R3G450-RG53-26

EC centrifugal fan - RadiCal

backward-curved, single-intake

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Nominal data

Type	**R3G450-RG53-26**
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}	1400
Power consumption	W	730
Current draw	A	3.2
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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	66.9	49.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		79	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.71
09 Air flow q_v	m^3/h	3900
09 Pressure increase p_{fs}	Pa	404
10 Speed (rpm) n	min^{-1}	1420
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

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Technical description

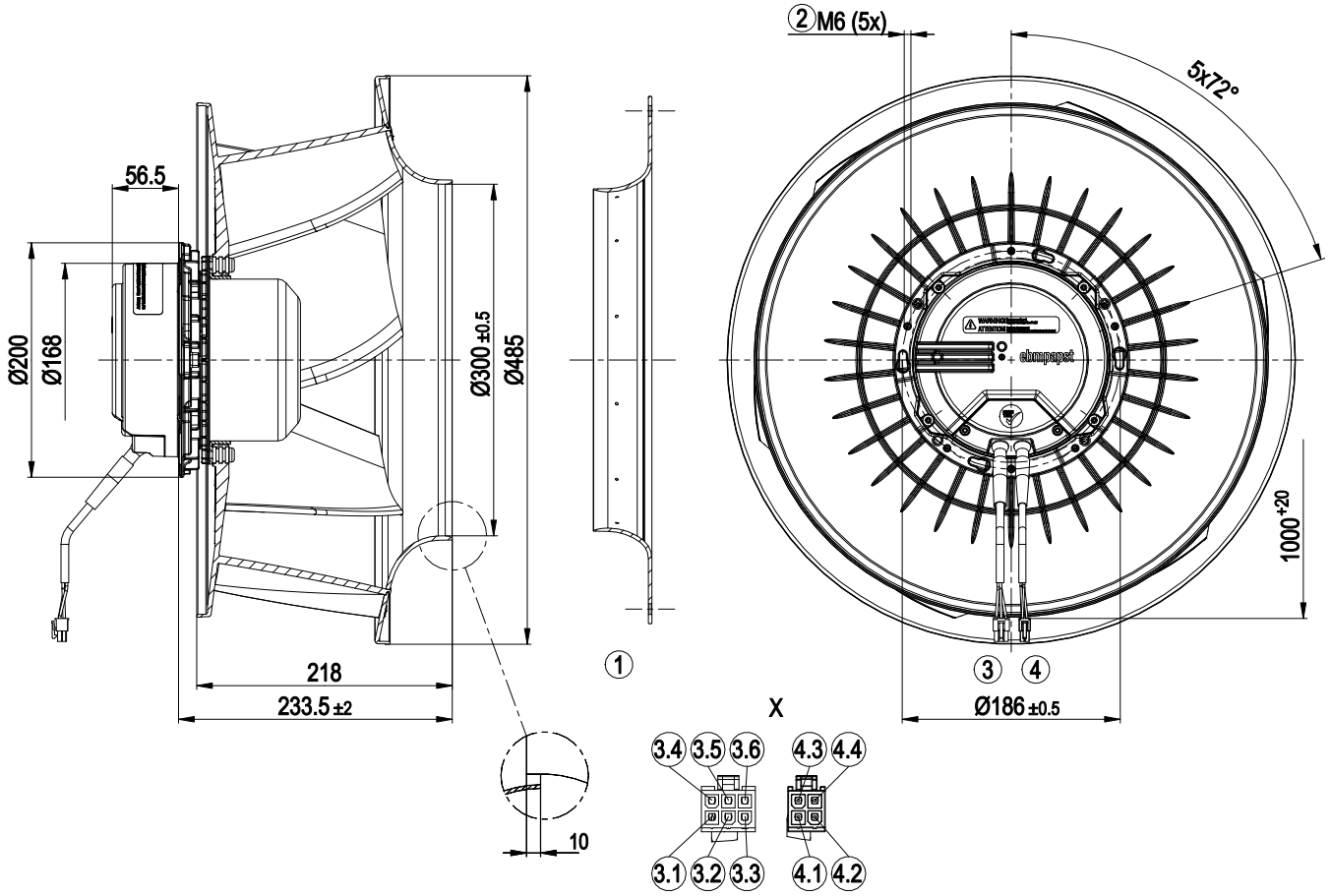
Weight	9 kg
Fan size	450 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 15 VDC, max. 30 mA - 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	Via terminal box; With plug
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	EAC

