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Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	R3G500-RA25-01	
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	1700
Power consumption	W	2650
Current draw	A	4
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}	%	63.3	56
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		69.3	62
05 Variable speed drive		Yes	

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

09 Power consumption P_{ed}	kW	2.67
09 Air flow q_v	m ³ /h	6845
09 Pressure increase p_{fs}	Pa	842
10 Speed (rpm) n	min ⁻¹	1710
11 Specific ratio*		1.01

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$

LU-122346



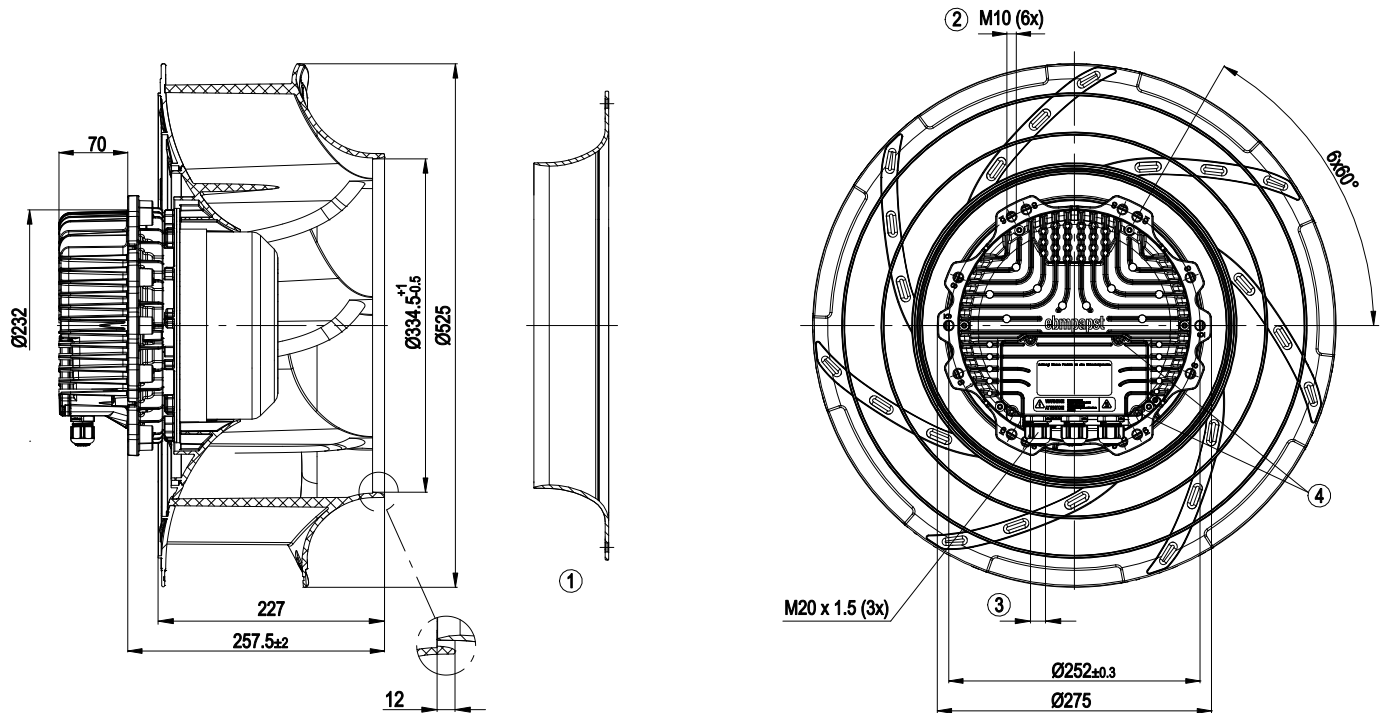
Technical description

Weight	22.3 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 bearing	Ball bearing
Technical features	<ul style="list-style-type: none"> - Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - External 24 V input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Power limiter - 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
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	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1

