R3G250-AV29-B1

EC centrifugal fan - RadiPac

backward curved, single inlet



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Nominal data

Type	**R3G250-AV29-B1**
Motor	**M3G084-FA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	3450
Power input	W	750
Current draw	A	3.3
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 in accordance with ecodesign regulation EU 327/2011 (prEN 17166)

		Actual	Request 2015
01 Overall efficiency η_{es}	%	58.9	50
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		70.9	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.72
09 Air flow q_v	m^3/h	1975
09 Pressure increase p_{fs}	Pa	708
10 Speed (rpm) n	min^{-1}	3480
11 Specific ratio*		1.01

Data definition with optimum efficiency.

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

LU-159090

The indicated efficiency values for obtaining conformity with the Ecodesign Directive EU 327/2011 were achieved with defined air conduction components (e.g. inlet nozzles).
The dimensions are to be requested from ebm-papst. If other air guide geometries are used on the installation side, the ebm-papst evaluation loses its validity/conformity must be confirmed again.

The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2(2a) (motors completely integrated into a product).

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Technical features

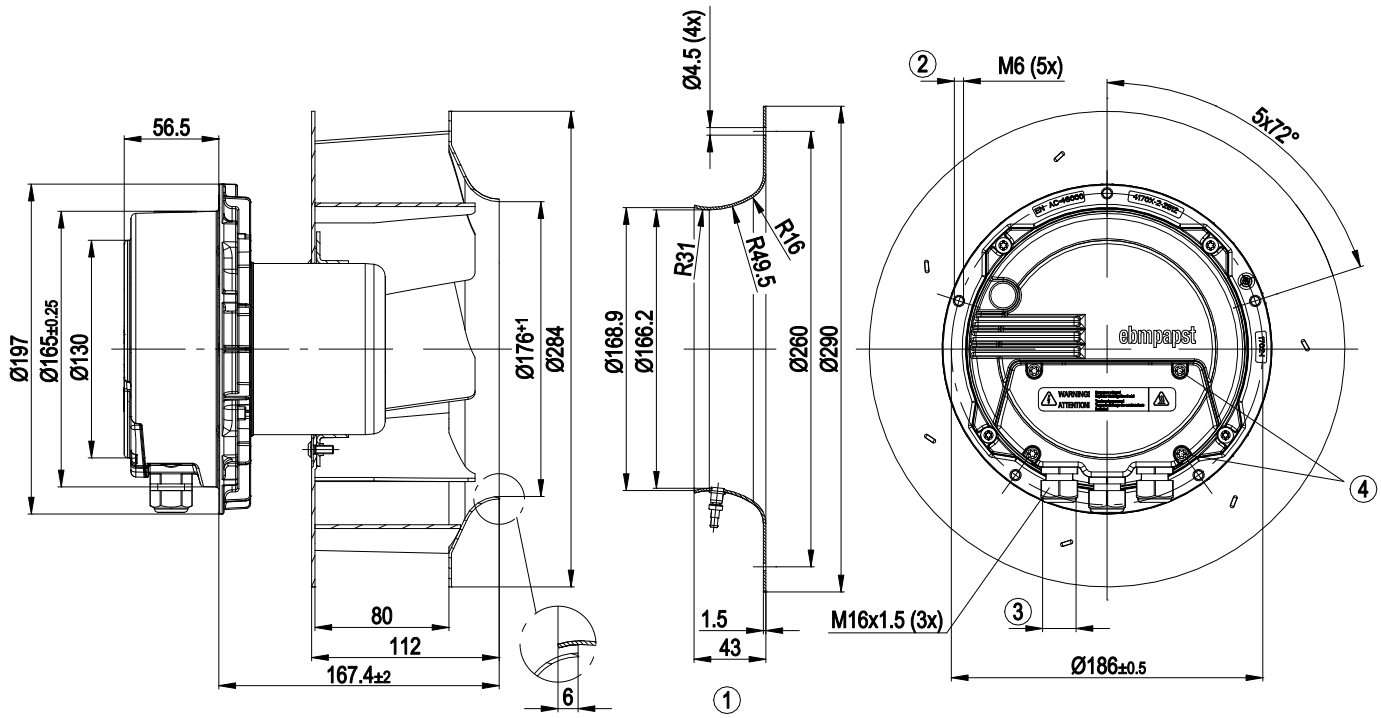
Mass	5.6 kg
Size	250 mm
Motor size	84
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP54
Insulation class	"B"
Humidity (F) / environmental protection class (H)	H1
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
Condensation drainage 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 - 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
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 61000-6-4 (industrial environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical connection	Terminal box
Motor protection	Thermal switch auto reset, internally connected
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	EAC

