R3G310-PY18-X1

EC centrifugal fan - RadiPac

backward-curved, single-intake

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**R3G310-PY18-X1**
Motor	**M3G084-GF**

Phase		3~
Nominal voltage	VAC	230
Nominal voltage range	VAC	208 .. 230
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	3300
Power consumption	W	1600
Current draw	A	4.4
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	50

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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	68.9	53.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		77.4	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	1.55
09 Air flow q_v	m^3/h	3785
09 Pressure increase p_{fs}	Pa	952
10 Speed (rpm) n	min^{-1}	3295
11 Specific ratio*		1.01

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-200214

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Technical description

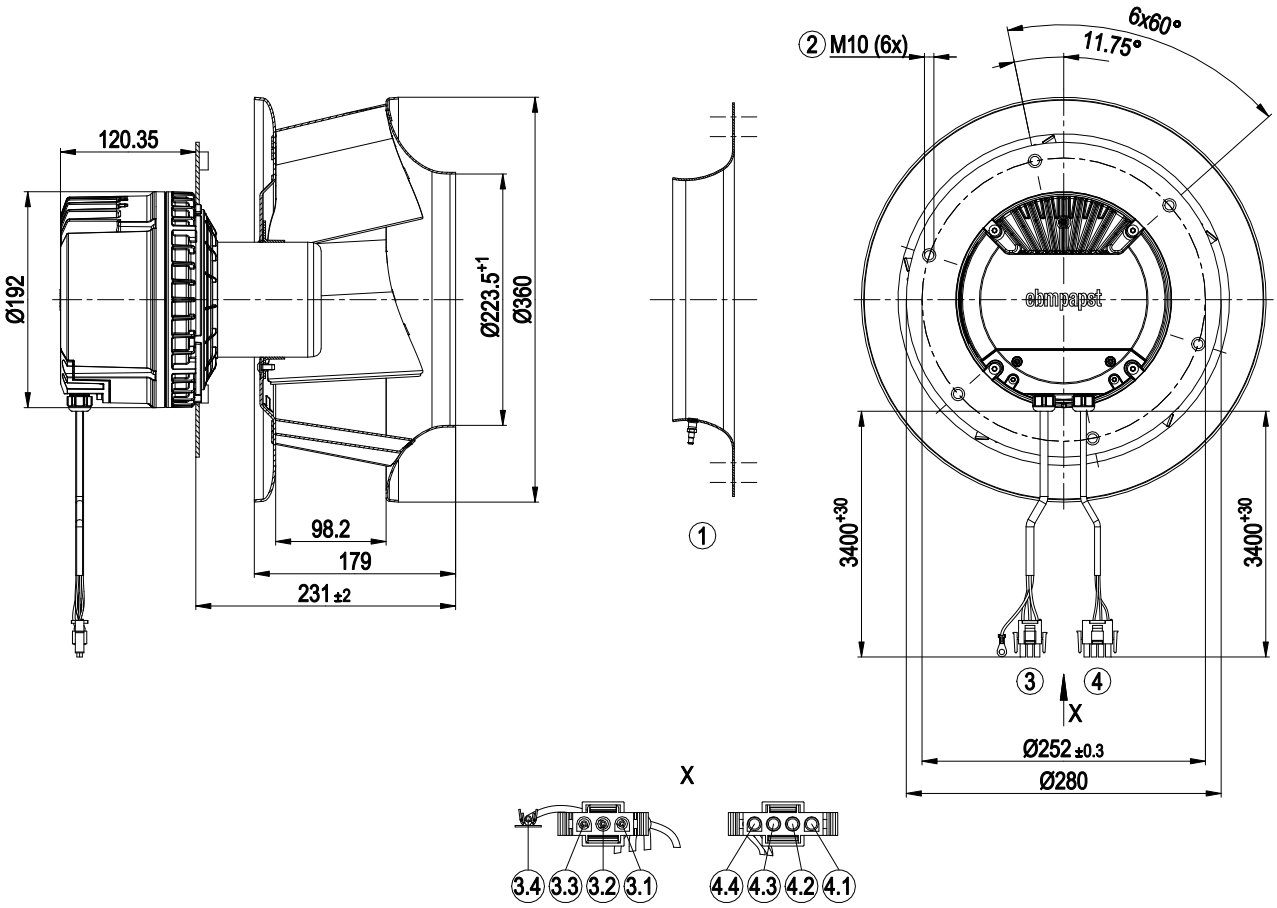
Weight	9.2 kg
Size	310 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Support plate material	Stainless steel
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
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 bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Output 10 VDC - Integrated PID controller - 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 electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Connector with cable
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	CSA C22.2 No. 77; UL 1004-7 + 60730-1

