R3G500-RA24-76

EC centrifugal fan - RadiCal

backward-curved, single-intake

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Nominal data

Type	**R3G500-RA24-76**
Motor	**M3G150-FF**

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}	1695
Power consumption	W	2600
Current draw	A	4.0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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}	%	62.8	55.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		69	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	2.59
09 Air flow q_v	m^3/h	6985
09 Pressure increase p_{fs}	Pa	792
10 Speed (rpm) n	min^{-1}	1695
11 Specific ratio*		1.01

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-145835

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Technical description

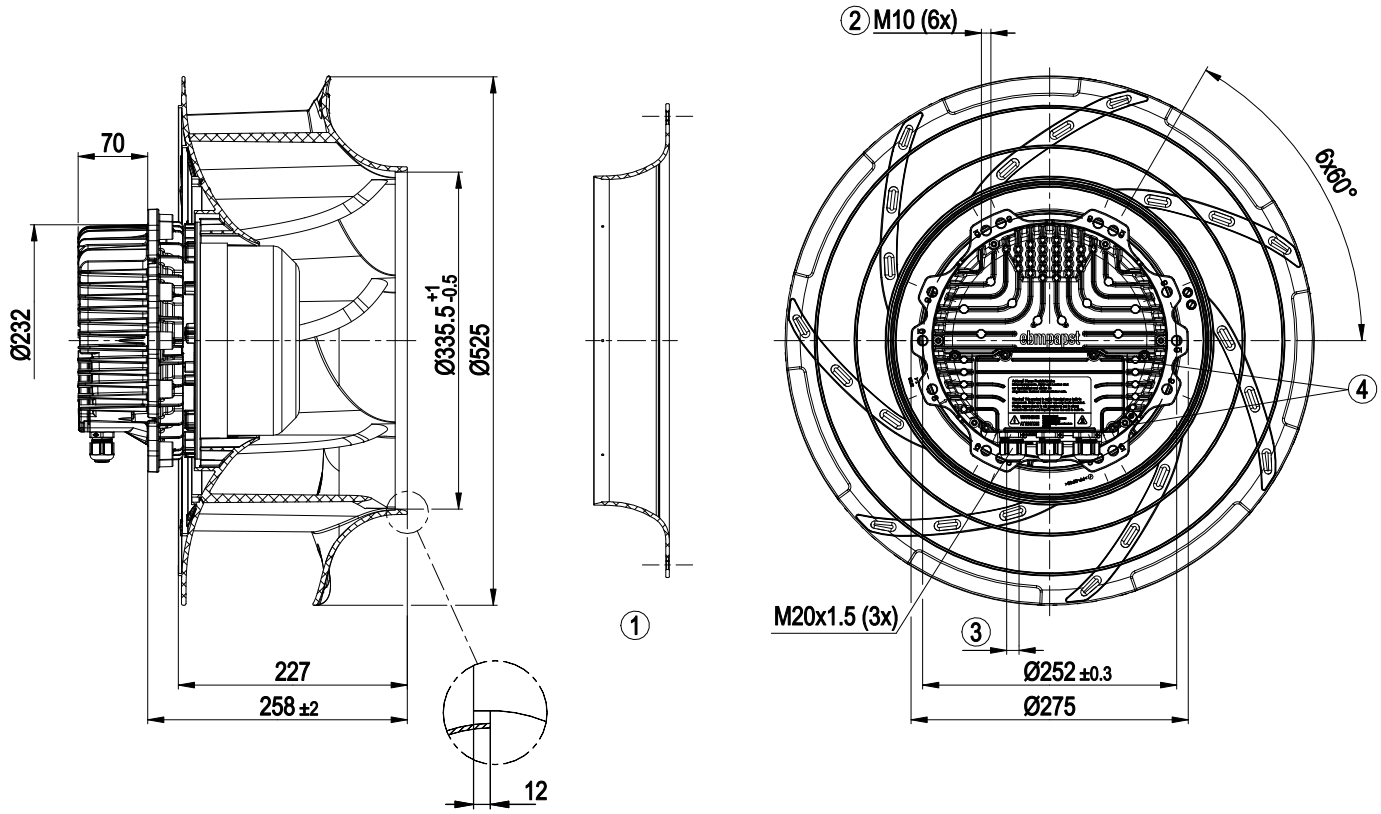
Weight	21.3 kg
Size	500 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
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 mounting	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - 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
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
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



