

G2D160-AF02-37

# AC centrifugal fan

forward-curved, single-intake  
with housing (flange)

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## Nominal data

|                             |                   |      |      |      |      |
|-----------------------------|-------------------|------|------|------|------|
| Type                        | G2D160-AF02-37    |      |      |      |      |
| Motor                       | M2D068-EC         |      |      |      |      |
| Phase                       |                   | 3~   | 3~   | 3~   | 3~   |
| Nominal voltage             | VAC               | 230  | 230  | 400  | 400  |
| Wiring                      |                   | Δ    | Δ    | Y    | Y    |
| Frequency                   | Hz                | 50   | 60   | 50   | 60   |
| Method of obtaining data    |                   | ml   | ml   | ml   | ml   |
| Valid for approval/standard |                   | CE   | CE   | CE   | CE   |
| Speed (rpm)                 | min <sup>-1</sup> | 2300 | 2550 | 2300 | 2550 |
| Power consumption           | W                 | 305  | 335  | 305  | 335  |
| Current draw                | A                 | 0.83 | 0.9  | 0.48 | 0.52 |
| Min. back pressure          | Pa                | 0    | 300  | 0    | 300  |
| Min. back pressure          | in. wg            | 0    | 1.2  | 0    | 1.2  |
| Min. ambient temperature    | °C                | -25  | -25  | -25  | -25  |
| Max. ambient temperature    | °C                | 50   | 40   | 50   | 40   |
| Starting current            | A                 | 1.75 | 1.65 | 1.0  | 0.95 |

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment  
Subject to change

## Data according to Commission Regulation (EU) 327/2011 (EN 17166)

|                                   |   | Actual | Req. 2015 |                               |                   |      |
|-----------------------------------|---|--------|-----------|-------------------------------|-------------------|------|
| 01 Overall efficiency $\eta_{es}$ | % | 32.3   | 32.2      | 09 Power consumption $P_e$    | kW                | 0.13 |
| 02 Measurement category           |   | A      |           | 09 Air flow $q_v$             | m <sup>3</sup> /h | 300  |
| 03 Efficiency category            |   | Static |           | 09 Pressure increase $p_{fs}$ | Pa                | 519  |
| 04 Efficiency grade N             |   | 44.1   | 44        | 10 Speed (rpm) n              | min <sup>-1</sup> | 2745 |
| 05 Variable speed drive           |   | No     |           | 11 Specific ratio*            |                   | 1.01 |

