G3G190-RQ45-14

EC centrifugal fan - RadiCal

backward-curved, single-intake

with housing (without flange)

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Nominal data

Type	**G3G190-RQ45-14**
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}	4150
Power consumption	W	170
Current draw	A	1.35
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}	%	64.8	42.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		83.3	61
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.17
09 Air flow q_v	m^3/h	465
09 Pressure increase p_{fs}	Pa	763
10 Speed (rpm) n	min^{-1}	4215
11 Specific ratio*		1.01

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

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Technical description

Weight	2.2 kg
Size	190 mm
Motor size	55
Rotor surface	Thick-film passivated
Impeller material	PA plastic
Housing material	PP plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP54, electronics IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H0+
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 - RS-485 MODBUS-RTU - 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

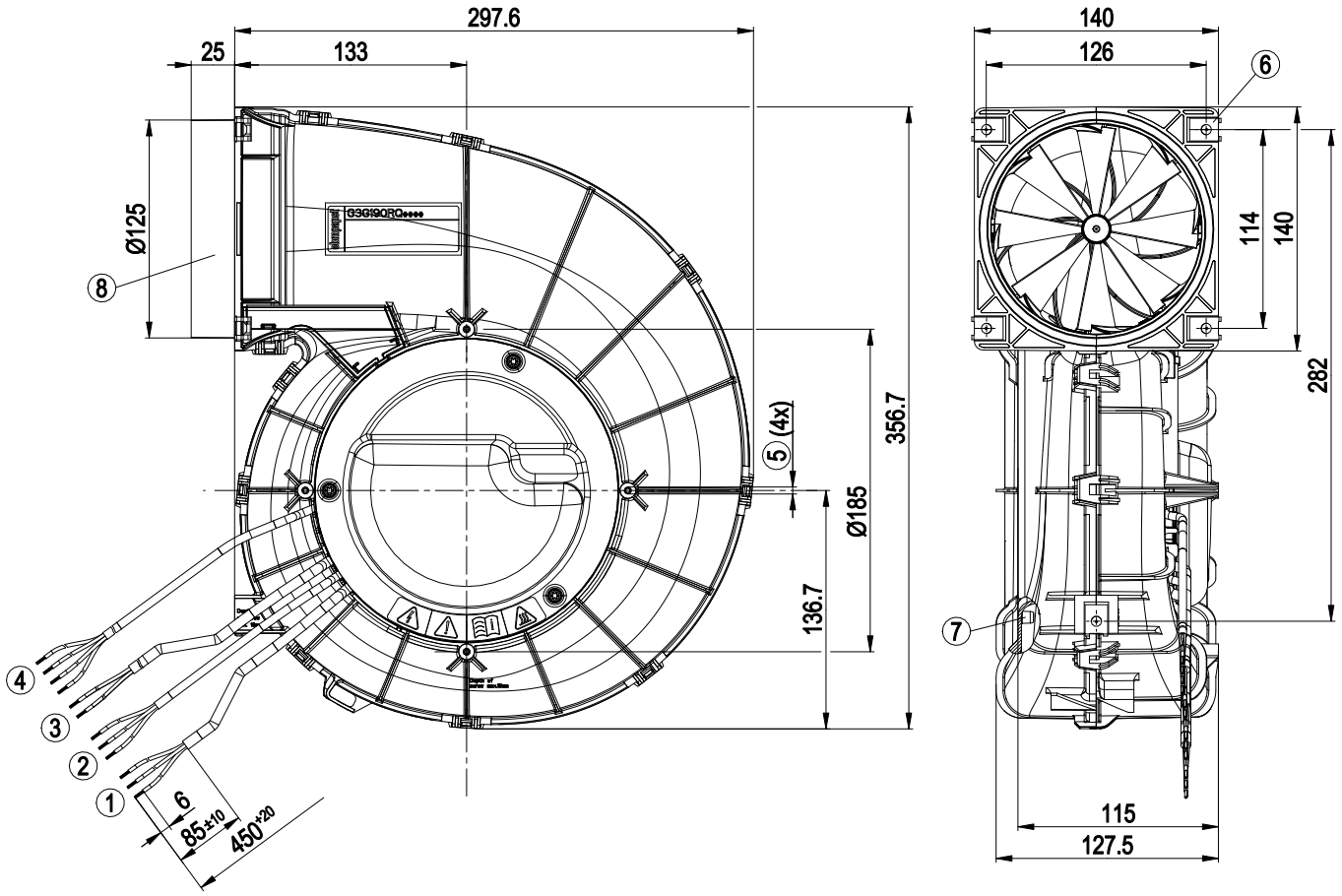
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Product drawing



