**W3G250-CD54-01**

# EC axial fan

sickled blades (S series)

with full round nozzle

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ErP2015 EXCEEDS THE NORM

## Nominal data

| | |
|---|---|
| **Type** | **W3G250-CD54-01** |
| **Motor** | **M3G074-CF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 277 |
| Frequency | Hz | 50/60 |
| Type of data definition | | - |
| Speed | $min^{-1}$ | 3050 |
| Power input | W | 170 |
| Current draw | A | 1.25 |
| 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

| | |
|---|---|
| Installation category | A |
| Efficiency category | Static |
| Variable speed drive | Yes |
| Specific ratio* | 1.00 |

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

| | | Actual | Request 2013 | Request 2015 |
|---|---|---|---|---|
| Overall efficiency $\eta_{es}$ | | 43.3 | 24.8 | 28.8 |
| Efficiency grade N | | 54.5 | 36 | 40 |
| Power input $P_{ed}$ | kW | 0.17 | | |
| Air flow $q_v$ | $m^3/h$ | 1355 | | |
| Pressure increase $p_{fs}$ | Pa | 176 | | |
| Speed n | $min^{-1}$ | 2875 | | |

Data established at point of optimum efficiency



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## Technical features

| | |
|---|---|
| **Mass** | 3.6 kg |
| **Size** | 250 mm |
| **Surface of rotor** | Coated in black |
| **Material of electronics housing** | Die-cast aluminium |
| **Material of blades** | Sheet steel, coated in black |
| **Material of wall ring** | Sheet steel, pre-galvanised and coated in black plastic |
| **Material of guard grille** | Steel, phosphated and coated in black plastic |
| **Number of blades** | 9 |
| **Direction of air flow** | "A" |
| **Direction of rotation** | Counter-clockwise, seen on rotor |
| **Type of protection** | IP 44; Depending on installation and position as per EN 60034-5 |
| **Insulation class** | "B" |
| **Humidity class** | F3-1 |
| **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 |
| **Condensate discharge holes** | Rotor-side |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | PFC (passive), control input 0-10 VDC / PWM, output 10 VDC max. 1.1 mA, tach output, over-temperature protected electronics / motor |
| **Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)** | <= 3.5 mA |
| **Motor protection** | Thermal overload protector (TOP) wired internally |
| **Cable exit** | Variable |
| **Protection class** | I (if protective earth is connected by customer) |
| **Product conforming to standard** | EN 60335-1; CE |
| **Approval** | CCC; UL 2111; CSA C22.2 Nr.77 |



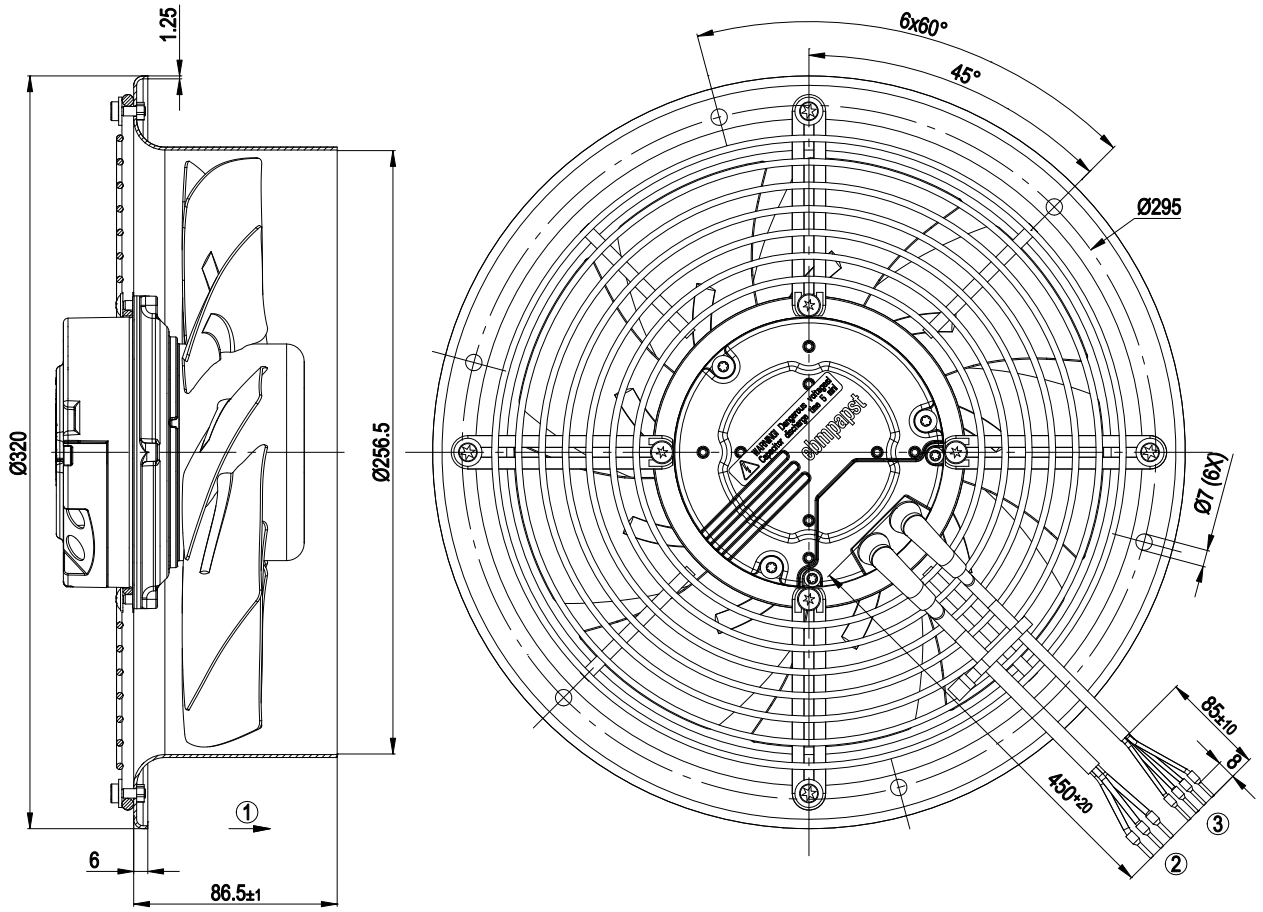
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## Product drawing




