

W4E500-GM03-01

## AC axial fan - HyBlade®

sickled blades (S series)

with full square nozzle

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## Nominal data

|                               |                   |      |      |
|-------------------------------|-------------------|------|------|
| Type                          | W4E500-GM03-01    |      |      |
| Motor                         | M4E110-GF         |      |      |
| Phase                         |                   | 1~   | 1~   |
| Nominal voltage               | VAC               | 230  | 230  |
| Frequency                     | Hz                | 50   | 60   |
| Type of data definition       |                   | ml   | ml   |
| Valid for approval / standard |                   | CE   | CE   |
| Speed                         | min <sup>-1</sup> | 1300 | 1400 |
| Power input                   | W                 | 680  | 880  |
| Current draw                  | A                 | 3.0  | 3.88 |
| Motor capacitor               | μF                | 12   | 12   |
| Capacitor voltage             | VDB               | 450  | 450  |
| Max. back pressure            | Pa                | 150  | 100  |
| Min. ambient temperature      | °C                | -40  | -40  |
| Max. ambient temperature      | °C                | 65   | 40   |

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  | No     |
| Specific ratio*       | 1.00   |

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

|                                |                   | Actual | Request 2013 | Request 2015 |
|--------------------------------|-------------------|--------|--------------|--------------|
| Overall efficiency $\eta_{es}$ |                   | 32.5   | 28.5         | 32.5         |
| Efficiency grade N             |                   | 40     | 36           | 40           |
| Power input $P_e$              | kW                | 0.65   |              |              |
| Air flow $q_v$                 | m <sup>3</sup> /h | 5765   |              |              |
| Pressure increase $p_{fs}$     | Pa                | 129    |              |              |
| Speed n                        | min <sup>-1</sup> | 1315   |              |              |

Data established at point of optimum efficiency



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## Technical features

|                                                                    |                                                                   |
|--------------------------------------------------------------------|-------------------------------------------------------------------|
| Mass                                                               | 18 kg                                                             |
| Size                                                               | 500 mm                                                            |
| Surface of rotor                                                   | Coated in black                                                   |
| Material of terminal box                                           | PC/ABS plastic Bayblend FR110                                     |
| Material of blades                                                 | Press-fitted sheet steel blank, sprayed with PP plastic           |
| Material of guard grille                                           | Steel, phosphated and coated in black plastic                     |
| 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                                                  | Any                                                               |
| Condensate discharge holes                                         | On rotor and stator sides                                         |
| 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, integrated capacitor connected via terminal box |
| Motor protection                                                   | Thermal overload protector (TOP) brought out                      |
| Cable exit                                                         | Axial                                                             |
| Protection class                                                   | I (if protective earth is connected by customer)                  |
| Product conforming to standard                                     | EN 61800-5-1; CE                                                  |
| Approval                                                           | GOST; VDE; UL 1004-1; CSA C22.2 Nr.100                            |