1	Cable PVC AWG20
	3x splice
2	Cable PVC AWG22
	3x splice
3	Cable PVC AWG24
	2x splice
4	Cable PVC AWG22
	4x splice
5	Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, clearance for screw max. 15 mm. The torque is to be determined on the basis of the screw.
6	5x sheet metal nut for thread EN ISO 1478-ST4.8 (max. screw length 16 mm plus thickness of mounting material)
7	Screw-on domes are only permissible for Flowgrid!
8	Connecting sleeve not suitable for installation with pipe clamps

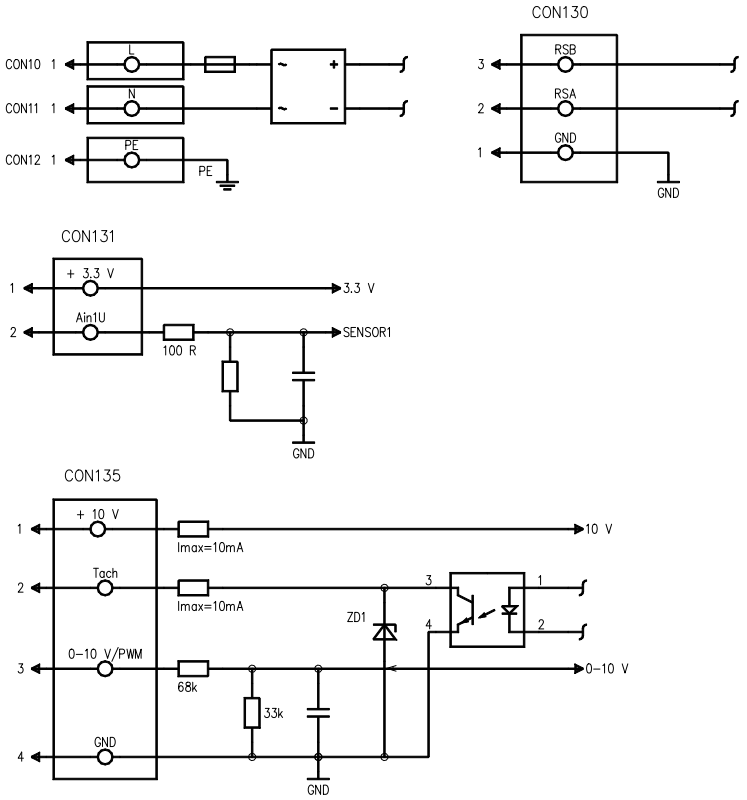
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
CON10	1	L	black	Power supply, phase, see nameplate for voltage range
CON11	1	N	blue	Power supply, neutral conductor, see nameplate for voltage range
CON12	1	PE	green/yellow	Protective earth
CON130	3	RSB	brown	RS485 interface for MODBUS, RSB; SELV
CON130	2	RSA	white	RS485 interface for MODBUS, RSA; SELV
CON130	1	GND	blue	Reference ground for control interface, SELV
CON131	1	+3,3 V/max. 10 mA	red	Voltage output, power supply for external sensors, SELV
CON131	2	Ain1 U	green	Analog input 1, actual value 0-3.3 V, Ri = 100 Ω
CON135	1	+10 V / max. 10 mA	red	Voltage output, power supply for external sensors, SELV
CON135	2	Tacho	white	Tach output: open collector, 1 pulse per revolution, SELV
CON135	3	0-10 V / PWM	yellow	Control input 0-10 VDC or PWM, impedance 100 kΩ, SELV
CON135	4	GND	blue	Reference ground for control interface, SELV