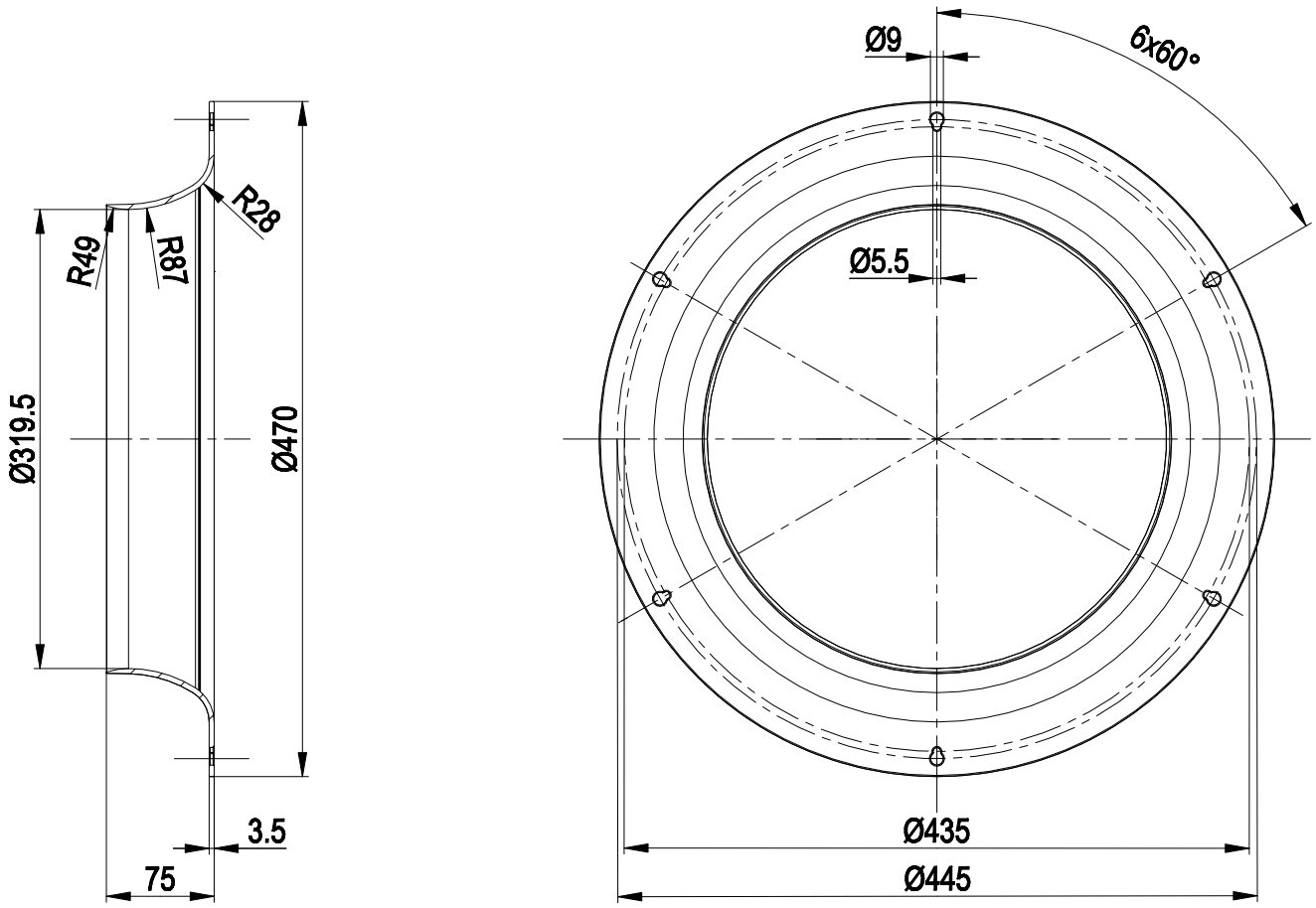
1	Accessory part: inlet ring 50901-2-2943 not included in scope of delivery
2	Max. clearance for screw 25 mm
3	Cable diameter: min. 4 mm, max. 10 mm, tightening torque 4±0.6 Nm
4	Tightening torque 3.5 ± 0.5 Nm

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Accessory part



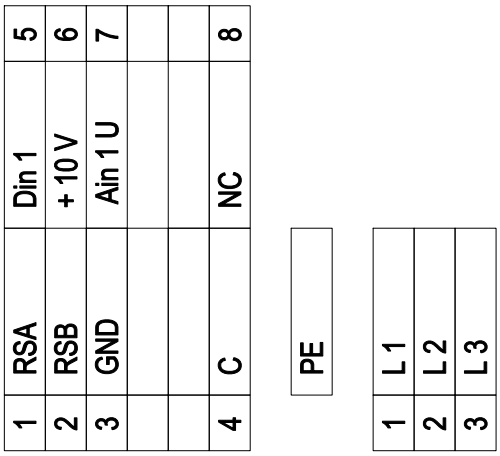
1	Accessory part: inlet ring 50901-2-2943

