R3G500-RL96-07

EC centrifugal fan - RadiCal

backward curved, single inlet

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Nominal data

Type	**R3G500-RL96-07**
Motor	**M3G112-IA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	1350
Power input	W	1320
Current draw	A	2.1
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

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}	%	62.8	52.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		72	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	1.32
09 Air flow q_v	m^3/h	6130
09 Pressure increase p_{fs}	Pa	453
10 Speed (rpm) n	min^{-1}	1350
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-152903

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Technical features

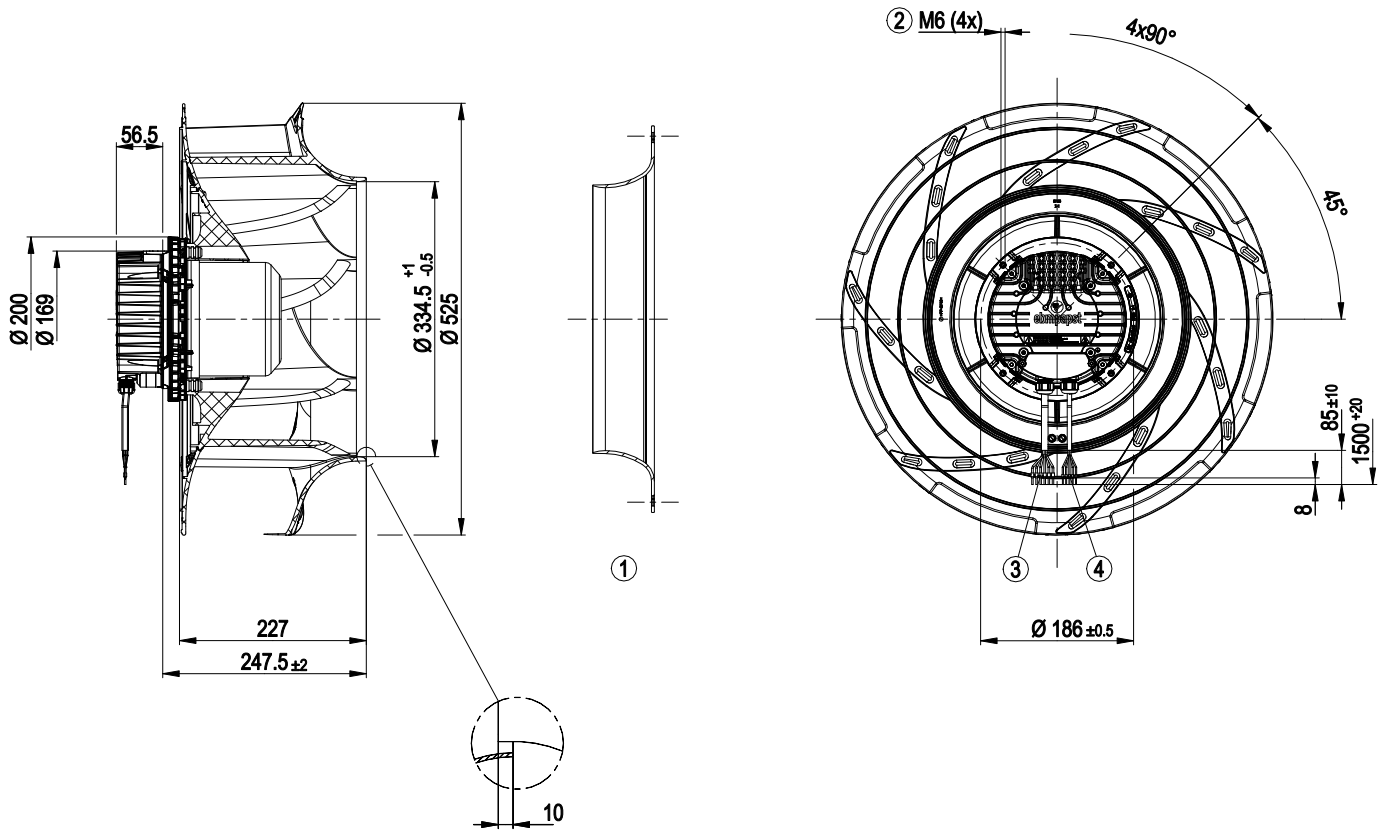
Mass	14 kg
Size	500 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PP plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	H1
Note ambient temperature	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at ambient temperatures below -25°C (e.g. refrigeration applications) we recommend our fan version with special low-temperature bearings.
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; (sealed)
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (programming) - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - Control input 0-10 VDC / PWM - 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; EN 60335-1; CE
Approval	UL 1004-7 + 60730; C22.2 Nr.77 + CAN/CSA-E60730-1; EAC

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Product drawing



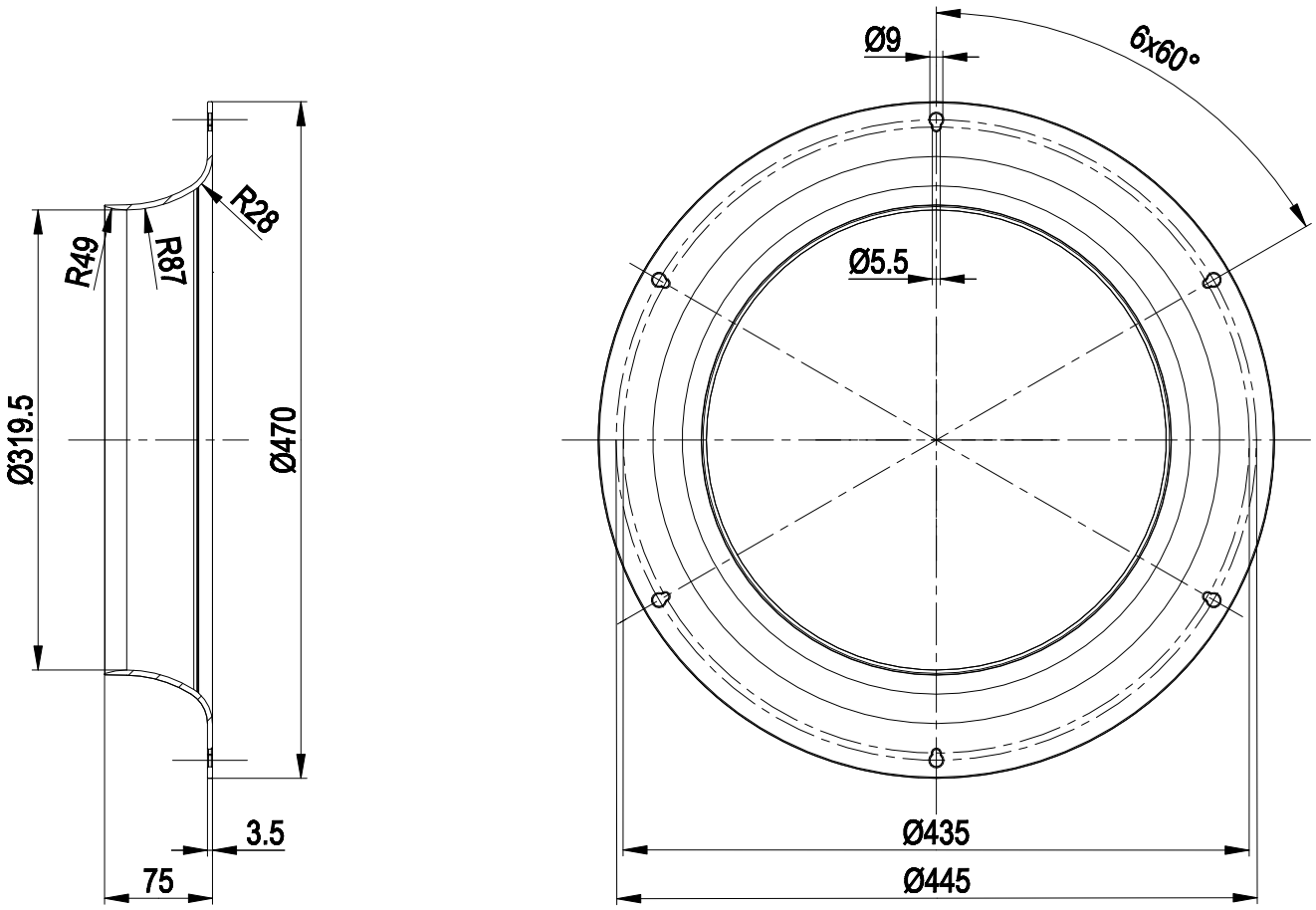
1	Accessory part: Inlet nozzle 50901-2-2943 not included in scope of delivery
2	Thread reach max. 16 mm
3	Connection line PVC AWG18, 6x crimped core-end sleeves
4	Connection line PVC AWG22, 5x crimped core-end sleeves

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Accessory part



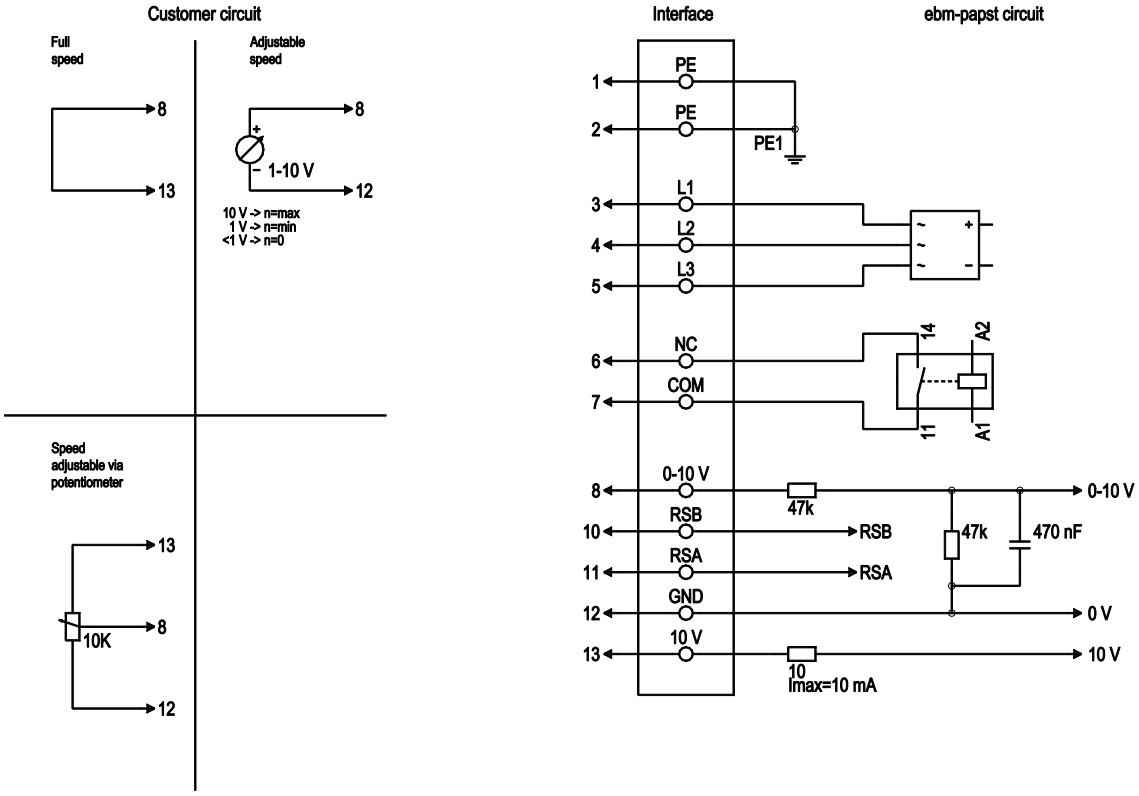
1	Accessory part: inlet nozzle 50901-2-2943

