**A4D500-AM03-13**

PROFROID INDUSTRIES DIV. CARRI

# AC axial fan - HyBlade

sickled blades (S series)

A4D500-AM03-13 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

## Nominal data

| | |
|---|---|
| **Type** | **A4D500-AM03-13** |
| **Motor** | **M4D110-GF** |

| | | | | | |
|---|---|---|---|---|---|
| Phase | | 3~ | 3~ | 3~ | 3~ |
| Nominal voltage | VAC | 400 | 400 | 400 | 460 |
| Connection | | Δ | Y | Δ | Δ |
| Frequency | Hz | 50 | 50 | 60 | 60 |
| Type of data definition | | ml | ml | ml | ml |
| Valid for approval / standard | | CE | CE | CE | CE |
| Speed | $min^{-1}$ | 1390 | 1180 | 1590 | 1640 |
| Power input | W | 720 | 550 | 1020 | 1060 |
| Current draw | A | 1.41 | 0.9 | 1.7 | 1.64 |
| Max. back pressure | Pa | 140 | 100 | 130 | 138 |
| Min. ambient temperature | °C | -40 | -40 | -40 | -40 |
| Max. ambient temperature | °C | 65 | 65 | 50 | 60 |
| Starting current | A | 6.5 | 2.2 | 5.9 | 6.8 |

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

| | | Actual | Request 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 33.4 | 32.8 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 40.6 | 40 |
| 05 Variable speed drive | | No | |

| | | |
|---|---|---|
| 09 Power input $P_e$ | kW | 0.73 |
| 09 Air flow $q_v$ | $m^3/h$ | 5860 |
| 09 Pressure increase $p_{fs}$ | Pa | 151 |
| 10 Speed n | $min^{-1}$ | 1385 |
| 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-106631

# AC axial fan - HyBlade

sickled blades (S series)

## Technical features

| | |
|---|---|
| **Mass** | 9.5 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 |
| **Number of blades** | 5 |
| **Direction of air flow** | "A" |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 54 |
| **Insulation class** | "F" |
| **Humidity class** | F4-1 |
| **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)** | <= 3.5 mA |
| **Electrical leads** | Via terminal box; With plug |
| **Motor protection** | Thermal overload protector (TOP) brought out |
| **Protection class** | I (if protective earth is connected by customer) |
| **Product conforming to standard** | EN 61800-5-1; CE |
| **Approval** | EAC; VDE |

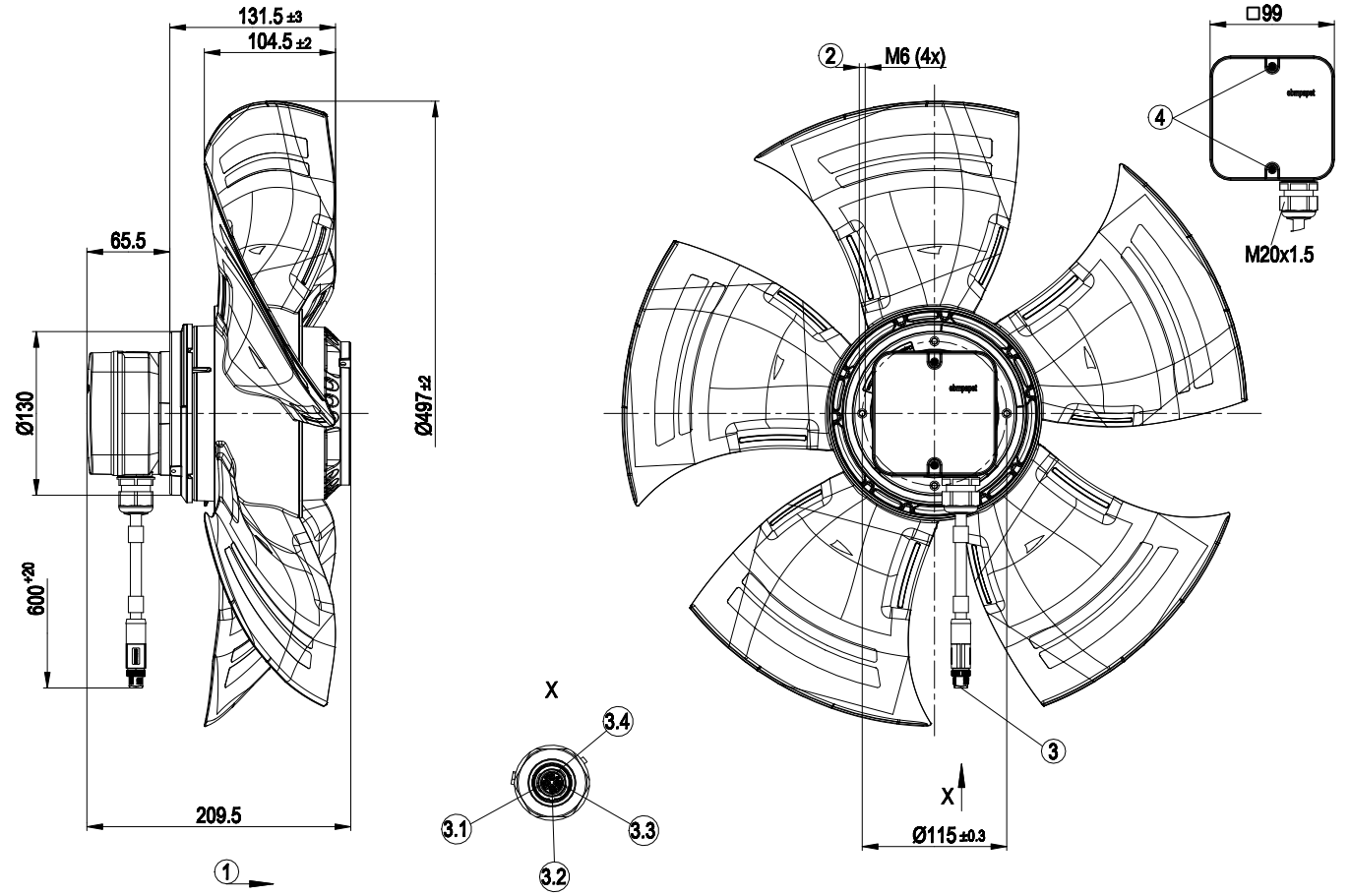


A4D500-AM03-13 ebmpapst Datasheet FansCo sales@fansco.com www.fansco.com

# AC axial fan - HyBlade

sickled blades (S series)

## Product drawing




| | |
|---|---|
| 1 | Direction of air flow "A" |
| 2 | Thread reach max. 12 mm |
| 3 | Connection line PUR 4x 1.5 mm², with connector M12 Phoenix, 4-pole (s-coded) |
| 3.1 | L1 |
| 3.2 | L2 |
| 3.3 | L3 |
| 3.4 | PE |
| 4 | Tightening torque 1.5±0.2 Nm |

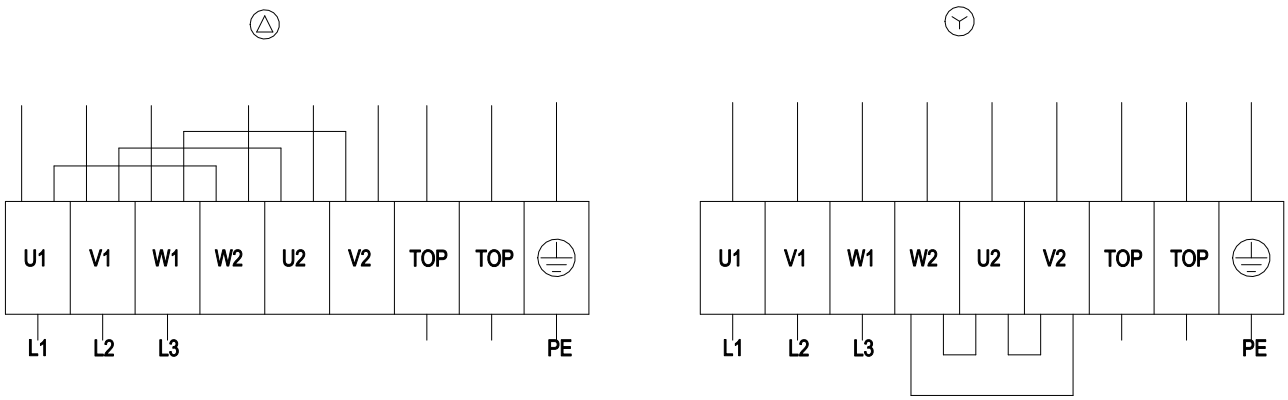


A4D500-AM03-13 ebmpapst Datasheet FansCo sales@fansco.com www.fansco.com

# AC axial fan - HyBlade

sickled blades (S series)

## 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 | | | | |

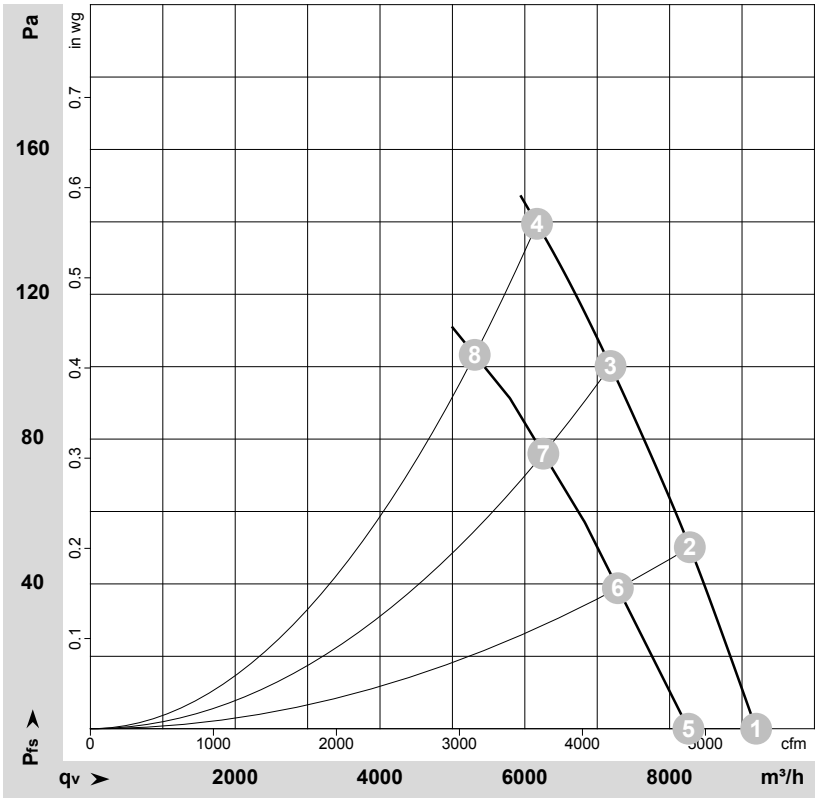


A4D500-AM03-13 ebmpapst Datasheet FansCo sales@fansco.com www.fansco.com

# AC axial fan - HyBlade

sickled blades (S series)

## Charts: Air flow 50 Hz




ρ = 1,15 kg/m³ ± 2%

Measurement: LU-106631
Measurement: LU-106885

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 | $LpA_{in}$ | $LwA_{in}$ | $LwA_{out}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | dB(A) | $m^3/h$ | Pa |
| 1 | Δ | 400 | 50 | 1420 | 540 | 1.20 | 68 | 75 | 75 | 9195 | 0 |
| 2 | Δ | 400 | 50 | 1410 | 605 | 1.28 | 65 | 72 | 72 | 8280 | 50 |
| 3 | Δ | 400 | 50 | 1400 | 663 | 1.35 | 64 | 71 | 71 | 7185 | 100 |
| 4 | Δ | 400 | 50 | 1390 | 720 | 1.41 | 64 | 72 | 72 | 6170 | 140 |
| 5 | Y | 400 | 50 | 1275 | 433 | 0.71 | | 72 | 73 | 8260 | 0 |
| 6 | Y | 400 | 50 | 1240 | 478 | 0.78 | | 70 | 70 | 7285 | 39 |
| 7 | Y | 400 | 50 | 1215 | 518 | 0.85 | | 68 | 68 | 6255 | 76 |
| 8 | Y | 400 | 50 | 1180 | 550 | 0.90 | | 68 | 68 | 5310 | 103 |

