R3G310-RO38-61

EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G310-RO38-61 ebmpapst Datasheet
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Amtsgericht (court of registration) Stuttgart · HRA 590344

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Nominal data

Type	**R3G310-RO38-61**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2100
Power consumption	W	410
Current draw	A	1.8
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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}	%	62.8	47.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		77.5	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.4
09 Air flow q_v	m^3/h	1750
09 Pressure increase p_{fs}	Pa	466
10 Speed (rpm) n	min^{-1}	2110
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-161250

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Technical description

Weight	4.35 kg
Fan size	310 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F0
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	- Operation and alarm display: reversible voltage output 0 V / +15 V - Integrated PID controller - Motor current limitation - PFC, active - RS-485 ebmBUS - Soft start - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
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	With plug
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	UL1004-3 +60730; C22.2 No.77 + CAN/CSA-E60730-1; EAC

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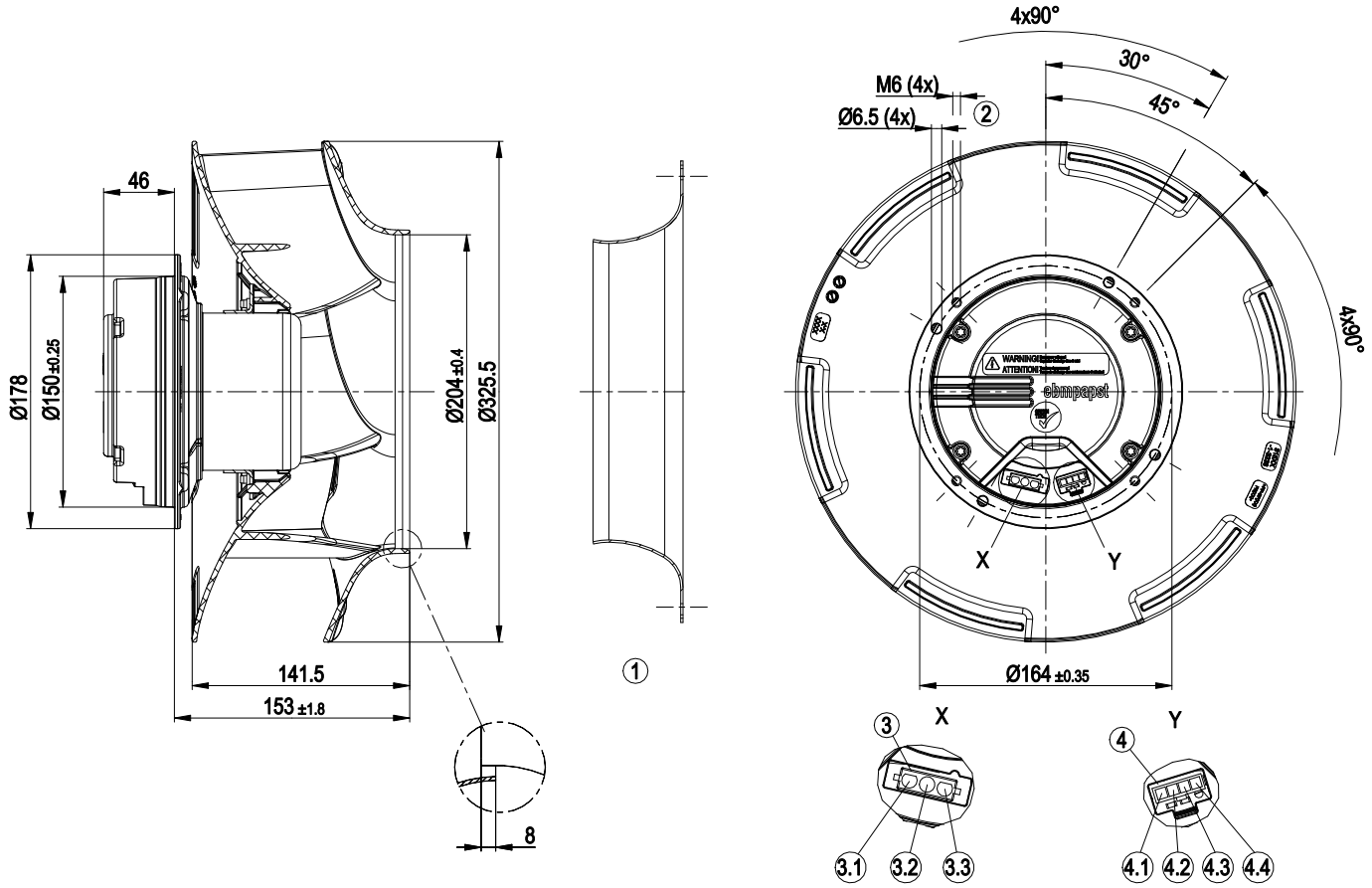
Product drawing



