**W3G450-SO02-42**

# EC axial fan

sickled blades (S series), single inlet

Wall ring with air-guiding system

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## Nominal data

| | | |
|---|---|---|
| **Type** | **W3G450-SO02-42** | |
| **Motor** | **M3G074-DF** | |
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 240 |
| Frequency | Hz | 50/60 |
| Type of data definition | | ml |
| Speed (rpm) | $min^{-1}$ | 980 |
| Power input | W | 163 |
| Current draw | A | 1.34 |
| Max. back pressure | Pa | 74 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 60 |

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 $\eta_{es}$ | % | 39.8 | 28.6 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 51.2 | 40 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power input $P_{ed}$ | kW | 0.16 |
| 09 Air flow $q_v$ | $m^3/h$ | 3505 |
| 09 Pressure increase $p_{fs}$ | Pa | 61 |
| 10 Speed (rpm) n | $min^{-1}$ | 1000 |
| 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-138244

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## Technical features

| | |
|---|---|
| **Mass** | 10 kg |
| **Size** | 450 mm |
| **Surface of rotor** | Galvanised |
| **Material of blades** | Press-fitted sheet steel blank, sprayed with PP plastic |
| **Material of wall ring** | PP plastic, white |
| **Material of guard grille** | Steel, coated in pure white plastic (RAL 9010) |
| **Number of blades** | 5 |
| **Direction of air flow** | "V" |
| **Direction of rotation** | Counter-clockwise, seen on rotor |
| **Type of protection** | IP 54 |
| **Insulation class** | "B" |
| **Humidity (F)/environmental protection class (H)** | F3-1 |
| **Max. permissible ambient motor temp. (transp./ storage)** | + 80 °C |
| **Min. permissible ambient motor temp. (transp./storage)** | - 40 °C |
| **Mounting position** | Any |
| **Condensate discharge holes** | None, open rotor |
| **Cooling bore / aperture** | Rotor-side |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Output 10 VDC, max. 10 mA<br>- Tach output<br>- Output limit<br>- Motor current limit<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>- Over-temperature protected electronics / motor<br>- Line undervoltage detection |
| **Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)** | <= 3.5 mA |
| **Motor protection** | PTC resistor |
| **Cable exit** | Variable |
| **Protection class** | I (if protective earth is connected by customer) |
| **Product conforming to standard** | EN 60335-1; CE |



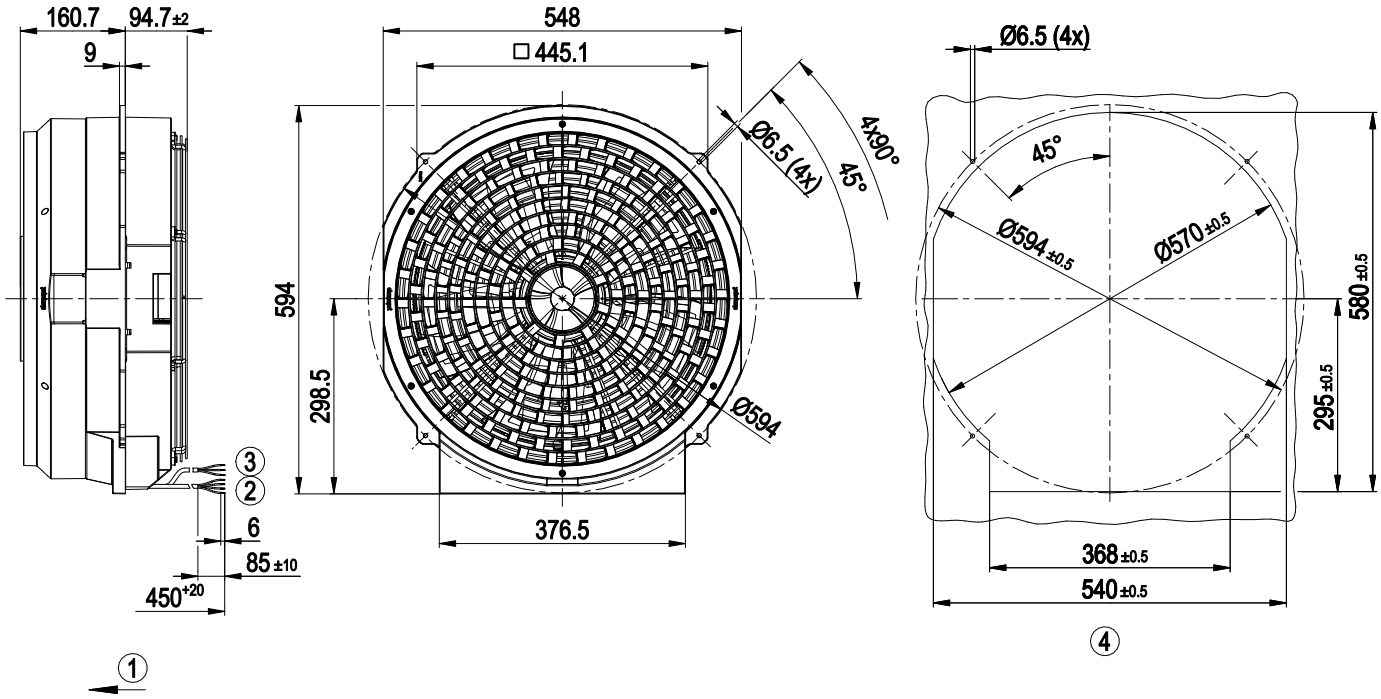
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## Product drawing