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-155189



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## Technical description

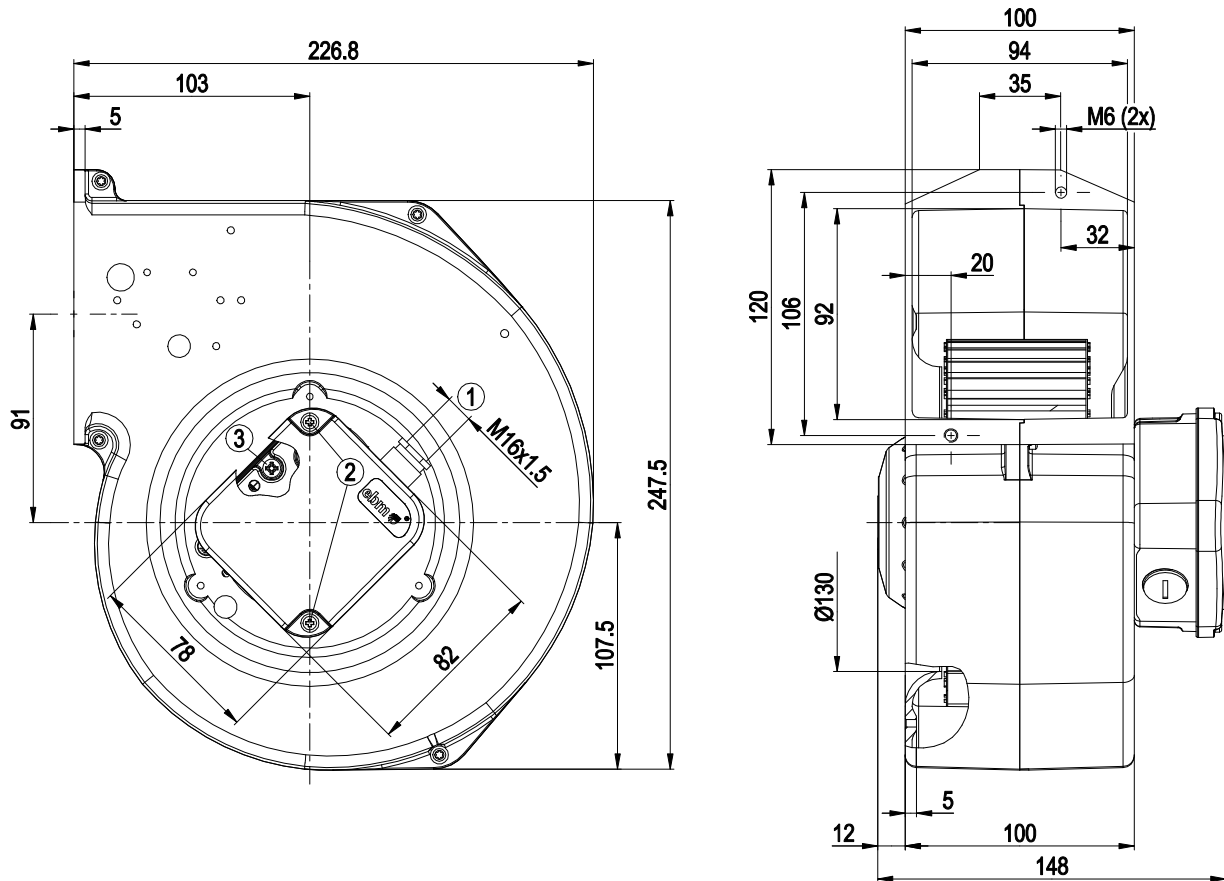
|                                                                            |                                                                                                       |
|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Weight                                                                     | 4.3 kg                                                                                                |
| Size                                                                       | 160 mm                                                                                                |
| Motor size                                                                 | 68                                                                                                    |
| Rotor surface                                                              | Painted black                                                                                         |
| Terminal box material                                                      | Die-cast aluminum                                                                                     |
| Impeller material                                                          | Sheet steel, galvanized                                                                               |
| Housing material                                                           | Die-cast aluminum                                                                                     |
| Direction of rotation                                                      | Clockwise, viewed toward rotor                                                                        |
| Degree of protection                                                       | IP44; installation- and position-dependent as per EN 60034-1                                          |
| Insulation class                                                           | "B"                                                                                                   |
| Moisture (F) / Environmental (H) protection class                          | H1                                                                                                    |
| Max. permitted ambient temp. for motor (transport/storage)                 | + 80 °C                                                                                               |
| Min. permitted ambient temp. for motor (transport/storage)                 | - 40 °C                                                                                               |
| Installation position                                                      | Shaft horizontal or rotor on bottom; rotor on top on request                                          |
| Condensation drainage holes                                                | On rotor side                                                                                         |
| Mode                                                                       | S1                                                                                                    |
| Motor bearing                                                              | Ball bearing                                                                                          |
| Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system) | < 0.75 mA                                                                                             |
| Electrical hookup                                                          | Terminal box                                                                                          |
| Protection class                                                           | I (if protective earth is connected by customer to the housing's connection point)                    |
| Conformity with standards                                                  | EN 60034-1; EN 60204-1; EN 60335-1, motor not provided with overheating protection at the factory; CE |
| Approval                                                                   | UL 1004-1; CSA C22.2 No. 100                                                                          |



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## Product drawing



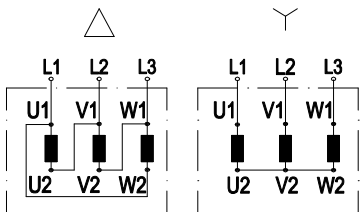
- |   |                                                                        |
|---|------------------------------------------------------------------------|
| 1 | Cable diameter min. 8 mm, max. 10 mm, tightening torque $3 \pm 0.4$ Nm |
| 2 | Tightening torque $1.3 \pm 0.2$ Nm                                     |
| 3 | M4 screw for fastening ground connector                                |



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Connection diagram



Change of rotation direction by reversing two phases

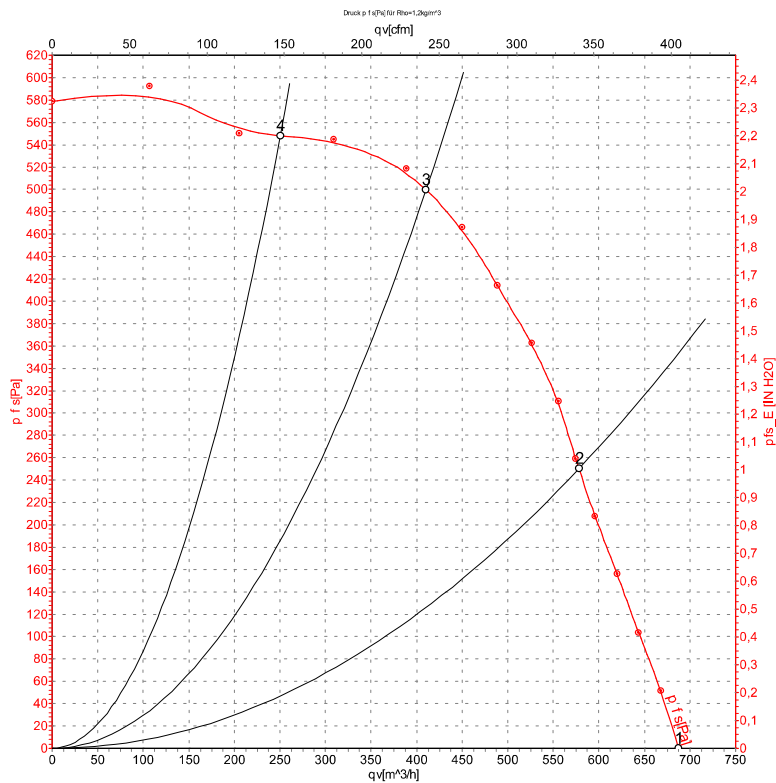
|    |                   |    |                  |    |                 |
|----|-------------------|----|------------------|----|-----------------|
|    | Three-phase motor | Δ  | Delta connection | Y  | Star connection |
| L1 | = U1 = black      | L2 | = V1 = blue      | L3 | = W1 = brown    |
| U2 | green             | V2 | white            | W2 | yellow          |