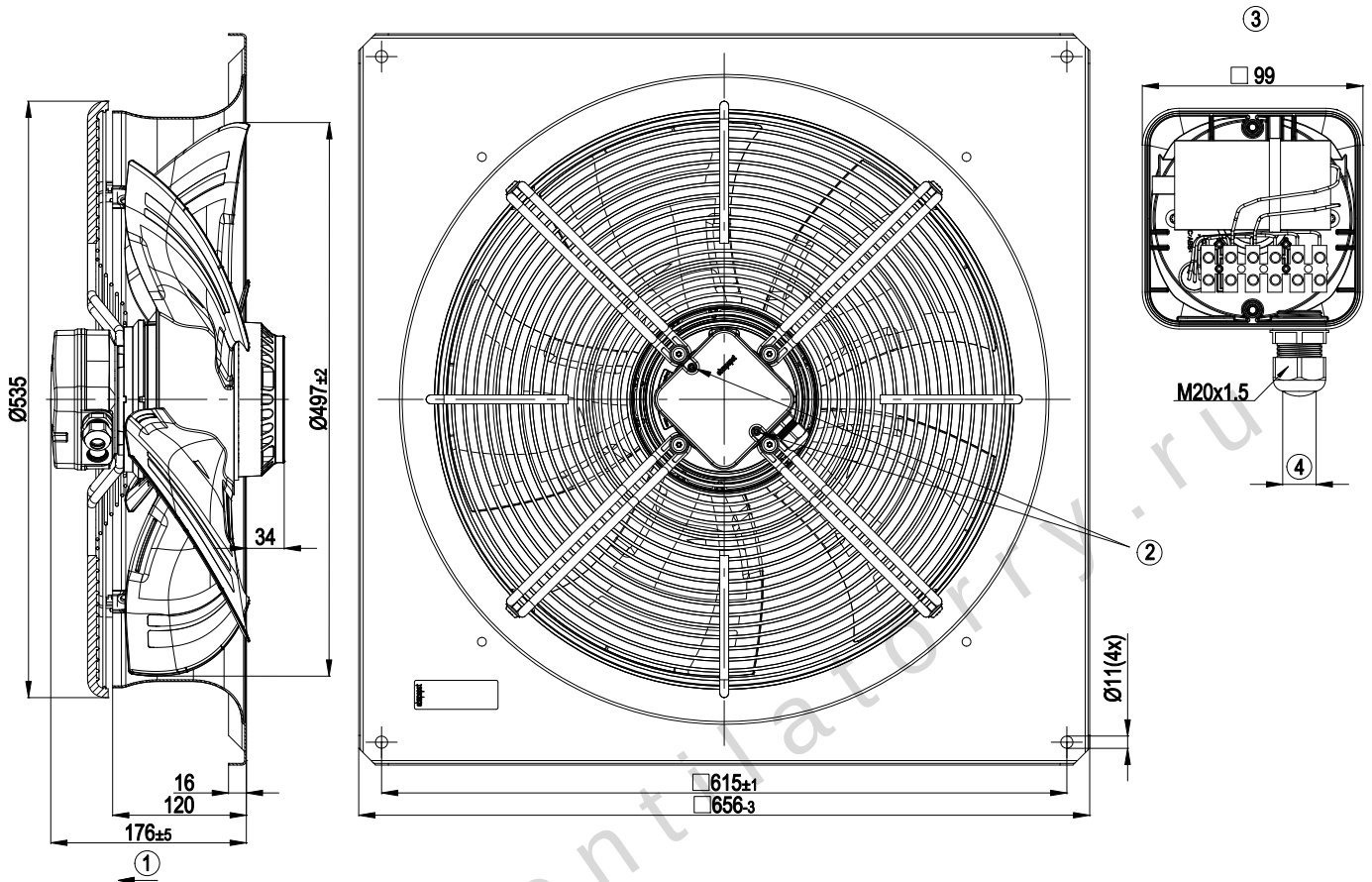
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## Product drawing



|   |                                                                    |
|---|--------------------------------------------------------------------|
| 1 | Direction of air flow "V"                                          |
| 2 | Tightening torque 0.8±0.15 Nm                                      |
| 3 | Shown without terminal box cover                                   |
| 4 | Cable diameter: min. 6 mm, max. 12 mm; tightening torque: 2±0.3 Nm |

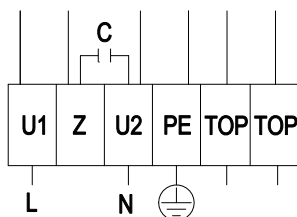
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## Connection screen



|    |                |     |       |   |              |
|----|----------------|-----|-------|---|--------------|
| L  | = U1 = blue    | Z   | brown | N | = U2 = black |
| PE | green / yellow | TOP | grey  |   |              |

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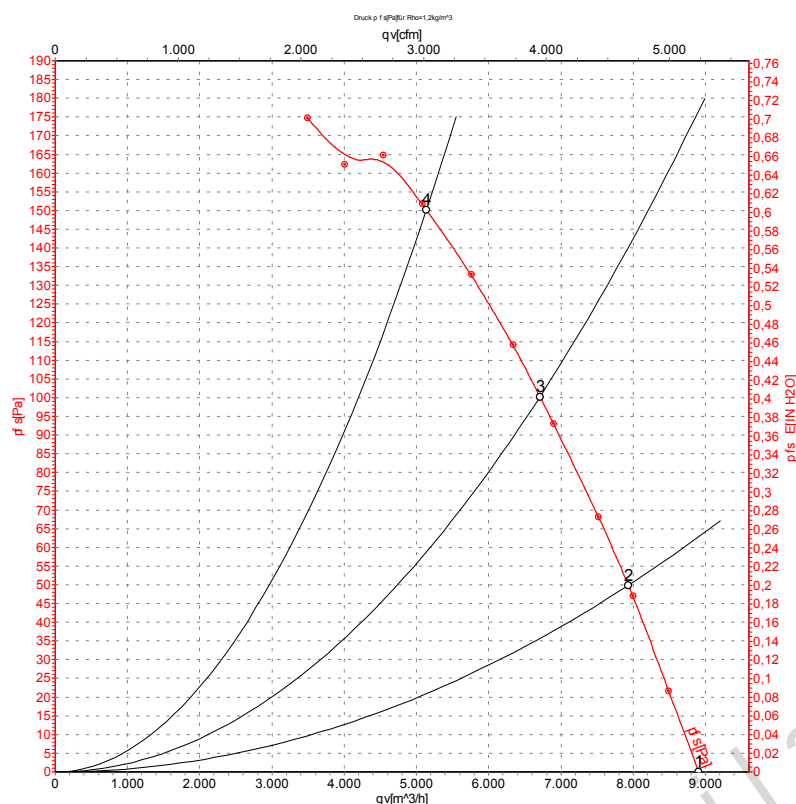
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## Charts: Air flow 50 Hz



