

R2E220-RA38-12

# AC centrifugal fan - RadiCal

backward-curved

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## Nominal data

|                             |                   |         |         |
|-----------------------------|-------------------|---------|---------|
| Type                        | R2E220-RA38-12    |         |         |
| Motor                       | M2E068-BF         |         |         |
| Phase                       |                   | 1~      | 1~      |
| Nominal voltage             | VAC               | 230     | 230     |
| Frequency                   | Hz                | 50      | 60      |
| Method of obtaining data    |                   | ml      | ml      |
| Valid for approval/standard |                   | CE      | CE      |
| Speed (rpm)                 | min <sup>-1</sup> | 2100    | 2050    |
| Power consumption           | W                 | 88      | 107     |
| Current draw                | A                 | 0.39    | 0.47    |
| Capacitor                   | µF                | 2       | 2       |
| Capacitor voltage           | VDB               | 450     | 450     |
| Capacitor standard          |                   | S0 (CE) | S0 (CE) |
| Min. back pressure          | Pa                | 0       | 0       |
| Min. back pressure          | in. wg            | 0       | 0       |
| Min. ambient temperature    | °C                | -25     | -25     |
| Max. ambient temperature    | °C                | 50      | 60      |
| Starting current            | A                 | 0.51    | 0.52    |

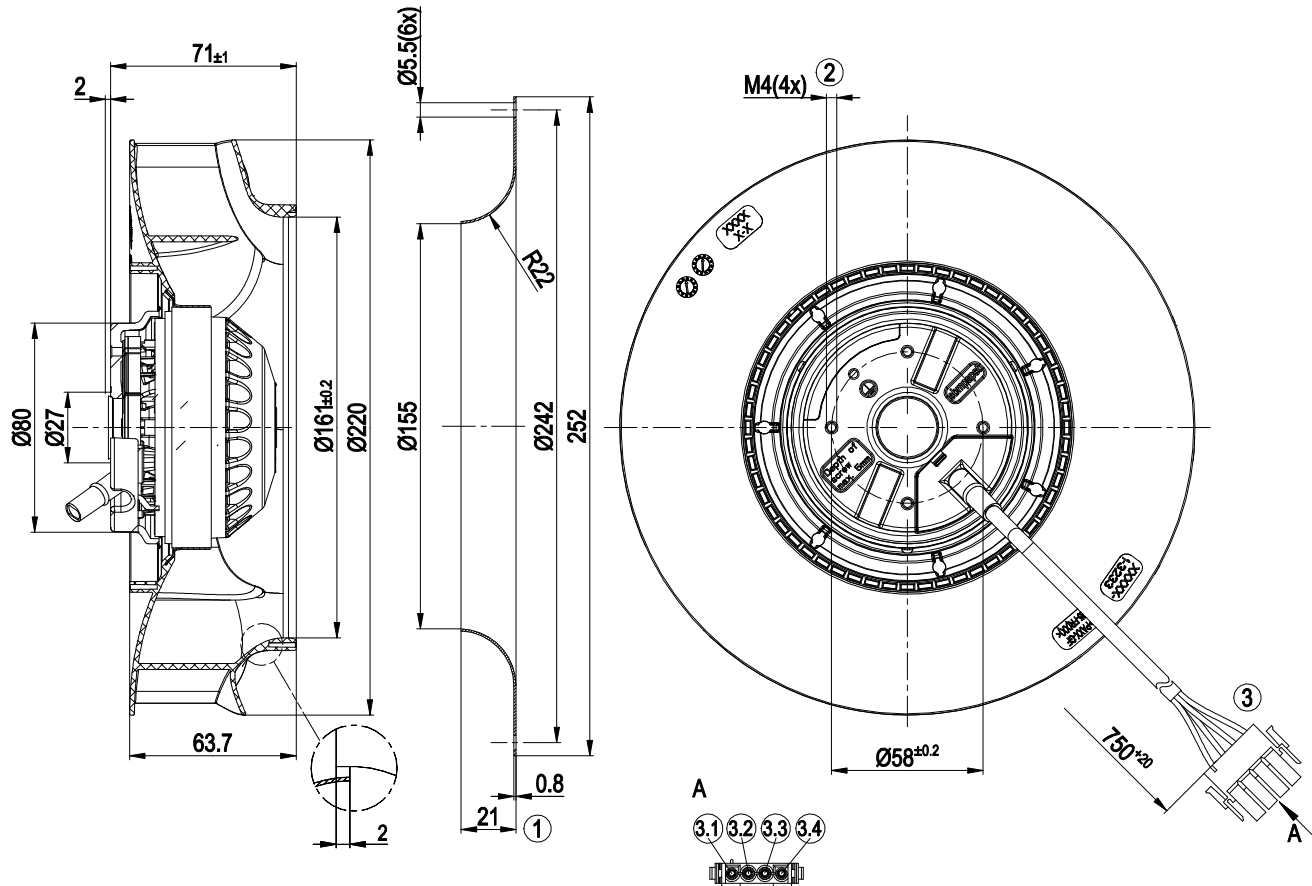
ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment  
Subject to change



## Technical description

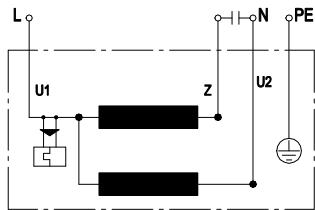
|                                                                            |                                                       |
|----------------------------------------------------------------------------|-------------------------------------------------------|
| Weight                                                                     | 1.3 kg                                                |
| Size                                                                       | 220 mm                                                |
| Motor size                                                                 | 68                                                    |
| Rotor surface                                                              | Painted black                                         |
| Impeller material                                                          | PA 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                                                  |
| 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                                                                 | Variable                                              |
| Protection class                                                           | I (with customer connection of protective earth)      |
| Conformity with standards                                                  | EN 60335-1; CE; UKCA                                  |
| Approval                                                                   | CCC                                                   |

## 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 silicone 4G 0.5 mm <sup>2</sup> , 4-pole connector housing tyco 926298-7, 4x socket tyco 926884-1 |
| 3.1 | N (blue)                                                                                                |
| 3.2 | Z (brown)                                                                                               |
| 3.3 | L (black)                                                                                               |
| 3.4 | PE (green/yellow)                                                                                       |

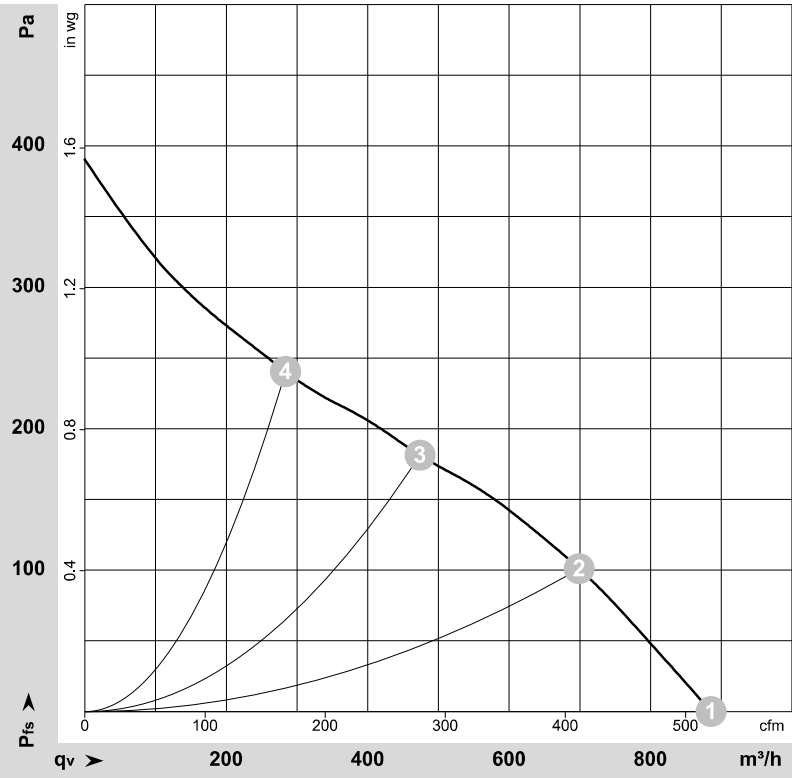
Connection diagram



|    |              |   |       |    |       |
|----|--------------|---|-------|----|-------|
| U1 | blue         | Z | brown | U2 | black |
| PE | green/yellow |   |       |    |       |



Curves: Air performance 50 Hz



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

Measurement: LU-130008-1

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.

