EC centrifugal fan - RadiCal

backward curved, single inlet

R3G250-RO44-62 ebmpapst Datasheet
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Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**R3G250-RO44-62**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	3300
Power input	W	350
Current draw	A	1.5
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	57.6	46.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		73	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.34
09 Air flow q_v	m^3/h	1205
09 Pressure increase p_{fs}	Pa	537
10 Speed (rpm) n	min^{-1}	3290
11 Specific ratio*		1.01

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

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-179276

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Technical features

Mass	4.3 kg
Size	250 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 20
Insulation class	"B"
Humidity (F)/environmental protection class (H)	H0 - dry environment
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Operation and alarm display: reversible voltage output 0 V / +15 V - Integrated PID controller - Motor current limit - PFC, active - RS485 ebmBUS - Soft start - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC harmonics	Acc. to EN 61000-3-2/3
EMC interference emission	Acc. to EN 61000-6-4 (industrial environment)
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 61800-5-1; CE
Approval	UL1004-3 +60730; C22.2 Nr.77 + CAN/CSA-E60730-1; EAC

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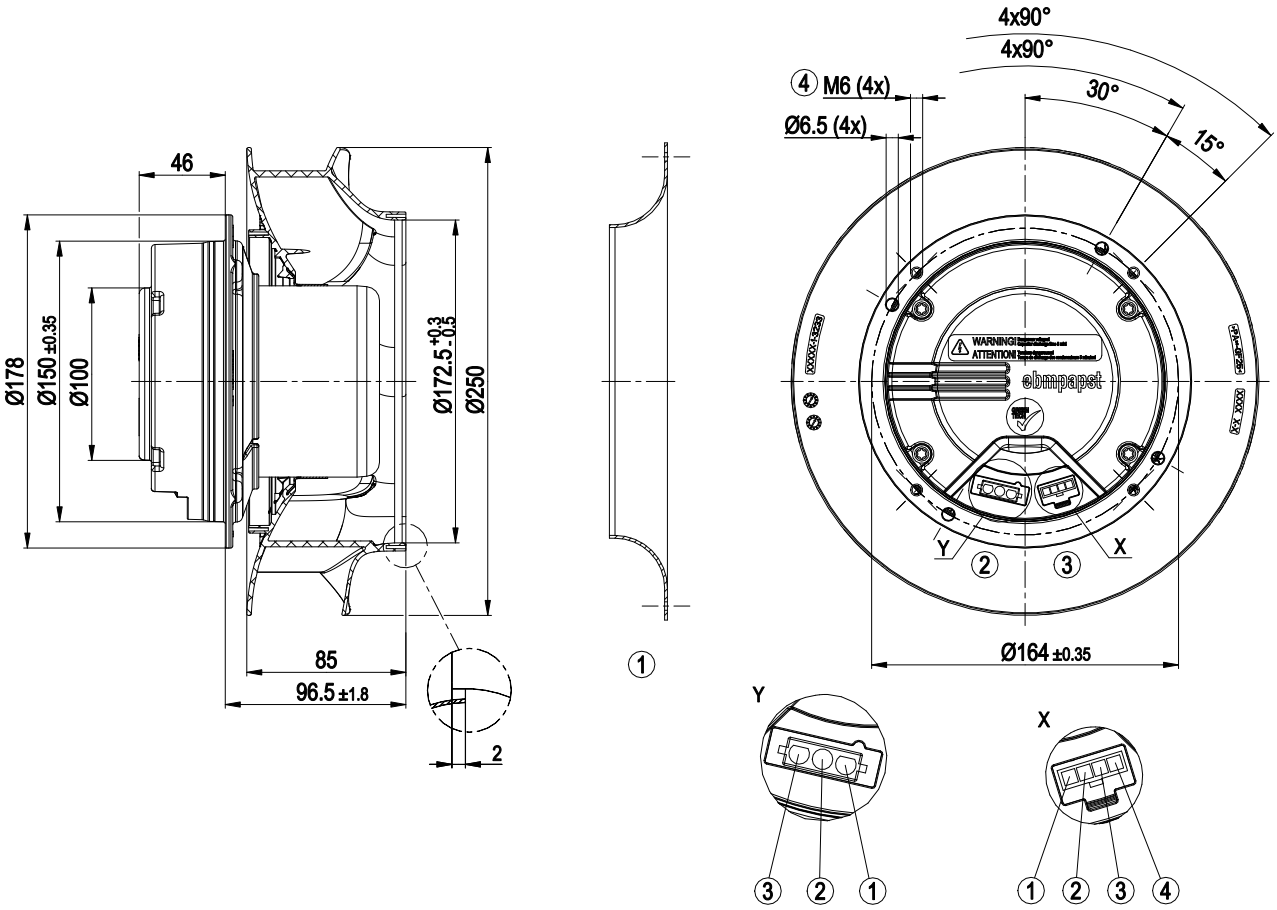
Product drawing