| | |
|---|---|
| 1 | Direction of air flow "A" |
| 2 | Connection line PVC 3G AWG18, 3 x crimped core-end sleeves |
| 3 | Connection line PVC 4X AWG22, 4 x crimped core-end sleeves |



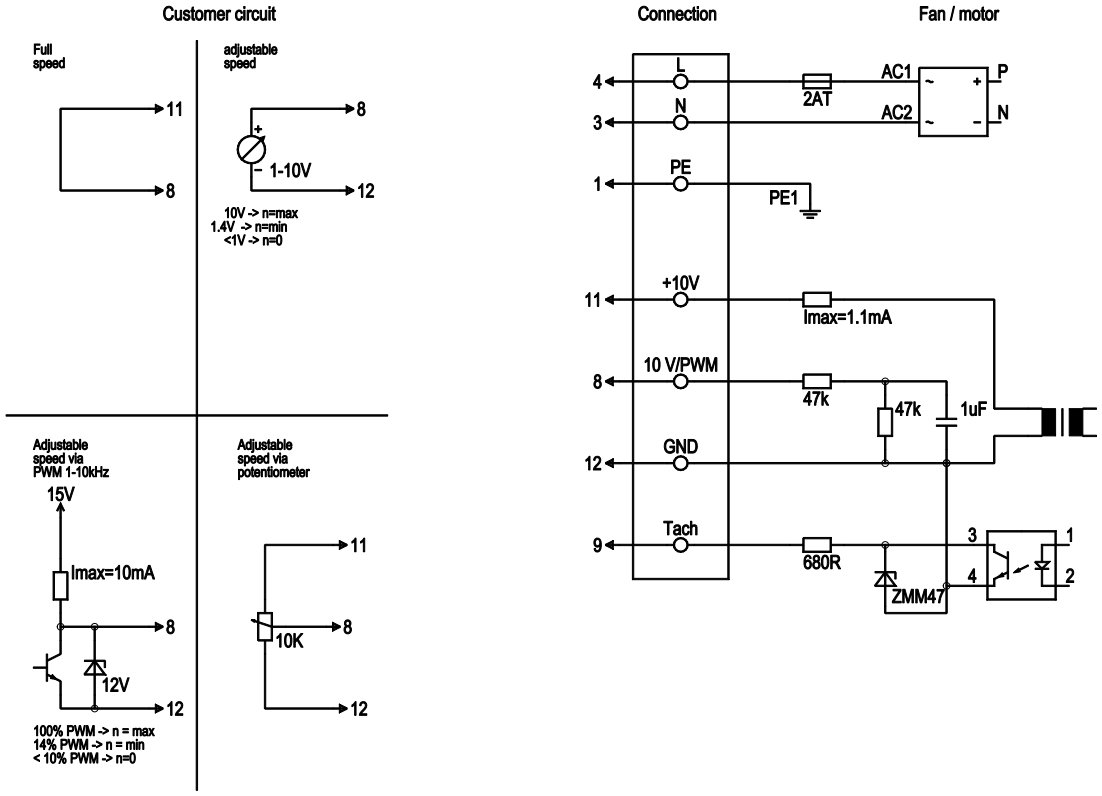
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## Connection screen




| Line | No. | Signal | Colour | Function / assignment |
|---|---|---|---|---|
| | 4 | L | black | Power supply 230 VAC, 50-60 Hz, see type plate for voltage range |
| | 3 | N | blue | Neutral conductor |
| | 1 | PE | green/yellow | Protective earth |
| | 8 | 0-10 V PWM | yellow | Control input 0 - 10 V or PWM, electrically isolated |
| | 9 | Tach | white | Tach output: open collector, 1 pulse per revolution, electrically isolated |
| | 11 | 10V / max 1.1 mA | red | Voltage output 10 V / max. 1.1 mA, electrically isolated |
| | 12 | GND | blue | GND - Connection for control interface |



