

# AC axial fan

sickled blades (S series), single inlet  
Wall ring with guard grille, for railway applications

W2D315-CQ08-07 ebmpapst Datasheet  
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## Nominal data

|                               |                   |      |      |
|-------------------------------|-------------------|------|------|
| Type                          | W2D315-CQ08-07    |      |      |
| Motor                         | M2D074-EI         |      |      |
| Phase                         |                   | 3~   | 3~   |
| Nominal voltage               | VAC               | 400  | 400  |
| Connection                    |                   | Y    | Y    |
| Frequency                     | Hz                | 50   | 60   |
| Type of data definition       |                   | fa   | fa   |
| Valid for approval / standard |                   | -    | -    |
| Speed (rpm)                   | min <sup>-1</sup> | 2700 | 2950 |
| Power input                   | W                 | 230  | 345  |
| Current draw                  | A                 | 0.4  | 0.55 |
| Max. back pressure            | Pa                | 170  | 150  |
| Min. ambient temperature      | °C                | -25  | -25  |
| Max. ambient temperature      | °C                | 80   | 50   |

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



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## Technical features

|                                                                    |                                                                |
|--------------------------------------------------------------------|----------------------------------------------------------------|
| Mass                                                               | 6.2 kg                                                         |
| Size                                                               | 315 mm                                                         |
| Motor size                                                         | 74                                                             |
| Surface of rotor                                                   | Coated in black                                                |
| Material of blades                                                 | Sheet steel, coated in black                                   |
| Material of wall ring                                              | Sheet steel, galvanised and coated in black plastic (RAL 9005) |
| Material of guard grille                                           | Steel, coated in black plastic (RAL9005)                       |
| Number of blades                                                   | 5                                                              |
| Direction of air flow                                              | V                                                              |
| Direction of rotation                                              | Counter-clockwise, seen on rotor                               |
| Type of protection                                                 | IP54                                                           |
| Insulation class                                                   | "F"                                                            |
| Humidity (F) / environmental protection class (H)                  | H3                                                             |
| 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   |
| Condensation drainage 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) brought out, basic insulation |
| Cable exit                                                         | Variable                                                       |
| Protection class                                                   | I (if protective earth is connected by customer)               |
| Product conforming to standard                                     | EN 60335-1                                                     |



