

## AC axial fan - HyBlade®

sickled blades (S series), single inlet  
with full square nozzle

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## Nominal data

|                               |                   |      |      |
|-------------------------------|-------------------|------|------|
| Type                          | W4D630-GD01-01    |      |      |
| Motor                         | M4D138-LA         |      |      |
| 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                         | min <sup>-1</sup> | 1320 | 1050 |
| Power input                   | W                 | 2630 | 1750 |
| Current draw                  | A                 | 4.78 | 2.95 |
| Max. back pressure            | Pa                | 220  | 140  |
| Min. ambient temperature      | °C                | -40  | -40  |
| Max. ambient temperature      | °C                | 60   | 60   |
| Starting current              | A                 | 19   | 6.5  |

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 $\eta_{es}$ | %                 | 32.8   | 32.1         | 36.1         |
| Efficiency grade N             |                   | 36.7   | 36           | 40           |
| Power input $P_e$              | kW                | 2.44   |              |              |
| Air flow $q_v$                 | m <sup>3</sup> /h | 13365  |              |              |
| Pressure increase $p_{fs}$     | Pa                | 217    |              |              |
| Speed n                        | min <sup>-1</sup> | 1345   |              |              |

Data definition with optimum efficiency. LU-146372  
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



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## Technical features

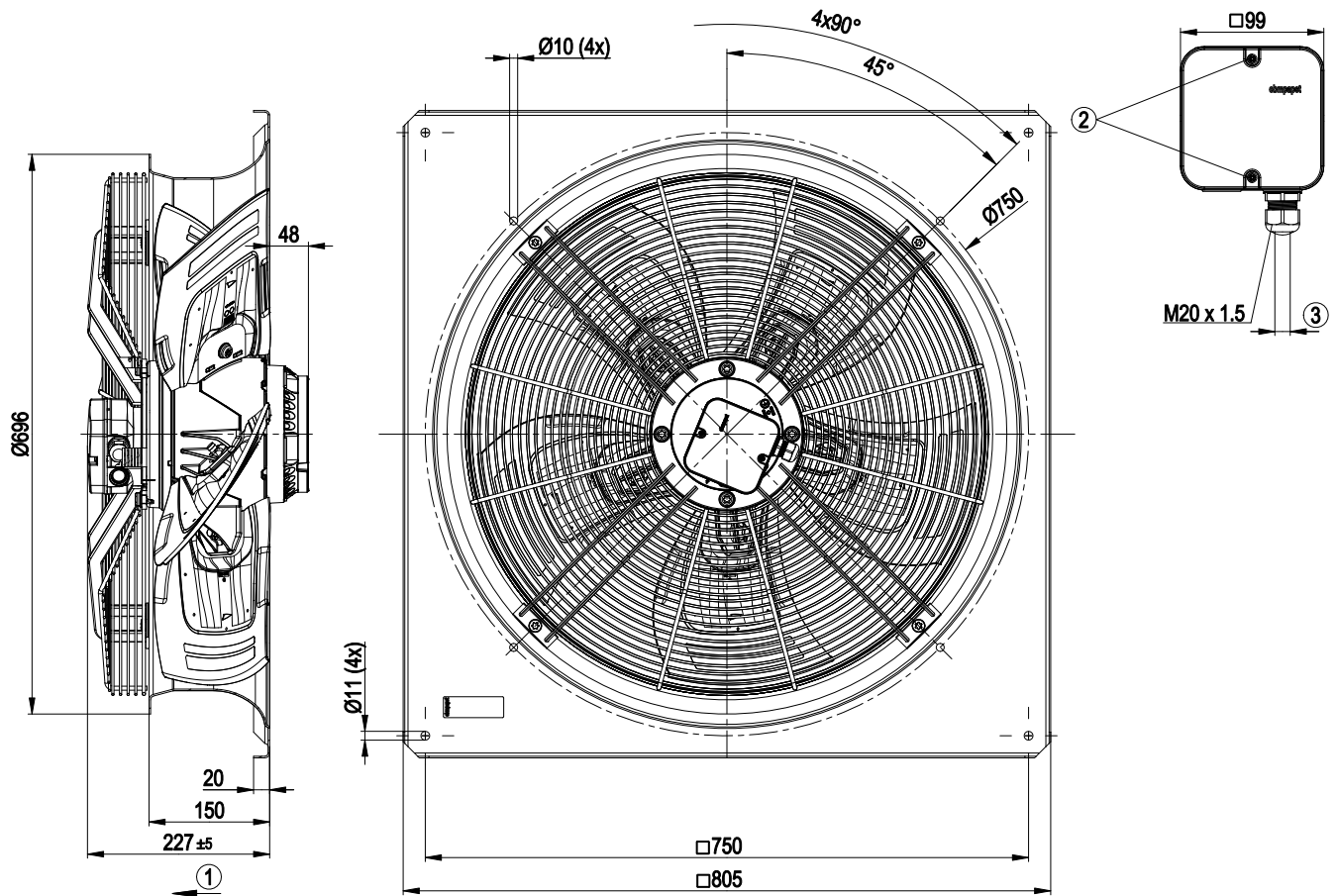
|                                                                    |                                                                    |
|--------------------------------------------------------------------|--------------------------------------------------------------------|
| Mass                                                               | 38.9 kg                                                            |
| Size                                                               | 630 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 wall ring                                              | Sheet steel, pre-galvanised and coated in black plastic (RAL 9005) |
| Material of guard grille                                           | Steel, coated in black plastic (RAL9005)                           |
| Number of blades                                                   | 5                                                                  |
| Blade angle                                                        | 0°                                                                 |
| Direction of air flow                                              | "V"                                                                |
| Direction of rotation                                              | Clockwise, seen on rotor                                           |
| Type of protection                                                 | IP 54                                                              |
| Insulation class                                                   | "F"                                                                |
| Humidity class                                                     | F3-1                                                               |
| 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                                                   |
| 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 60034; EN 61800-5-1; CE                                         |
| Approval                                                           | EAC; VDE                                                           |



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## Product drawing

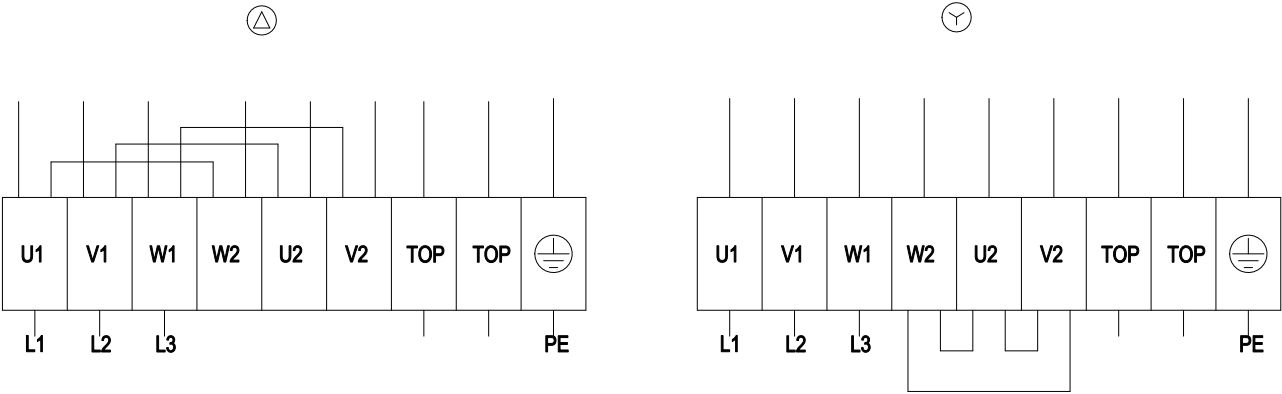


|   |                                                                          |
|---|--------------------------------------------------------------------------|
| 1 | Direction of air flow "V"                                                |
| 2 | Tightening torque $1.5 \pm 0.2$ Nm                                       |
| 3 | Cable diameter: min. 7 mm, max. 14 mm, tightening torque: $2 \pm 0.3$ Nm |

