}	3220
11 Specific ratio*		1.01

Data definition with optimum efficiency.

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

LU-163055

The indicated efficiency values for obtaining conformity with the Ecodesign Directive EU 327/2011 were achieved with defined air conduction components (e.g. inlet nozzles).
The dimensions are to be requested from ebm-papst. If other air guide geometries are used on the installation side, the ebm-papst evaluation loses its validity/conformity must be confirmed again.

The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2(2a) (motors completely integrated into a product).

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Technical features

Mass	2.2 kg
Size	225 mm
Motor size	74
Surface of rotor	Thick layer passivated
Material of impeller	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP44; Depending on installation and position as per EN 60034-5
Insulation class	"B"
Humidity (F) / environmental protection class (H)	H1
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensation drainage holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Output limit - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Over-temperature protected motor
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-4 (industrial environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical connection	Connector with connection line
Motor protection	Thermal switch auto reset, internally connected
Cable exit	Variable
Safety classification	I; If a protective earth is connected by the customer This component to be built-in can have several local protection class ratings. The specification refers to the basic design of this component. The final protection class is based on the intended installation and connection of the component.
Product conforming to standard	EN 60335-1; CE
Approval	CSA C22.2 no. 77 + CAN/CSA-E60730-1; UL 1004-3 + 60730-1

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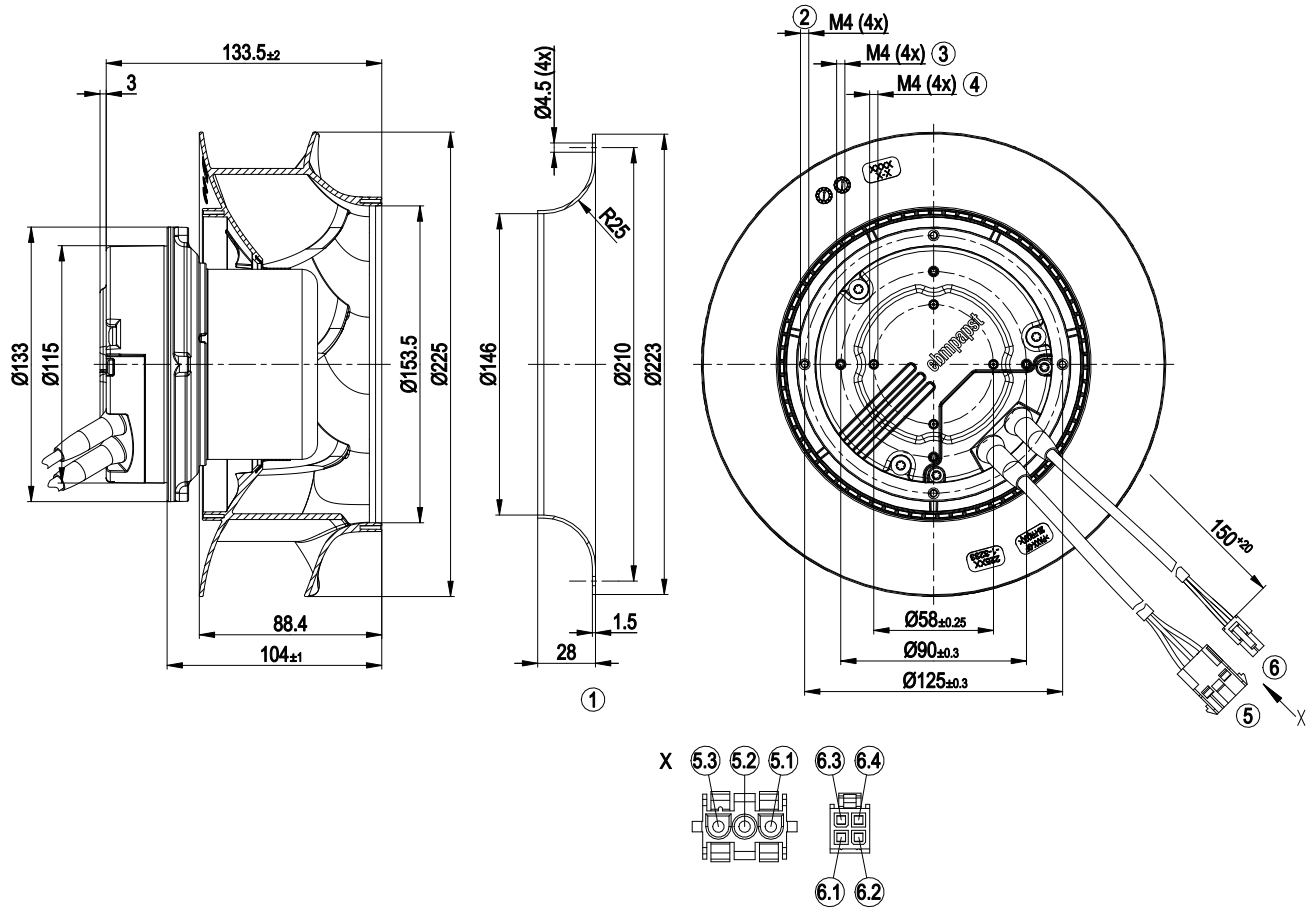
Product drawing



1	Accessory part: Inlet nozzle 96358-2-4013 not included in scope of delivery
2	Thread reach 8 - 10 mm
3	Pilot hole prepared for M4 self-tapping screw, thread reach max. 6 mm
4	Pilot hole prepared for M4 self-tapping screw, thread reach max. 8 mm
5	Connection line PVC AWG18, 1x receptacle housing 3-pole Tyco 2178474-2, 2x plug pin Tyco 350218-1, 1x plug pin Tyco 350654-1
5.1	black
5.2	blue
5.3	green/yellow
6	Connection line PVC AWG22, 1x pin housing 4-pole Tyco 1586765-4, 4x female connector Tyco 794956-3
6.1	blue
6.2	yellow
6.3	red
6.4	white

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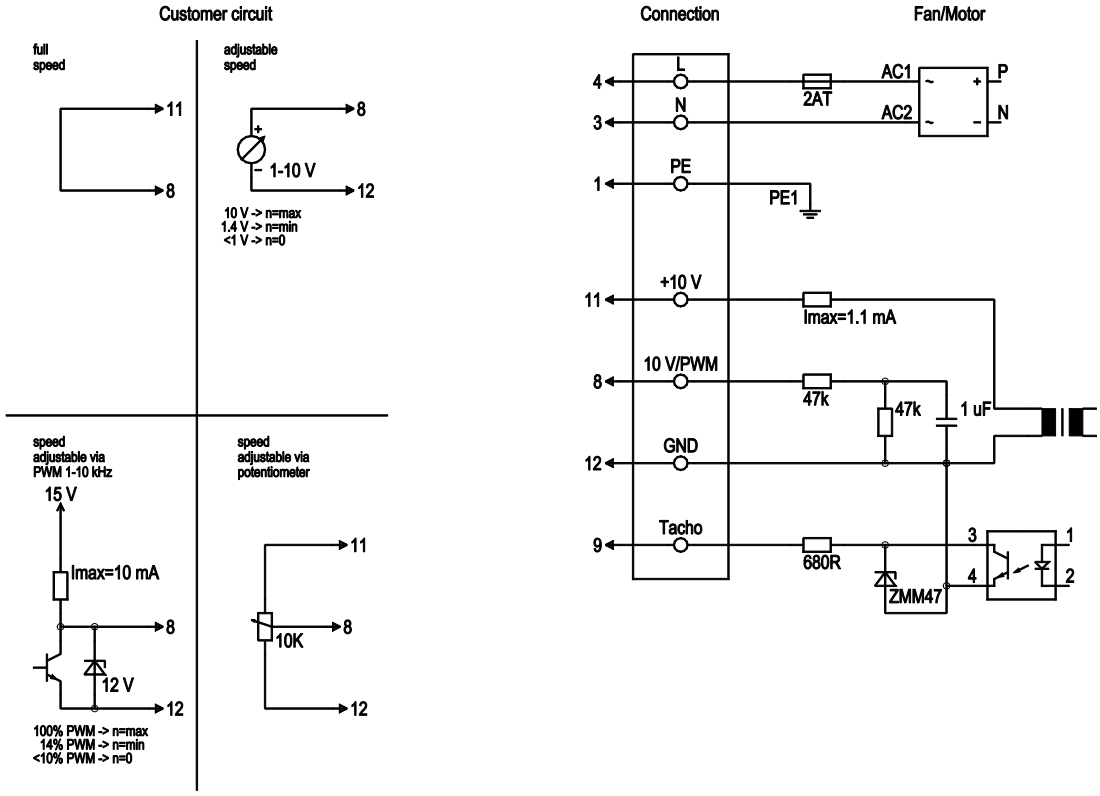
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see type plate for voltage range
	3	N	blue	Neutral conductor
	1	PE	green/yellow	Protective earth
	8	0-10 V PWM	yellow	Control input 0 - 10 V or PWM, electrically isolated
	9	Tach	white	Tach output: open collector, 1 pulse per revolution, electrically isolated
	11	10V / max 1.1 mA	red	Voltage output 10 V / max. 1.1 mA, electrically isolated
	12	GND	blue	GND - Connection for control interface

