

R4D250-CD12-05 ebmpapst Datasheet

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## Nominal data

|                               |                   |      |      |      |
|-------------------------------|-------------------|------|------|------|
| Type                          | R4D250-CD12-05    |      |      |      |
| Motor                         | M4D094-HA         |      |      |      |
| Phase                         |                   | 3~   | 3~   | 3~   |
| Nominal voltage               | VAC               | 400  | 400  | 480  |
| Connection                    |                   | Y    | Y    | Y    |
| Frequency                     | Hz                | 50   | 60   | 60   |
| Type of data definition       |                   | ml   | ml   | ml   |
| Valid for approval / standard |                   | CE   | CE   | CE   |
| Speed                         | min <sup>-1</sup> | 1385 | 1555 | 1625 |
| Power input                   | W                 | 630  | 940  | 1030 |
| Current draw                  | A                 | 1.46 | 1.69 | 1.71 |
| Min. back pressure            | Pa                | 0    | 0    | 0    |
| Max. ambient temperature      | °C                | 80   | 50   | 50   |
| Starting current              | A                 | 5.6  | 5.2  |      |

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 =  $1 + p_b / 100\,000\text{ Pa}$

|                                |                   | Actual | Request 2013 | Request 2015 |
|--------------------------------|-------------------|--------|--------------|--------------|
| Overall efficiency $\eta_{es}$ | %                 | 30.4   | 27.4         | 34.4         |
| Efficiency grade N             |                   | 40     | 37           | 44           |
| Power input $P_e$              | kW                | 0.3    |              |              |
| Air flow $q_v$                 | m <sup>3</sup> /h | 905    |              |              |
| Pressure increase $p_{fs}$     | Pa                | 368    |              |              |
| Speed n                        | min <sup>-1</sup> | 1455   |              |              |

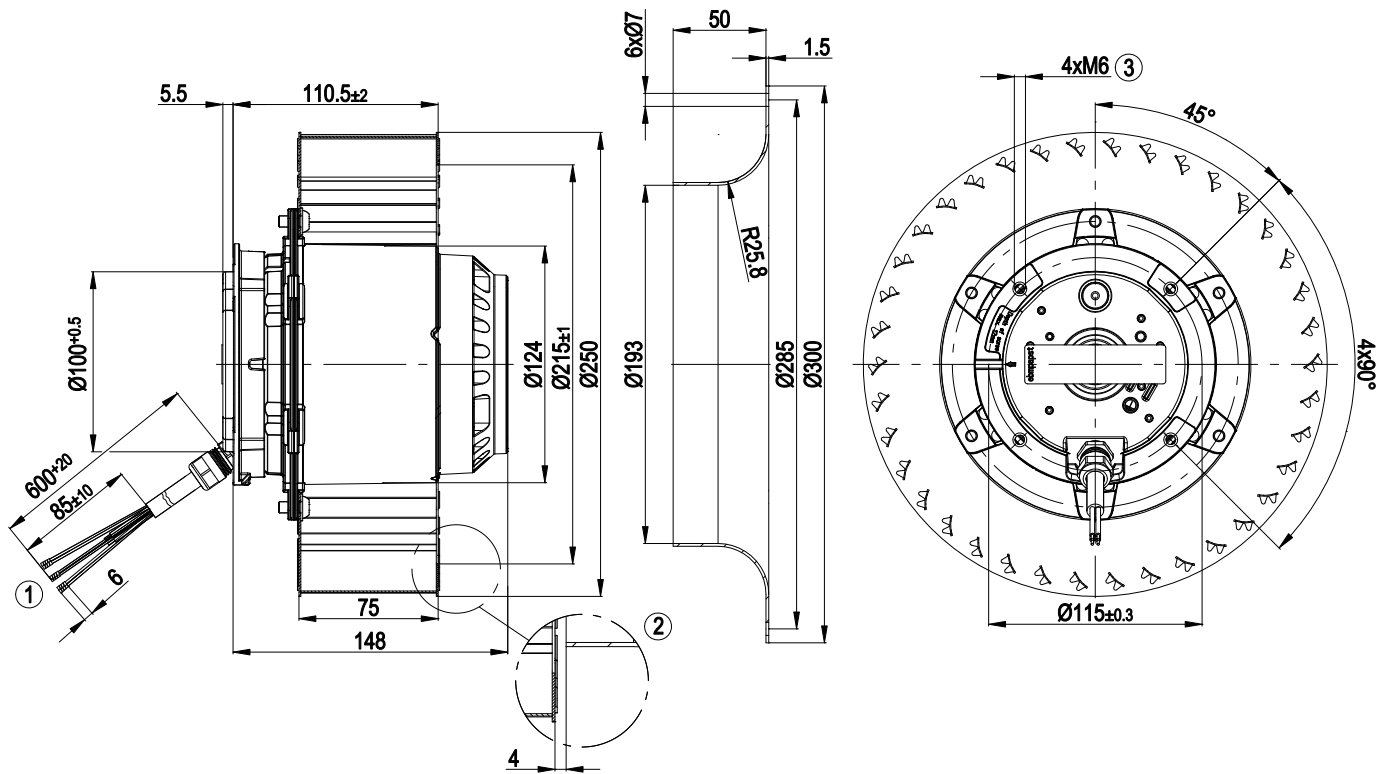
Data definition with optimum efficiency. LU-74133  
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



