R3G400-RG56-26

EC centrifugal fan - RadiCal

backward curved, single inlet

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G400-RG56-26**
Motor	**M3G112-EA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	1690
Power input	W	740
Current draw	A	3.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	45

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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	66	50.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		77.9	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.74
09 Air flow q_v	m^3/h	3605
09 Pressure increase p_{fs}	Pa	445
10 Speed n	min^{-1}	1695
11 Specific ratio*		1.00

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

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Technical features

Mass	9 kg
Size	400 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PP plastic
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity (F)/environmental protection class (H)	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 - Operation and alarm display - Direction of rotation selection counter-clockwise / clockwise - Tach output - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, active - RS485 MODBUS RTU - 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
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
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	CCC; EAC

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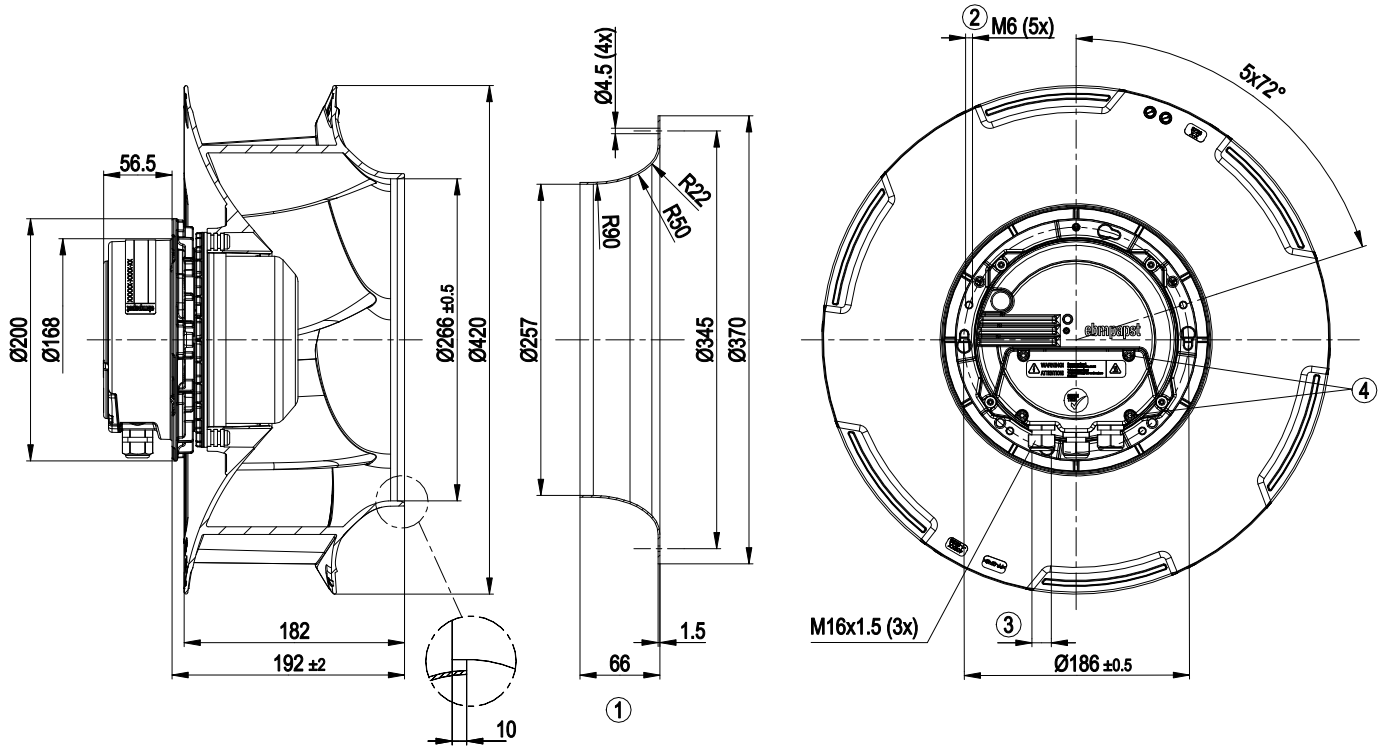
Remark	DC operation is possible in addition to AC operation. Nominal voltage 240 VDC, nominal voltage range 200…290 VDC. Device fuse protection must be provided by the customer for DC voltage supply. (DC fuse). EMC tests have not been performed for DC supply. In this case the EMC characteristics of the fan are to be checked by the customer.

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Product drawing



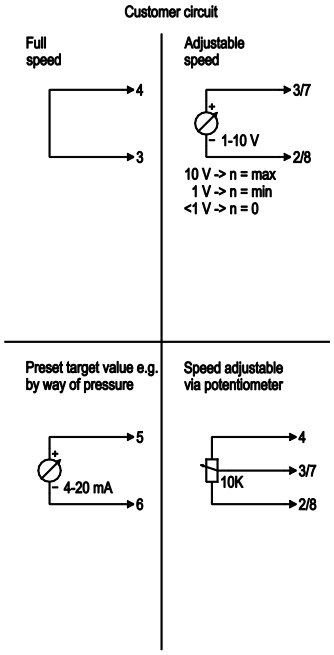
1	Accessory part: Inlet nozzle 54476-2-4013 not included in scope of delivery
2	Thread reach max. 16 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 2.5±0.4 Nm
4	Tightening torque 3.5±0.5 Nm

