

KARTA KATALOGOWA

R3G500-RL96-01

Wentylator promieniowy EC RadiCal, łopatki zakrzywione do tyłu, jednostronnie ssący

Producent: ebm-papst



Zdjęcie poglądowe

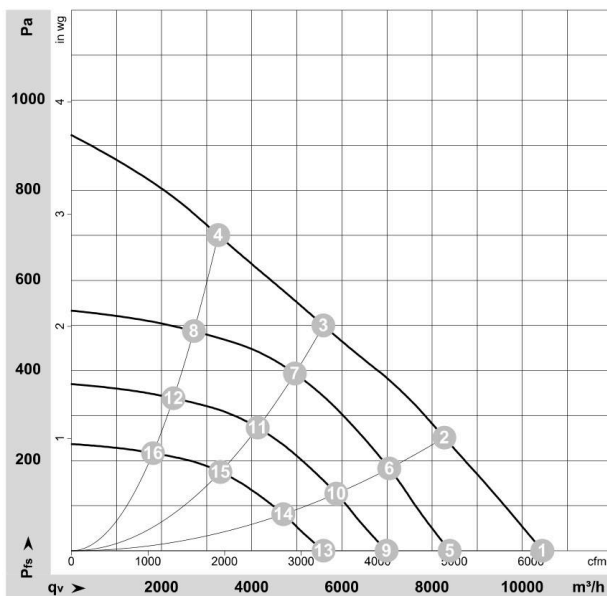
Dane znamionowe	
Napięcie znamionowe	3~ 400 V (380...480 V)
Częstotliwość	50/60 Hz
Prędkość obrotowa	1350 obr/min
Pobór mocy	1320 W
Pobór prądu	2,1 A
Maks. wydajność	10445 m³/h
Maks. ciśnienie statyczne	700 Pa
Temperatura otoczenia	-25...+50 °C

Dane ErP (UE 327/2011)	
Sprawność całkowita	62,9 %
Przepływ w pkt. optymalnym	6130 m³/h
Przyrost ciśnienia	453 Pa
Regulacja obrotów	tak (0-10 V / PWM / MODBUS)

Budowa	
Średnica wirnika	500 mm
Materiał wirnika	tworzywo PP
Liczba łopatek	7
Stopień ochrony	IP55
Klasa izolacji	F
Zabezpieczenie silnika	termik (TOP)
Masa	16,9 kg

Charakterystyka przepływowa

Curves: Air performance 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-152903-1

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.

Dane na podstawie karty producenta ebm-papst (oryginał na kolejnych stronach).

Wartości znamionowe dla punktu maksymalnego obciążenia; producent zastrzega możliwość zmian.

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R3G500-RL96-01

EC centrifugal fan - RadiCal

backward-curved, single-intake

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General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	R3G500-RL96-01	
Motor	M3G112-IA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min ⁻¹	1350
Power consumption	W	1320
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 (EN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	62.9	52.8	09 Power consumption P_{ed}	kW	1.32
02 Measurement category		A		09 Air flow q_v	m ³ /h	6130
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	453
04 Efficiency grade N		72.1	62	10 Speed (rpm) n	min ⁻¹	1350
05 Variable speed drive		Yes		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 = $1 + p_{fs} / 100\,000\text{ Pa}$

LU-152903



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Technical description

Weight	16.9 kg
Size	500 mm
Motor size	112
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Ambient temperature note	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our fan design with special low-temperature bearings.
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; (sealed)
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
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; EN 60335-1; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1

