**S3G450-BR04-12**

# EC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

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## Nominal data

| | |
|---|---|
| **Type** | **S3G450-BR04-12** |
| **Motor** | **M3G074-DF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | $min^{-1}$ | 900 |
| Power consumption | W | 110 |
| Current draw | A | 0.95 |
| Max. back pressure | Pa | 40 |
| Max. back pressure | in. wg | 0.16 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 60 |

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** | 2.8 kg |
| **Size** | 450 mm |
| **Motor size** | 74 |
| **Rotor surface** | Rotor open, painted black |
| **Blade material** | Press-fitted sheet steel blank, sprayed with PP plastic |
| **Guard grille material** | Steel, coated with black plastic (RAL 9005) |
| **Number of blades** | 3 |
| **Airflow direction** | V |
| **Direction of rotation** | Counterclockwise, viewed toward rotor |
| **Degree of protection** | IP54 |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | H2 |
| **Max. permitted ambient temp. for motor (transport/storage)** | + 80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | - 40 °C |
| **Installation position** | Any |
| **Condensation drainage holes** | None, open rotor |
| **Cooling hole/opening** | On rotor side |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing made of stainless steel |
| **Technical features** | - Output 10 VDC, max. 10 mA<br>- Tach output<br>- Power limiter<br>- Motor current limitation<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Control interface with SELV potential safely disconnected from the mains<br>- Overvoltage detection<br>- Thermal overload protection for electronics/motor<br>- Line undervoltage detection |
| **EMC immunity to interference** | According to EN 61000-6-2 (industrial environment) |
| **EMC interference emission** | According to EN 61000-6-4 (industrial environment) |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | <= 3.5 mA |
| **Motor protection** | Electronic motor protection |
| **With cable** | Variable |
| **Protection class** | I (with customer connection of protective earth) |
| **Conformity with standards** | EN 60335-1; CE |



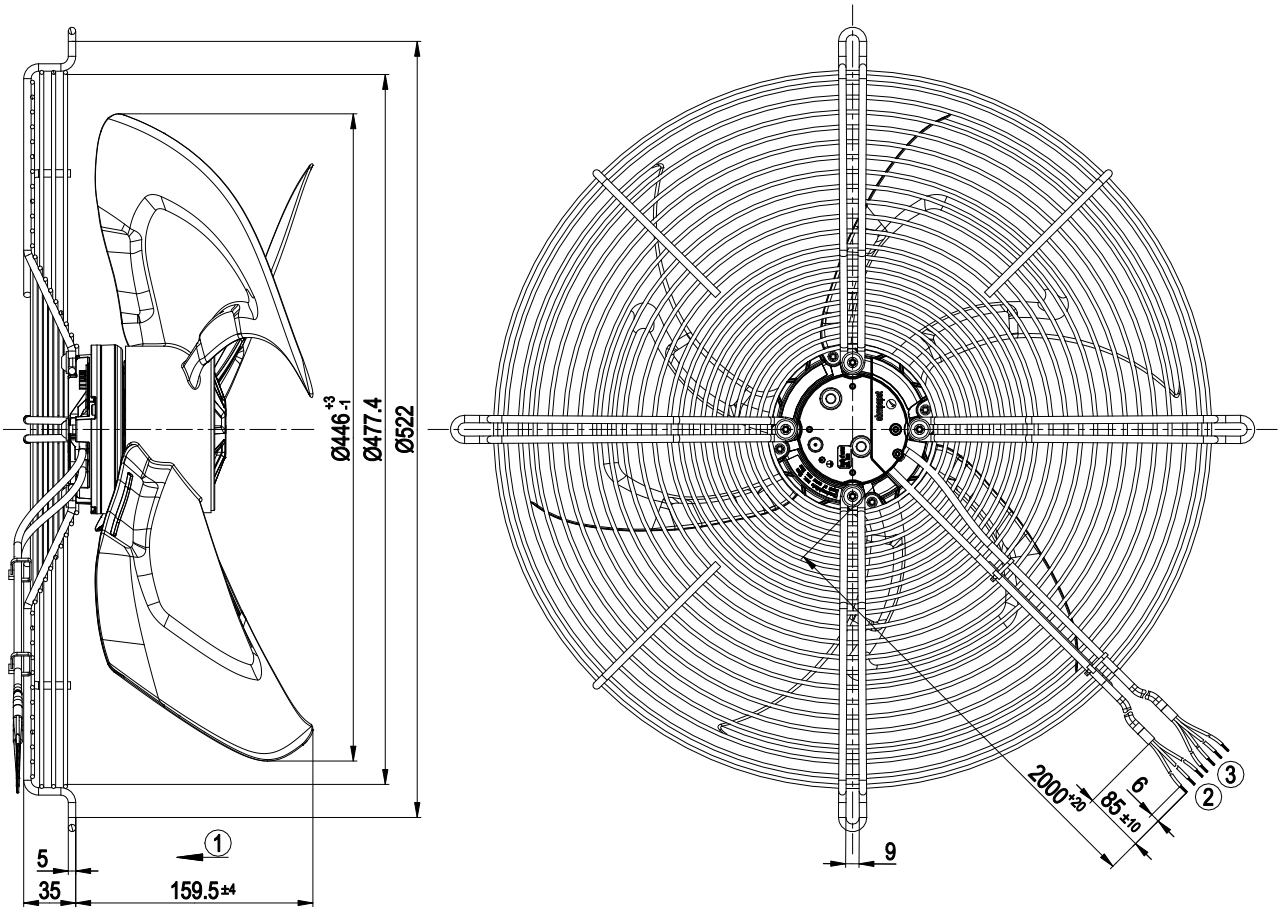
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## Product drawing




