R3G500-AU10-06

EC centrifugal fan

backward-curved, single-intake



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Nominal data

Type	**R3G500-AU10-06**
Motor	**M3G150-FF**

Phase		3~
Nominal voltage	VAC	200
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1900
Power consumption	W	2800
Current draw	A	8.5
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

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Technical description

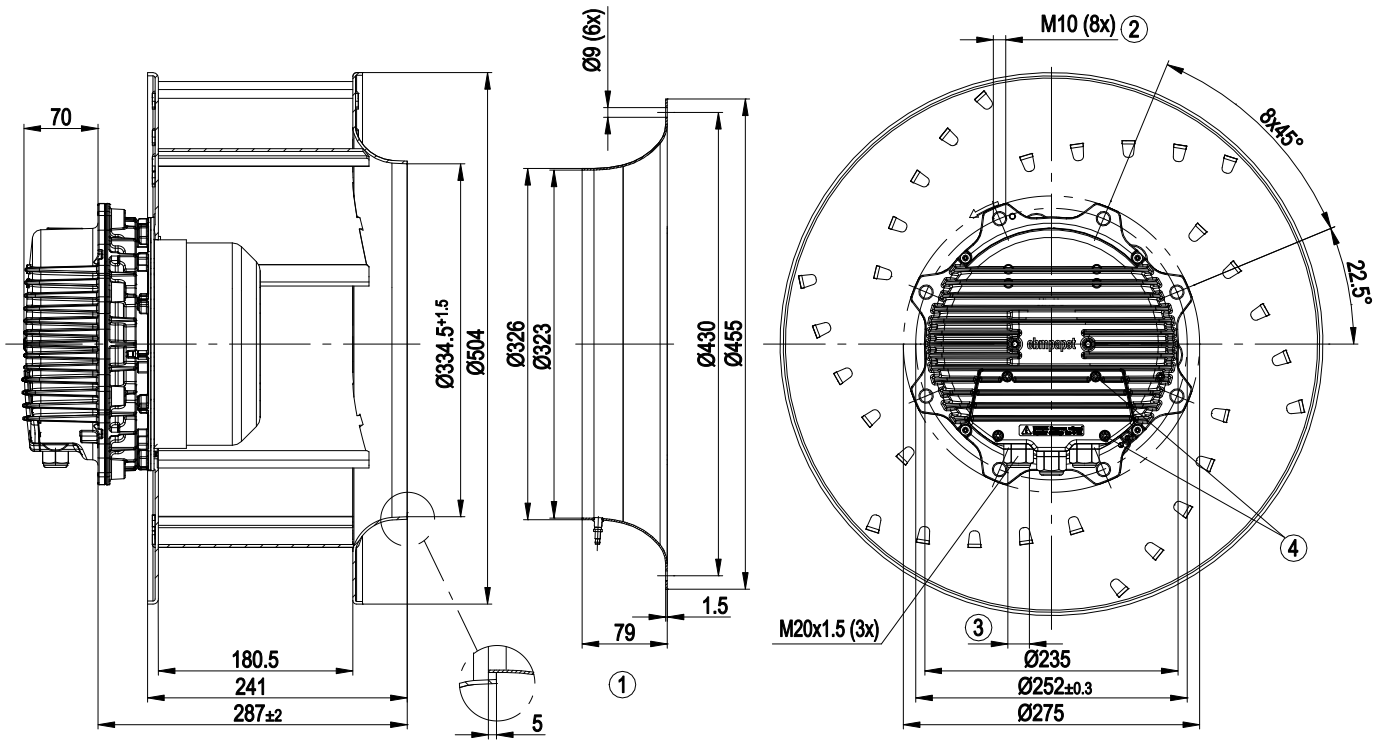
Weight	22 kg
Fan size	500 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F4-1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any (no moisture, no condensation)
Condensation drainage holes	On rotor and stator sides
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC - Output 20 VDC - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 ebmBUS - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2
EMC interference emission	According to EN 61000-6-3
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Via terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	CE
Approval	EAC; UL 2111; CSA C22.2 No. 77