Comment

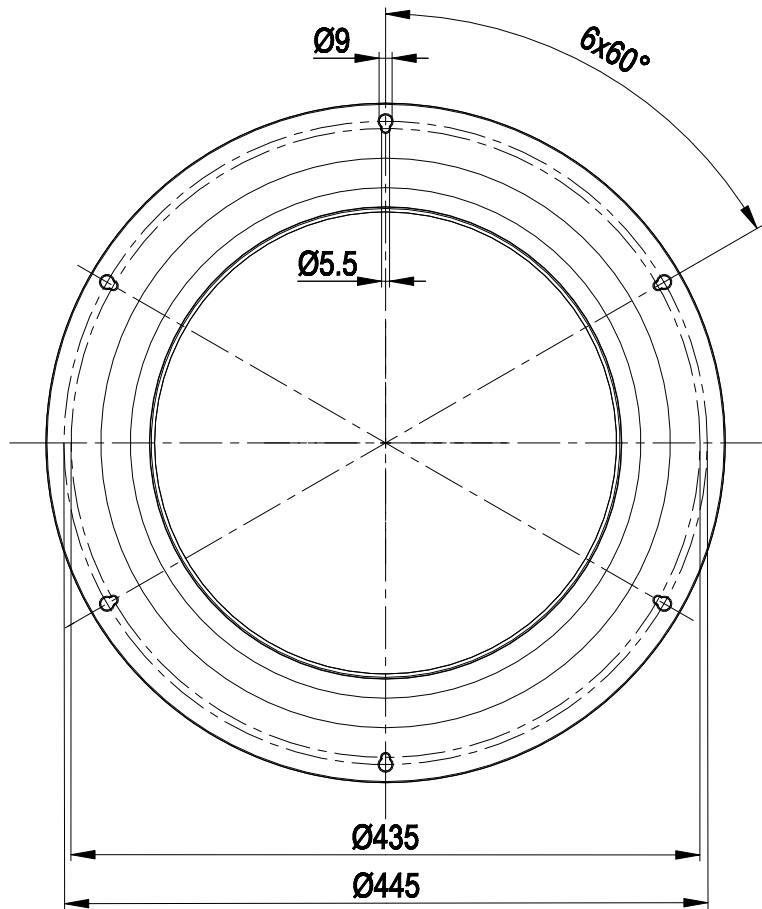
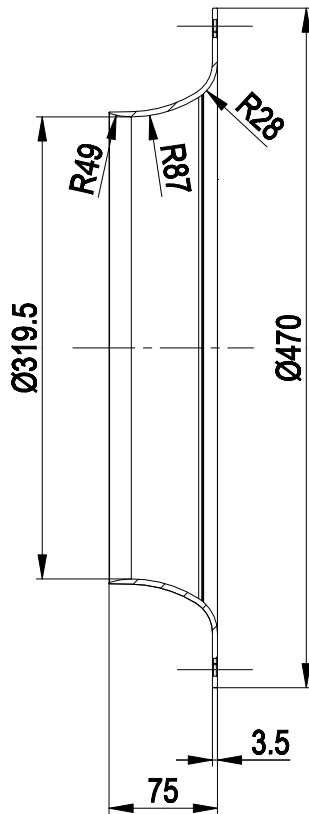
Maximum permissible operating altitude 4000 m above sea level according to DIN 61800-5-1_2008_Sec. 4.3.6.4.1 overvoltage category II.
Up to 2000 m above sea level, overvoltage category III applies.

