

# AC centrifugal fan

forward curved, dual inlet  
with housing (flange)



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## Nominal data

|                               |                   |            |            |
|-------------------------------|-------------------|------------|------------|
| Type                          | D4E180-BA02-02    |            |            |
| Motor                         | M4E068-LA         |            |            |
| Phase                         |                   | 1~         | 1~         |
| Nominal voltage               | VAC               | 230        | 230        |
| Nominal voltage range         | VAC               | 208 .. 230 | 208 .. 230 |
| Frequency                     | Hz                | 50         | 60         |
| Type of data definition       |                   | fa         | fa         |
| Valid for approval / standard |                   | CE         | CE         |
| Speed                         | min <sup>-1</sup> | 1300       | 1360       |
| Power input                   | W                 | 360        | 460        |
| Current draw                  | A                 | 1.58       | 2.02       |
| Motor capacitor               | µF                | 10         | 10         |
| Capacitor voltage             | VDB               | 400        | 400        |
| Min. back pressure            | Pa                | 0          | 0          |
| Min. ambient temperature      | °C                | -25        | -25        |
| Max. ambient temperature      | °C                | 65         | 40         |
| Starting current              | A                 | 3.3        | 3.1        |

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*       | 1.00   |

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

|                                |                   | Actual | Request 2013 | Request 2015 |
|--------------------------------|-------------------|--------|--------------|--------------|
| Overall efficiency $\eta_{es}$ | %                 | 26.9   | 26.3         | 33.3         |
| Efficiency grade N             |                   | 37.6   | 37           | 44           |
| Power input $P_e$              | kW                | 0.2    |              |              |
| Air flow $q_v$                 | m <sup>3</sup> /h | 1000   |              |              |
| Pressure increase $p_{fs}$     | Pa                | 196    |              |              |
| Speed n                        | min <sup>-1</sup> | 1420   |              |              |

Data definition with optimum efficiency. LU-105025  
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