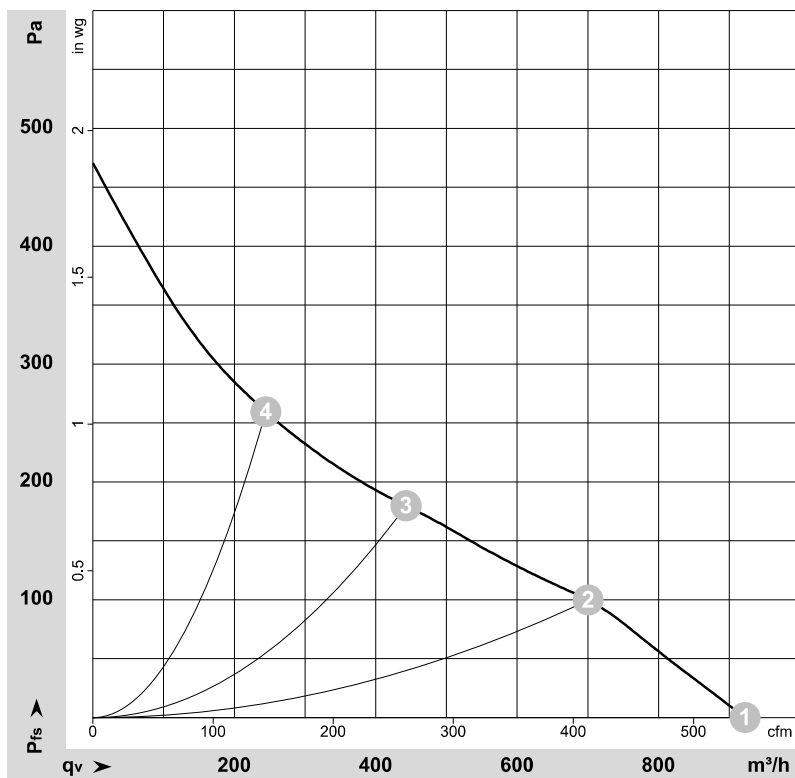
Measured values

|   | U   | f  | n                 | P <sub>e</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   | Hz | min <sup>-1</sup> | W              | A    | dB(A)             | dB(A)             | m <sup>3</sup> /h | Pa              | cfm            | in. wg          |
| 1 | 230 | 50 | 2350              | 80             | 0.36 | 59                | 68                | 885               | 0               | 520            | 0.00            |
| 2 | 230 | 50 | 2230              | 86             | 0.38 | 54                | 62                | 700               | 100             | 410            | 0.40            |
| 3 | 230 | 50 | 2100              | 88             | 0.39 | 52                | 60                | 475               | 180             | 280            | 0.72            |
| 4 | 230 | 50 | 2205              | 86             | 0.38 | 55                | 64                | 285               | 240             | 165            | 0.96            |

U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</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



## Curves: Air performance 60 Hz


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

Measurement: LU-130009-1

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 <sub>e</sub> | I    | LpA <sub>in</sub> | LwA <sub>in</sub> | q <sub>v</sub> | P <sub>ts</sub> | q <sub>v</sub> | P <sub>ts</sub> |
|---|-----|----|-------------------|----------------|------|-------------------|-------------------|----------------|-----------------|----------------|-----------------|
|   | V   | Hz | min <sup>-1</sup> | W              | A    | dB(A)             | dB(A)             | m³/h           | Pa              | cfm            | in. wg          |
| 1 | 230 | 60 | 2450              | 102            | 0.46 | 60                | 69                | 920            | 0               | 545            | 0.00            |
| 2 | 230 | 60 | 2210              | 106            | 0.46 | 54                | 62                | 700            | 100             | 410            | 0.40            |
| 3 | 230 | 60 | 2050              | 107            | 0.47 | 51                | 60                | 445            | 180             | 260            | 0.72            |
| 4 | 230 | 60 | 2235              | 105            | 0.45 | 56                | 65                | 245            | 260             | 145            | 1.04            |

U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</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>ts</sub> = Pressure increase

