EC centrifugal fan - RadiCal

backward-curved, single-intake

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	**R3G400-RG53-25**
Motor	**M3G112-EA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	1460
Power consumption	W	470
Current draw	A	2.1
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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	66.6	48
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		80.6	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.46
09 Air flow q_v	m^3/h	3215
09 Pressure increase p_{fs}	Pa	315
10 Speed (rpm) n	min^{-1}	1455
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-144478

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Technical description

Weight	9 kg
Size	400 mm
Motor size	112
Rotor surface	Painted black
Electronics housing material	PA plastic
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	H1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Cooling hole/opening	On rotor side
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)
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

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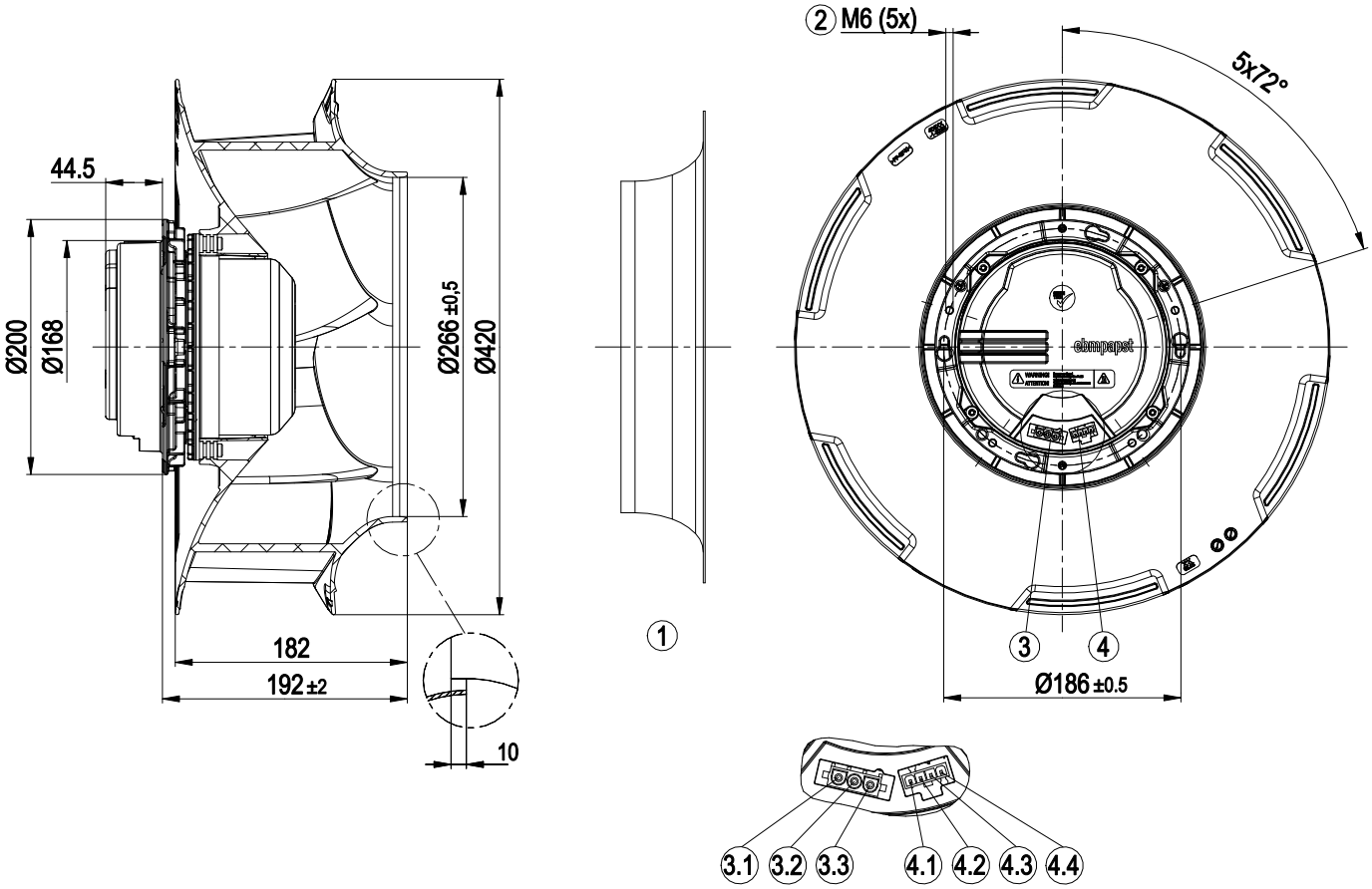
Product drawing



1	Accessory part: inlet ring 54476-2-4013 not included in scope of delivery
2	Max. clearance for screw 16 mm
3	3-pole header Lonco Universal Mate-N-Lok C63502-3A
	Cable with mating connector not included in scope of delivery
3.1	PE
3.2	N
3.3	L
4	4-pole header Molex 39-30-2040
	Cable with mating connector 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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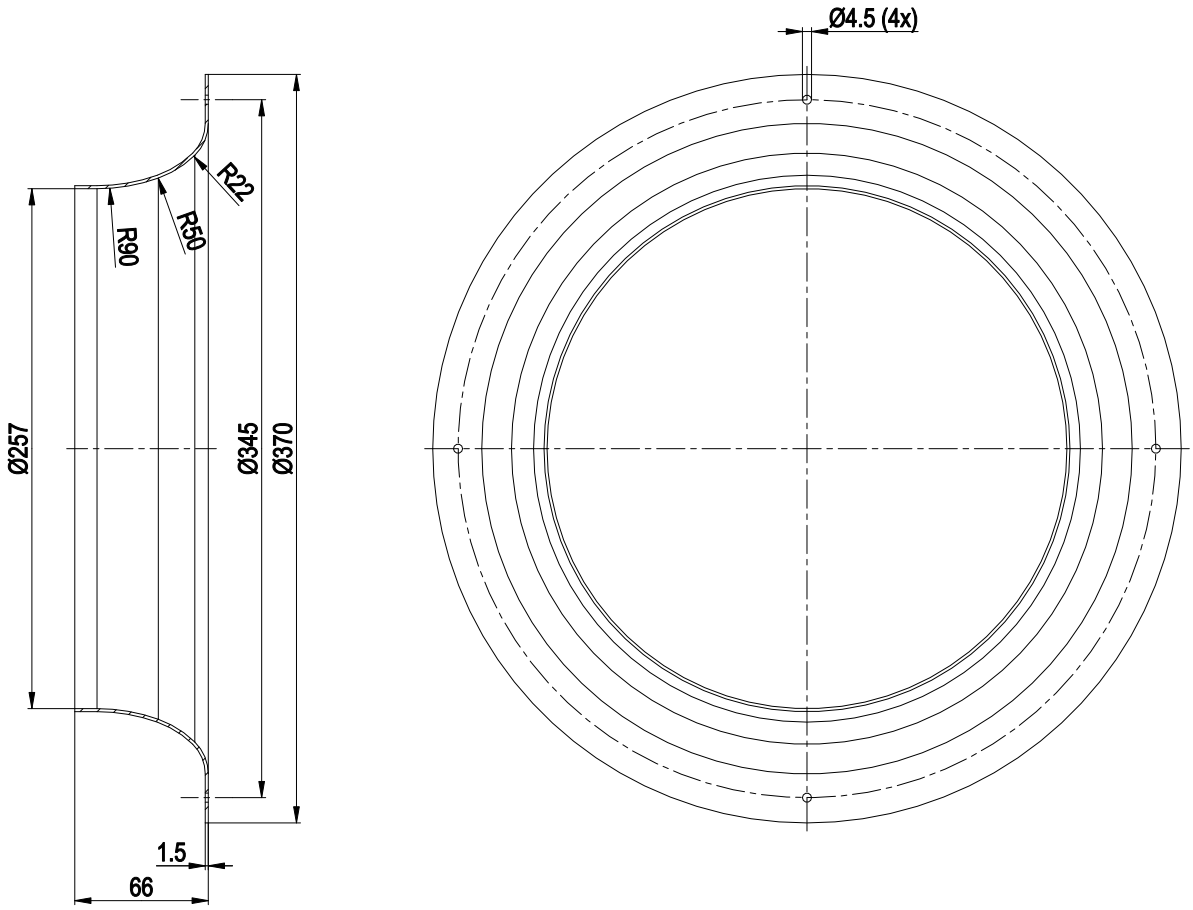
Accessory part



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

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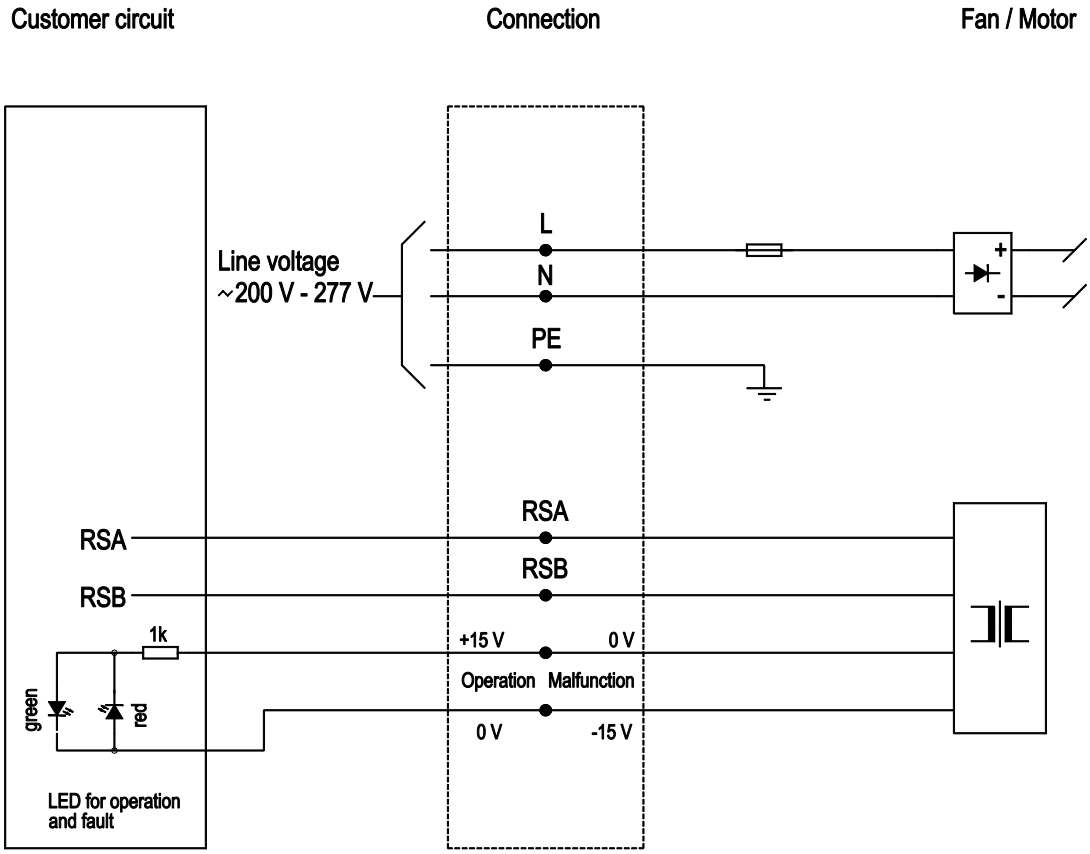
Connection diagram