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Product drawing



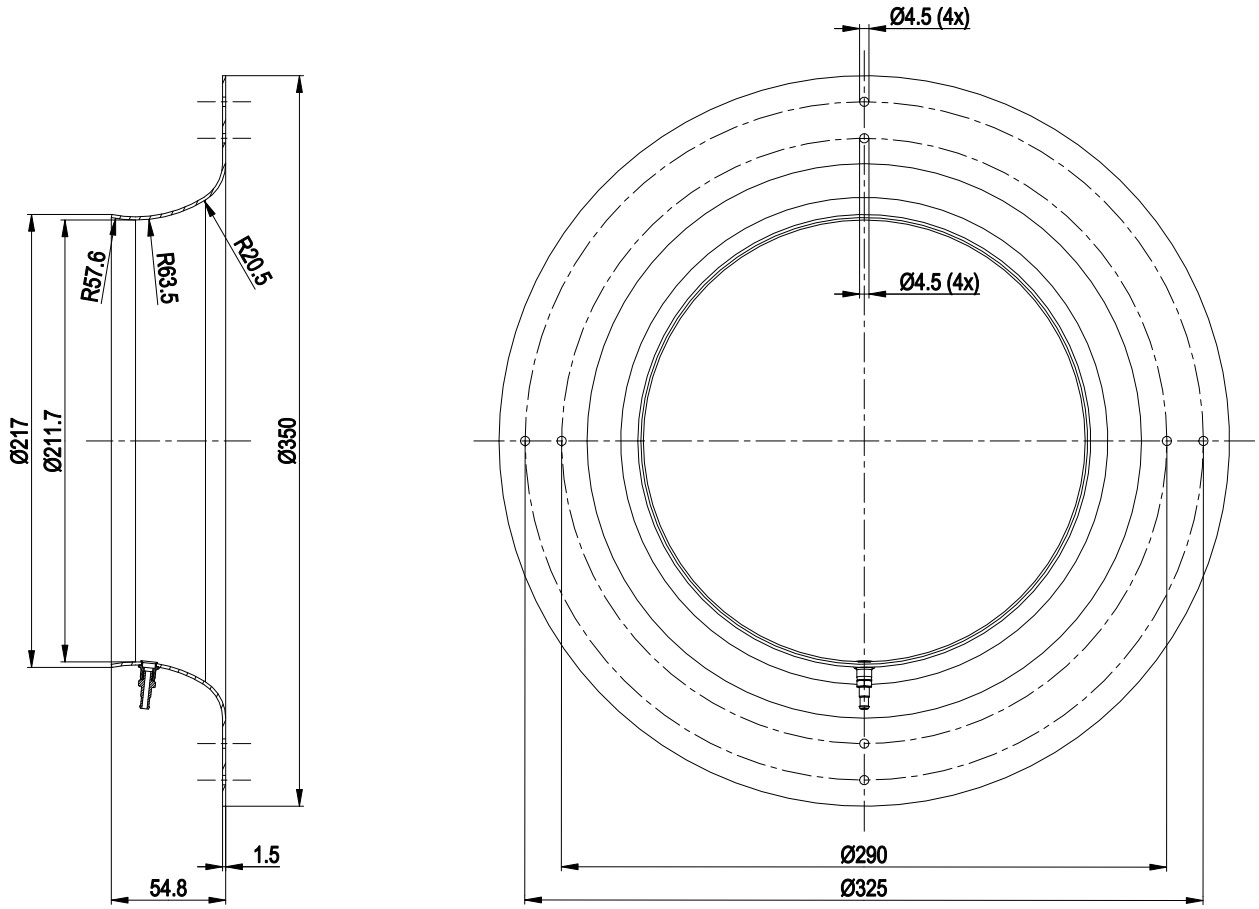
1	Accessory part: Inlet ring 31475-2-4013 with pressure tap (k-factor: 116) not included in scope of delivery
2	M10 rivet nut
3	Cable silicone 3x 0.34 mm²
	3-pole connector housing TE 770018-1, 3x plug pin TE 770007-1, 1x ring terminal dia. 5 (PE)
3.1	L1
3.2	L2
3.3	L3
3.4	PE
4	Cable silicone 4x 1.0 mm²
	4-pole connector housing TE 770019-1, 3x plug pin TE 770009-1
4.1	0-10 V/PWM
4.2	+10 V
4.3	GND
4.4	not used

