R3G355-RJ75-01

EC centrifugal fan - RadiCal

backward-curved, single-intake

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Nominal data

Type	**R3G355-RJ75-01**
Motor	**M3G112-EA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2400
Power consumption	W	1100
Current draw	A	1.7
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	65.4	51.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		75.5	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	1.1
09 Air flow q_v	m^3/h	3600
09 Pressure increase p_{fs}	Pa	663
10 Speed (rpm) n	min^{-1}	2400
11 Specific ratio*		1.01

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

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Technical description

Weight	8.4 kg
Size	355 mm
Motor size	112
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Ambient temperature note	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our fan design with special low-temperature bearings.
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; EN 60335-1; CE
Approval	UL 1004-7 + 60730; EAC; CCC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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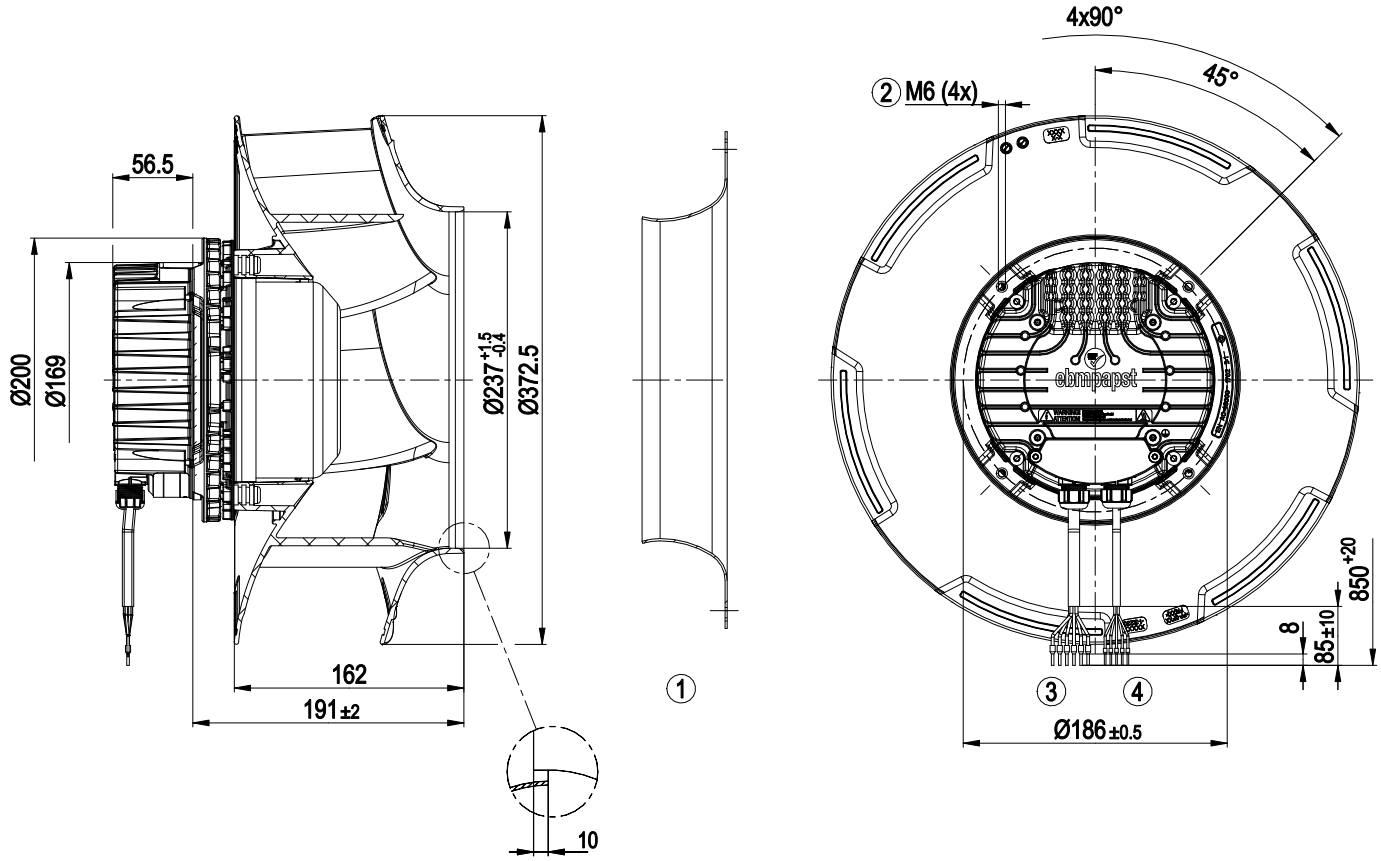
Product drawing



