

# AC axial fan

sickled blades (S series)

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## Nominal data

|                               |                   |         |         |
|-------------------------------|-------------------|---------|---------|
| Type                          | A6E450-AN06-20    |         |         |
| Motor                         | M6E094-FA         |         |         |
| Phase                         |                   | 1~      | 1~      |
| Nominal voltage               | VAC               | 230     | 230     |
| Frequency                     | Hz                | 50      | 60      |
| Type of data definition       |                   | ml      | ml      |
| Valid for approval / standard |                   | CE      | CE      |
| Speed (rpm)                   | min <sup>-1</sup> | 880     | 970     |
| Power input                   | W                 | 155     | 215     |
| Current draw                  | A                 | 0.65    | 0.95    |
| Motor capacitor               | µF                | 5       | 5       |
| Capacitor voltage             | VDB               | 400     | 400     |
| Capacitor standard            |                   | S0 (CE) | S0 (CE) |
| Max. back pressure            | Pa                | 55      | 65      |
| Min. ambient temperature      | °C                | -40     | -40     |
| Max. ambient temperature      | °C                | 70      | 70      |
| Starting current              | A                 | 1.2     | 1.11    |

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 $\eta_{es}$ | %      | 28.5         |
| 02 Measurement category           | A      |              |
| 03 Efficiency category            | Static |              |
| 04 Efficiency grade N             | 40     | 40           |
| 05 Variable speed drive           | No     |              |

Data definition with optimum efficiency.

The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

|                               |                   |      |
|-------------------------------|-------------------|------|
| 09 Power input $P_e$          | kW                | 0.15 |
| 09 Air flow $q_v$             | m³/h              | 3110 |
| 09 Pressure increase $p_{fs}$ | Pa                | 48   |
| 10 Speed (rpm) n              | min <sup>-1</sup> | 885  |
| 11 Specific ratio*            |                   | 1.00 |

