R3G250-AM50-01

EC centrifugal fan

backward curved, single inlet

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G250-AM50-01**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	2420
Power input	W	173
Current draw	A	1.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

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

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	47	39.4	43.4
Efficiency grade N		65.6	58	62
Power input P_{ed}	kW	0.17		
Air flow q_v	m^3/h	865		
Pressure increase p_{fs}	Pa	301		
Speed n	min^{-1}	2380		

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

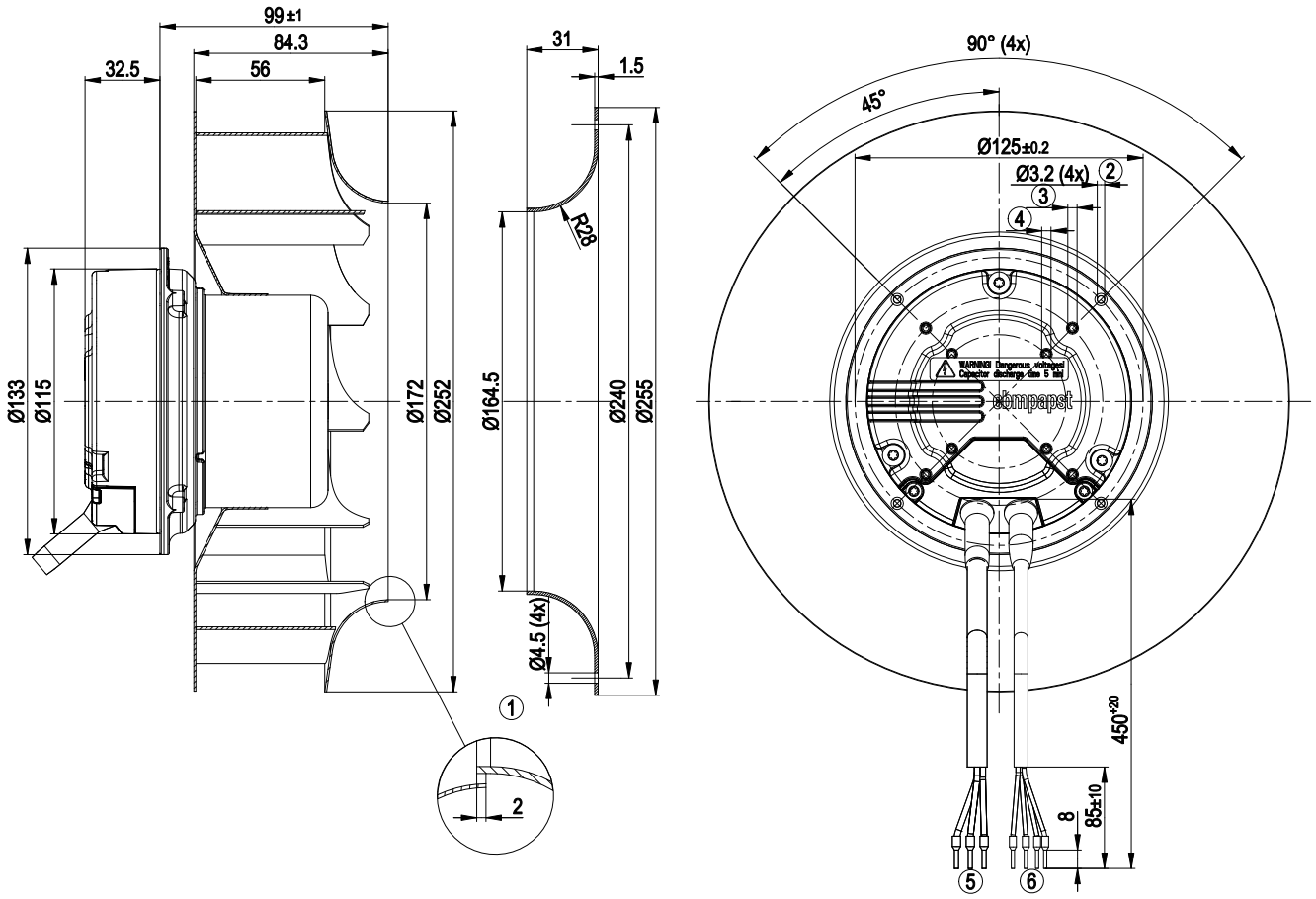
Mass	3.0 kg
Size	250 mm
Surface of rotor	Galvanised
Material of electronics housing	Die-cast aluminium
Material of impeller	Sheet steel, galvanised
Number of blades	11
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44; Depending on installation and position
Insulation class	"B"
Humidity class	F3-1
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
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC harmonics	Acc. to EN 61000-3-2/3
EMC interference emission	Acc. to EN 61000-6-3 (household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE
Approval	UL 2111; CCC; CSA C22.2 Nr.77

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Product drawing



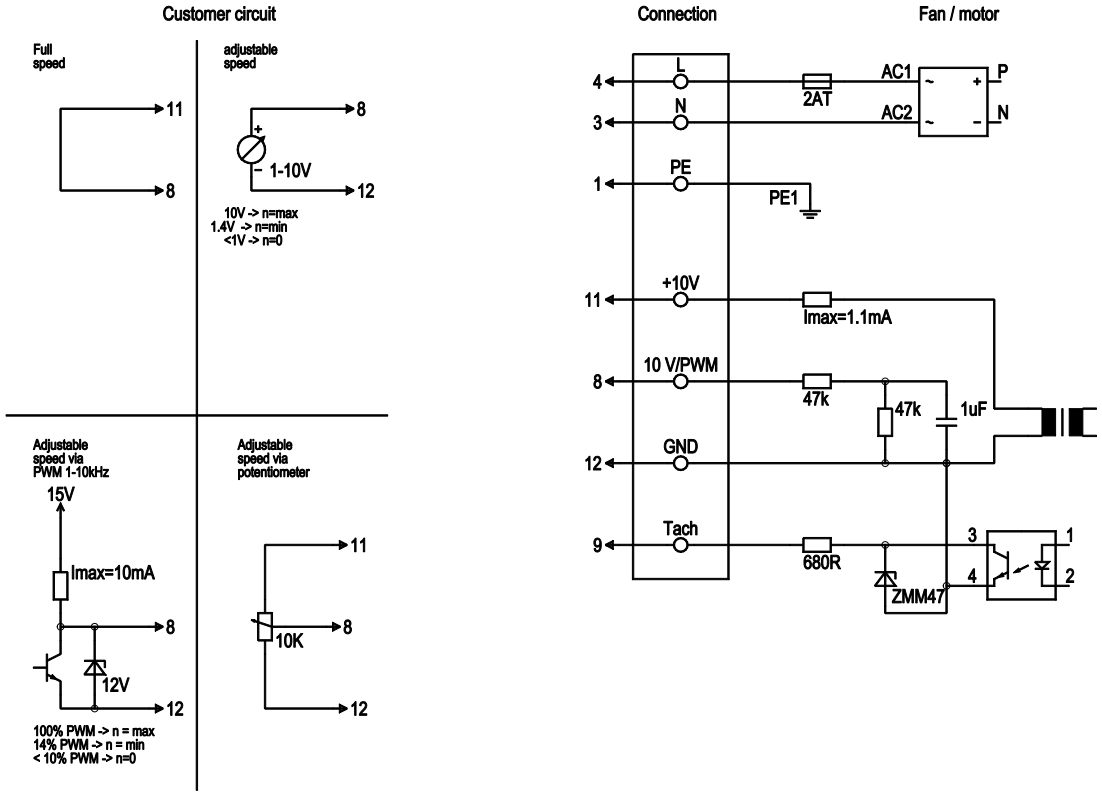
1	Accessory part: Inlet nozzle 96359-2-4013 not included in scope of delivery, other inlet nozzles on request
2	Depth of screw 8-10 mm; gluing the screws is recommended
3	Pilot hole prepared for M4 self-tapping screw, depth of screw max. 6 mm
4	Pilot hole prepared for M4 self-tapping screw, depth of screw max. 8 mm
5	Connection line AWG18, 3x crimped core-end sleeves
6	Connection line AWG22, 4x crimped core-end sleeves

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Connection screen



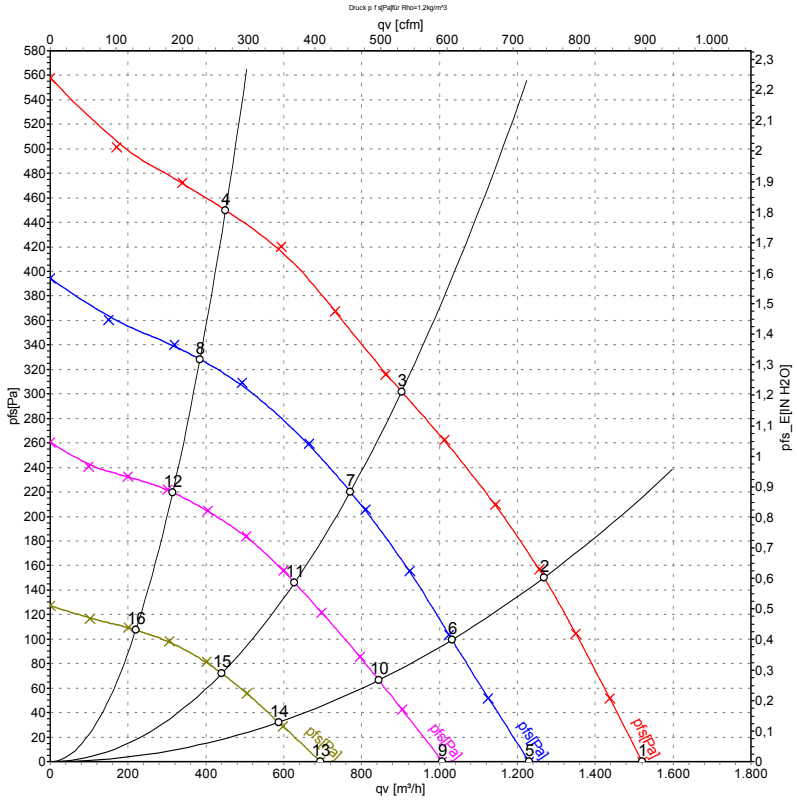
No.	Conn.	Designation	Colour	Function / assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see type plate for voltage range
	3	N	blue	Neutral conductor
	1	PE	green/yellow	Protective earth
	8	0-10 V PWM	yellow	Control input 0 - 10 V or PWM, electrically isolated
	9	Tach	white	Tach output: open collector, 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-73336
Measurement: LU-67423
Measurement: LU-67424
Measurement: LU-67425

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	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	230	50	2510	140	1.00	1520	0
2	230	50	2465	157	1.17	1270	150
3	230	50	2420	173	1.30	900	300
4	230	50	2495	152	1.14	450	450
5	230	50	2170	99	0.74	1230	0
6	230	50	2150	108	0.81	1030	100
7	230	50	2140	118	0.88	770	220
8	230	50	2155	103	0.78	385	328
9	230	50	1770	55	0.42	1005	0
10	230	50	1755	63	0.48	845	66
11	230	50	1750	70	0.53	630	146
12	230	50	1755	62	0.47	315	220
13	230	50	1235	26	0.21	695	0
14	230	50	1240	30	0.23	585	32
15	230	50	1225	31	0.25	440	72
16	230	50	1230	27	0.22	220	108

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

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