

R3G400-AM55-01

EC centrifugal fan

backward curved, single inlet



ebm-papst Mulfingen GmbH & Co. KG

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.ebmpapst.com

www.ebmpapst.com

Limited partnership · Headquarters Mulfingen

County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

County court Stuttgart · HRB 590142



Nominal data

Type	R3G400-AM55-01	
Motor	M3G112-EA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed	min ⁻¹	1750
Power input	W	810
Current draw	A	1.6
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

ml = max. load · me = max. efficiency · fa = running at free air · cs = customer specs · cu = customer unit
Subject to alterations

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.01

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

	Actual	Request 2013	Request 2015
Overall efficiency η_{es}	59.1	46.5	50.5
Efficiency grade N	70.6	58	62
Power input P_{ed}	kW	0.8	
Air flow q_v	m ³ /h	3255	
Pressure increase p_{fs}	Pa	483	
Speed n	min ⁻¹	1755	

Data established at point of optimum efficiency



R3G400-AM55-01

EC centrifugal fan

backward curved, single inlet

Technical features

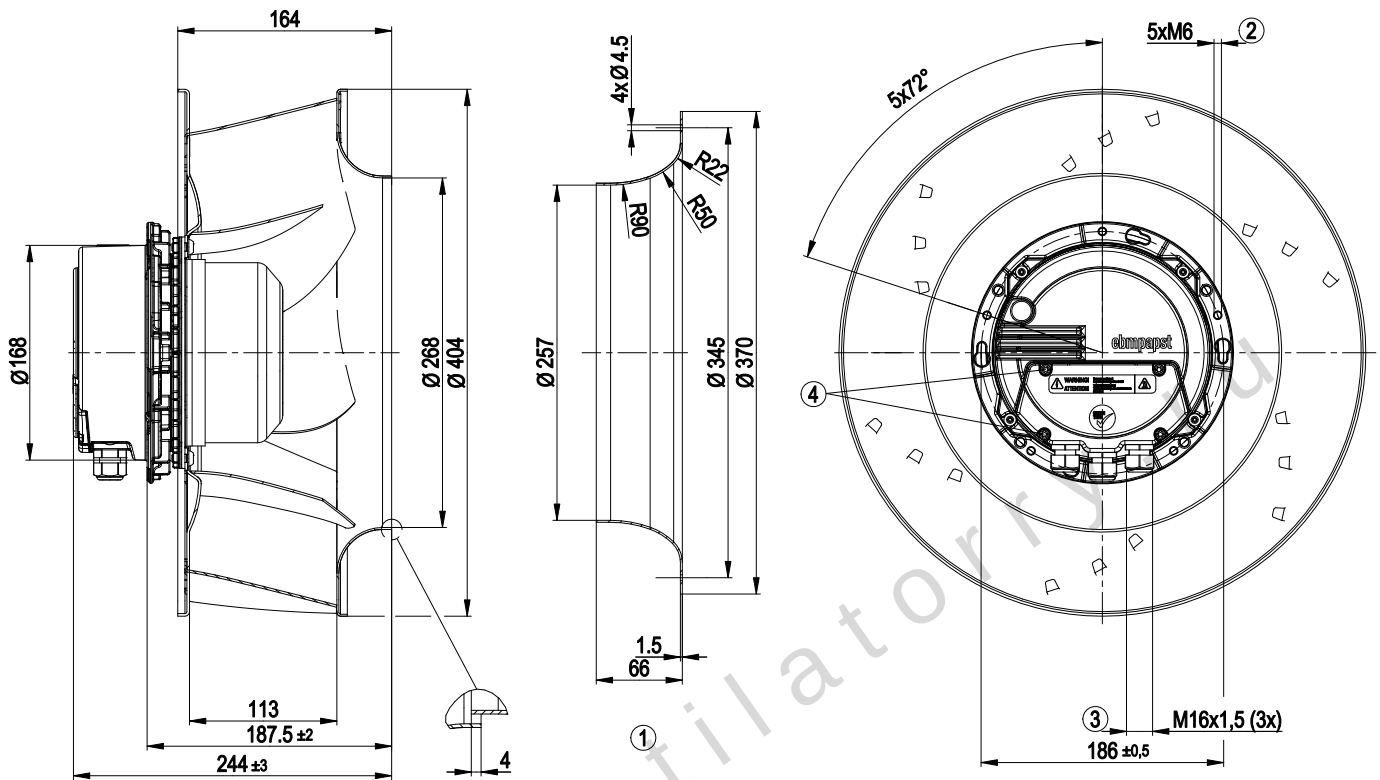
Mass	8.7 kg
Size	400 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity class	F4-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- 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 - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 ebmBUS - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC harmonics	Acc. to EN 61000-3-2/3
EMC interference emission	Acc. to EN 61000-6-3 (household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Protection class	I (if protective earth is connected by customer)
Approval	CCC

