R3G500-AU06-05

EC centrifugal fan

backward-curved, single-intake

R3G500-AU06-05 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G500-AU06-05**
Motor	**M3G150-FF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	1900
Power consumption	W	2700
Current draw	A	4.5
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 ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	60	56
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		66	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	2.7
09 Air flow q_v	m^3/h	6005
09 Pressure increase p_{fs}	Pa	921
10 Speed (rpm) n	min^{-1}	1910
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-70455

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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
Condensation drainage holes	On rotor and stator sides
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC (+20%) max. 10 mA - Output 20 VDC (±20%) max. 50 mA - Output for slave 0-10 V max. 3 mA - 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 - 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; VDE; UL 2111; CSA C22.2 No. 77

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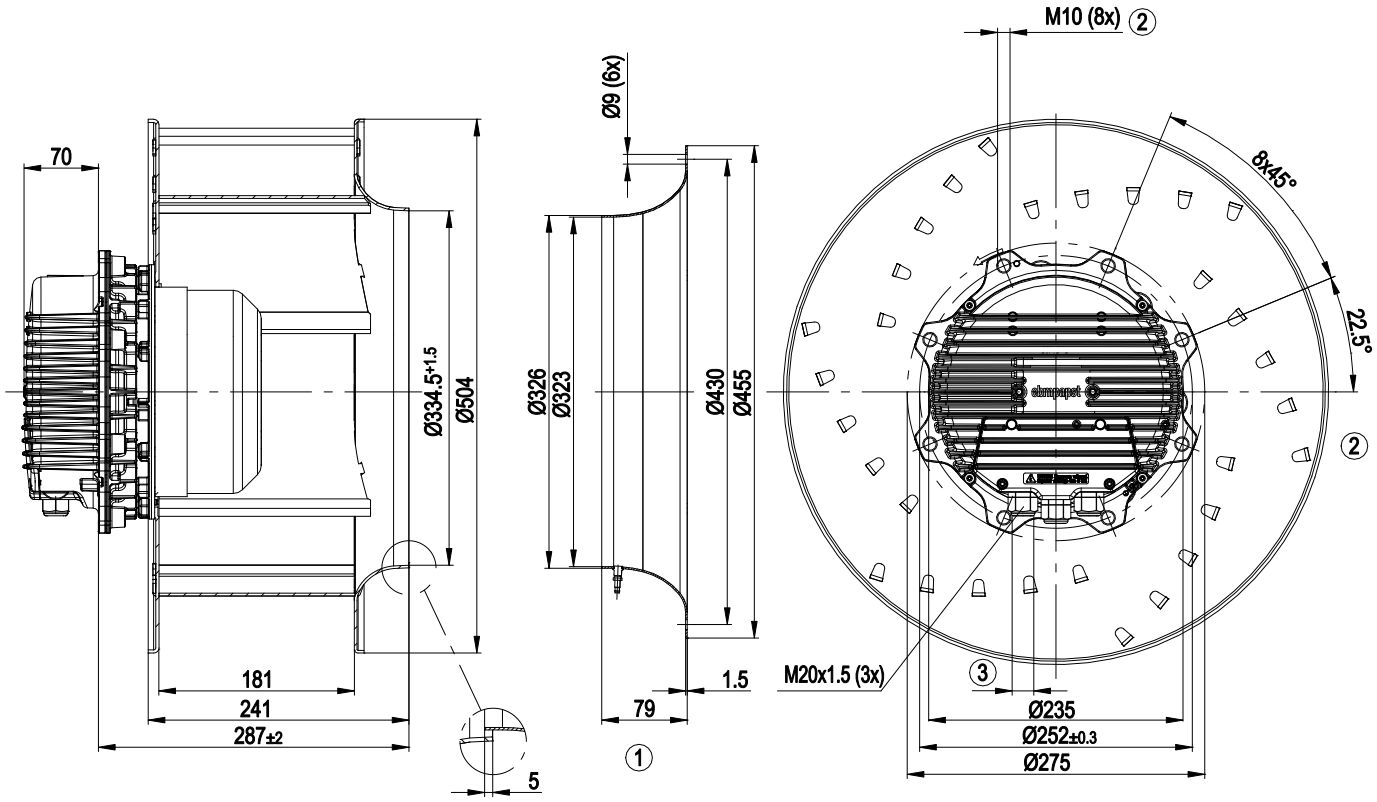
Product drawing



1	Accessory part: Inlet ring 54518-2-4013 with pressure tap (k-factor: 273) not included in scope of delivery
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 ± 0.5 Nm