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Connection screen



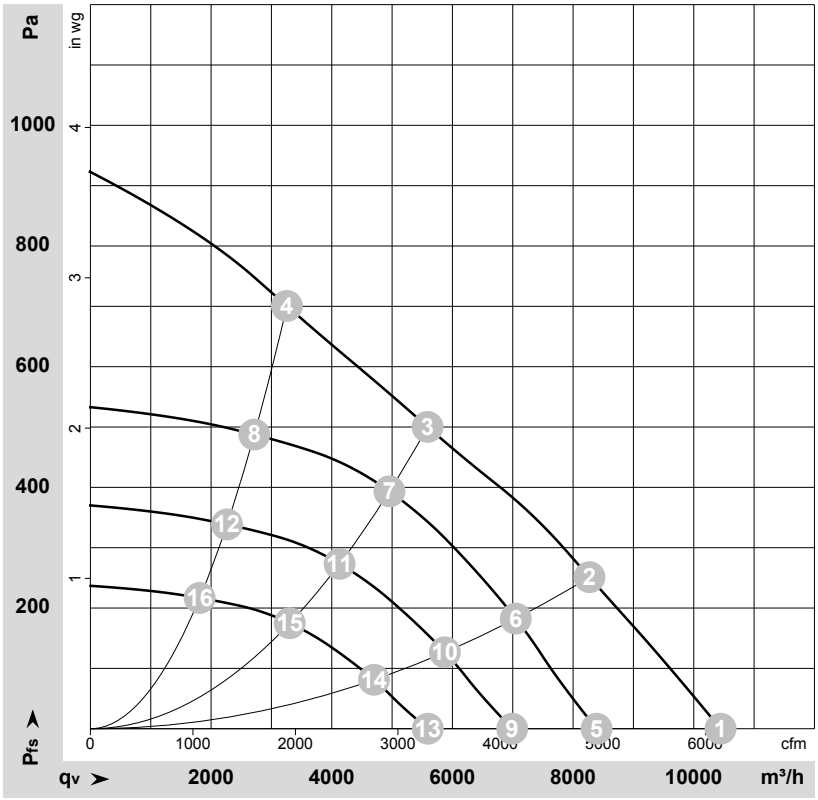
No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	L1	black	Power supply
1	4	L2	black	Power supply
1	5	L3	black	Power supply
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic insulation on control interface side
2	8	0-10V	yellow	Analogue input (set value), 0-10 V, Ri=100 kΩ; parametrisable curve, SELV
2	10	RSB	brown	RS-485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS-485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Signal ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer); SELV Fixed voltage input 24 VDC for parameter setting via MODBUS without mains power supply

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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-152903-1

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	400	50	1495	1215	1.91	74	82	88	10445	0	6145	0.00
2	400	50	1405	1320	2.10	70	77	84	8270	250	4870	1.00
3	400	50	1350	1320	2.10	64	71	78	5590	500	3290	2.01
4	400	50	1435	1300	2.05	68	77	81	3255	700	1915	2.81
5	400	50	1200	630	0.99	69	76	83	8390	0	4940	0.00
6	400	50	1200	827	1.31	66	73	80	7050	184	4150	0.74
7	400	50	1200	926	1.47	61	68	75	4955	394	2915	1.58
8	400	50	1200	761	1.20	64	72	77	2715	488	1600	1.96
9	400	50	1000	364	0.57	64	72	78	6990	0	4115	0.00
10	400	50	1000	478	0.76	61	68	75	5875	128	3460	0.51
11	400	50	1000	536	0.85	56	63	70	4130	273	2430	1.10
12	400	50	1000	441	0.69	59	68	72	2265	339	1335	1.36
13	400	50	800	187	0.29	59	66	72	5595	0	3290	0.00
14	400	50	800	245	0.39	55	63	69	4700	82	2765	0.33
15	400	50	800	274	0.44	50	58	64	3305	175	1945	0.70
16	400	50	800	226	0.36	54	62	67	1810	217	1065	0.87

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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