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Accessory part



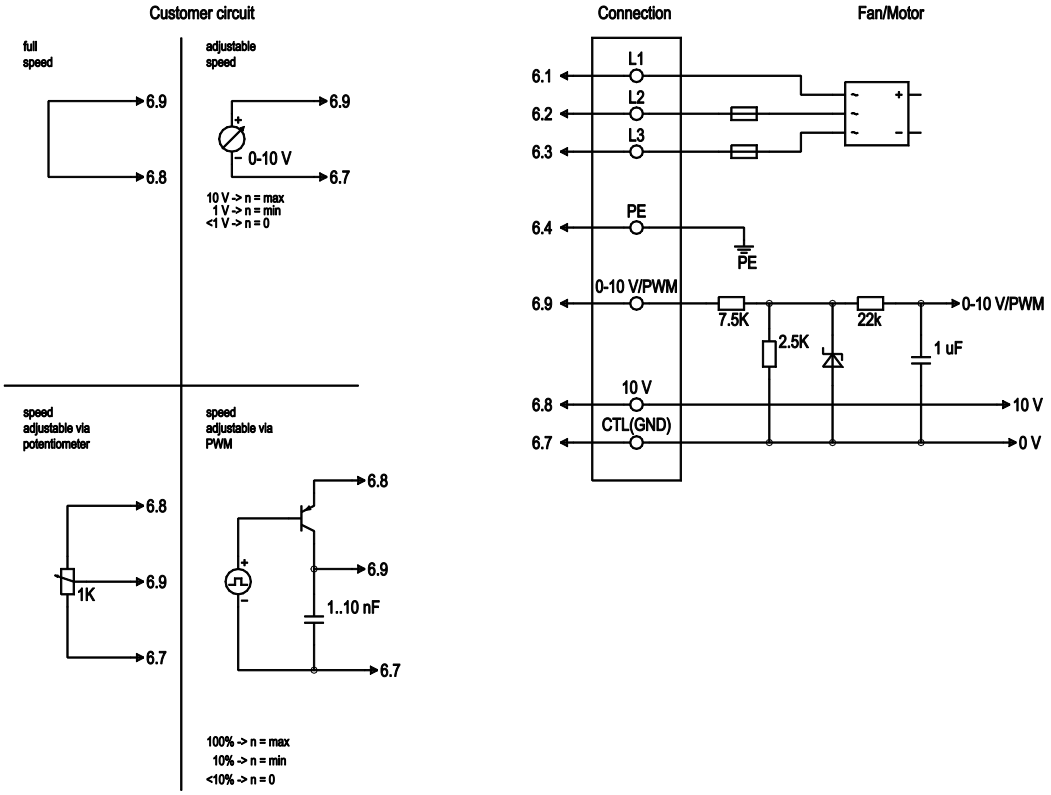
Inlet ring 31475-2-4013 with pressure tap (k-factor: 116) not included in scope of delivery