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## Curves: Air performance 50 Hz



Measurement: LU-39223-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

## Measured values

|   | U   | f  | n                 | Pe  | I    | qv   | pfs | qv  | pfs    |
|---|-----|----|-------------------|-----|------|------|-----|-----|--------|
|   | V   | Hz | min <sup>-1</sup> | W   | A    | m³/h | Pa  | cfm | in. wg |
| 1 | 400 | 50 | 2300              | 305 | 0.48 | 690  | 0   | 405 | 0.00   |
| 2 | 400 | 50 | 2470              | 242 | 0.39 | 580  | 250 | 340 | 1.00   |
| 3 | 400 | 50 | 2665              | 168 | 0.29 | 410  | 500 | 240 | 2.01   |
| 4 | 400 | 50 | 2790              | 114 | 0.23 | 250  | 548 | 145 | 2.20   |

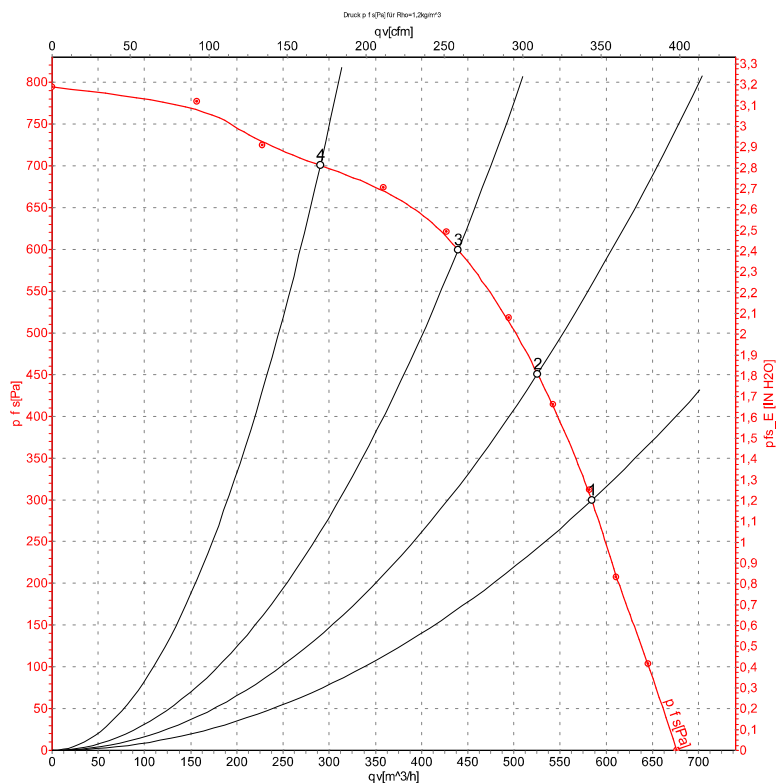
U = Voltage · f = Frequency · n = Speed (rpm) · Pe = Power consumption · I = Current draw · qv = Air flow · pfs = Pressure increase



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## Curves: Air performance 60 Hz



Measurement: LU-39224-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

## Measured values

|   | U   | f  | n                 | P <sub>e</sub> | I    | q <sub>v</sub> | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|---|-----|----|-------------------|----------------|------|----------------|-----------------|----------------|-----------------|
|   | V   | Hz | min <sup>-1</sup> | W              | A    | m³/h           | Pa              | cfm            | in. wg          |
| 1 | 400 | 60 | 2550              | 335            | 0.52 | 585            | 300             | 345            | 1.20            |
| 2 | 400 | 60 | 2720              | 296            | 0.46 | 525            | 450             | 310            | 1.81            |
| 3 | 400 | 60 | 2905              | 247            | 0.39 | 440            | 600             | 260            | 2.41            |
| 4 | 400 | 60 | 3145              | 176            | 0.29 | 290            | 700             | 170            | 2.81            |

U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