R3G400-AM55-01

EC centrifugal fan

backward curved, single inlet

Product drawing



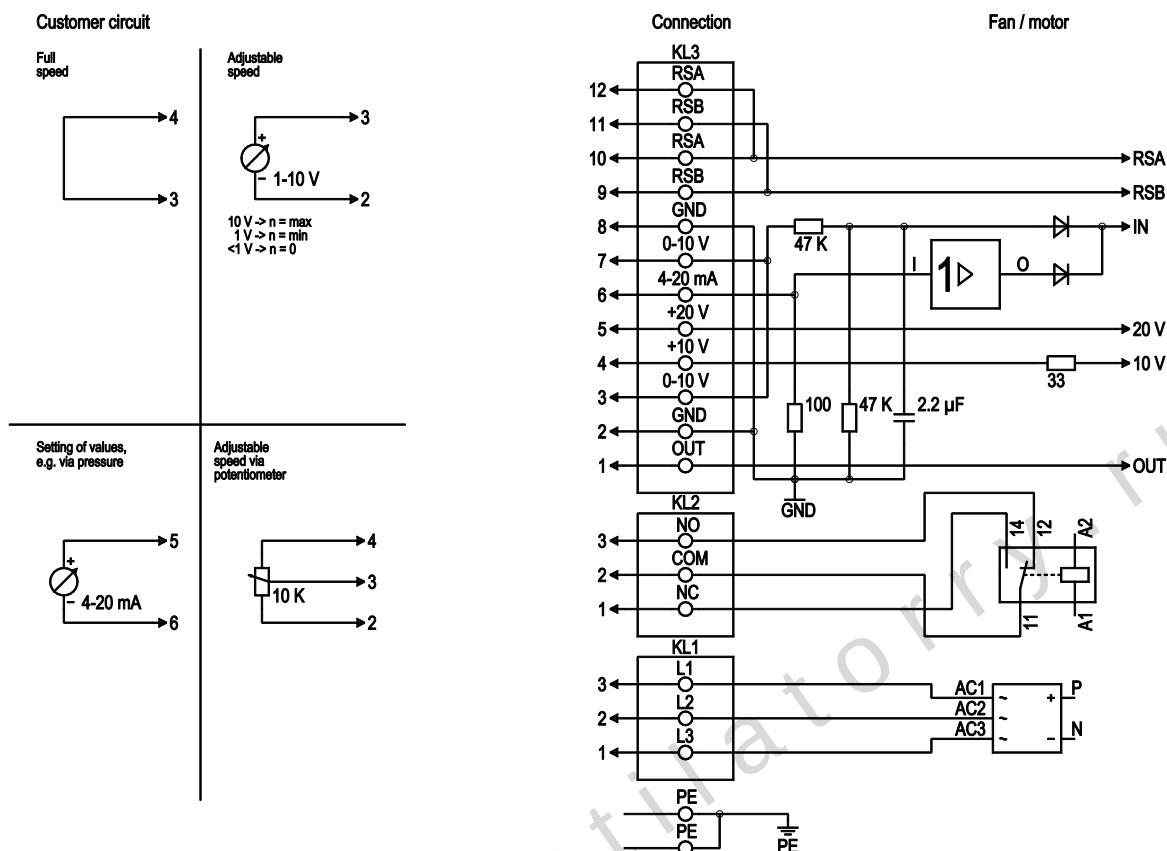
1	Accessory part: inlet nozzle 54476-2-4013 not included in the standard scope of delivery; other inlet nozzles on request
2	Depth of screw 12 - 16 mm
3	Cable diameter: min. 4 mm; max. 10 mm; tightening torque: 2.5±0.4 Nm
4	Tightening torque 3.5±0.5 Nm

