R3G220-AE70-01

EC centrifugal fan

backward-curved, single-intake



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Nominal data

Type	**R3G220-AE70-01**
Motor	**M3G074-CF**

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}	3280
Power consumption	W	170
Current draw	A	2.2
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

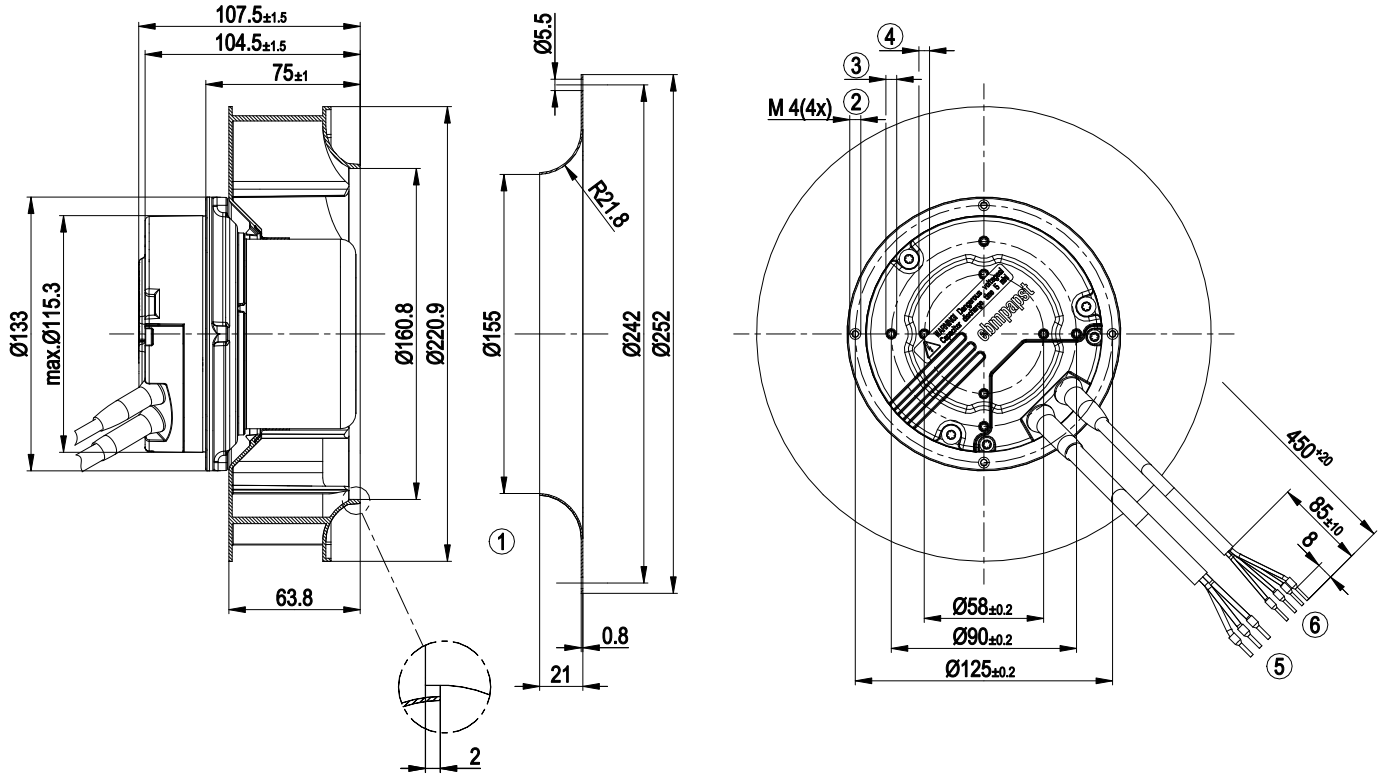
Weight	2.1 kg
Fan size	220 mm
Rotor surface	Thick-film passivated
Impeller material	PA plastic
Number of blades	11
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 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 - Thermal overload protection for motor
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 55022 (class B, household environment), the application may require ferritic damping in the cable due to the conditions of installation.
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1
Approval	C22.2 No.77 + CAN/CSA-E60730-1; UL1004-3 +60730

