EC centrifugal fan - RadiCal

backward-curved, single-intake

R1G220-RD10-02 ebmpapst Datesheet

sales@fansco.com

www.fansco.com

Nominal data

Type	**R1G220-RD10-02**
Motor	**M1G074-BF**

Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Method of obtaining data		fa
Speed (rpm)	min^{-1}	3050
Power consumption	W	125
Current draw	A	5.2
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 (prEN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	50.2	42.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		70.1	62
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.12
09 Air flow q_v	m^3/h	645
09 Pressure increase p_{fs}	Pa	315
10 Speed (rpm) n	min^{-1}	2895
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-183586

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

Weight	1.5 kg
Size	220 mm
Motor size	74
Rotor surface	Galvanized
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP24 KM, electronics IP6K9K (mating connector installed)
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H2+
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	- Tach output - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Overvoltage detection - Thermal overload protection for electronics - Reverse polarity protection
With cable	Axial
Protection class assignment	III; Requires supply with safety extra-low voltage SELV. 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. If there is a PE connection point on the housing, it must not be visible after installation.
Conformity with standards	CE
Approval	EAC; CSA C22.2 No. 113; UL 507

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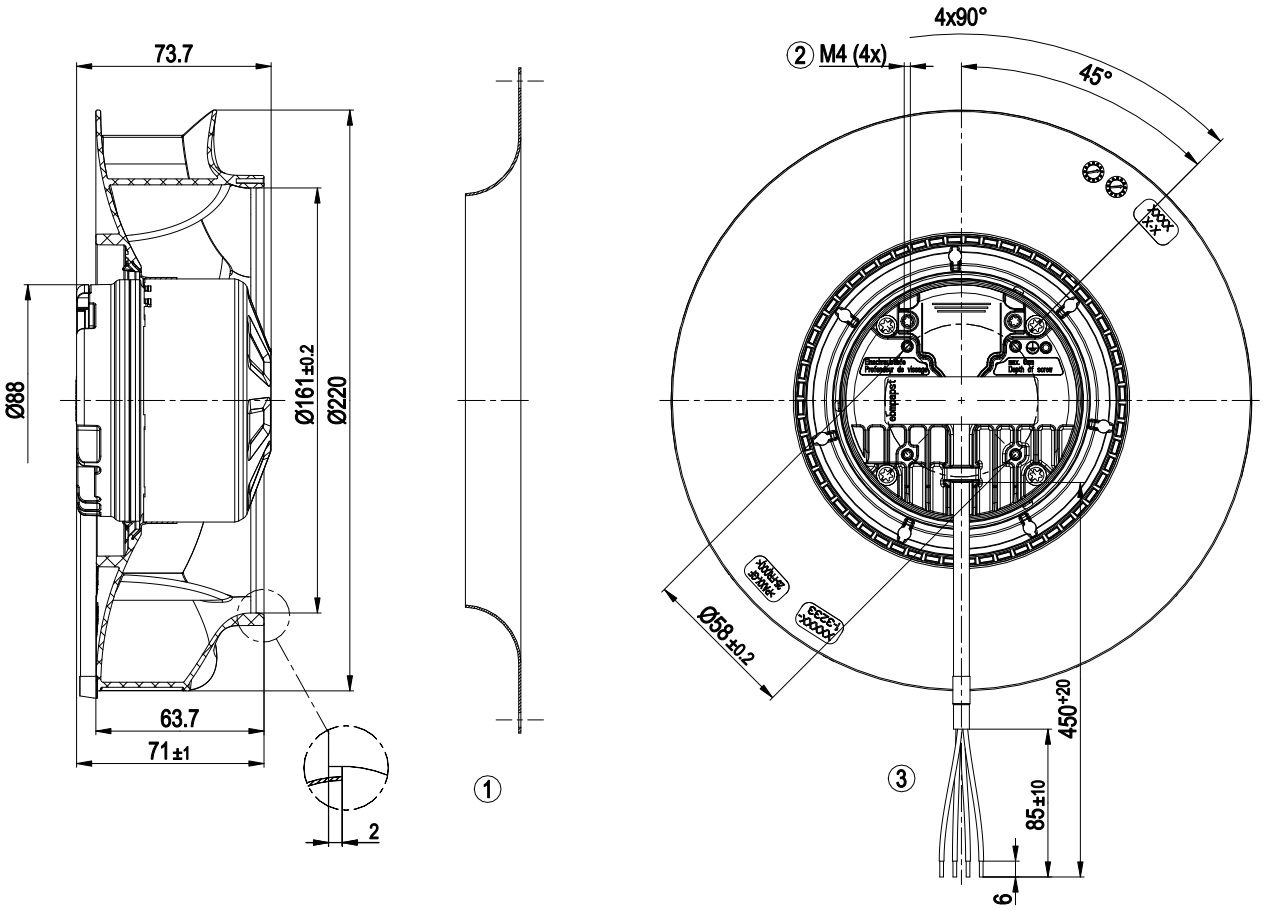
Product drawing



