**S4E400-AM03-89**

# AC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

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## Nominal data

| | |
|---|---|
| **Type** | **S4E400-AM03-89** |
| **Motor** | **M4E094-EA** |

| | | | |
|---|---|---|---|
| Phase | | 1~ | 1~ |
| Nominal voltage | VAC | 230 | 230 |
| Frequency | Hz | 50 | 60 |
| Method of obtaining data | | ml | ml |
| Valid for approval/standard | | - | - |
| Speed (rpm) | $min^{-1}$ | 1330 | 1460 |
| Power consumption | W | 310 | 430 |
| Current draw | A | 1.36 | 1.88 |
| Capacitor | µF | 8 | 8 |
| Capacitor voltage | VDB | 450 | 450 |
| Max. back pressure | Pa | 100 | 100 |
| Max. back pressure | in. wg | 0.4 | 0.4 |
| Min. ambient temperature | °C | -40 | -40 |
| Max. ambient temperature | °C | 65 | 50 |
| Starting current | A | 6 | 5.5 |

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

230 V/60 Hz
Max. voltage tolerance +/-5 %

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## Technical description

| | |
|---|---|
| **Weight** | 6.5 kg |
| **Size** | 400 mm |
| **Motor size** | 94 |
| **Rotor surface** | Painted black |
| **Terminal box material** | PP plastic |
| **Impeller material** | PP plastic |
| **Guard grille material** | Steel, coated with black plastic (RAL 9005) |
| **Number of blades** | 5 |
| **Airflow direction** | A |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | IP54 |
| **Insulation class** | "F" |
| **Moisture (F) / Environmental (H) protection class** | H2 |
| **Ambient temperature note** | Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings. |
| **Max. permitted ambient temp. for motor (transport/storage)** | +80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | -40 °C |
| **Installation position** | Shaft horizontal or rotor on bottom; rotor on top on request |
| **Condensation drainage holes** | On rotor side |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | <= 3.5 mA |
| **Electrical hookup** | Terminal box |
| **Motor protection** | Thermal overload protector (TOP) with basic insulation |
| **Protection class** | I (with customer connection of protective earth) |
| **Motor capacitor according to EN 60252-1 in safety protection class** | S0 |
| **Conformity with standards** | EN 60034-1 (2010) |
| **Approval** | EAC |



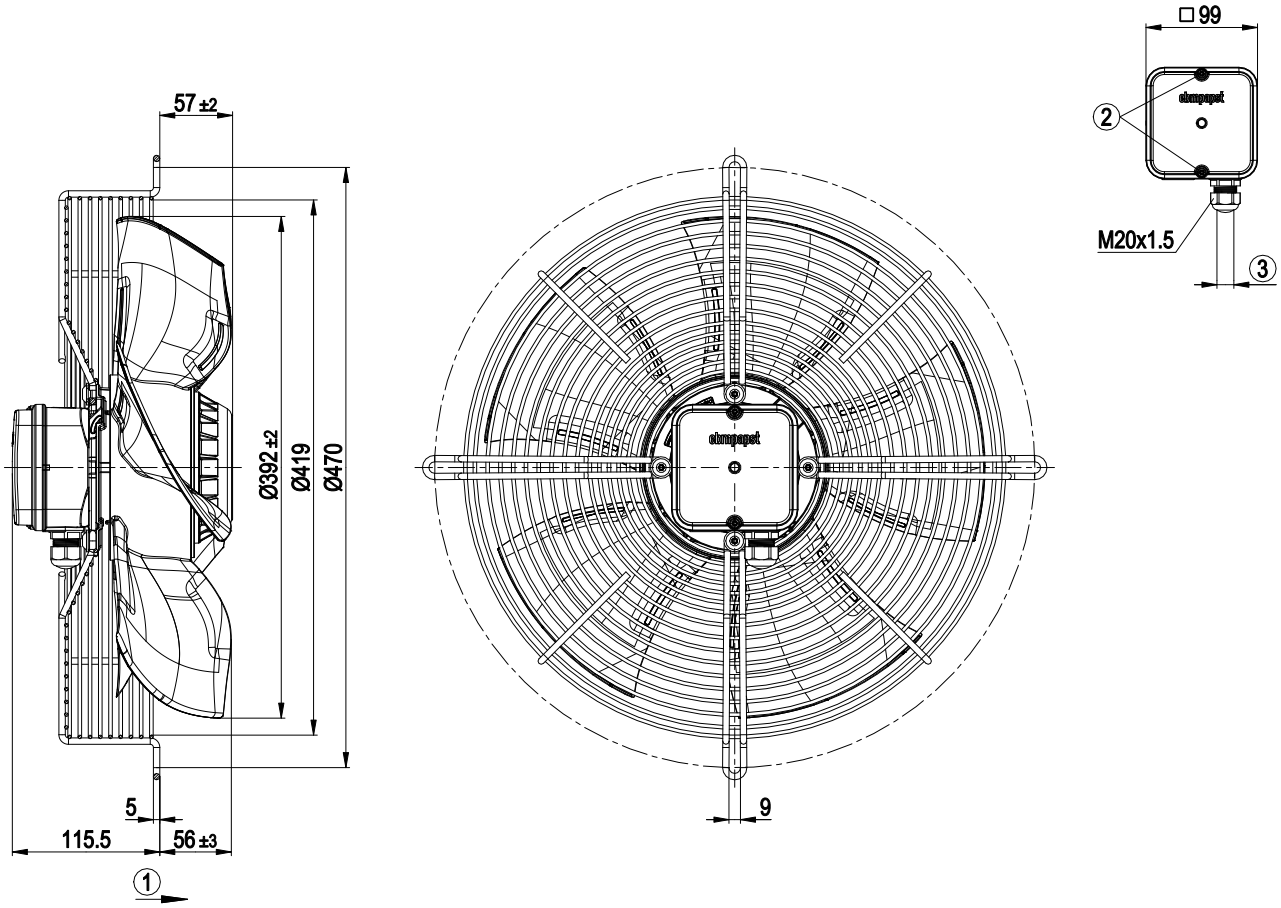
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## Product drawing




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



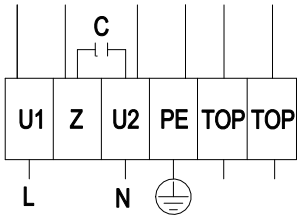
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## Connection diagram




| | | | | | |
|---|---|---|---|---|---|
| L | = U1 = blue | Z | brown | N | = U2 = black |
| PE | green/yellow | TOP | gray | | |



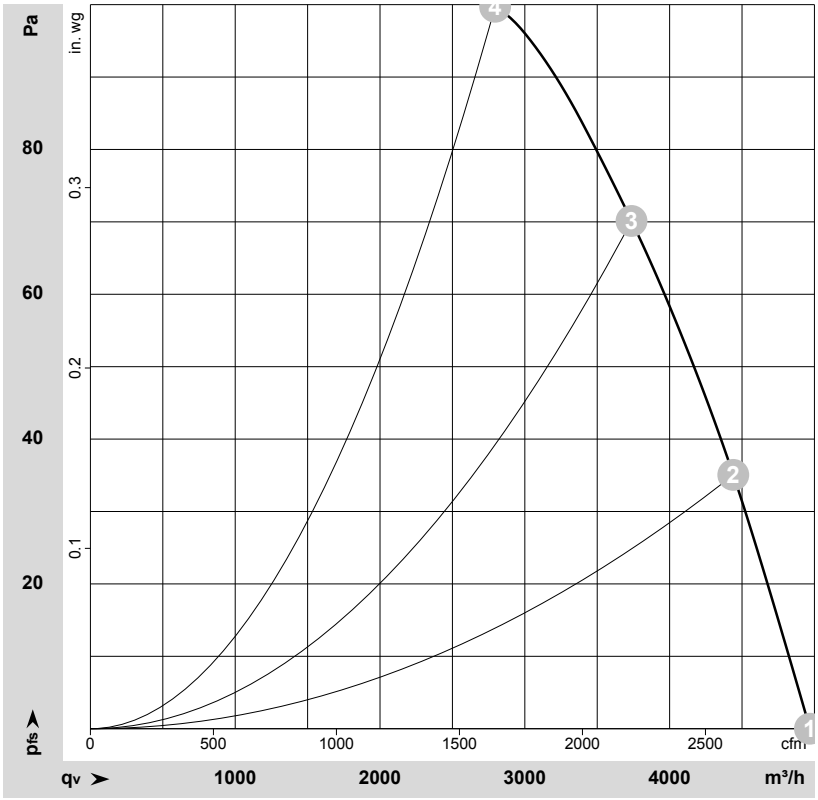
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## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-109394-1