| | |
|---|---|
| 1 | Airflow direction "V" |
| 2 | Cable PVC AWG20 |
| | 3x splice |
| 3 | Cable PVC AWG22 |
| | 4x splice |



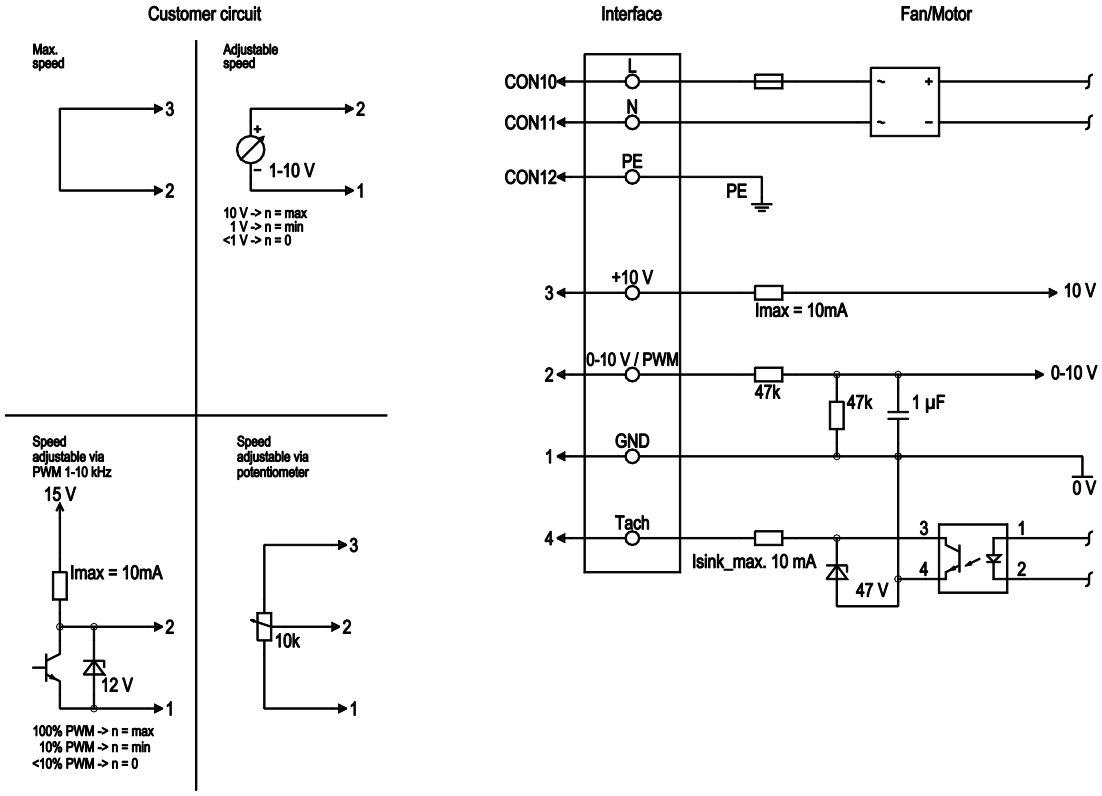
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## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| | CON10 | L | black | Supply connection, power supply, phase, see nameplate for voltage range |
| | CON11 | N | blue | Supply connection, power supply, neutral conductor, see nameplate for voltage range |
| | CON12 | PE | green/yellow | Ground connection |
| | 2 | 0- 10V PWM | yellow | 0-10 V / PWM control input, Ri=100 kΩ, SELV |
| | 4 | Tach | white | Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV |
| | 3 | +10 V | red | Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV |
| | 1 | GND | blue | Reference ground for control interface, SELV |



