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General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

**Nominal data**

<b>Type</b>	<b>R3G500-AG06-03</b>	
<b>Motor</b>	<b>M3G150-FF</b>	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min <sup>-1</sup>	1700
Power consumption	W	2700
Current draw	A	4.3
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 $\eta_{es}$	%	57.8	55.8	09 Power consumption $P_{ed}$	kW	2.58
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	6510
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	780
04 Efficiency grade N		64	62	10 Speed (rpm) n	min <sup>-1</sup>	1715
05 Variable speed drive		Yes		11 Specific ratio <sup>*</sup>		1.01

Data obtained at optimum efficiency level.

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

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

LU-109946



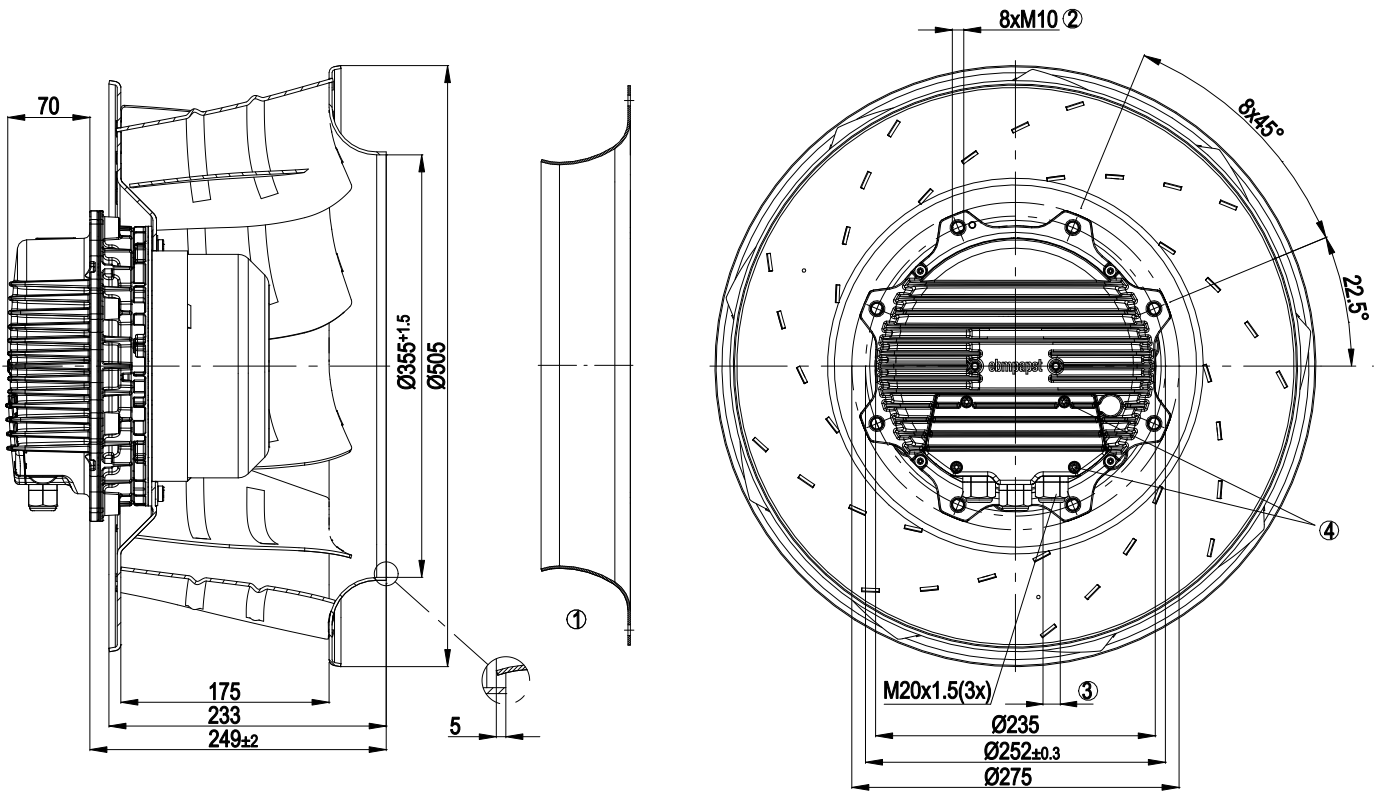
## Technical description

<b>Weight</b>	22.0 kg
<b>Size</b>	500 mm
<b>Motor size</b>	150
<b>Rotor surface</b>	Painted black
<b>Electronics housing material</b>	Die-cast aluminum
<b>Impeller material</b>	Sheet aluminum
<b>Number of blades</b>	9
<b>Direction of rotation</b>	Clockwise, viewed toward rotor
<b>Degree of protection</b>	IP55
<b>Insulation class</b>	"F"
<b>Moisture (F) / Environmental (H) protection class</b>	F4-1
<b>Max. permitted ambient temp. for motor (transport/storage)</b>	+80 °C
<b>Min. permitted ambient temp. for motor (transport/storage)</b>	-40 °C
<b>Installation position</b>	Shaft horizontal or rotor on bottom; rotor on top on request
