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**Nominal data**

|                             |                   |         |         |
|-----------------------------|-------------------|---------|---------|
| Type                        | R2E190-RA18-96    |         |         |
| 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> | 2050    | 2100    |
| Power consumption           | W                 | 39      | 48      |
| Current draw                | A                 | 0.17    | 0.21    |
| Capacitor                   | µF                | 1       | 1       |
| Capacitor voltage           | VDB               | 400     | 400     |
| Capacitor standard          |                   | S2 (CE) | S2 (CE) |
| Min. ambient temperature    | °C                | -25     | -25     |
| Max. ambient temperature    | °C                | 70      | 70      |
| Starting current            | A                 | 0.22    | 2.3     |

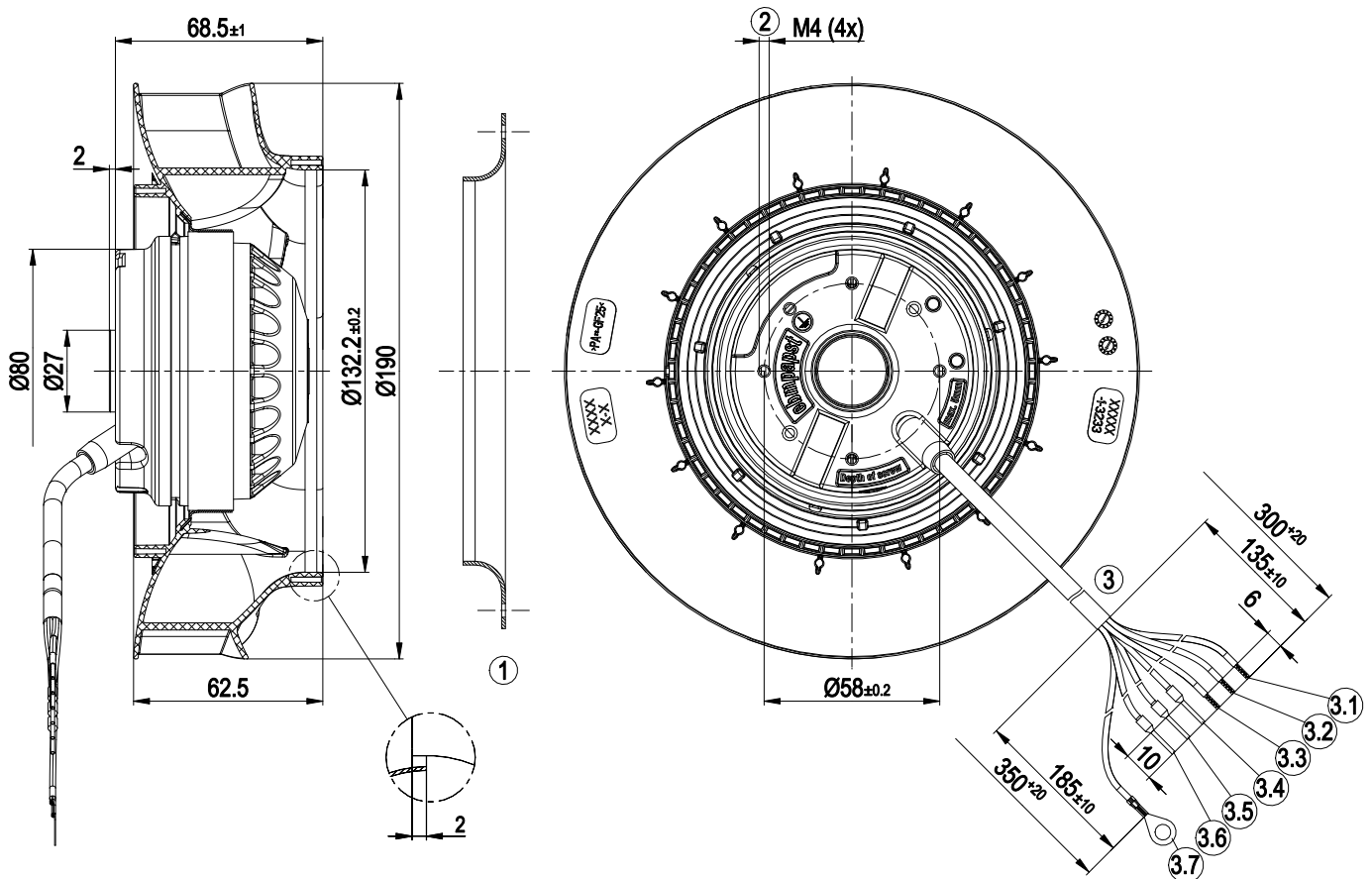
ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment  
Subject to change



