R3G280-RR03-H5

EC centrifugal fan - RadiCal

backward curved, single inlet

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Nominal data

Type	**R3G280-RR03-H5**
Motor	**M3G084-DF**

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}	2700
Power input	W	500
Current draw	A	2.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	67.3	48.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		80.9	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.51
09 Air flow q_v	m^3/h	2105
09 Pressure increase p_{fs}	Pa	535
10 Speed (rpm) n	min^{-1}	2695
11 Specific ratio*		1.01

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

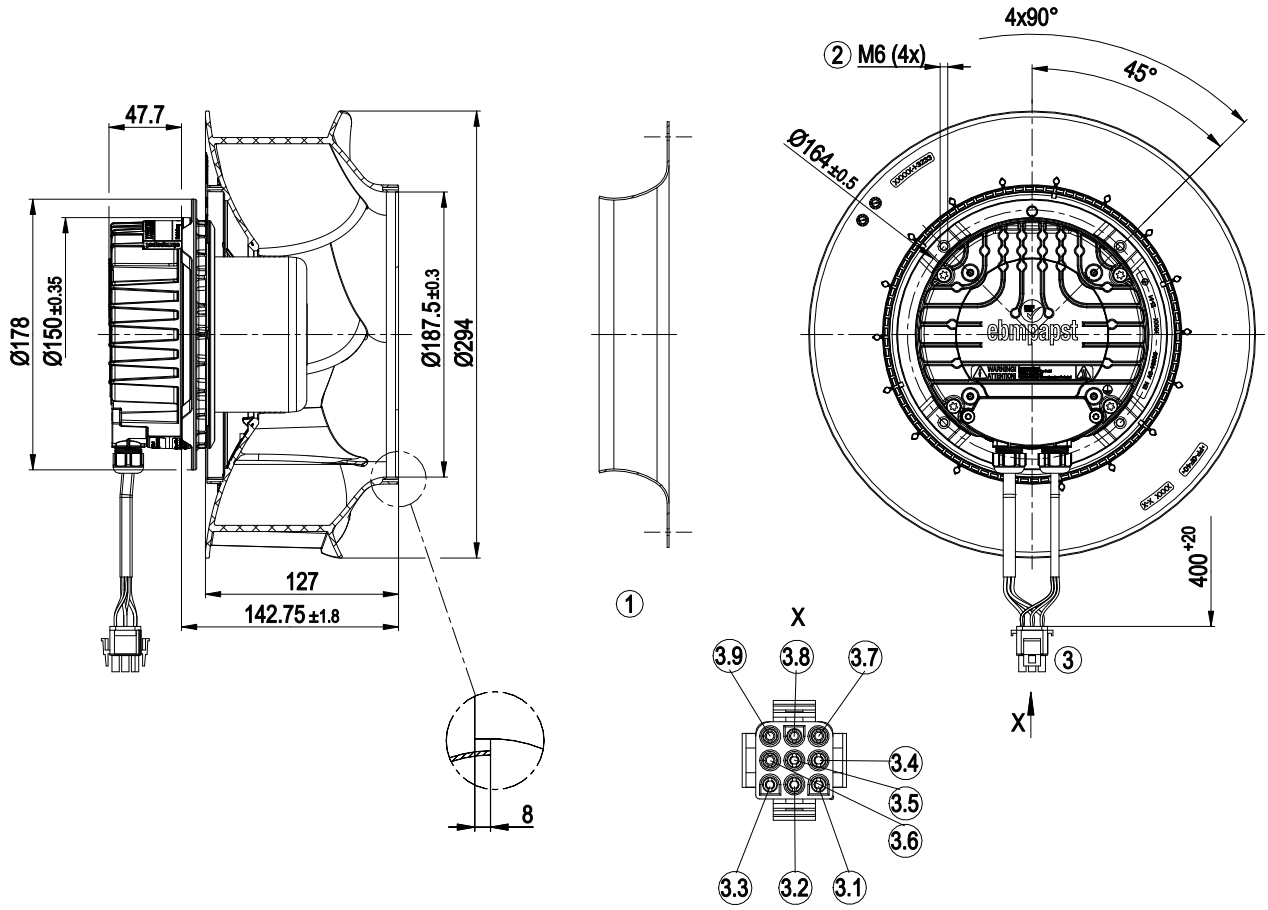
Mass	5 kg
Size	280 mm
Surface of rotor	Coated in black
Material of impeller	PP plastic
Housing material	Die-cast aluminium
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	H1
Max. permissible 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 - Operation and alarm display - 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	With plug
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
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; EN 60335-1; CE
Approval	C22.2 Nr.77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730

