EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G400-RP45-60 ebmpapst Datasheet
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Nominal data

Type	**R3G400-RP45-60**
Motor	**M3G084-FA**

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}	1250
Power consumption	W	300
Current draw	A	1.35
Min. ambient temperature	°C	-25
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}	%	63.9	46.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		79.8	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.3
09 Air flow q_v	m^3/h	2805
09 Pressure increase p_{fs}	Pa	223
10 Speed (rpm) n	min^{-1}	1255
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-195983

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Technical description

Weight	6.3 kg
Size	400 mm
Motor size	84
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	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	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 15 VDC, max. 30 mA - 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
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	EAC

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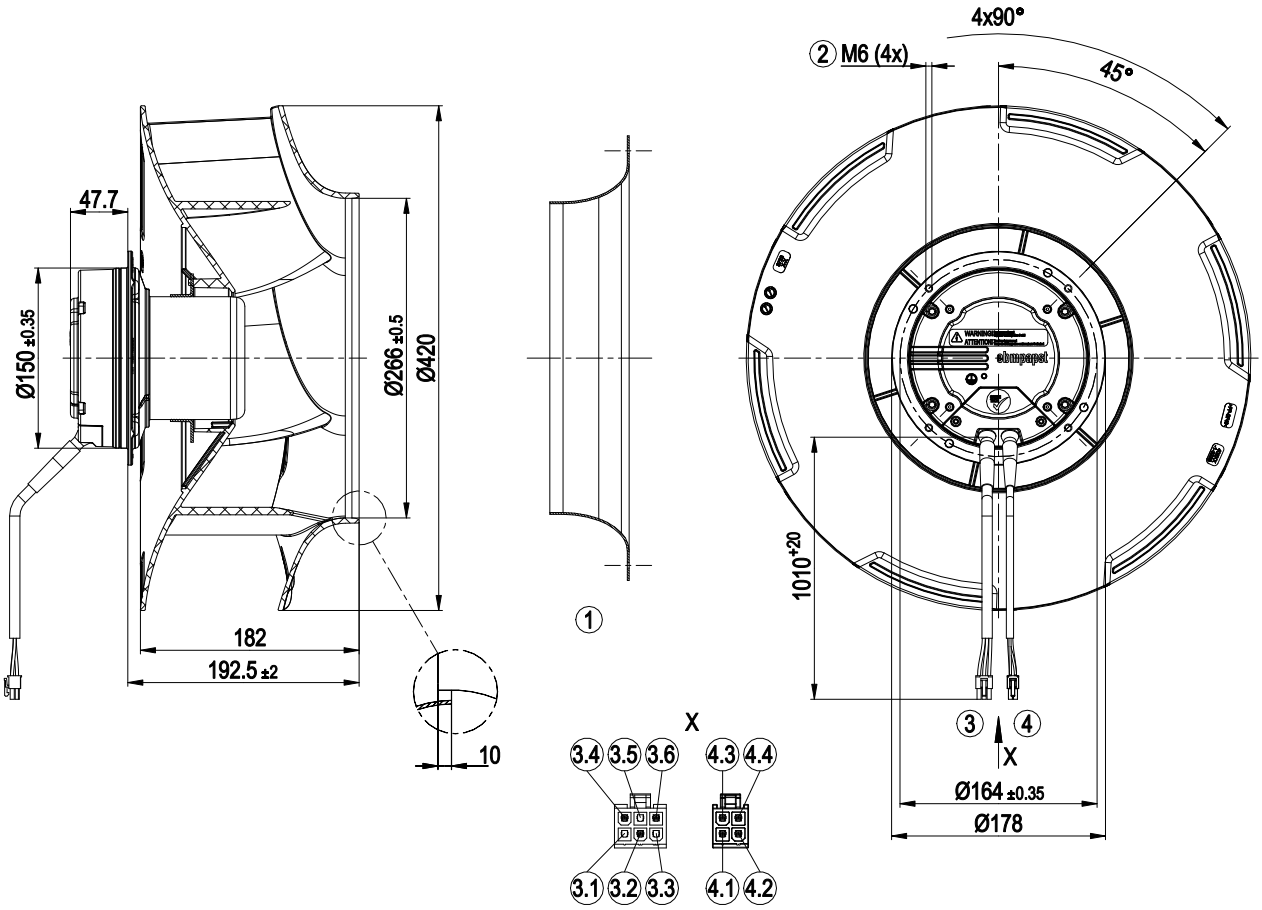
Product drawing



1	Accessory part: inlet ring 54476-2-4013 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Cable PVC AWG18
	6-pole connector housing Molex 39-01-2065, 3x socket Molex 39-00-0038
3.1	not used
3.2	PE
3.3	not used
3.4	L
3.5	not used
3.6	N
4	Cable PVC AWG22
	4-pole connector housing Molex 39-01-2045, 4x socket Molex 39-00-0038
4.1	RSA
4.2	RSB
4.3	+15 V
4.4	0 V