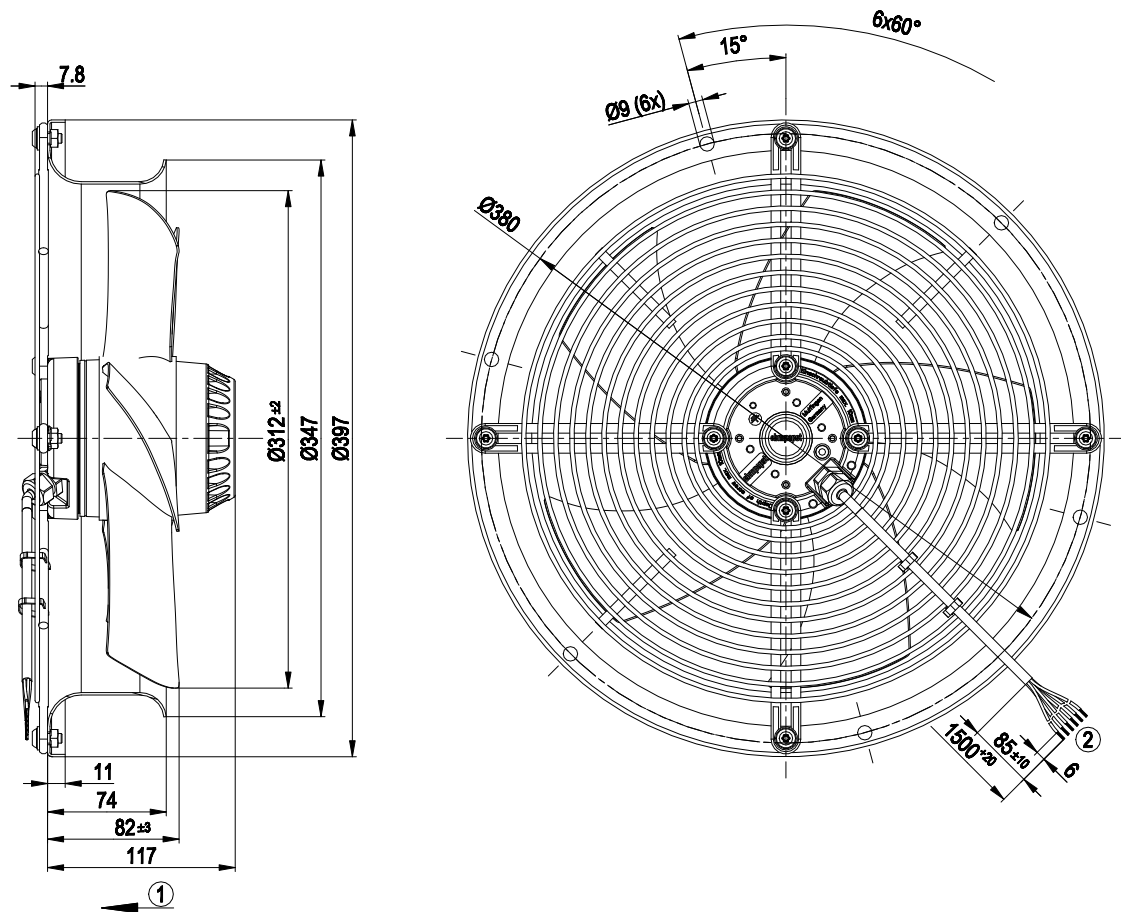
**W2D315-CQ08-07**

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## Product drawing



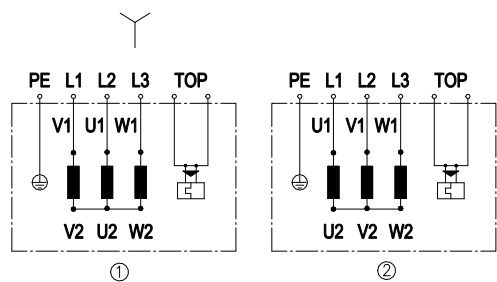
- |   |                                                                                        |
|---|----------------------------------------------------------------------------------------|
| 1 | Direction of air flow "V"                                                              |
| 2 | Connection line halogen-free XLPE / XLPO 6G 0.5 mm <sup>2</sup> , 6x lead tips crimped |

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Connection screen



Change direction of rotation by reversing two phases

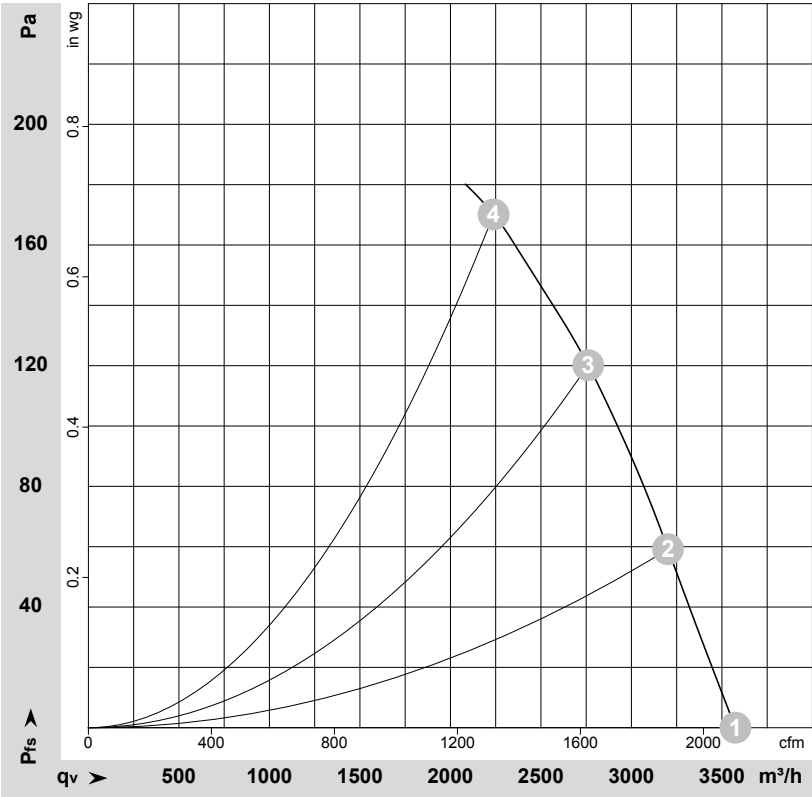
|     |                          |
|-----|--------------------------|
|     | Three-phase motor        |
| Y   | Star connection          |
| 1   | Anti-clockwise operation |
| L1  | = V1 = blue              |
| L2  | = U1 = black             |
| L3  | = W1 = brown             |
| 2   | Clockwise operation      |
| L1  | = U1 = black             |
| L2  | = V1 = blue              |
| L3  | = W1 = brown             |
| PE  | green/yellow             |
| TOP | 2x grey                  |



