R3G310-AP52-01

EC centrifugal fan

backward-curved, single-intake



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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
Method of obtaining data		fa
Speed (rpm)	min^{-1}	1770
Power consumption	W	170
Current draw	A	1.25
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

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	57.1	43.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		76	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	1355
09 Pressure increase p_{fs}	Pa	222
10 Speed (rpm) n	min^{-1}	1500
11 Specific ratio*		1.00

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

LU-74253

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Technical description

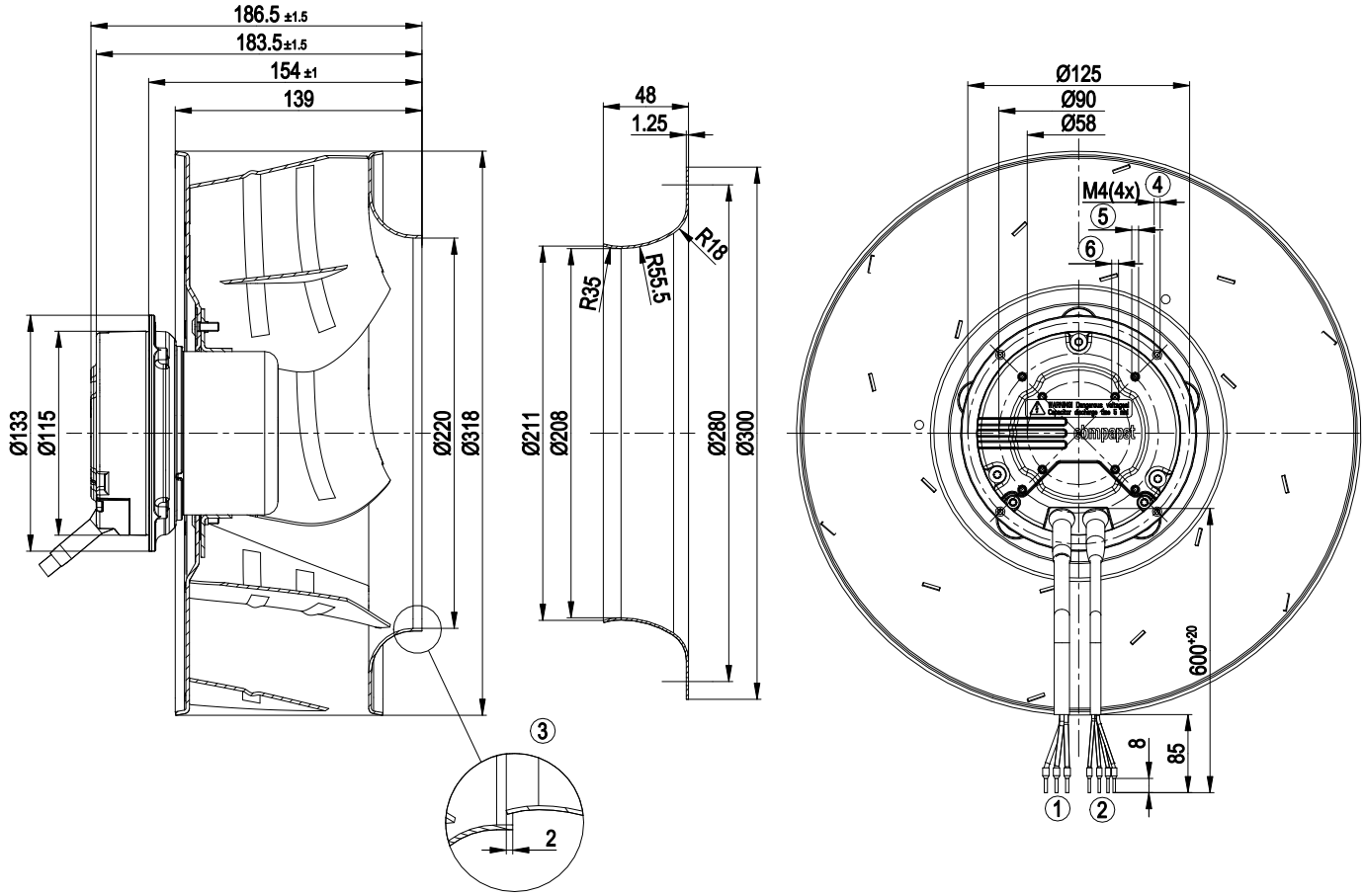
Weight	3.2 kg
Fan size	310 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44
Insulation class	"B"
Moisture (F) / Environmental (H) protection 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 - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Thermal overload protection for electronics/motor
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	CSA C22.2 No. 77; CCC; UL 2111