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Product drawing



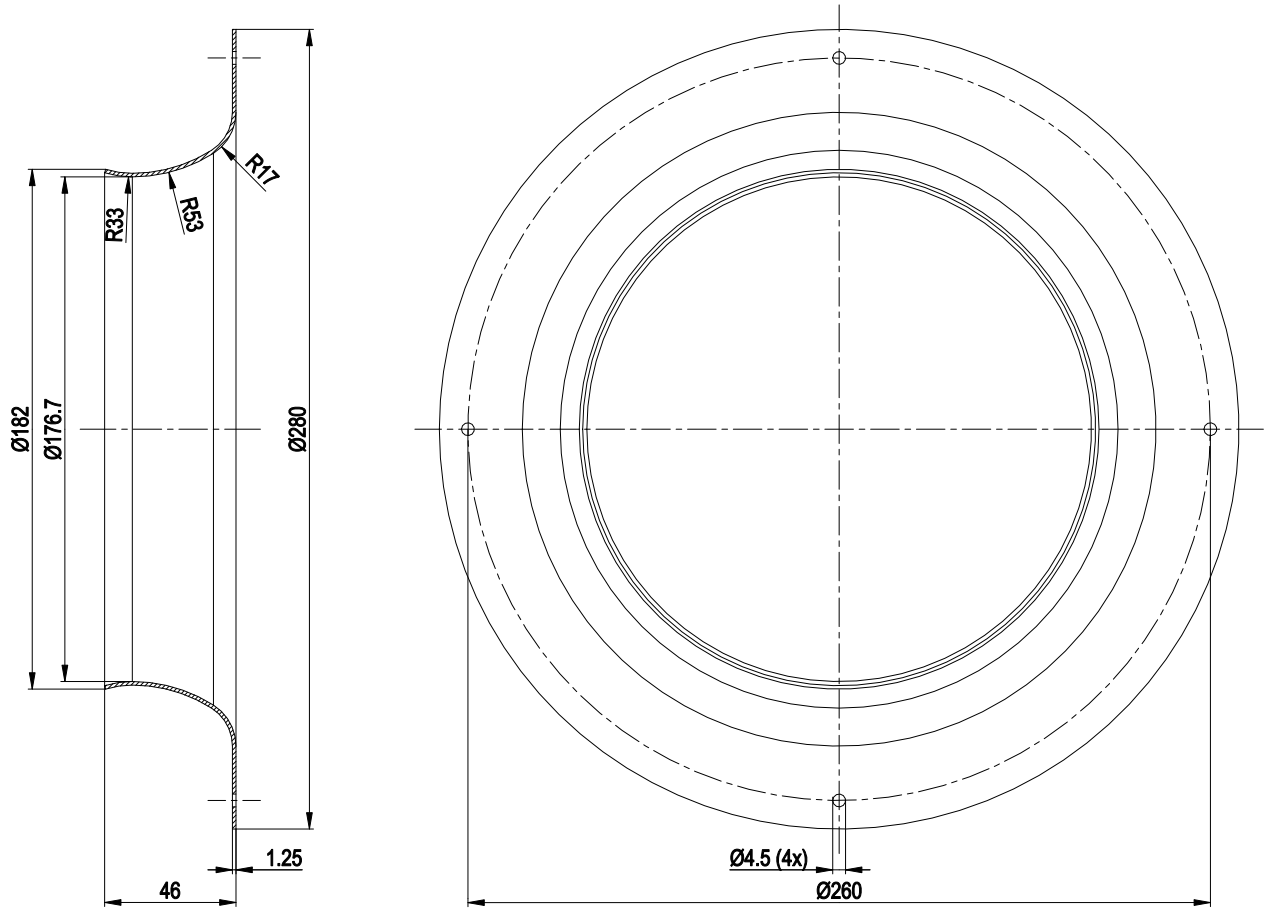
1	Accessory part: Inlet nozzle 28000-2-4013 not included in scope of delivery
2	Thread reach max. 10 mm
3	Connection line 5x PVC AWG18 and 4x PVC AWG22 with 9-pole connector housing TE 1-1863003-2, 4x plug pin TE 926885-1, 5x plug pin TE 926883-1, 1x seal TE 794278-1 and 1x seal TE 794277-1
3.1	PE (green/yellow)
3.2	N (blue)
3.3	L (black)
3.4	NC (white 1)
3.5	COM (white 2)
3.6	0-10 VDC (yellow)
3.7	RSB (brown)
3.8	RSA (white)
3.9	GND (blue)

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Accessory part



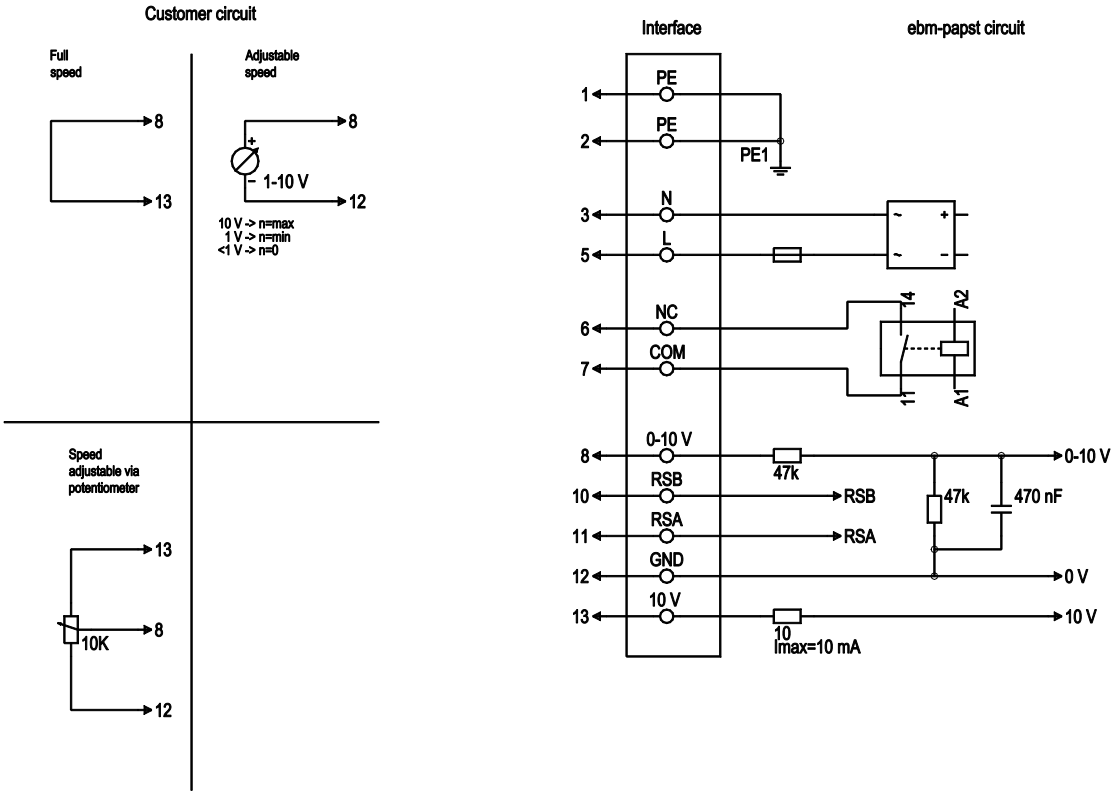
Accessory part: Inlet nozzle 28000-2-4013 not included in scope of delivery

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Connection screen



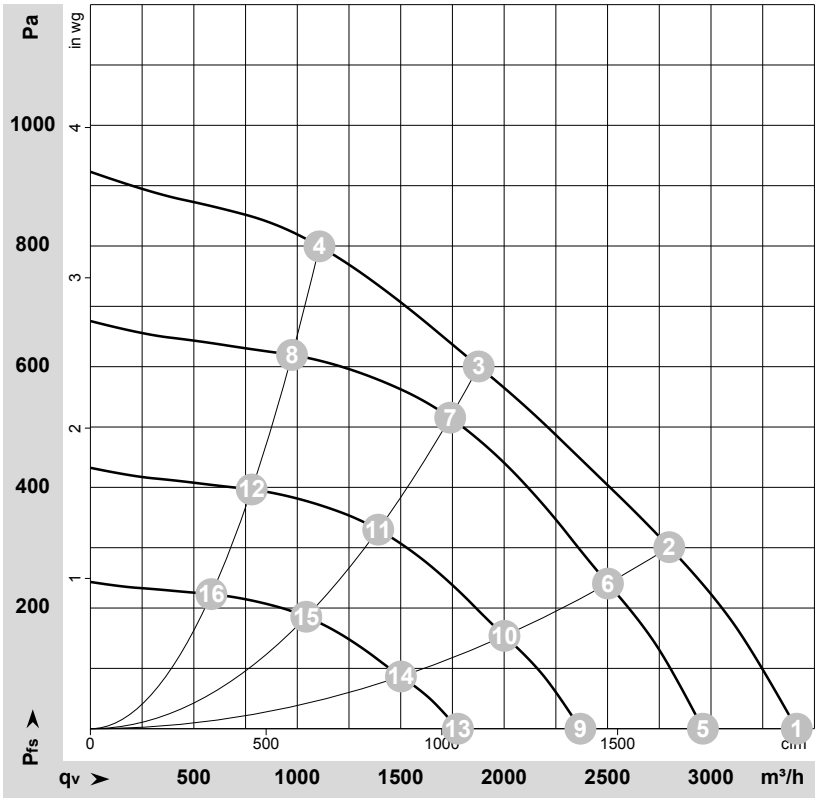
No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Supply voltage, neutral conductor, 50/60 Hz
1	5	L	black	Supply voltage, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact; break for failure, contact rating 250 VAC / 2A (AC1) min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact; common connection, contact rating 250 VAC / 2A (AC1) min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
2	8	0-10V	yellow	Analogue input 1 (set value); 0-10 V; Ri=100kΩ; parametrisable curve
2	10	RSB	brown	RS485 interface for Modbus, RSB
2	11	RSA	white	RS485 interface for Modbus, RSA
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC; +10 V +/-3%; max. 10 mA; short-circuit-proof; power supply for external devices (e.g. potentiometer)

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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-149673-1

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	230	50	2885	460	2.01	77	85	3415	0	2010	0.00
2	230	50	2795	500	2.20	72	80	2800	300	1645	1.20
3	230	50	2700	500	2.20	66	73	1875	600	1105	2.41
4	230	50	2840	500	2.20	72	79	1105	800	650	3.21
5	230	50	2500	300	1.31	74	81	2960	0	1745	0.00
6	230	50	2500	367	1.60	69	77	2500	240	1475	0.96
7	230	50	2500	410	1.78	64	71	1740	516	1025	2.07
8	230	50	2500	343	1.50	68	76	975	620	575	2.49
9	230	50	2000	154	0.67	68	76	2370	0	1395	0.00
10	230	50	2000	188	0.82	64	71	2000	154	1180	0.62
11	230	50	2000	210	0.91	58	66	1390	331	820	1.33
12	230	50	2000	176	0.77	63	70	780	397	460	1.59
13	230	50	1500	65	0.28	61	68	1775	0	1045	0.00
14	230	50	1500	79	0.35	57	64	1500	87	885	0.35
15	230	50	1500	88	0.39	51	59	1045	186	615	0.75
16	230	50	1500	74	0.32	55	63	585	223	345	0.90

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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