

# EC axial fan - HyBlade

sickled blades (S series)  
with guard grille for full nozzle

S3G800-CN36-28 ebmpapst Datasheet  
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## Nominal data

|                          |                   |            |
|--------------------------|-------------------|------------|
| Type                     | S3G800-CN36-28    |            |
| Motor                    | M3G112-GA         |            |
| Phase                    |                   | 1~         |
| Nominal voltage          | VAC               | 230        |
| Nominal voltage range    | VAC               | 200 .. 277 |
| Frequency                | Hz                | 50/60      |
| Type of data definition  |                   | ml         |
| Speed (rpm)              | min <sup>-1</sup> | 600        |
| Power input              | W                 | 440        |
| Current draw             | A                 | 1.9        |
| Max. back pressure       | Pa                | 70         |
| 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 $\eta_{es}$ | % | 42.6   | 31.1         |
| 02 Measurement category           |   | A      |              |
| 03 Efficiency category            |   | Static |              |
| 04 Efficiency grade N             |   | 51.5   | 40           |
| 05 Variable speed drive           |   | Yes    |              |

Data definition with optimum efficiency.  
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

|                               |                   |      |
|-------------------------------|-------------------|------|
| 09 Power input $P_{ed}$       | kW                | 0.39 |
| 09 Air flow $q_v$             | m³/h              | 9565 |
| 09 Pressure increase $p_{fs}$ | Pa                | 58   |
| 10 Speed (rpm) n              | min <sup>-1</sup> | 590  |
| 11 Specific ratio*            |                   | 1.00 |