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Product drawing



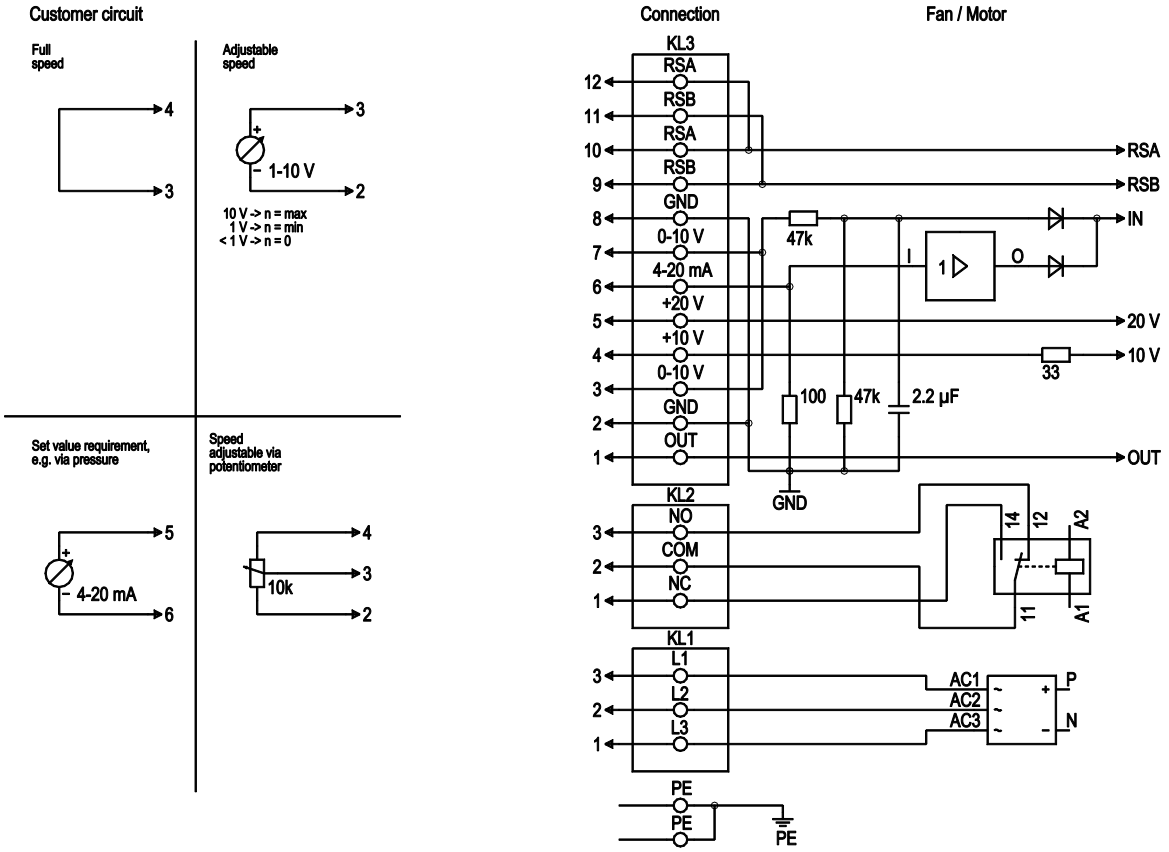
1	Accessory part: Inlet ring 54518-2-4013 with pressure tap (k-factor: 273) not included in scope of delivery
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
3	Max. clearance for screw 25 mm
4	Tightening torque 3.5 ± 0.5 Nm