1	Accessory part: Inlet ring 35500-2-4013 not included in scope of delivery.
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18
	6x wire-end ferrule
4	Cable PVC AWG22
	5x wire-end ferrule

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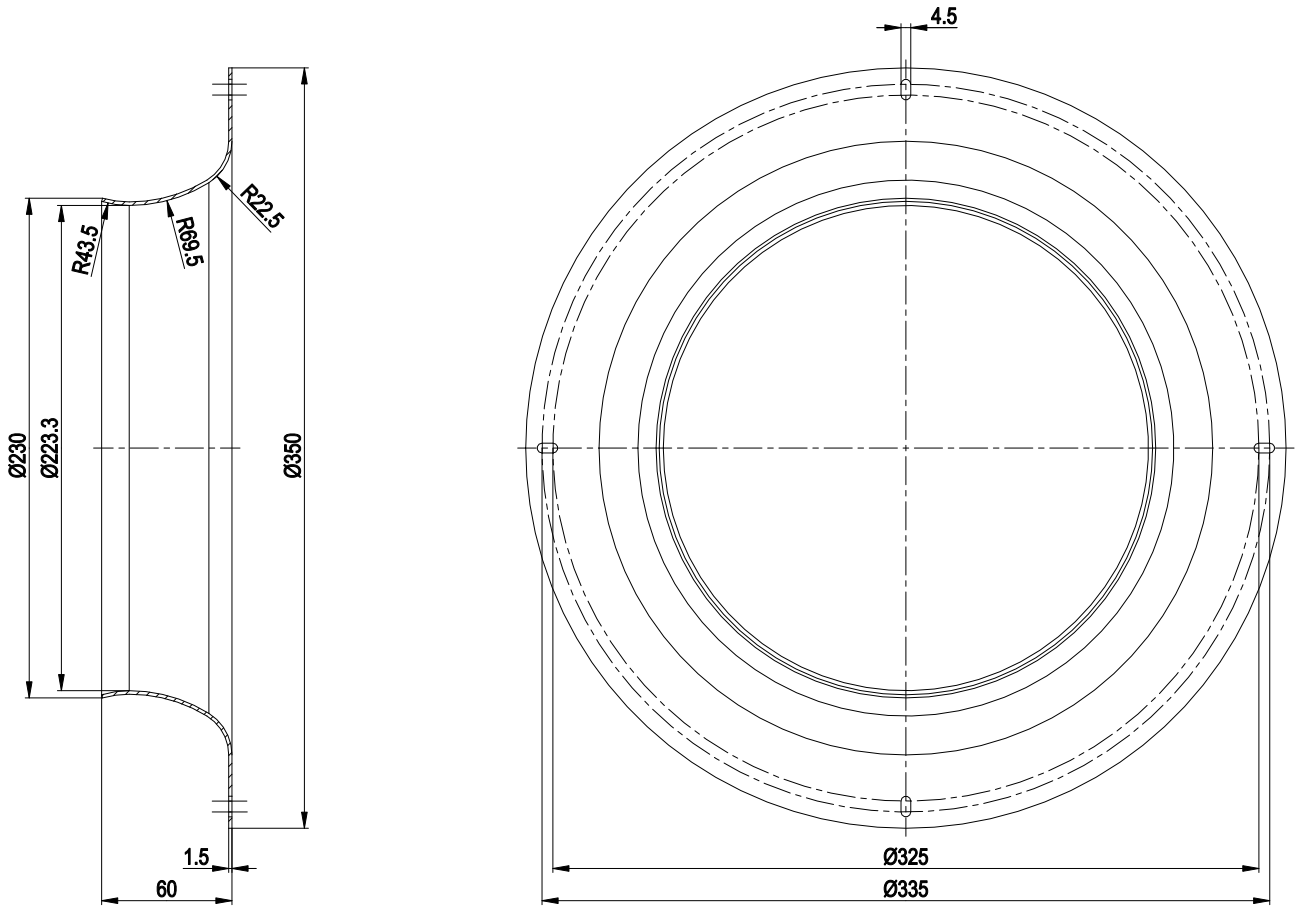
Accessory part