Measurement: LU-107128

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 <sub>e</sub> | I    | LpA <sub>in</sub> | LwA <sub>in</sub> | LwA <sub>out</sub> | qv                | p <sub>fs</sub> |
|---|-----|----|-------------------|----------------|------|-------------------|-------------------|--------------------|-------------------|-----------------|
|   | V   | Hz | min <sup>-1</sup> | W              | A    | dB(A)             | dB(A)             | dB(A)              | m <sup>3</sup> /h | Pa              |
| 1 | 230 | 50 | 1380              | 513            | 2.25 | 68                | 75                | 75                 | 8905              | 0               |
| 2 | 230 | 50 | 1355              | 571            | 2.50 | 65                | 72                | 72                 | 7930              | 50              |
| 3 | 230 | 50 | 1330              | 623            | 2.73 | 63                | 70                | 70                 | 6705              | 100             |
| 4 | 230 | 50 | 1300              | 680            | 3.00 | 65                | 72                | 71                 | 5140              | 150             |

U = Supply voltage · f = Frequency · n = Speed · 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  
qv = Air flow · p<sub>fs</sub> = Pressure increase

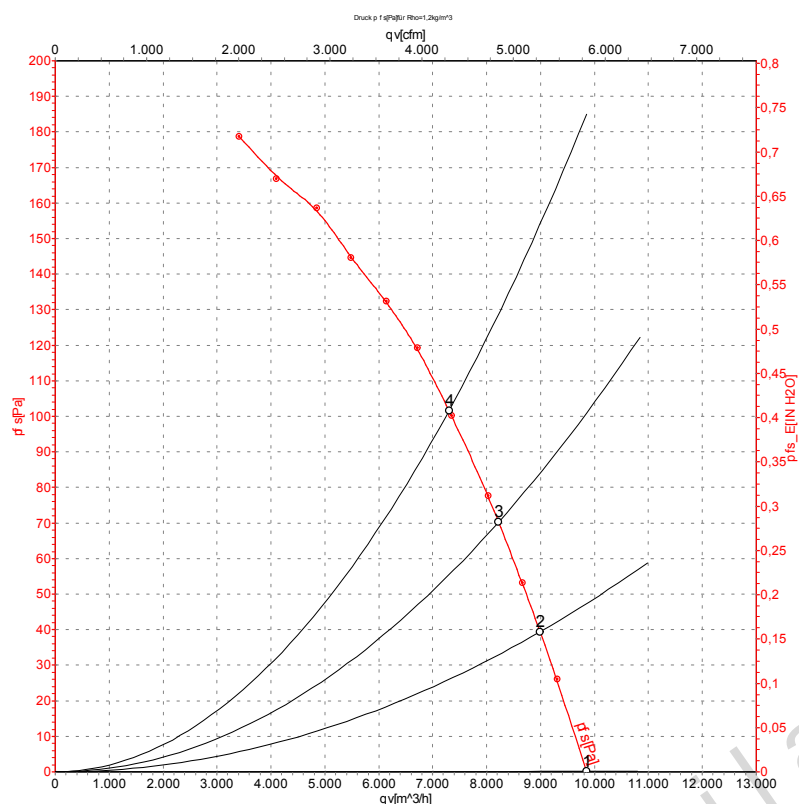
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## Charts: Air flow 60 Hz



Measurement: LU-107130

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 <sub>e</sub> | I    | LpA <sub>in</sub> | LwA <sub>in</sub> | LwA <sub>out</sub> | qv   | p <sub>fs</sub> |
|---|-----|----|-------------------|----------------|------|-------------------|-------------------|--------------------|------|-----------------|
|   | V   | Hz | min <sup>-1</sup> | W              | A    | dB(A)             | dB(A)             | dB(A)              | m³/h | Pa              |
| 1 | 230 | 60 | 1530              | 793            | 3.45 | 70                | 77                | 78                 | 9850 | 0               |
| 2 | 230 | 60 | 1485              | 828            | 3.61 | 68                | 75                | 75                 | 8990 | 40              |
| 3 | 230 | 60 | 1450              | 853            | 3.73 | 66                | 73                | 73                 | 8220 | 70              |
| 4 | 230 | 60 | 1400              | 880            | 3.88 | 65                | 72                | 72                 | 7300 | 100             |

U = Supply voltage · f = Frequency · n = Speed · 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  
qv = Air flow · p<sub>fs</sub> = Pressure increase