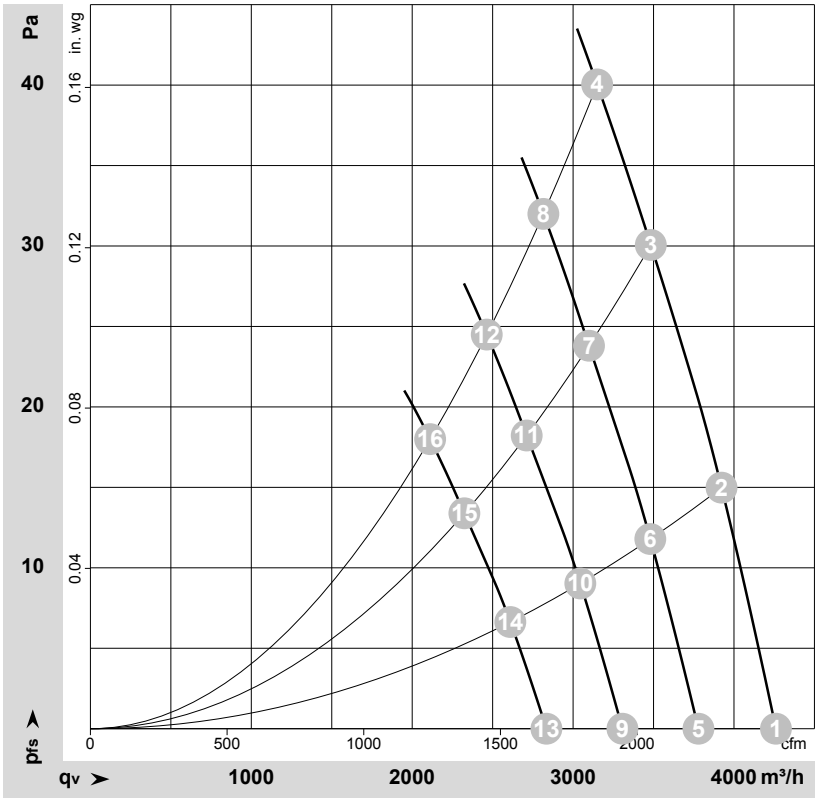
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## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-190556-1

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 | $P_{ed}$ | 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 | 900 | 91 | 0.82 | 51 | 59 | 4260 | 0 | 2510 | 0.00 |
| 2 | 1~ | 230 | 50 | 900 | 97 | 0.86 | 50 | 58 | 3925 | 15 | 2310 | 0.06 |
| 3 | 1~ | 230 | 50 | 900 | 105 | 0.93 | 50 | 58 | 3485 | 30 | 2050 | 0.12 |
| 4 | 1~ | 230 | 50 | 900 | 110 | 0.95 | 52 | 60 | 3150 | 40 | 1855 | 0.16 |
| 5 | 1~ | 230 | 50 | 800 | 64 | 0.57 | 48 | 56 | 3780 | 0 | 2225 | 0.00 |
| 6 | 1~ | 230 | 50 | 800 | 68 | 0.60 | 47 | 55 | 3480 | 12 | 2050 | 0.05 |
| 7 | 1~ | 230 | 50 | 800 | 74 | 0.66 | 47 | 55 | 3100 | 24 | 1825 | 0.10 |
| 8 | 1~ | 230 | 50 | 800 | 78 | 0.69 | 49 | 57 | 2815 | 32 | 1655 | 0.13 |
| 9 | 1~ | 230 | 50 | 700 | 43 | 0.38 | 45 | 52 | 3305 | 0 | 1945 | 0.00 |
| 10 | 1~ | 230 | 50 | 700 | 45 | 0.40 | 44 | 51 | 3045 | 9 | 1790 | 0.04 |
| 11 | 1~ | 230 | 50 | 700 | 49 | 0.44 | 44 | 51 | 2710 | 18 | 1595 | 0.07 |
| 12 | 1~ | 230 | 50 | 700 | 52 | 0.46 | 46 | 54 | 2465 | 25 | 1450 | 0.10 |
| 13 | 1~ | 230 | 50 | 600 | 27 | 0.24 | 41 | 48 | 2835 | 0 | 1670 | 0.00 |
| 14 | 1~ | 230 | 50 | 600 | 28 | 0.25 | 40 | 48 | 2610 | 7 | 1535 | 0.03 |
| 15 | 1~ | 230 | 50 | 600 | 31 | 0.28 | 40 | 48 | 2325 | 13 | 1370 | 0.05 |
| 16 | 1~ | 230 | 50 | 600 | 33 | 0.29 | 42 | 50 | 2110 | 18 | 1240 | 0.07 |

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · $P_{ed}$ = 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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