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Product drawing



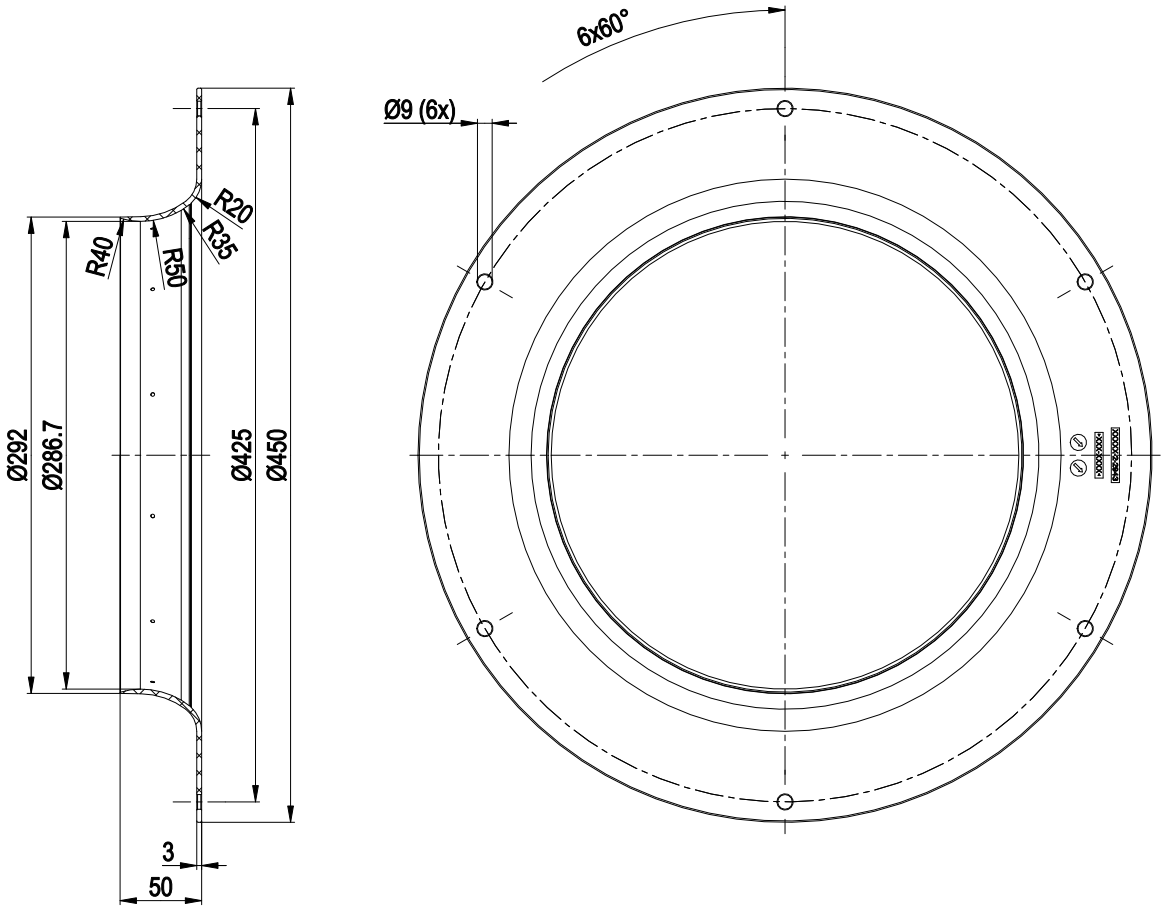
1	Accessory part: inlet ring 45901-2-2943 not included in scope of delivery
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18 with 6-pole connector housing Molex 39-01-2065, 3x socket Molex 39-00-0038
3.1	not used
3.2	PE
3.3	not used
3.4	L
3.5	not used
3.6	N
4	Cable PVC AWG22 with 4-pole connector housing Molex 39-01-2045, 4x socket Molex 39-00-0038
4.1	RSA
4.2	RSB
4.3	+15 V (red)
4.4	0 V (blue)

