**A4D450-AP01-02**

# AC axial fan

sickled blades (S series)

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ErP2015 EXCEEDS THE NORM

## Nominal data

| | |
|---|---|
| **Type** | **A4D450-AP01-02** |
| **Motor** | **M4D074-GA** |

| | | | | | |
|---|---|---|---|---|---|
| Phase | | 3~ | 3~ | 3~ | 3~ |
| Nominal voltage | VAC | 230 | 230 | 400 | 400 |
| Connection | | Δ | Δ | Y | Y |
| Frequency | Hz | 50 | 60 | 50 | 60 |
| Type of data definition | | fa | fa | fa | fa |
| Valid for approval / standard | | CE | CE | CE | CE |
| Speed | $min^{-1}$ | 1380 | 1540 | 1380 | 1540 |
| Power input | W | 200 | 285 | 200 | 285 |
| Current draw | A | 0.83 | 0.92 | 0.48 | 0.53 |
| Max. back pressure | Pa | 120 | 70 | 120 | 70 |
| Min. ambient temperature | °C | -25 | -25 | -25 | -25 |
| Max. ambient temperature | °C | 50 | 50 | 50 | 50 |

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 Pa

| | | Actual | Request 2013 | Request 2015 |
|---|---|---|---|---|
| Overall efficiency $\eta_{es}$ | % | 34.9 | 26.1 | 30.1 |
| Efficiency grade N | | 44.8 | 36 | 40 |
| Power input $P_e$ | kW | 0.27 | | |
| Air flow $q_v$ | $m^3/h$ | 3795 | | |
| Pressure increase $p_{fs}$ | Pa | 91 | | |
| Speed n | $min^{-1}$ | 1310 | | |

Data definition with optimum efficiency. LU-27634
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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## Technical features

| | |
|---|---|
| **Mass** | 5.0 kg |
| **Size** | 450 mm |
| **Surface of rotor** | Coated in black |
| **Material of impeller** | Sheet steel (coated in black) |
| **Number of blades** | 5 |
| **Direction of air flow** | "A" |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 44; Depending on installation and position as per EN 60034-5 |
| **Insulation class** | "F" |
| **Humidity class** | F1-2 |
| **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 |
| **Cable exit** | Variable |
| **Protection class** | I (if protective earth is connected by customer) |
| **Product conforming to standard** | EN 60335-1; CE |
| **Approval** | CCC |

