

# AC axial fan - HyBlade

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

S4D560-BQ01-05 ebmpapst Datasheet  
sales@fansco.com  
www.fansco.com

## Nominal data

|                               |                   |      |      |
|-------------------------------|-------------------|------|------|
| Type                          | S4D560-BQ01-05    |      |      |
| Motor                         | M4D110-IA         |      |      |
| Phase                         |                   | 3~   | 3~   |
| Nominal voltage               | VAC               | 400  | 400  |
| Connection                    |                   | Δ    | Y    |
| Frequency                     | Hz                | 50   | 50   |
| Type of data definition       |                   | ml   | ml   |
| Valid for approval / standard |                   | CE   | CE   |
| Speed (rpm)                   | min <sup>-1</sup> | 1350 | 1110 |
| Power input                   | W                 | 1100 | 760  |
| Current draw                  | A                 | 2.32 | 1.3  |
| Max. back pressure            | Pa                | 170  | 115  |
| Min. ambient temperature      | °C                | -40  | -40  |
| Max. ambient temperature      | °C                | 65   | 65   |
| Starting current              | A                 | 10   |      |

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 $\eta_{es}$ | % | 34     | 34           |
| 02 Measurement category           |   | A      |              |
| 03 Efficiency category            |   | Static |              |
| 04 Efficiency grade N             |   | 40     | 40           |
| 05 Variable speed drive           |   | No     |              |

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

|                               |                   |      |
|-------------------------------|-------------------|------|
| 09 Power input $P_e$          | kW                | 1.11 |
| 09 Air flow $q_v$             | m³/h              | 6990 |
| 09 Pressure increase $p_{fs}$ | Pa                | 193  |
| 10 Speed (rpm) $n$            | min <sup>-1</sup> | 1345 |
| 11 Specific ratio*            |                   | 1.00 |

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

LU-111140



# AC axial fan - HyBlade

sickled blades (S series)

with guard grille for full nozzle

## Technical features

|                                                                    |                                                                |
|--------------------------------------------------------------------|----------------------------------------------------------------|
| Mass                                                               | 15.9 kg                                                        |
| Size                                                               | 560 mm                                                         |
| Surface of rotor                                                   | Cast in aluminium                                              |
| Material of terminal box                                           | PP plastic                                                     |
| Material of blades                                                 | Aluminium sheet insert, sprayed with PP plastic                |
| Material of guard grille                                           | Steel, coated in black plastic (RAL9005)                       |
| Number of blades                                                   | 5                                                              |
| Blade angle                                                        | -5°                                                            |
| Direction of air flow                                              | "A"                                                            |
| Direction of rotation                                              | Clockwise, seen on rotor                                       |
| Type of protection                                                 | IP 54                                                          |
| Insulation class                                                   | "F"                                                            |
| Humidity (F)/environmental protection class (H)                    | 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 top; rotor on bottom on request   |
| Condensate discharge holes                                         | On the stator side                                             |
| Operation mode                                                     | S1                                                             |
| Motor bearing                                                      | Ball bearing                                                   |
| 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) brought out, basic insulation |
| Cable exit                                                         | Axial                                                          |
| Protection class                                                   | I (if protective earth is connected by customer)               |
| Product conforming to standard                                     | EN 61800-5-1; CE                                               |
| Approval                                                           | VDE; EAC                                                       |

