# AC axial fan

sickle-shaped blades (S series)

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## Nominal data

| | |
|---|---|
| **Type** | **A4D500-AD03-09** |
| **Motor** | **M4D110-GF** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Phase | | 3~ | 3~ | 3~ | 3~ | 3~ | 3~ |
| Nominal voltage | VAC | 400 | 400 | 400 | 400 | 480 | 480 |
| Wiring | | Δ | Y | Δ | Y | Δ | Y |
| Frequency | Hz | 50 | 50 | 60 | 60 | 60 | 60 |
| Method of obtaining data | | ml | ml | ml | ml | ml | ml |
| Valid for approval/standard | | - | - | - | - | - | - |
| Speed (rpm) | $min^{-1}$ | 1325 | 1035 | 1470 | 990 | 1570 | 1170 |
| Power consumption | W | 820 | 550 | 1110 | 590 | 1220 | 770 |
| Current draw | A | 1.59 | 0.95 | 1.93 | 1.1 | 1.86 | 1.13 |
| Max. back pressure | Pa | 160 | 100 | 135 | 60 | 150 | 84 |
| Max. back pressure | inH2O | 0.64 | 0.4 | 0.54 | 0.24 | 0.6 | 0.34 |
| Min. ambient temperature | °C | -40 | -40 | -40 | -40 | -40 | -40 |
| Max. ambient temperature | °C | 80 | 80 | 50 | 50 | 50 | 50 |
| Starting current | A | 6.5 | 2 | | | 7.5 | 2.2 |

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** | 10.5 kg |
| **Fan size** | 500 mm |
| **Rotor surface** | Painted gray |
| **Terminal box material** | PP plastic |
| **Blade material** | Sheet aluminum, painted gray |
| **Number of blades** | 5 |
| **Blade pitch** | 0° |
| **Airflow direction** | "A" |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | IP55 |
| **Insulation class** | "F" |
| **Moisture (F) / Environmental (H) protection class** | F5 |
| **Max. permitted ambient temp. for motor (transport/storage)** | + 80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | - 40 °C |
| **Installation position** | Shaft horizontal |
| **Condensation drainage holes** | None |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | <= 3.5 mA |
| **Electrical hookup** | Via terminal box |
| **Motor protection** | Thermal overload protector (TOP) with basic insulation |
| **With cable** | Axial |
| **Protection class** | I (with customer connection of protective earth) |
| **Conformity with standards** | EN 61800-5-1 |
| **Approval** | VDE; EAC |

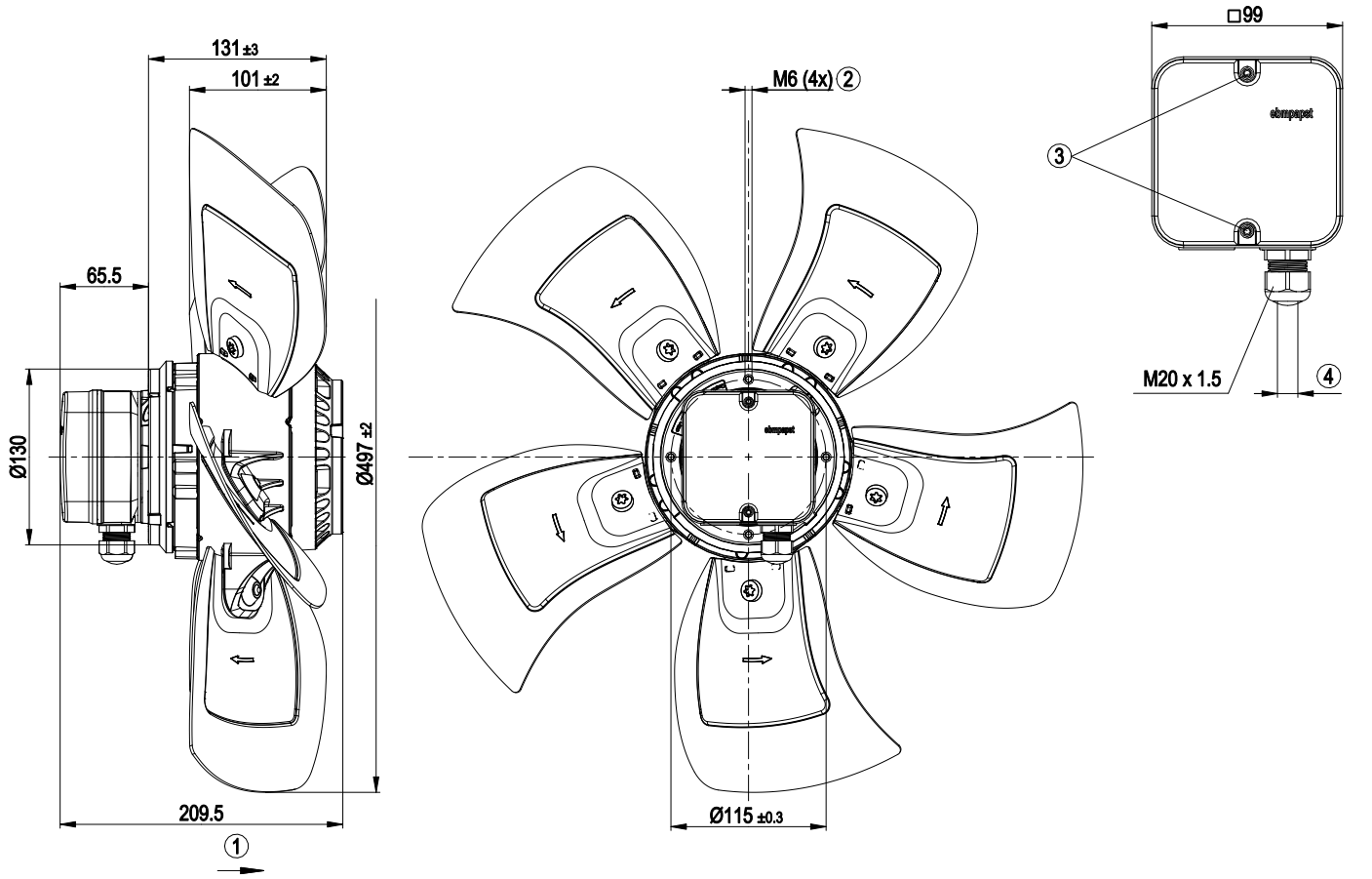


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## Product drawing




| | |
|---|---|
| 1 | Direction of air flow "A" |
| 2 | Max. clearance for screw 12 mm |
| 3 | Tightening torque 1.5 ± 0.2 Nm |
| 4 | Cable diameter min. 6 mm, max. 12 mm; tightening torque 2 ± 0.3 Nm |

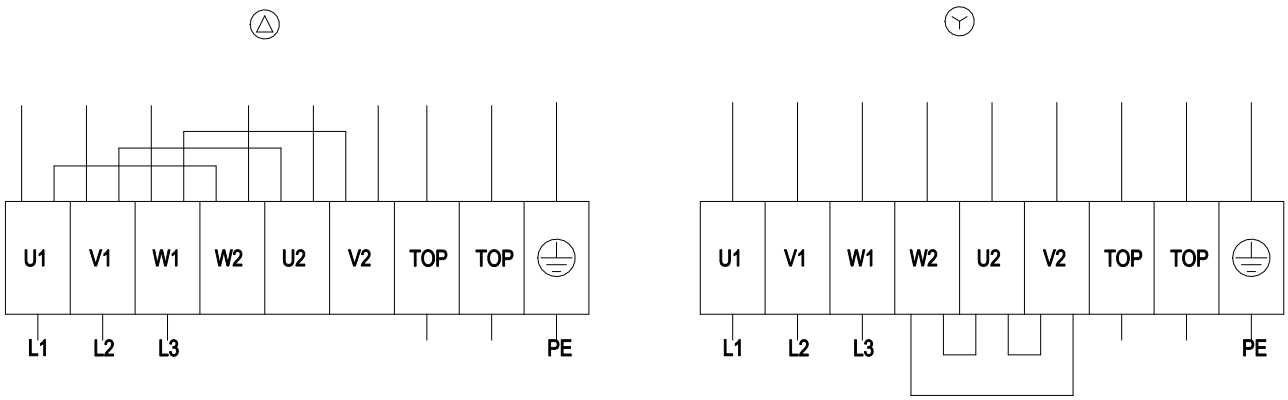


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## Connection diagram




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

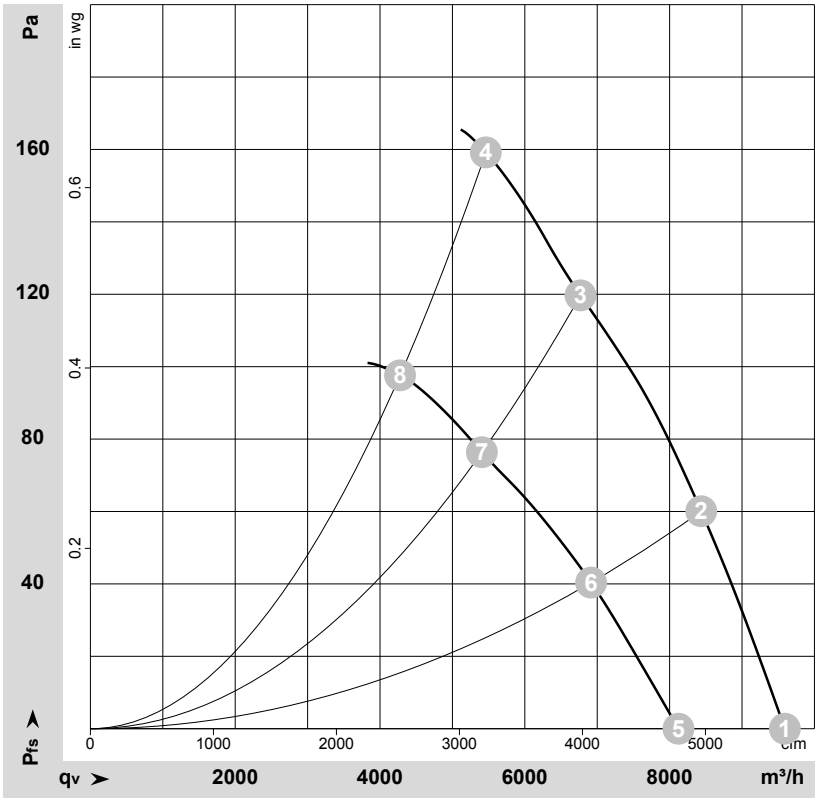


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## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-100710-1
Measurement: LU-100714-1

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

| | Wired | U | f | n | $P_e$ | I | $LpA_{in}$ | $LwA_{in}$ | qv | $p_{fs}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa | CFM | inH2O |
| 1 | Δ | 400 | 50 | 1380 | 615 | 1.28 | 71 | 77 | 9590 | 0 | 5645 | 0.00 |
| 2 | Δ | 400 | 50 | 1360 | 687 | 1.37 | 71 | 77 | 8435 | 60 | 4965 | 0.24 |
| 3 | Δ | 400 | 50 | 1345 | 753 | 1.44 | 71 | 78 | 6770 | 120 | 3985 | 0.48 |
| 4 | Δ | 400 | 50 | 1325 | 820 | 1.59 | 74 | 80 | 5460 | 160 | 3215 | 0.64 |
| 5 | Y | 400 | 50 | 1160 | 454 | 0.76 | | | 8120 | 0 | 4780 | 0.00 |
| 6 | Y | 400 | 50 | 1115 | 492 | 0.82 | | | 6915 | 41 | 4070 | 0.16 |
| 7 | Y | 400 | 50 | 1070 | 521 | 0.87 | | | 5405 | 76 | 3180 | 0.31 |
| 8 | Y | 400 | 50 | 1035 | 550 | 0.95 | | | 4275 | 98 | 2515 | 0.39 |

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · $P_e$ = Power consumption · I = Current draw · $LpA_{in}$ = Sound pressure level intake side · $LwA_{in}$ = Sound power level intake side
qv = Air flow · $p_{fs}$ = Pressure increase

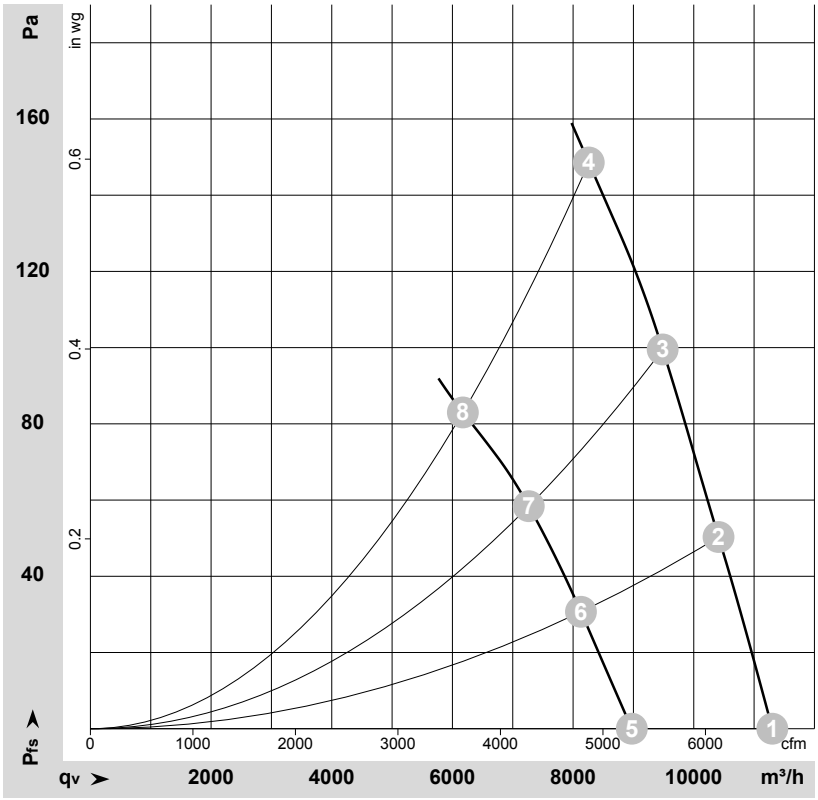


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# AC axial fan

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## Curves: Air performance 60 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-100711-1
Measurement: LU-100715-1

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

| | Wired | U | f | n | $P_e$ | I | $LpA_{in}$ | $LwA_{in}$ | qv | $p_{fs}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa | CFM | inH2O |
| 1 | Δ | 480 | 60 | 1620 | 996 | 1.54 | 74 | 80 | 11300 | 0 | 6650 | 0.00 |
| 2 | Δ | 480 | 60 | 1605 | 1072 | 1.63 | 74 | 80 | 10410 | 50 | 6130 | 0.20 |
| 3 | Δ | 480 | 60 | 1590 | 1142 | 1.70 | 74 | 80 | 9485 | 100 | 5585 | 0.40 |
| 4 | Δ | 480 | 60 | 1570 | 1220 | 1.86 | 75 | 81 | 8260 | 150 | 4860 | 0.60 |
| 5 | Y | 480 | 60 | 1285 | 695 | 0.97 | | | 8975 | 0 | 5280 | 0.00 |
| 6 | Y | 480 | 60 | 1250 | 724 | 1.02 | | | 8130 | 31 | 4785 | 0.12 |
| 7 | Y | 480 | 60 | 1210 | 749 | 1.06 | | | 7265 | 58 | 4275 | 0.23 |
| 8 | Y | 480 | 60 | 1170 | 770 | 1.13 | | | 6175 | 83 | 3635 | 0.33 |

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · $P_e$ = Power consumption · I = Current draw · $LpA_{in}$ = Sound pressure level intake side · $LwA_{in}$ = Sound power level intake side
qv = Air flow · $p_{fs}$ = Pressure increase



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