1	Accessory part: Inlet nozzle 96359-2-4013 not included in scope of delivery, other inlet nozzles on request
2	Strip 3-pole Lonco C63502-3A, mating connectors with female connectors not included in scope of delivery
3	Strip 4-pole Molex 39-30-2040, mating connectors with female connectors not included in scope of delivery
4	Thread reach 8-10 mm

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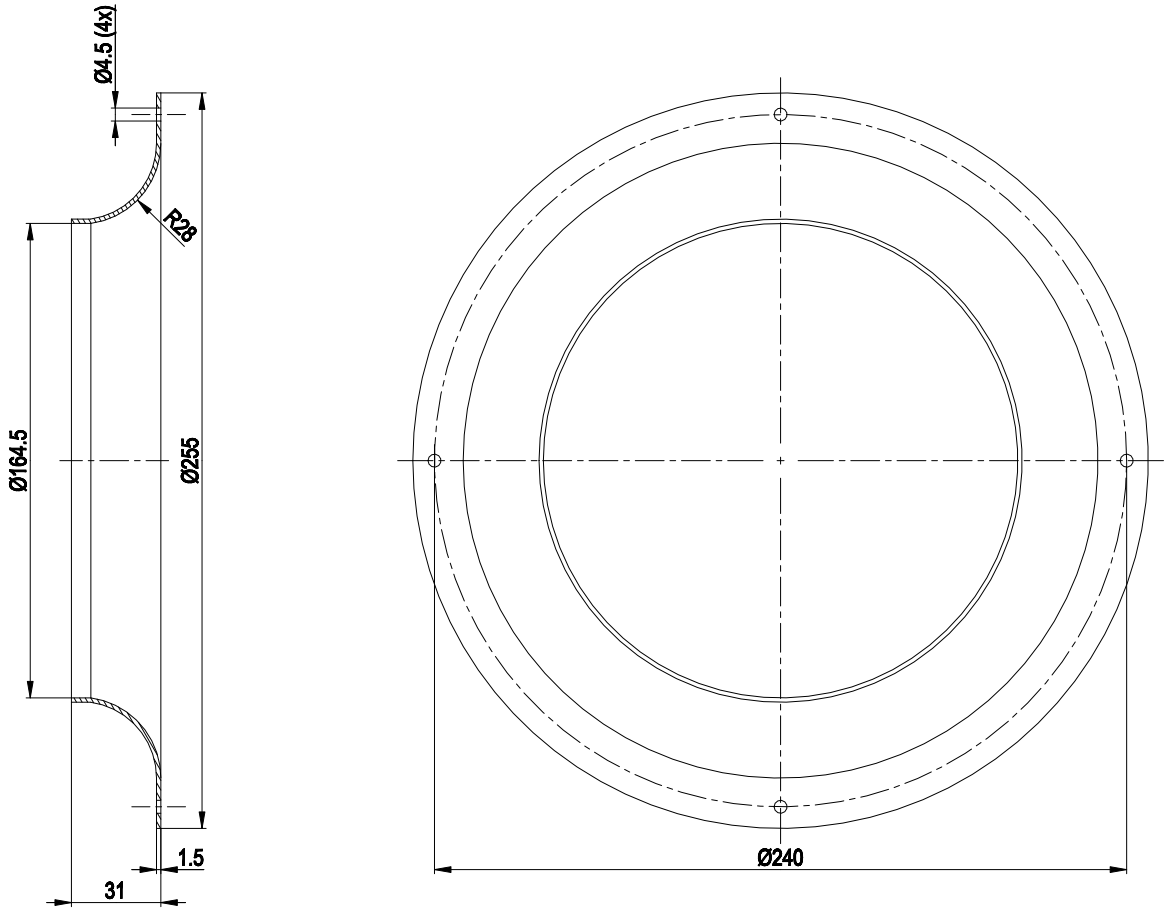
Accessory part