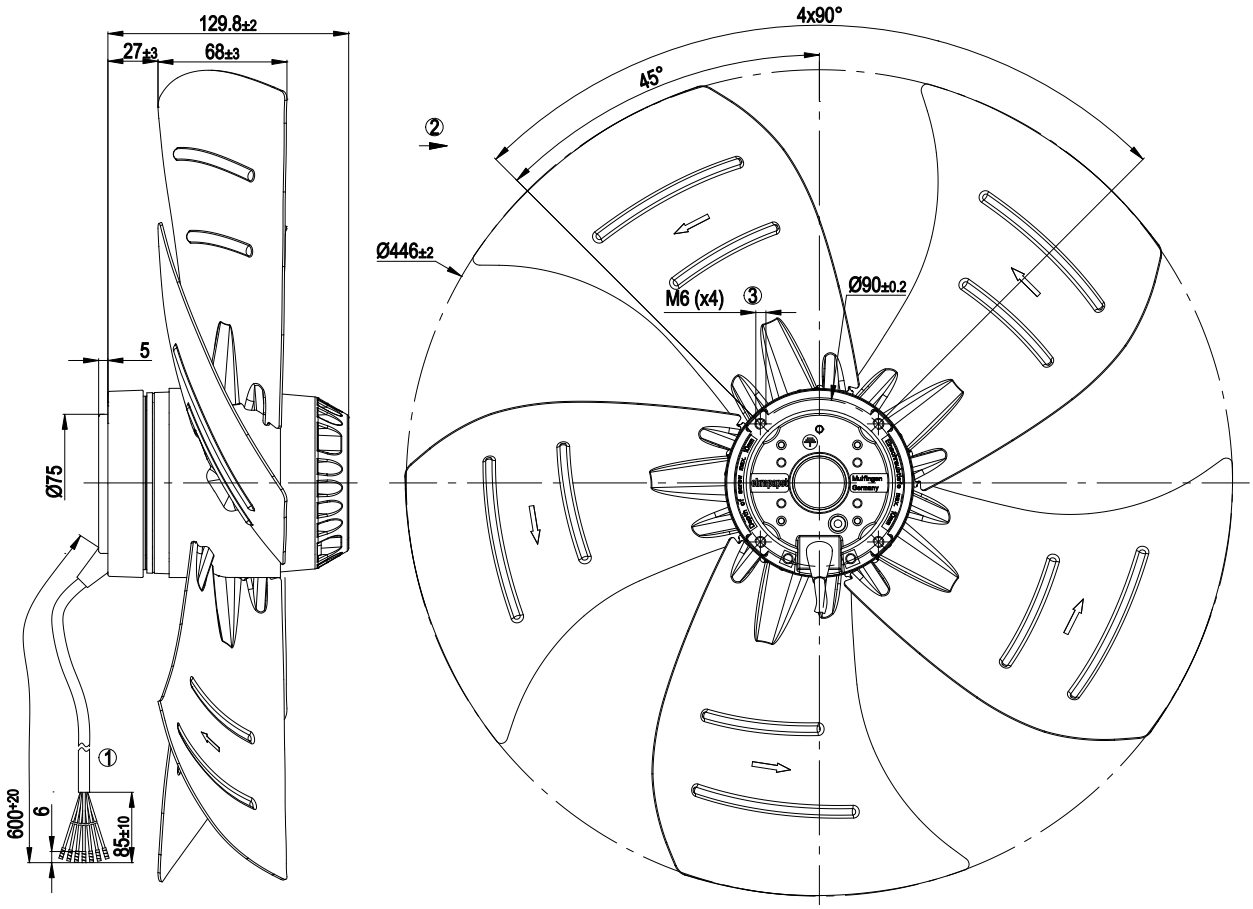


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## Product drawing




| | |
|---|---|
| 1 | Connection line halogen- and silicone-free, 7x0.5mm², 7x brass lead tips crimped |
| 2 | Direction of air flow "A" |
| 3 | Depth of screw max. 10 mm |

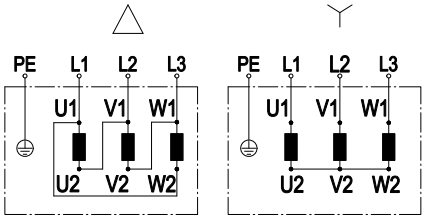


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## Connection screen




Change direction of rotation by reversing two phases

| | | | | | |
|---|---|---|---|---|---|
| | Three-phase motor | Δ | Delta connection | Y | Star connection |
| L1 | = U1 = black | L2 | = V1 = blue | L3 | = W1 = brown |
| U2 | green | V2 | white | W2 | yellow |
| PE | green/yellow | | | | |

