

R2E160-AY50-26

# AC centrifugal fan

backward curved, single inlet

## ebm-papst Mulfingen GmbH & Co. KG

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.ebmpapst.com

www.ebmpapst.com

Limited partnership · Headquarters Mulfingen  
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen  
County court Stuttgart · HRB 590142



## Nominal data

|                               |                   |         |         |
|-------------------------------|-------------------|---------|---------|
| Type                          | R2E160-AY50-26    |         |         |
| Motor                         | M2E068-EC         |         |         |
| Phase                         |                   | 1~      | 1~      |
| Nominal voltage               | VAC               | 230     | 230     |
| Frequency                     | Hz                | 50      | 60      |
| Type of data definition       |                   | ml      | ml      |
| Valid for approval / standard |                   | CE      | CE      |
| Speed                         | min <sup>-1</sup> | 2500    | 2550    |
| Power input                   | W                 | 210     | 280     |
| Current draw                  | A                 | 0.93    | 1.22    |
| Motor capacitor               | µF                | 6       | 6       |
| Capacitor voltage             | VDB               | 400     | 400     |
| Capacitor standard            |                   | P0 (CE) | P0 (CE) |
| Min. back pressure            | Pa                | 350     | 365     |
| Min. ambient temperature      | °C                | -25     | -25     |
| Max. ambient temperature      | °C                | 50      | 30      |
| Starting current              | A                 | 1.73    | 1.63    |

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit  
Subject to alterations

## Data according to ErP directive

|                       |        |
|-----------------------|--------|
| Installation category | A      |
| Efficiency category   | Static |
| Variable speed drive  | No     |
| Specific ratio*       | 1.01   |

\* Specific ratio =  $1 + p_{fs} / 100\,000\text{ Pa}$

|                                |                   | Actual | Request 2013 | Request 2015 |
|--------------------------------|-------------------|--------|--------------|--------------|
| Overall efficiency $\eta_{es}$ | %                 | 32.6   | 25.6         | 32.6         |
| Efficiency grade N             |                   | 44     | 37           | 44           |
| Power input $P_e$              | kW                | 0.16   |              |              |
| Air flow $q_v$                 | m <sup>3</sup> /h | 355    |              |              |
| Pressure increase $p_{fs}$     | Pa                | 525    |              |              |
| Speed n                        | min <sup>-1</sup> | 2685   |              |              |

Data definition with optimum efficiency. LU-152519  
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



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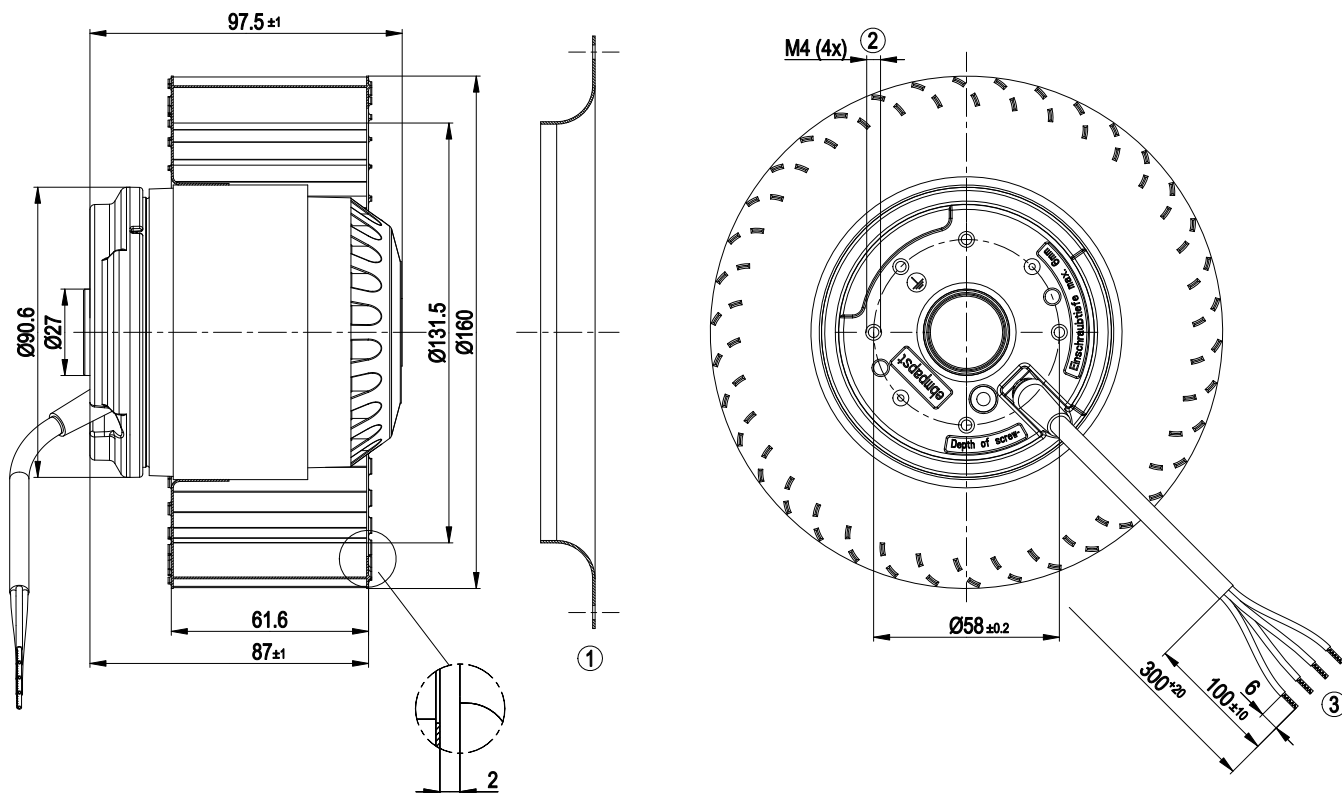
## Technical features

