R3G450-RG51-25

EC centrifugal fan - RadiCal

backward curved, single inlet

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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
Type of data definition		ml
State		prelim.
Speed (rpm)	min^{-1}	1250
Power input	W	500
Current draw	A	2.2
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}	%	66.9	48.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		80.6	62
05 Variable speed drive		Yes	

09 Power input 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 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-153672

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Technical features

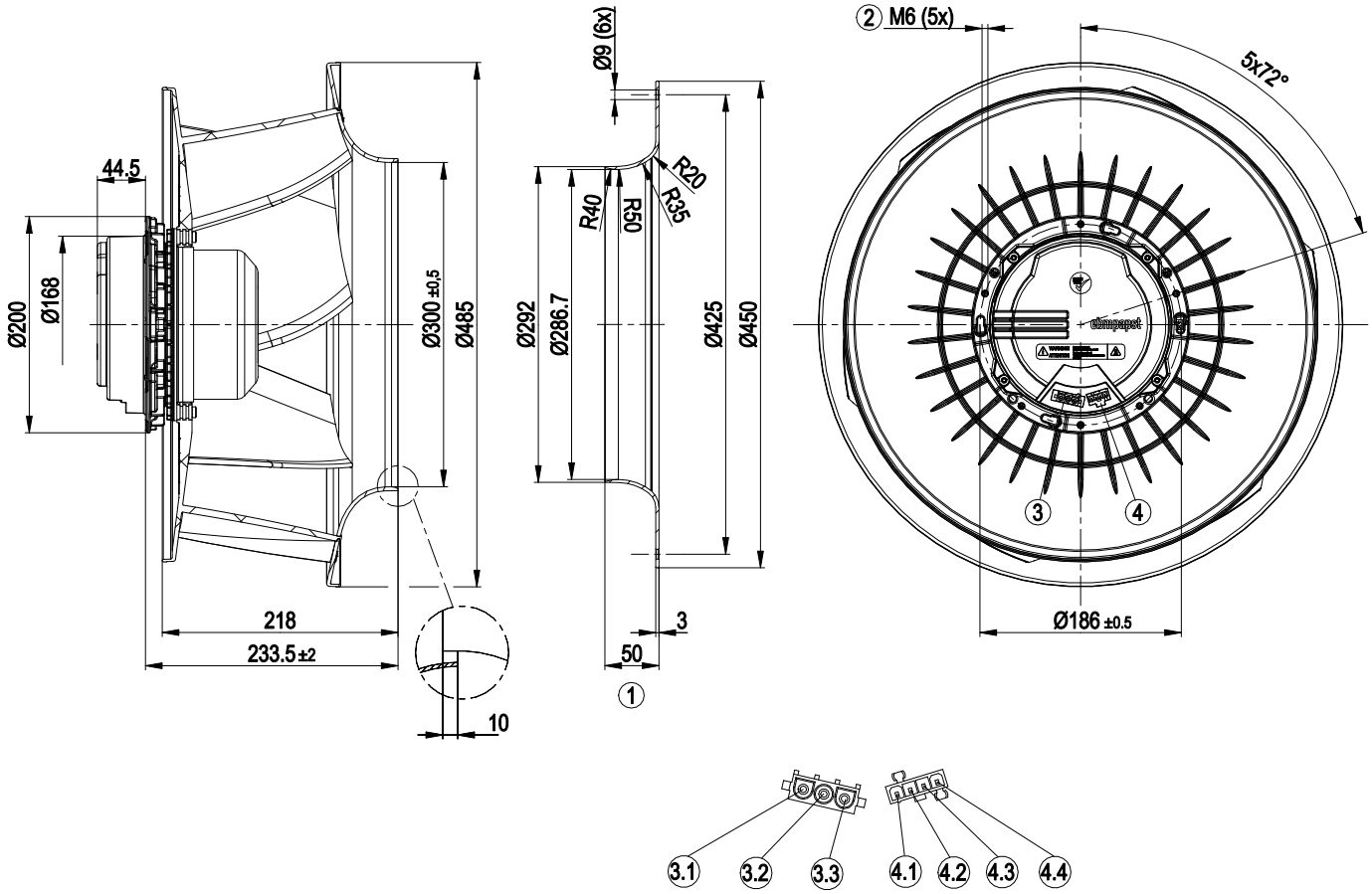
Mass	9 kg
Size	450 mm
Surface of rotor	Coated in black
Material of electronics housing	PA plastic
Material of impeller	PP plastic
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 20
Insulation class	"B"
Humidity (F)/environmental protection class (H)	H0 - dry environment
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Operation and alarm display: reversible voltage output 0 V / +15 V - Integrated PI 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
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