R3G400-AM55-01

EC centrifugal fan

backward curved, single inlet

Connection screen



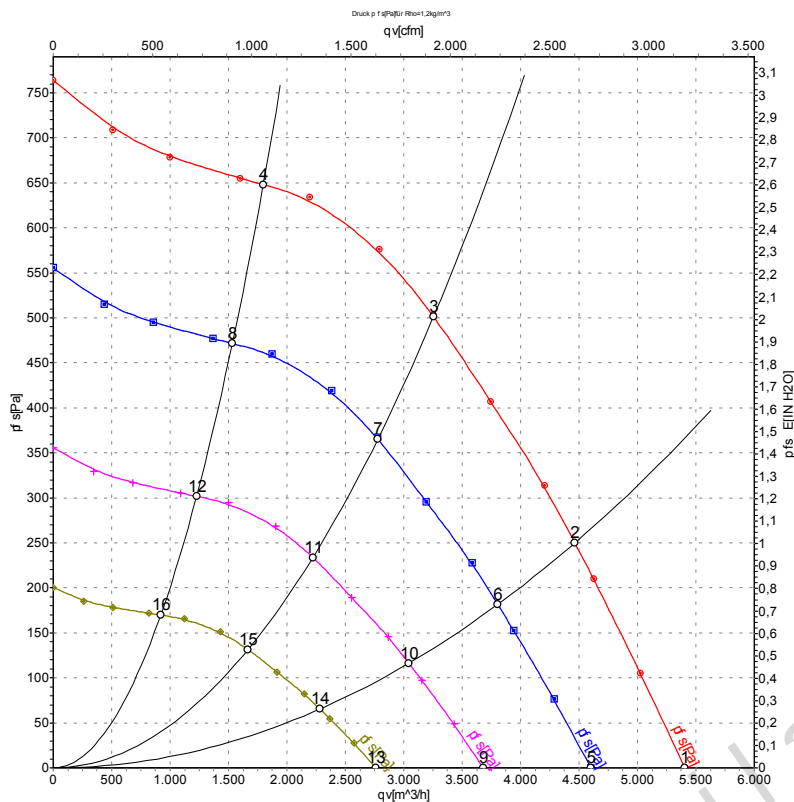
No.	Pin	Signal	Function / assignment
PE		PE	Protective earth connection
KL1	1, 2, 3	L1, L2, L3	Supply voltage, 50/60 Hz
KL2	1	NC	Floating status message contact, normally closed connection
KL2	2	COM	Floating status message contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status message contact, normally open connection
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of the current level control coefficient: 1 V equates to 10% level control coefficient. 10 V equate to 100% level control coefficient.
KL3	2, 8	GND	Reference mass for control interface, SELV
KL3	3, 7	0-10 V	Use control / actual 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, supply voltage for external devices (e.g. potentiometers), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25%/-10%), max. 50 mA, supply voltage for external devices (e.g. sensors), SELV
KL3	6	4-20 mA	Use control / actual 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

R3G400-AM55-01

EC centrifugal fan

backward curved, single inlet

Charts: Air flow 50 Hz



Measurement: LU-110873

Air performance measured as per ISO 5801
Installation category A. For detailed
information on the measuring set-up, please
contact ebm-papst. Suction-side noise
levels: LwA measured as per ISO 13347 /
LpA measured with 1m distance to fan axis.
The values given are valid under the
measuring conditions mentioned above and
may vary according to the actual installation
situation. With any deviation from the
standard set-up, the specific values have to
be checked and reviewed with the unit
installed.

Measured values

	U	f	n	P _{ed}	I	LpA _{in}	LwA _{in}	LwA _{out}	qv	p _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa
1	400	50	1750	610	1.11	76	83	88	5405	0
2	400	50	1750	734	1.29	72	79	85	4465	250
3	400	50	1750	810	1.40	69	76	82	3255	500
4	400	50	1750	695	1.22	73	80	85	1795	650
5	400	50	1500	376	0.68	73	80	85	4605	0
6	400	50	1500	454	0.80	69	76	81	3805	182
7	400	50	1500	502	0.86	65	73	79	2775	367
8	400	50	1500	431	0.76	69	76	82	1535	471
9	400	50	1200	192	0.35	68	75	80	3680	0
10	400	50	1200	233	0.41	64	71	76	3045	116
11	400	50	1200	257	0.44	60	68	74	2220	235
12	400	50	1200	221	0.39	64	72	77	1225	302
13	400	50	900	81	0.15	62	68	74	2760	0
14	400	50	900	98	0.17	57	64	70	2285	65
15	400	50	900	108	0.19	54	62	67	1665	132
16	400	50	900	93	0.16	58	65	70	920	170

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side

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