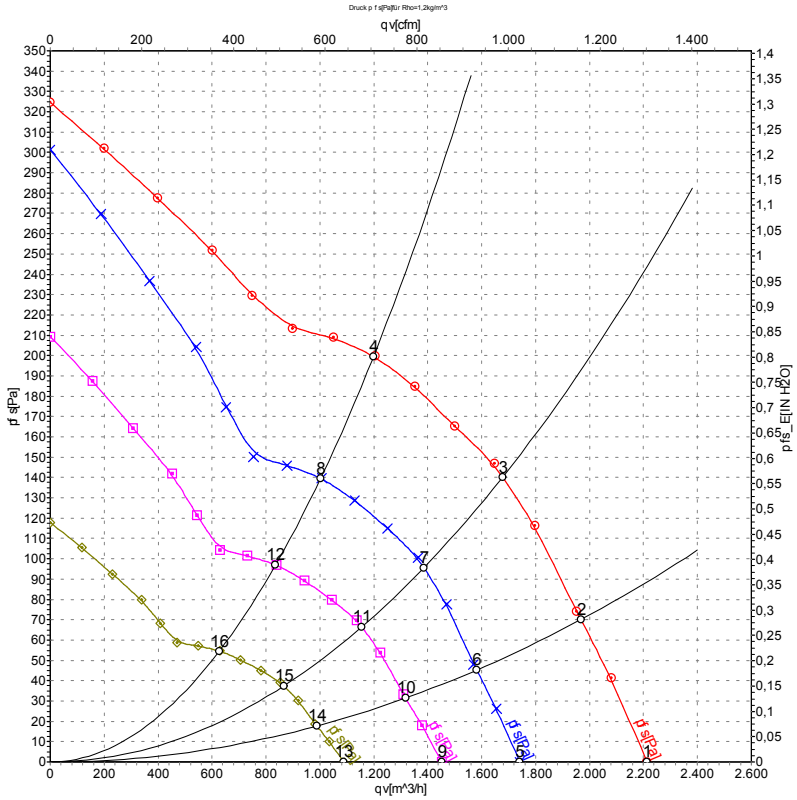
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## Charts: Air flow 50 Hz




Measurement: LU-127645

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 | $LpA_{in}$ | $LwA_{in}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa |
| 1 | 230 | 50 | 3050 | 170 | 1.25 | 72 | 78 | 2215 | 0 |
| 2 | 230 | 50 | 2985 | 170 | 1.37 | 73 | 80 | 1970 | 70 |
| 3 | 230 | 50 | 2905 | 170 | 1.38 | 74 | 81 | 1680 | 140 |
| 4 | 230 | 50 | 2870 | 170 | 1.37 | 74 | 82 | 1200 | 200 |
| 5 | 230 | 50 | 2400 | 82 | 0.65 | 66 | 73 | 1740 | 0 |
| 6 | 230 | 50 | 2400 | 91 | 0.71 | 68 | 75 | 1580 | 45 |
| 7 | 230 | 50 | 2400 | 99 | 0.78 | 70 | 77 | 1385 | 96 |
| 8 | 230 | 50 | 2400 | 101 | 0.80 | 71 | 78 | 1005 | 140 |
| 9 | 230 | 50 | 2000 | 47 | 0.38 | 62 | 69 | 1450 | 0 |
| 10 | 230 | 50 | 2000 | 52 | 0.41 | 64 | 71 | 1320 | 31 |
| 11 | 230 | 50 | 2000 | 57 | 0.45 | 66 | 73 | 1155 | 67 |
| 12 | 230 | 50 | 2000 | 58 | 0.47 | 67 | 74 | 835 | 97 |
| 13 | 230 | 50 | 1500 | 20 | 0.16 | 56 | 63 | 1090 | 0 |
| 14 | 230 | 50 | 1500 | 22 | 0.17 | 58 | 65 | 990 | 18 |
| 15 | 230 | 50 | 1500 | 24 | 0.19 | 59 | 67 | 865 | 38 |
| 16 | 230 | 50 | 1500 | 25 | 0.20 | 60 | 68 | 625 | 55 |

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



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