R3G310-BK02-01

EC centrifugal fan

backward-curved, single-intake

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Nominal data

Type	**R3G310-BK02-01**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	1700
Power consumption	W	160
Current draw	A	1.4
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 Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	64.6	43.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		83.4	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	1405
09 Pressure increase p_{fs}	Pa	234
10 Speed (rpm) n	min^{-1}	1705
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-195081

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Technical description

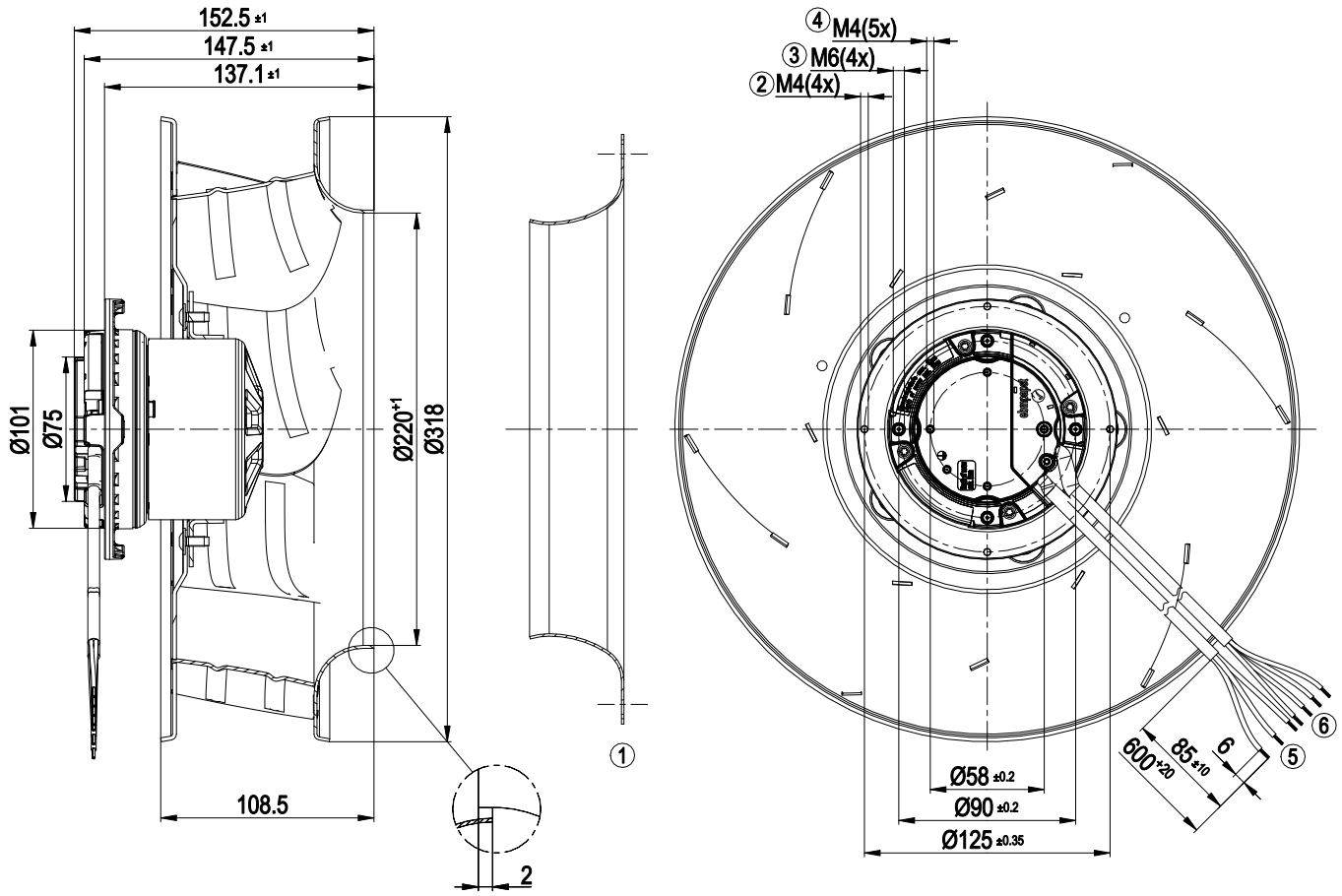
Weight	1.9 kg
Size	310 mm
Motor size	74
Rotor surface	Thick-film passivated
Impeller material	Sheet aluminum
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1+
Max. permitted ambient 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
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 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 - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
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
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1