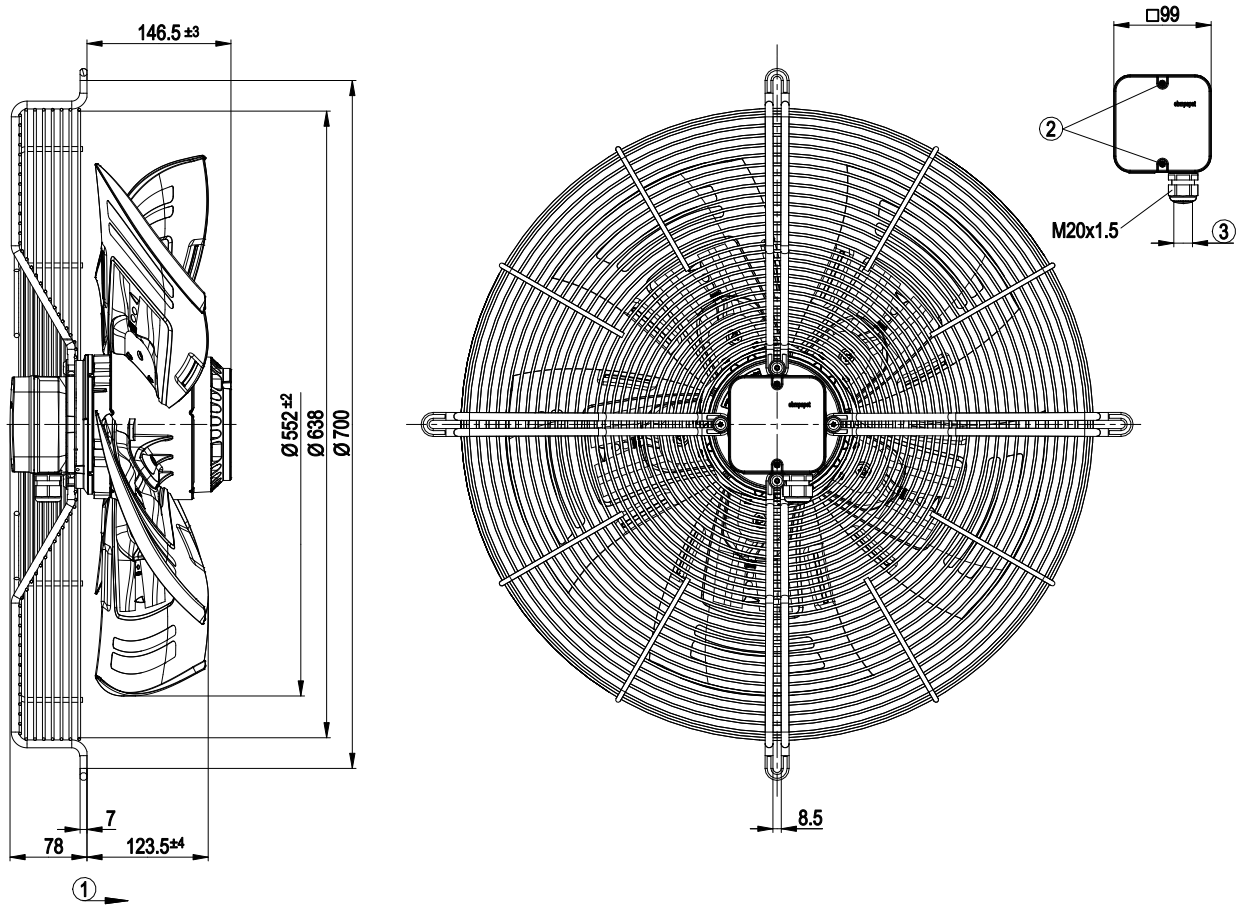


# AC axial fan - HyBlade

sickled blades (S series)

with guard grille for full nozzle

## Product drawing

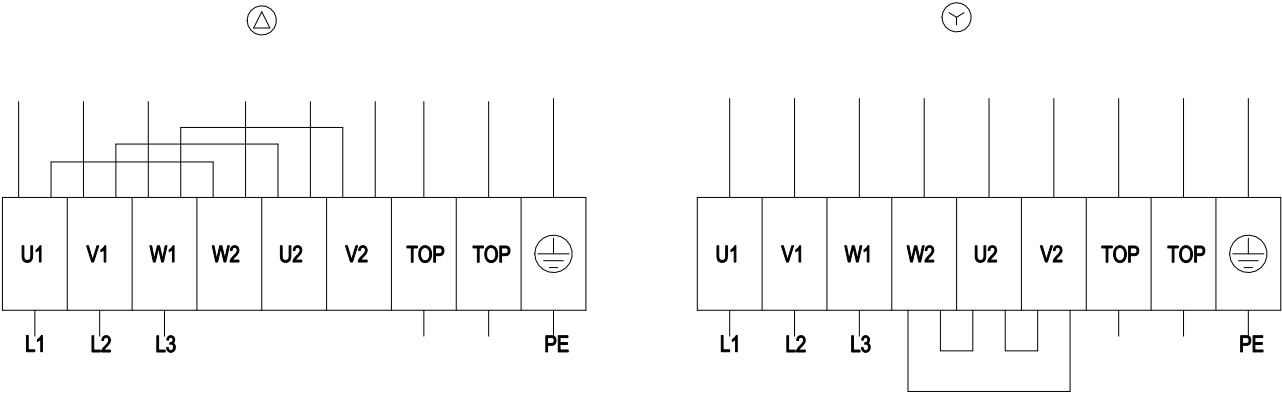


|   |                                                                          |
|---|--------------------------------------------------------------------------|
| 1 | Direction of air flow "A"                                                |
| 2 | Tightening torque $1.5 \pm 0.2$ Nm                                       |
| 3 | Cable diameter min. 6 mm, max. 12 mm, tightening torque $2.0 \pm 0.3$ Nm |

