**S3G800-BO84-01**

# EC axial fan - HyBlade

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

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ErP2015 EXCEEDS THE NORM

## Nominal data

| | |
|---|---|
| **Type** | **S3G800-BO84-01** |
| **Motor** | **M3G112-IA** |

| | | |
|---|---|---|
| Phase | | 3~ |
| Nominal voltage | VAC | 400 |
| Nominal voltage range | VAC | 380 .. 480 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | $min^{-1}$ | 735 |
| Power consumption | W | 835 |
| Current draw | A | 1.4 |
| 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 ErP Directive

| | | Actual | Req. 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 44.2 | 33 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 51.2 | 40 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power consumption $P_{ed}$ | kW | 0.78 |
| 09 Air flow $q_v$ | $m^3/h$ | 12095 |
| 09 Pressure increase $p_{fs}$ | Pa | 95 |
| 10 Speed (rpm) n | $min^{-1}$ | 740 |
| 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-117968

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## Technical description

| | |
|---|---|
| **Weight** | 18.2 kg |
| **Fan size** | 800 mm |
| **Rotor surface** | Painted black |
| **Electronics housing material** | Die-cast aluminum |
| **Blade material** | Press-fitted sheet steel blank, sprayed with PP plastic |
| **Guard grille material** | Steel, coated with black plastic (RAL 9005) |
| **Number of blades** | 5 |
| **Airflow direction** | "V" |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | IP54 |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | F4-1 |
| **Max. permitted ambient temp. for motor (transport/storage)** | Max. +80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | Min. -40 °C |
| **Installation position** | Shaft horizontal or rotor on bottom |
| **Condensation drainage holes** | On rotor side |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Output 10 VDC, max. 10 mA<br>- Alarm relay<br>- Integrated PID controller<br>- Motor current limitation<br>- PFC, passive<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Control interface with SELV potential safely disconnected from supply<br>- Thermal overload protection for electronics/motor<br>- Line undervoltage / phase failure detection |
| **EMC immunity to interference** | According to EN 61000-6-2 (industrial environment) |
| **EMC circuit feedback** | According to EN 61000-3-2/3 |
| **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** | Thermal overload protector (TOP) internally connected |
| **With cable** | Variable |
| **Protection class** | I (with customer connection of protective earth) |
| **Conformity with standards** | EN 61800-5-1; CE |
| **Approval** | CCC; EAC |



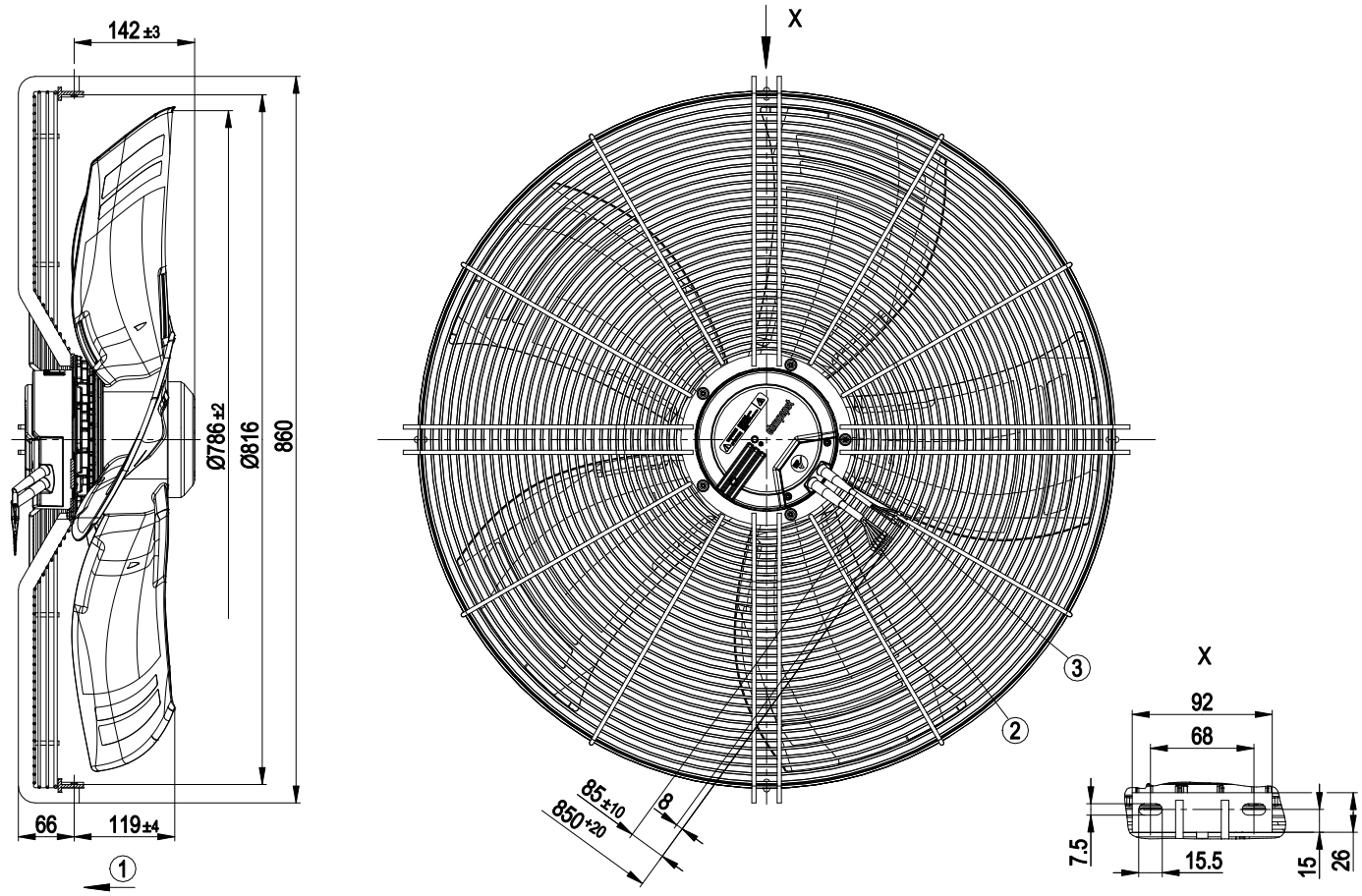
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## Product drawing




| | |
|---|---|
| 1 | Direction of air flow "V" |
| 2 | Cable PVC AWG18, 6x crimped ferrules |
| 3 | Cable PVC AWG22, 3x crimped ferrules |



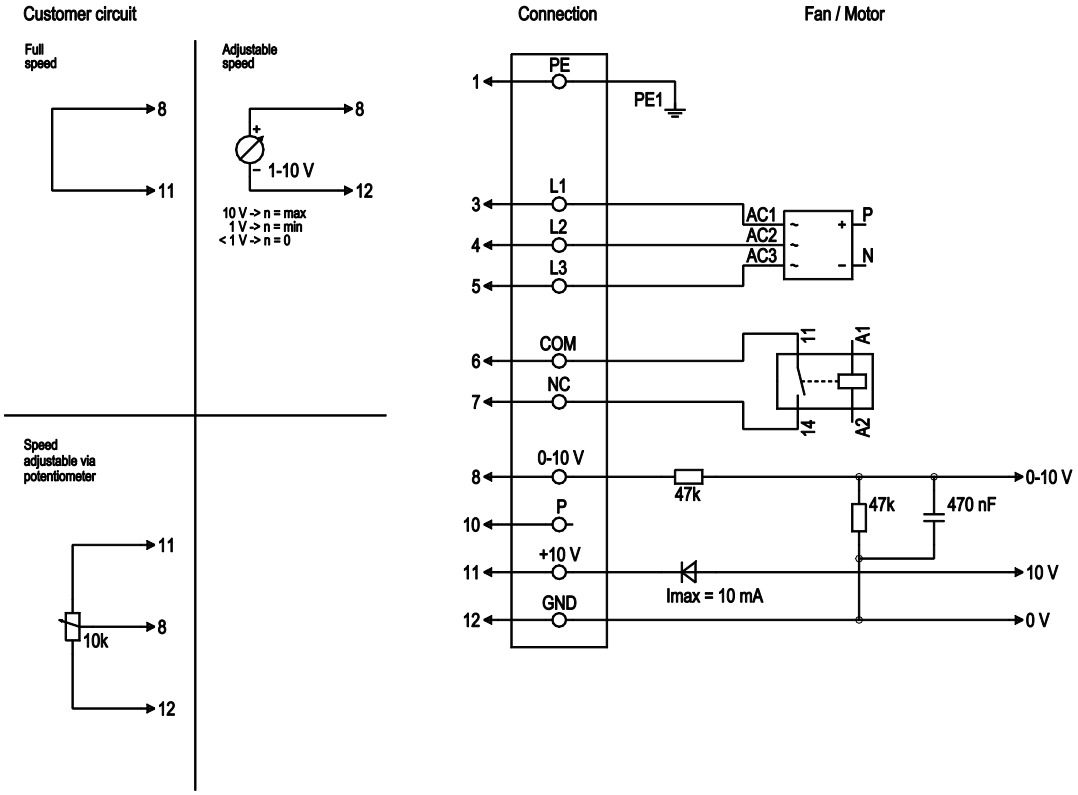
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## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| 1 | 1 | PE | green/yellow | Protective earth |
| 1 | 3 | L1 | black | Power supply 50/60 Hz |
| 1 | 4 | L2 | black | Power supply 50/60 Hz |
| 1 | 5 | L3 | black | Power supply 50/60 Hz |
| 1 | 6 | COM | white 1 | Floating status contact, break for failure (2 A, max. 250 VAC, min. 10 mA, AC1) |
| 1 | 7 | NC | white 2 | Floating status contact, break for failure |
| 2 | 8 | 0-10 V | yellow | Control input, set value 0-10 VDC, impedance 100 kΩ, SELV |
| 2 | 10 | P | orange | Do not use |
| 2 | 11 | +10 V | red | Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV |
| 2 | 12 | GND | blue | Reference ground for control interface, SELV |



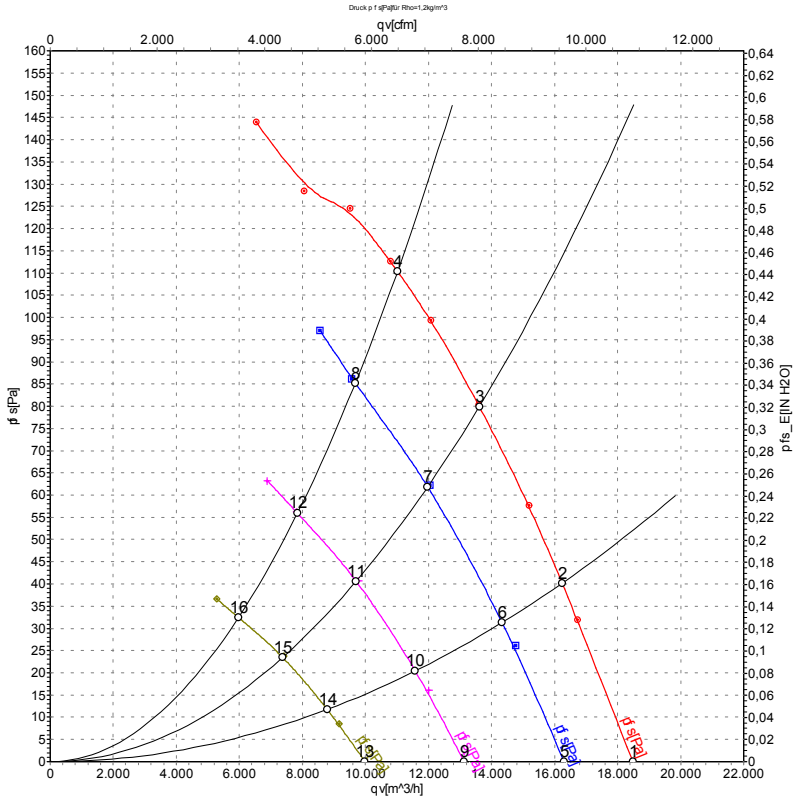
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## Curves: Air performance 50 Hz




Measurement: LU-117968-1
Measurement: LU-118106-1
Measurement: LU-118107-1
Measurement: LU-118105-1

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 | $P_{ed}$ | I | $LpA_{in}$ | $LwA_{in}$ | $LwA_{out}$ | qv | $p_{fs}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | dB(A) | $m^3/h$ | Pa | CFM | inH2O |
| 1 | 400 | 50 | 735 | 514 | 0.87 | 63 | 70 | 70 | 18480 | 0 | 10875 | 0.00 |
| 2 | 400 | 50 | 735 | 632 | 1.04 | 59 | 66 | 65 | 16240 | 40 | 9560 | 0.16 |
| 3 | 400 | 50 | 735 | 732 | 1.20 | 57 | 64 | 64 | 13610 | 80 | 8010 | 0.32 |
| 4 | 400 | 50 | 735 | 835 | 1.40 | 62 | 70 | 69 | 11020 | 110 | 6485 | 0.44 |
| 5 | 400 | 50 | 650 | 338 | 0.66 | 59 | 66 | 66 | 16290 | 0 | 9590 | 0.00 |
| 6 | 400 | 50 | 650 | 398 | 0.77 | 57 | 63 | 63 | 14330 | 32 | 8435 | 0.13 |
| 7 | 400 | 50 | 650 | 476 | 0.86 | 54 | 61 | 60 | 11970 | 63 | 7045 | 0.25 |
| 8 | 400 | 50 | 650 | 521 | 0.89 | 58 | 66 | 66 | 9685 | 85 | 5700 | 0.34 |
| 9 | 400 | 50 | 525 | 185 | 0.39 | 54 | 61 | 60 | 13120 | 0 | 7720 | 0.00 |
| 10 | 400 | 50 | 525 | 223 | 0.46 | 52 | 58 | 58 | 11580 | 21 | 6815 | 0.08 |
| 11 | 400 | 50 | 525 | 253 | 0.51 | 49 | 56 | 55 | 9705 | 41 | 5710 | 0.16 |
| 12 | 400 | 50 | 525 | 276 | 0.55 | 53 | 60 | 60 | 7845 | 56 | 4615 | 0.22 |
| 13 | 400 | 50 | 400 | 90 | 0.23 | 48 | 54 | 54 | 9985 | 0 | 5875 | 0.00 |
| 14 | 400 | 50 | 400 | 107 | 0.26 | 46 | 52 | 52 | 8785 | 12 | 5170 | 0.05 |
| 15 | 400 | 50 | 400 | 120 | 0.28 | 43 | 50 | 50 | 7375 | 24 | 4340 | 0.10 |
| 16 | 400 | 50 | 400 | 127 | 0.29 | 45 | 52 | 52 | 5975 | 32 | 3515 | 0.13 |

U = Power supply · 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
$LwA_{out}$ = Sound power level outlet side · qv = Air flow · $p_{fs}$ = Pressure increase



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