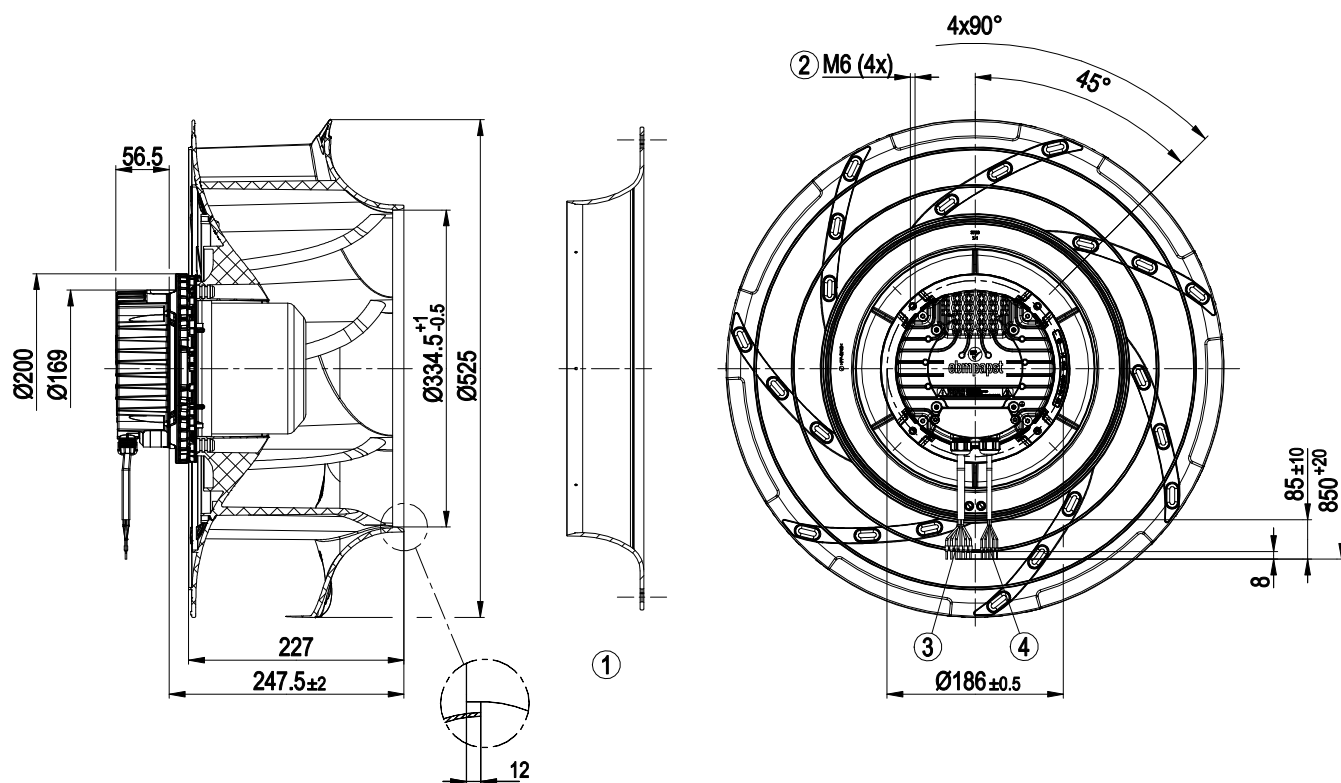


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Product drawing



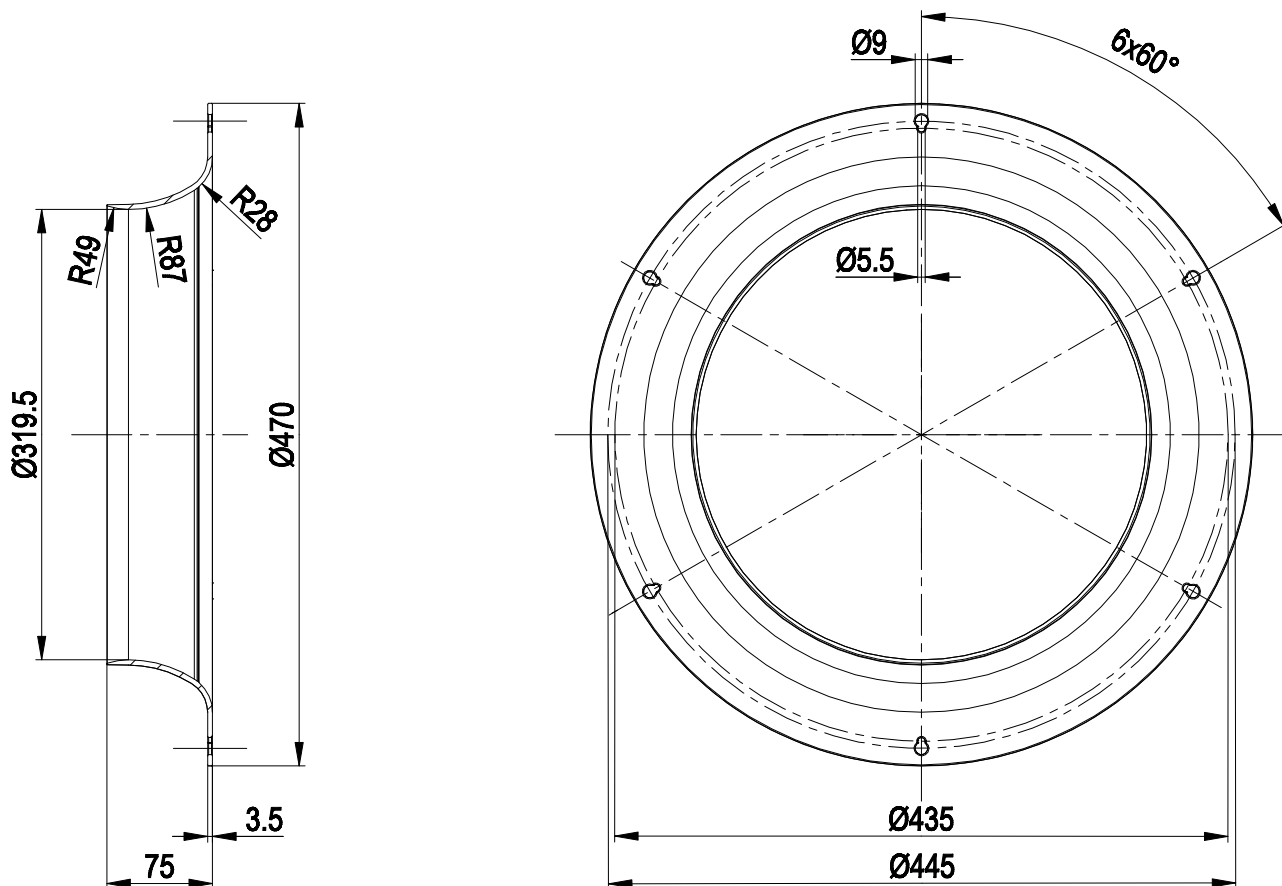
1	Accessory part: inlet ring 50901-2-2943 not included in scope of delivery
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18
	6x wire-end ferrule
4	Cable PVC AWG22
	5x wire-end ferrule

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Accessory part



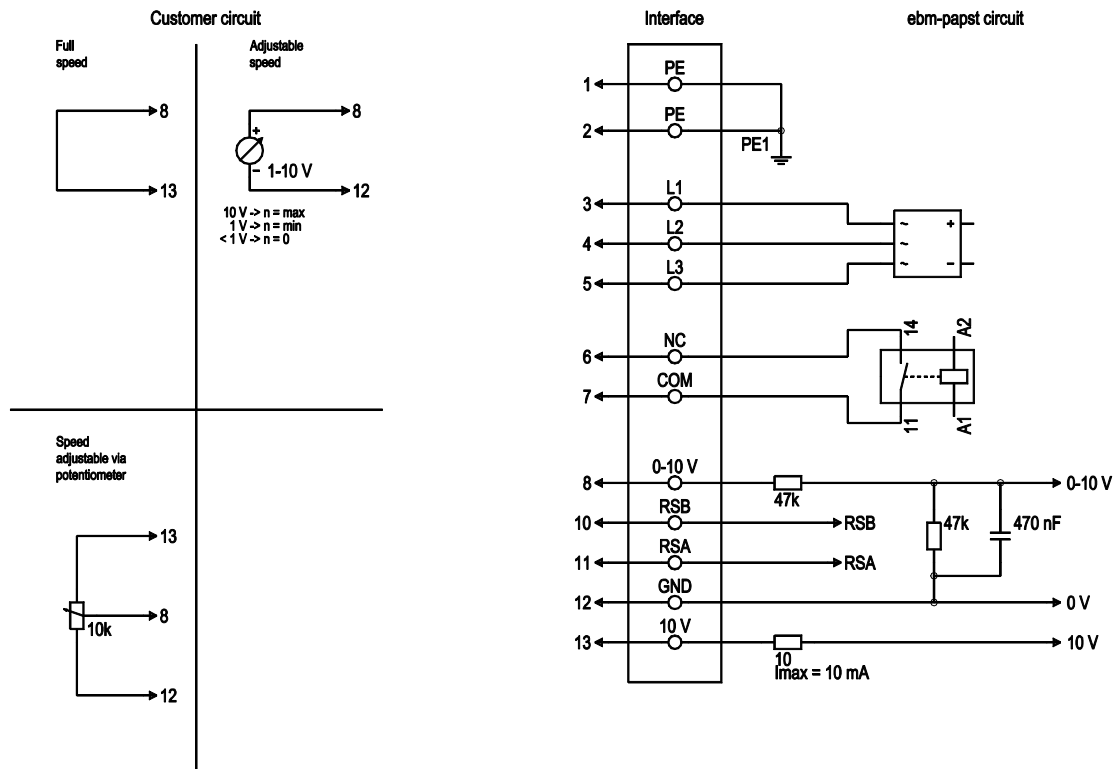
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Connection diagram



No.	Conn.	Designation	Color	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 supply 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 supply side and basic insulation on control interface side
2	8	0-10V	yellow	Analog input (set value), 0-10 V, R _i = 100 kΩ, adjustable curve, SELV
2	10	RSB	brown	RS485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Reference 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. pot), SELV fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply

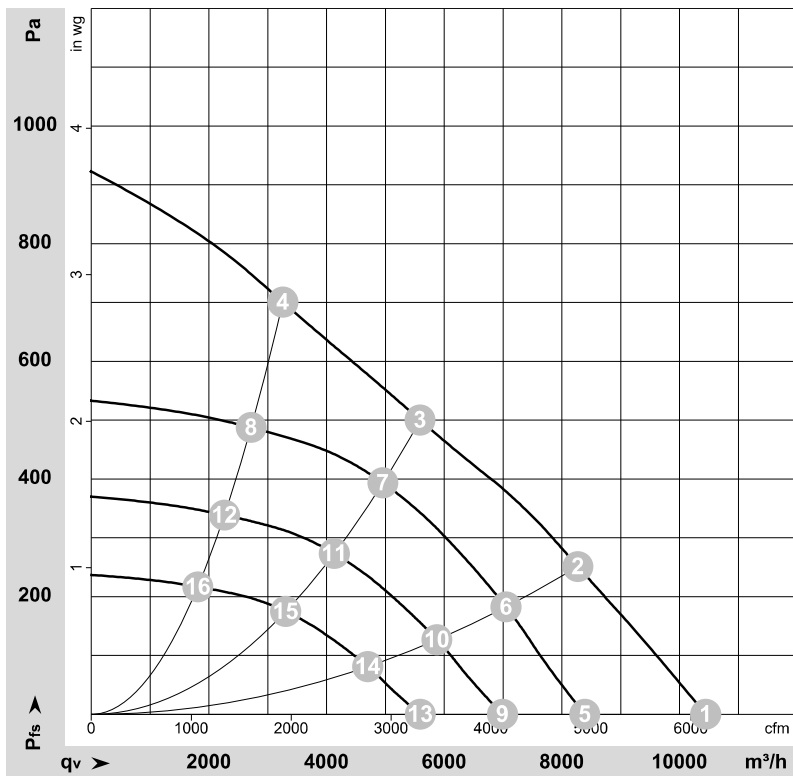


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Measured values

	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)	m³/h	Pa	cfm	in. wg
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 = 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