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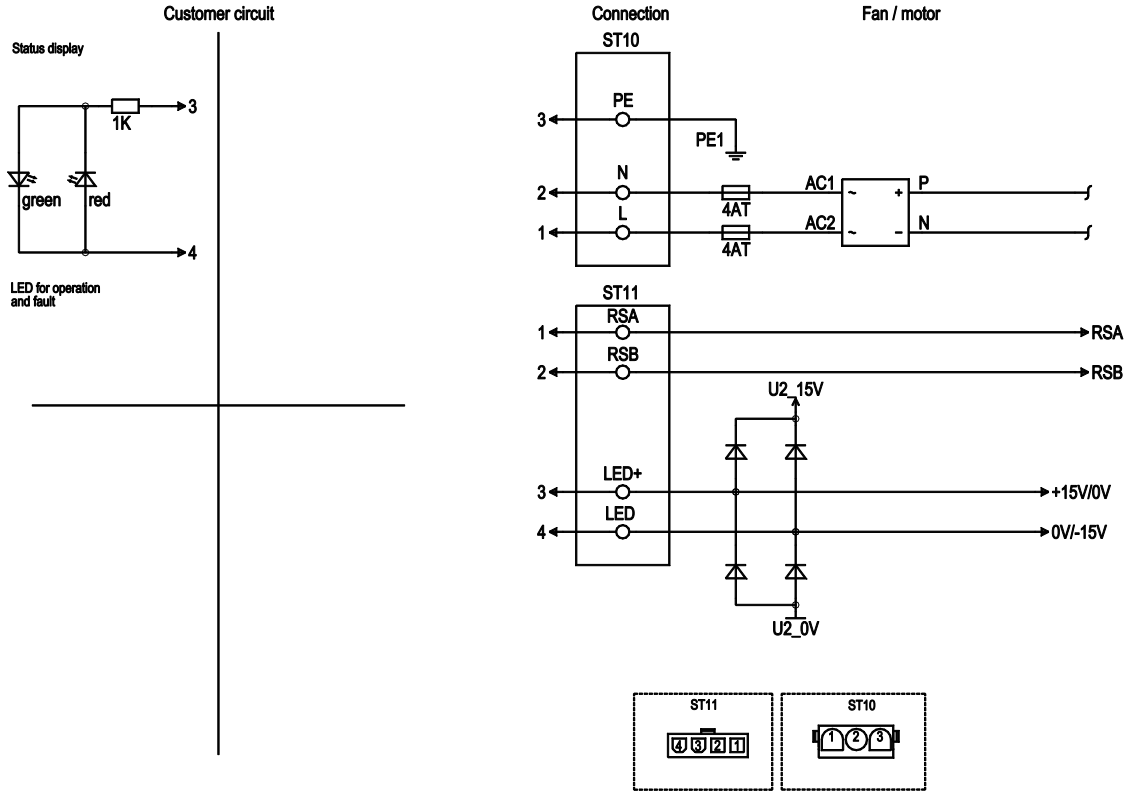
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
10	1	L		Supply voltage, phase, 50/60 Hz
10	2	N		Supply voltage, 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, Supply voltage for external device (e.g. status display for LED), SELV
11	4	LED -		Reference ground for control interface, SELV

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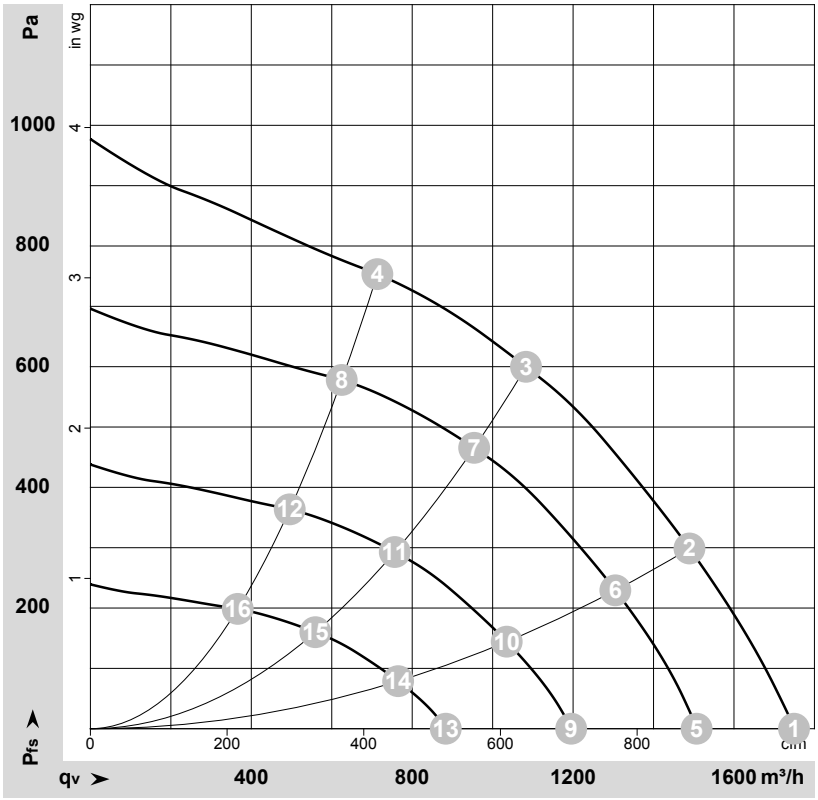
Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-179276-1

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	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	230	50	3365	292	1.27	1750	0	1030	0.00
2	230	50	3310	315	1.37	1490	300	875	1.20
3	230	50	3300	350	1.50	1085	600	635	2.41
4	230	50	3310	326	1.43	715	750	420	3.01
5	230	50	2900	186	0.81	1505	0	885	0.00
6	230	50	2900	212	0.93	1305	231	770	0.93
7	230	50	2900	241	1.06	955	466	560	1.87
8	230	50	2900	219	0.96	625	579	370	2.32
9	230	50	2300	93	0.41	1195	0	705	0.00
10	230	50	2300	106	0.46	1035	145	610	0.58
11	230	50	2300	120	0.53	755	293	445	1.18
12	230	50	2300	109	0.48	495	364	290	1.46
13	230	50	1700	38	0.16	885	0	520	0.00
14	230	50	1700	43	0.19	765	79	450	0.32
15	230	50	1700	48	0.21	560	160	330	0.64
16	230	50	1700	44	0.19	365	199	215	0.80

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