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

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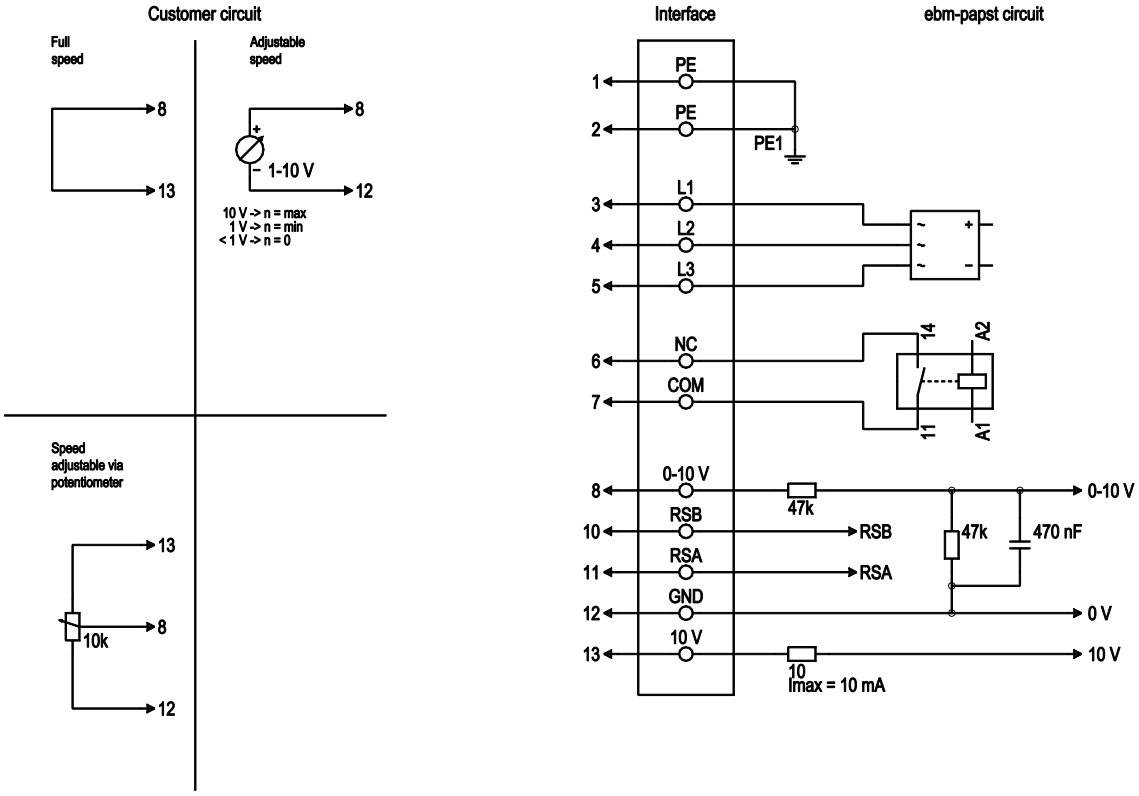
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	L1	black	Power supply
1	4	L2	black	Power supply
1	5	L3	black	Power supply
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic 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; reinforced insulation on supply side and basic insulation on control interface side
2	8	0-10V	yellow	Analog input (set value), 0-10 V, Ri = 100 kΩ, adjustable curve, SELV
2	10	RSB	brown	RS485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS485 interface for MODBUS, RSA; SELV
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. pot), SELV fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply

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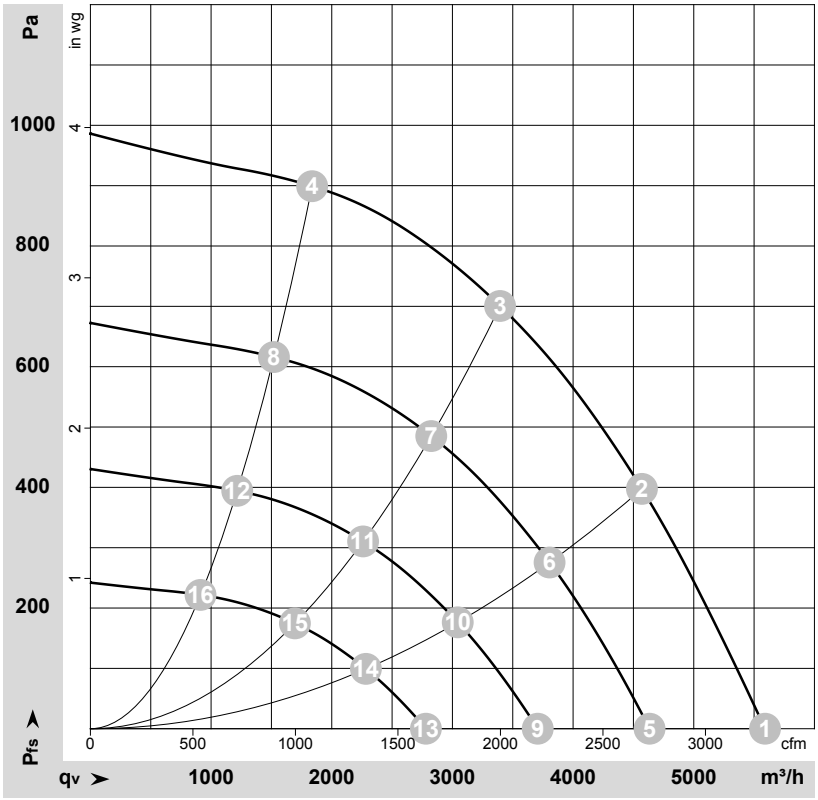
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-169266-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	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	400	50	2400	770	1.20	84	91	93	5590	0	3290	0.00
2	400	50	2400	1026	1.58	76	83	88	4570	400	2690	1.61
3	400	50	2400	1100	1.70	70	76	83	3395	700	2000	2.81
4	400	50	2400	961	1.49	74	81	85	1840	900	1080	3.61
5	400	50	2000	438	0.69	80	86	89	4635	0	2725	0.00
6	400	50	2000	592	0.91	71	78	83	3805	277	2240	1.11
7	400	50	2000	634	0.97	65	72	78	2825	485	1665	1.95
8	400	50	2000	545	0.84	69	76	80	1520	616	895	2.47
9	400	50	1600	225	0.35	74	80	83	3705	0	2180	0.00
10	400	50	1600	303	0.47	66	73	78	3045	177	1790	0.71
11	400	50	1600	325	0.50	59	66	73	2260	311	1330	1.25
12	400	50	1600	279	0.43	64	71	75	1215	394	715	1.58
13	400	50	1200	95	0.15	67	73	76	2780	0	1635	0.00
14	400	50	1200	128	0.20	58	65	71	2285	100	1345	0.40
15	400	50	1200	137	0.21	52	59	66	1695	175	1000	0.70
16	400	50	1200	118	0.18	56	63	68	915	222	535	0.89

U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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