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

LU-126143



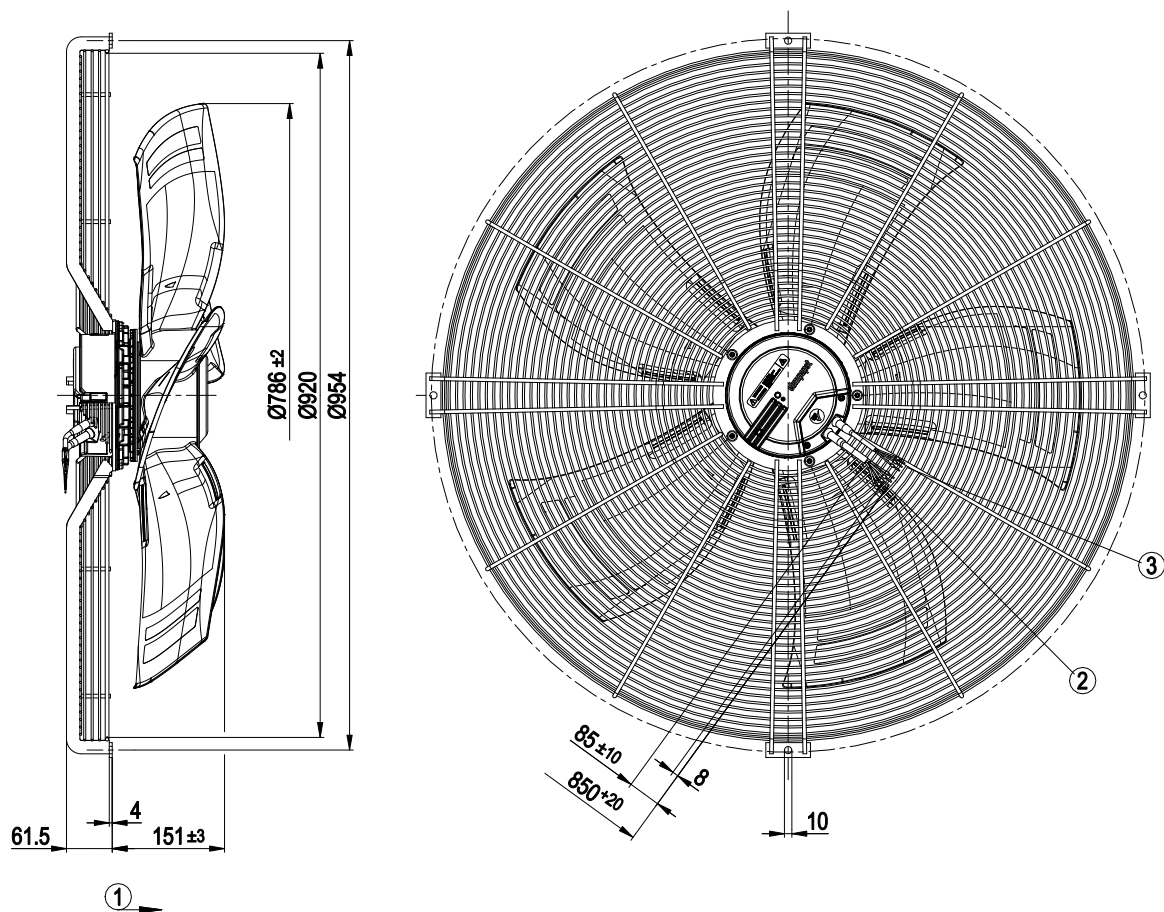
## Technical features

|                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mass                                                               | 18 kg                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Size                                                               | 800 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                                              | "A"                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Direction of rotation                                              | Counter-clockwise, seen on rotor                                                                                                                                                                                                                                                                                                                                                                                        |
| Type of protection                                                 | IP 54                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Insulation class                                                   | "B"                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Humidity (F)/environmental protection class (H)                    | 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                                                 | <ul style="list-style-type: none"> <li>- Output 10 VDC, max. 10 mA</li> <li>- Alarm relay</li> <li>- Motor current limit</li> <li>- PFC, active</li> <li>- Soft start</li> <li>- Control input 0-10 VDC</li> <li>- Control interface with SELV potential safely disconnected from the mains</li> <li>- Over-temperature protected electronics / motor</li> <li>- Line undervoltage / phase failure detection</li> </ul> |
| 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 61800-5-1; CE                                                                                                                                                                                                                                                                                                                                                                                                        |
| Approval                                                           | EAC                                                                                                                                                                                                                                                                                                                                                                                                                     |

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## Product drawing



|   |                                                        |
|---|--------------------------------------------------------|
| 1 | Direction of air flow "A"                              |
| 2 | Connection line PVC AWG18, 5x crimped core-end sleeves |
| 3 | Connection line PVC AWG22, 3x crimped core-end sleeves |



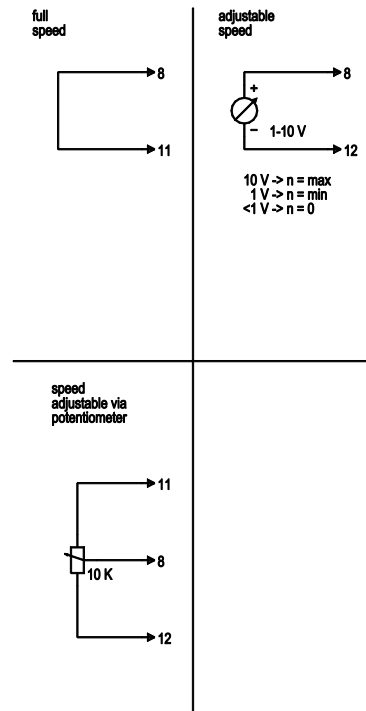
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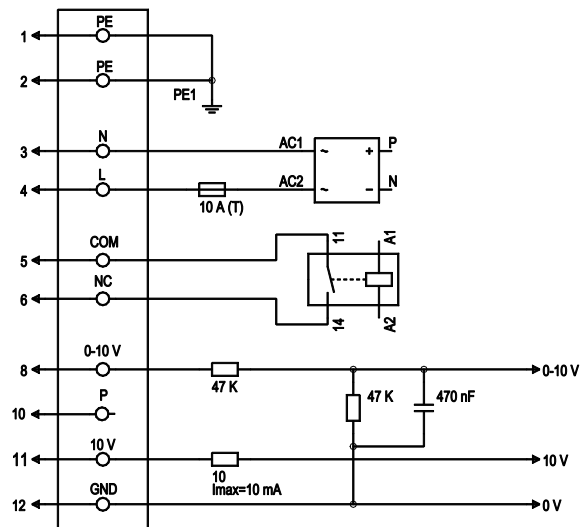
## Connection screen