1	Accessory part: inlet ring 31000-2-4013 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Header Lonco no. C63502-3A, mating connectors with sockets not included in scope of delivery
3.1	PE
3.2	N
3.3	L
4	4-pole header Molex 39-30-2040, mating connector with sockets not included in scope of delivery
4.1	RSB
4.2	RSA
4.3	+15 V; in case of fault: 0 V
4.4	0 V; in case of fault: +15 V

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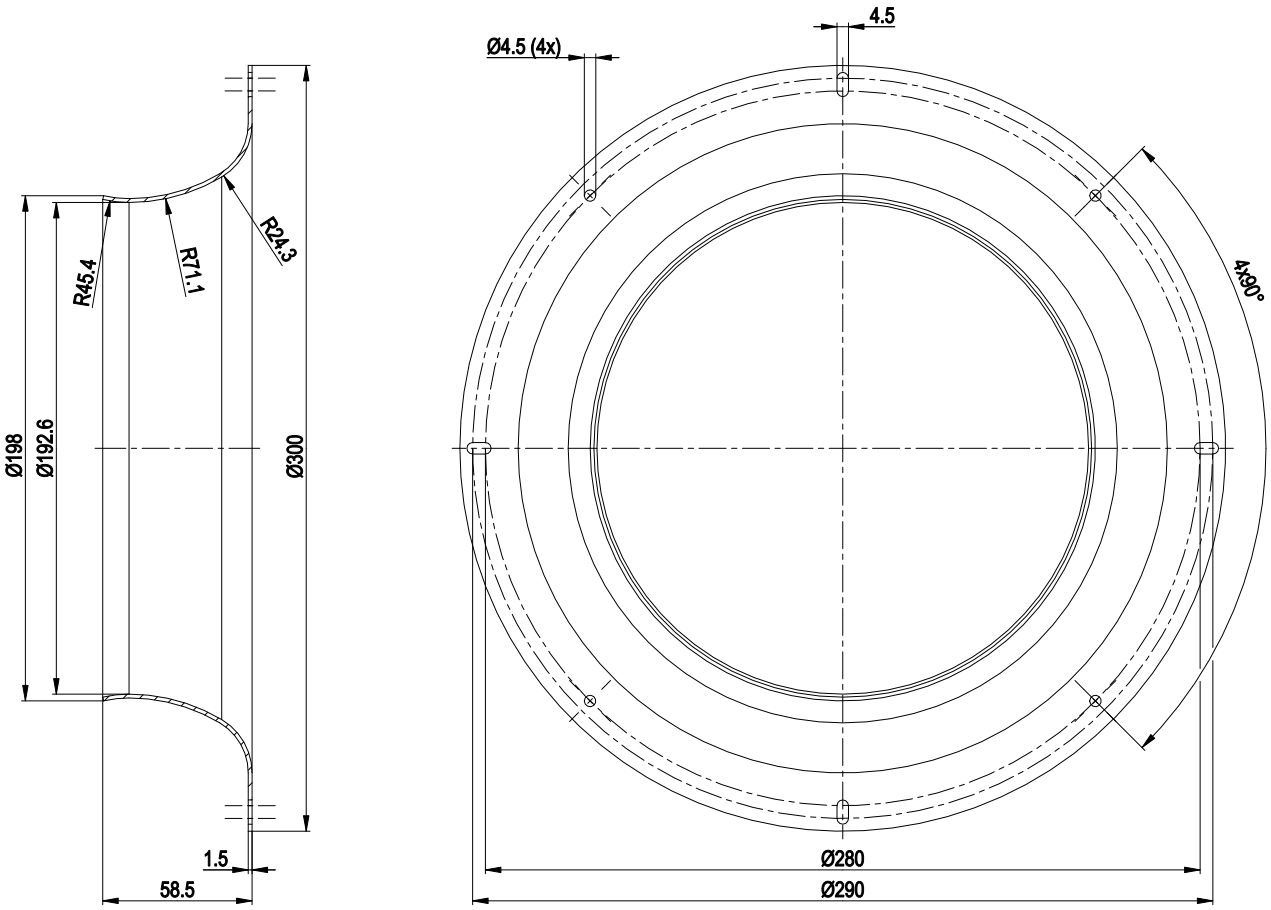
Accessory part



Accessory part: inlet ring 31000-2-4013 not included in scope of delivery

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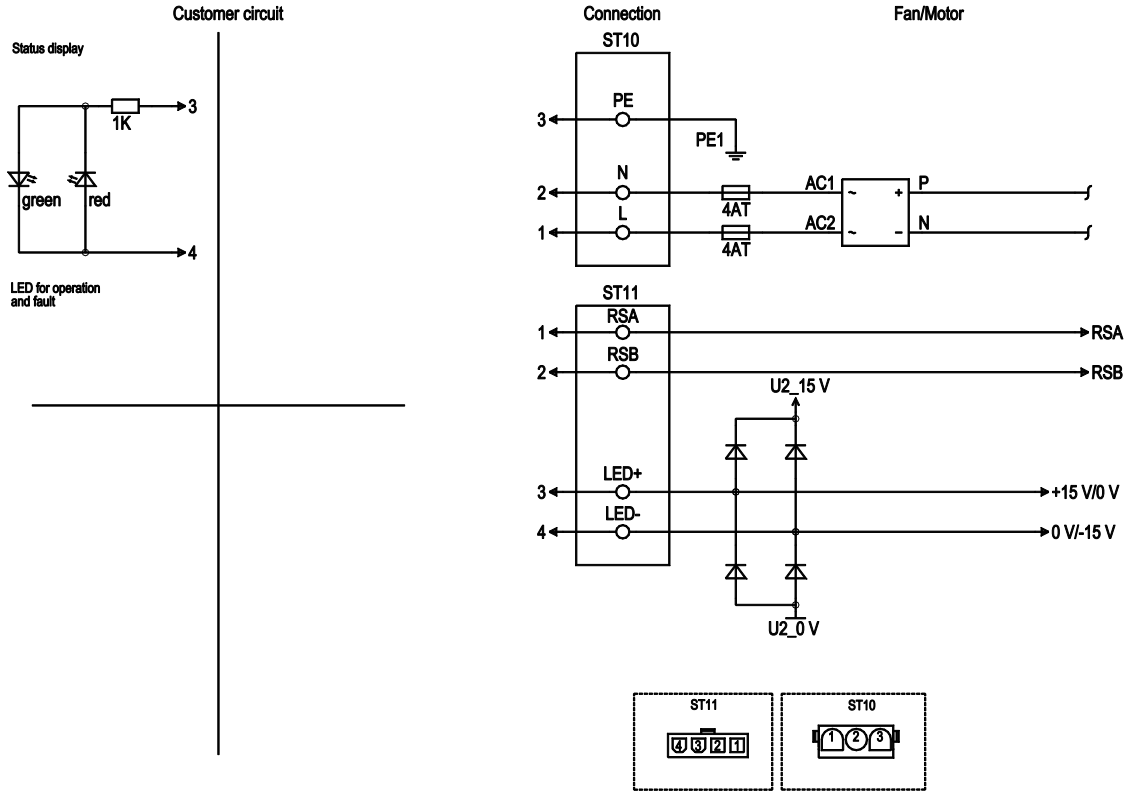
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
10	1	L		Power supply, phase, 50/60 Hz
10	2	N		Power supply, neutral conductor, 50/60 Hz
10	3	PE		Protective earth
11	1	RSA		RS485 interface for ebmBUS, RSA, SELV
11	2	RSB		RS485 interface for ebmBUS, RSB, SELV
11	3	LED +		Voltage output 15 V (+15%/-10%), max. 30 mA, power supply for external devices (e.g. status display for LED), SELV
11	4	LED -		Reference ground for control interface, SELV

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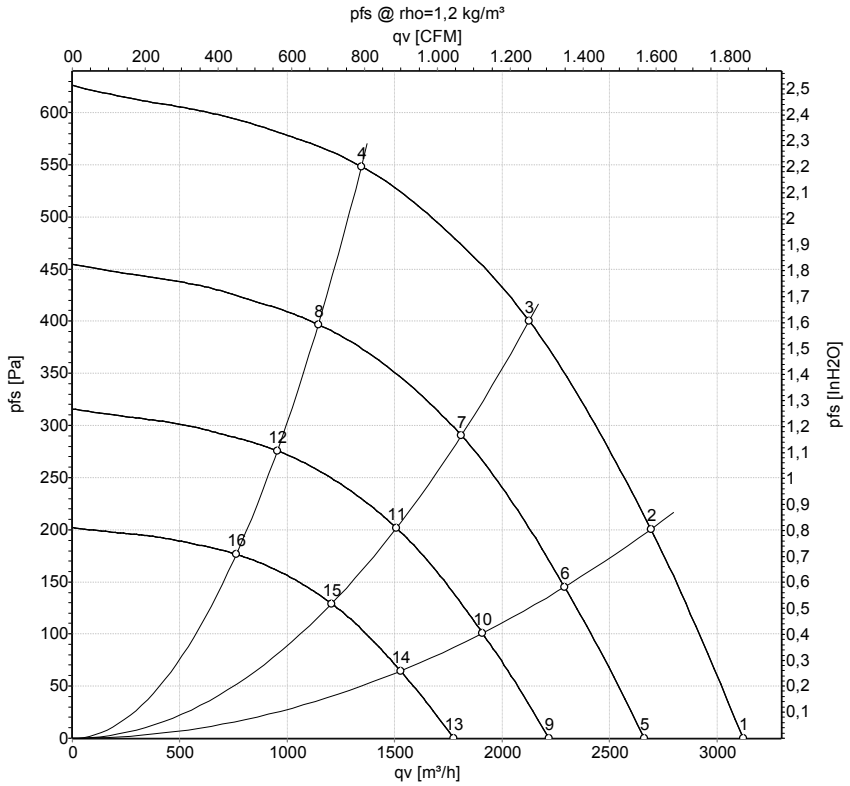
Curves: Air performance 50 Hz



Measurement: LU-161250-1

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	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	230	50	2100	281	1.23	3120	0	1840	0.00
2	230	50	2100	359	1.57	2695	200	1585	0.80
3	230	50	2100	410	1.80	2125	400	1250	1.61
4	230	50	2100	376	1.64	1345	550	790	2.21
5	230	50	1800	174	0.76	2660	0	1565	0.00
6	230	50	1800	221	0.97	2290	145	1350	0.58
7	230	50	1800	254	1.11	1810	290	1065	1.16
8	230	50	1800	232	1.01	1145	397	675	1.59
9	230	50	1500	101	0.44	2220	0	1305	0.00
10	230	50	1500	128	0.56	1910	101	1125	0.41
11	230	50	1500	147	0.64	1510	202	890	0.81
12	230	50	1500	134	0.59	955	276	560	1.11
13	230	50	1200	52	0.23	1775	0	1045	0.00
14	230	50	1200	65	0.29	1525	65	900	0.26
15	230	50	1200	75	0.33	1205	129	710	0.52
16	230	50	1200	69	0.30	765	176	450	0.71

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