Product drawing



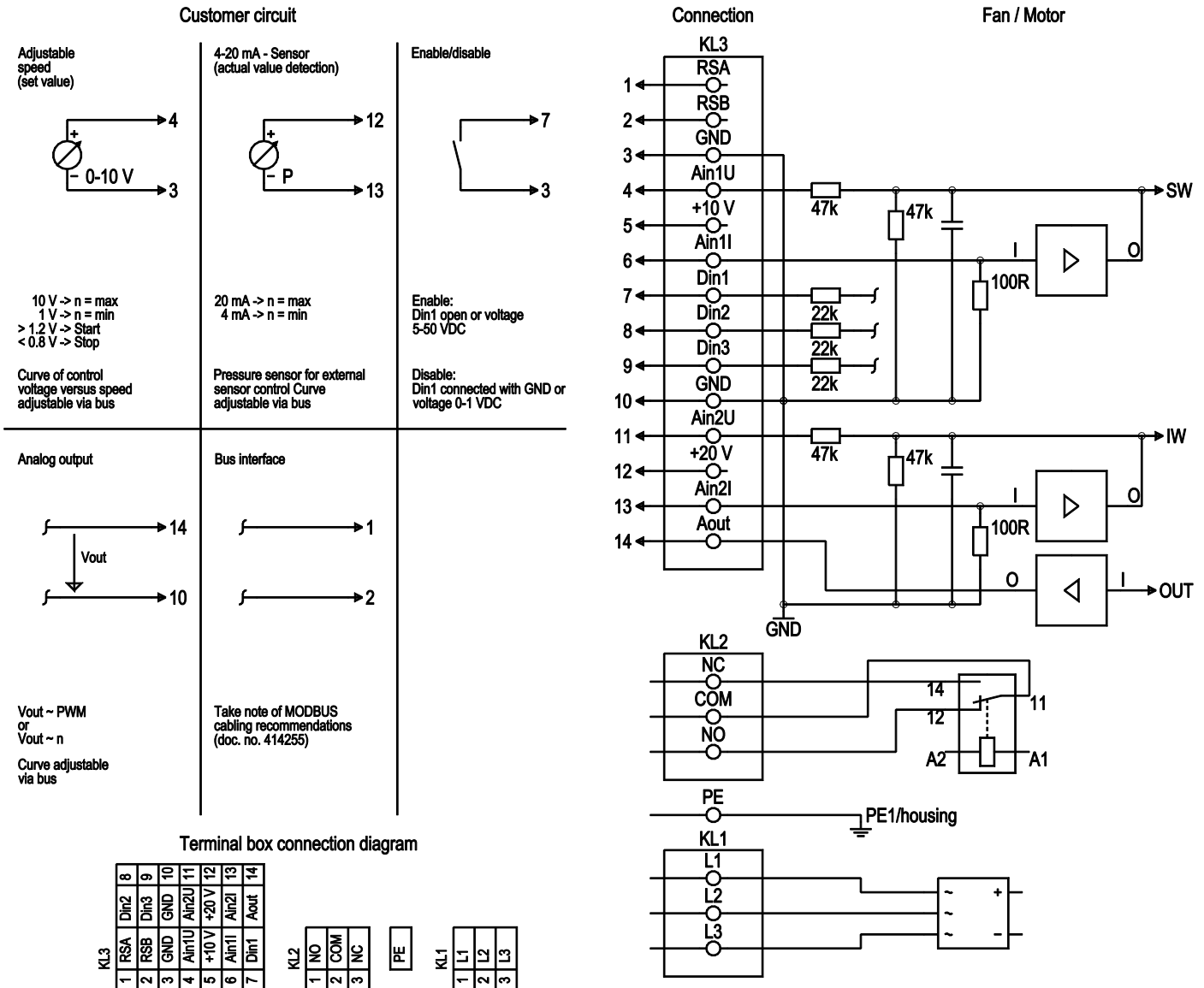
1	Accessory part: inlet ring 50901-2-2943 not included in scope of delivery
2	Max. clearance for screw 25 mm
3	Cable diameter: min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
4	Tightening torque 3.5 ± 0.5 Nm

Accessory part



1 Accessory part: inlet ring 50901-2-2943

Connection diagram



No.	Conn.	Designation	Function/assignment
KL 1	1	L1	Supply connection, power supply; for nominal voltage range see technical data
KL 1	2	L2	Supply connection, power supply; for nominal voltage range see technical data
KL 1	3	L3	Supply connection, power supply; for nominal voltage range see technical data
PE		PE	Ground connection, PE connection
KL 2	1	NO	Status relay, floating status contact, make for failure
KL2	2	COM	Status relay, floating status contact, changeover contact, common connection, contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL2	3	NC	Status relay, floating status contact, break for failure
KL 3	1	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL 3	2	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL 3	3 / 10	GND	Reference ground for control interface; SELV
KL 3	4	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1I; SELV