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Product drawing



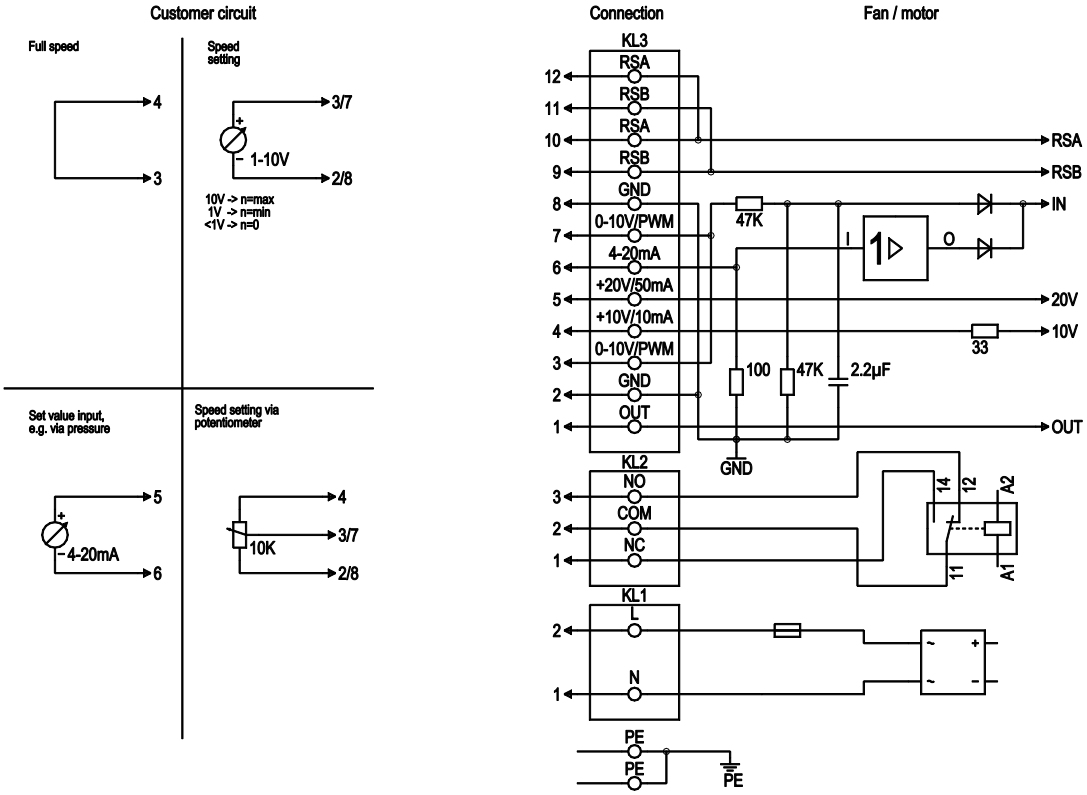
1	Accessory part: Inlet nozzle 25075-2-4013 with a bleeder connection for pressure relief (k-factor:70), not included in the standard scope of delivery.
2	Cable diameter: min. 4 mm, max. 10 mm; tightening torque: 2.5±0.4 Nm
3	Depth of screw max. 16 mm
4	Tightening torque 3.5±0.5 Nm