## Technical description

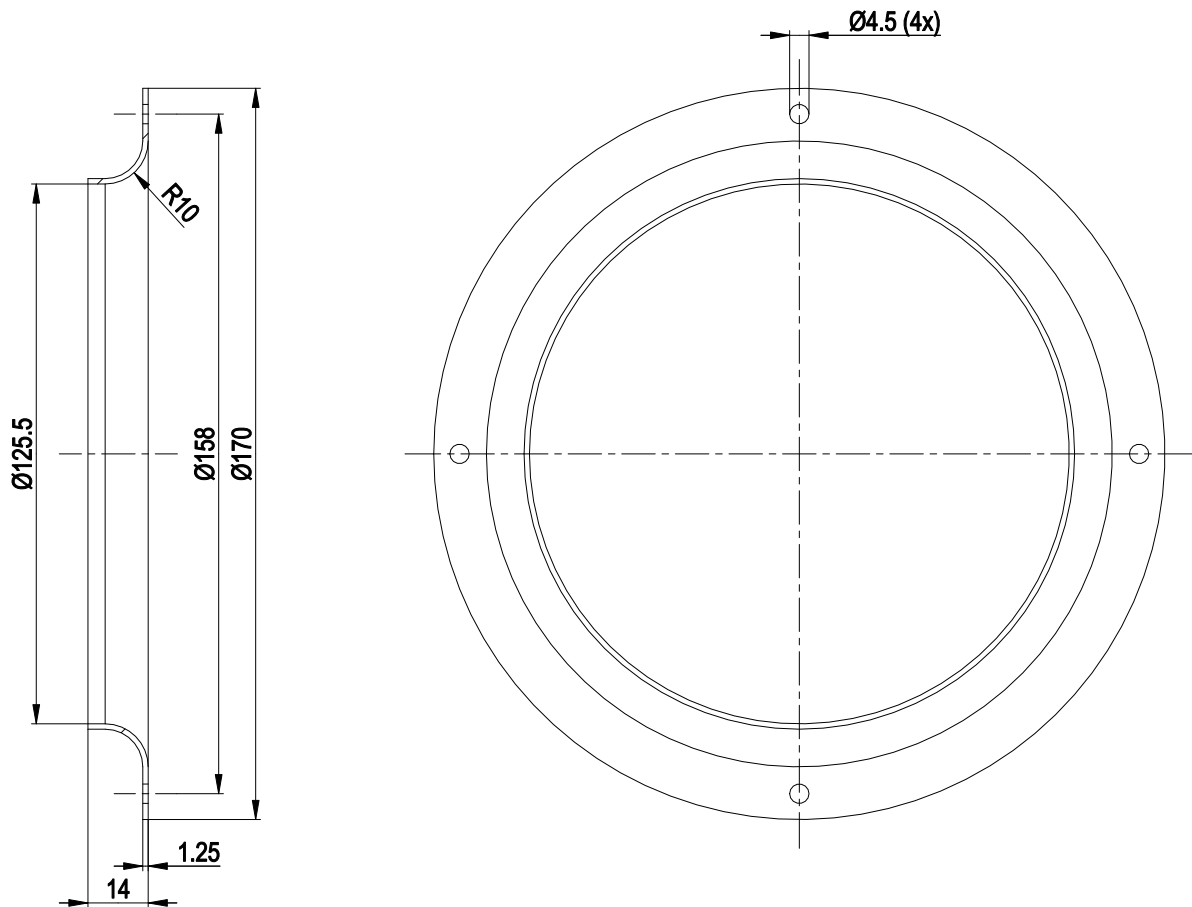
|                                                                            |                                                       |
|----------------------------------------------------------------------------|-------------------------------------------------------|
| Weight                                                                     | 1.3 kg                                                |
| Size                                                                       | 190 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                                                           | "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                                                      | Any                                                   |
| Condensation drainage holes                                                | None                                                  |
| Mode                                                                       | S1                                                    |
| Motor bearing                                                              | Ball bearing                                          |
| Speed levels                                                               | 3                                                     |
| Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system) | < 0.75 mA                                             |
| 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                                        |
| Approval                                                                   | CSA C22.2 No. 100; UL 1004-1                          |

## Product drawing



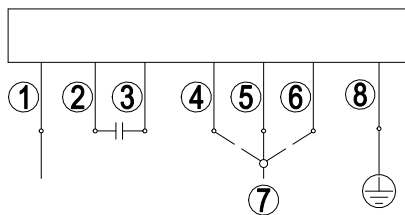
|     |                                                                           |
|-----|---------------------------------------------------------------------------|
| 1   | Accessory part: inlet ring 09576-2-4013 not included in scope of delivery |
| 2   | Max. clearance for screw 5 mm                                             |
| 3   | Cable PFA AWG20                                                           |
| 3.1 | Capacitor (yellow), splice                                                |
| 3.2 | Capacitor (brown), splice                                                 |
| 3.3 | N (blue), splice                                                          |
| 3.4 | Step 1 (white), wire-end ferrule                                          |
| 3.5 | Step 2 (gray), wire-end ferrule                                           |
| 3.6 | Step 3 (black), wire-end ferrule                                          |
| 3.7 | PE (green/yellow), ring terminal Ø5                                       |

