R3G500-RA24-75

Stulz GmbH

EC centrifugal fan - RadiCal

backward-curved, single-intake



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Nominal data

Type	**R3G500-RA24-75**
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	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

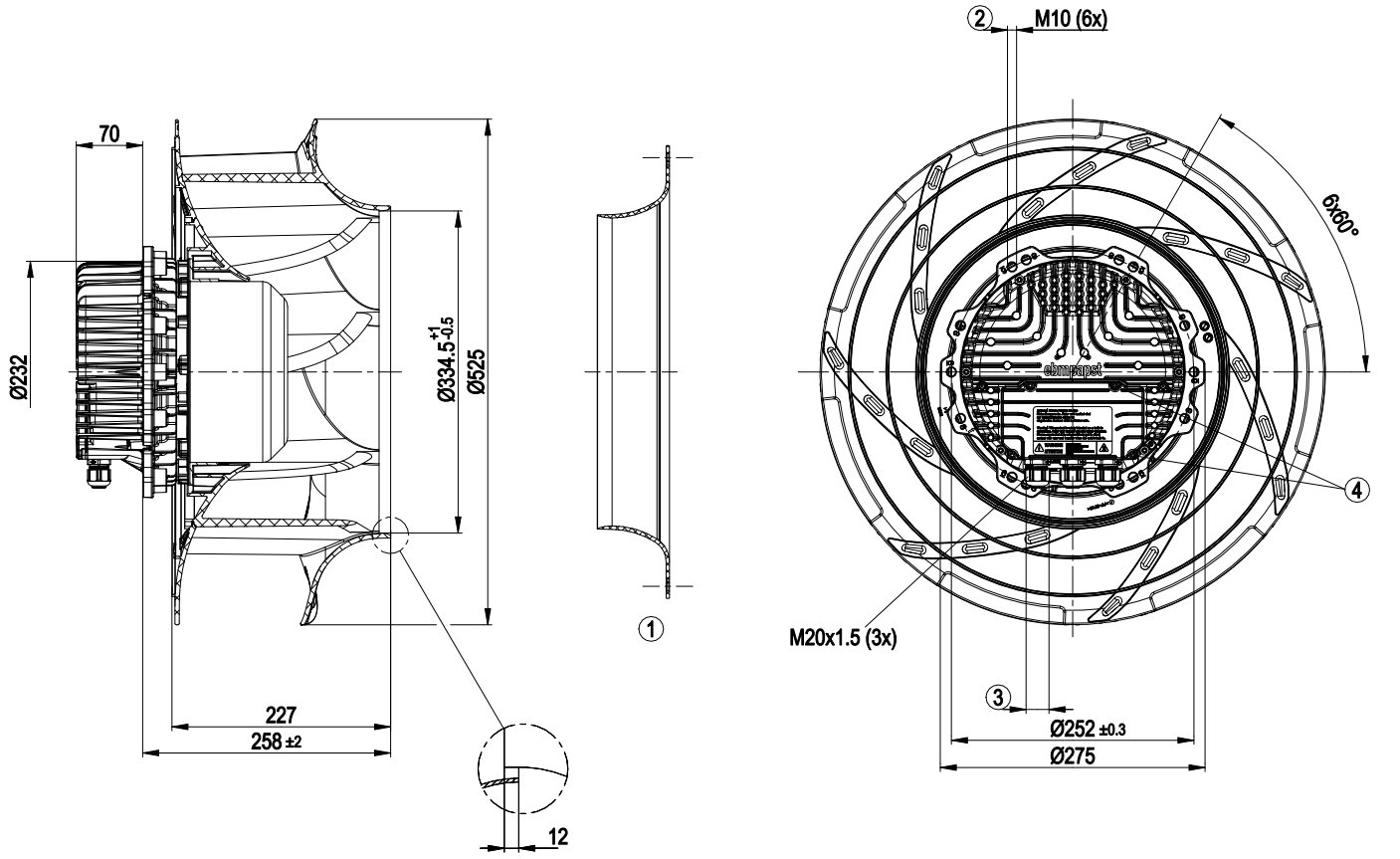
Weight	21.3 kg
Size	500 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection 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 - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Line undervoltage detection
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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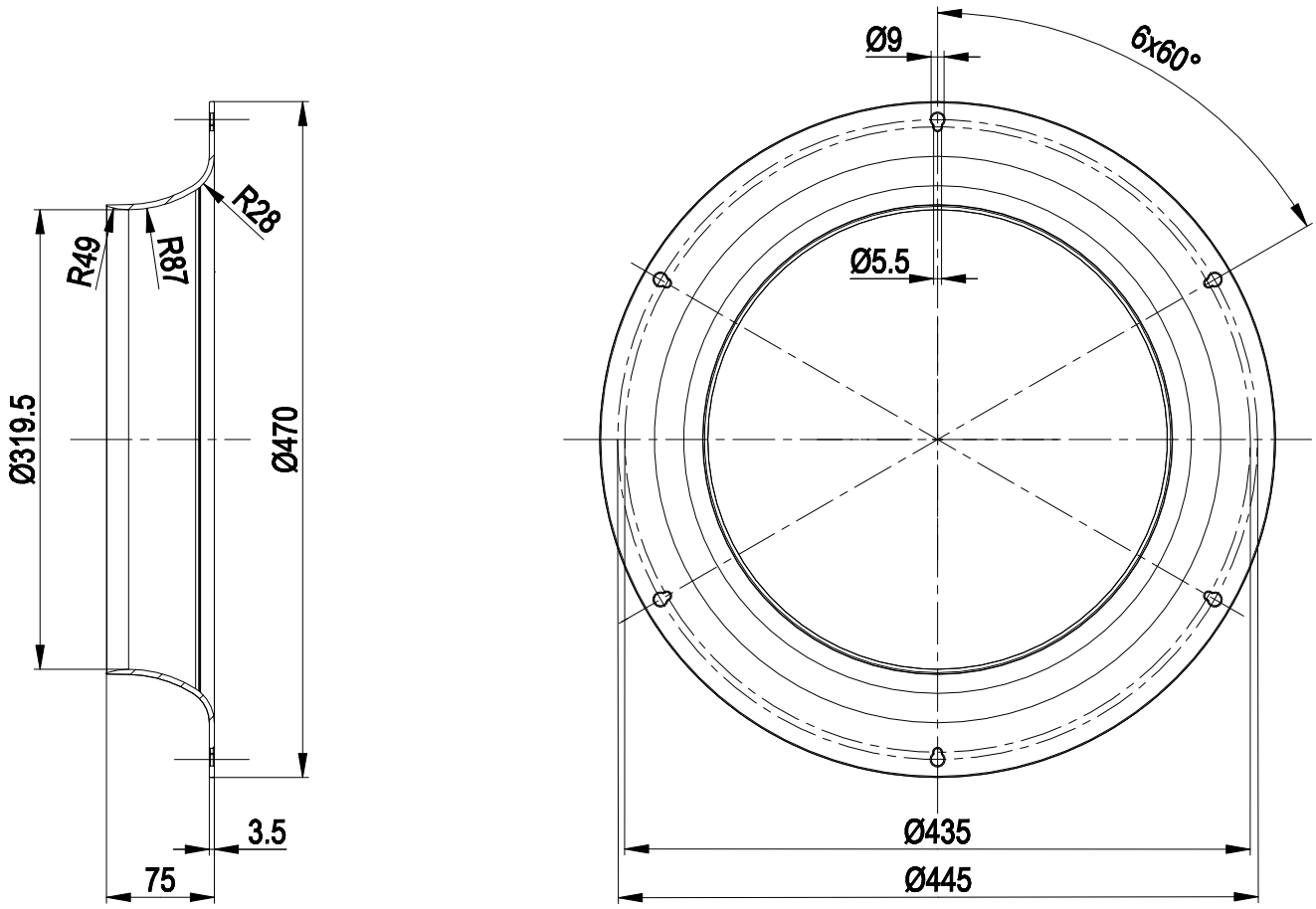
Product drawing