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Accessory part



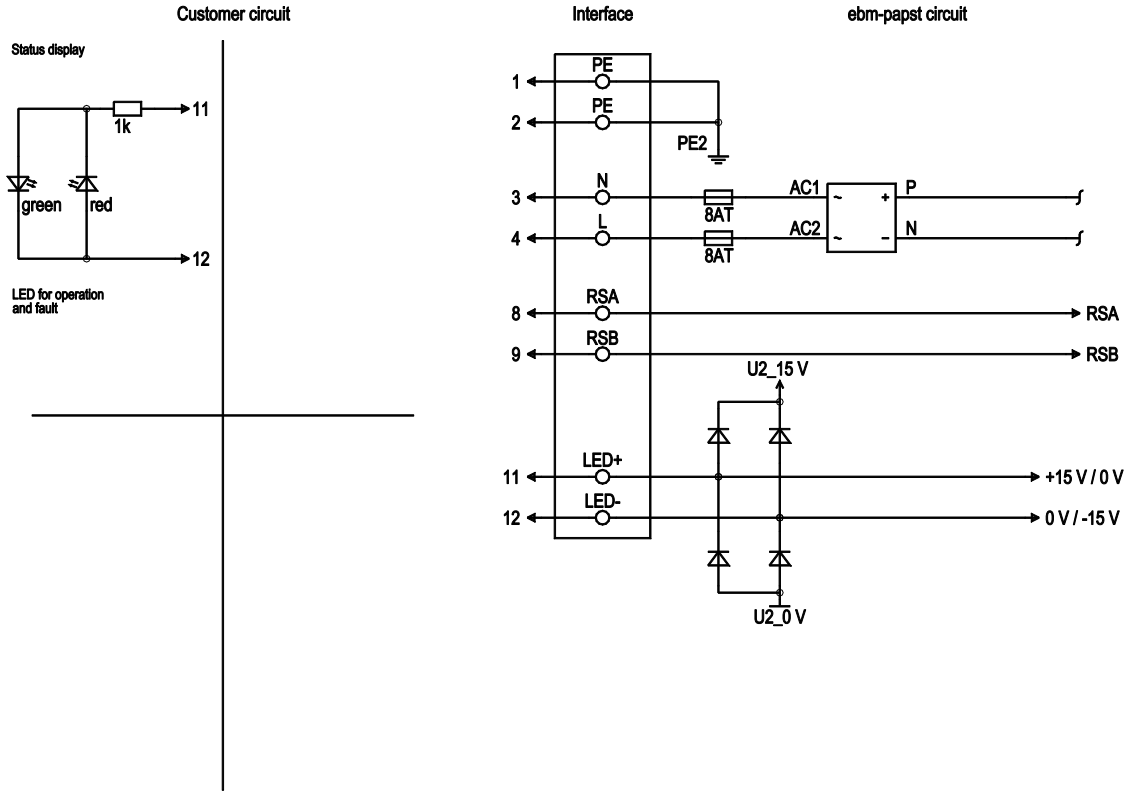
Inlet ring 45901-2-2943 not included in scope of delivery