| | |
|---|---|
| 1 | Direction of air flow "V" |
| 2 | Connection line PVC AWG22, 4x lead tips crimped |
| 3 | Connection line PVC AWG20, 3x lead tips crimped |
| 4 | Mounting dimensions |



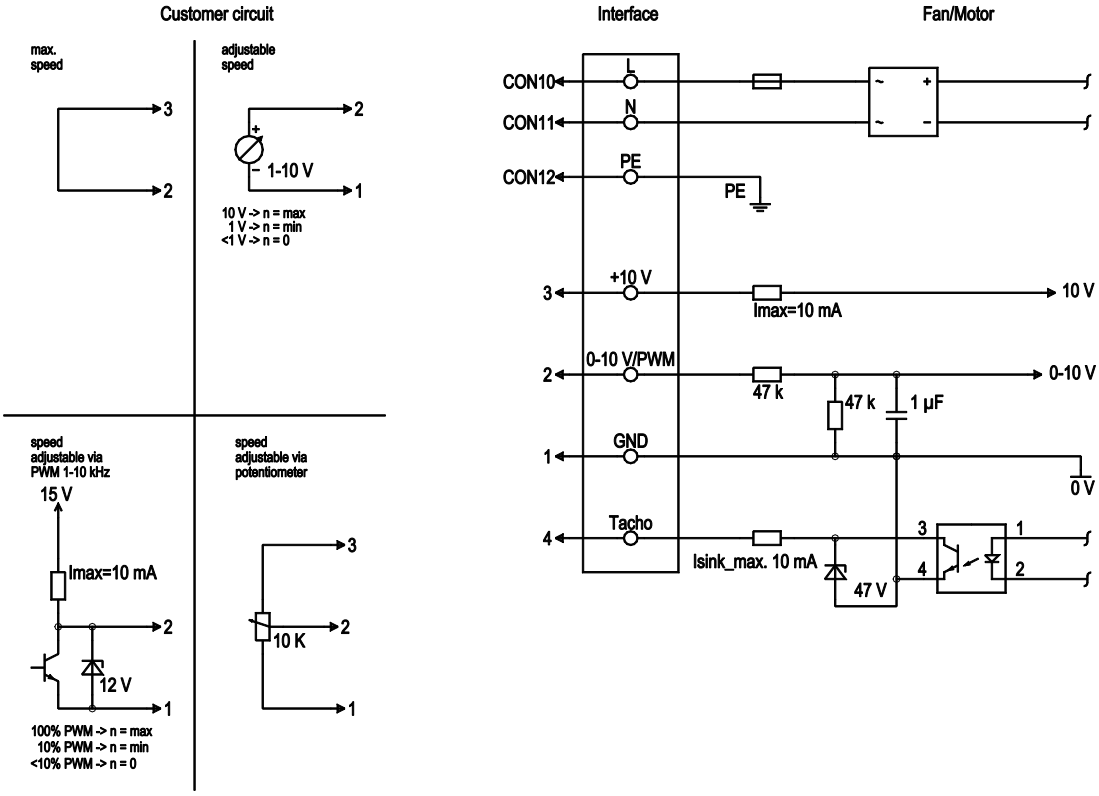
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## Connection screen




| No. | Conn. | Designation | Colour | Function / assignment |
|---|---|---|---|---|
| | CON10 | L | black | Mains connection, power supply, phase, see type plate for voltage range |
| | CON11 | N | blue | Mains connection, power supply, neutral conductor, see type plate for voltage range |
| | CON12 | PE | green/yellow | Earth connection |
| | 2 | 0- 10V PWM | yellow | 0-10 V/PWM control input, Ri=100 kΩ, SELV |
| | 4 | Tach | white | Speed monitoring 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. potentiometer), SELV |
| | 1 | GND | blue | Signal ground for control interface, SELV |