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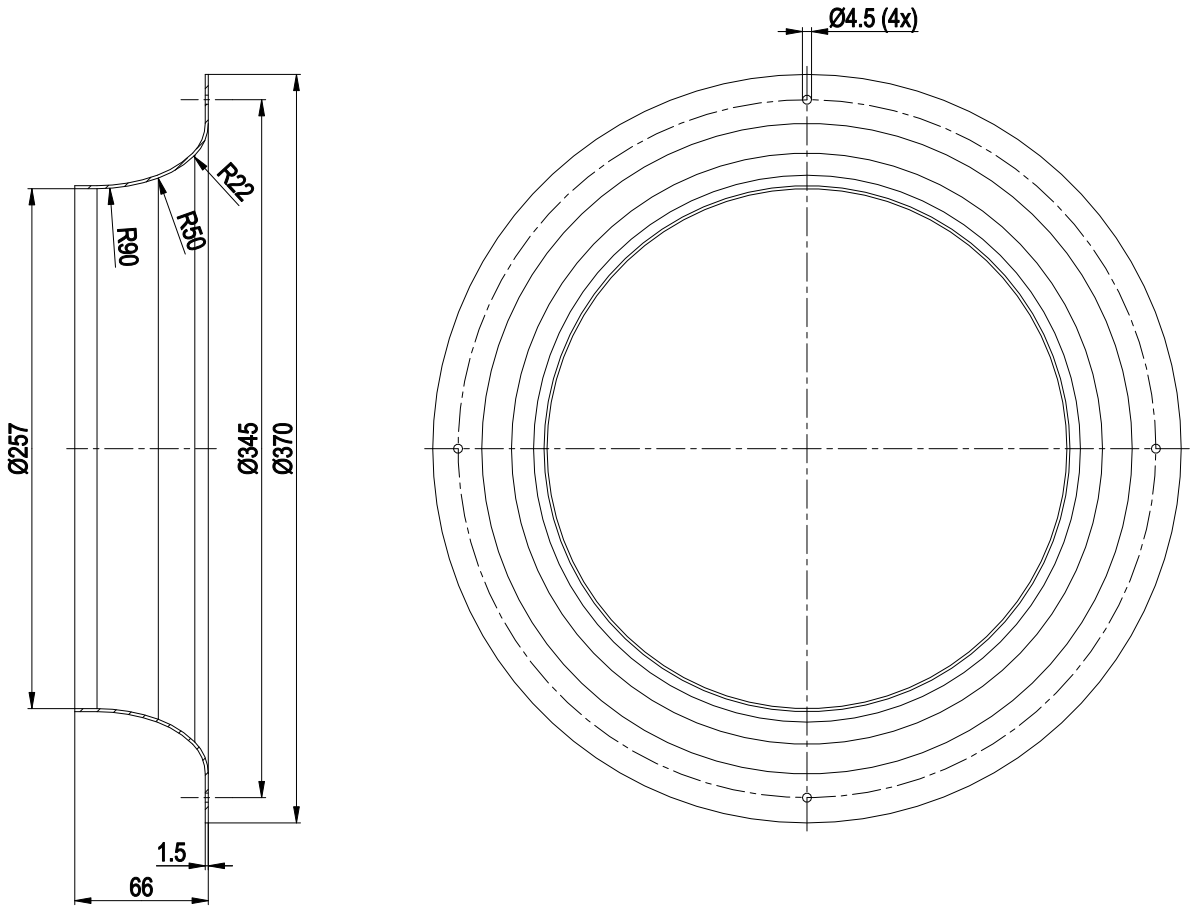
Accessory part



Inlet ring 54476-2-4013 not included in scope of delivery

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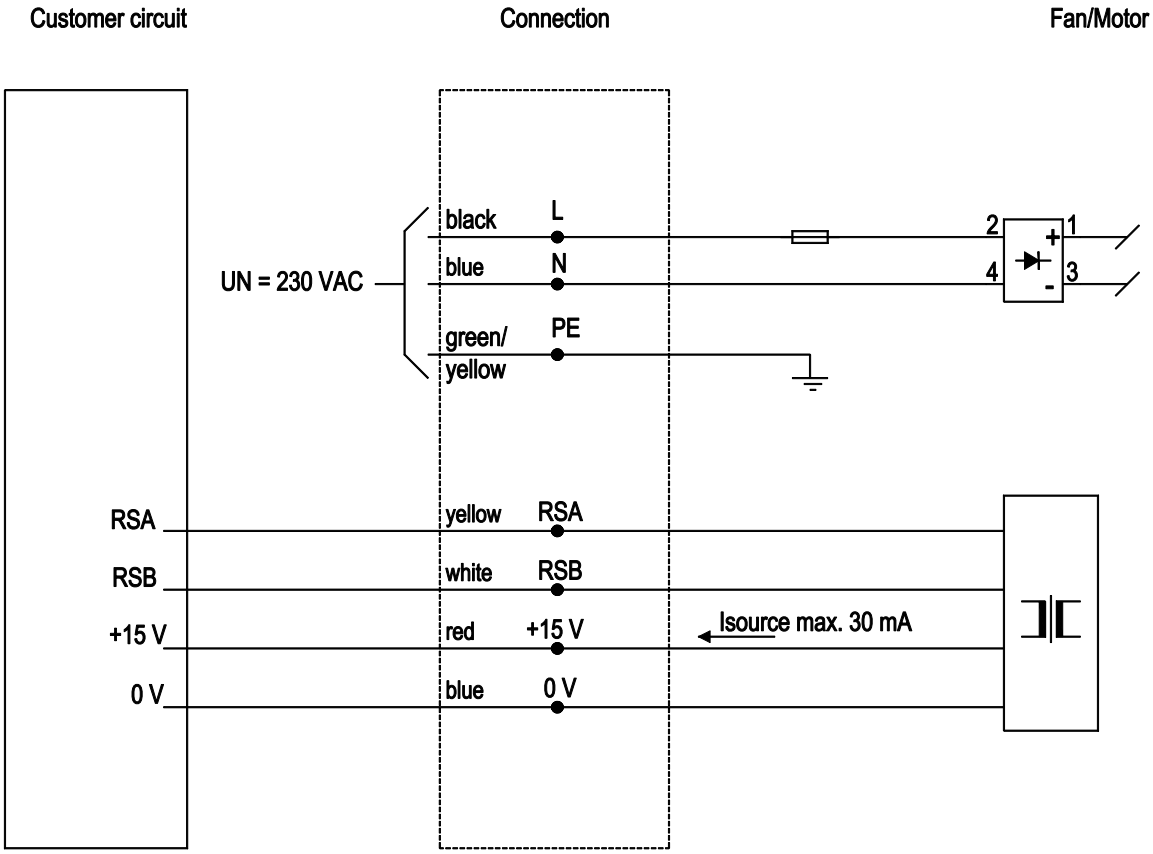
Connection diagram



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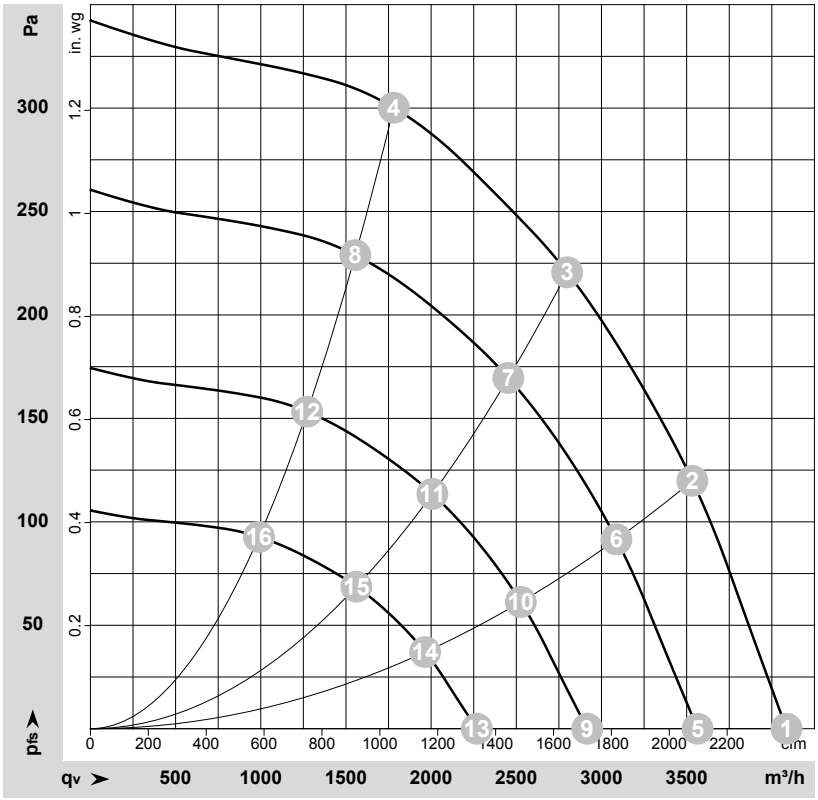
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-195983-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	1~	230	50	1250	203	0.89	4085	0	2405	0.00
2	1~	230	50	1250	286	1.25	3535	120	2080	0.48
3	1~	230	50	1250	300	1.35	2800	220	1645	0.88
4	1~	230	50	1250	289	1.26	1780	300	1050	1.20
5	1~	230	50	1100	135	0.59	3565	0	2100	0.00
6	1~	230	50	1100	191	0.83	3090	93	1820	0.37
7	1~	230	50	1100	205	0.89	2455	171	1445	0.69
8	1~	230	50	1100	192	0.84	1555	229	915	0.92
9	1~	230	50	900	74	0.32	2915	0	1715	0.00
10	1~	230	50	900	105	0.46	2525	62	1485	0.25
11	1~	230	50	900	112	0.49	2005	114	1180	0.46
12	1~	230	50	900	105	0.46	1270	153	750	0.61
13	1~	230	50	700	35	0.15	2270	0	1335	0.00
14	1~	230	50	700	49	0.22	1965	37	1155	0.15
15	1~	230	50	700	53	0.23	1560	69	920	0.28
16	1~	230	50	700	50	0.22	990	93	580	0.37

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