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Product drawing



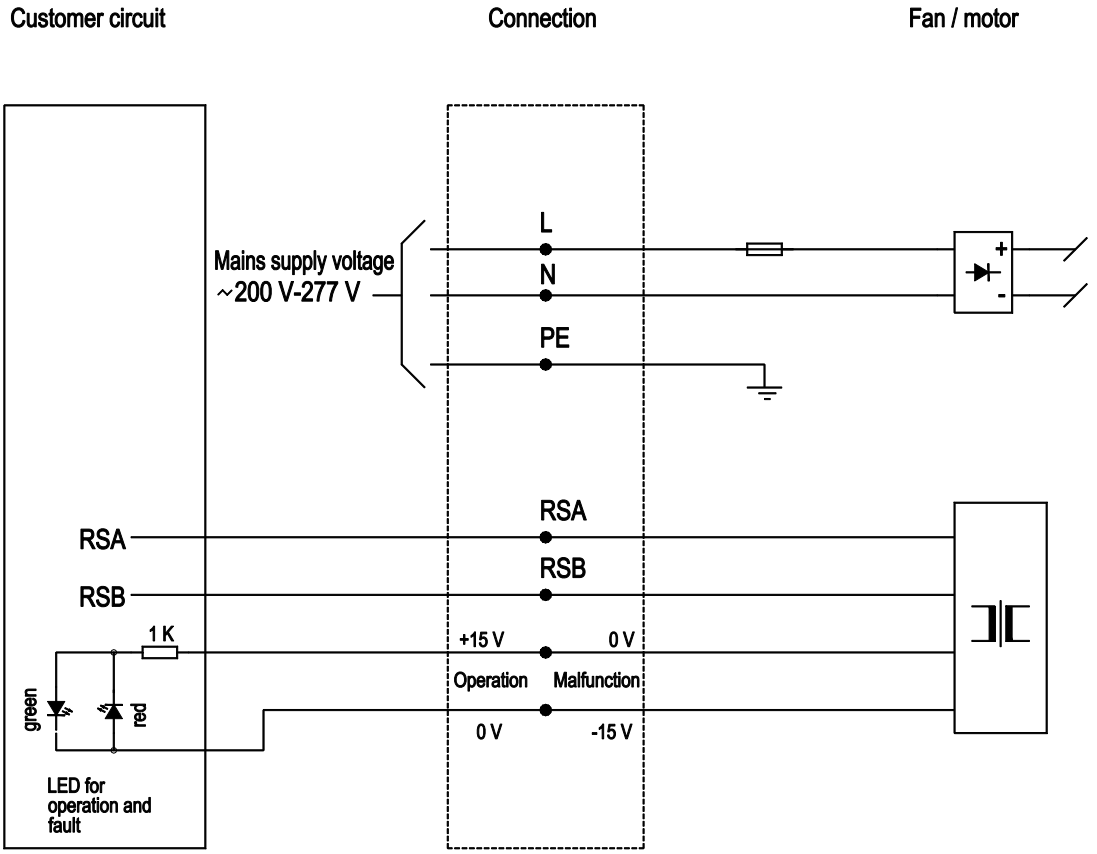
1	Accessory part: Inlet nozzle 45901-2-2943 not included in scope of delivery
2	Thread reach max. 16 mm
3	Strip 3-pole Lonco C63502-3A, mating connectors with female connectors not included in scope of delivery
3.1	PE
3.2	N
3.3	L
4	Strip 4-pole Molex 39-30-2040, mating connectors with female connectors not included in scope of delivery
4.1	RSB
4.2	RSA
4.3	15 V ; in the event of fault: 0 V
4.4	0 V ; in the event of fault: 15 V

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Connection screen

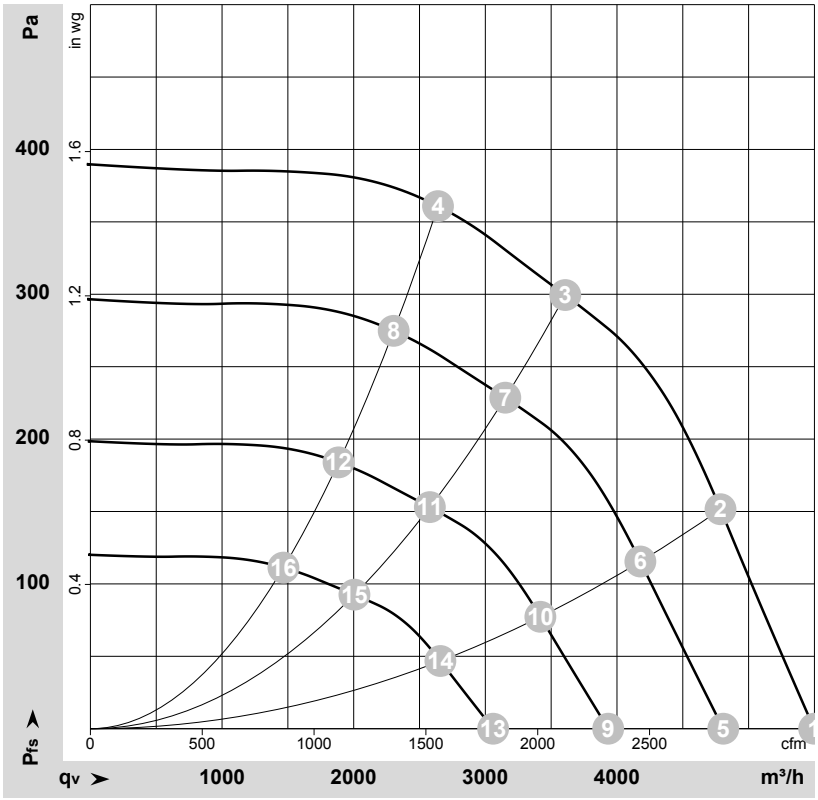


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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-153672-1

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	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	inH2O
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 = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side
q_V = Air flow · p_{fs} = Pressure increase

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