

R1G220-RD61-02

# EC centrifugal fan - RadiCal

backward-curved, single-intake



R1G220-RD61-02 ebmpapst Datasheet

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## Nominal data

|                          |                   |         |
|--------------------------|-------------------|---------|
| Type                     | R1G220-RD61-02    |         |
| Motor                    | M1G074-BF         |         |
| Nominal voltage          | VDC               | 12      |
| Nominal voltage range    | VDC               | 8 .. 16 |
| Method of obtaining data |                   | fa      |
| Speed (rpm)              | min <sup>-1</sup> | 2700    |
| Power consumption        | W                 | 90      |
| Current draw             | A                 | 8.6     |
| Min. ambient temperature | °C                | -25     |
| Max. ambient temperature | °C                | 70      |

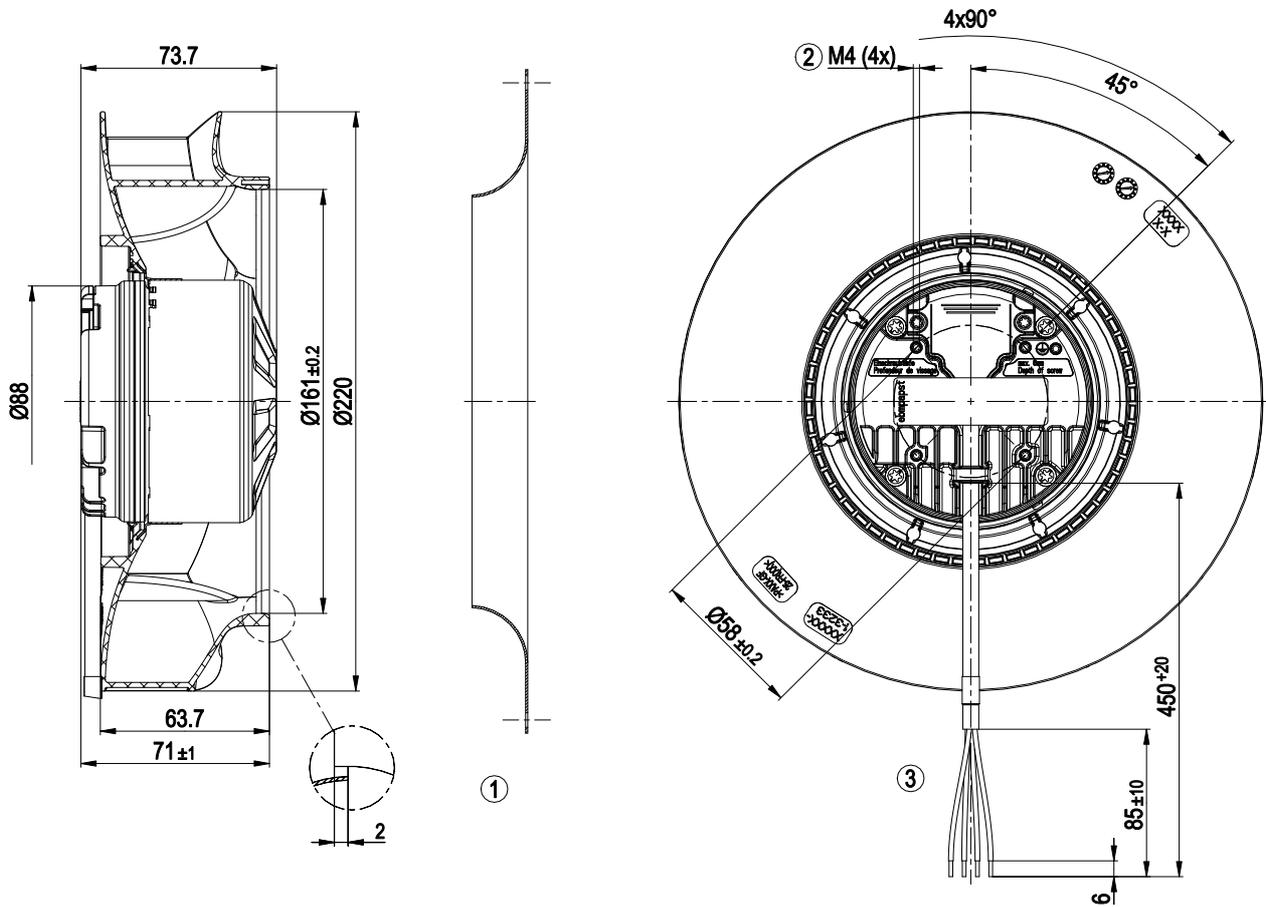
ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment  
Subject to change