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Connection screen



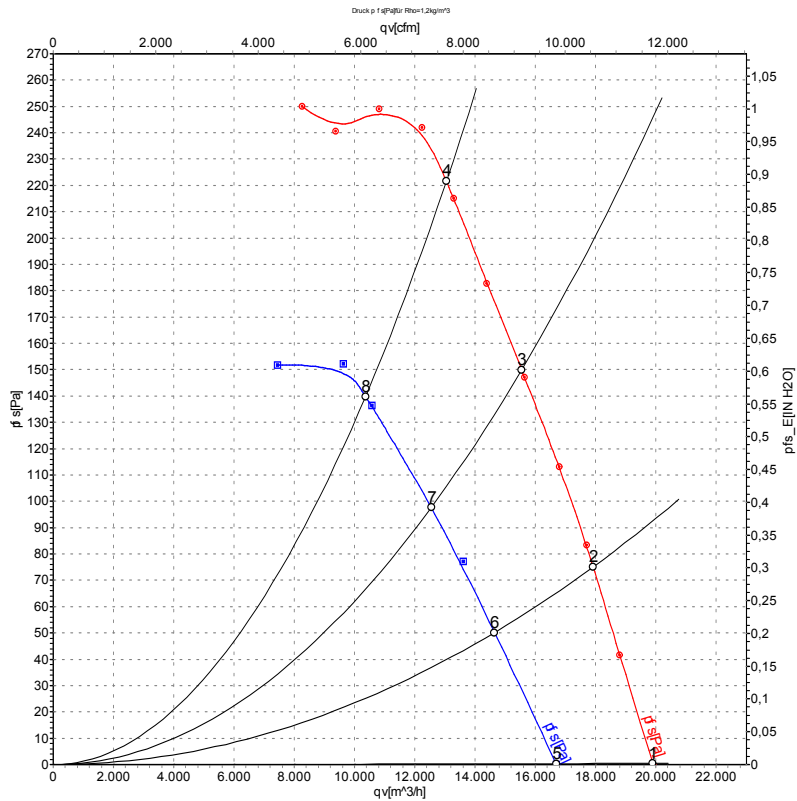
|    |                  |    |                 |     |              |
|----|------------------|----|-----------------|-----|--------------|
| Δ  | Delta connection | Y  | Star connection | L1  | = U1 = black |
| L2 | = V1 = blue      | L3 | = W1 = brown    | W2  | yellow       |
| U2 | green        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



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## Charts: Air flow 50 Hz



Measurement: LU-115597  
Measurement: LU-115637

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

|   | Conn. | 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 | Δ     | 400 | 50 | 1375              | 2116           | 4.07 | 71                | 79                | 80                 | 19890 | 0               |
| 2 | Δ     | 400 | 50 | 1360              | 2299           | 4.29 | 71                | 78                | 79                 | 17910 | 75              |
| 3 | Δ     | 400 | 50 | 1345              | 2465           | 4.56 | 71                | 77                | 78                 | 15540 | 150             |
| 4 | Δ     | 400 | 50 | 1320              | 2630           | 4.78 | 73                | 80                | 80                 | 13040 | 220             |
| 5 | Y     | 400 | 50 | 1150              | 1536           | 2.58 | 66                | 74                | 75                 | 16680 | 0               |
| 6 | Y     | 400 | 50 | 1115              | 1615           | 2.71 | 65                | 72                | 73                 | 14640 | 51              |
| 7 | Y     | 400 | 50 | 1080              | 1684           | 2.83 | 65                | 72                | 73                 | 12540 | 98              |
| 8 | Y     | 400 | 50 | 1050              | 1750           | 2.95 | 67                | 74                | 73                 | 10360 | 140             |

Conn. = Connection · 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