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## Technical features

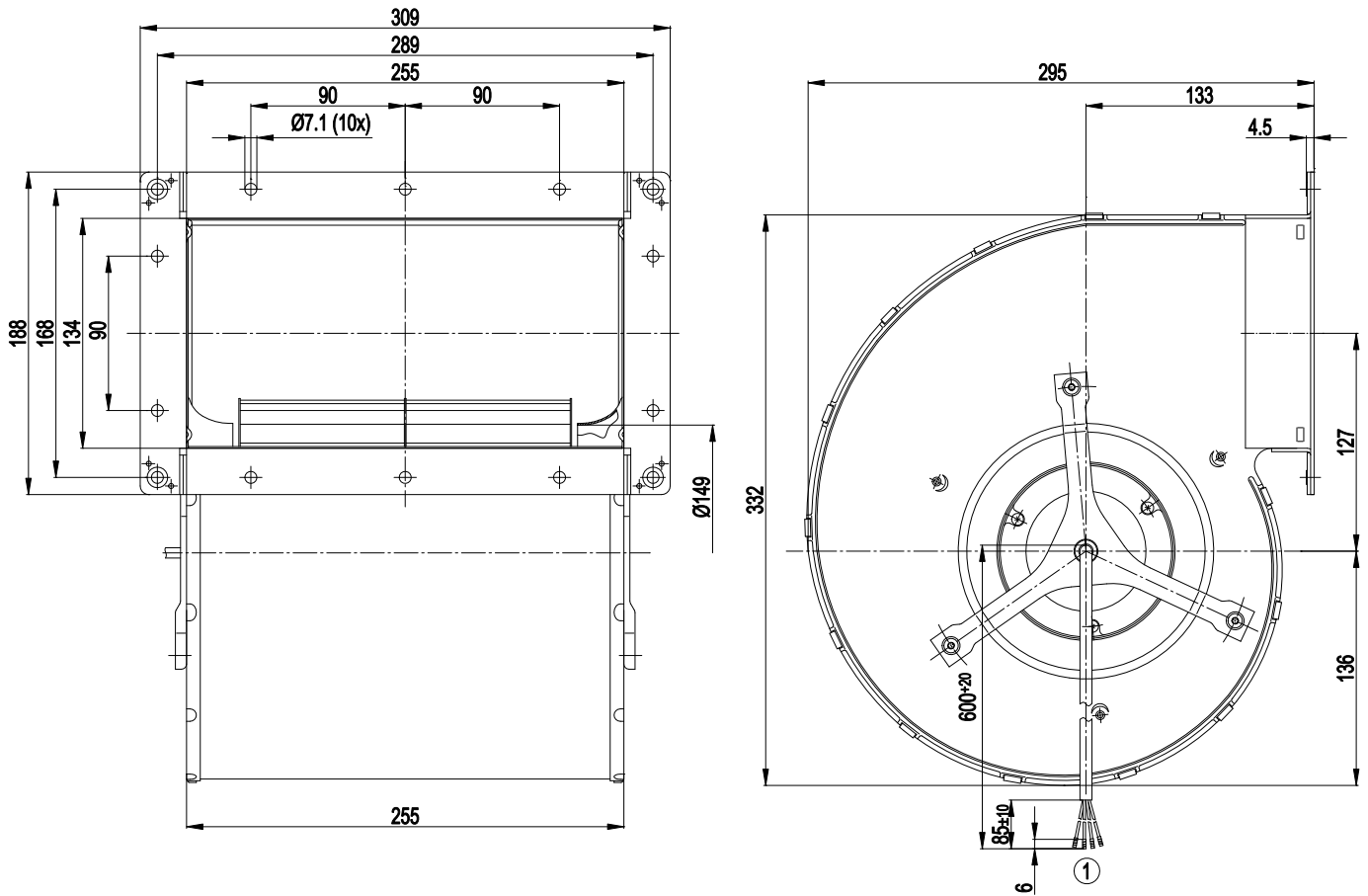
|                                                                    |                                                   |
|--------------------------------------------------------------------|---------------------------------------------------|
| Mass                                                               | 10 kg                                             |
| Size                                                               | 180 mm                                            |
| Surface of rotor                                                   | Coated in black                                   |
| Material of impeller                                               | Sheet steel, hot-galvanised                       |
| Housing material                                                   | Sheet steel, hot-galvanised                       |
| Direction of rotation                                              | Counter-clockwise, seen on rotor                  |
| Type of protection                                                 | IP 54                                             |
| Insulation class                                                   | "B"                                               |
| Humidity class                                                     | F3-1                                              |
| Max. permissible ambient motor temp. (transp./ storage)            | + 80 °C                                           |
| Min. permissible ambient motor temp. (transp./storage)             | - 40 °C                                           |
| Mounting position                                                  | Any                                               |
| Condensate discharge holes                                         | None                                              |
| 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 |
| Protection class                                                   | I (if protective earth is connected by customer)  |
| Product conforming to standard                                     | EN 60335-1; CE                                    |
| Approval                                                           | GOST; CCC                                         |



# AC centrifugal fan

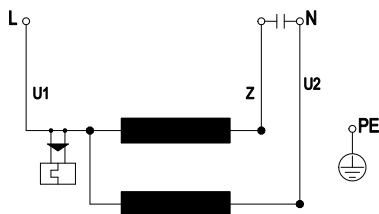
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## Product drawing