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Connection diagram



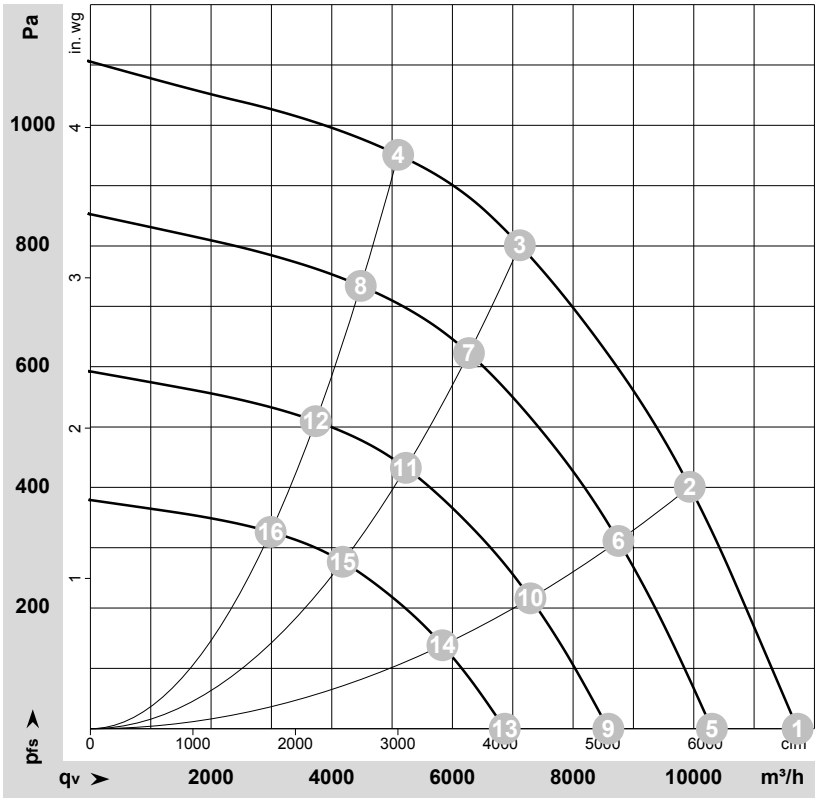
No.	Conn.	Designation	Function/assignment
KL 1	1	L1	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	2	L2	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	3	L3	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
PE		PE	Ground connection, PE connection
KL 2	1	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL 2	2	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL 2	3	GND	Reference ground for control interface; SELV
KL2	4	C	Status relay, floating status contact, break for failure; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL 2	5	Din1	Digital input 1 enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 V; SELV
KL 2	6	+ 10 V	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); SELV Or: +24 VDC input for parameter setting via MODBUS without line voltage
KL 2	7	Ain1 U	Analog input 1 (set value) 0-10 V, Ri = 100 kΩ, adjustable curve; SELV
KL2	8	NC	Status relay, floating status contact, break for failure

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-172991-1

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	3~	400	50	1695	1848	2.90	79	86	93	11720	0	6900	0.00
2	3~	400	50	1695	2407	3.72	76	83	89	9935	400	5845	1.61
3	3~	400	50	1695	2600	4.00	71	78	84	7115	800	4190	3.21
4	3~	400	50	1695	2390	3.70	73	80	85	5100	950	3000	3.81
5	3~	400	50	1500	1254	1.97	76	83	90	10300	0	6065	0.00
6	3~	400	50	1500	1646	2.55	72	80	86	8750	311	5150	1.25
7	3~	400	50	1500	1776	2.74	68	75	81	6275	625	3695	2.51
8	3~	400	50	1500	1620	2.51	69	77	82	4480	734	2635	2.95
9	3~	400	50	1250	726	1.14	71	78	85	8585	0	5050	0.00
10	3~	400	50	1250	953	1.47	68	75	82	7295	216	4290	0.87
11	3~	400	50	1250	1028	1.59	63	70	76	5230	434	3075	1.74
12	3~	400	50	1250	938	1.45	65	72	77	3735	510	2200	2.05
13	3~	400	50	1000	371	0.58	65	73	79	6865	0	4040	0.00
14	3~	400	50	1000	488	0.75	62	69	76	5835	138	3435	0.55
15	3~	400	50	1000	526	0.81	58	64	71	4180	278	2460	1.12
16	3~	400	50	1000	480	0.74	59	67	72	2985	326	1760	1.31

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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