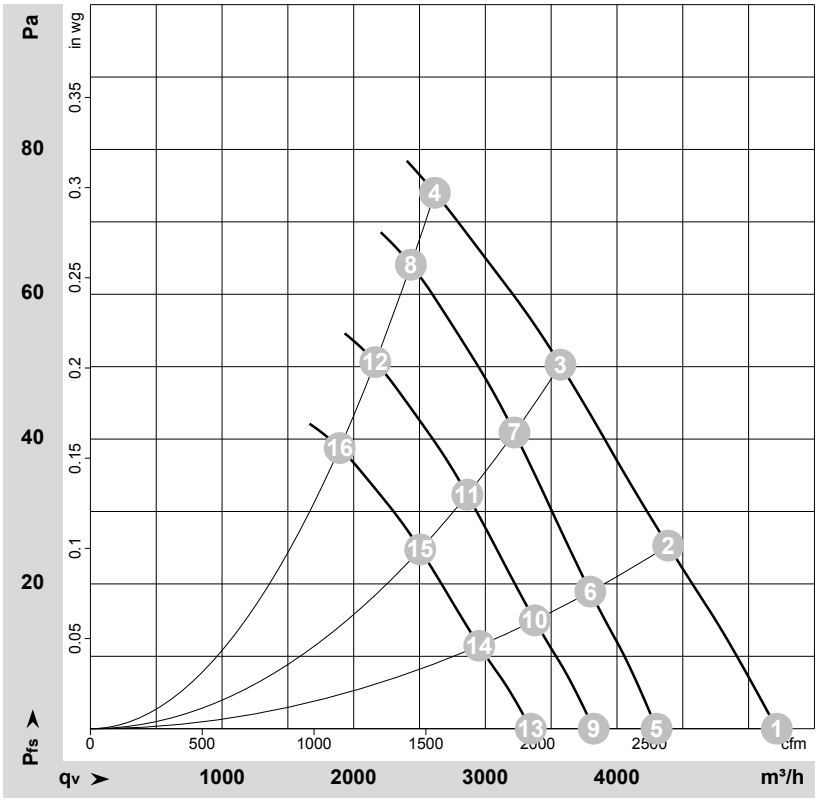
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## Charts: Air flow 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-156903-1

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 | $P_{ed}$ | 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 | inH2O |
| 1 | 230 | 50 | 1090 | 163 | 1.34 | 63 | 70 | 5215 | 0 | 3070 | 0.00 |
| 2 | 230 | 50 | 1040 | 163 | 1.34 | 62 | 69 | 4390 | 25 | 2585 | 0.10 |
| 3 | 230 | 50 | 1000 | 163 | 1.34 | 58 | 66 | 3570 | 50 | 2100 | 0.20 |
| 4 | 230 | 50 | 980 | 163 | 1.34 | 61 | 68 | 2615 | 74 | 1540 | 0.30 |
| 5 | 230 | 50 | 900 | 93 | 0.77 | 58 | 65 | 4300 | 0 | 2530 | 0.00 |
| 6 | 230 | 50 | 900 | 107 | 0.88 | 59 | 65 | 3800 | 19 | 2235 | 0.08 |
| 7 | 230 | 50 | 900 | 121 | 1.01 | 56 | 63 | 3220 | 41 | 1895 | 0.16 |
| 8 | 230 | 50 | 900 | 133 | 1.10 | 59 | 66 | 2435 | 64 | 1435 | 0.26 |
| 9 | 230 | 50 | 800 | 65 | 0.54 | 55 | 62 | 3825 | 0 | 2250 | 0.00 |
| 10 | 230 | 50 | 800 | 75 | 0.62 | 56 | 62 | 3375 | 15 | 1985 | 0.06 |
| 11 | 230 | 50 | 800 | 85 | 0.71 | 53 | 60 | 2865 | 32 | 1685 | 0.13 |
| 12 | 230 | 50 | 800 | 93 | 0.77 | 56 | 63 | 2165 | 51 | 1275 | 0.20 |
| 13 | 230 | 50 | 700 | 44 | 0.36 | 52 | 59 | 3345 | 0 | 1970 | 0.00 |
| 14 | 230 | 50 | 700 | 50 | 0.42 | 52 | 59 | 2955 | 11 | 1740 | 0.04 |
| 15 | 230 | 50 | 700 | 57 | 0.47 | 49 | 57 | 2505 | 25 | 1475 | 0.10 |
| 16 | 230 | 50 | 700 | 62 | 0.52 | 53 | 60 | 1895 | 39 | 1115 | 0.16 |

U = Supply voltage · f = Frequency · n = Speed (rpm) · $P_{ed}$ = Power input · I = Current draw · $LpA_{in}$ = Sound pressure level inlet side · $LwA_{in}$ = Sound power level inlet side · $q_V$ = Air flow
$p_{fs}$ = Pressure increase



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