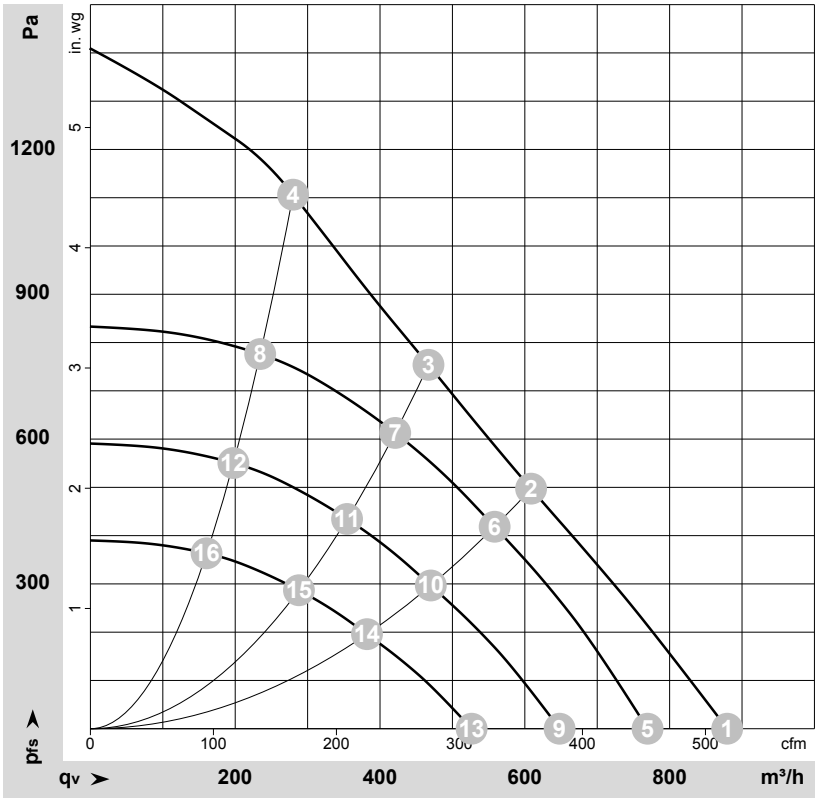
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-188479-1

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~	230	50	4345	170	1.35	76	82	880	0	520	0.00
2	1~	230	50	4150	170	1.35	68	75	610	500	360	2.01
3	1~	230	50	4210	170	1.35	68	74	465	750	275	3.01
4	1~	230	50	4535	170	1.35	73	79	280	1100	165	4.42
5	1~	230	50	3800	115	0.92	72	78	770	0	455	0.00
6	1~	230	50	3800	133	1.06	66	72	560	419	330	1.68
7	1~	230	50	3800	126	1.01	65	71	420	614	250	2.46
8	1~	230	50	3800	101	0.80	68	74	235	776	140	3.12
9	1~	230	50	3200	69	0.55	68	74	650	0	380	0.00
10	1~	230	50	3200	80	0.64	62	68	470	297	275	1.19
11	1~	230	50	3200	75	0.60	60	67	355	436	210	1.75
12	1~	230	50	3200	60	0.48	64	70	195	550	115	2.21
13	1~	230	50	2600	37	0.29	63	69	525	0	310	0.00
14	1~	230	50	2600	43	0.34	56	63	380	196	225	0.79
15	1~	230	50	2600	40	0.32	55	61	290	288	170	1.16
16	1~	230	50	2600	32	0.26	59	65	160	363	95	1.46

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

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