**S3G500-AN41-09**

# EC axial fan - HyBlade®

sickled blades (S series)

with guard grille for short nozzle

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ErP2015 EXCEEDS THE NORM

## Nominal data

| | | |
|---|---|---|
| **Type** | **S3G500-AN41-09** | |
| **Motor** | **M3G112-GA** | |
| Phase | | 3~ |
| Nominal voltage | VAC | 400 |
| Nominal voltage range | VAC | 380 .. 480 |
| Frequency | Hz | 50/60 |
| Type of data definition | | ml |
| Speed | $min^{-1}$ | 1500 |
| Power input | W | 750 |
| Current draw | A | 1.2 |
| Max. back pressure | Pa | 110 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 70 |

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 $\eta_{es}$ | | 44.9 | 29 | 33 |
| Efficiency grade N | | 51.9 | 36 | 40 |
| Power input $P_{ed}$ | kW | 0.79 | | |
| Air flow $q_v$ | $m^3/h$ | 6145 | | |
| Pressure increase $p_{fs}$ | Pa | 188 | | |
| Speed n | $min^{-1}$ | 1490 | | |

Data established at point of optimum efficiency



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## Technical features

| | |
|---|---|
| **Mass** | 12.7 kg |
| **Size** | 500 mm |
| **Surface of rotor** | Coated in black |
| **Material of electronics housing** | Die-cast aluminium, coated in black |
| **Material of blades** | Press-fitted sheet steel blank, sprayed with PP plastic |
| **Material of guard grille** | Steel, coated in black plastic (RAL9005) |
| **Number of blades** | 5 |
| **Direction of air flow** | "V" |
| **Direction of rotation** | Counter-clockwise, seen on rotor |
| **Type of protection** | IP 54 |
| **Insulation class** | "F" |
| **Humidity class** | F4-1 |
| **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** | - External 24 V input (programming)<br>- Integrated PID controller<br>- Motor current limit<br>- PFC, passive<br>- RS485 MODBUS RTU<br>- Soft start<br>- Control interface with SELV potential safely disconnected from the mains<br>- Over-temperature protected electronics / motor<br>- Line undervoltage / phase failure detection |
| **EMC interference immunity** | Acc. to EN 61000-6-2 (industrial environment) |
| **EMC harmonics** | Acc. to EN 61000-3-2/3 |
| **Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)** | <= 3.5 mA |
| **Electrical leads** | Via terminal box |
| **Motor protection** | Thermal overload protector (TOP) wired internally |
| **Protection class** | I (if protective earth is connected by customer) |
| **Approval** | UL 1004-7 + 60730 |