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Product drawing



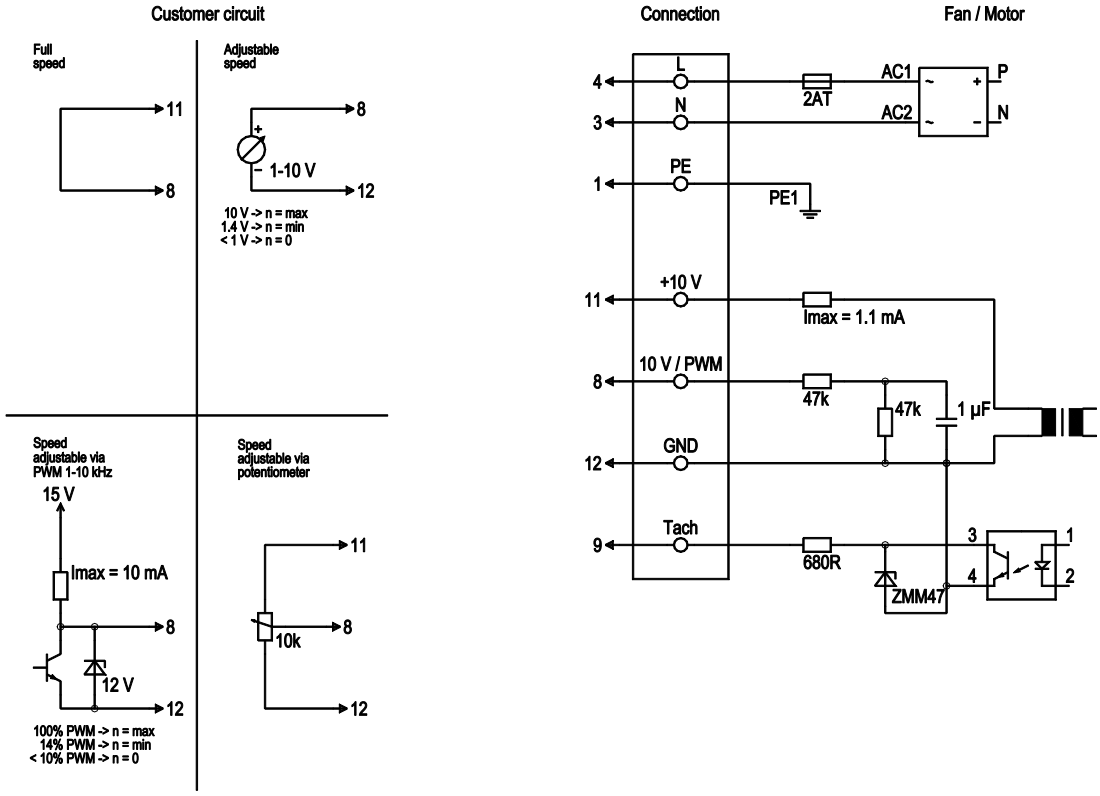
1	Cable AWG18, 3 x crimped ferrules
2	Cable AWG22, 4 x crimped ferrules
3	Accessory part: Inlet ring 31050-2-4013 not included in scope of delivery, other inlet rings on request
4	Clearance for screw 8-10 mm; tightening torque 2.5±0.2 Nm; gluing the screws is recommended
5	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 6 mm
6	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 8 mm