## Technical features

|                                                                    |                                                  |
|--------------------------------------------------------------------|--------------------------------------------------|
| Mass                                                               | 7.74 kg                                          |
| Size                                                               | 250 mm                                           |
| Surface of rotor                                                   | Coated in black                                  |
| Material of impeller                                               | Sheet steel, galvanised                          |
| Direction of rotation                                              | Clockwise, seen on rotor                         |
| Type of protection                                                 | IP 54                                            |
| Insulation class                                                   | "F"                                              |
| Humidity class                                                     | F4-1                                             |
| 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) | <= 3.5 mA                                        |
| Motor protection                                                   | Thermal overload protector (TOP) brought out     |
| Cable exit                                                         | Variable                                         |
| Protection class                                                   | I (if protective earth is connected by customer) |
| Product conforming to standard                                     | EN 60034-1 (2004)                                |
| Approval                                                           | EAC                                              |

## Product drawing

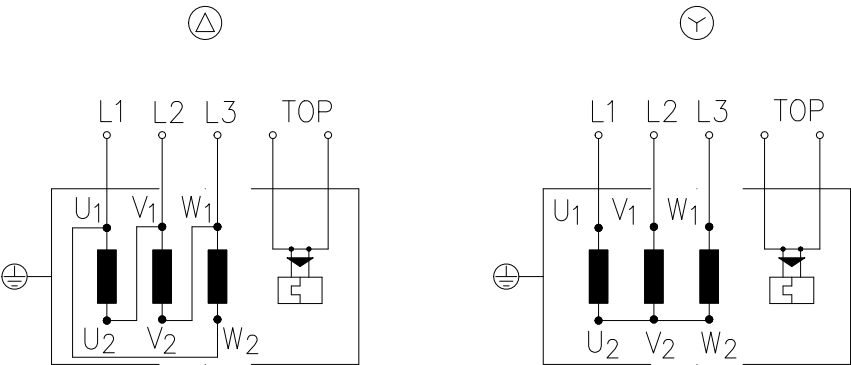


- |   |                                                                                           |
|---|-------------------------------------------------------------------------------------------|
| 1 | Connection line silicone 6G 0.5 mm <sup>2</sup> , 6x brass lead tips crimped              |
| 2 | Accessory part: Inlet nozzle 25010-2-4013, not included in the standard scope of delivery |
| 3 | Depth of screw max. 12 mm                                                                 |

# AC centrifugal fan

forward curved, single inlet

Connection screen



Changing the direction of rotation by reversing the two phases

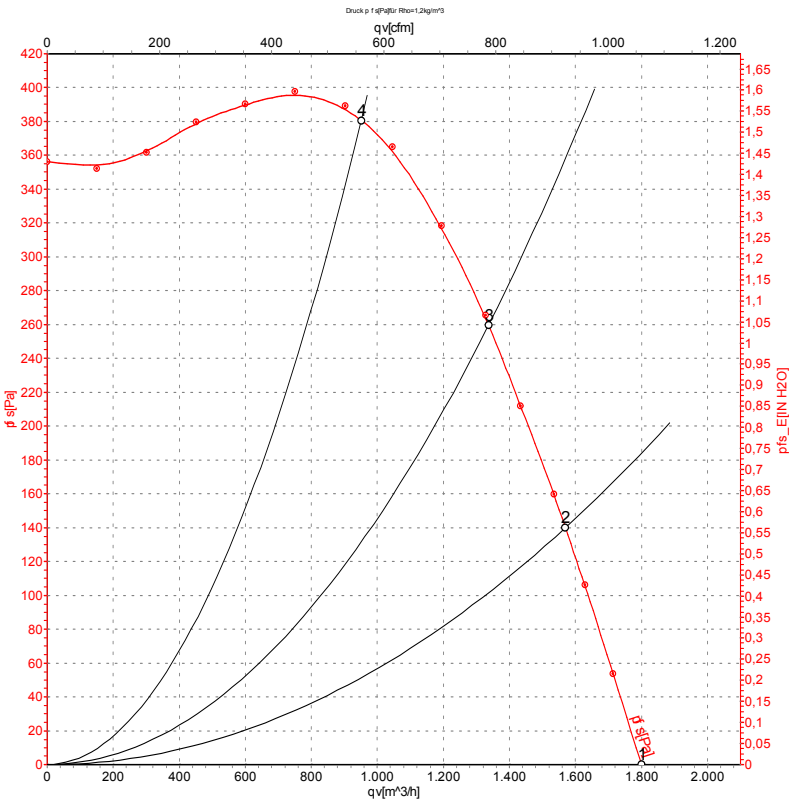
|    |                  |    |                 |     |              |
|----|------------------|----|-----------------|-----|--------------|
| Δ  | Delta connection | Y  | Star connection | L1  | = U1 = black |
| L2 | = V1 = blue      | L3 | = W1 = brown    | W2  | yellow       |
| U2 | green            | V2 | white           | TOP | 2 x grey     |
| PE | green / yellow   |    |                 |     |              |