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Connection screen



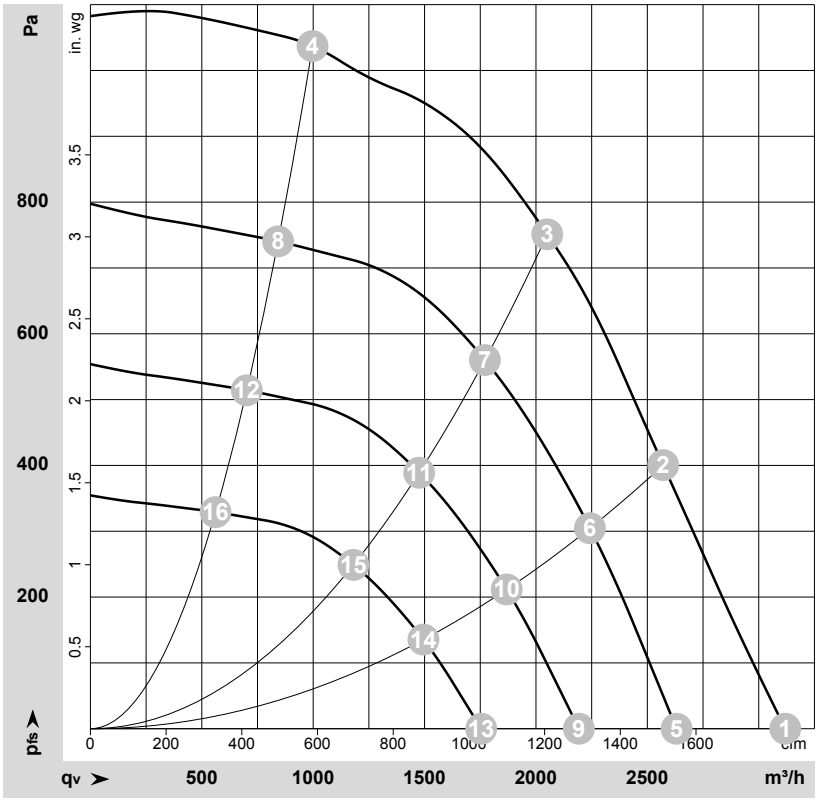
No.	Conn.	Designation	Function / assignment
PE	-	PE	Protective earth connection
KL1	1, 2	N, L	Supply voltage, 50/60 Hz
KL2	1	NC	Floating status message contact, break for failure
KL2	2	COM	Floating status message contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status message contact, normally open, make for failure
KL3	1	OUT	Analogue output, 0-10 VDC, max. 3 mA, SELV, Output of the current motor level control coefficient: 1 V corresponds to 10% level control coefficient, 10 V correspond 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 ext. devices (e.g. potentiometer), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25%/-10%), max. 50 mA Supply voltage for ext. 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 MODBUS, RSB
KL3	10, 12	RSA	RS485 interface for MODBUS, RSA

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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-142908-1

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

	Conn.	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	1~	230	50	3450	581	2.58	77	85	91	3120	0	1835	0.00
2	1~	230	50	3450	678	3.00	74	82	88	2570	400	1515	1.61
3	1~	230	50	3450	750	3.30	71	79	84	2050	750	1205	3.01
4	1~	230	50	3450	652	2.89	78	86	88	995	1050	585	4.22
5	1~	230	50	3000	349	1.55	73	80	87	2630	0	1550	0.00
6	1~	230	50	3000	450	1.99	70	78	84	2240	305	1320	1.22
7	1~	230	50	3000	490	2.18	67	75	81	1770	561	1040	2.25
8	1~	230	50	3000	392	1.74	74	82	84	845	741	495	2.97
9	1~	230	50	2500	202	0.90	68	76	82	2195	0	1290	0.00
10	1~	230	50	2500	260	1.15	66	74	79	1870	212	1100	0.85
11	1~	230	50	2500	284	1.26	63	70	76	1475	390	870	1.57
12	1~	230	50	2500	227	1.01	70	77	79	700	515	415	2.07
13	1~	230	50	2000	103	0.46	63	70	76	1755	0	1030	0.00
14	1~	230	50	2000	133	0.59	60	68	74	1495	136	880	0.55
15	1~	230	50	2000	145	0.64	57	65	71	1180	249	695	1.00
16	1~	230	50	2000	116	0.52	64	71	74	560	329	330	1.32

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · 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 · q_V = Air flow · p_{fs} = Pressure increase

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