**S4E400-AP02-39**

# AC axial fan

sickle-shaped blades (S series), single-intake
with guard grille for short nozzle



**ebm-papst Mulfingen GmbH & Co. KG**
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

## Nominal data

| | |
|---|---|
| **Type** | **S4E400-AP02-39** |
| **Motor** | **M4E074-EI** |

| | | | |
|---|---|---|---|
| Phase | | 1~ | 1~ |
| Nominal voltage | VAC | 230 | 230 |
| Frequency | Hz | 50 | 60 |
| Method of obtaining data | | fa | fa |
| Valid for approval/standard | | CE | CE |
| Speed (rpm) | $min^{-1}$ | 1430 | 1700 |
| Power consumption | W | 160 | 240 |
| Current draw | A | 0.73 | 1.06 |
| Capacitor | µF | 6 | 6 |
| Capacitor voltage | VDB | 400 | 400 |
| Capacitor standard | | S0 (CE) | S0 (CE) |
| Max. back pressure | Pa | 110 | 75 |
| Max. back pressure | in. wg | 0.44 | 0.3 |
| Min. ambient temperature | °C | -25 | -25 |
| Max. ambient temperature | °C | 40 | 40 |
| Starting current | A | 2.0 | 1.9 |

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

## Data according to Commission Regulation (EU) 327/2011

| | | Actual | Req. 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 32.8 | 29.4 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 43.4 | 40 |
| 05 Variable speed drive | | No | |

| | | |
|---|---|---|
| 09 Power consumption $P_e$ | kW | 0.21 |
| 09 Air flow $q_v$ | $m^3/h$ | 2695 |
| 09 Pressure increase $p_{fs}$ | Pa | 96 |
| 10 Speed (rpm) n | $min^{-1}$ | 1390 |
| 11 Specific ratio* | | 1.00 |

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-195913

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## Technical description

| | |
|---|---|
| **Weight** | 6.1 kg |
| **Size** | 400 mm |
| **Motor size** | 74 |
| **Rotor surface** | Painted black |
| **Terminal box material** | ABS plastic |
| **Blade material** | Sheet steel, painted black |
| **Guard grille material** | Steel, coated with black plastic (RAL 9005) |
| **Number of blades** | 5 |
| **Airflow direction** | V |
| **Direction of rotation** | Counterclockwise, viewed toward rotor |
| **Degree of protection** | IP44; installation- and position-dependent as per EN 60034-5 |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | H1+ |
| **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)** | < 0.75 mA |
| **Electrical hookup** | Terminal box; Via terminal box, capacitor integrated and connected |
| **Motor protection** | Thermal overload protector (TOP) internally connected |
| **With cable** | Variable |
| **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 60335-1; CE |



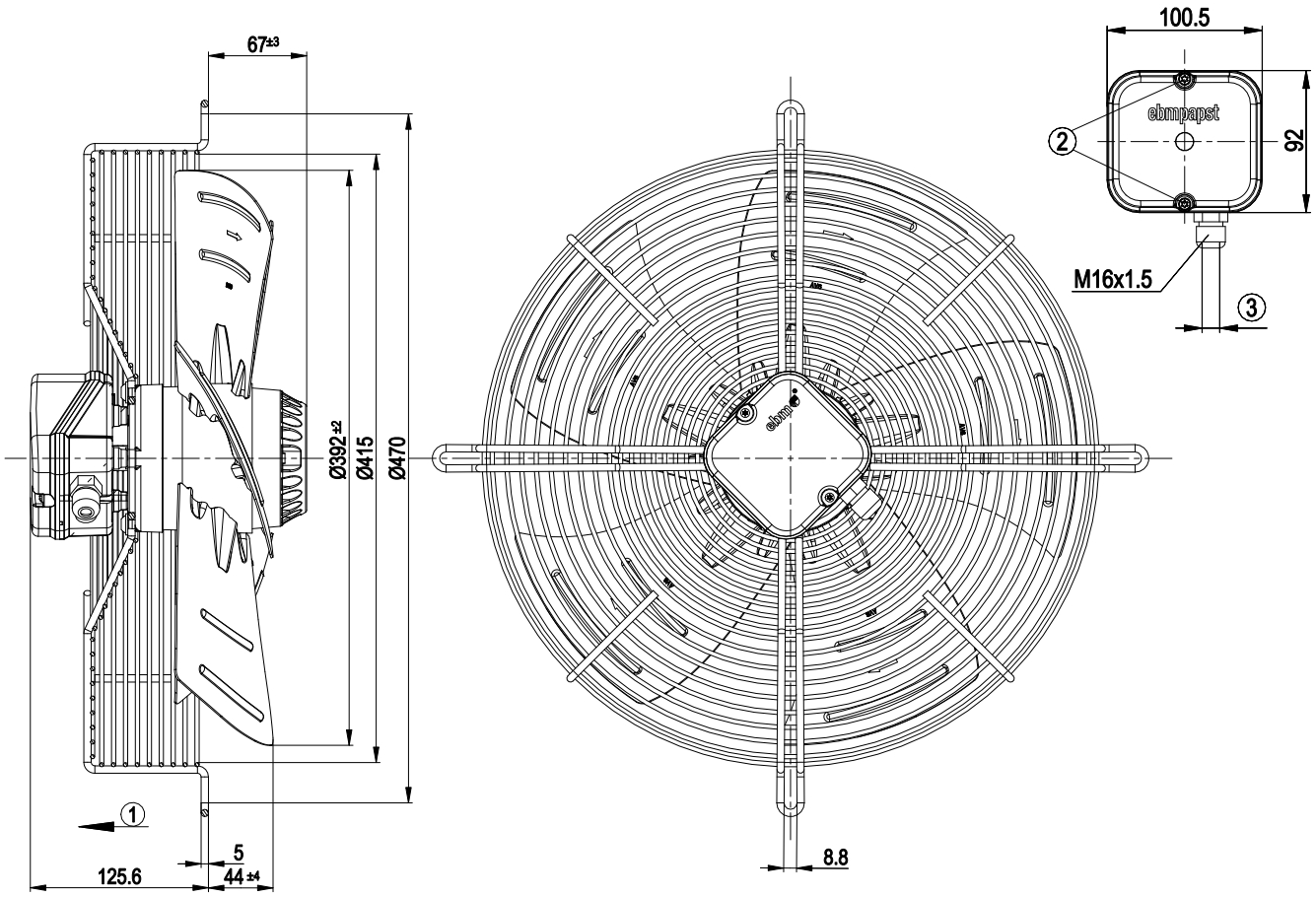
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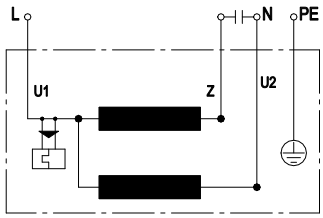
with guard grille for short nozzle

## Product drawing




| | |
|---|---|
| 1 | Direction of air flow "V" |
| 2 | Tightening torque 1.5 ± 0.2 Nm |
| 3 | Cable diameter max. 7.5 mm; tightening torque 1.3±0.2 Nm |

## Connection diagram




| | | | | | |
|---|---|---|---|---|---|
| U1 | blue | Z | brown | U2 | black |
| PE | green/yellow | | | | |

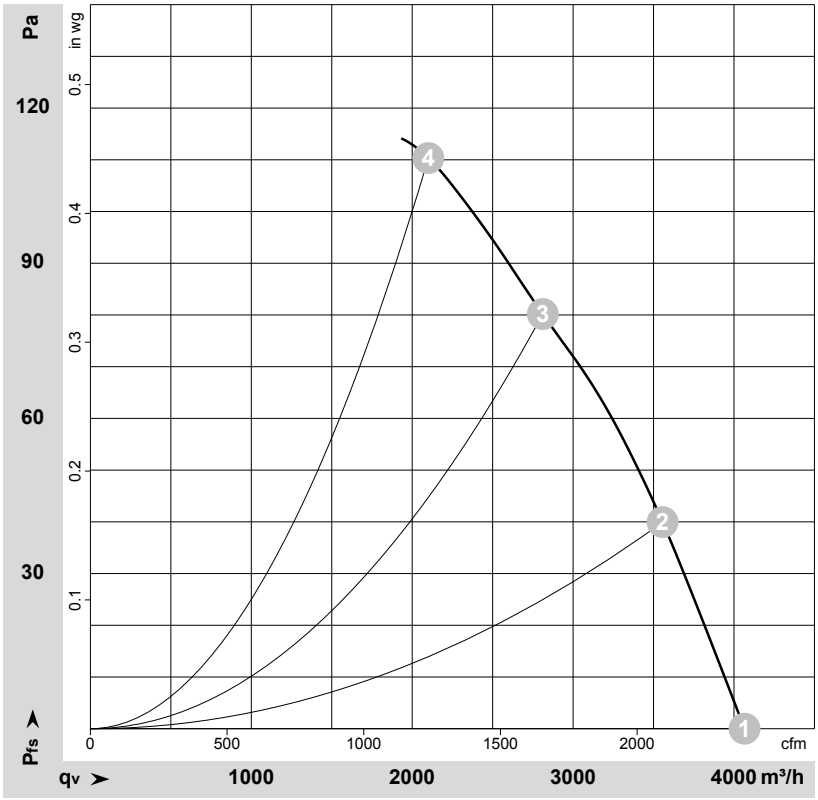


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## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-146030-1

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

| | 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 | in. wg |
| 1 | 230 | 50 | 1430 | 160 | 0.73 | 68 | 74 | 74 | 4065 | 0 | 2395 | 0.00 |
| 2 | 230 | 50 | 1410 | 189 | 0.84 | 66 | 72 | 72 | 3555 | 40 | 2095 | 0.16 |
| 3 | 230 | 50 | 1390 | 207 | 0.92 | 65 | 72 | 72 | 2810 | 80 | 1655 | 0.32 |
| 4 | 230 | 50 | 1370 | 225 | 0.99 | 64 | 71 | 71 | 2100 | 110 | 1235 | 0.44 |

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
$LwA_{out}$ = Sound power level outlet side · $q_V$ = Air flow · $p_{fs}$ = Pressure increase

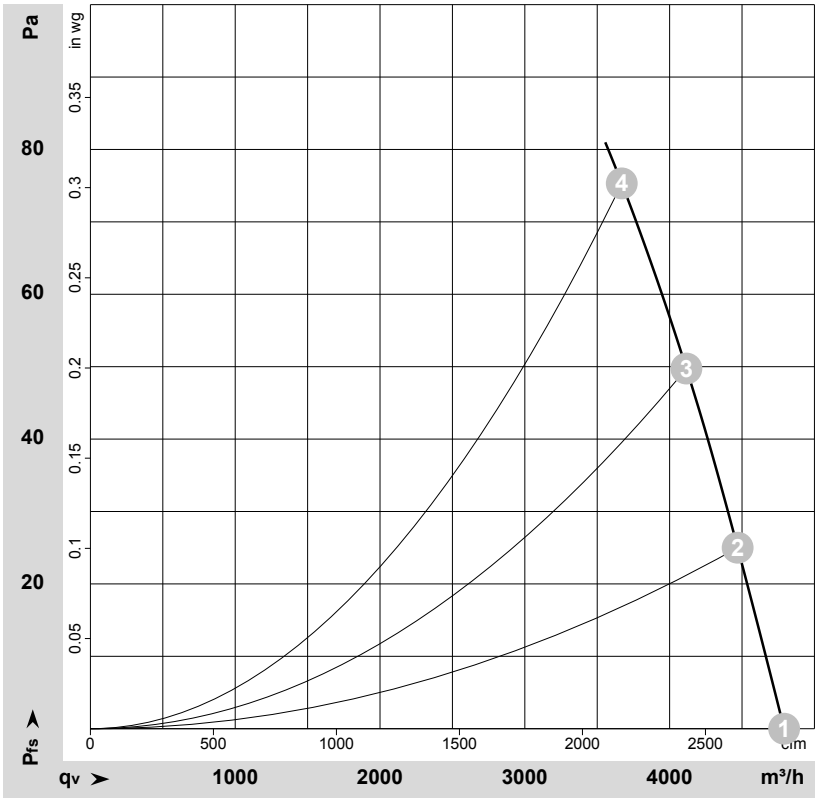


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## Curves: Air performance 60 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-146034-1

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

| | 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 | in. wg |
| 1 | 230 | 60 | 1700 | 240 | 1.06 | 71 | 78 | 77 | 4790 | 0 | 2820 | 0.00 |
| 2 | 230 | 60 | 1645 | 262 | 1.16 | 71 | 77 | 77 | 4470 | 25 | 2630 | 0.10 |
| 3 | 230 | 60 | 1620 | 275 | 1.21 | 69 | 75 | 75 | 4115 | 50 | 2425 | 0.20 |
| 4 | 230 | 60 | 1580 | 295 | 1.29 | 67 | 74 | 74 | 3670 | 75 | 2160 | 0.30 |

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
$LwA_{out}$ = Sound power level outlet side · $q_V$ = Air flow · $p_{fs}$ = Pressure increase



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