

R2D220-RB14-09

AC centrifugal fan - RadiCal

backward-curved, single-intake

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	R2D220-RB14-09			
Motor	M2D068-CF			
Phase		3~	3~	3~
Nominal voltage	VAC	400	400	460
Wiring		Y	Y	Y
Frequency	Hz	50	60	60
Method of obtaining data		ml	ml	ml
Valid for approval/standard		CE	CE	UL 2111
Speed (rpm)	min ⁻¹	2450	2580	2800
Power consumption	W	98	130	145
Current draw	A	0.19	0.22	0.22
Min. back pressure	Pa	0	0	0
Min. back pressure	in. wg	0	0	0
Min. ambient temperature	°C	-25	-25	-25
Max. ambient temperature	°C	75	65	55
Starting current	A	0.40	0.42	0.46

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



Technical description

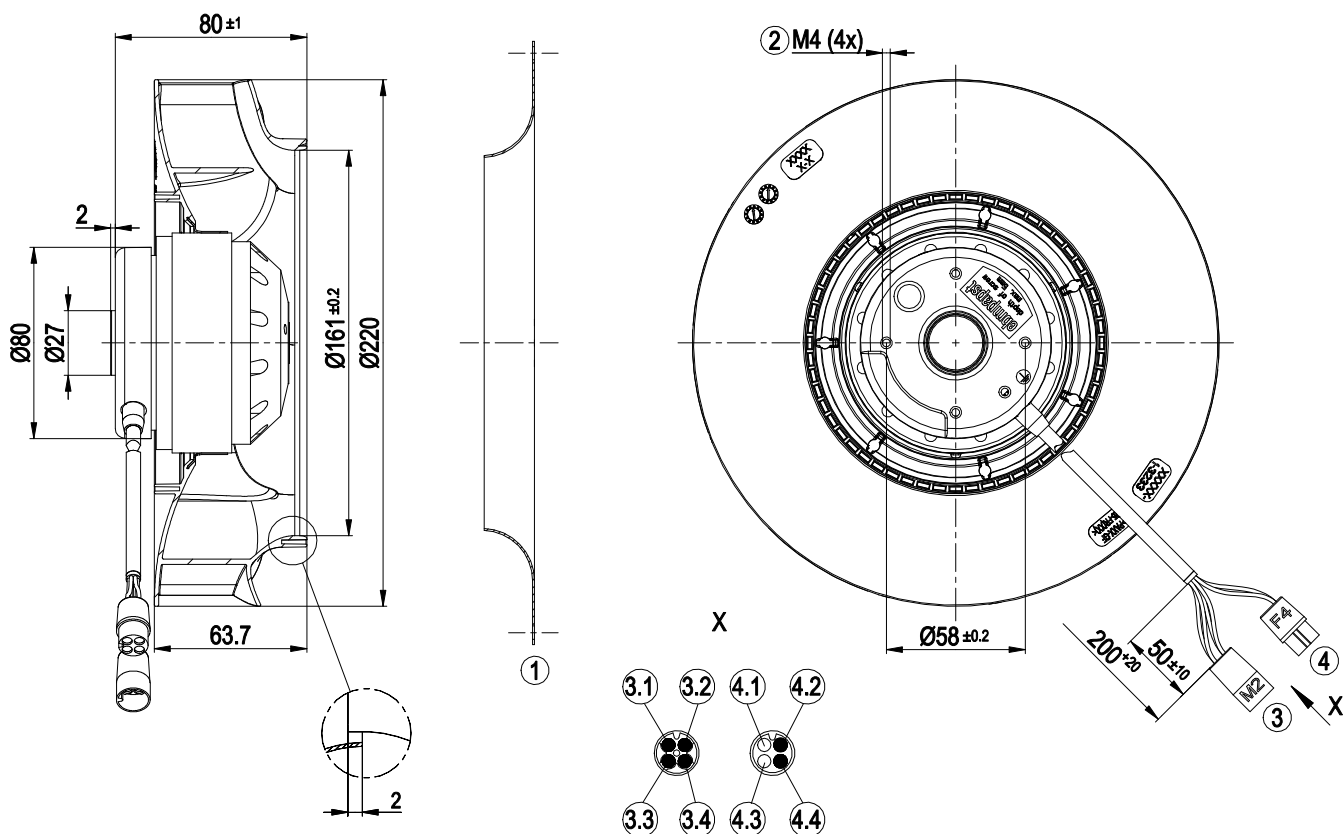
Weight	1.66 kg
Size	220 mm
Motor size	68
Rotor surface	Painted black
Impeller material	PP plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1+
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	< 0.75 mA
Electrical hookup	Connector with cable
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Lateral
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE
Approval	CSA C22.2 No. 77; UL 1004-3