## Technical description

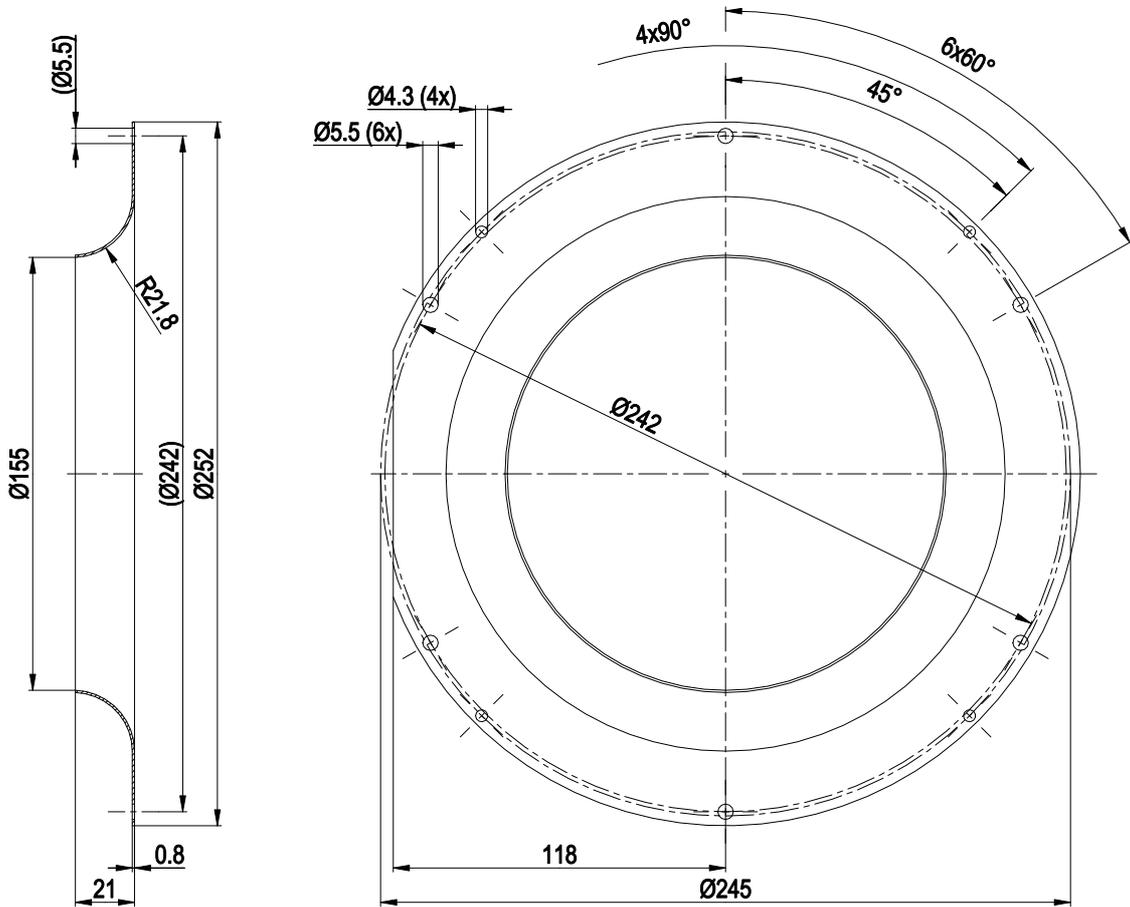
|   |   |
|---|---|
| <b>Weight</b>   | 1.5 kg  |
| <b>Size</b>   | 220 mm  |
| <b>Motor size</b>   | 74  |
| <b>Rotor surface</b>  | Galvanized  |
| <b>Electronics housing material</b>                               | Die-cast aluminum, painted black  |
| <b>Impeller material</b>  | PA plastic  |
| <b>Number of blades</b>   | 7   |
| <b>Direction of rotation</b>                                      | Clockwise, viewed toward rotor  |
| <b>Degree of protection</b>                                       | Motor IP24 KM, electronics IP6K9K (mating connector installed)  |
| <b>Insulation class</b>   | "B"   |
| <b>Moisture (F) / Environmental (H) protection class</b>          | H2+   |
| <b>Max. permitted ambient temp. for motor (transport/storage)</b> | +80 °C  |
| <b>Min. permitted ambient temp. for motor (transport/storage)</b> | -40 °C  |
| <b>Installation position</b>                                      | Shaft horizontal or rotor on bottom; rotor on top on request  |
| <b>Condensation drainage holes</b>                                | On rotor side   |
| <b>Mode</b>   | S1  |
| <b>Motor bearing</b>  | Ball bearing; (sealed)  |
| <b>Technical features</b>   | <ul style="list-style-type: none"> <li>- Tach output</li> <li>- Motor current limitation</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Overvoltage detection</li> <li>- Reverse polarity protection</li> </ul>   |
| <b>With cable</b>   | Axial   |
| <b>Protection class assignment</b>                                | <p>III; Requires supply with safety extra-low voltage SELV.</p> <p>This component for installation may have several local protection classes. This information relates to this component's basic design.</p> <p>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.</p> |
| <b>Approval</b>   | EAC; CSA C22.2 No. 113; UL 507  |