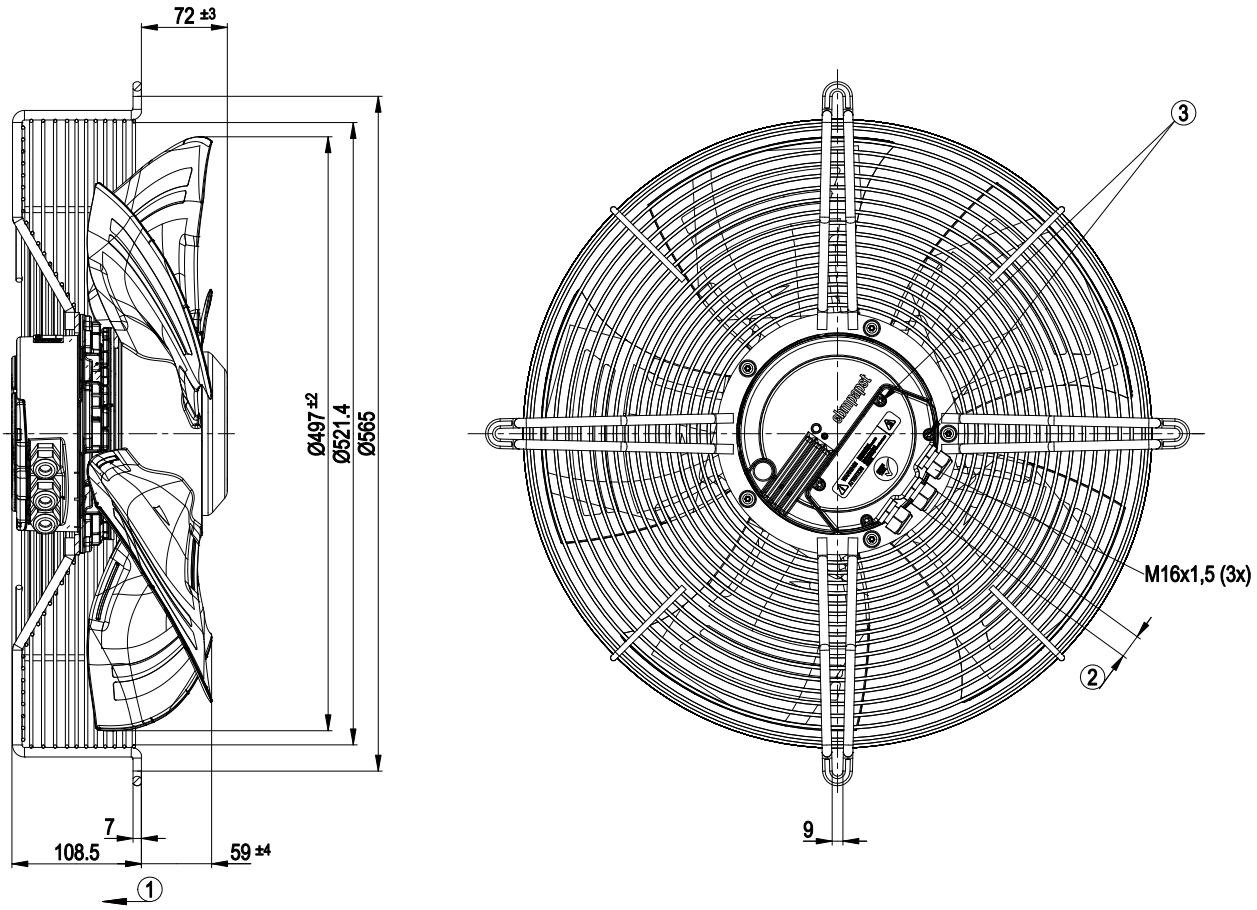
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## Product drawing




| | |
|---|---|
| 1 | Direction of air flow "V" |
| 2 | Cable diameter: min. 4 mm; max. 10 mm; tightening torque: 2.5±0.4 Nm |
| 3 | Tightening torque 3.5±0.5 Nm |



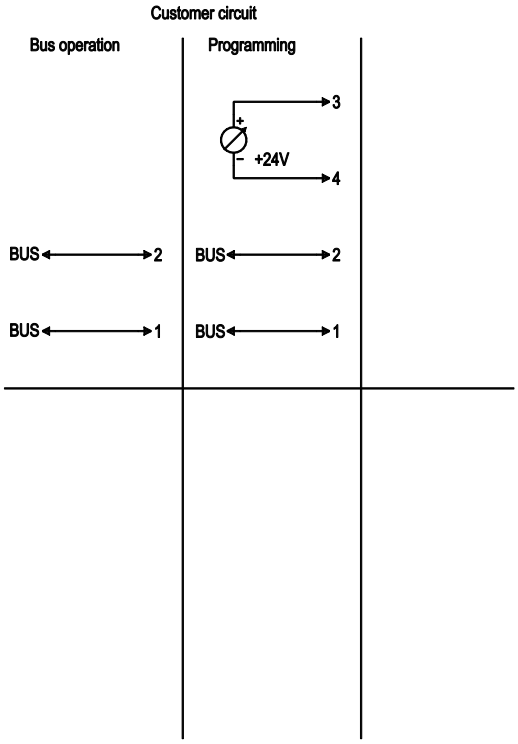
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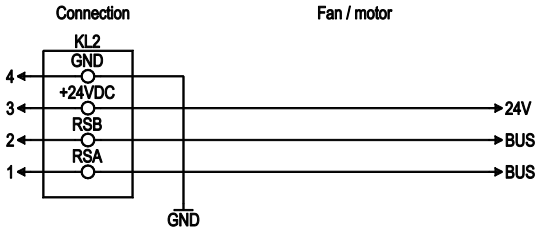
# EC axial fan - HyBlade®