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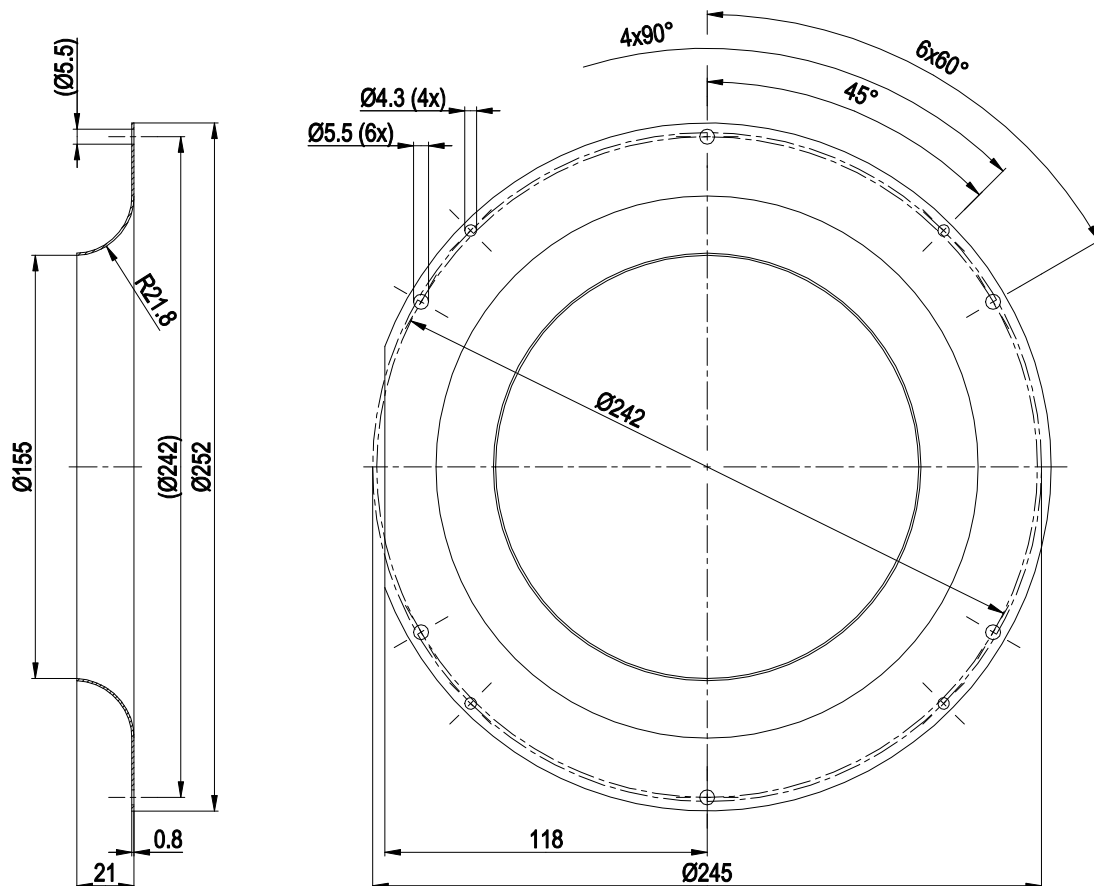
Product drawing



1	Accessory part: inlet ring 09609-2-4013 not included in scope of delivery
2	Max. clearance for screw 5 mm
3	Cable PFA AWG20, 4-pole connector housing tyco 925075-7, 4x plug pin tyco 163555-6
3.1	PE (green/yellow)
3.2	L1 (black)
3.3	L3 (brown)
3.4	L2 (blue)
4	Cable PFA AWG20, 4-pole connector housing tyco 925076-7, 4x socket tyco 163300-8
4.1	not used
4.2	TOP (gray)
4.3	not used
4.4	TOP (gray)