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 | $LpA_{in}$ | $LwA_{in}$ | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa | cfm | in. wg |
| 1 | 1~ | 230 | 50 | 1370 | 270 | 1.20 | 66 | 73 | 4970 | 0 | 2925 | 0.00 |
| 2 | 1~ | 230 | 50 | 1355 | 286 | 1.26 | 65 | 72 | 4440 | 35 | 2615 | 0.14 |
| 3 | 1~ | 230 | 50 | 1350 | 295 | 1.30 | 61 | 68 | 3735 | 70 | 2200 | 0.28 |
| 4 | 1~ | 230 | 50 | 1330 | 310 | 1.36 | 60 | 68 | 2795 | 100 | 1645 | 0.40 |

Wired = Wiring · U = Voltage · 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
$q_V$ = Air flow · $p_{fs}$ = Pressure increase



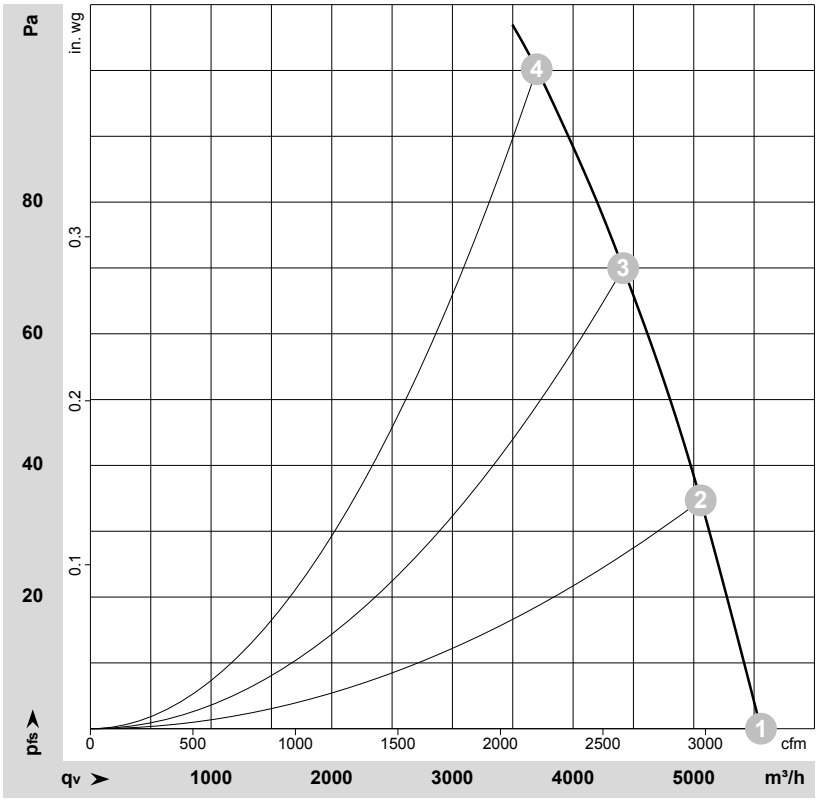
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## Curves: Air performance 60 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-109397-1

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 | $LpA_{in}$ | $LwA_{in}$ | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa | cfm | in. wg |
| 1 | 1~ | 230 | 60 | 1540 | 395 | 1.72 | 69 | 76 | 5555 | 0 | 3270 | 0.00 |
| 2 | 1~ | 230 | 60 | 1510 | 406 | 1.78 | 67 | 75 | 5060 | 35 | 2975 | 0.14 |
| 3 | 1~ | 230 | 60 | 1485 | 419 | 1.83 | 64 | 72 | 4415 | 70 | 2600 | 0.28 |
| 4 | 1~ | 230 | 60 | 1460 | 430 | 1.88 | 62 | 70 | 3700 | 100 | 2175 | 0.40 |

Wired = Wiring · U = Voltage · 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
$q_V$ = Air flow · $p_{fs}$ = Pressure increase



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