R3G280-PP20-K9

EC centrifugal fan - RadiPac

backward curved, single inlet

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Nominal data

Type	**R3G280-PP20-K9**
Motor	**M3G084-FA**

Phase		3~
Nominal voltage	VAC	200
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed (rpm)	min^{-1}	3400
Power input	W	1070
Current draw	A	3.5
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

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Technical features

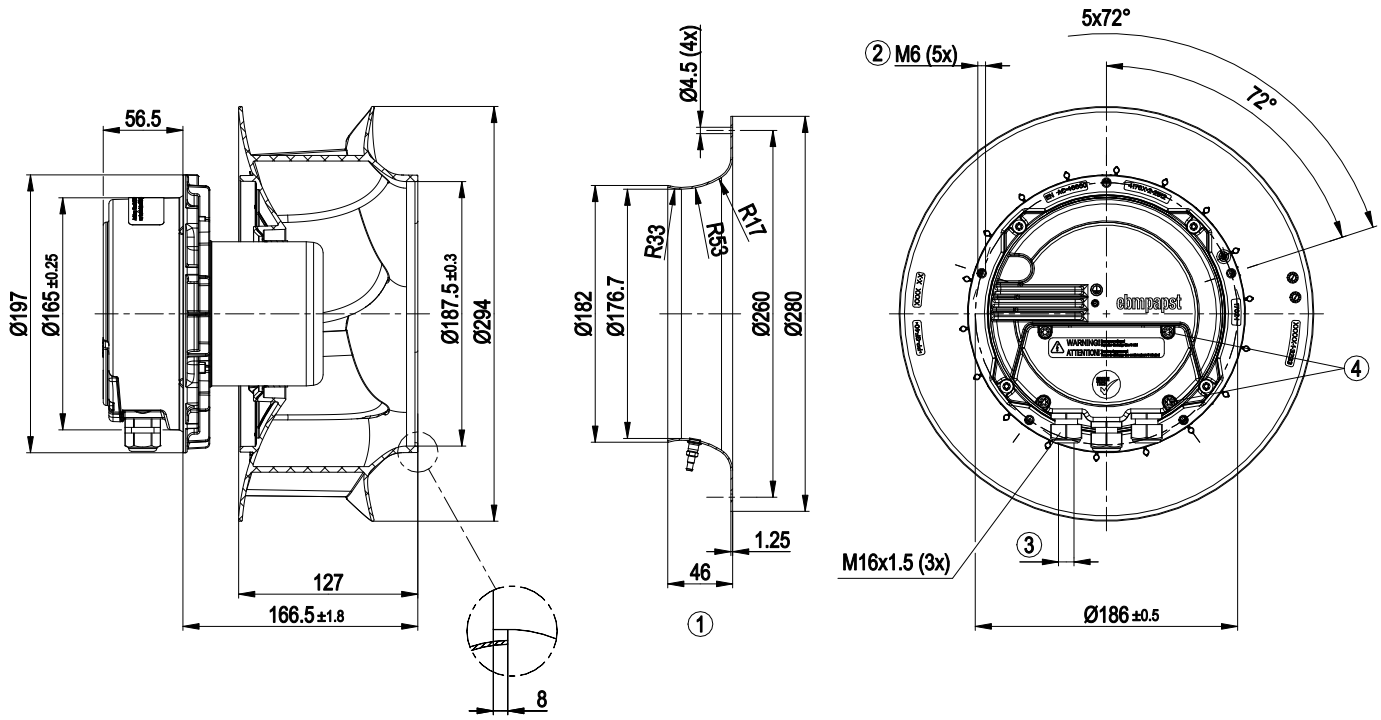
Mass	0 kg
Size	280 mm
Surface of rotor	Coated in black
Material of impeller	PP plastic
Housing material	Die-cast aluminium
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity (F)/environmental protection class (H)	H1
Max. permissible 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
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 - External 24 V input (programming) - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - 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
Protection class	I (if protective earth is connected by customer at the connection point of the housing)
Product conforming to standard	EN 61800-5-1; CE

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Product drawing



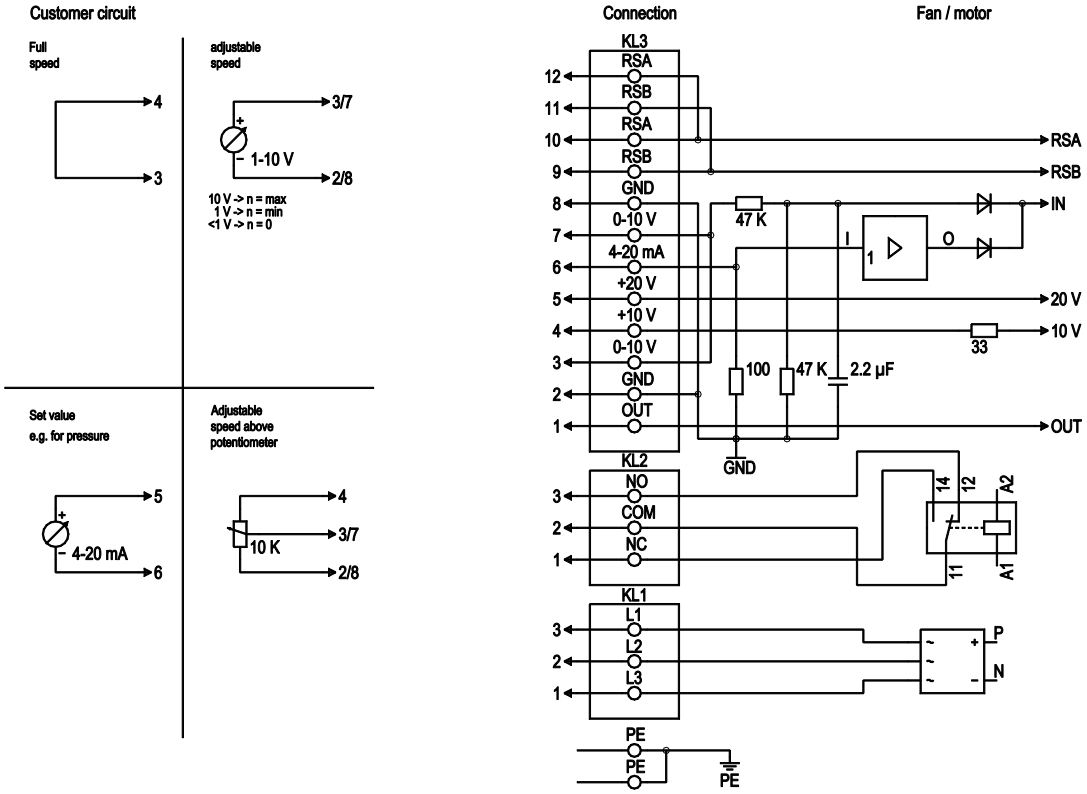
1	Accessory part: Inlet nozzle 28004-2-4013 with pressure tap (k-factor: 77) not included in scope of delivery
2	Thread reach max. 16 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 2.5±0.4 Nm
4	Tightening torque 3.5±0.5 Nm

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Connection screen



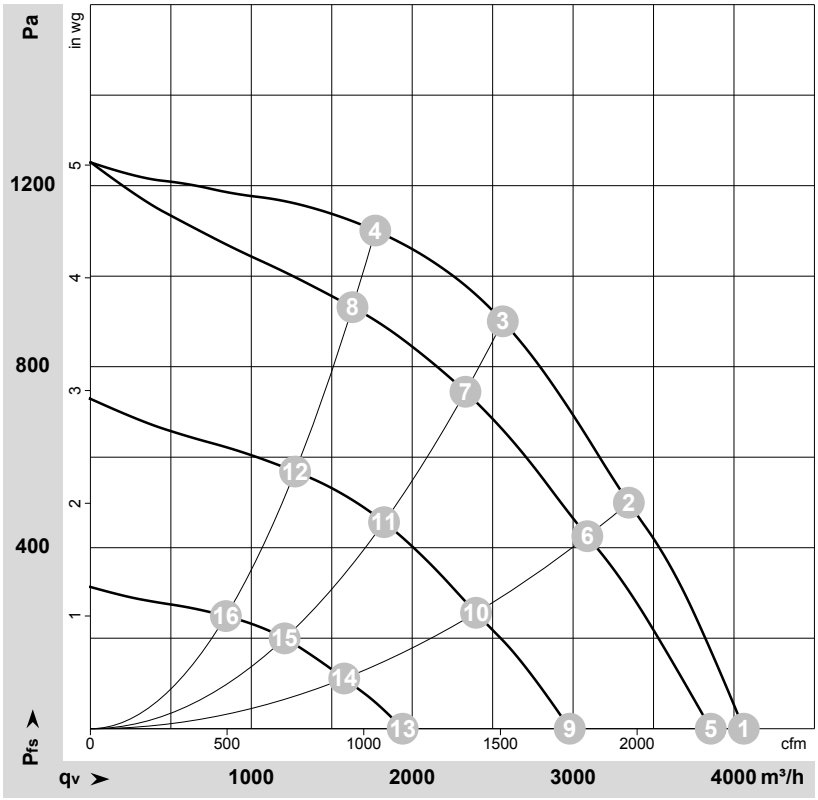
No.	Conn.	Designation	Function / assignment
PE		PE	Protective earth connection
KL1	1, 2, 3	L1, L2, L3	Supply voltage, voltage range (see type plate), 50/60 Hz
KL2	1	NC	Floating status contact, break with error
KL2	2	COM	Floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status contact, close with error
KL3	1	OUT	Analogue output, 0-10 VDC, max. 3 mA, SELV, Output of the actual motor duty cycle (PWM): 1 V corresponds to 10% PWM, 10 V correspond to 100% PWM.
KL3	2, 8	GND	Signal ground for control interface, SELV
KL3	3, 7	0-10 V	Set value / actual 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, supply voltage for external devices (e.g. sensors), SELV
KL3	6	4-20 mA	Set value / actual 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 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-177998-1

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

	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	200	50	3400	763	2.65	81	88	4060	0	2390	0.00
2	200	50	3400	969	3.26	75	83	3345	500	1970	2.01
3	200	50	3400	1070	3.50	72	80	2565	900	1510	3.61
4	200	50	3400	991	3.28	74	83	1770	1100	1040	4.42
5	200	50	3240	657	2.35			3855	0	2270	0.00
6	200	50	3140	762	2.62			3090	425	1820	1.71
7	200	50	3105	803	2.79			2330	745	1370	2.99
8	200	50	3145	769	2.66			1630	931	960	3.74
9	200	50	2510	319	1.28			2980	0	1755	0.00
10	200	50	2460	371	1.44			2395	255	1410	1.02
11	200	50	2435	400	1.55			1825	459	1075	1.84
12	200	50	2455	382	1.49			1270	569	750	2.28
13	200	50	1650	112	0.52			1940	0	1140	0.00
14	200	50	1630	129	0.55			1575	111	930	0.45
15	200	50	1625	138	0.61			1205	201	710	0.81
16	200	50	1630	132	0.57			840	249	495	1.00

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

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