Accessory part

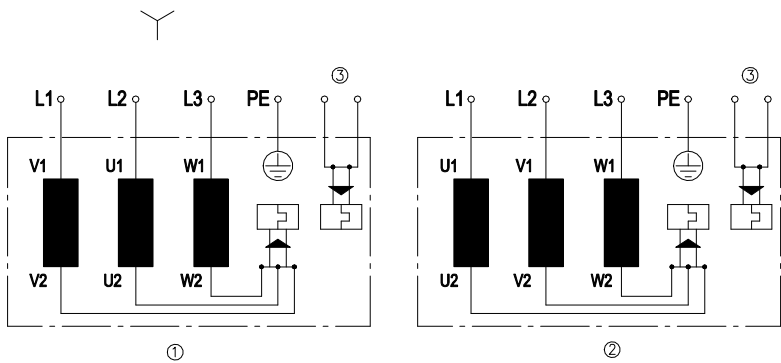


Inlet ring 09609-2-4013 not included in scope of delivery

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Connection diagram

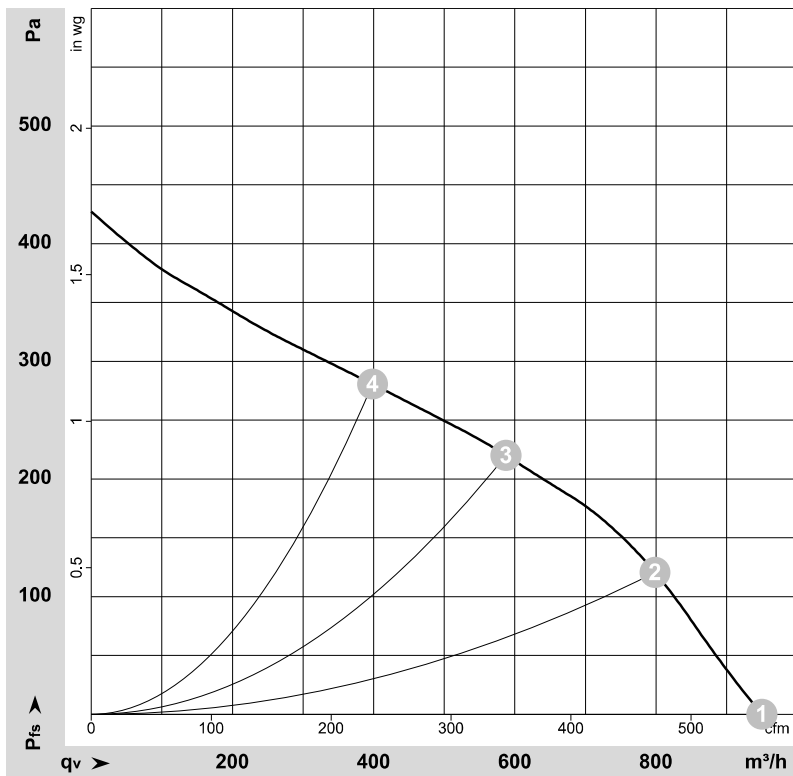


Change of rotation direction by reversing two phases

	Three-phase motor
Y	Star connection
1	Counterclockwise operation
L1	= V1 = blue
L2	= U1 = black
L3	= W1 = brown
2	Clockwise operation
L1	=U1=black
L2	=V1=blue
L3	=W1=brown
PE	green/yellow
3	TOP signal, 2x gray



Curves: Air performance 50 Hz



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-169066-1

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.

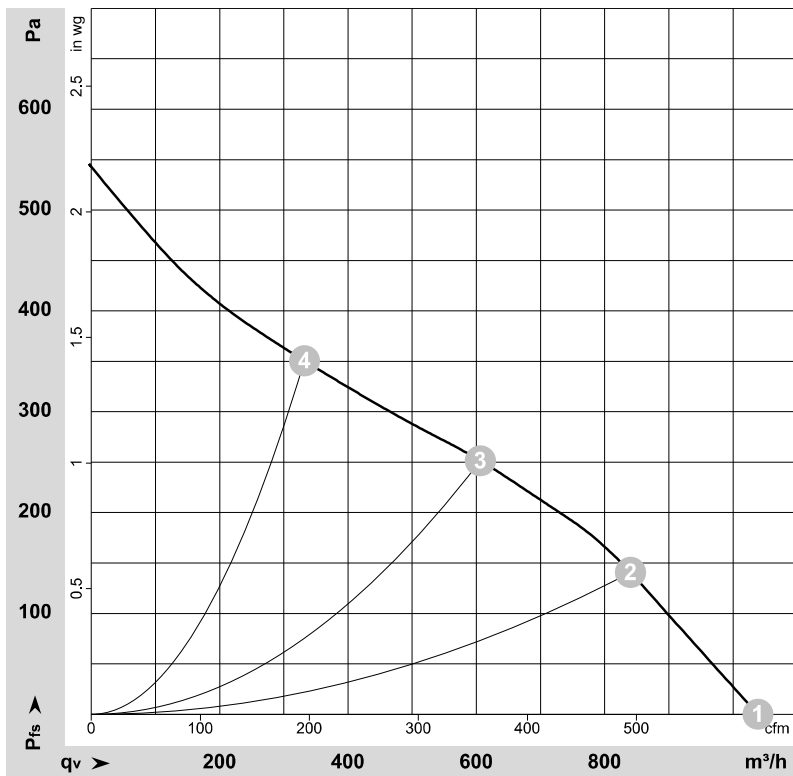
Measured values

	Wired	U	f	n	P _e	I	LpA _{in}	LwA _{in}	q _v	P _{fs}	q _v	P _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m³/h	Pa	cfm	in. wg
1	Y	400	50	2610	79	0.16	62	70	950	0	560	0.00
2	Y	400	50	2540	88	0.17	58	66	800	120	470	0.48
3	Y	400	50	2450	98	0.19	56	64	585	220	345	0.88
4	Y	400	50	2500	92	0.17	59	66	400	280	235	1.12

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = 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



Curves: Air performance 60 Hz



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-169148-1

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 _e	I	LpA _{in}	LwA _{in}	q _v	P _{fs}	q _v	P _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m³/h	Pa	cfm	in. wg
1	Y	400	60	2830	106	0.17	63	71	1040	0	610	0.00
2	Y	400	60	2700	119	0.19	59	67	840	140	495	0.56
3	Y	400	60	2580	130	0.22	56	64	605	250	355	1.00
4	Y	400	60	2705	118	0.19	63	70	330	350	195	1.41

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = 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

