**W2D170-AA04-52**

# AC axial fan

straight blades (A series)

Fan housing with guard grille

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## Nominal data

| | |
|---|---|
| **Type** | **W2D170-AA04-52** |
| **Motor** | **M2D068-BF** |

| | | | | | |
|---|---|---|---|---|---|
| Phase | | 3~ | 3~ | 3~ | 3~ |
| Nominal voltage | VAC | 230 | 230 | 400 | 400 |
| Wiring | | Δ | Δ | Y | Y |
| Frequency | Hz | 50 | 60 | 50 | 60 |
| Method of obtaining data | | fa | fa | fa | fa |
| Valid for approval/standard | | CE | CE | CE | CE |
| Speed (rpm) | $min^{-1}$ | 2750 | 3100 | 2750 | 3100 |
| Power consumption | W | 45 | 43 | 45 | 43 |
| Current draw | A | 0.23 | 0.16 | 0.13 | 0.09 |
| Min. ambient temperature | °C | -25 | -25 | -25 | -25 |
| Max. ambient temperature | °C | 50 | 70 | 50 | 70 |
| Starting current | A | 0.4 | 0.38 | 0.23 | 0.22 |

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

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## Technical description

| | |
|---|---|
| **Weight** | 1.8 kg |
| **Fan size** | 170 mm |
| **Rotor surface** | Painted black |
| **Blade material** | Die-cast aluminum |
| **Fan housing material** | Die-cast aluminum |
| **Guard grille material** | Steel, coated with black plastic (RAL 9005) |
| **Number of blades** | 6 |
| **Airflow direction** | "A" |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | IP44; installation- and position-dependent |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | H0 - dry environment |
| **Max. permitted ambient temp. for motor (transport/storage)** | + 80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | - 40 °C |
| **Installation position** | Any |
| **Condensation drainage holes** | None |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | < 0.75 mA |
| **Motor protection** | Thermal overload protector (TOP) with basic insulation |
| **With cable** | Lateral |
| **Protection class** | I (with customer connection of protective earth) |
| **Conformity with standards** | EN 60335-1; CE |
| **Approval** | UL 1004-1; CSA C22.2 No. 100 |



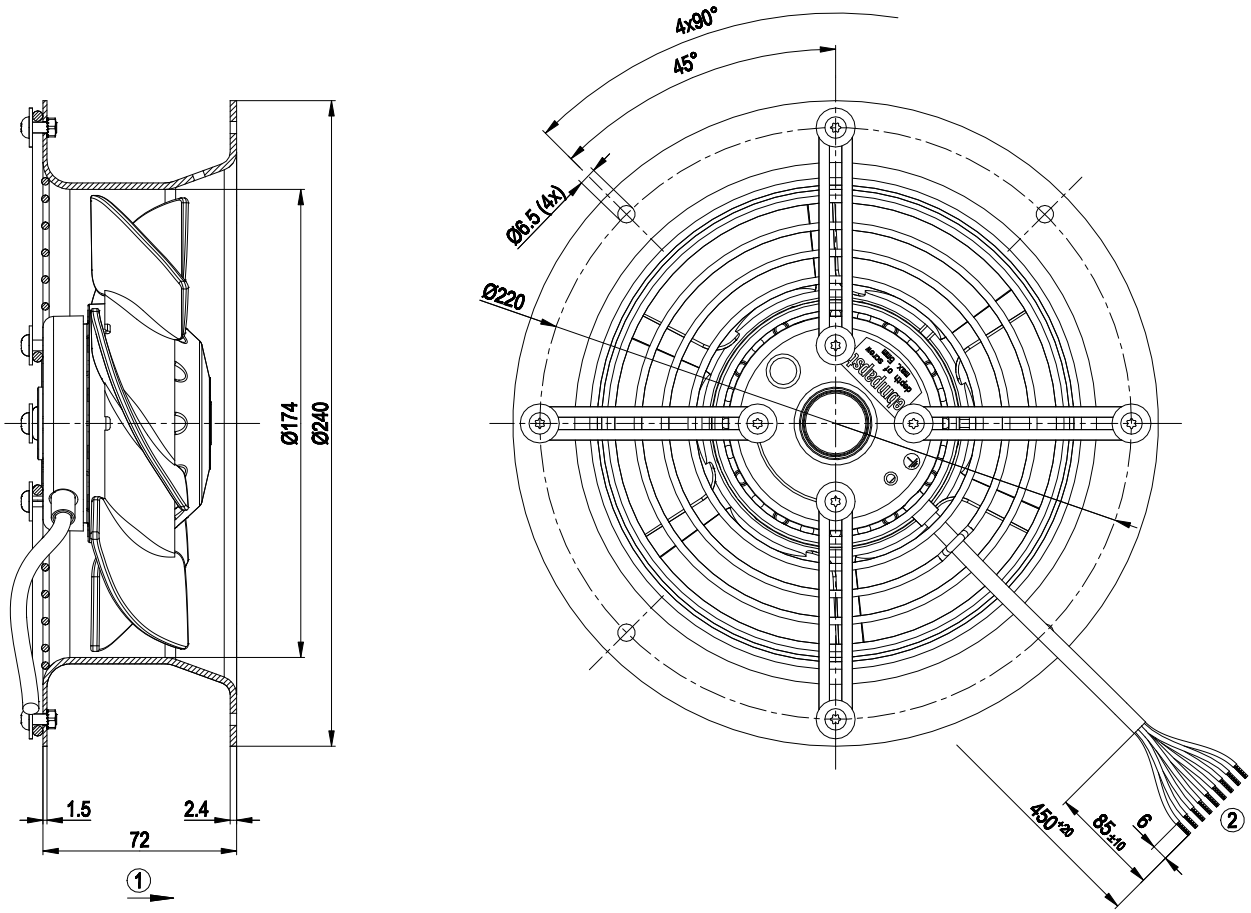
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## Product drawing