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Connection diagram



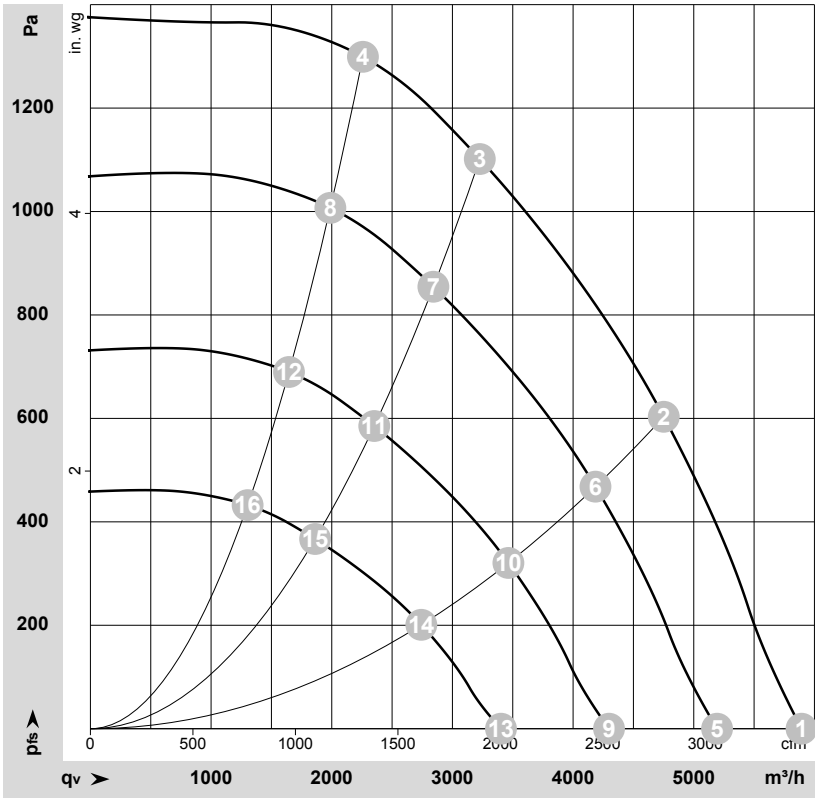
No.	Conn.	Designation	Function/assignment
1	6.1	L1	Power supply, see nameplate for voltage range
1	6.2	L2	Power supply, see nameplate for voltage range
1	6.3	L3	Power supply, see nameplate for voltage range
1	6.4	PE	Protective earth
2	6.9	0-10 V / PWM	Control input 0-10 VDC or PWM, impedance 10 kohms, SELV
2	6.8	+10 V	Voltage output, power supply for external devices (e.g. potentiometers), SELV
2	6.7	CTL (GND)	Reference ground for interface, SELV

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-200214-1

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}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	3~	230	50	3300	883	2.58	89	97	98	5895	0	3470	0.00
2	3~	230	50	3300	1418	3.90	79	87	89	4750	600	2795	2.41
3	3~	230	50	3300	1600	4.40	73	81	85	3225	1100	1900	4.42
4	3~	230	50	3300	1529	4.21	77	86	91	2260	1300	1330	5.22
5	3~	230	50	2900	604	1.76	86	94	95	5195	0	3055	0.00
6	3~	230	50	2900	969	2.67	76	84	86	4185	472	2465	1.89
7	3~	230	50	2900	1090	2.98	69	78	82	2840	857	1675	3.44
8	3~	230	50	2900	1043	2.87	74	83	88	1990	1010	1170	4.05
9	3~	230	50	2400	342	1.00	81	89	90	4300	0	2530	0.00
10	3~	230	50	2400	550	1.51	71	79	81	3465	324	2040	1.30
11	3~	230	50	2400	618	1.69	65	73	77	2350	587	1385	2.36
12	3~	230	50	2400	591	1.63	69	78	83	1645	691	970	2.77
13	3~	230	50	1900	170	0.50	75	83	84	3400	0	2000	0.00
14	3~	230	50	1900	273	0.75	65	73	75	2740	203	1615	0.81
15	3~	230	50	1900	306	0.84	59	67	71	1860	368	1095	1.48
16	3~	230	50	1900	293	0.81	63	73	77	1305	433	765	1.74

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 LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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