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Product drawing



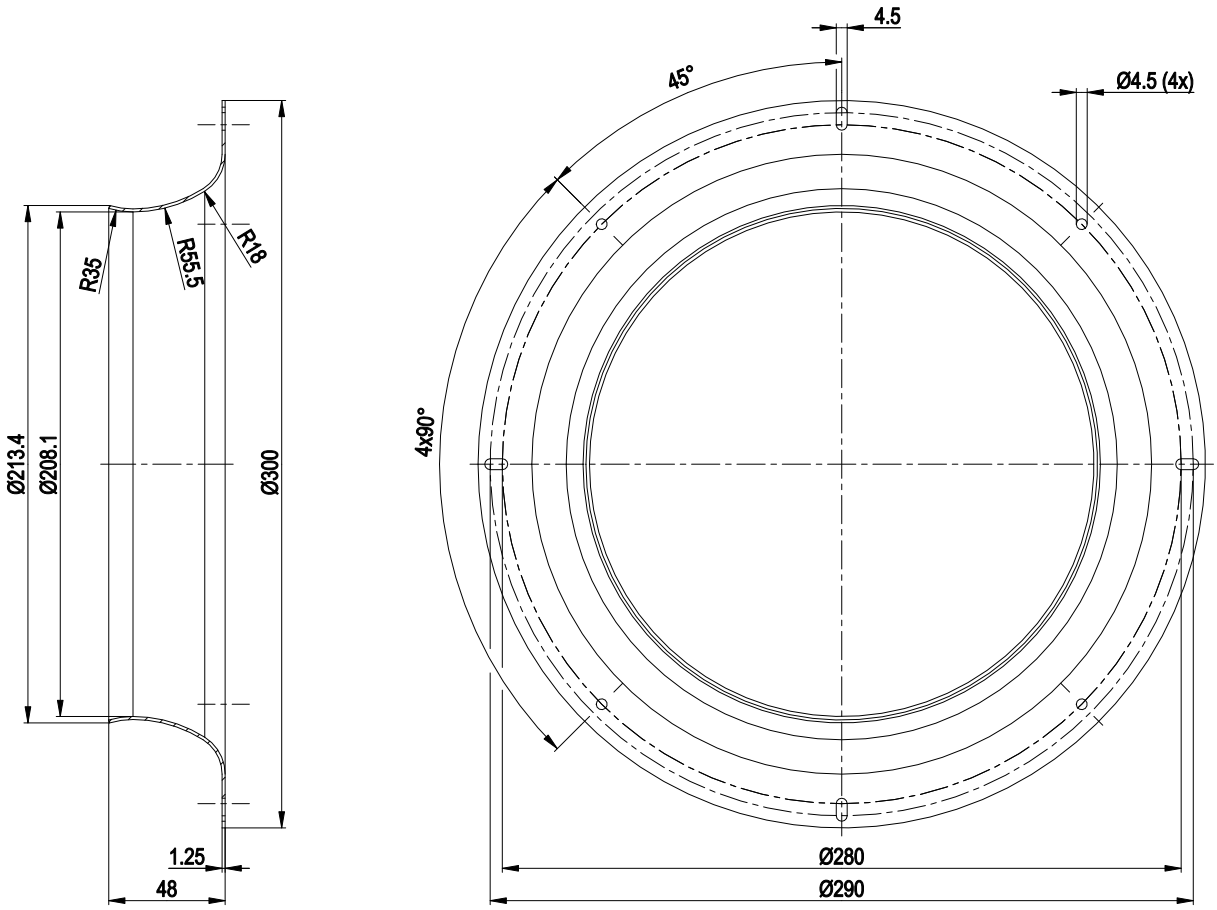
1	Accessory part: inlet ring 31050-2-4013 not included in scope of delivery
2	Clearance for screw 8-10 mm
3	Max. clearance for screw 10 mm
4	Max. clearance for screw 5 mm
5	Cable PVC AWG20
	3x splice
6	Cable PVC AWG22
	4x splice

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Accessory part



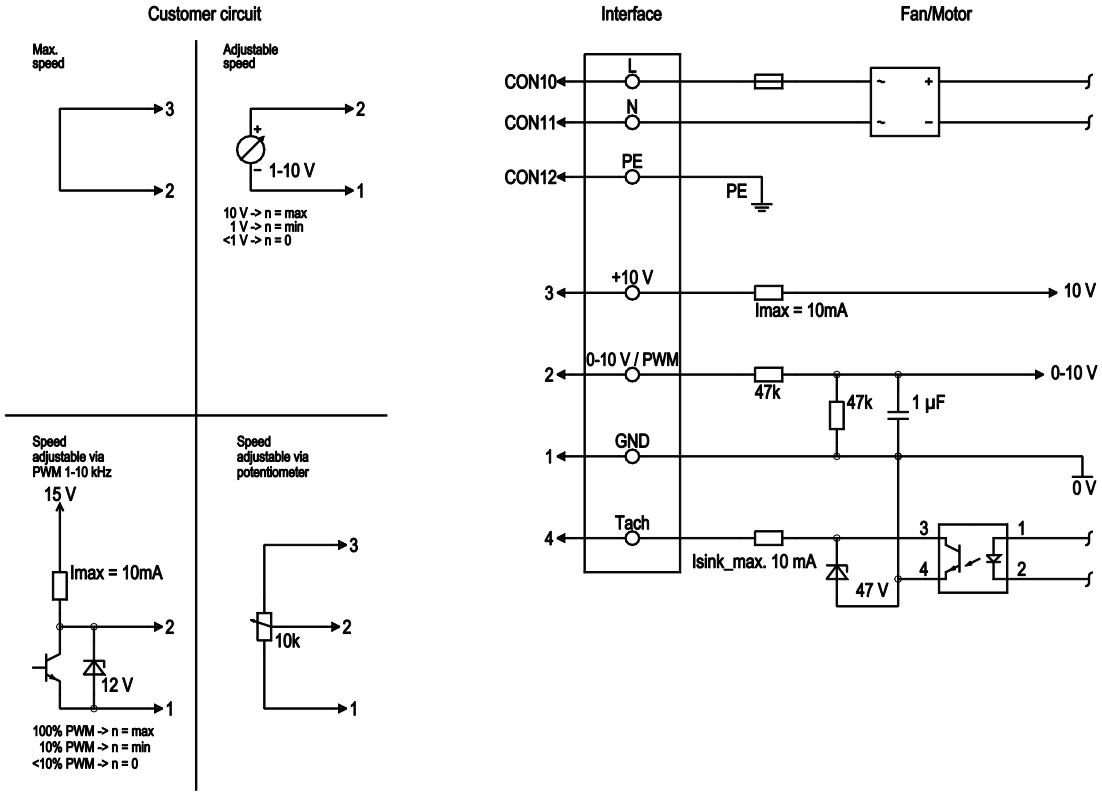
inlet ring 31050-2-4013 not included in scope of delivery