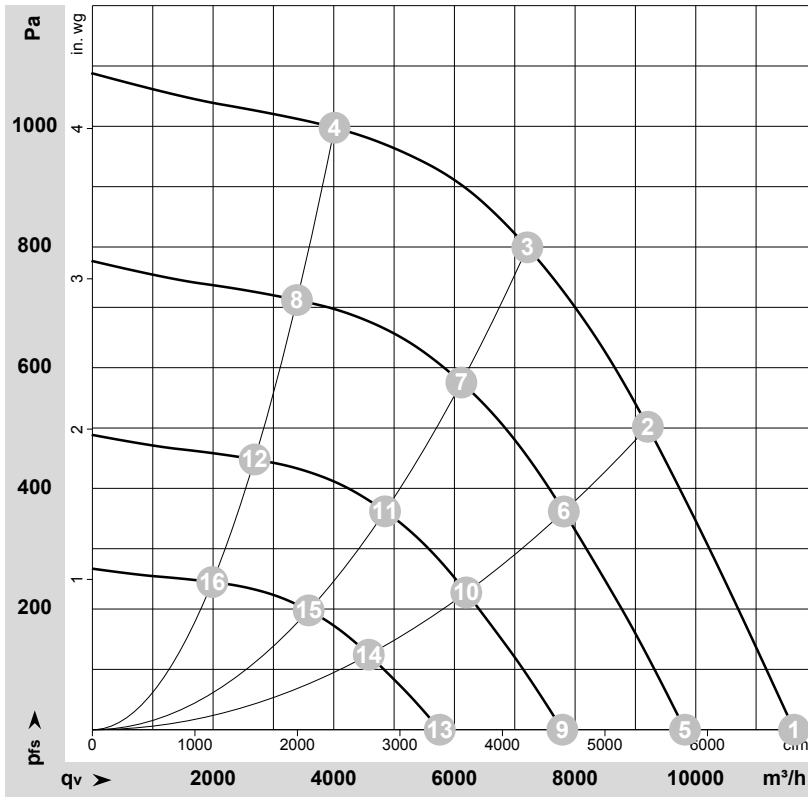
EC centrifugal fan - RadiCal

backward-curved, single-intake

No.	Conn.	Designation	Function/assignment
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V $\pm 3\%$, max. 10 mA, short-circuit-proof power supply for external devices (e.g. pot); SELV
KL 3	6	Ain1 I	Analog input 1, set value: 4-20 mA, $R_i = 100 \Omega$, adjustable curve, only usable as alternative to input Ain1U; SELV
KL 3	7	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 VDC; SELV
KL 3	8	Din2	Digital input 2: Switching parameter sets 1/2, according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: pin open or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage < 1 VDC; SELV
KL 3	9	Din3	Digital input 3: according to EEPROM setting, the integrated controller's direction of action can be selected via bus or digital input Din3; normal: pin open or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage < 1 VDC; SELV
KL 3	11	Ain2 U	Analog input 2, measured value: 0-10 V, $R_i = 100 \text{ k}\Omega$, adjustable curve, only usable as alternative to input Ain2I; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V $\pm 25/-10\%$, max. 50 mA, short-circuit-proof power supply for external devices (e.g. sensors); SELV or: +24 VDC input for parameter setting without line voltage
KL 3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, $R_i = 100 \Omega$, adjustable curve, only usable as alternative to input Ain2U; SELV
KL 3	14	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV



Curves: Air performance 50 Hz



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

Measurement: LU-122346-1

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	1700	1809	2.76	79	85	92	11630	0	6845	0.00
2	3~	400	50	1700	2477	3.76	74	81	87	9205	500	5420	2.01
3	3~	400	50	1700	2650	4.00	70	77	84	7210	800	4240	3.21
4	3~	400	50	1700	2232	3.41	75	82	88	4010	1000	2360	4.01
5	3~	400	50	1450	1089	1.66	74	81	88	9820	0	5780	0.00
6	3~	400	50	1450	1514	2.30	70	76	83	7815	362	4600	1.45
7	3~	400	50	1450	1632	2.48	66	73	80	6115	575	3600	2.31
8	3~	400	50	1450	1345	2.06	71	78	84	3390	713	1995	2.86
9	3~	400	50	1150	543	0.83	69	75	82	7790	0	4585	0.00
10	3~	400	50	1150	755	1.15	64	71	77	6195	228	3645	0.92
11	3~	400	50	1150	814	1.24	60	67	74	4850	362	2855	1.45
12	3~	400	50	1150	671	1.03	65	72	78	2690	448	1580	1.80
13	3~	400	50	850	219	0.34	61	68	75	5755	0	3390	0.00
14	3~	400	50	850	305	0.46	56	63	70	4580	124	2695	0.50
15	3~	400	50	850	329	0.50	53	60	66	3585	198	2110	0.79
16	3~	400	50	850	271	0.41	57	65	70	1985	245	1170	0.98

Wired = Wiring · 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