## Accessory part



1 Accessory part: inlet ring 09576-2-4013 not included in scope of delivery

Connection diagram

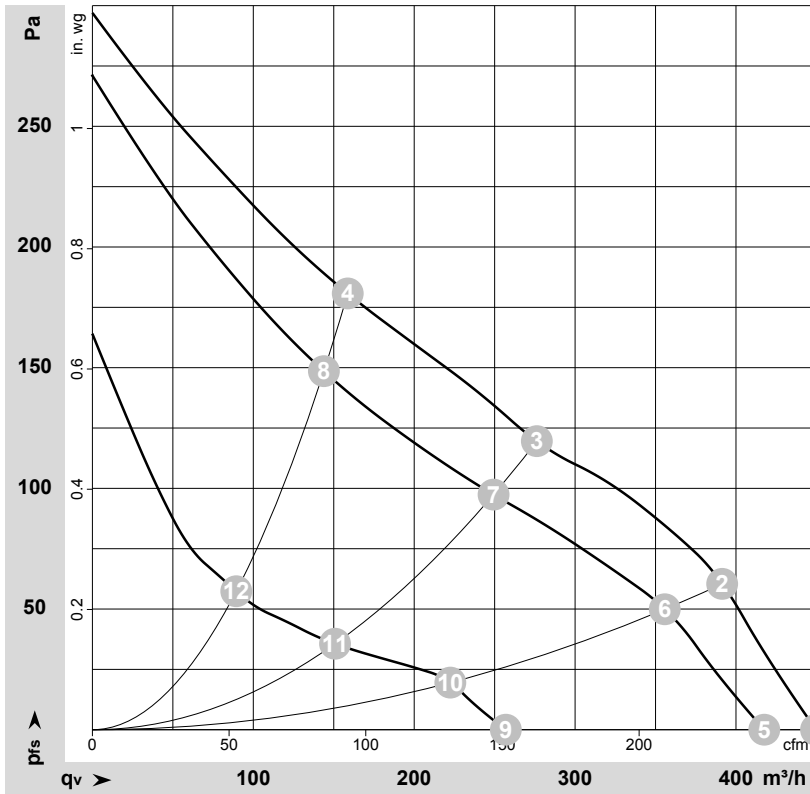


Note: High speed (step III); low speed (step I); the switch must interrupt the circuit on switching.

|   |                |   |                   |   |                |
|---|----------------|---|-------------------|---|----------------|
| 1 | blue (N)       | 2 | brown             | 3 | yellow         |
| 4 | Step 1 (white) | 5 | Step 2 (gray)     | 6 | Step 3 (black) |
| 7 | L1             | 8 | PE (green/yellow) |   |                |



## Curves: Air performance 50 Hz



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

Measurement: LU-186024-1  
 Measurement: LU-186033-1  
 Measurement: LU-186034-1

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.