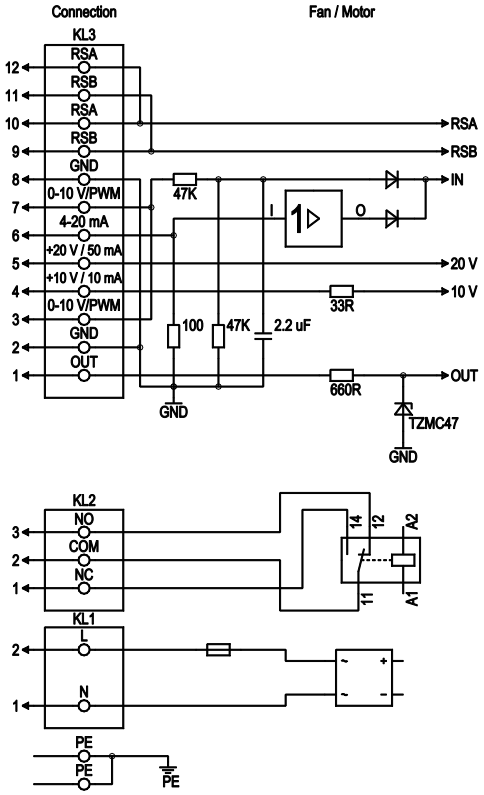
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Connection screen





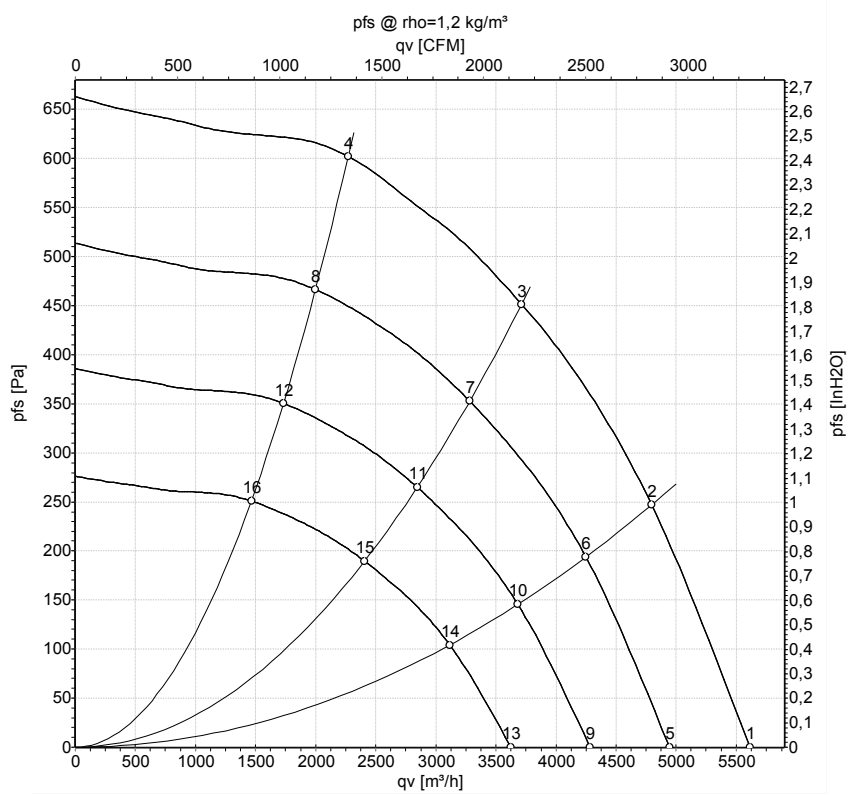
No.	Conn.	Designation	Function / assignment
PE	-	PE	Protective earth connection
KL1	1/2	N, L	Power supply 50/60 Hz
KL2	1	NC	Floating status contact, break for failure
KL2	2	COM	Floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status contact, make for failure
KL3	1	OUT	Tacho output; 1 pulse/revolution, open collector; Ri=660 Ω, SELV
KL3	2/8	GND	Signal ground for control interface, SELV
KL3	3/7	0-10 V	Control/current sensor value input 0-10 VDC, impedance 100 kΩ, use 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 ext. devices (e.g. sensors); SELV
KL3	6	4-20 mA	Control/current sensor value input 4-20 mA, impedance 100 Ω, use only as alternative to 0-10 V input; SELV
KL3	9/11	RSB	RS-485 interface for MODBUS, RSB; SELV
KL3	10/12	RSA	RS-485 interface for MODBUS, RSA; SELV

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Charts: Air flow 50 Hz



Measurement: LU-164870

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	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	230	50	1690	519	2.27	5615	0
2	230	50	1690	687	3.00	4795	250
3	230	50	1690	740	3.20	3715	450
4	230	50	1690	684	2.98	2270	600
5	230	50	1500	354	1.55	4945	0
6	230	50	1500	478	2.08	4250	196
7	230	50	1500	510	2.22	3285	353
8	230	50	1500	466	2.03	2000	466
9	230	50	1300	230	1.01	4285	0
10	230	50	1300	311	1.36	3680	148
11	230	50	1300	332	1.45	2845	265
12	230	50	1300	304	1.32	1730	350
13	230	50	1100	140	0.61	3625	0
14	230	50	1100	188	0.82	3115	106
15	230	50	1100	201	0.88	2405	190
16	230	50	1100	184	0.80	1465	251

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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