R3G355-RS02-H3

EC centrifugal fan - RadiCal

backward curved, single inlet



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Nominal data

Type	**R3G355-RS02-H3**
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}	1850
Power input	W	500
Current draw	A	2.2
Min. ambient temperature	°C	-40
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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	67.2	48.3
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	0.5
09 Air flow q_v	m^3/h	2805
09 Pressure increase p_{fs}	Pa	395
10 Speed (rpm) n	min^{-1}	1850
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

LU-151750

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Technical features

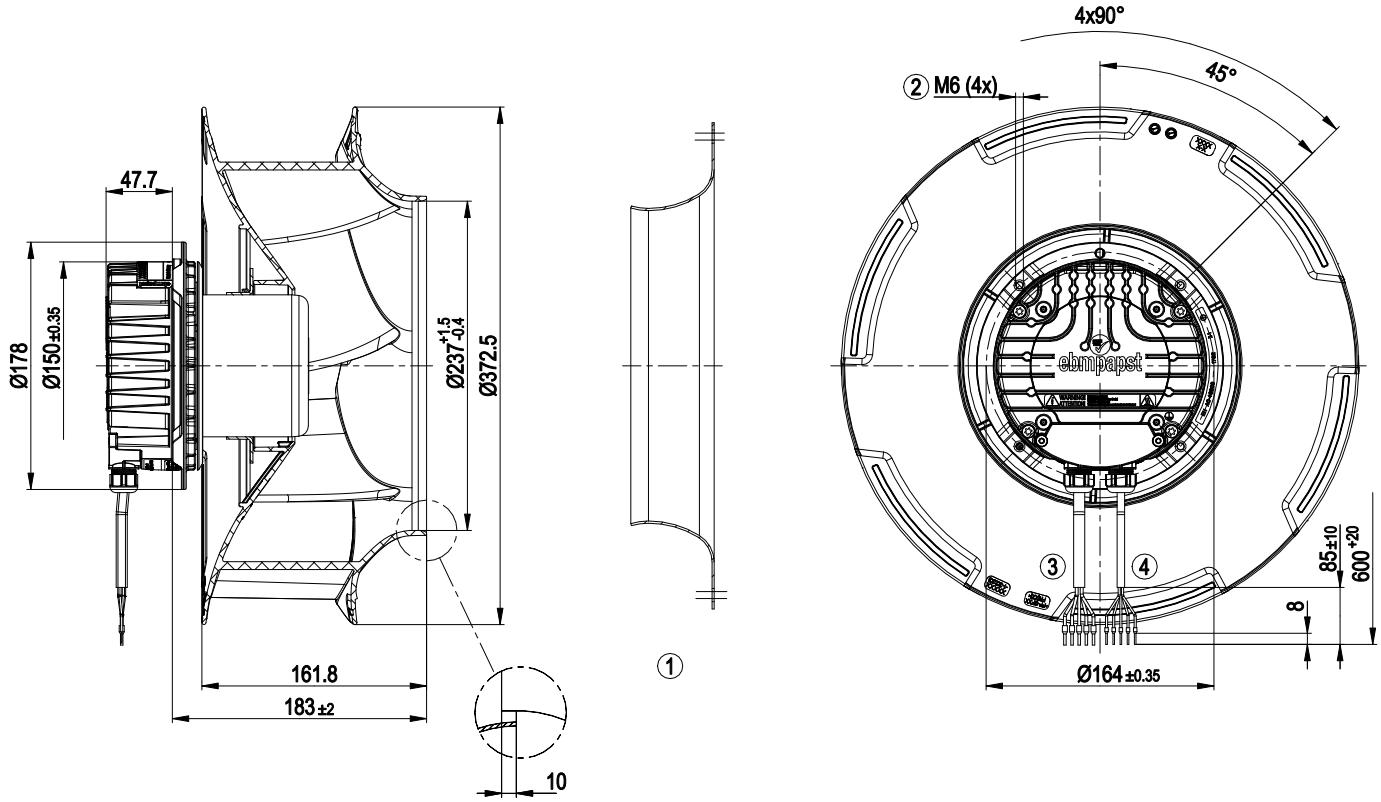
Mass	5.7 kg
Size	355 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PP plastic
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F3-1
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 with anti-freezing grease
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Tach output - 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
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
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 60335-1; EN 61800-5-1; CE
Approval	C22.2 Nr.77 + CAN/CSA-E60730-1; UL 1004-7 + 60730; EAC