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · $P_e$ = 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 · qv = Air flow · $p_{fs}$ = Pressure increase

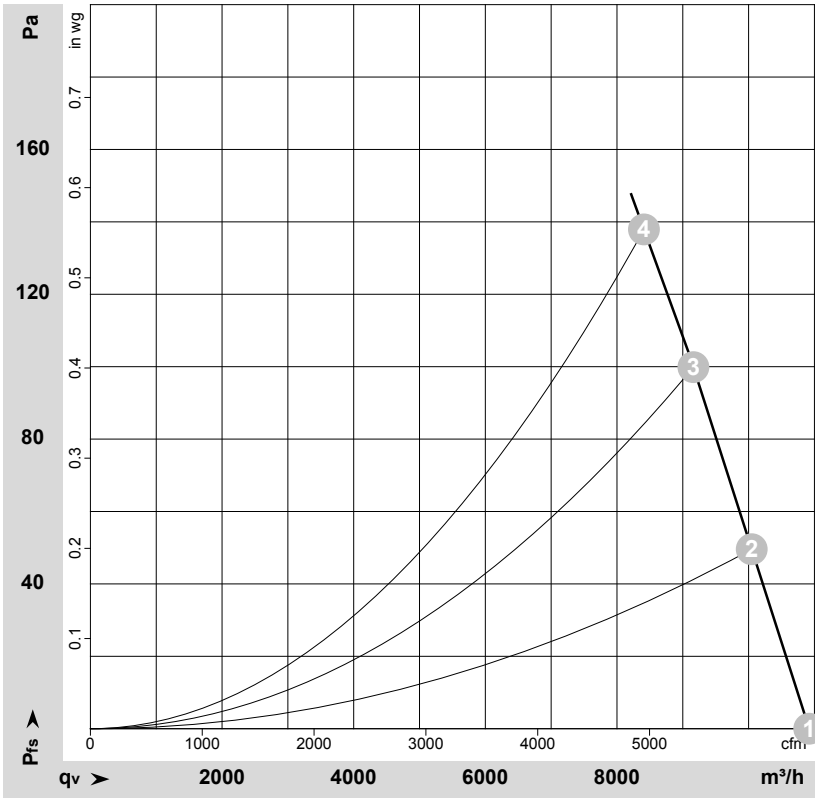


A4D500-AM03-13 ebmpapst Datasheet FansCo sales@fansco.com www.fansco.com

# AC axial fan - HyBlade

sickled blades (S series)

## Charts: Air flow 60 Hz




ρ = 1,15 kg/m³ ± 2%

Measurement: LU-110160

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 | $LpA_{in}$ | $LwA_{in}$ | $LwA_{out}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | dB(A) | $m^3/h$ | Pa |
| 1 | Δ | 460 | 60 | 1680 | 854 | 1.41 | 71 | 79 | 79 | 10920 | 0 |
| 2 | Δ | 460 | 60 | 1670 | 930 | 1.49 | 70 | 77 | 77 | 10045 | 50 |
| 3 | Δ | 460 | 60 | 1655 | 1008 | 1.58 | 68 | 75 | 75 | 9160 | 100 |
| 4 | Δ | 460 | 60 | 1640 | 1060 | 1.64 | 68 | 75 | 75 | 8410 | 138 |

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · $P_e$ = 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 · qv = Air flow · $p_{fs}$ = Pressure increase



A4D500-AM03-13 ebmpapst Datasheet FansCo sales@fansco.com www.fansco.com