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

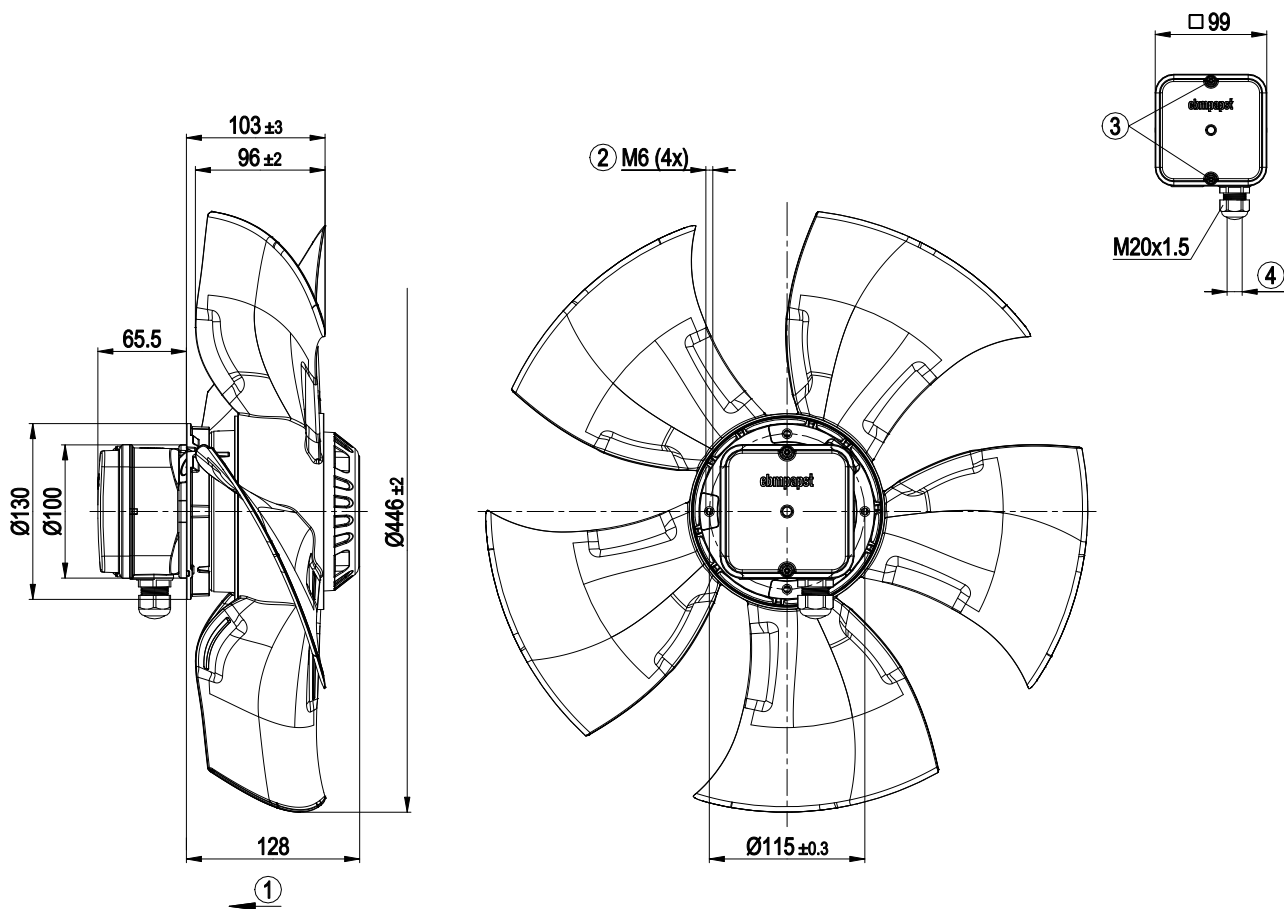
LU-167643

|                                                                    |                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mass                                                               | 5.9 kg                                                                                                                                                                                                                           |
| Size                                                               | 450 mm                                                                                                                                                                                                                           |
| Motor size                                                         | 94                                                                                                                                                                                                                               |
| 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                                              | V                                                                                                                                                                                                                                |
| Direction of rotation                                              | Counter-clockwise, seen on rotor                                                                                                                                                                                                 |
| Type of protection                                                 | IP54                                                                                                                                                                                                                             |
| Insulation class                                                   | "F"                                                                                                                                                                                                                              |
| Humidity (F) / environmental protection class (H)                  | H2                                                                                                                                                                                                                               |
| Note ambient temperature                                           | Occasional start-up between -40 °C and -25 °C is permissible. For continuous operation at ambient temperatures below -25 °C (e.g. refrigeration applications), a fan version with special low-temperature bearings must be used. |
| 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                                                                                                                                                                     |
| Condensation drainage 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 connection                                              | Terminal box                                                                                                                                                                                                                     |
| Motor protection                                                   | Thermal overload protector (TOP) brought out, basic insulation                                                                                                                                                                   |
| Protection class                                                   | I (if protective earth is connected by customer)                                                                                                                                                                                 |
| Motor capacitor according to EN 60252-1 in safety protection class | S0                                                                                                                                                                                                                               |
| Product conforming to standard                                     | EN 60034-1 (2010); CE                                                                                                                                                                                                            |
| Approval                                                           | EAC; CCC                                                                                                                                                                                                                         |

# AC axial fan

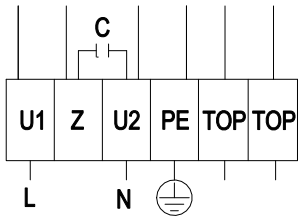
sickled blades (S series)

Product drawing



|   |                                                                  |
|---|------------------------------------------------------------------|
| 1 | Direction of air flow "V"                                        |
| 2 | Thread reach max. 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 |

Connection screen

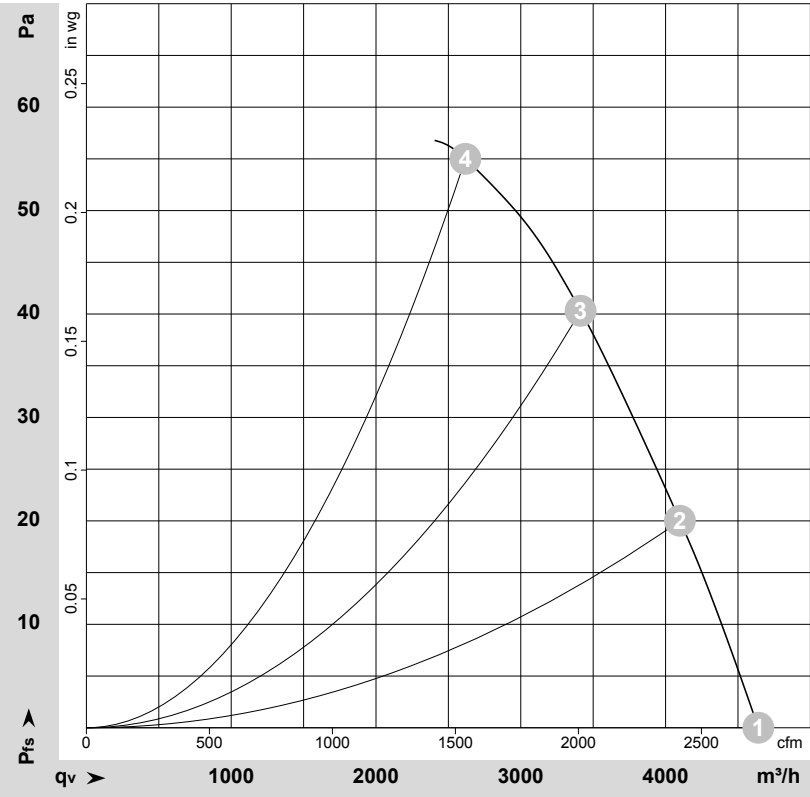


|    |                |     |       |   |              |
|----|----------------|-----|-------|---|--------------|
| L  | = U1 = blue    | Z   | brown | N | = U2 = black |
| PE | green / yellow | TOP | grey  |   |              |

# AC axial fan

sickled blades (S series)

## Charts: Air flow 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-167643-1

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

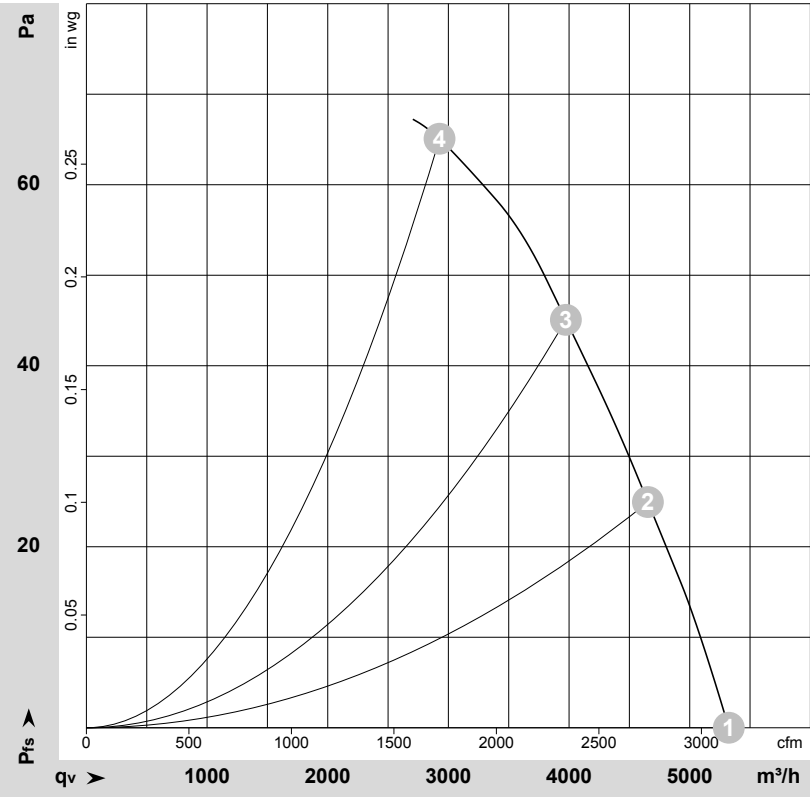
|   | U   | f  | n                 | P <sub>e</sub> | I    | q <sub>v</sub>    | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|---|-----|----|-------------------|----------------|------|-------------------|-----------------|----------------|-----------------|
|   | V   | Hz | min <sup>-1</sup> | W              | A    | m <sup>3</sup> /h | Pa              | cfm            | in. wg          |
| 1 | 230 | 50 | 910               | 136            | 0.60 | 4640              | 0               | 2730           | 0.00            |
| 2 | 230 | 50 | 900               | 143            | 0.63 | 4100              | 20              | 2415           | 0.08            |
| 3 | 230 | 50 | 885               | 150            | 0.65 | 3415              | 40              | 2010           | 0.16            |
| 4 | 230 | 50 | 880               | 155            | 0.65 | 2620              | 55              | 1540           | 0.22            |

U = Supply voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power input · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

# AC axial fan

sickled blades (S series)

## Charts: Air flow 60 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-167866-1

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

|   | U   | f  | n                 | P <sub>e</sub> | I    | q <sub>v</sub>    | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|---|-----|----|-------------------|----------------|------|-------------------|-----------------|----------------|-----------------|
|   | V   | Hz | min <sup>-1</sup> | W              | A    | m <sup>3</sup> /h | Pa              | cfm            | in. wg          |
| 1 | 230 | 60 | 1040              | 198            | 0.87 | 5325              | 0               | 3135           | 0.00            |
| 2 | 230 | 60 | 1015              | 206            | 0.90 | 4655              | 25              | 2740           | 0.10            |
| 3 | 230 | 60 | 995               | 212            | 0.92 | 3975              | 45              | 2340           | 0.18            |
| 4 | 230 | 60 | 970               | 215            | 0.95 | 2925              | 65              | 1725           | 0.26            |

U = Supply voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power input · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase