EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G355-FB03-03 ebmpapst Datasheet
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Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
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Nominal data

Type	**R3G355-FB03-03**
Motor	**M3G074-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	1270
Power consumption	W	165
Current draw	A	1.45
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	69.7	43.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		88.4	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	2005
09 Pressure increase p_{fs}	Pa	181
10 Speed (rpm) n	min^{-1}	1275
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-215800

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the 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 description

Size	355 mm
Motor size	74
Rotor surface	Thick-film passivated
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
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
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Variable
Protection class assignment	I; If a protective earth is connected by the customer This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Conformity with standards	EN 60034-1; EN 60204-1; EN 60335-1; CE
Approval	UL 1004-7 + 60730-1; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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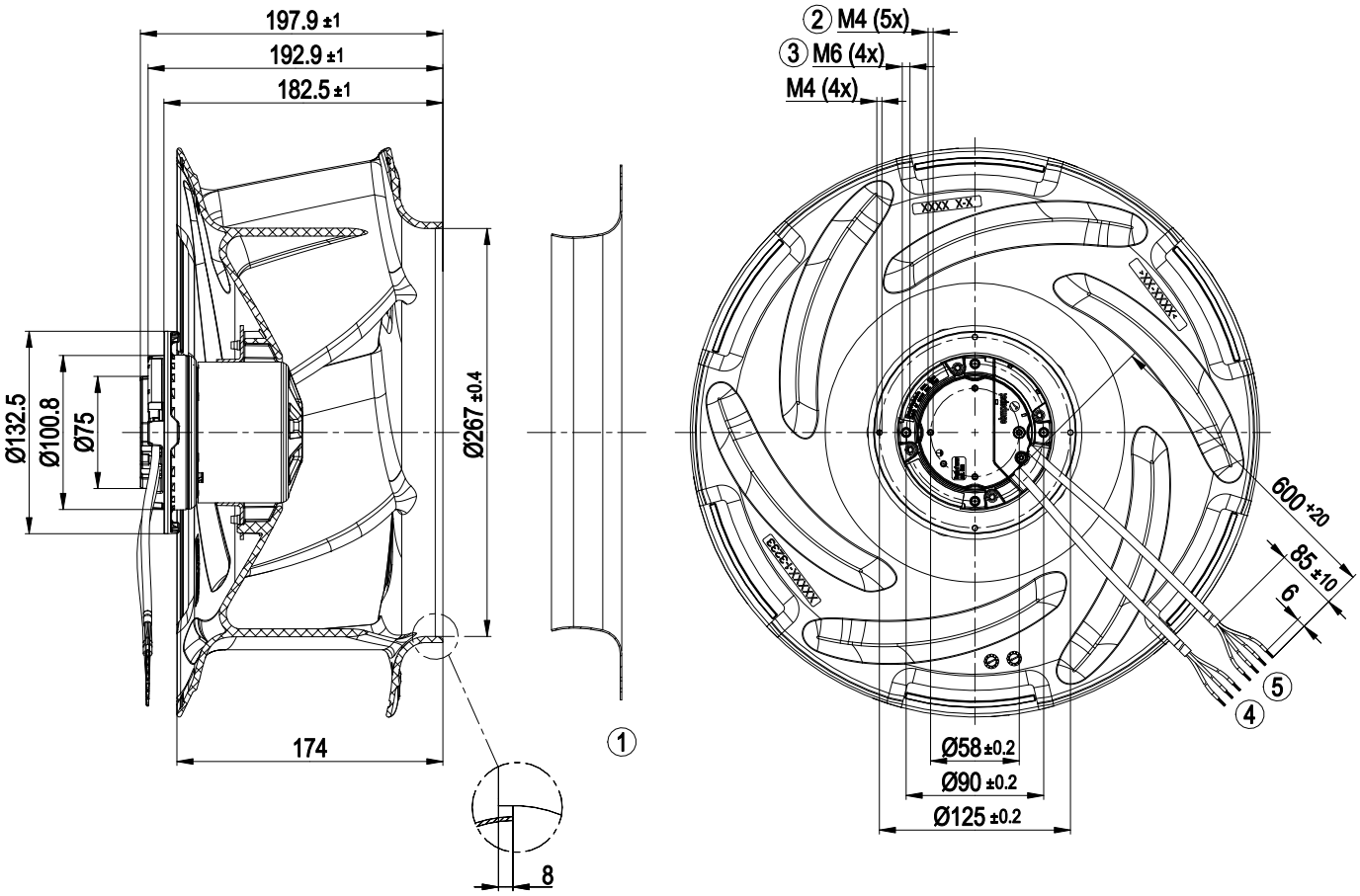
Product drawing



1	Accessory part: Inlet ring 35650-2-4013 (not included in scope of delivery)
2	Max. clearance for screw 5 mm
3	Max. clearance for screw 10 mm
4	Cable PVC AWG20
	3x splice
5	Cable PVC AWG22
	4x splice