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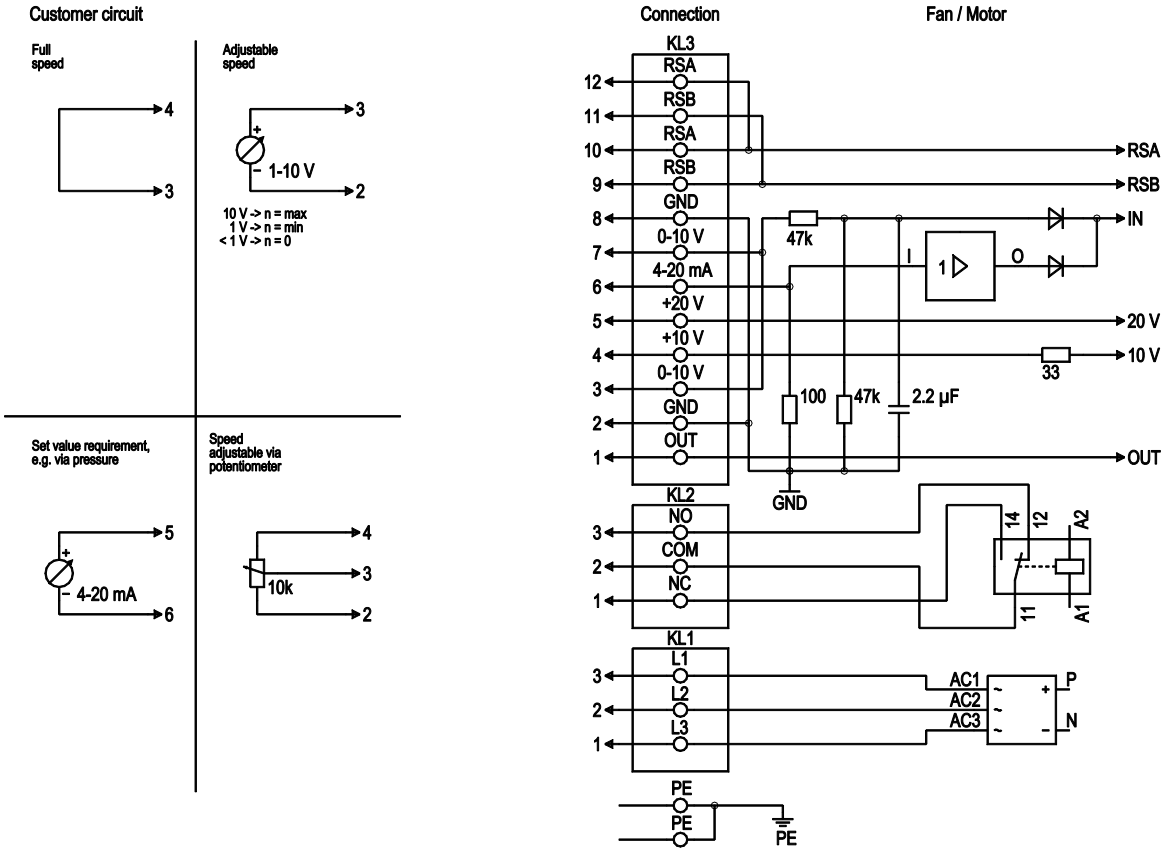
Connection diagram



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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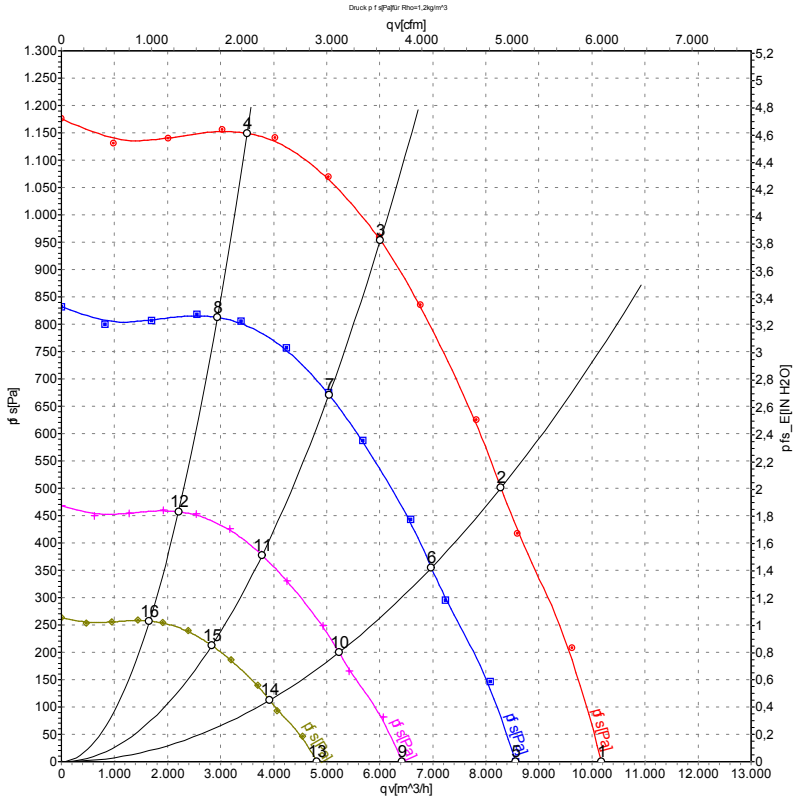
Curves: Air performance 50 Hz



Measurement: LU-70455-1

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	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	400	50	1900	1718	3.07	10180	0	5990	0.00
2	400	50	1900	2349	4.09	8285	500	4875	2.01
3	400	50	1900	2700	5.25	6010	958	3540	3.85
4	400	50	1900	2394	4.60	3500	1149	2060	4.61
5	400	50	1600	1023	1.83	8565	0	5040	0.00
6	400	50	1600	1400	2.44	6975	354	4105	1.42
7	400	50	1600	1597	3.10	5045	673	2970	2.70
8	400	50	1600	1423	2.73	2945	812	1735	3.26
9	400	50	1200	432	0.77	6425	0	3780	0.00
10	400	50	1200	591	1.03	5230	199	3080	0.80
11	400	50	1200	674	1.31	3780	379	2225	1.52
12	400	50	1200	600	1.15	2210	457	1300	1.83
13	400	50	900	182	0.33	4820	0	2835	0.00
14	400	50	900	249	0.43	3920	112	2310	0.45
15	400	50	900	284	0.55	2835	213	1670	0.86
16	400	50	900	253	0.49	1655	257	975	1.03

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · qv = Air flow · p_{fs} = Pressure increase