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Connection diagram



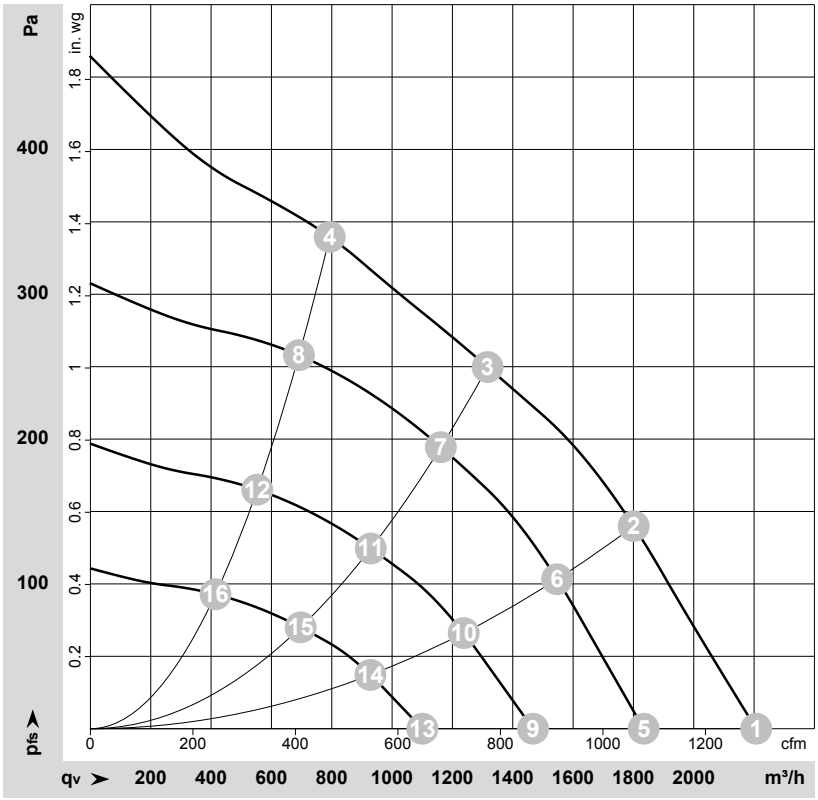
No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / PWM control input, Ri=100 kΩ, SELV
	4	Tach	white	Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV
	1	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-195081-1

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	1805	121	1.08	67	75	2205	0	1300	0.00
2	1~	230	50	1745	150	1.32	63	70	1800	140	1060	0.56
3	1~	230	50	1700	160	1.40	60	67	1315	250	775	1.00
4	1~	230	50	1720	160	1.40	61	68	795	340	465	1.36
5	1~	230	50	1500	69	0.62	63	70	1835	0	1080	0.00
6	1~	230	50	1500	95	0.84	59	66	1545	105	910	0.42
7	1~	230	50	1500	111	0.98	57	64	1160	194	685	0.78
8	1~	230	50	1500	106	0.93	58	65	690	259	405	1.04
9	1~	230	50	1200	35	0.32	57	65	1465	0	865	0.00
10	1~	230	50	1200	49	0.43	53	60	1235	67	730	0.27
11	1~	230	50	1200	57	0.50	51	58	930	124	545	0.50
12	1~	230	50	1200	54	0.48	52	59	555	166	325	0.67
13	1~	230	50	900	15	0.13	50	57	1100	0	645	0.00
14	1~	230	50	900	20	0.18	46	53	930	38	545	0.15
15	1~	230	50	900	24	0.21	44	51	695	70	410	0.28
16	1~	230	50	900	23	0.20	45	52	415	93	245	0.37

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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