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



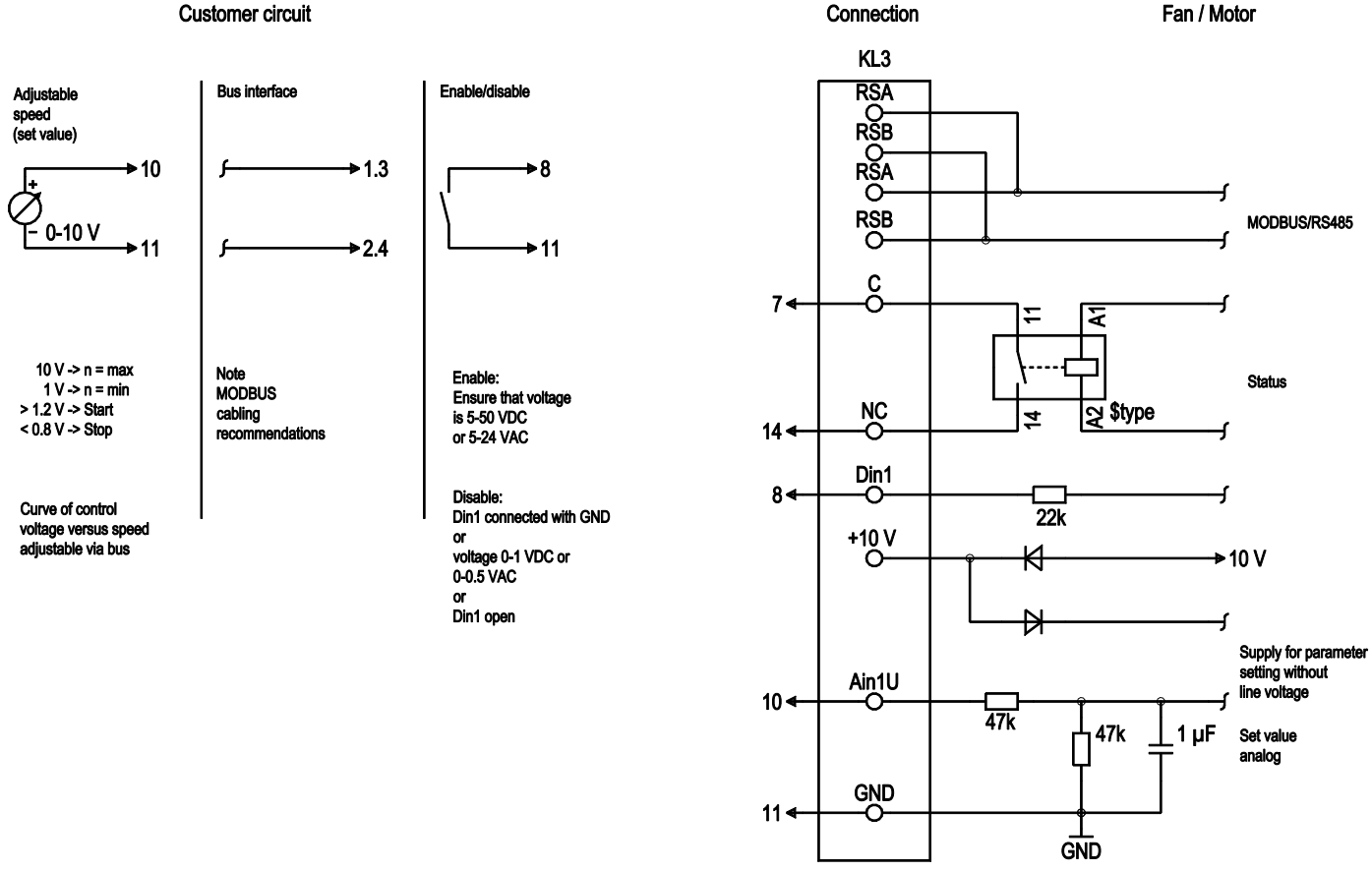
1	Accessory part: inlet ring 50901-2-2943

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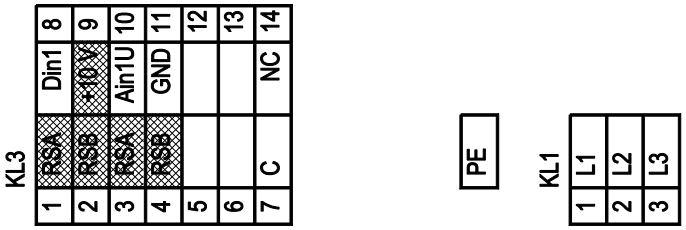
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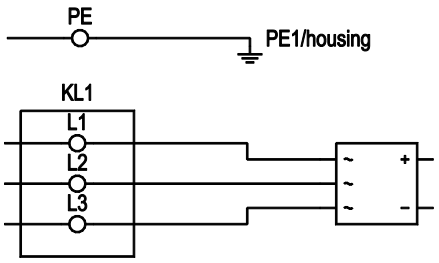
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Connection diagram



Terminal box connection diagram





shaded gray => not brought out via leads

No.	Conn.	Designation	Function/assignment
KL1	1, 2, 3	L1, L2, L3	Supply connection, power supply; for nominal voltage range see technical data
PE	PE	PE	Ground connection, PE connection
KL3	7	C	Status relay, floating status contact, break for failure; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL3	14	NC	Status relay, floating status contact, break for failure; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL3	1.3	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL3	2, 4	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL3	11	GND	Reference ground for control interface; SELV
KL3	10	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1 I; SELV
KL3	9	+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 without line voltage

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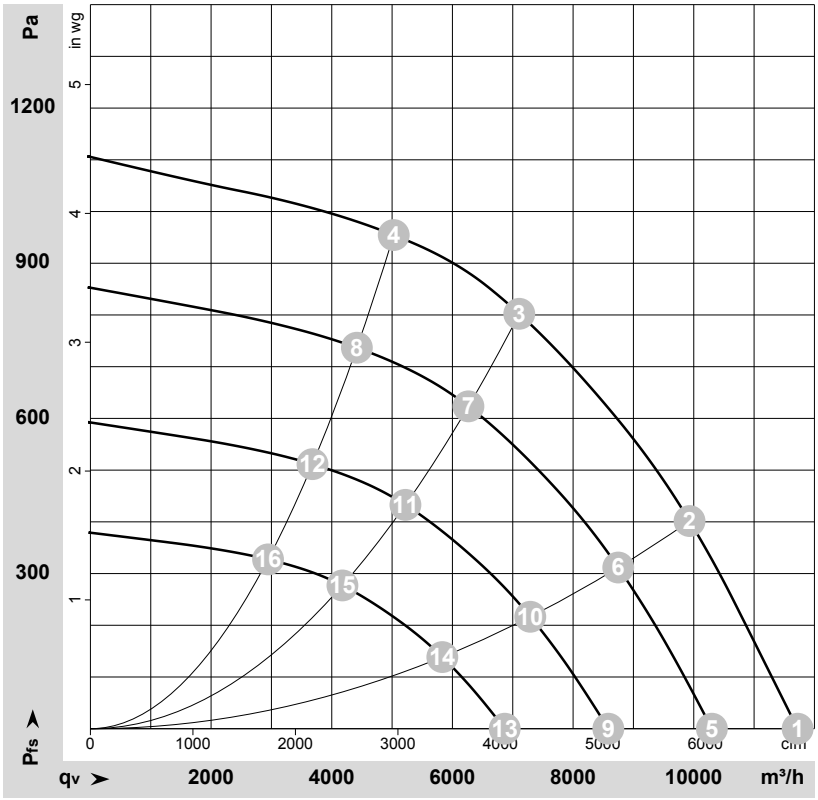
No.	Conn.	Designation	Function/assignment
KL3	8	Din1	Digital input 1: enable electronics; SELV Enable -> 5-50 VDC / 5-24 VAC Disable -> 0-1 VDC / 0-0.5 VAC or bridge to GND or open

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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

	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	400	50	1700	1848	2.90	79	86	93	11720	0	6900	0.00
2	400	50	1700	2408	3.72	76	83	89	9930	400	5845	1.61
3	400	50	1700	2600	4.00	71	78	84	7110	800	4185	3.21
4	400	50	1700	2378	3.68	73	80	85	5025	950	2960	3.81
5	400	50	1500	1254	1.97	76	83	90	10300	0	6065	0.00
6	400	50	1500	1646	2.55	72	80	86	8750	312	5150	1.25
7	400	50	1500	1776	2.74	68	75	81	6265	626	3685	2.51
8	400	50	1500	1612	2.50	70	77	82	4415	737	2600	2.96
9	400	50	1250	726	1.14	71	78	85	8585	0	5050	0.00
10	400	50	1250	953	1.47	68	75	82	7290	217	4290	0.87
11	400	50	1250	1028	1.59	63	70	76	5220	435	3075	1.75
12	400	50	1250	933	1.44	65	73	78	3680	512	2165	2.06
13	400	50	1000	371	0.58	65	73	79	6865	0	4040	0.00
14	400	50	1000	488	0.75	62	69	76	5830	139	3435	0.56
15	400	50	1000	526	0.81	58	64	71	4175	278	2460	1.12
16	400	50	1000	478	0.74	59	67	72	2945	328	1735	1.32

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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