R3G310-AP52-01

EC centrifugal fan

backward curved, single inlet



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G310-AP52-01**	
Motor	**M3G074-CF**	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		fa
Speed	min^{-1}	1770
Power input	W	170
Current draw	A	1.25
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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}	%	57.1	39.1	43.1
Efficiency grade N		76	58	62
Power input P_{ed}	kW	0.16		
Air flow q_v	m^3/h	1355		
Pressure increase p_{fs}	Pa	222		
Speed n	min^{-1}	1500		

Data definition with optimum efficiency. LU-74253
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

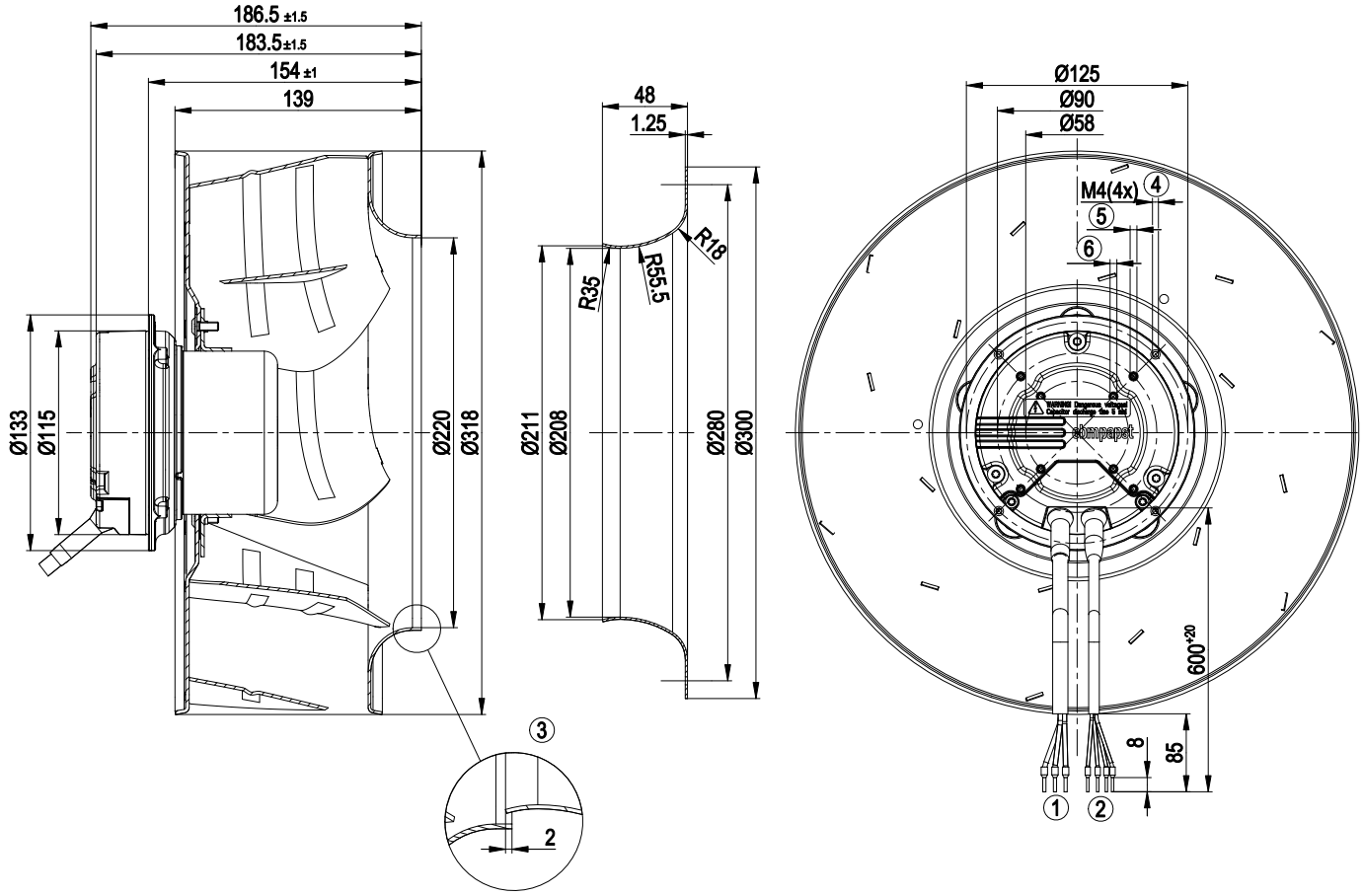
Mass	3.2 kg
Size	310 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44
Insulation class	"B"
Humidity class	F3-1
Max. permissible ambient 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 - Over-temperature protected electronics / motor
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
Approval	CCC; UL 2111; CSA C22.2 Nr.77