1	Accessory part: inlet ring 09609-2-4013 not included in scope of delivery
2	Max. clearance for screw 6 mm
3	Cable PVC 4x AWG18, insulating hose
	4x splice

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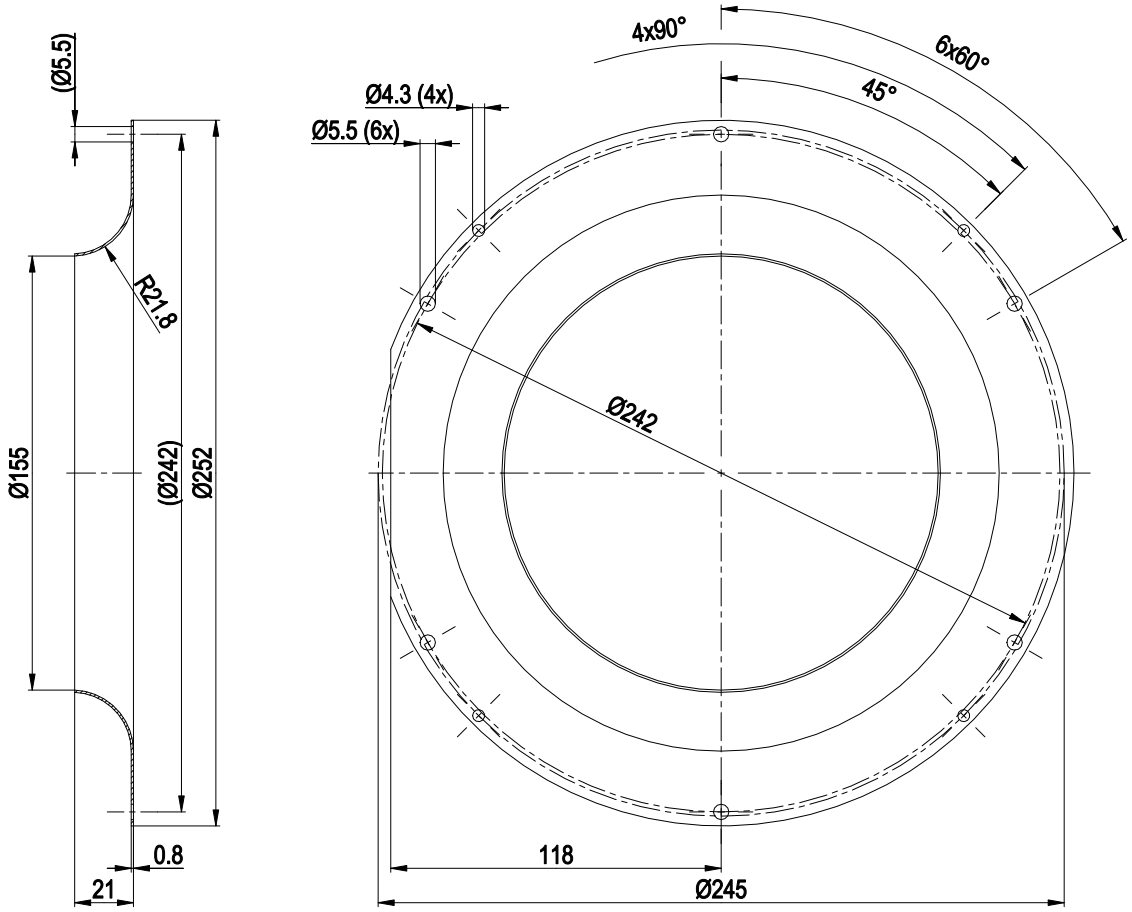
Accessory part



Inlet ring 09609-2-4013 not included in scope of delivery

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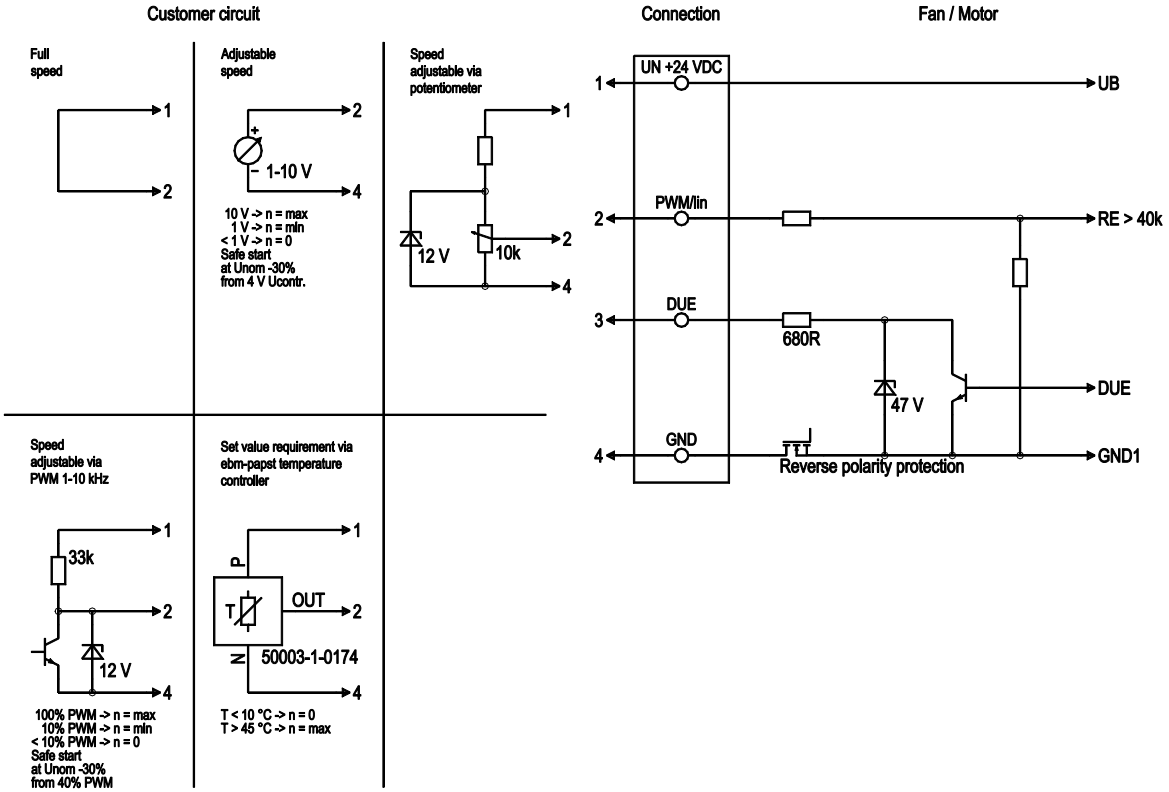
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	1	UN +24 VDC	red	Power supply 24 VDC, maximum ripple 3.5%
	2	PWM/LIN	yellow	Control input Re > 40k
	3	DUE	white	Tach output, 3 pulses per revolution, Isink max = 10 mA
	4	GND	blue	Reference ground

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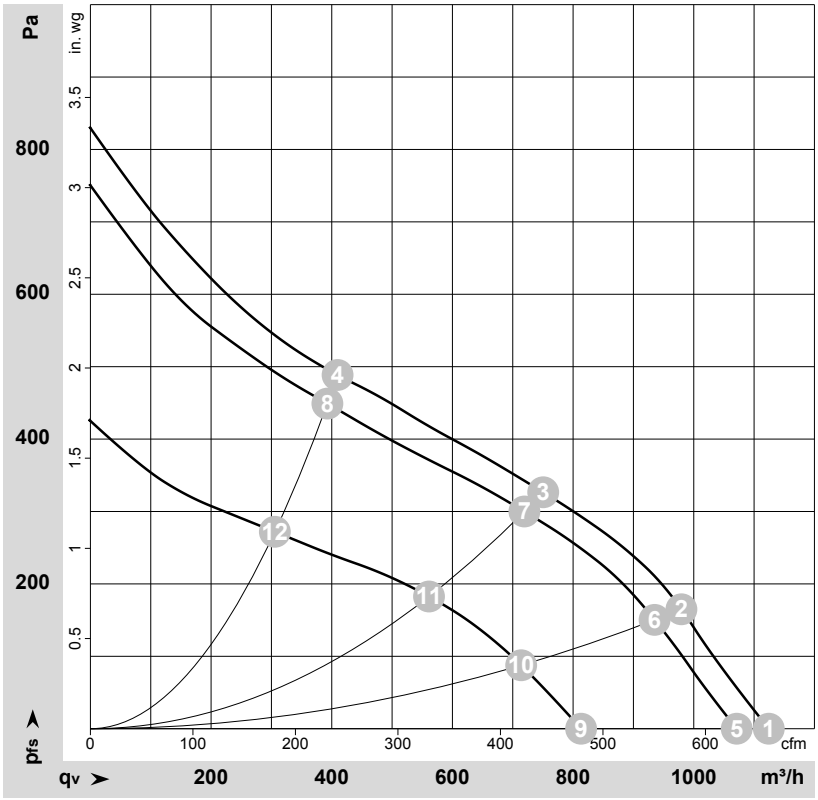
Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-192542-1
Measurement: LU-192479-1
Measurement: LU-192541-1

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	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	28	3310	144	5.12			1125	0	660	0.00
2	28	3220	146	5.19			980	166	575	0.67
3	28	3085	149	5.29			750	327	440	1.31
4	28	3185	146	5.19			410	488	240	1.96
5	24	3050	125	5.20	70	78	1070	0	630	0.00
6	24	3085	131	5.43	67	75	935	150	550	0.60
7	24	2965	132	5.50	63	71	720	300	425	1.20
8	24	3065	130	5.40	63	72	395	450	230	1.81
9	16	2425	64	3.97			815	0	480	0.00
10	16	2390	65	4.08			715	89	420	0.36
11	16	2335	68	4.25			560	184	330	0.74
12	16	2390	65	4.07			305	272	180	1.09

U = Voltage · 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