<b>Condensation drainage holes</b>	On rotor side
<b>Mode</b>	S1
<b>Motor mounting</b>	Ball bearing
<b>Technical features</b>	<ul style="list-style-type: none"> <li>- Output 10 VDC, max. 10 mA</li> <li>- Output 20 VDC, max. 50 mA</li> <li>- Output for slave 0-10 V</li> <li>- Input for sensor 0-10 V or 4-20 mA</li> <li>- Alarm relay</li> <li>- Integrated PID controller</li> <li>- Motor current limitation</li> <li>- PFC, passive</li> <li>- RS-485 ebmBUS</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from supply</li> <li>- Thermal overload protection for electronics/motor</li> <li>- Line undervoltage / phase failure detection</li> </ul>
<b>EMC immunity to interference</b>	According to EN 61000-6-2 (industrial environment)
<b>EMC interference emission</b>	According to EN 61000-6-3 (household environment)
<b>Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)</b>	<= 3.5 mA
<b>Electrical hookup</b>	Terminal box
<b>Motor protection</b>	Reverse polarity and locked-rotor protection
<b>Protection class</b>	I (with customer connection of protective earth)
<b>Conformity with standards</b>	EN 61800-5-1; CE
<b>Approval</b>	VDE; CSA C22.2 No. 77; EAC

# EC centrifugal fan

backward-curved, single-intake

## Product drawing



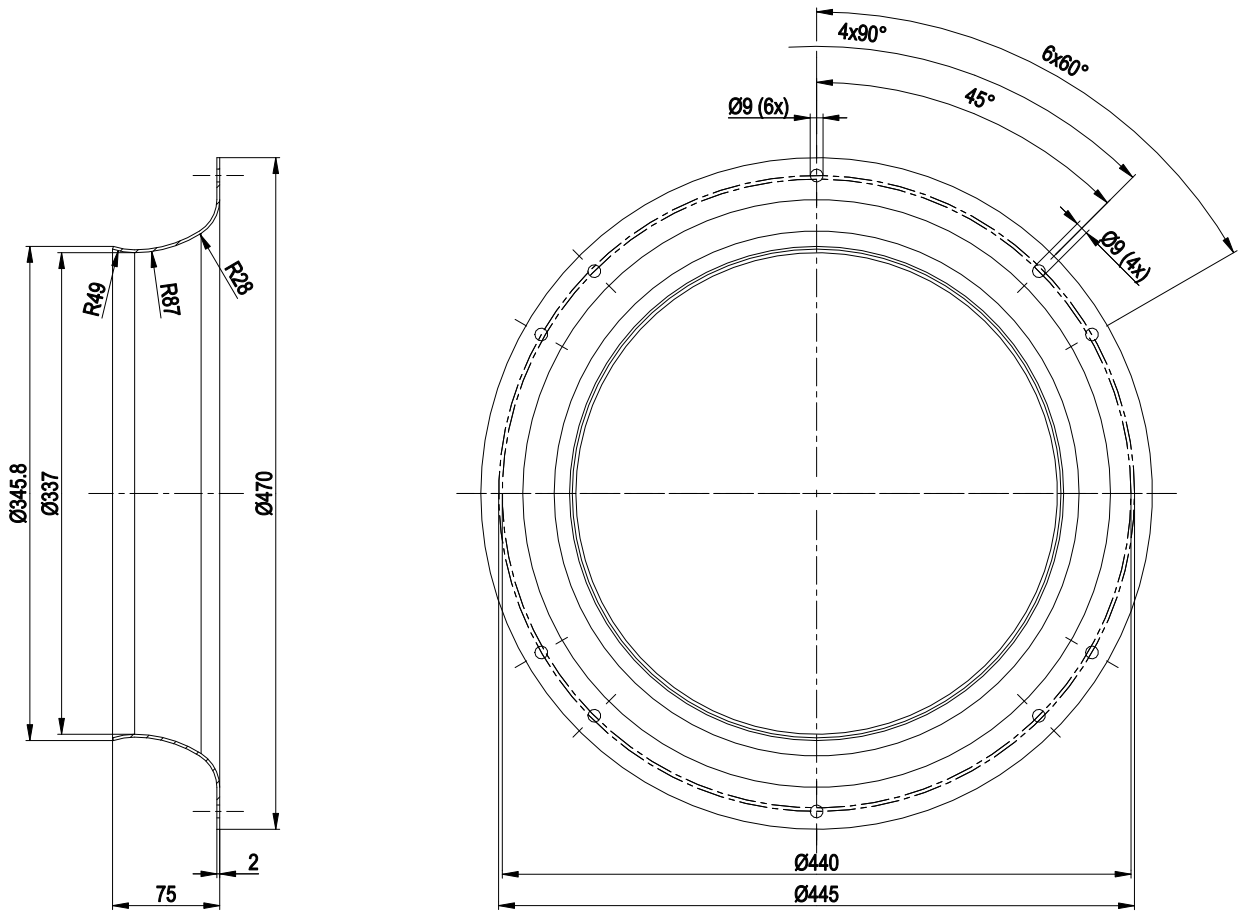
- |   |   |
|---|---|
| 1 | Accessory part: Inlet ring 63072-2-4013, not included in scope of delivery. |
| 2 | Max. clearance for screw 25 mm  |
| 3 | Cable diameter min. 4 mm, max. 10 mm, tightening torque $4 \pm 0.6$ Nm      |
| 4 | Tightening torque $3.5 \pm 0.5$ Nm  |