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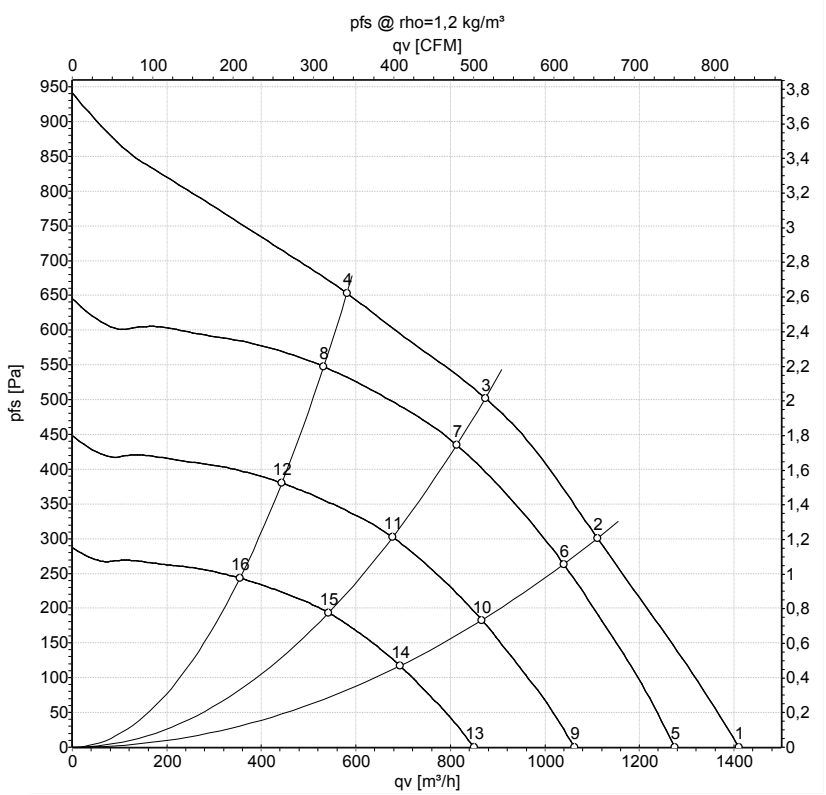
Charts: Air flow 50 Hz



Measurement: LU-163055-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

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	230	50	3320	202	1.60	1410	0	830	0.00
2	230	50	3200	230	1.80	1110	300	655	1.20
3	230	50	3225	223	1.75	875	500	515	2.01
4	230	50	3275	217	1.71	580	650	340	2.61
5	230	50	3000	149	1.18	1275	0	750	0.00
6	230	50	3000	188	1.47	1040	265	610	1.06
7	230	50	3000	180	1.41	815	436	480	1.75
8	230	50	3000	167	1.31	530	549	315	2.20
9	230	50	2500	86	0.68	1060	0	625	0.00
10	230	50	2500	109	0.85	865	184	510	0.74
11	230	50	2500	104	0.82	680	302	400	1.21
12	230	50	2500	96	0.76	445	381	260	1.53
13	230	50	2000	44	0.35	850	0	500	0.00
14	230	50	2000	56	0.43	695	118	410	0.47
15	230	50	2000	53	0.42	540	194	320	0.78
16	230	50	2000	49	0.39	355	244	210	0.98

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