|                                                                    |                                                                 |
|--------------------------------------------------------------------|-----------------------------------------------------------------|
| Mass                                                               | 2.6 kg                                                          |
| Size                                                               | 160 mm                                                          |
| Surface of rotor                                                   | Uncoated                                                        |
| Material of impeller                                               | Sheet steel, galvanised                                         |
| Direction of rotation                                              | Clockwise, seen on rotor                                        |
| Type of protection                                                 | IP 44; Depending on installation and position as per EN 60034-5 |
| Insulation class                                                   | "B"                                                             |
| Humidity class                                                     | F0                                                              |
| Max. permissible ambient motor temp. (transp./ storage)            | + 80 °C                                                         |
| Min. permissible ambient motor temp. (transp./storage)             | - 40 °C                                                         |
| Mounting position                                                  | Shaft horizontal or rotor on bottom; rotor on top on request    |
| Condensate discharge holes                                         | Rotor-side                                                      |
| Operation mode                                                     | S1                                                              |
| Motor bearing                                                      | Ball bearing                                                    |
| Touch current acc. IEC 60990 (measuring network Fig. 4, TN system) | < 0.75 mA                                                       |
| Motor protection                                                   | Thermal overload protector (TOP) wired internally               |
| Cable exit                                                         | Variable                                                        |
| Protection class                                                   | I (if protective earth is connected by customer)                |
| Product conforming to standard                                     | EN 60335-1; CE                                                  |