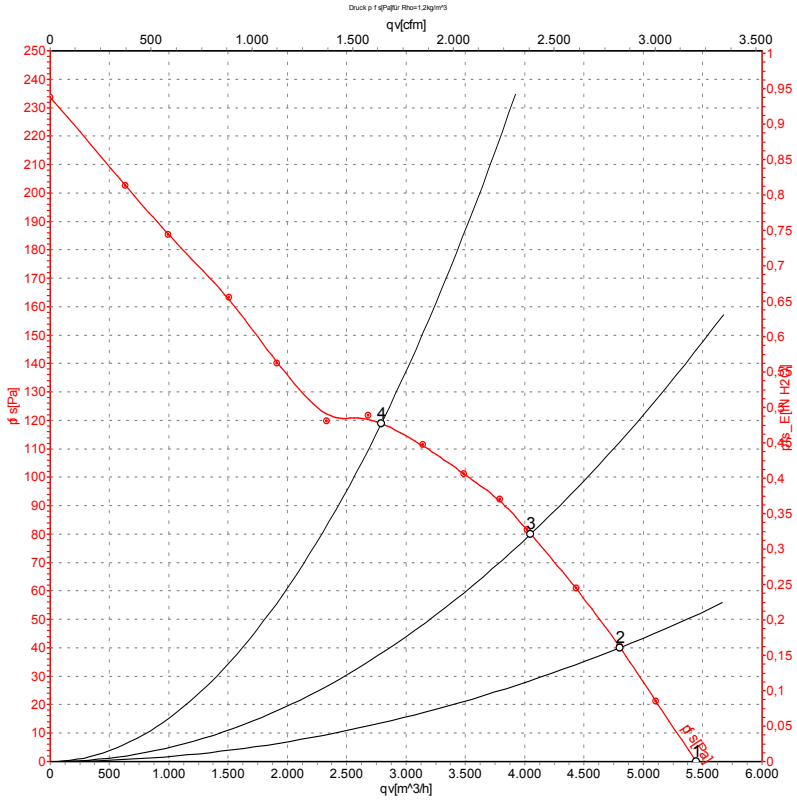


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## Charts: Air flow 50 Hz




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 | $P_e$ | I | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa |
| 1 | 400 | 50 | 1380 | 200 | 0.48 | 5445 | 0 |
| 2 | 400 | 50 | 1345 | 235 | 0.53 | 4800 | 40 |
| 3 | 400 | 50 | 1320 | 264 | 0.57 | 4050 | 80 |
| 4 | 400 | 50 | 1285 | 301 | 0.61 | 2790 | 120 |

U = Supply voltage · f = Frequency · n = Speed · $P_e$ = Power input · I = Current draw · qv = Air flow · $p_{fs}$ = Pressure increase

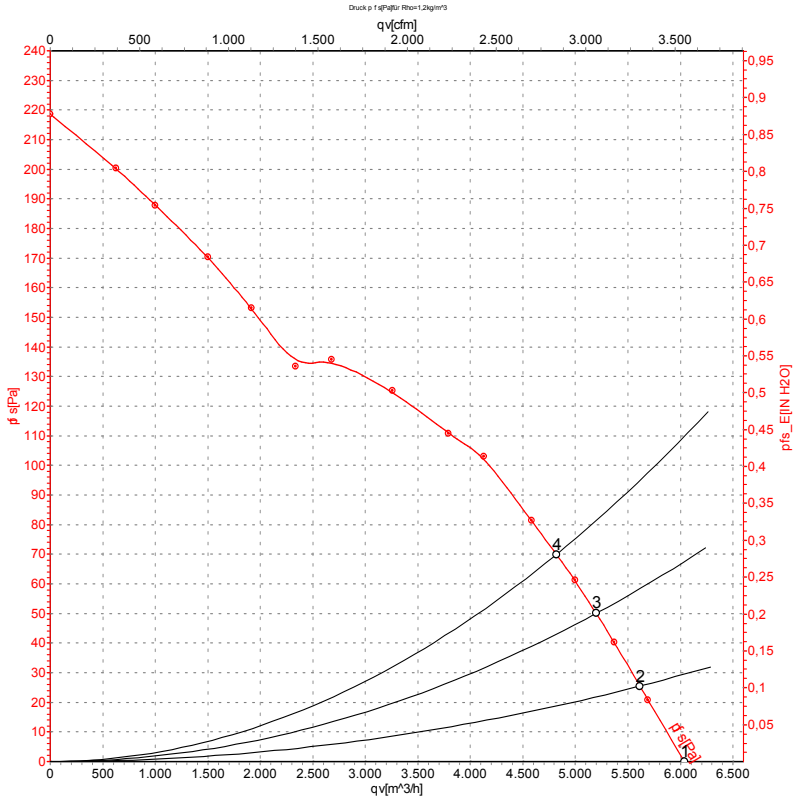


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## Charts: Air flow 60 Hz




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: 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 | $P_e$ | I | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa |
| 1 | 400 | 60 | 1540 | 285 | 0.53 | 6040 | 0 |
| 2 | 400 | 60 | 1505 | 314 | 0.58 | 5615 | 25 |
| 3 | 400 | 60 | 1475 | 337 | 0.62 | 5200 | 50 |
| 4 | 400 | 60 | 1450 | 355 | 0.64 | 4820 | 70 |

U = Supply voltage · f = Frequency · n = Speed · $P_e$ = Power input · I = Current draw · qv = Air flow · $p_{fs}$ = Pressure increase



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