| | |
|---|---|
| 1 | Direction of air flow "A" |
| 2 | Cable AWG20, 9x crimped splices |



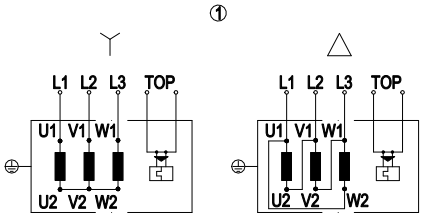
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## Connection diagram




| | |
|---|---|
| 1 | Three-phase motor |
| Y | Star connection |
| Δ | Delta connection |
| L1 | = U1 = black 2 |
| L2 | = V1 = black 1 |
| L3 | = W1 = black 3 |
| V2 | = black 4 |
| U2 | = black 5 |
| W2 | = black 6 |
| TOP | (thermal overload protector) 2x yellow |



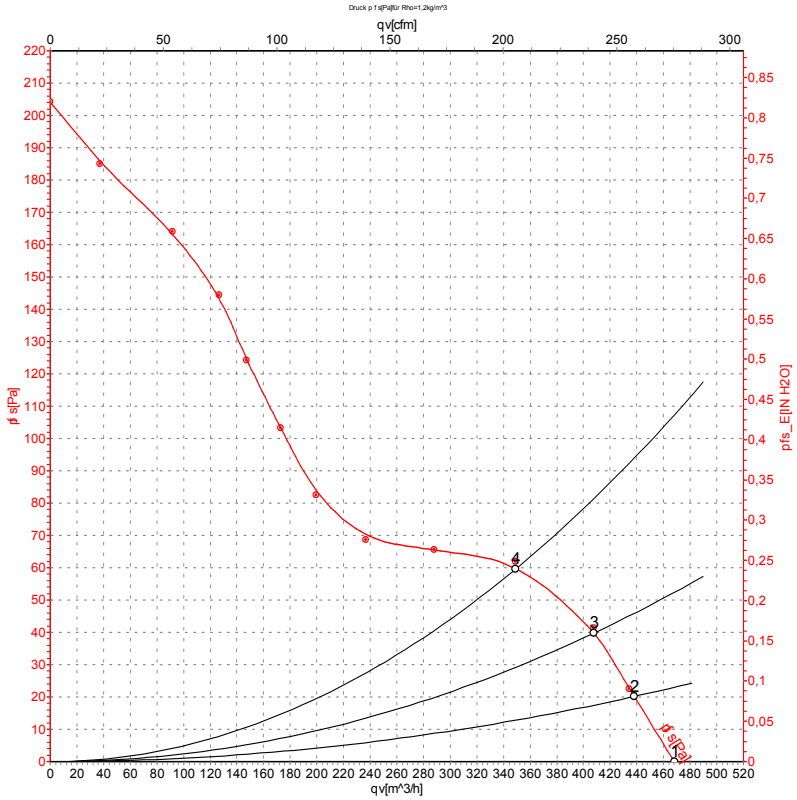
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## Curves: Air performance 50 Hz