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## Product drawing

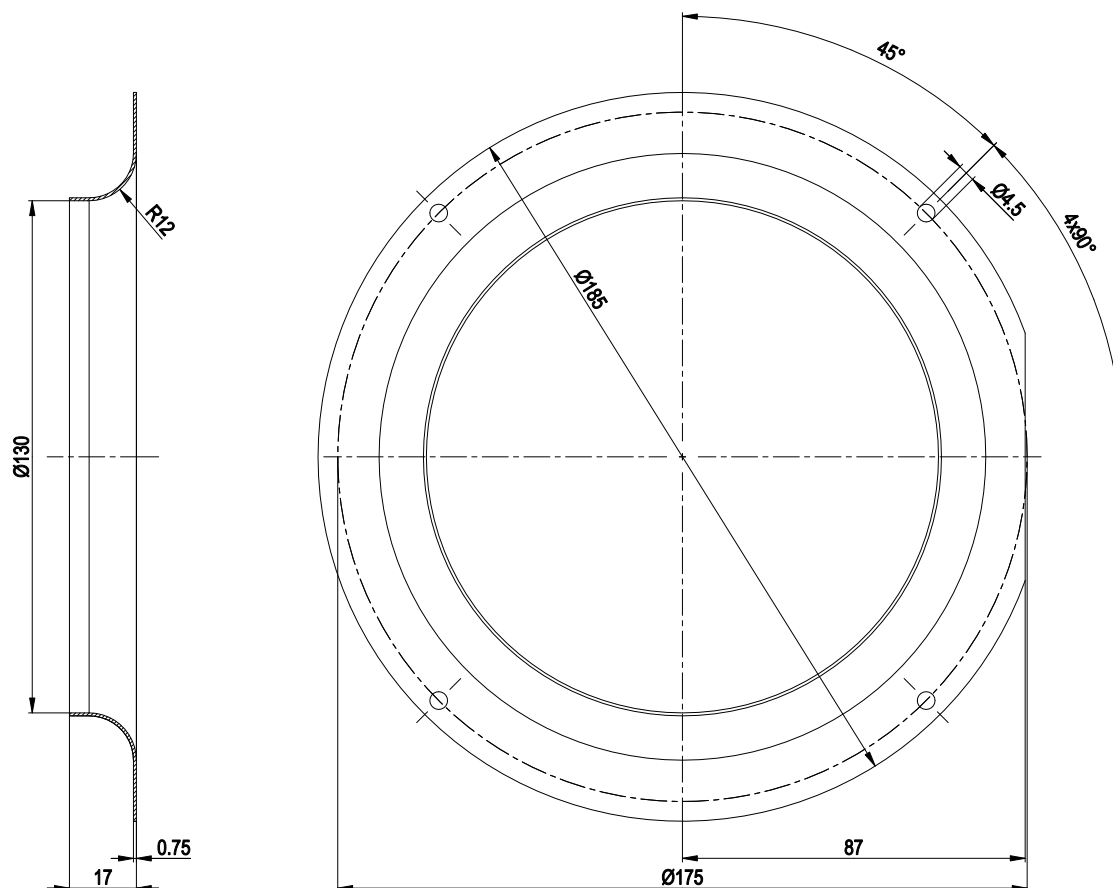


- |   |                                                                             |
|---|-----------------------------------------------------------------------------|
| 1 | Accessory part: Inlet nozzle 09588-2-4013 not included in scope of delivery |
| 2 | Thread reach max. 6 mm                                                      |
| 3 | Connection line PVC AWG20, 4x lead tips crimped                             |

# AC centrifugal fan

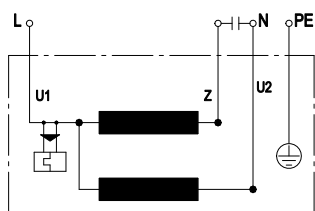
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## Accessory part



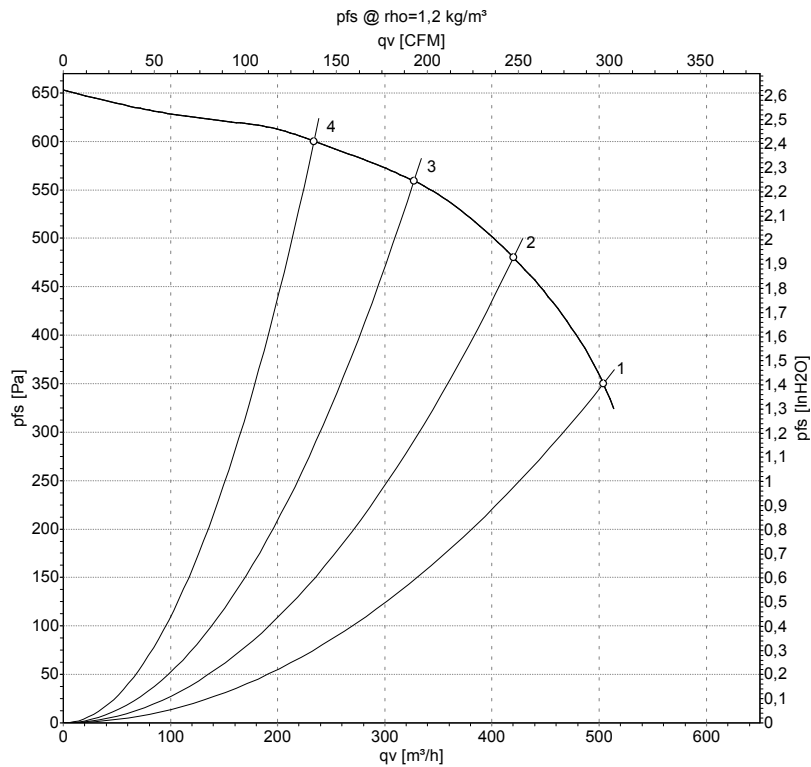
Accessory part: inlet nozzle 09588-2-4013 not included in scope of delivery