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Connection diagram



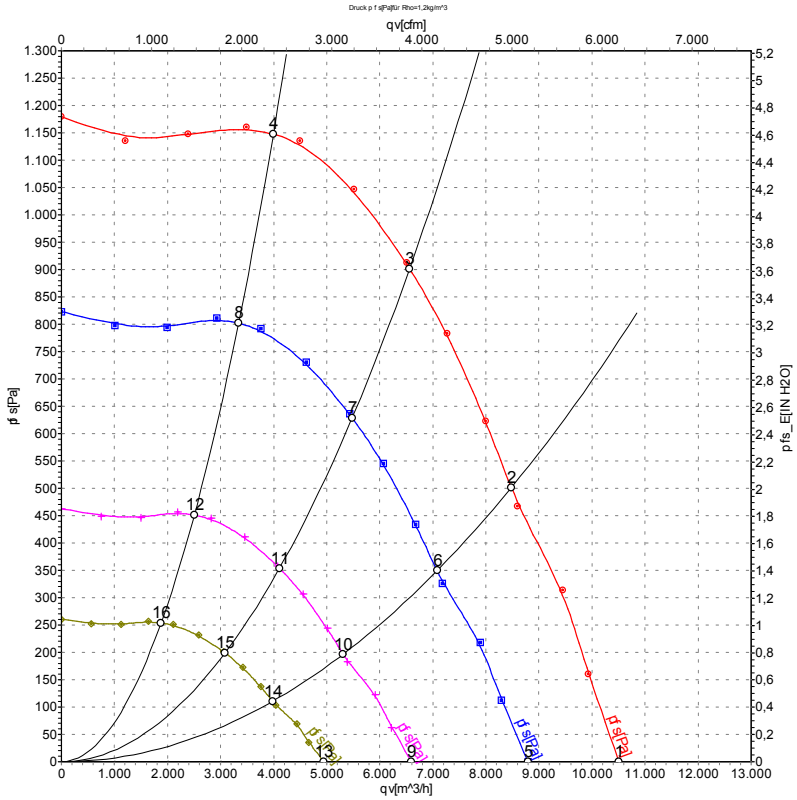
No.	Conn.	Designation	Function/assignment
PE		PE	Protective earth terminal
KL1	1, 2, 3	L1, L2, L3	Power supply 50/60 Hz
KL2	1	NC	Floating status contact, break for failure
KL2	2	COM	floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status contact, make for failure
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of current motor modulation level: 1 V corresponds to 10 % modulation level. 10 V corresponds to 100 % modulation level.
KL3	2, 8	GND	Reference ground for control interface, SELV
KL3	3, 7	0-10 V	Use control / current sensor value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV
KL3	4	+10 V	Voltage output 10 VDC (±3 %), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25% / -10%), max. 50 mA, power supply for external devices (e.g. sensors); SELV
KL3	6	4-20 mA	Use control / current sensor value input 4-20 mA, impedance 100 Ω only as alternative to 0-10 V input, SELV
KL3	9, 11	RSB	RS485 interface for ebmBUS, RSB, SELV
KL3	10, 12	RSA	RS485 interface for ebmBUS, RSA, SELV

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Curves: Air performance 50 Hz



Measurement: LU-113901-1

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}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	200	50	1900	1674	5.13	86	95	103	10510	0	6185	0.00
2	200	50	1900	2439	7.49	81	90	99	8480	500	4990	2.01
3	200	50	1900	2800	8.50	77	84	90	6560	900	3860	3.61
4	200	50	1900	2632	8.12	79	87	91	3995	1150	2350	4.62
5	200	50	1600	980	3.00	82	91	99	8790	0	5175	0.00
6	200	50	1600	1420	4.36	77	86	95	7080	348	4170	1.40
7	200	50	1600	1663	5.15	73	81	86	5480	630	3225	2.53
8	200	50	1600	1537	4.74	75	83	87	3340	802	1965	3.22
9	200	50	1200	413	1.27	76	85	93	6595	0	3880	0.00
10	200	50	1200	599	1.84	71	80	88	5310	196	3125	0.79
11	200	50	1200	702	2.17	67	74	80	4110	355	2420	1.43
12	200	50	1200	649	2.00	69	77	81	2505	451	1475	1.81
13	200	50	900	174	0.53	70	78	87	4945	0	2910	0.00
14	200	50	900	253	0.78	64	74	82	3985	110	2345	0.44
15	200	50	900	296	0.92	60	68	73	3080	200	1815	0.80
16	200	50	900	274	0.84	63	70	75	1880	254	1105	1.02

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 · qv = Air flow · p_{fs} = Pressure increase

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