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Product drawing



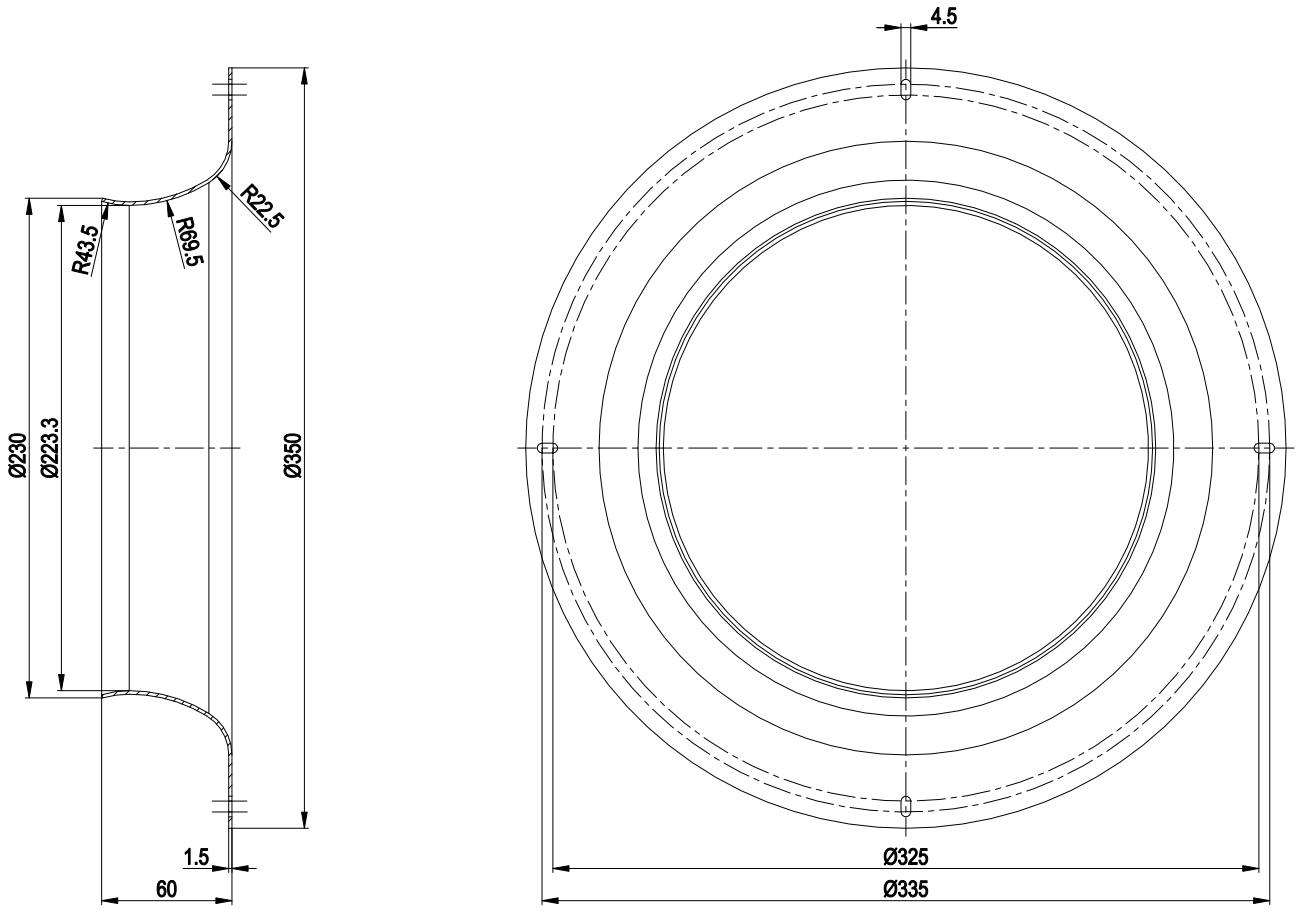
1	Accessory part: Inlet nozzle 35500-2-4013 not included in scope of delivery
2	Thread reach max. 16 mm
3	Connection line PVC AWG18, 5x crimped core-end sleeves
4	Connection line PVC AWG22, 5x crimped core-end sleeves

