

# EC axial panel fan - HyBlade

sickle-shaped blades (S series)  
Fan housing with guard grille

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## Nominal data

|                          |                   |            |
|--------------------------|-------------------|------------|
| Type                     | W3G450-CO02-30    |            |
| Motor                    | M3G074-DF         |            |
| Phase                    |                   | 1~         |
| Nominal voltage          | VAC               | 230        |
| Nominal voltage range    | VAC               | 200 .. 240 |
| Frequency                | Hz                | 50/60      |
| Method of obtaining data |                   | ml         |
| Speed (rpm)              | min <sup>-1</sup> | 980        |
| Power consumption        | W                 | 163        |
| Current draw             | A                 | 1.34       |
| Max. back pressure       | Pa                | 74         |
| Max. back pressure       | in. wg            | 0.3        |
| 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

## Data according to Commission Regulation (EU) 327/2011 (prEN 17166)

|                                   |   | Actual | Req. 2015 |                               |                   |      |
|-----------------------------------|---|--------|-----------|-------------------------------|-------------------|------|
| 01 Overall efficiency $\eta_{es}$ | % | 30.3   | 28.7      | 09 Power consumption $P_{ed}$ | kW                | 0.16 |
| 02 Measurement category           |   | A      |           | 09 Air flow $q_v$             | m³/h              | 2600 |
| 03 Efficiency category            |   | Static |           | 09 Pressure increase $p_{fs}$ | Pa                | 61   |
| 04 Efficiency grade N             |   | 41.6   | 40        | 10 Speed (rpm) n              | min <sup>-1</sup> | 975  |
| 05 Variable speed drive           |   | Yes    |           | 11 Specific ratio*            |                   | 1.00 |

Data obtained at optimum efficiency level.

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

LU-178891

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).  
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.  
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

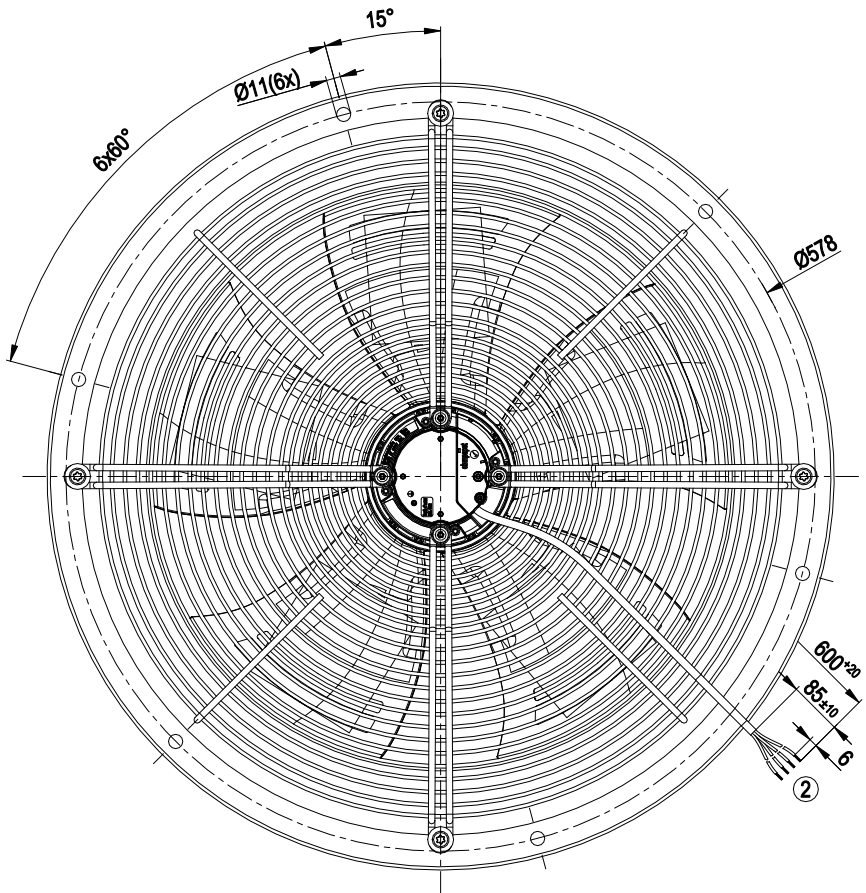
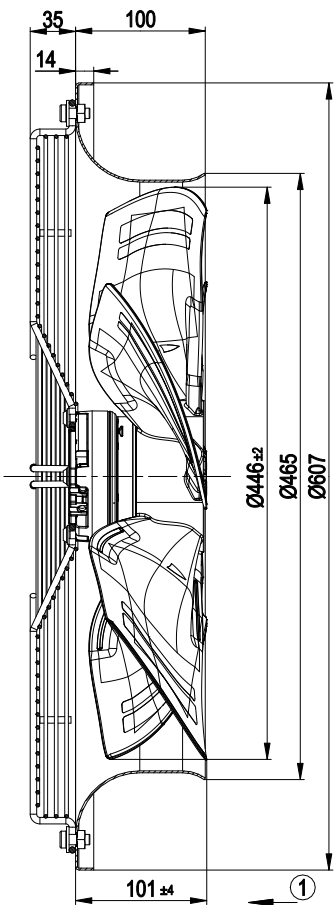
## Technical description

|                                                                            |                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                                                                     | 7.6 kg                                                                                                                                                                                                                                                                                                  |
| Size                                                                       | 450 mm                                                                                                                                                                                                                                                                                                  |
| Motor size                                                                 | 74                                                                                                                                                                                                                                                                                                      |
| Blade material                                                             | Press-fitted sheet steel blank, sprayed with PP plastic                                                                                                                                                                                                                                                 |
| Fan housing material                                                       | Sheet steel, galvanized and coated with black plastic (RAL 9005)                                                                                                                                                                                                                                        |
| 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                                                       | IP54                                                                                                                                                                                                                                                                                                    |
| 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                                                      | Any                                                                                                                                                                                                                                                                                                     |
| Condensation drainage holes                                                | None, open rotor                                                                                                                                                                                                                                                                                        |
| Cooling hole/opening                                                       | On rotor side                                                                                                                                                                                                                                                                                           |
| Mode                                                                       | S1                                                                                                                                                                                                                                                                                                      |
| Motor bearing                                                              | Ball bearing                                                                                                                                                                                                                                                                                            |
| Technical features                                                         | <ul style="list-style-type: none"> <li>- Speed setting input (230 V)</li> <li>- Power limiter</li> <li>- Motor current limitation</li> <li>- Soft start</li> <li>- Overvoltage detection</li> <li>- Thermal overload protection for electronics/motor</li> <li>- Line undervoltage detection</li> </ul> |
| Speed levels                                                               | 2                                                                                                                                                                                                                                                                                                       |
| 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 assignment                                                | <p>I; If a protective earth is connected.</p> <p>The built-in component has several local protection class assignments.</p> <p>The final protection class is determined by the intended installation.</p>                                                                                               |
| Conformity with standards                                                  | EN 60335-1; CE                                                                                                                                                                                                                                                                                          |
| Approval                                                                   | CCC                                                                                                                                                                                                                                                                                                     |

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## Product drawing

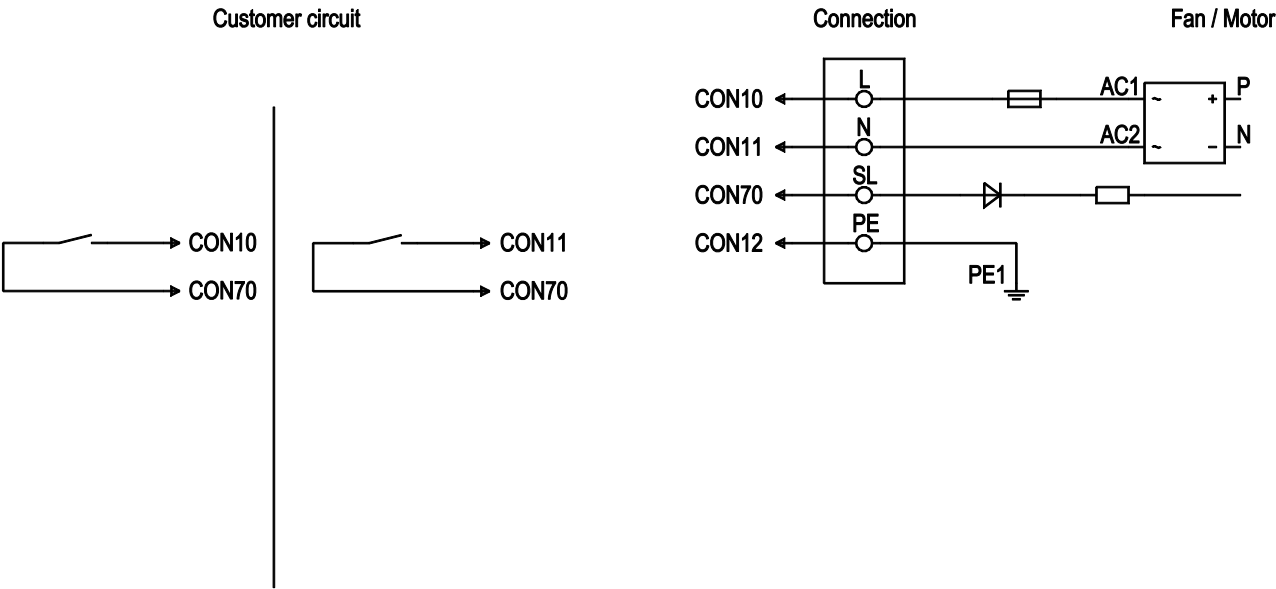


- |   |                                        |
|---|----------------------------------------|
| 1 | Direction of air flow "V"              |
| 2 | Cable PVC 4G AWG20, 4x crimped splices |

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## Connection diagram

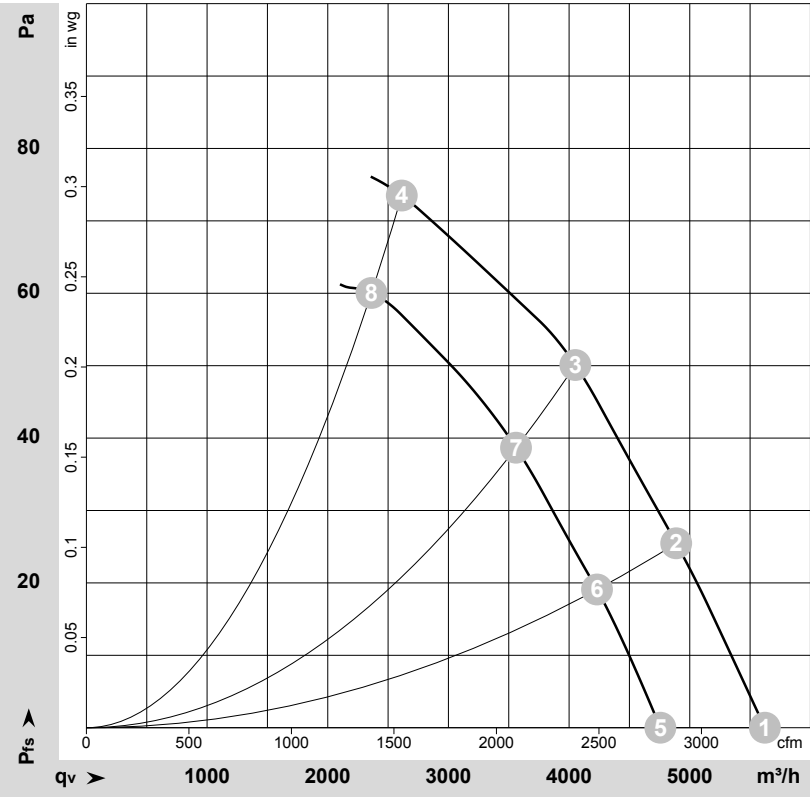


| No. | Conn.  | Designation | Color        | Function/assignment                                             |
|-----|--------|-------------|--------------|-----------------------------------------------------------------|
|     | CON 10 | L           | black        | Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range |
|     | CON 11 | N           | blue         | Neutral conductor                                               |
|     | CON 12 | PE          | green/yellow | Protective earth                                                |
|     | CON 70 | SL          | brown        | Speed selection: switch open speed 1; switch closed speed 2     |

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## Curves: Air performance 50 Hz



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

Measurement: LU-138244-1  
Date: 2011-11-10  
Housing: 64000-2-4037  
  
Measurement: LU-148193-1  
Date: 2012-09-06  
Housing: 64000-2-4037

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 <sub>ed</sub> | I    | LpA <sub>in</sub> | LwA <sub>in</sub> | q <sub>v</sub> | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|---|-----|----|-------------------|-----------------|------|-------------------|-------------------|----------------|-----------------|----------------|-----------------|
|   | V   | Hz | min <sup>-1</sup> | W               | A    | dB(A)             | dB(A)             | m³/h           | Pa              | cfm            | in. wg          |
| 1 | 230 | 50 | 1110              | 163             | 1.34 | 59                | 66                | 5620           | 0               | 3310           | 0.00            |
| 2 | 230 | 50 | 1060              | 163             | 1.34 | 57                | 64                | 4890           | 25              | 2875           | 0.10            |
| 3 | 230 | 50 | 1025              | 163             | 1.34 | 54                | 61                | 4050           | 50              | 2385           | 0.20            |
| 4 | 230 | 50 | 980               | 163             | 1.34 | 61                | 68                | 2615           | 74              | 1540           | 0.30            |
| 5 | 230 | 50 | 945               | 105             | 0.92 | 55                | 61                | 4755           | 0               | 2800           | 0.00            |
| 6 | 230 | 50 | 930               | 114             | 0.99 | 54                | 60                | 4230           | 19              | 2490           | 0.08            |
| 7 | 230 | 50 | 915               | 122             | 1.07 | 52                | 58                | 3560           | 39              | 2095           | 0.16            |
| 8 | 230 | 50 | 895               | 129             | 1.09 | 58                | 66                | 2360           | 61              | 1390           | 0.24            |

U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase