R3G450-RG51-25

EC centrifugal fan - RadiCal

backward-curved, single-intake

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Nominal data

Type	**R3G450-RG51-25**
Motor	**M3G112-EA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1250
Power consumption	W	500
Current draw	A	2.2
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 Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	67	48.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		80.7	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.5
09 Air flow q_v	m^3/h	3730
09 Pressure increase p_{fs}	Pa	292
10 Speed (rpm) n	min^{-1}	1260
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-153672

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Technical description

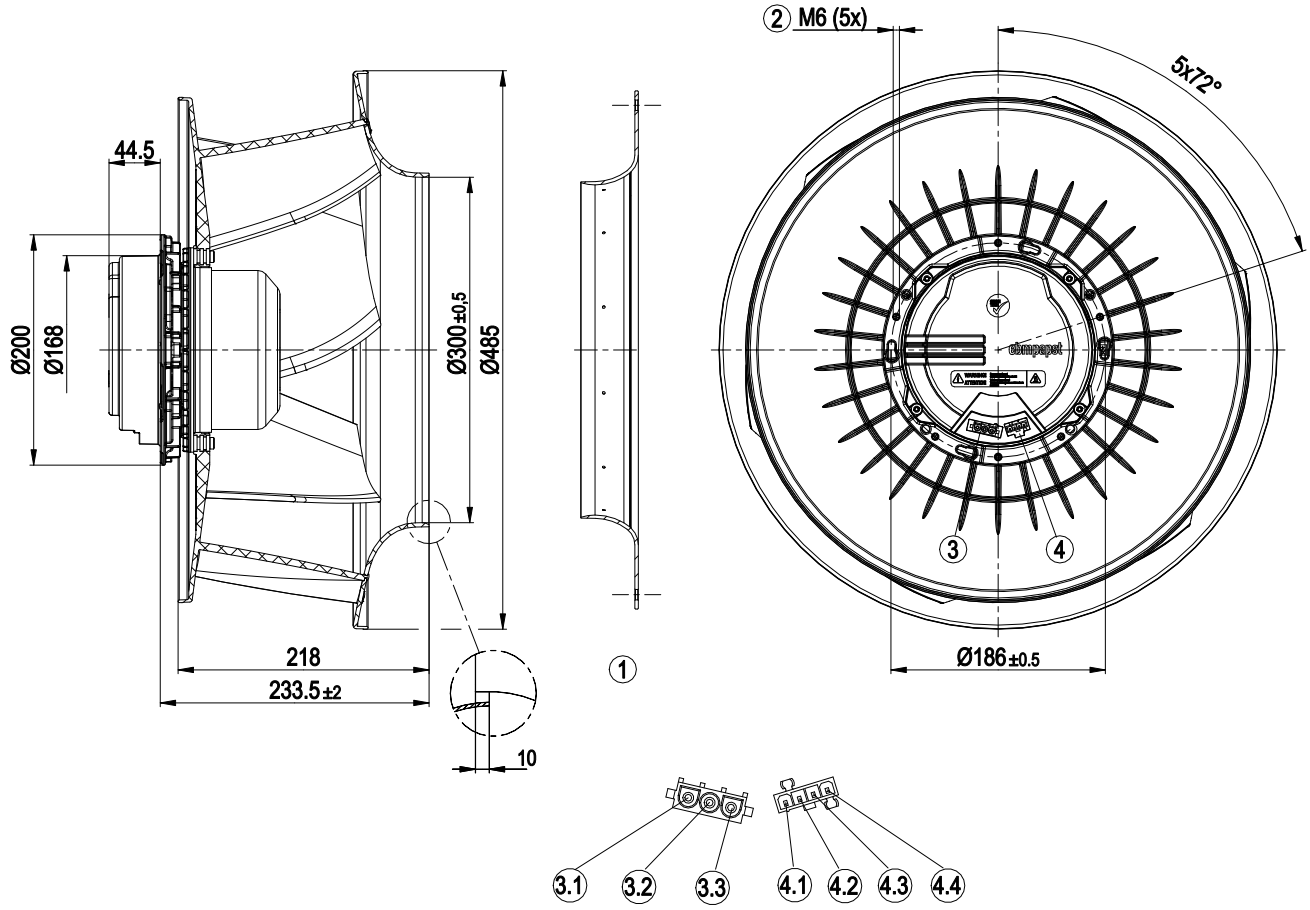
Weight	9 kg
Size	450 mm
Motor size	112
Rotor surface	Painted black
Electronics housing material	PA plastic
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H0 - dry environment
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	- 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
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
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



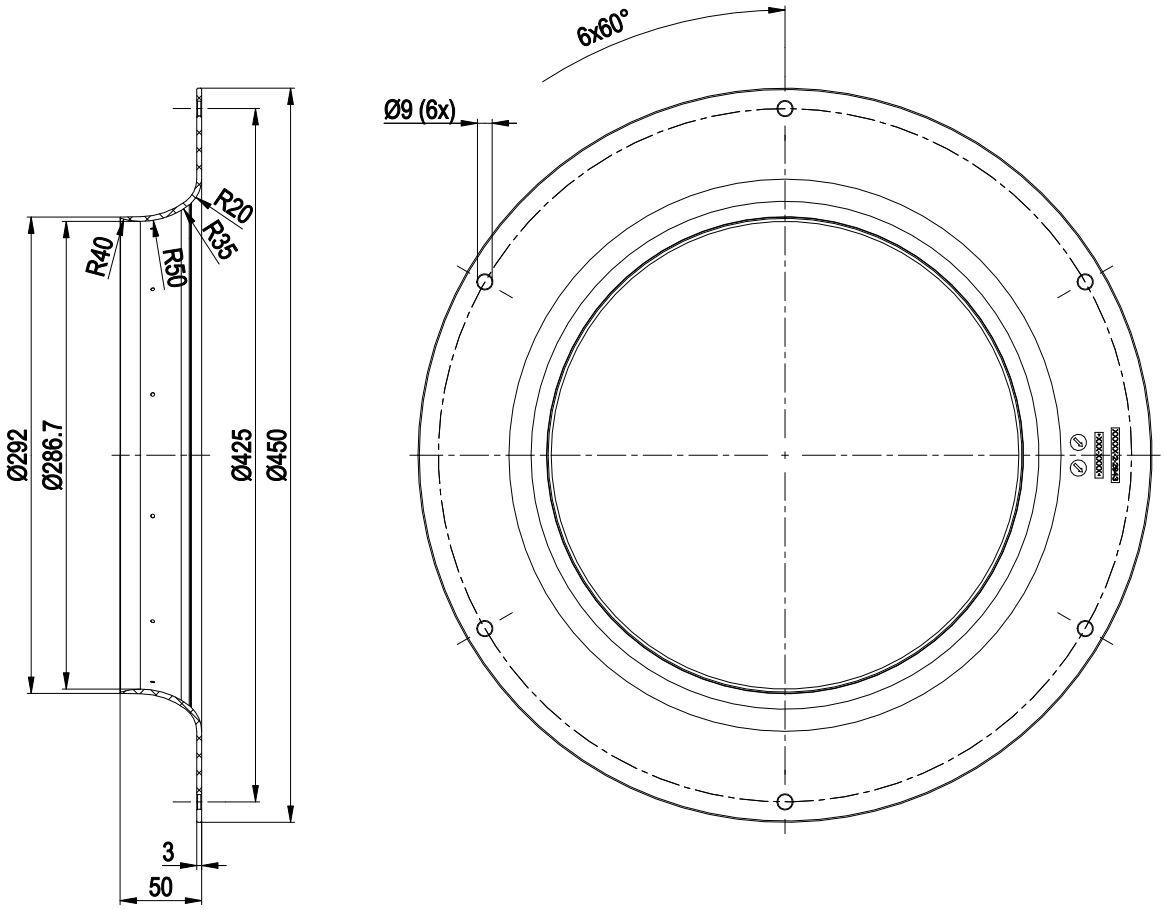
1	Accessory part: inlet ring 45901-2-2943 not included in scope of delivery
2	Max. clearance for screw 16 mm
3	3-pole header Lonco C63502-3A, mating connector with sockets not included in scope of delivery
3.1	PE
3.2	N
3.3	L
4	4-pole header Molex 39-30-2040, mating connector with sockets not included 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



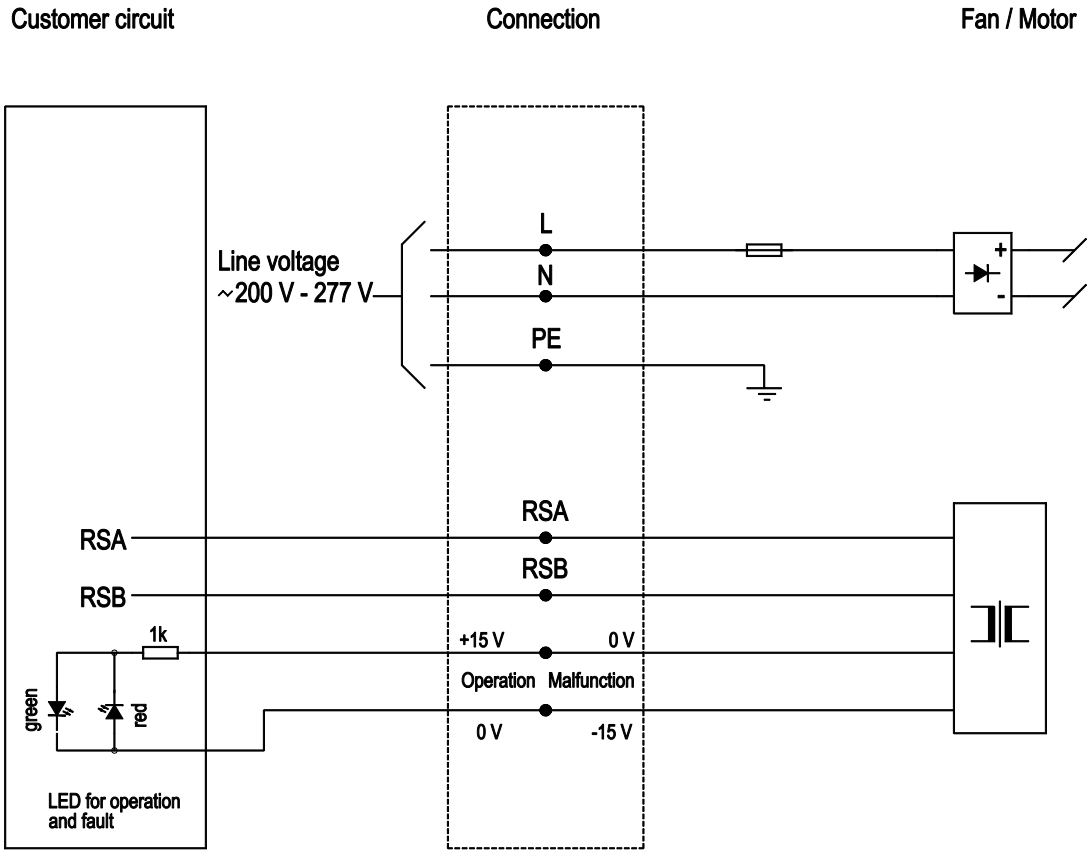
Inlet ring 45901-2-2943 not included in scope of delivery

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Connection diagram

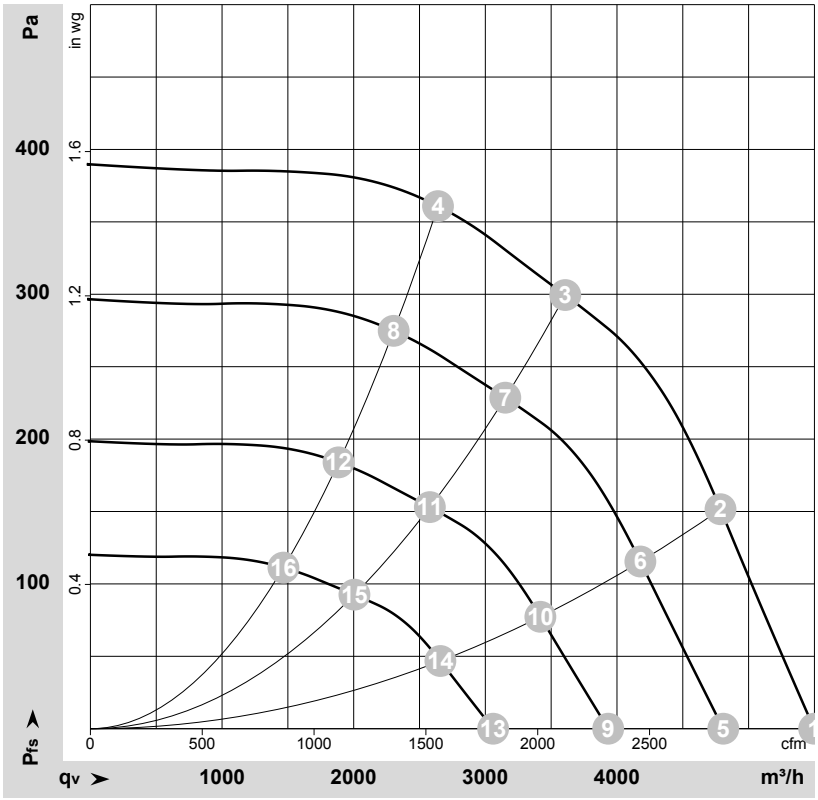


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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-153672-1

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}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	230	50	1250	318	1.38	66	74	81	5500	0	3235	0.00
2	230	50	1250	447	1.96	64	73	79	4785	150	2820	0.60
3	230	50	1250	500	2.20	58	66	73	3605	300	2125	1.20
4	230	50	1250	489	2.14	61	69	75	2640	360	1555	1.45
5	230	50	1100	212	0.92	62	71	78	4805	0	2830	0.00
6	230	50	1100	297	1.30	61	69	76	4180	116	2460	0.47
7	230	50	1100	333	1.47	55	63	69	3150	229	1855	0.92
8	230	50	1100	325	1.42	57	66	72	2305	275	1355	1.10
9	230	50	900	116	0.51	57	66	73	3935	0	2315	0.00
10	230	50	900	163	0.71	56	64	71	3420	77	2010	0.31
11	230	50	900	183	0.80	50	58	64	2580	153	1520	0.61
12	230	50	900	178	0.78	52	61	67	1885	184	1110	0.74
13	230	50	700	55	0.24	51	59	66	3060	0	1800	0.00
14	230	50	700	77	0.34	49	58	65	2660	47	1565	0.19
15	230	50	700	86	0.38	43	51	58	2005	93	1180	0.37
16	230	50	700	84	0.37	46	54	61	1465	111	865	0.45

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
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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