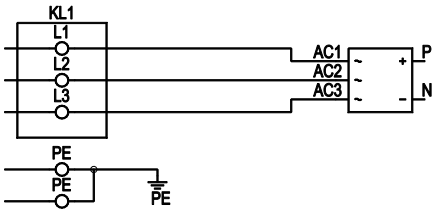
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## Connection screen




| No. | Pin | Signal | Function / assignment |
|---|---|---|---|
| PE | - | PE | Protective earth connection |
| KL1 | 1, 2, 3 | L1, L2, L3 | Supply voltage, 50/60 Hz |
| KL2 | 1 | RSA | RS485 interface for MODBUS, RSA |
| KL2 | 2 | RSB | RS485 interface for MODBUS, RSB |
| KL2 | 3 | +24 VDC | ext. power supply, max. 24 VDC for parametrisation of the electronics |
| KL2 | 4 | GND | Signal ground |



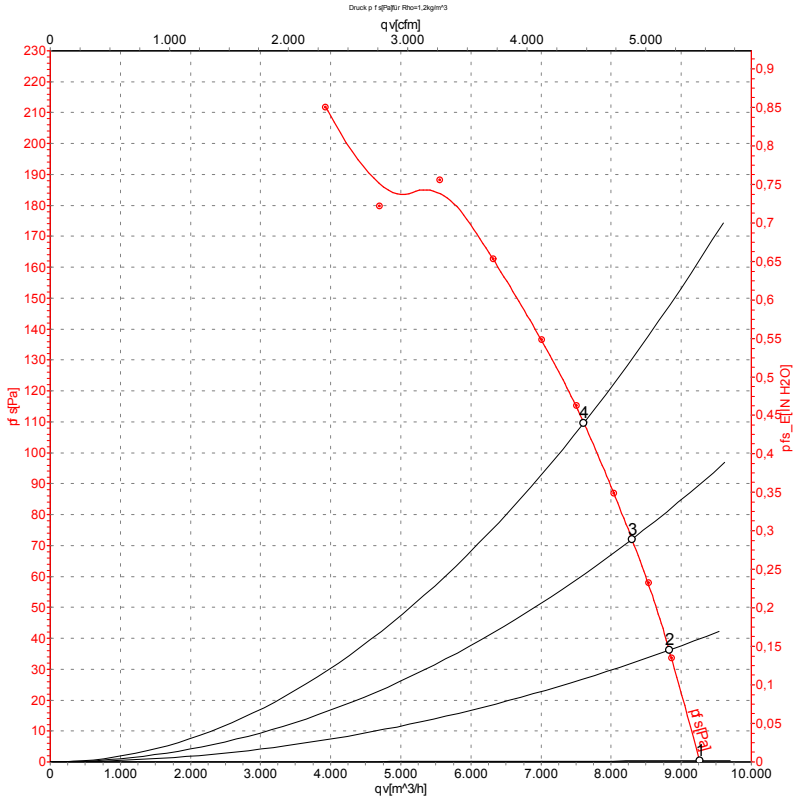
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## Charts: Air flow 50 Hz




Measurement: LU-115242

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 | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa |
| 1 | 400 | 50 | 1500 | 629 | 1.08 | 9265 | 0 |
| 2 | 400 | 50 | 1500 | 670 | 1.12 | 8825 | 37 |
| 3 | 400 | 50 | 1500 | 706 | 1.19 | 8295 | 72 |
| 4 | 400 | 50 | 1500 | 750 | 1.20 | 7610 | 110 |

U = Supply voltage · f = Frequency · n = Speed · $P_{ed}$ = Power input · I = Current draw · qv = Air flow · $p_{fs}$ = Pressure increase



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