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Accessory part



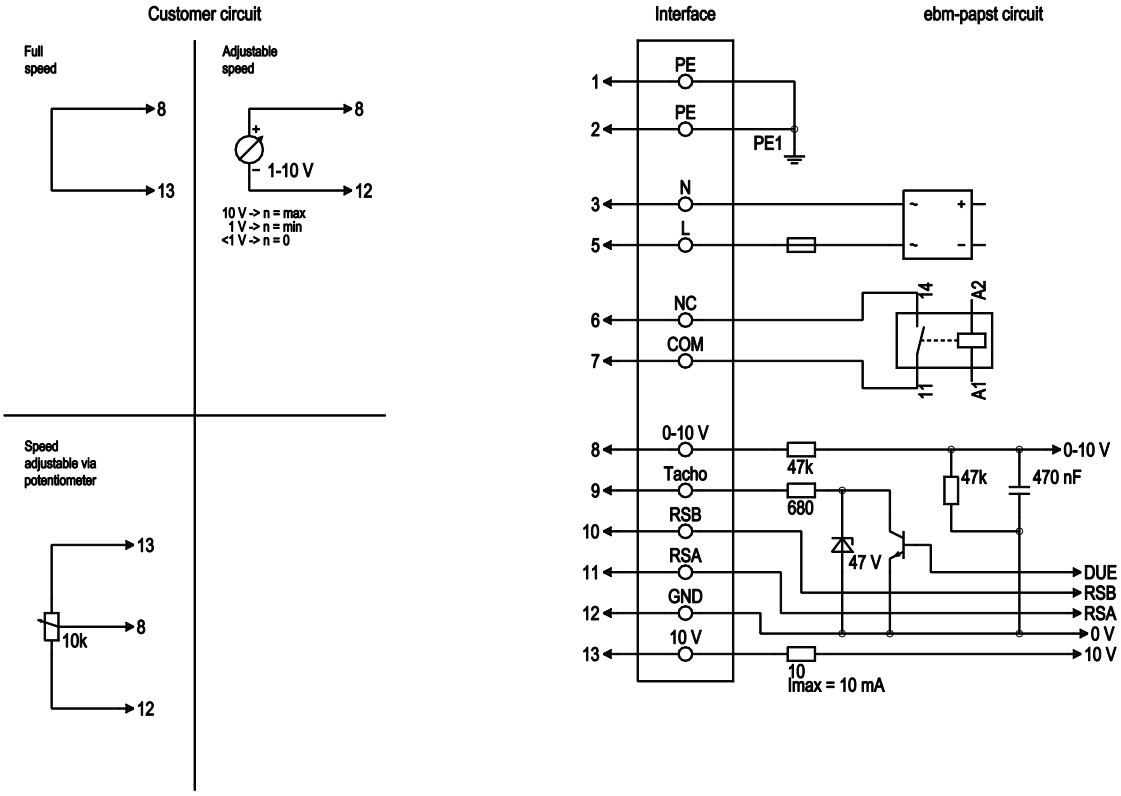
Inlet nozzle 35500-2-4013 not included in scope of delivery

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Connection screen



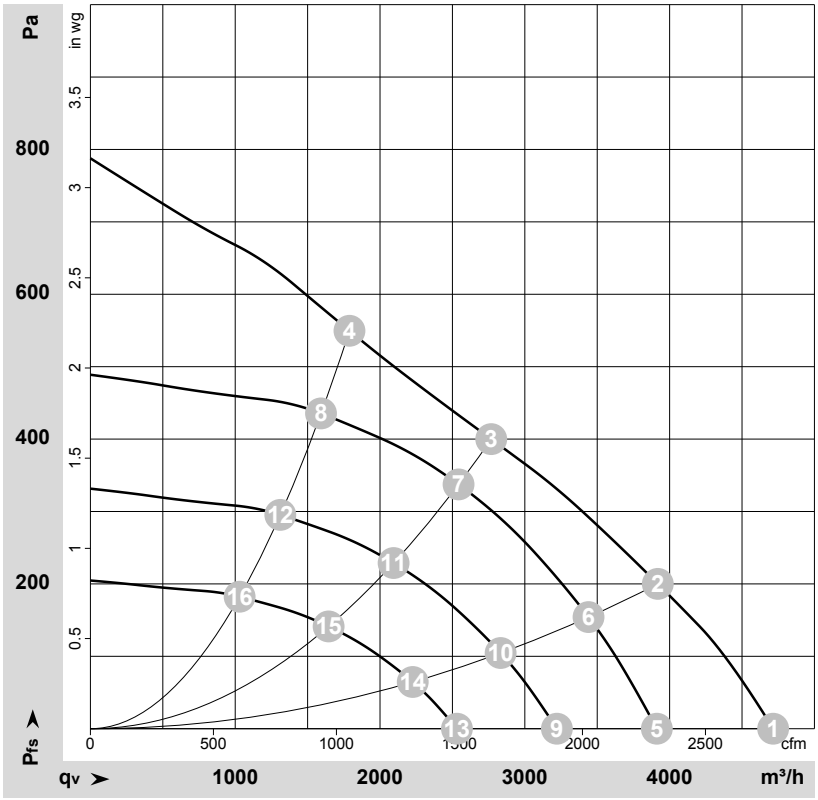
No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, 50/60 Hz
1	5	L	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
2	8	0-10 V	yellow	Analogue input (set value) SELV, 0-10 V, Ri=100kΩ, parametrisable curve
2	9	Tacho	grey	Tach output: Open collector, 1 pulse per revolution, Isink max = 10 mA; SELV
2	10	RSB	brown	RS-485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS-485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Signal ground for control interface, SELV
2	13	+10 V	red	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometers); SELV

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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-151750-1

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	2050	456	1.99	79	87	4715	0	2775	0.00
2	230	50	1935	500	2.20	71	78	3920	200	2305	0.80
3	230	50	1850	500	2.20	62	69	2770	400	1630	1.61
4	230	50	1910	500	2.20	66	74	1790	550	1055	2.21
5	230	50	1700	261	1.14	75	82	3910	0	2305	0.00
6	230	50	1700	344	1.50	68	74	3440	155	2025	0.62
7	230	50	1700	394	1.72	60	67	2540	338	1495	1.36
8	230	50	1700	361	1.57	63	71	1590	435	935	1.75
9	230	50	1400	146	0.64	70	77	3220	0	1895	0.00
10	230	50	1400	192	0.84	63	70	2835	105	1665	0.42
11	230	50	1400	220	0.96	55	62	2095	230	1230	0.92
12	230	50	1400	202	0.88	58	66	1310	295	770	1.18
13	230	50	1100	71	0.31	64	71	2530	0	1490	0.00
14	230	50	1100	93	0.41	57	63	2225	65	1310	0.26
15	230	50	1100	107	0.47	49	56	1645	142	970	0.57
16	230	50	1100	98	0.43	52	60	1030	182	605	0.73

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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