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## Charts: Air flow 50 Hz



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

Measurement: LU-27259-1

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    | 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 | 400 | 50 | 2700              | 230            | 0.40 | 3575              | 0               | 2105           | 0.00            |
| 2 | 400 | 50 | 2690              | 239            | 0.41 | 3200              | 60              | 1885           | 0.24            |
| 3 | 400 | 50 | 2640              | 269            | 0.45 | 2760              | 120             | 1625           | 0.48            |
| 4 | 400 | 50 | 2585              | 297            | 0.49 | 2240              | 170             | 1315           | 0.68            |

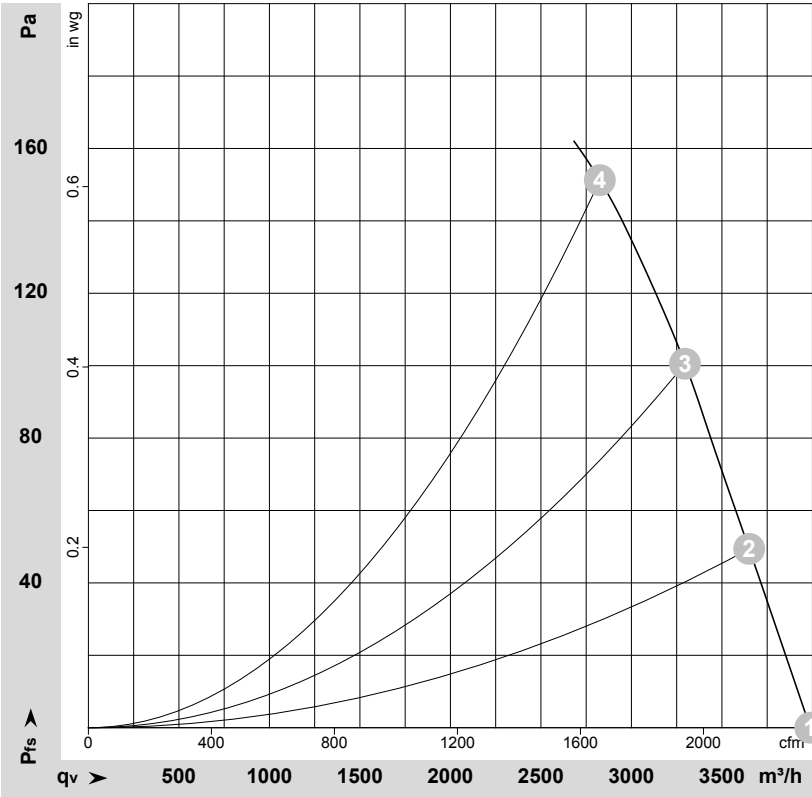
U = Supply voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power input · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase



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## Charts: Air flow 60 Hz



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

Measurement: LU-27260-1

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    | 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 | 400 | 60 | 2950              | 345            | 0.55 | 3990           | 0               | 2345           | 0.00            |
| 2 | 400 | 60 | 2955              | 352            | 0.56 | 3650           | 50              | 2150           | 0.20            |
| 3 | 400 | 60 | 2875              | 382            | 0.61 | 3295           | 100             | 1940           | 0.40            |
| 4 | 400 | 60 | 2790              | 408            | 0.65 | 2825           | 150             | 1665           | 0.60            |

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