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Product drawing



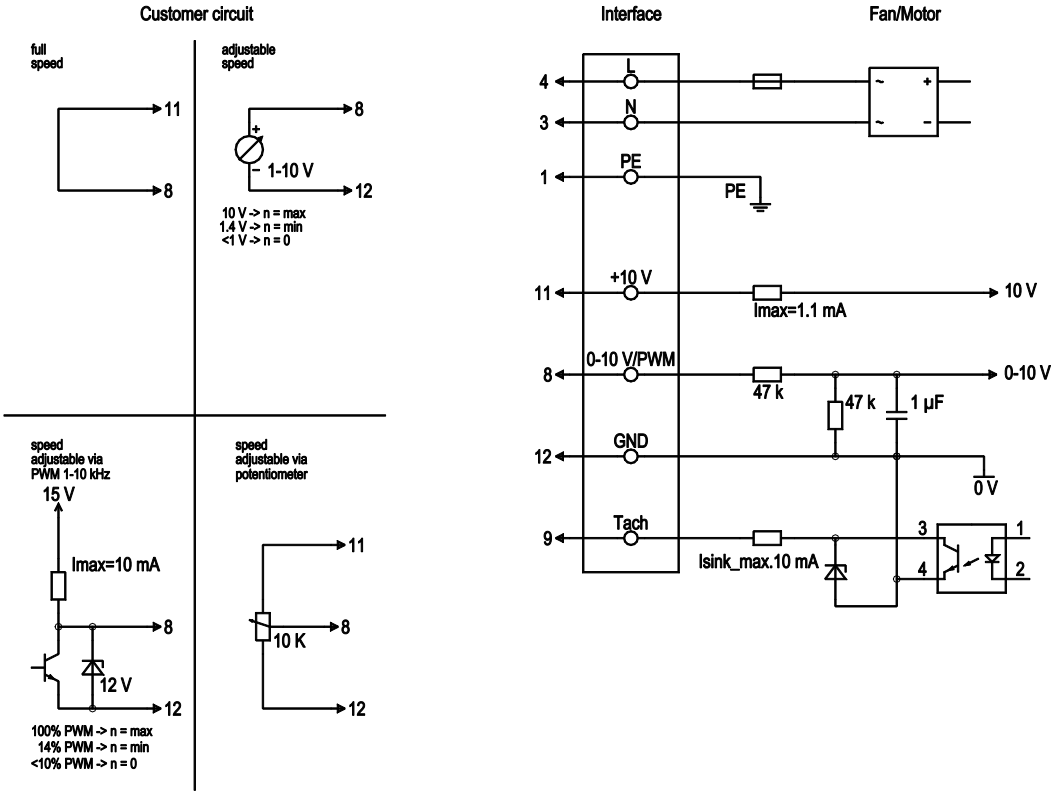
1	Accessory part: inlet ring 09609-2-4013 not included in scope of delivery
2	Clearance for screw 8-10 mm; tightening torque 2.5±0.2 Nm; gluing the screws is recommended
3	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 6 mm
4	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 8 mm
5	Cable AWG18, 3x crimped ferrules
6	Cable AWG22, 4x crimped ferrules

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Connection diagram



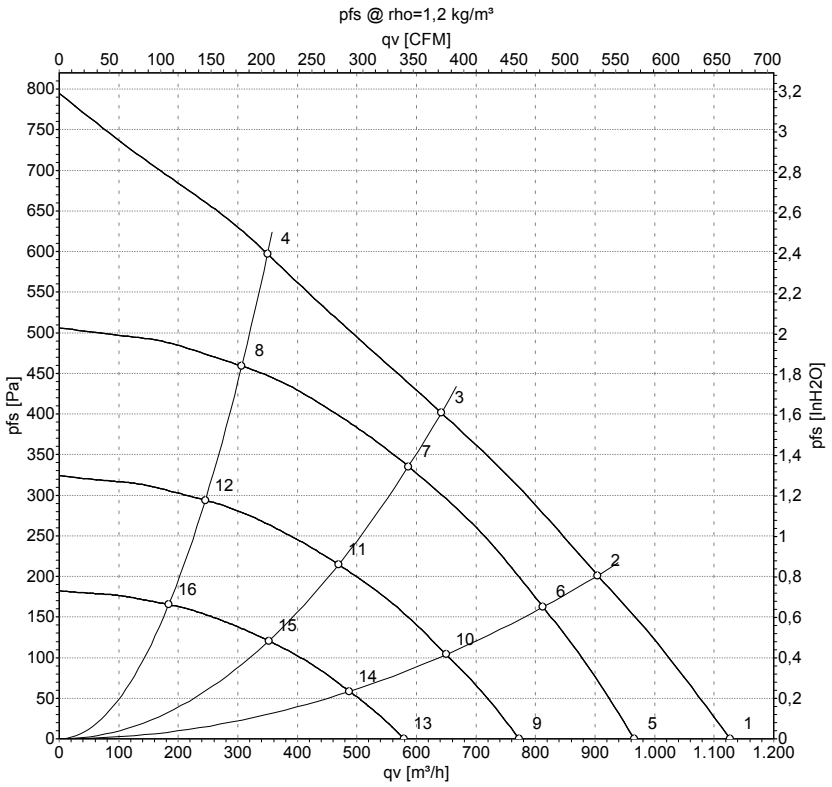
No.	Conn.	Designation	Color	Function/assignment
	4	L	black	Supply connection, power supply, phase, voltage range see nameplate, 50/60 Hz
	3	N	blue	Supply connection, power supply, neutral conductor, voltage range see nameplate, 50/60 Hz
	1	PE	green/yellow	Ground connection
	8	0-10 V / PWM	yellow	0-10 V / PWM control input, Ri=100 kΩ, SELV
	9	Tacho	white	Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV
	11	+10 V	red	Fixed voltage output 10 VDC +/-3 %, Imax.= 1.1 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometers), SELV
	12	GND	blue	Reference ground for control interface, SELV

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Curves: Air performance 50 Hz



Measurement: LU-110259-1

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	inH2O
1	115	50	3500	163	2.09	1125	0	665	0.00
2	115	50	3340	167	2.13	905	200	535	0.80
3	115	50	3280	170	2.20	640	400	380	1.61
4	115	50	3420	165	2.10	350	600	205	2.41
5	115	50	3000	103	1.31	965	0	570	0.00
6	115	50	3000	121	1.55	815	163	480	0.65
7	115	50	3000	128	1.63	585	336	345	1.35
8	115	50	3000	112	1.42	305	459	180	1.84
9	115	50	2400	53	0.67	775	0	455	0.00
10	115	50	2400	62	0.79	650	104	385	0.42
11	115	50	2400	66	0.84	470	215	275	0.86
12	115	50	2400	57	0.73	245	294	145	1.18
13	115	50	1800	22	0.28	580	0	340	0.00
14	115	50	1800	26	0.33	490	59	285	0.24
15	115	50	1800	28	0.35	350	121	205	0.49
16	115	50	1800	24	0.31	185	165	110	0.66

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

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