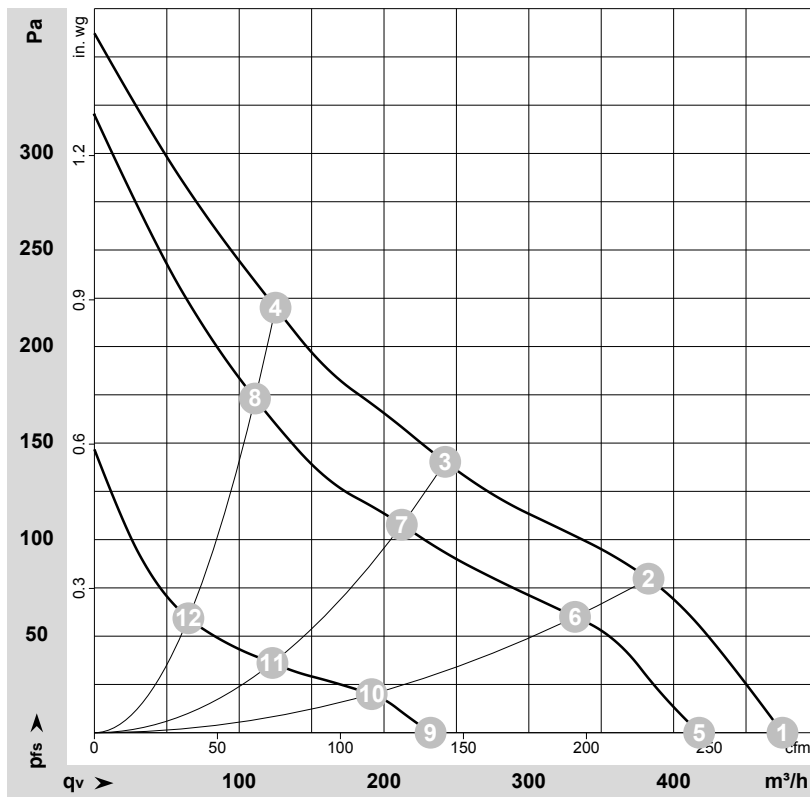
## Measured values

|    | Stage | U   | f  | n                 | P <sub>e</sub> | I    | q <sub>v</sub>    | P <sub>fs</sub> | q <sub>v</sub> | P <sub>fs</sub> |
|----|-------|-----|----|-------------------|----------------|------|-------------------|-----------------|----------------|-----------------|
|    |       | V   | Hz | min <sup>-1</sup> | W              | A    | m <sup>3</sup> /h | Pa              | cfm            | in. wg          |
| 1  | 3     | 230 | 50 | 2200              | 36             | 0.16 | 450               | 0               | 265            | 0.00            |
| 2  | 3     | 230 | 50 | 2185              | 36             | 0.16 | 390               | 60              | 230            | 0.24            |
| 3  | 3     | 230 | 50 | 2050              | 39             | 0.17 | 275               | 120             | 160            | 0.48            |
| 4  | 3     | 230 | 50 | 2145              | 37             | 0.16 | 160               | 180             | 95             | 0.72            |
| 5  | 2     | 230 | 50 | 2050              | 33             | 0.15 | 420               | 0               | 245            | 0.00            |
| 6  | 2     | 230 | 50 | 1995              | 34             | 0.15 | 355               | 51              | 210            | 0.20            |
| 7  | 2     | 230 | 50 | 1845              | 35             | 0.16 | 250               | 97              | 145            | 0.39            |
| 8  | 2     | 230 | 50 | 1950              | 34             | 0.15 | 145               | 149             | 85             | 0.60            |
| 9  | 1     | 230 | 50 | 1300              | 28             | 0.13 | 255               | 0               | 150            | 0.00            |
| 10 | 1     | 230 | 50 | 1270              | 29             | 0.13 | 220               | 20              | 130            | 0.08            |
| 11 | 1     | 230 | 50 | 1130              | 29             | 0.13 | 150               | 36              | 90             | 0.14            |
| 12 | 1     | 230 | 50 | 1210              | 29             | 0.13 | 90                | 57              | 50             | 0.23            |

U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · 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-187319-1  
 Measurement: LU-187346-1  
 Measurement: LU-187348-1

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

|    | Stage | Wired | U   | f  | n                 | P <sub>e</sub> | I    | q <sub>v</sub> | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|----|-------|-------|-----|----|-------------------|----------------|------|----------------|-----------------|----------------|-----------------|
|    |       |       | V   | Hz | min <sup>-1</sup> | W              | A    | m³/h           | Pa              | cfm            | in. wg          |
| 1  | 3     | 1~    | 230 | 60 | 2350              | 45             | 0.20 | 475            | 0               | 280            | 0.00            |
| 2  | 3     | 1~    | 230 | 60 | 2240              | 46             | 0.20 | 385            | 80              | 225            | 0.32            |
| 3  | 3     | 1~    | 230 | 60 | 2100              | 48             | 0.21 | 240            | 140             | 140            | 0.56            |
| 4  | 3     | 1~    | 230 | 60 | 2335              | 45             | 0.20 | 125            | 220             | 75             | 0.88            |
| 5  | 2     | 1~    | 230 | 60 | 2080              | 40             | 0.18 | 420            | 0               | 245            | 0.00            |
| 6  | 2     | 1~    | 230 | 60 | 1955              | 41             | 0.18 | 330            | 60              | 195            | 0.24            |
| 7  | 2     | 1~    | 230 | 60 | 1820              | 42             | 0.19 | 210            | 108             | 125            | 0.43            |
| 8  | 2     | 1~    | 230 | 60 | 2065              | 40             | 0.18 | 110            | 173             | 65             | 0.69            |
| 9  | 1     | 1~    | 230 | 60 | 1195              | 31             | 0.14 | 230            | 0               | 135            | 0.00            |
| 10 | 1     | 1~    | 230 | 60 | 1150              | 31             | 0.14 | 190            | 20              | 110            | 0.08            |
| 11 | 1     | 1~    | 230 | 60 | 1065              | 31             | 0.14 | 125            | 36              | 70             | 0.14            |
| 12 | 1     | 1~    | 230 | 60 | 1205              | 30             | 0.14 | 65             | 59              | 40             | 0.24            |

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