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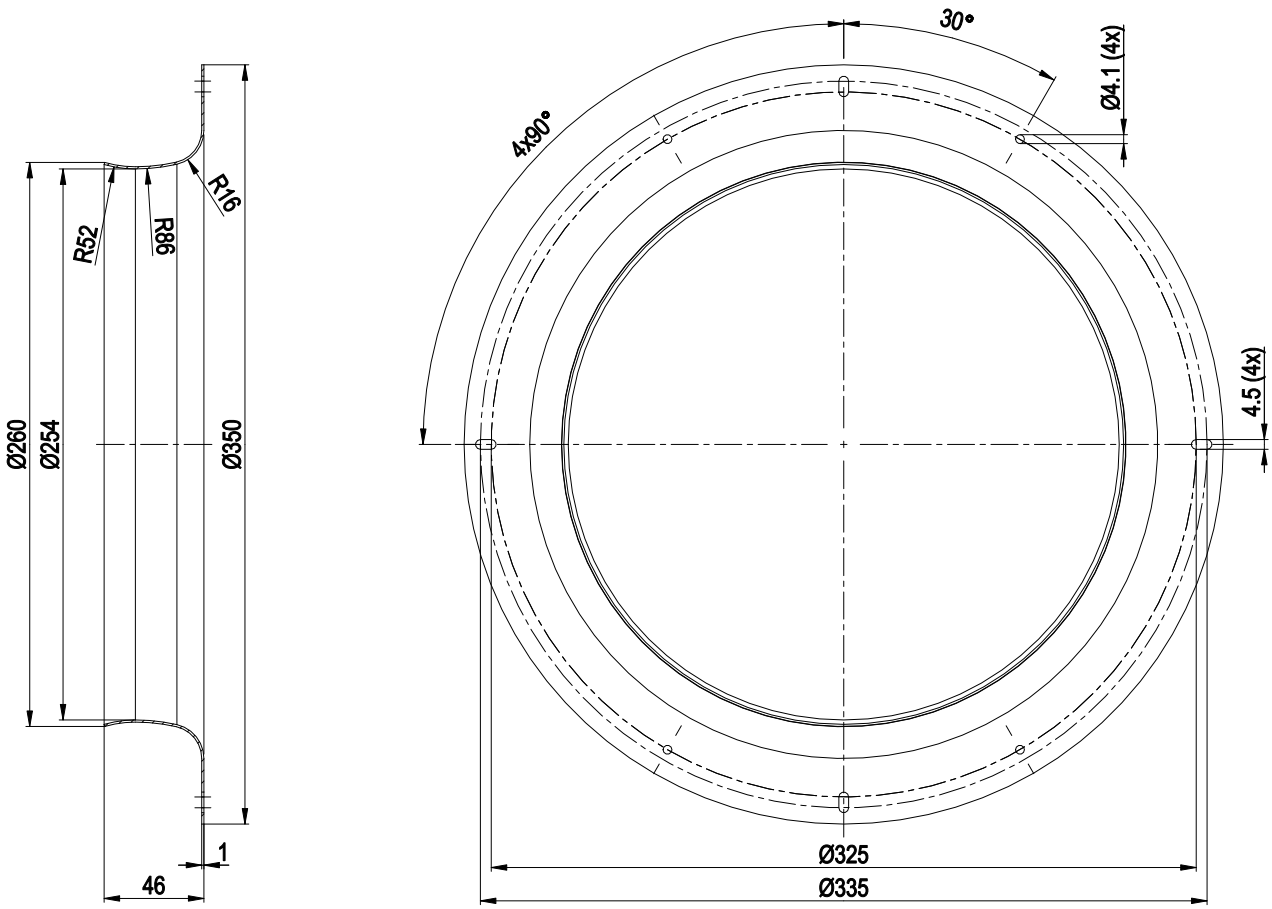
Accessory part



Inlet ring 35650-2-4013

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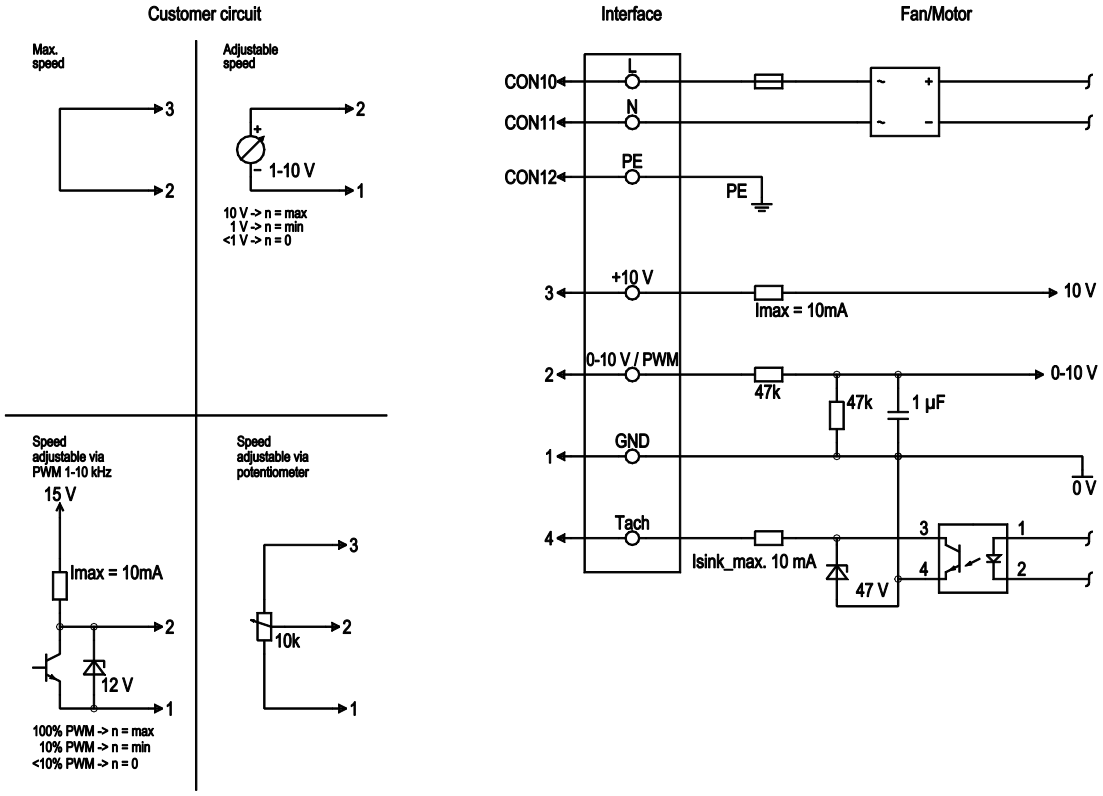
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / PWM control input, Ri=100 kΩ, SELV
	4	Tach	white	Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV
	1	GND	blue	Reference ground for control interface, SELV

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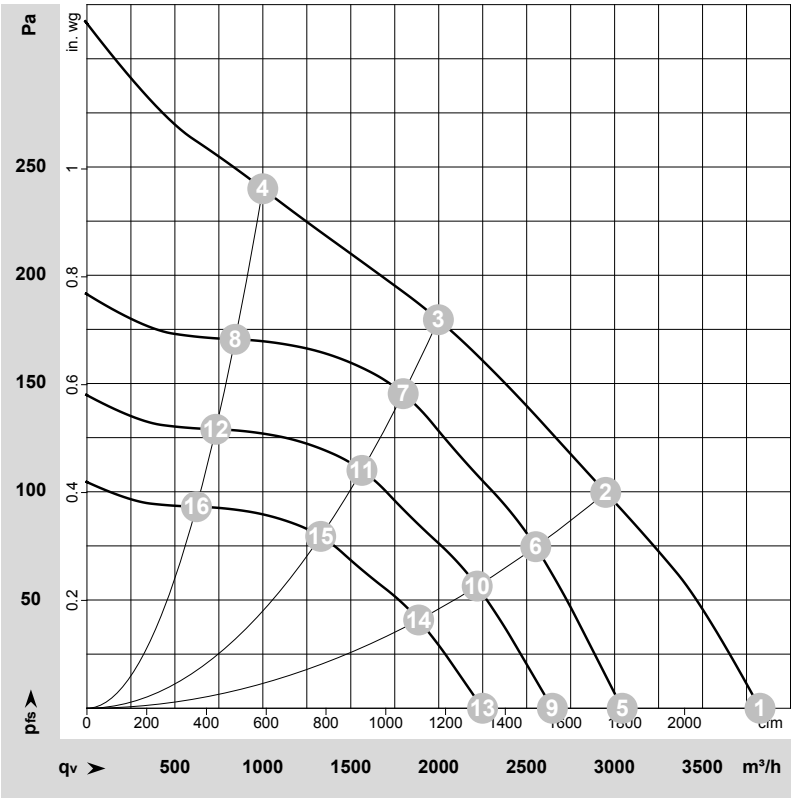
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-215800-1

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

	Wired	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	in. wg
1	1~	230	50	1445	147	1.29	66	72	3825	0	2250	0.00
2	1~	230	50	1330	165	1.45	60	68	2950	100	1735	0.40
3	1~	230	50	1270	165	1.45	53	61	2000	180	1175	0.72
4	1~	230	50	1365	165	1.45	59	68	1000	240	590	0.96
5	1~	230	50	1150	74	0.65	60	67	3045	0	1790	0.00
6	1~	230	50	1150	107	0.93	56	65	2550	75	1500	0.30
7	1~	230	50	1150	121	1.06	51	59	1800	147	1060	0.59
8	1~	230	50	1150	98	0.86	55	64	840	170	495	0.68
9	1~	230	50	1000	49	0.43	57	63	2645	0	1555	0.00
10	1~	230	50	1000	70	0.61	53	61	2220	56	1305	0.22
11	1~	230	50	1000	80	0.70	47	55	1565	112	920	0.45
12	1~	230	50	1000	65	0.57	52	60	735	129	430	0.52
13	1~	230	50	850	30	0.26	53	59	2250	0	1325	0.00
14	1~	230	50	850	43	0.38	49	57	1885	41	1110	0.16
15	1~	230	50	850	49	0.43	43	51	1330	81	780	0.33
16	1~	230	50	850	40	0.35	48	56	625	93	365	0.37

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