**W4D500-DJ03-06**

# AC axial fan - HyBlade

sickled blades (S series)

with full square nozzle

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## Nominal data

| | |
|---|---|
| **Type** | **W4D500-DJ03-06** |
| **Motor** | **M4D110-EF** |

| | | | |
|---|---|---|---|
| Phase | | 3~ | 3~ |
| Nominal voltage | VAC | 400 | 400 |
| Connection | | Δ | Y |
| Frequency | Hz | 50 | 50 |
| Type of data definition | | ml | ml |
| Valid for approval / standard | | CE | CE |
| Speed (rpm) | $min^{-1}$ | 1340 | 1060 |
| Power input | W | 710 | 480 |
| Current draw | A | 1.4 | 0.8 |
| Max. back pressure | Pa | 140 | 87 |
| Min. ambient temperature | °C | -25 | -25 |
| Max. ambient temperature | °C | 60 | 60 |
| Starting current | A | 4.6 | 1.55 |

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

## Data in accordance with ecodesign regulation EU 327/2011

| | | Actual | Request 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 32.7 | 32.7 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 40 | 40 |
| 05 Variable speed drive | | No | |

| | | |
|---|---|---|
| 09 Power input $P_e$ | kW | 0.69 |
| 09 Air flow $q_v$ | $m^3/h$ | 5995 |
| 09 Pressure increase $p_{fs}$ | Pa | 132 |
| 10 Speed (rpm) n | $min^{-1}$ | 1345 |
| 11 Specific ratio* | | 1.00 |

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

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

LU-105607

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## Technical features

| | |
|---|---|
| **Mass** | 15.2 kg |
| **Size** | 500 mm |
| **Surface of rotor** | Coated in black |
| **Material of terminal box** | PP plastic |
| **Material of blades** | Press-fitted sheet steel blank, sprayed with PP plastic |
| **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 |
| **Blade angle** | 0° |
| **Direction of air flow** | "A" |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 54 |
| **Insulation class** | "F" |
| **Humidity (F)/environmental protection class (H)** | H2 |
| **Note ambient temperature** | Occasional start-up between -40°C and -25°C is permissible.<br>For continuous operation at ambient temperatures below -25°C (e.g. refrigeration applications) we recommend our fan version with special low-temperature bearings. |
| **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 top; rotor on bottom on request |
| **Condensate discharge holes** | On the stator side |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)** | <= 3.5 mA |
| **Electrical leads** | Via terminal box |
| **Motor protection** | Thermal overload protector (TOP) brought out, basic insulation |
| **Cable exit** | Axial |
| **Protection class** | I (if protective earth is connected by customer) |
| **Product conforming to standard** | EN 60034; CE |
| **Approval** | VDE; EAC |



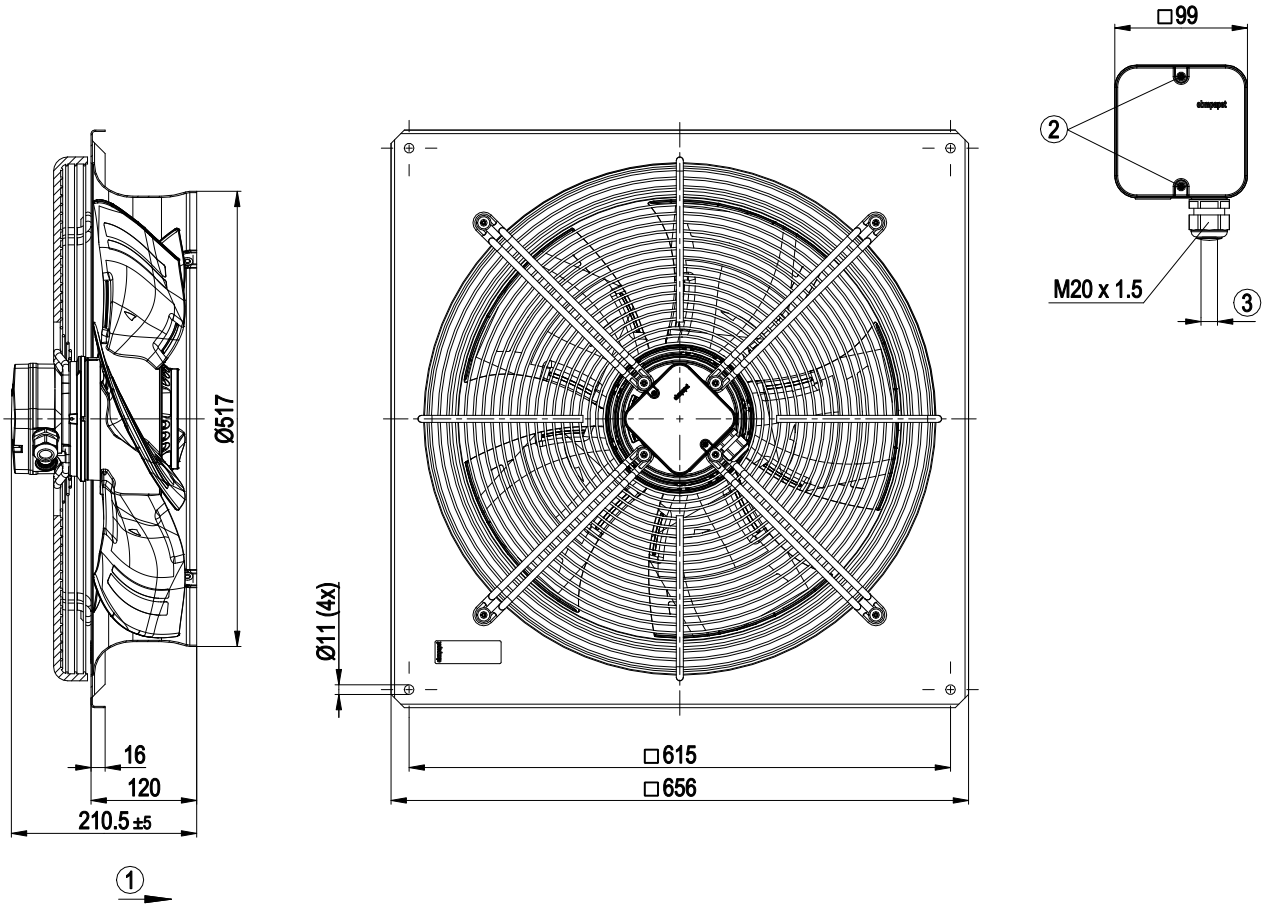
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## Product drawing




| | |
|---|---|
| 1 | Direction of air flow "A" |
| 2 | Tightening torque 1.5±0.2 Nm |
| 3 | Cable diameter: min. 6 mm, max. 12 mm, tightening torque 2±0.3 Nm |



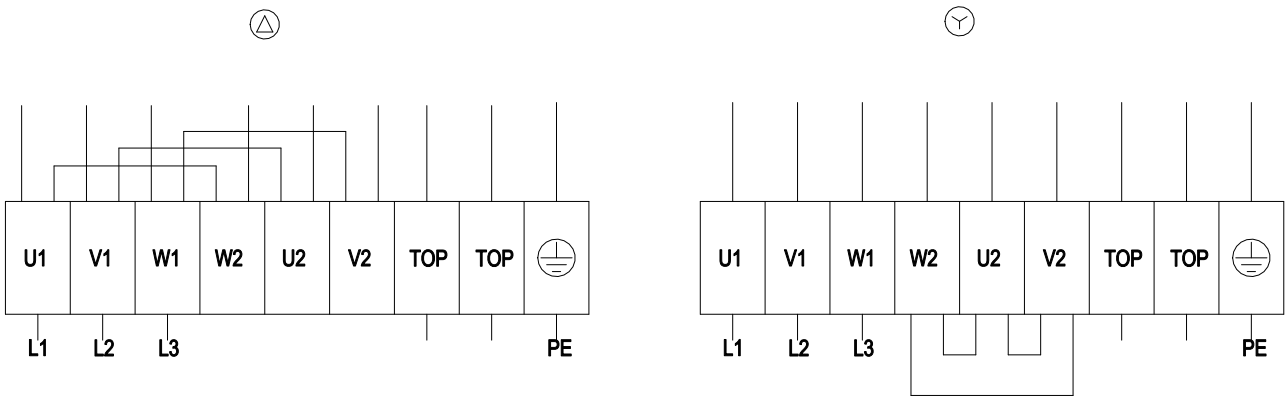
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## Connection screen




| | | | | | |
|---|---|---|---|---|---|
| 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 | | | | |



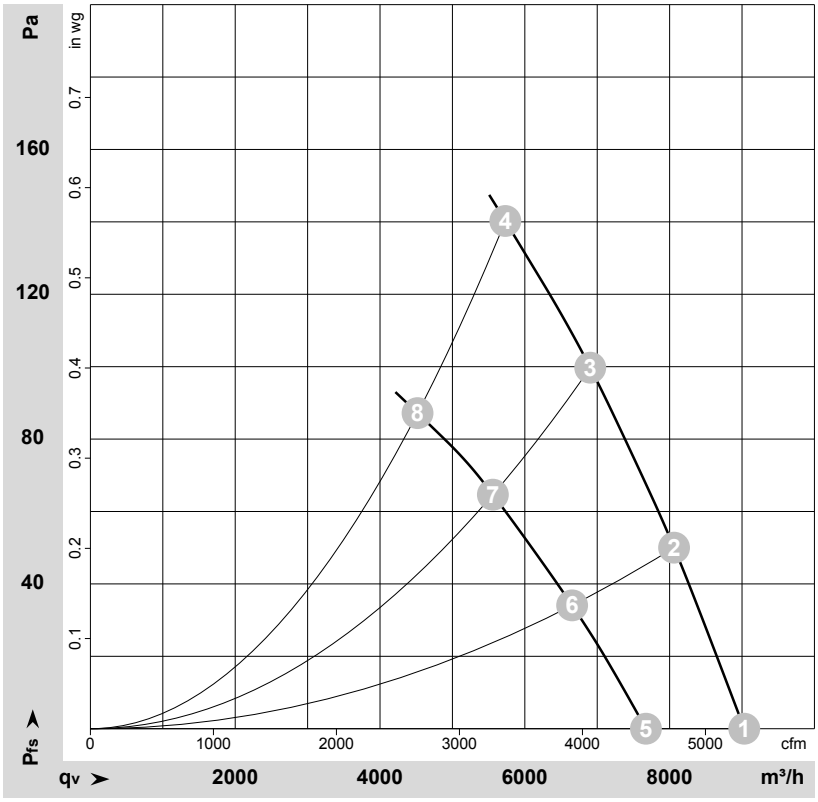
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## Charts: Air flow 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-105607-1
Measurement: LU-105610-1

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

| | Conn. | U | f | n | $P_e$ | I | $LpA_{in}$ | $LwA_{in}$ | $LwA_{out}$ | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | dB(A) | $m^3/h$ | Pa | cfm | inH2O |
| 1 | Δ | 400 | 50 | 1395 | 537 | 1.25 | 68 | 75 | 75 | 9030 | 0 | 5315 | 0.00 |
| 2 | Δ | 400 | 50 | 1375 | 601 | 1.30 | 65 | 72 | 72 | 8060 | 50 | 4745 | 0.20 |
| 3 | Δ | 400 | 50 | 1360 | 661 | 1.35 | 64 | 71 | 71 | 6905 | 100 | 4065 | 0.40 |
| 4 | Δ | 400 | 50 | 1340 | 710 | 1.40 | 64 | 71 | 71 | 5730 | 140 | 3375 | 0.56 |
| 5 | Y | 400 | 50 | 1180 | 393 | 0.65 | 65 | 71 | 71 | 7675 | 0 | 4515 | 0.00 |
| 6 | Y | 400 | 50 | 1135 | 429 | 0.71 | 61 | 68 | 68 | 6655 | 34 | 3915 | 0.14 |
| 7 | Y | 400 | 50 | 1095 | 458 | 0.76 | 59 | 66 | 66 | 5560 | 65 | 3270 | 0.26 |
| 8 | Y | 400 | 50 | 1060 | 480 | 0.80 | 58 | 65 | 65 | 4520 | 87 | 2660 | 0.35 |

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · $P_e$ = Power input · I = Current draw · $LpA_{in}$ = Sound pressure level inlet side · $LwA_{in}$ = Sound power level inlet side
$LwA_{out}$ = Sound power level outlet side · $q_V$ = Air flow · $p_{fs}$ = Pressure increase



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