1 Connection line PVC 4G 0.5 mm<sup>2</sup>, 4x brass lead tips crimped

## Connection screen

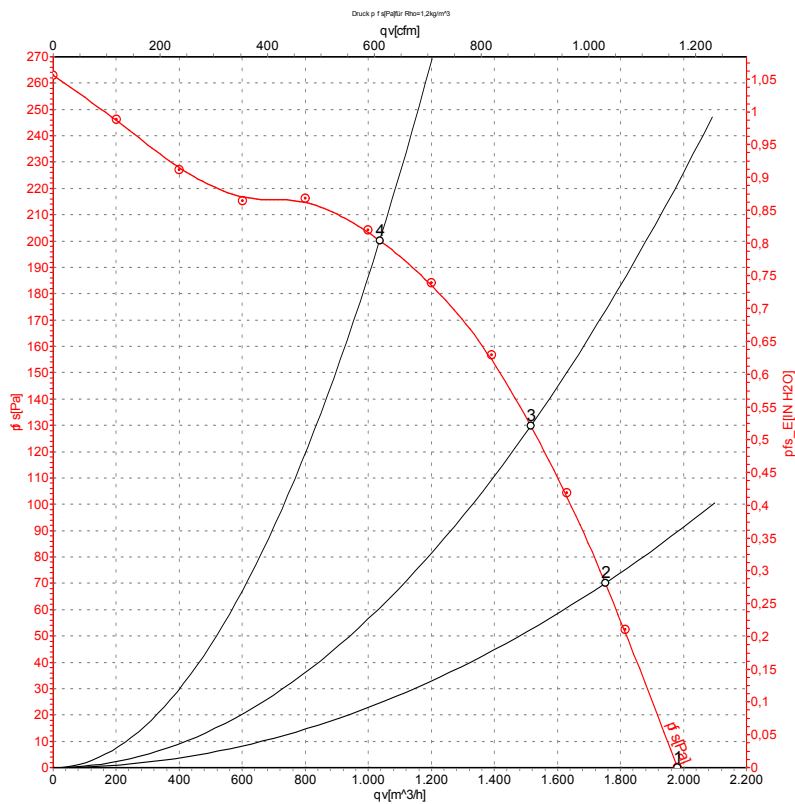


|    |              |   |       |    |       |
|----|--------------|---|-------|----|-------|
| U1 | blue         | Z | brown | U2 | black |
| PE | green/yellow |   |       |    |       |

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## Charts: Air flow 50 Hz



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 | 50 | 1300              | 360            | 1.58 | 1980 | 0               |
| 2 | 230 | 50 | 1345              | 288            | 1.28 | 1750 | 70              |
| 3 | 230 | 50 | 1375              | 256            | 1.15 | 1515 | 130             |
| 4 | 230 | 50 | 1420              | 206            | 0.95 | 1035 | 200             |

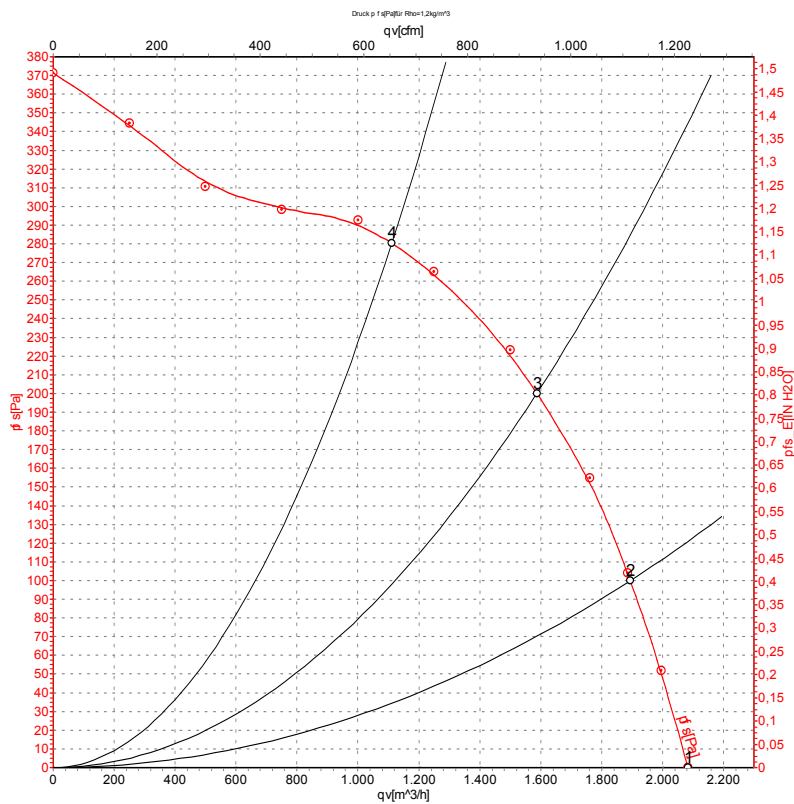
U = Supply voltage · f = Frequency · n = Speed · P<sub>e</sub> = Power input · I = Current draw · qv = Air flow · p<sub>fs</sub> = Pressure increase



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## Charts: Air flow 60 Hz



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: L<sub>WA</sub> measured as per ISO 13347 /  
L<sub>pA</sub> 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>ts</sub> |
|---|-----|----|-------------------|----------------|------|------|-----------------|
|   | V   | Hz | min <sup>-1</sup> | W              | A    | m³/h | Pa              |
| 1 | 230 | 60 | 1360              | 460            | 2.02 | 2085 | 0               |
| 2 | 230 | 60 | 1475              | 407            | 1.77 | 1895 | 100             |
| 3 | 230 | 60 | 1565              | 354            | 1.56 | 1585 | 200             |
| 4 | 230 | 60 | 1655              | 285            | 1.31 | 1110 | 280             |

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