### Customer circuit



### Connection

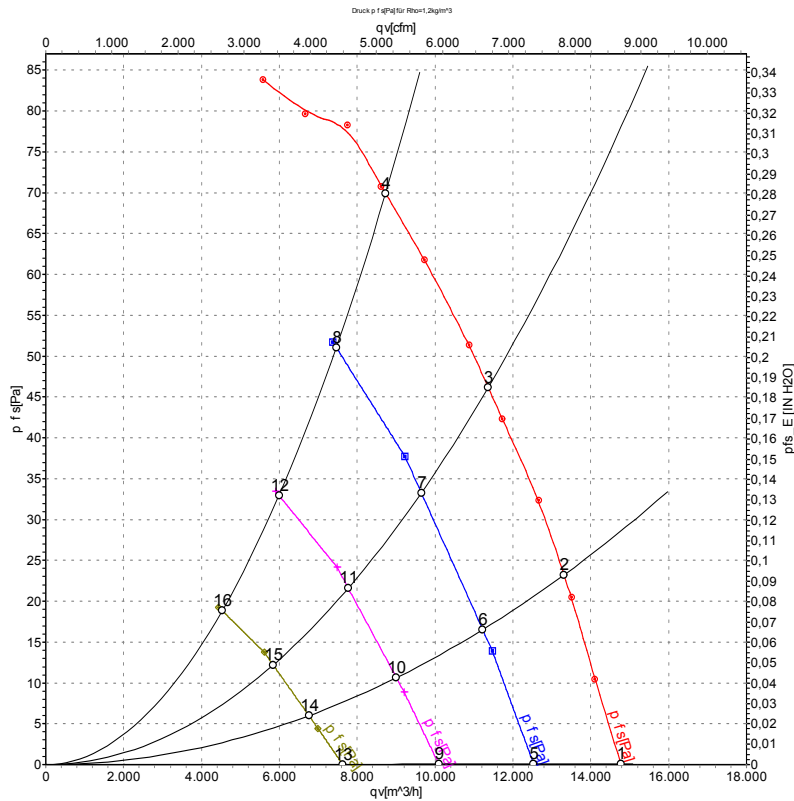
### Fan/Motor



| No. | Conn. | Designation | Colour       | Function / assignment                                                                                   |
|-----|-------|-------------|--------------|---------------------------------------------------------------------------------------------------------|
| 1   | 1,2   | PE          | green/yellow | Protective earth                                                                                        |
| 1   | 3     | N           | blue         | Power supply, neutral conductor, 50/60 Hz                                                               |
| 1   | 4     | L           | black        | Power supply, phase, 50/60 Hz                                                                           |
| 1   | 5     | COM         | white 1      | Floating status contact, break for failure (2 A, max. 250 VAC, min. 10 mA, AC1)                         |
| 1   | 6     | 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       | not used                                                                                                |
| 2   | 11    | 10 VDC      | red          | Voltage output 10 VDC (+/-3%), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV |
| 2   | 12    | GND         | blue         | Reference earth for control interface, SELV                                                             |



## Charts: Air flow 50 Hz



Measurement: LU-119388-1  
 Measurement: LU-120591-1  
 Measurement: LU-120592-1  
 Measurement: LU-120593-1

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: L<sub>wA</sub> measured as per ISO 13347 /  
 L<sub>pA</sub> 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 <sub>ed</sub> | I    | L <sub>pA<sub>in</sub></sub> | L <sub>wA<sub>in</sub></sub> | L <sub>wA<sub>out</sub></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)                        | dB(A)                         | m³/h           | Pa              | cfm            | inH <sub>2</sub> O |
| 1  | 230 | 50 | 600               | 288             | 1.27 | 57                           | 64                           | 63                            | 14770          | 0               | 8695           | 0.00               |
| 2  | 230 | 50 | 600               | 342             | 1.50 | 55                           | 61                           | 61                            | 13310          | 23              | 7835           | 0.09               |
| 3  | 230 | 50 | 600               | 382             | 1.68 | 53                           | 59                           | 59                            | 11370          | 46              | 6690           | 0.18               |
| 4  | 230 | 50 | 600               | 440             | 1.90 | 56                           | 64                           | 64                            | 8730           | 70              | 5140           | 0.28               |
| 5  | 230 | 50 | 500               | 171             | 0.77 | 53                           | 60                           | 59                            | 12530          | 0               | 7375           | 0.00               |
| 6  | 230 | 50 | 500               | 200             | 0.90 | 52                           | 58                           | 57                            | 11230          | 16              | 6610           | 0.06               |
| 7  | 230 | 50 | 500               | 228             | 1.01 | 49                           | 56                           | 55                            | 9645           | 33              | 5680           | 0.13               |
| 8  | 230 | 50 | 500               | 257             | 1.14 | 52                           | 60                           | 59                            | 7460           | 51              | 4390           | 0.20               |
| 9  | 230 | 50 | 400               | 95              | 0.47 | 49                           | 55                           | 54                            | 10100          | 0               | 5945           | 0.00               |
| 10 | 230 | 50 | 400               | 109             | 0.53 | 47                           | 53                           | 53                            | 9005           | 11              | 5300           | 0.04               |
| 11 | 230 | 50 | 400               | 123             | 0.58 | 44                           | 51                           | 51                            | 7770           | 22              | 4575           | 0.09               |
| 12 | 230 | 50 | 400               | 137             | 0.64 | 46                           | 53                           | 54                            | 5990           | 33              | 3525           | 0.13               |
| 13 | 230 | 50 | 300               | 48              | 0.30 | 41                           | 48                           | 49                            | 7625           | 0               | 4485           | 0.00               |
| 14 | 230 | 50 | 300               | 53              | 0.32 | 39                           | 47                           | 48                            | 6760           | 6               | 3980           | 0.02               |
| 15 | 230 | 50 | 300               | 60              | 0.34 | 39                           | 45                           | 47                            | 5840           | 12              | 3440           | 0.05               |
| 16 | 230 | 50 | 300               | 67              | 0.36 | 38                           | 46                           | 47                            | 4530           | 19              | 2665           | 0.08               |

U = Supply voltage · f = Frequency · n = Speed (rpm) · P<sub>ed</sub> = Power input · I = Current draw · L<sub>pA<sub>in</sub></sub> = Sound pressure level inlet side · L<sub>wA<sub>in</sub></sub> = Sound power level inlet side · L<sub>wA<sub>out</sub></sub> = Sound power level outlet side  
 q<sub>v</sub> = Air flow · P<sub>fs</sub> = Pressure increase