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Product drawing



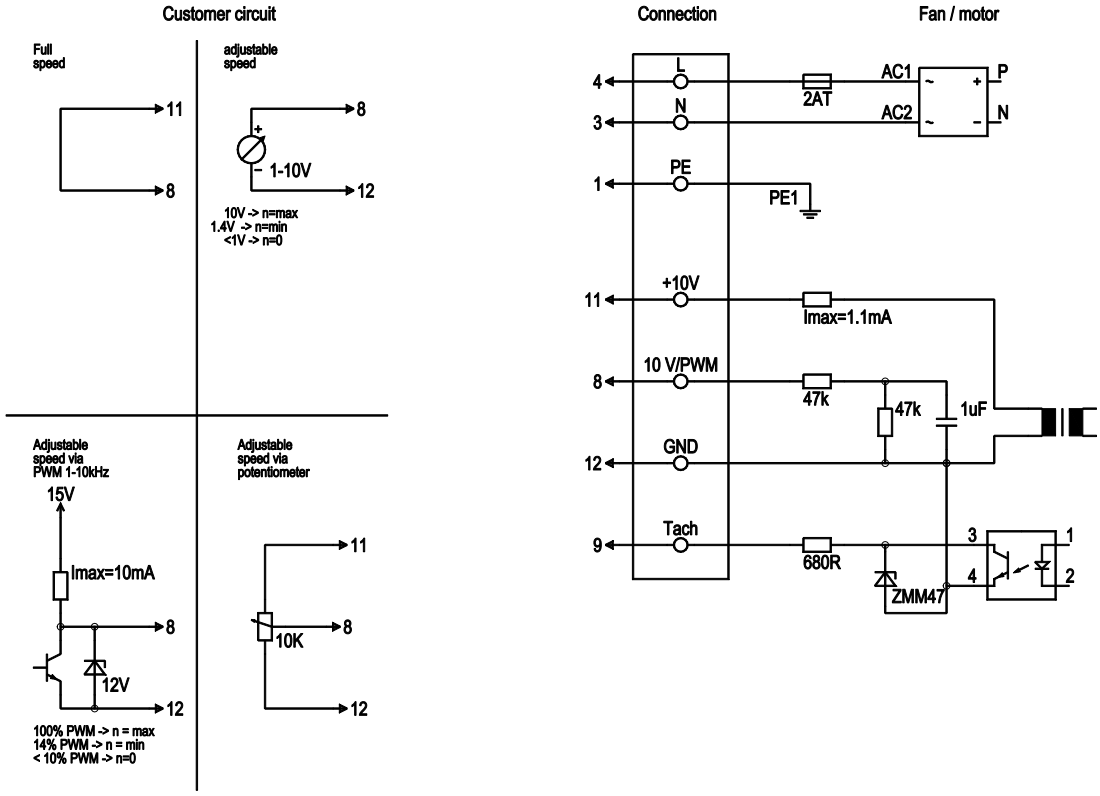
1	Connection line AWG18, 3 x crimped core-end sleeves
2	Connection line AWG22, 4 x crimped core-end sleeves
3	Accessory part: inlet nozzle 31050-2-4013 not included in the standard scope of delivery; other inlet nozzles on request
4	Depth of screw 8 -10 mm; tightening torque 2.5±0.2 Nm; gluing the screws is recommended
5	Pilot hole prepared for self-tapping screw M4, depth of screw max. 6 mm
6	Pilot hole prepared for self-tapping screw M4, depth of screw max. 8 mm

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Connection screen



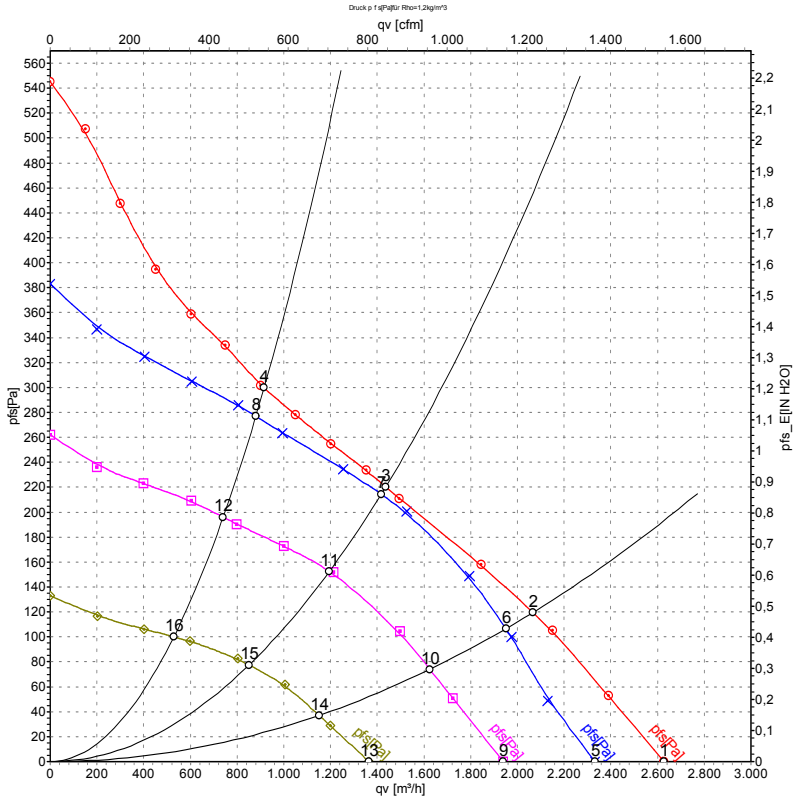
No.	Conn.	Designation	Colour	Function / assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see type plate for voltage range
	3	N	blue	Neutral conductor
	1	PE	green/yellow	Protective earth
	8	0-10 V PWM	yellow	Control input 0 - 10 V or PWM, electrically isolated
	9	Tach	white	Tach output: open collector, 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-74253
Measurement: LU-67537
Measurement: LU-67538
Measurement: LU-67539

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	1770	170	1.25	2630	0
2	230	50	1590	170	1.25	2065	120
3	230	50	1500	170	1.25	1435	220
4	230	50	1560	170	1.25	915	300
5	230	50	1565	125	0.92	2330	0
6	230	50	1520	145	1.07	1950	107
7	230	50	1495	164	1.21	1415	214
8	230	50	1520	160	1.19	880	277
9	230	50	1295	73	0.53	1940	0
10	230	50	1270	87	0.64	1625	74
11	230	50	1250	100	0.74	1195	154
12	230	50	1265	92	0.69	740	196
13	230	50	925	29	0.23	1365	0
14	230	50	910	36	0.28	1150	37
15	230	50	900	41	0.31	850	78
16	230	50	905	37	0.29	530	100

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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