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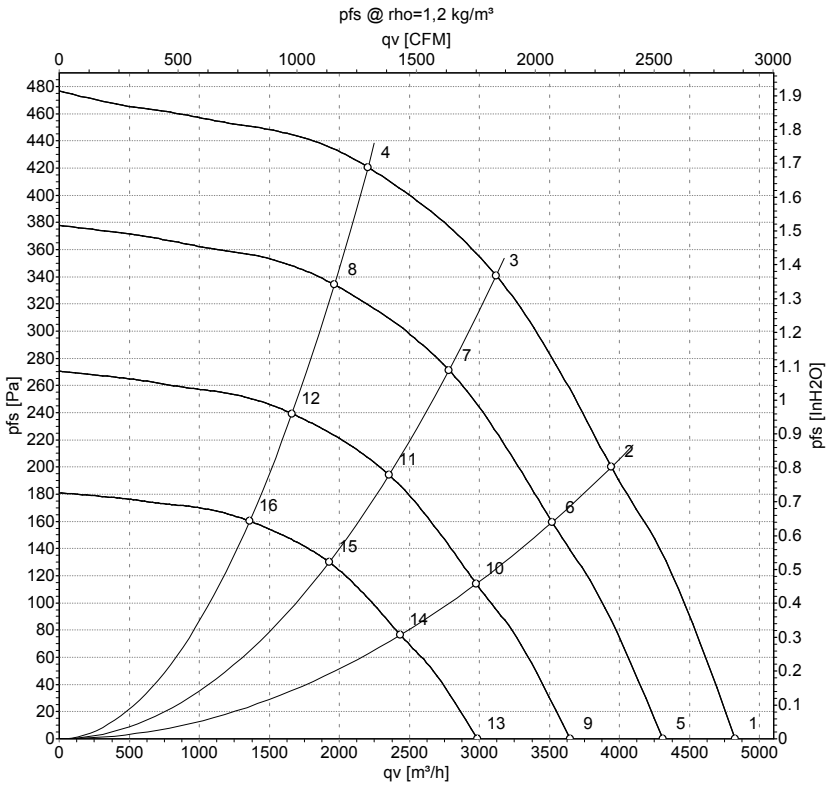
Curves: Air performance 50 Hz



Measurement: LU-144478-1

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	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	230	50	1460	332	1.45	68	75	4825	0	2840	0.00
2	230	50	1460	419	1.84	65	72	3940	200	2320	0.80
3	230	50	1460	470	2.10	62	69	3120	340	1835	1.36
4	230	50	1460	442	1.94	62	69	2205	420	1295	1.69
5	230	50	1300	237	1.03	65	73	4310	0	2535	0.00
6	230	50	1300	299	1.31	62	69	3520	159	2070	0.64
7	230	50	1300	333	1.47	59	66	2785	272	1640	1.09
8	230	50	1300	313	1.37	59	66	1965	334	1155	1.34
9	230	50	1100	143	0.63	61	68	3645	0	2145	0.00
10	230	50	1100	181	0.80	58	65	2975	114	1750	0.46
11	230	50	1100	202	0.89	55	62	2355	195	1385	0.78
12	230	50	1100	189	0.83	55	62	1660	239	980	0.96
13	230	50	900	79	0.34	56	63	2985	0	1755	0.00
14	230	50	900	99	0.44	53	60	2435	76	1435	0.31
15	230	50	900	111	0.49	50	56	1925	130	1135	0.52
16	230	50	900	104	0.46	50	57	1360	160	800	0.64

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
q_V = Air flow · p_{fs} = Pressure increase