# EC centrifugal fan

backward-curved, single-intake

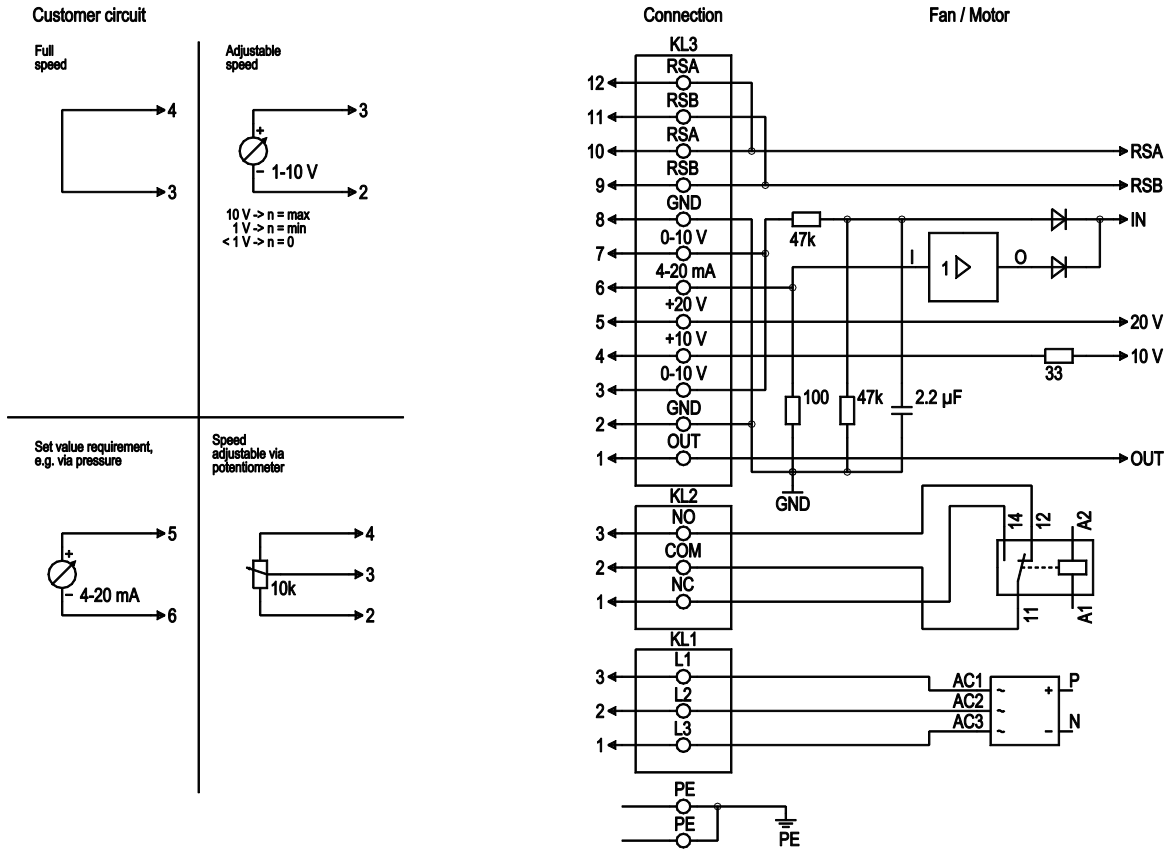
## Accessory part



inlet ring 63072-2-4013 not included in scope of delivery

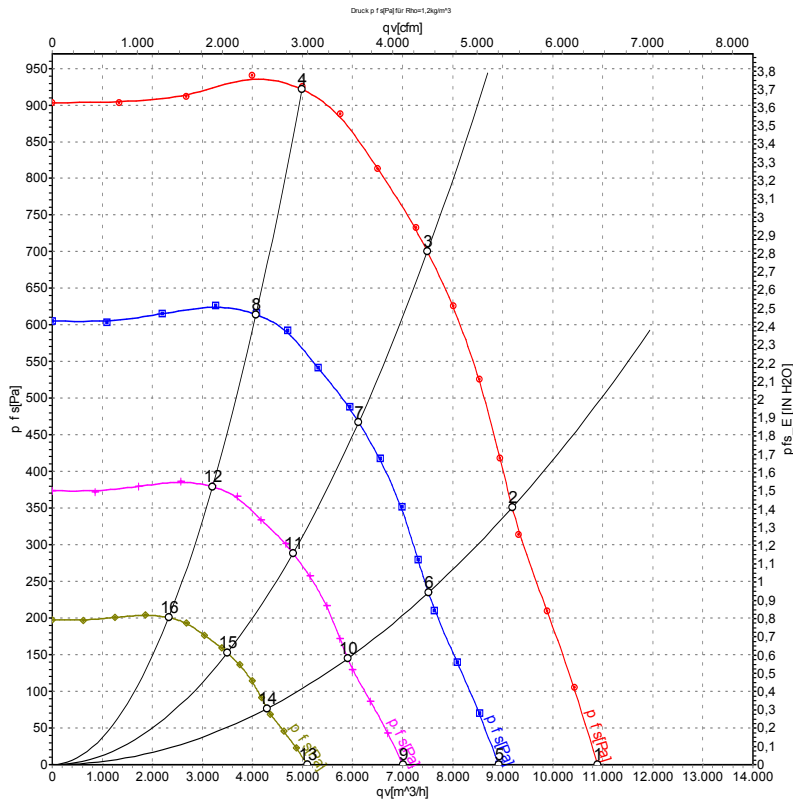


## Connection diagram



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

## Curves: Air performance 50 Hz



Measurement: LU-109946-1

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 <sub>ed</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	q <sub>v</sub>	P <sub>fs</sub>	q <sub>v</sub>	P <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	cfm	in. wg
1	400	50	1700	1904	2.90	84	91	96	10900	0	6415	0.00
2	400	50	1700	2307	3.49	80	87	93	9190	350	5410	1.41
3	400	50	1700	2700	4.30	76	83	90	7495	700	4410	2.81
4	400	50	1700	2401	3.64	76	83	90	4990	925	2935	3.71
5	400	50	1400	1045	1.59	80	87	92	8925	0	5250	0.00
6	400	50	1400	1262	1.91	76	82	88	7515	234	4425	0.94
7	400	50	1400	1422	2.16	72	78	85	6120	468	3605	1.88
8	400	50	1400	1306	1.98	72	78	85	4075	616	2395	2.47
9	400	50	1100	507	0.77	75	81	86	7010	0	4125	0.00
10	400	50	1100	612	0.93	70	77	83	5905	145	3475	0.58
11	400	50	1100	690	1.05	66	73	80	4810	289	2830	1.16
12	400	50	1100	634	0.96	66	73	80	3200	380	1885	1.53
13	400	50	800	195	0.30	68	75	79	5100	0	3000	0.00
14	400	50	800	236	0.36	63	70	76	4295	77	2530	0.31
15	400	50	800	265	0.40	59	66	73	3500	153	2060	0.61
16	400	50	800	244	0.37	60	66	73	2325	201	1370	0.81

U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
 LwA<sub>out</sub> = Sound power level outlet side · q<sub>v</sub> = Air flow · P<sub>fs</sub> = Pressure increase