## Connection screen



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

## Charts: Air flow 50 Hz



Measurement: LU-152519

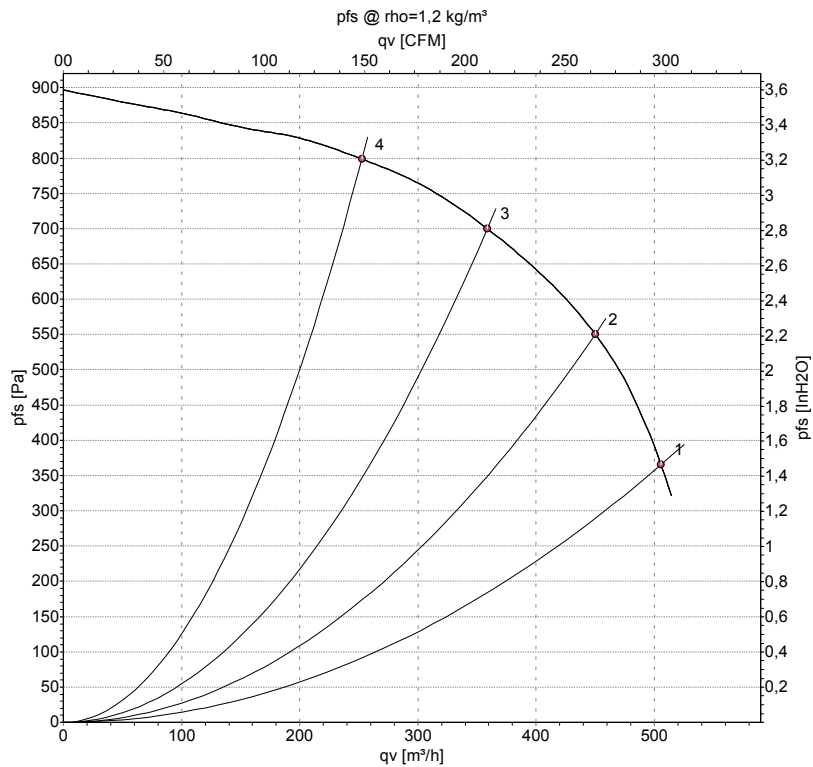
Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

## Measured values

|   | U   | f  | n                 | P <sub>e</sub> | I    | LpA <sub>in</sub> | LwA <sub>in</sub> | qv   | p <sub>fs</sub> |
|---|-----|----|-------------------|----------------|------|-------------------|-------------------|------|-----------------|
|   | V   | Hz | min <sup>-1</sup> | W              | A    | dB(A)             | dB(A)             | m³/h | Pa              |
| 1 | 230 | 50 | 2500              | 210            | 0.93 | 70                | 78                | 505  | 350             |
| 2 | 230 | 50 | 2615              | 182            | 0.79 | 70                | 77                | 420  | 480             |
| 3 | 230 | 50 | 2700              | 157            | 0.68 | 70                | 76                | 325  | 560             |
| 4 | 230 | 50 | 2770              | 137            | 0.59 | 71                | 78                | 235  | 600             |

U = Supply voltage · f = Frequency · n = Speed · P<sub>e</sub> = Power input · I = Current draw · LpA<sub>in</sub> = Sound pressure level inlet side · LwA<sub>in</sub> = Sound power level inlet side · qv = Air flow  
p<sub>fs</sub> = Pressure increase

## Charts: Air flow 60 Hz



Measurement: LU-153104

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

## Measured values

|   | U   | f  | n                 | P <sub>e</sub> | I    | qv   | p <sub>fs</sub> |
|---|-----|----|-------------------|----------------|------|------|-----------------|
|   | V   | Hz | min <sup>-1</sup> | W              | A    | m³/h | Pa              |
| 1 | 230 | 60 | 2550              | 280            | 1.22 | 505  | 365             |
| 2 | 230 | 60 | 2805              | 254            | 1.11 | 450  | 550             |
| 3 | 230 | 60 | 3035              | 222            | 0.98 | 360  | 700             |
| 4 | 230 | 60 | 3205              | 189            | 0.86 | 255  | 800             |

U = Supply voltage · f = Frequency · n = Speed · P<sub>e</sub> = Power input · I = Current draw · qv = Air flow · p<sub>fs</sub> = Pressure increase