Measurement: LU-25208-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

## Measured values

| | U | f | n | $P_e$ | I | qv | $p_{fs}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa | CFM | inH2O |
| 1 | 400 | 50 | 2710 | 42 | 0.12 | 470 | 0 | 275 | 0.00 |
| 2 | 400 | 50 | 2705 | 42 | 0.12 | 440 | 20 | 260 | 0.08 |
| 3 | 400 | 50 | 2685 | 43 | 0.12 | 410 | 40 | 240 | 0.16 |
| 4 | 400 | 50 | 2675 | 44 | 0.12 | 350 | 60 | 205 | 0.24 |

U = Power supply · f = Frequency · n = Speed (rpm) · $P_e$ = Power consumption · I = Current draw · qv = Air flow · $p_{fs}$ = Pressure increase



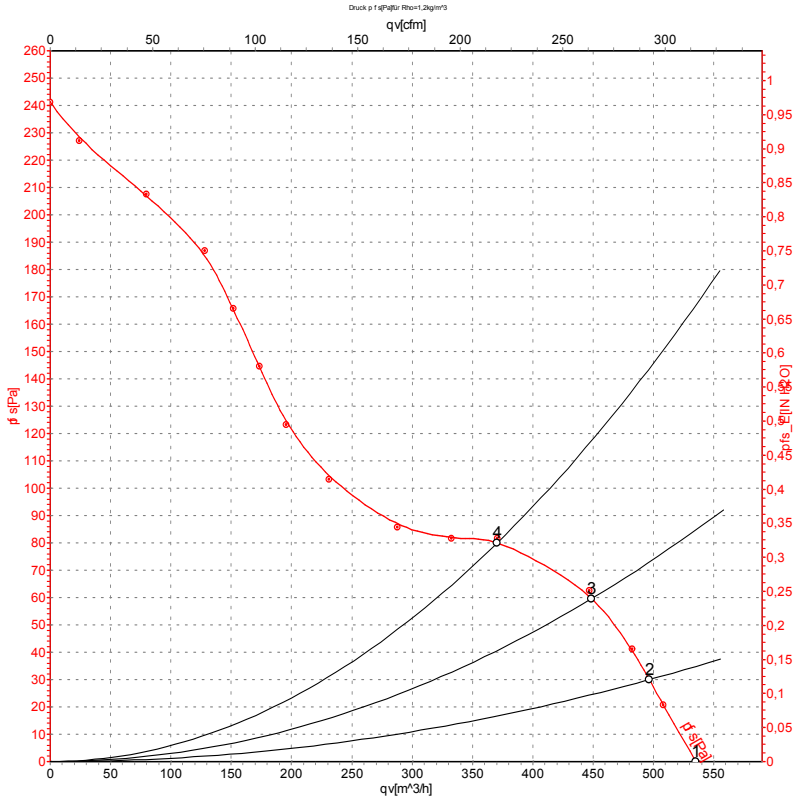
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## Curves: Air performance 60 Hz




Measurement: LU-25209-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

## Measured values

| | U | f | n | $P_e$ | I | qv | $p_{fs}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa | CFM | inH2O |
| 1 | 400 | 60 | 3100 | 39 | 0.09 | 535 | 0 | 315 | 0.00 |
| 2 | 400 | 60 | 3065 | 41 | 0.09 | 495 | 30 | 290 | 0.12 |
| 3 | 400 | 60 | 3015 | 43 | 0.09 | 450 | 60 | 265 | 0.24 |
| 4 | 400 | 60 | 3000 | 44 | 0.09 | 370 | 80 | 220 | 0.32 |

U = Power supply · f = Frequency · n = Speed (rpm) · $P_e$ = Power consumption · I = Current draw · qv = Air flow · $p_{fs}$ = Pressure increase



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