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Connection diagram



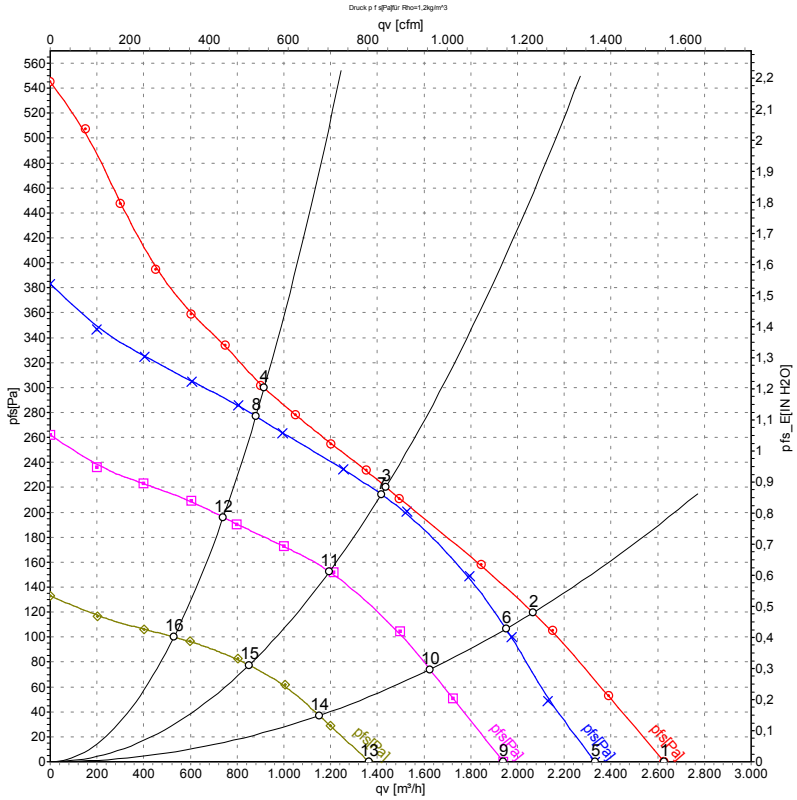
No.	Conn.	Designation	Color	Function/assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range
	3	N	blue	Neutral conductor
	1	PE	green/yellow	Protective earth
	8	0-10 V PWM	yellow	Control input 0-10 V or PWM, electrically isolated
	9	Tach	white	Tach output: open collector, 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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Curves: Air performance 50 Hz



Measurement: LU-74253-1
Measurement: LU-67537-1
Measurement: LU-67538-1
Measurement: LU-67539-1

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	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	230	50	1770	170	1.25	2630	0	1545	0.00
2	230	50	1590	170	1.25	2065	120	1215	0.48
3	230	50	1500	170	1.25	1435	220	845	0.88
4	230	50	1560	170	1.25	915	300	540	1.20
5	230	50	1565	125	0.92	2330	0	1375	0.00
6	230	50	1520	145	1.07	1950	107	1150	0.43
7	230	50	1495	164	1.21	1415	214	835	0.86
8	230	50	1520	160	1.19	880	277	520	1.11
9	230	50	1295	73	0.53	1940	0	1140	0.00
10	230	50	1270	87	0.64	1625	74	955	0.30
11	230	50	1250	100	0.74	1195	154	705	0.62
12	230	50	1265	92	0.69	740	196	435	0.79
13	230	50	925	29	0.23	1365	0	805	0.00
14	230	50	910	36	0.28	1150	37	675	0.15
15	230	50	900	41	0.31	850	78	500	0.31
16	230	50	905	37	0.29	530	100	310	0.40

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

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