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Connection diagram



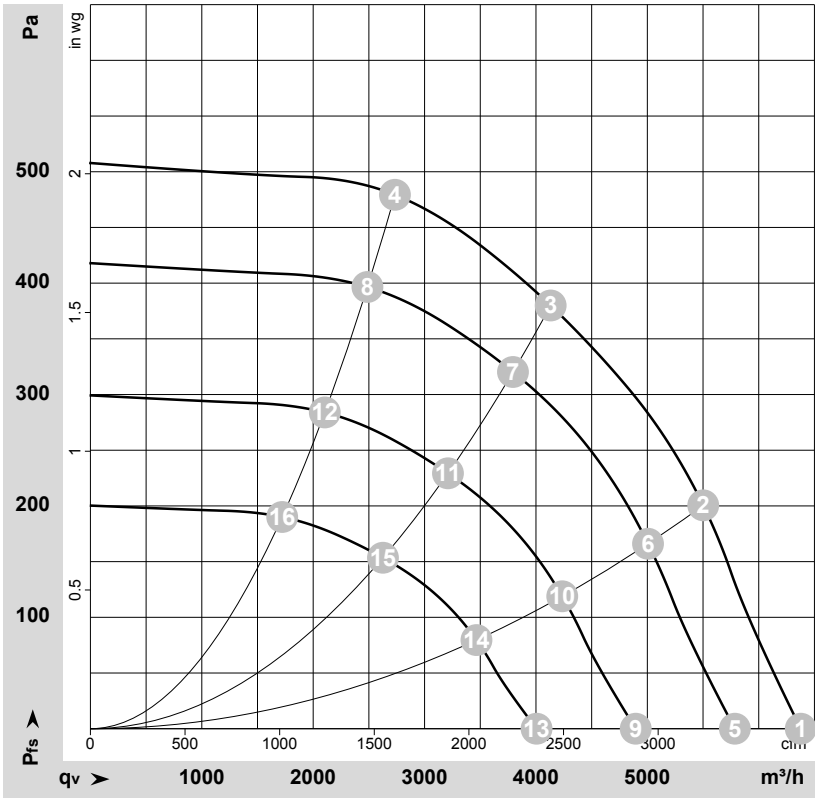
No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, voltage range see nameplate, 50/60 Hz
1	4	L	black	Power supply, phase, voltage range see nameplate, 50/60 Hz
2	8	RSA	yellow	RS485 interface for ebmBUS, RSA, SELV
2	9	RSB	white	RS485 interface for ebmBUS, RSB, SELV
2	11	LED+	red	Voltage output 15 V (+15%/-10%), max. 30 mA, power supply for external devices (e.g. status display for LED), SELV
2	12	LED-	blue	Reference ground for control interface, SELV

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-167627-1

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	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	Y	230	50	1420	470	2.07	69	79	84	6375	0	3755	0.00
2	Y	230	50	1420	648	2.83	68	77	83	5500	200	3240	0.80
3	Y	230	50	1400	730	3.20	65	74	79	4130	380	2430	1.53
4	Y	230	50	1420	682	2.98	67	76	81	2735	480	1610	1.93
5	Y	230	50	1300	351	1.54	67	76	82	5785	0	3405	0.00
6	Y	230	50	1300	488	2.13	66	75	81	5005	167	2945	0.67
7	Y	230	50	1300	558	2.45	63	72	77	3795	320	2235	1.28
8	Y	230	50	1300	513	2.25	65	73	78	2485	397	1465	1.59
9	Y	230	50	1100	213	0.94	63	72	78	4895	0	2880	0.00
10	Y	230	50	1100	296	1.29	61	71	77	4235	120	2495	0.48
11	Y	230	50	1100	338	1.48	59	68	73	3210	229	1890	0.92
12	Y	230	50	1100	311	1.36	60	69	74	2105	284	1240	1.14
13	Y	230	50	900	116	0.51	57	67	73	4005	0	2355	0.00
14	Y	230	50	900	162	0.71	56	66	72	3465	80	2040	0.32
15	Y	230	50	900	185	0.81	54	63	68	2625	154	1545	0.62
16	Y	230	50	900	170	0.75	55	64	69	1720	190	1015	0.76

Wired = Wiring · U = Power supply · 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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