R3G250-AK20-62

EC centrifugal fan

backward-curved, single-intake

R3G250-AK20-62 ebmpapst Datasheet
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Nominal data

Type	**R3G250-AK20-62**
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}	3340
Power consumption	W	435
Current draw	A	1.9
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}	%	47.4	47.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		62	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.41
09 Air flow q_v	m^3/h	945
09 Pressure increase p_{fs}	Pa	672
10 Speed (rpm) n	min^{-1}	3355
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

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Technical description

Weight	4.3 kg
Fan size	250 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet steel, hot-dip galvanized
Number of blades	11
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 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 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
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	C22.2 No.77 + CAN/CSA-E60730-1; UL1004-3 +60730

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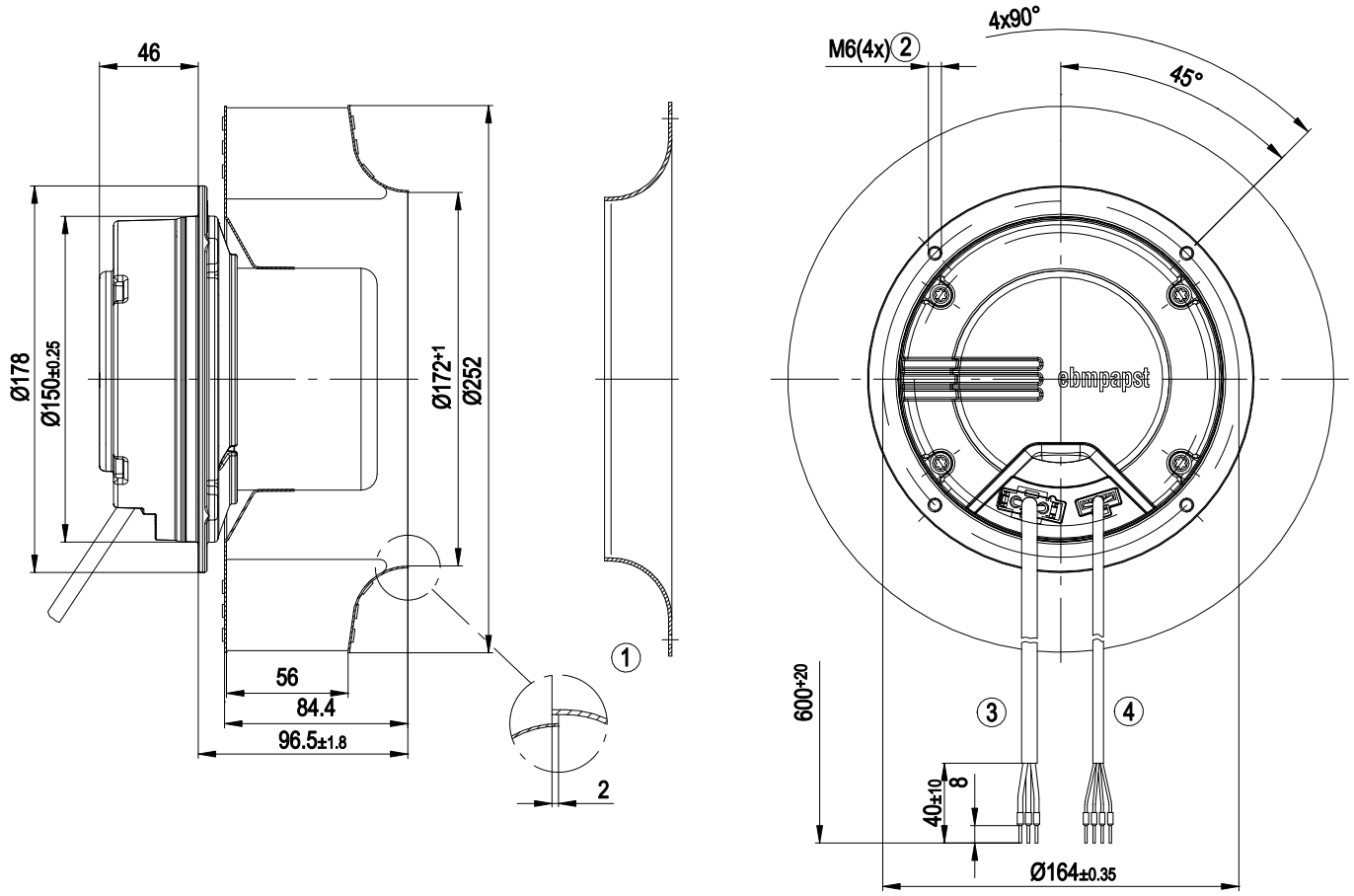
Product drawing



1	Accessory part: Inlet ring 96359-2-4013 not included in scope of delivery, other inlet rings on request
2	Max. clearance for screw 10 mm
3	Cable PVC AWG18, 3 x crimped ferrules
4	Cable PVC AWG22, 4 x crimped ferrules

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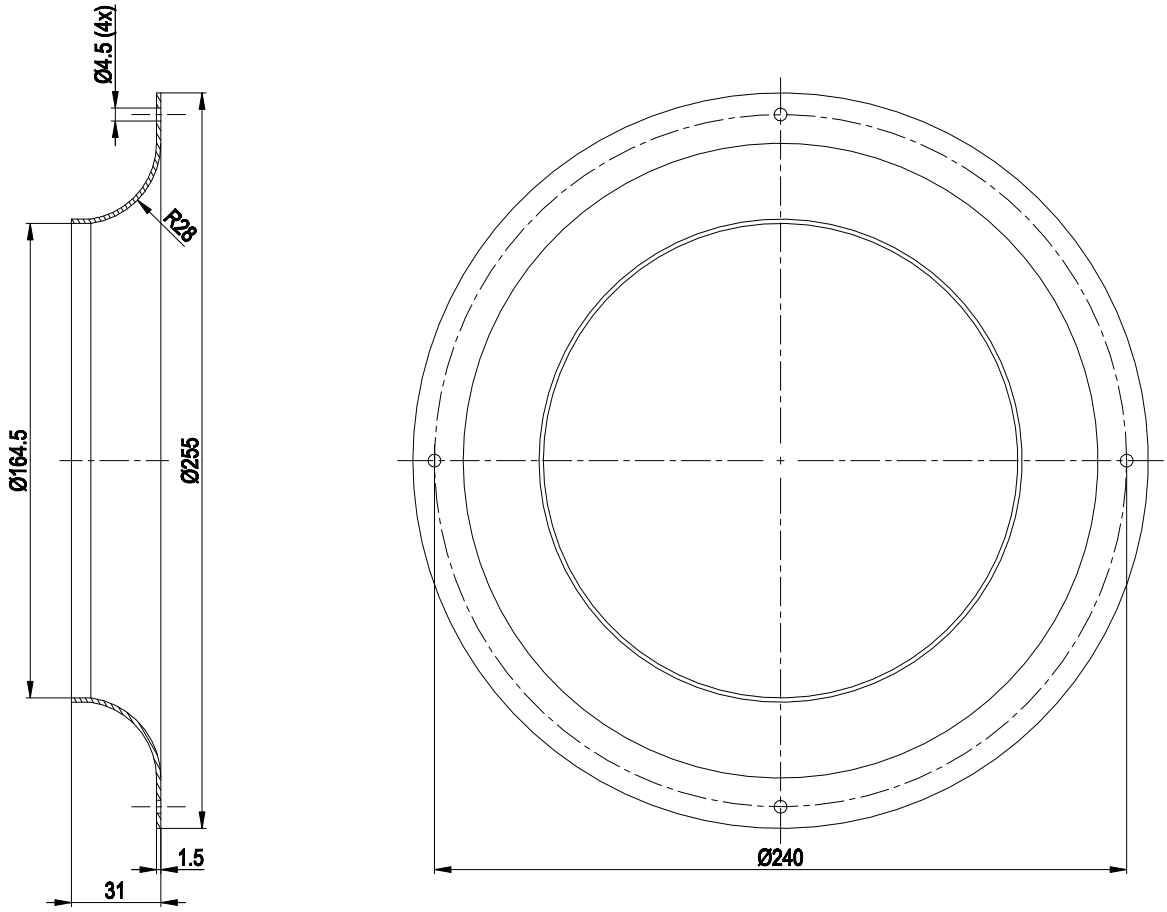
Accessory part



Accessory part: inlet ring 96359-2-4013 not included in scope of delivery

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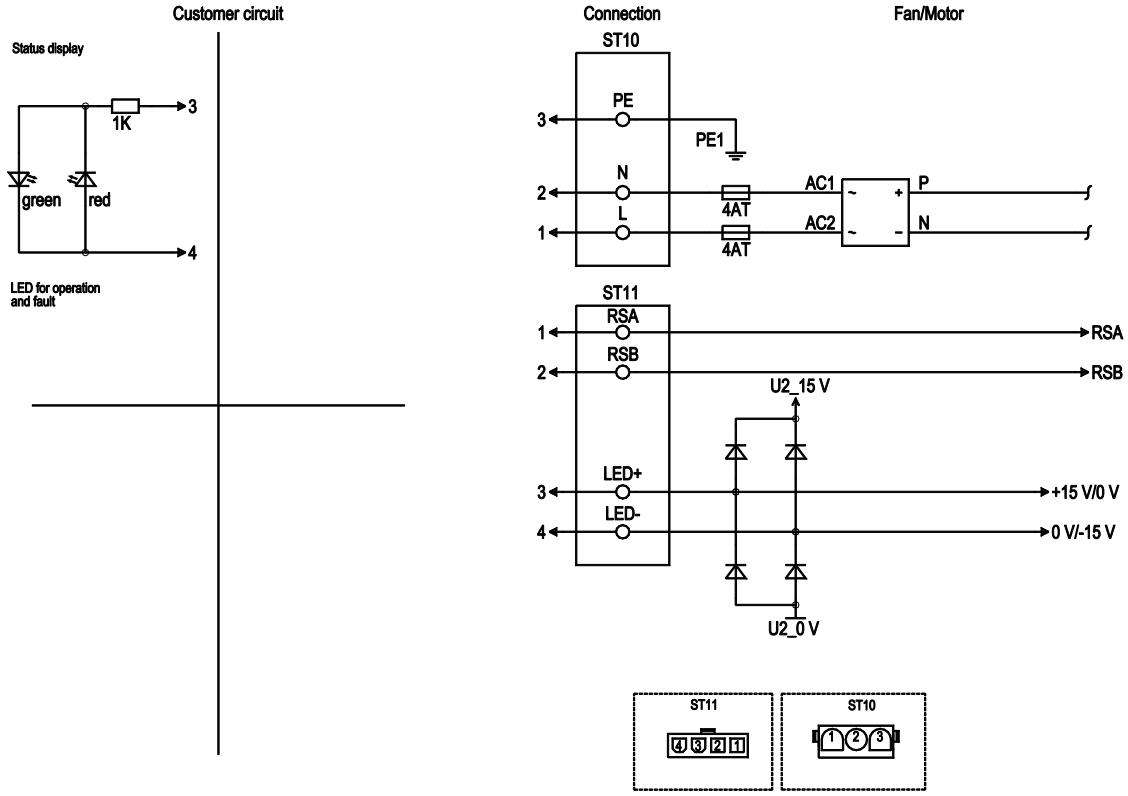
Connection diagram



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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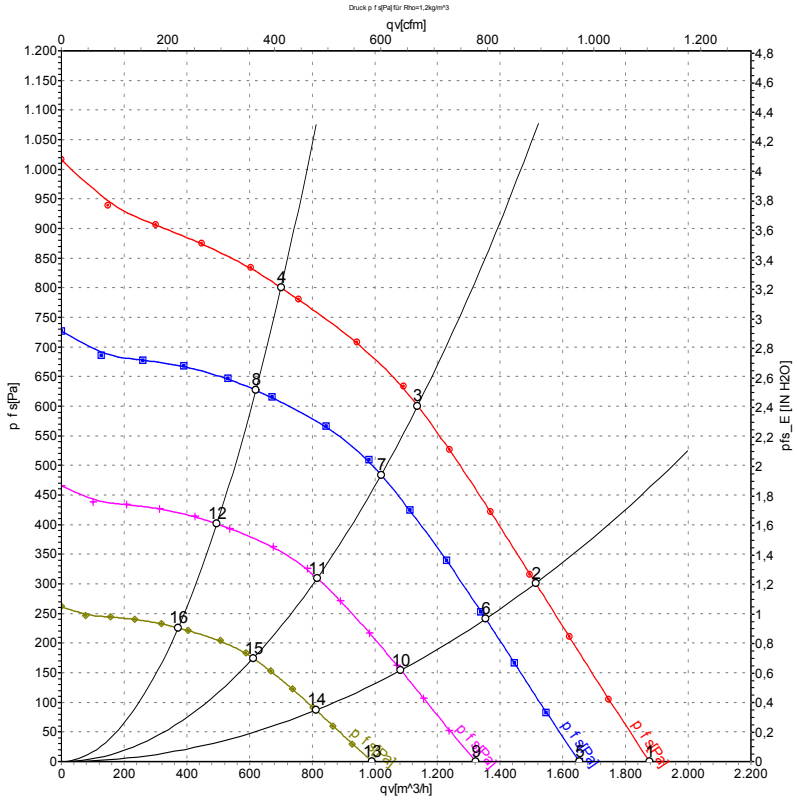
Curves: Air performance 50 Hz



Measurement: LU-68961-1

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	3405	348	1.54	1875	0	1105	0.00
2	230	50	3355	407	1.78	1515	300	890	1.20
3	230	50	3340	435	1.90	1135	600	670	2.41
4	230	50	3390	381	1.67	700	800	415	3.21
5	230	50	3000	238	1.05	1655	0	975	0.00
6	230	50	3000	292	1.28	1355	241	795	0.97
7	230	50	3000	313	1.37	1020	484	600	1.94
8	230	50	3000	265	1.16	620	627	365	2.52
9	230	50	2400	122	0.54	1320	0	780	0.00
10	230	50	2400	149	0.65	1085	154	635	0.62
11	230	50	2400	160	0.70	815	310	480	1.24
12	230	50	2400	135	0.59	495	401	290	1.61
13	230	50	1800	51	0.23	990	0	585	0.00
14	230	50	1800	63	0.28	810	87	480	0.35
15	230	50	1800	68	0.30	610	174	360	0.70
16	230	50	1800	57	0.25	370	226	220	0.91

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