# AC centrifugal fan

forward curved, single inlet

## 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    | m <sup>3</sup> /h | Pa              |
| 1 | 400 | 50 | 1385              | 630            | 1.46 | 1800              | 0               |
| 2 | 400 | 50 | 1405              | 530            | 1.37 | 1570              | 140             |
| 3 | 400 | 50 | 1425              | 443            | 1.31 | 1335              | 260             |
| 4 | 400 | 50 | 1455              | 317            | 1.26 | 950               | 380             |

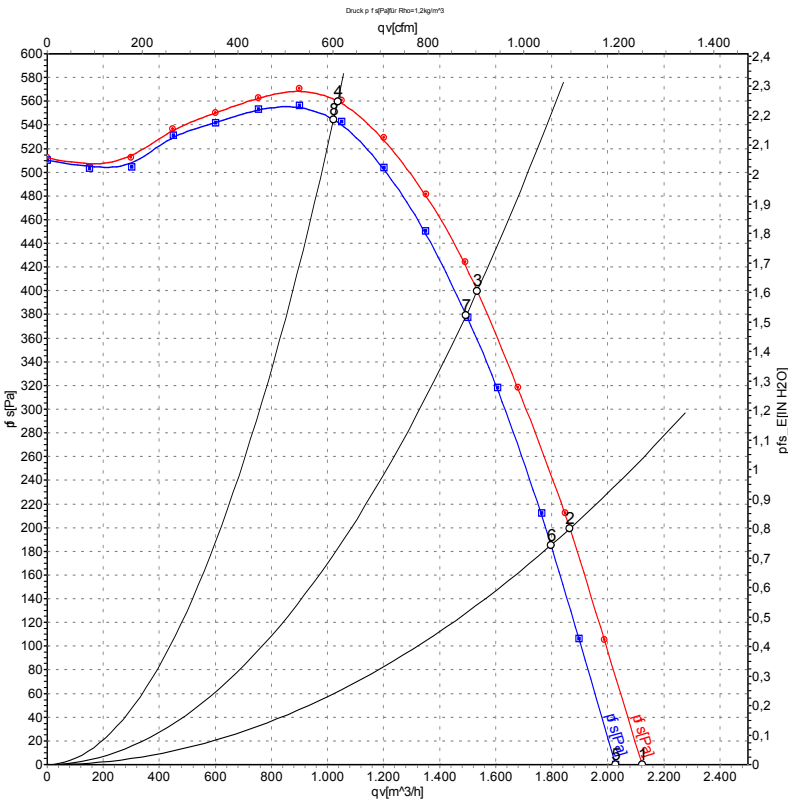
U = Supply voltage · f = Frequency · n = Speed · P<sub>e</sub> = Power input · I = Current draw · qv = Air flow · p<sub>fs</sub> = Pressure increase



# AC centrifugal fan

forward curved, single inlet

## 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: LwA measured as per ISO 13347 /  
LpA measured with 1m distance to fan axis.  
The values given are valid under the  
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installed.

## Measured values

|   | U   | f  | n                 | P <sub>e</sub> | I    | qv                | p <sub>fs</sub> |
|---|-----|----|-------------------|----------------|------|-------------------|-----------------|
|   | V   | Hz | min <sup>-1</sup> | W              | A    | m <sup>3</sup> /h | Pa              |
| 1 | 480 | 60 | 1625              | 1030           | 1.71 | 2120              | 0               |
| 2 | 480 | 60 | 1660              | 859            | 1.54 | 1865              | 200             |
| 3 | 480 | 60 | 1695              | 673            | 1.39 | 1535              | 400             |
| 4 | 480 | 60 | 1740              | 446            | 1.26 | 1035              | 560             |
| 5 | 400 | 60 | 1555              | 940            | 1.69 | 2025              | 0               |
| 6 | 400 | 60 | 1600              | 794            | 1.47 | 1795              | 186             |
| 7 | 400 | 60 | 1650              | 624            | 1.23 | 1495              | 380             |
| 8 | 400 | 60 | 1715              | 399            | 0.98 | 1020              | 546             |

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