# AC axial fan - HyBlade

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

## Connection screen



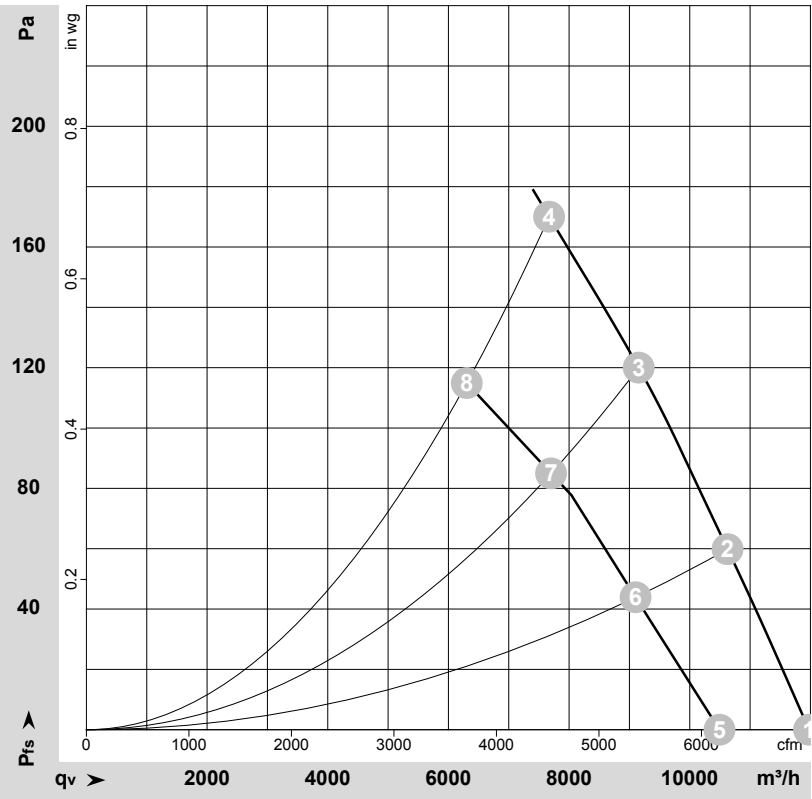
|    |                  |    |                 |     |              |
|----|------------------|----|-----------------|-----|--------------|
| Δ  | Delta connection | Y  | Star connection | L1  | = U1 = black |
| L2 | = V1 = blue      | L3 | = W1 = brown    | W2  | yellow       |
| U2 | green            | V2 | white           | TOP | 2 x grey     |
| PE | green/yellow     |    |                 |     |              |



# AC axial fan - HyBlade

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

## Charts: Air flow 50 Hz



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

Measurement: LU-111140-1  
Measurement: LU-171088-1

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: 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

|   | Conn. | U   | f  | n                 | P <sub>e</sub> | I    | LpA <sub>in</sub> | LwA <sub>in</sub> | LwA <sub>out</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 | Δ     | 400 | 50 | 1400              | 806            | 1.98 | 69                | 76                | 76                 | 11975          | 0               | 7050           | 0.00               |
| 2 | Δ     | 400 | 50 | 1380              | 919            | 2.08 | 67                | 74                | 74                 | 10625          | 60              | 6255           | 0.24               |
| 3 | Δ     | 400 | 50 | 1365              | 1021           | 2.18 | 67                | 73                | 73                 | 9155           | 120             | 5390           | 0.48               |
| 4 | Δ     | 400 | 50 | 1350              | 1100           | 2.32 | 70                | 77                | 76                 | 7670           | 170             | 4515           | 0.68               |
| 5 | Y     | 400 | 50 | 1225              | 611            | 1.05 | 65                | 72                | 72                 | 10495          | 0               | 6175           | 0.00               |
| 6 | Y     | 400 | 50 | 1180              | 673            | 1.14 | 63                | 70                | 70                 | 9100           | 44              | 5355           | 0.18               |
| 7 | Y     | 400 | 50 | 1135              | 724            | 1.22 | 63                | 71                | 69                 | 7700           | 85              | 4535           | 0.34               |
| 8 | Y     | 400 | 50 | 1110              | 760            | 1.30 | 65                | 74                | 72                 | 6305           | 115             | 3710           | 0.46               |

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power input · I = Current draw · LpA<sub>in</sub> = Sound pressure level inlet side · LwA<sub>in</sub> = Sound power level inlet side  
LwA<sub>out</sub> = Sound power level outlet side · q<sub>V</sub> = Air flow · p<sub>fs</sub> = Pressure increase