Product drawing



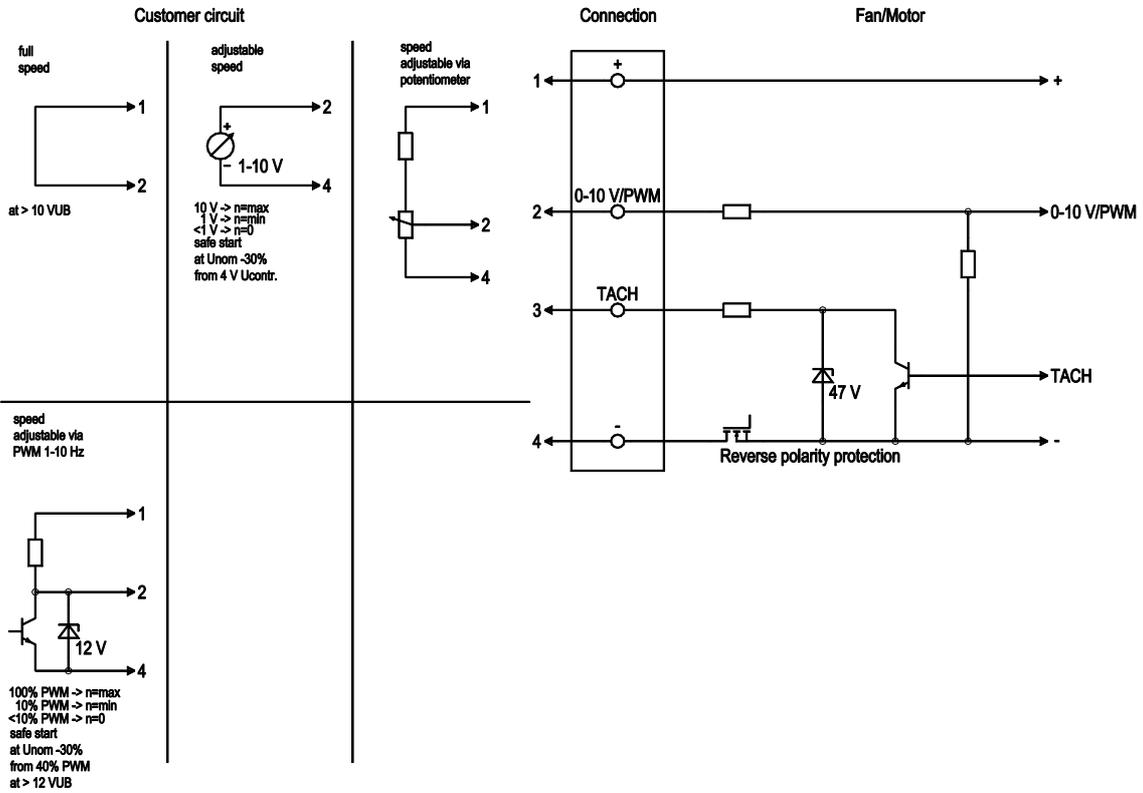
|   |   |
|---|---|
| 1 | Accessory part: inlet ring 09609-2-4013 not included in scope of delivery |
| 2 | Max. clearance for screw 6 mm   |
| 3 | Cable PVC 4x AWG18, insulating hose                                       |
|   | 4x splice   |

## Accessory part



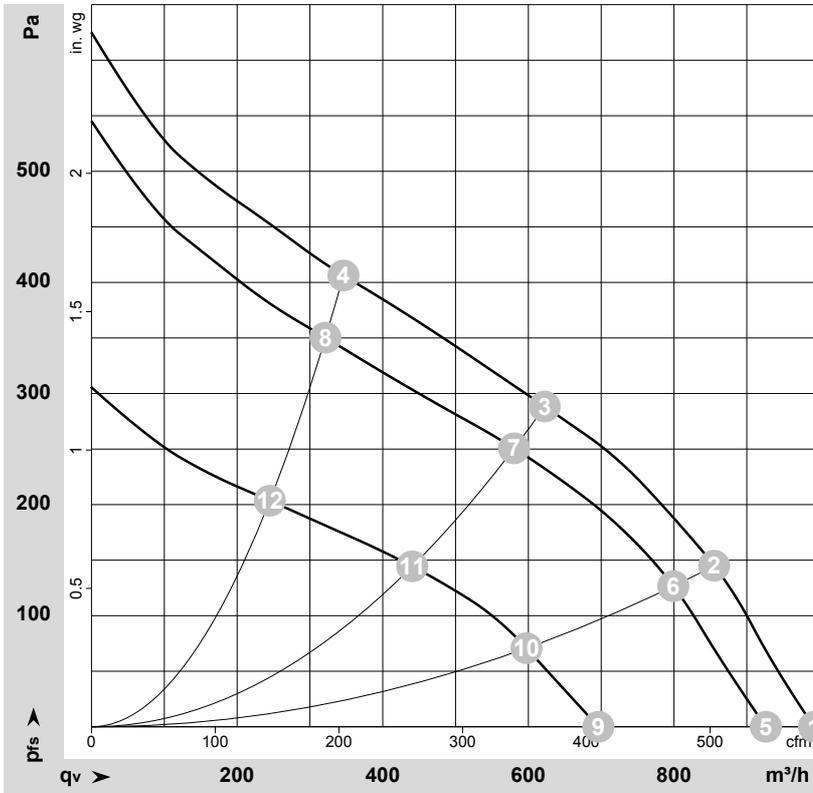
Inlet ring 09609-2-4013 not included in scope of delivery

## Connection diagram



| No. | Conn.     | Designation | Color  | Function/assignment   |
|-----|-----------|-------------|--------|---|
| 1   | Un +12VDC |             | red    | Power supply 12 VDC, see nameplate for voltage range, maximum ripple 3.5% |
| 2   | PWM/LIN   |             | yellow | Control input Re > 40k (PWM 1-10 kHz / 0-10 V)                            |
| 3   | Tacho     |             | white  | Tach output, 3 pulses per revolution, Isink max = 10 mA                   |
| 4   | GND       |             | blue   | Reference ground  |

## Curves: Air performance



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

Measurement: LU-184279-1  
 Measurement: LU-183585-1  
 Measurement: LU-184278-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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 <sub>ed</sub> | I    | LpA <sub>in</sub> | LwA <sub>in</sub> | q <sub>v</sub>    | P <sub>fs</sub> | q <sub>v</sub> | P <sub>fs</sub> |
|----|----|-------------------|-----------------|------|-------------------|-------------------|-------------------|-----------------|----------------|-----------------|
|    | V  | min <sup>-1</sup> | W               | A    | dB(A)             | dB(A)             | m <sup>3</sup> /h | Pa              | cfm            | in. wg          |
| 1  | 16 | 2905              | 110             | 8.77 |                   |                   | 990               | 0               | 585            | 0.00            |
| 2  | 16 | 2855              | 112             | 9.01 |                   |                   | 855               | 146             | 505            | 0.59            |
| 3  | 16 | 2790              | 117             | 9.43 |                   |                   | 620               | 288             | 365            | 1.16            |
| 4  | 16 | 2890              | 113             | 9.01 |                   |                   | 345               | 406             | 205            | 1.63            |
| 5  | 12 | 2700              | 90              | 8.60 | 66                | 74                | 925               | 0               | 545            | 0.00            |
| 6  | 12 | 2670              | 92              | 8.84 | 63                | 71                | 800               | 125             | 470            | 0.50            |
| 7  | 12 | 2600              | 96              | 9.25 | 58                | 66                | 580               | 250             | 340            | 1.00            |
| 8  | 12 | 2685              | 92              | 8.80 | 62                | 69                | 320               | 350             | 190            | 1.41            |
| 9  | 8  | 2065              | 42              | 5.97 |                   |                   | 695               | 0               | 410            | 0.00            |
| 10 | 8  | 2030              | 43              | 6.16 |                   |                   | 595               | 71              | 350            | 0.29            |
| 11 | 8  | 1990              | 44              | 6.39 |                   |                   | 440               | 144             | 260            | 0.58            |
| 12 | 8  | 2040              | 43              | 6.14 |                   |                   | 245               | 204             | 145            | 0.82            |

U = Voltage · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side · q<sub>v</sub> = Air flow  
 P<sub>fs</sub> = Pressure increase

