# EC centrifugal fan

forward curved, dual inlet

with housing (flange)

D1G146-HQ03-10 ebmpapst Datasheet
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Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

## Nominal data

| | |
|---|---|
| **Type** | **D1G146-HQ03-10** |
| **Motor** | **M1G055-DF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 240 |
| Frequency | Hz | 50/60 |
| Type of data definition | | fa |
| Speed (rpm) | $min^{-1}$ | 1680 |
| Power input | W | 165 |
| Current draw | A | 1.35 |
| Min. back pressure | Pa | 0 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 45 |

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 $\eta_{es}$ | % | 47 | 32.3 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 58.7 | 44 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power input $P_{ed}$ | kW | 0.14 |
| 09 Air flow $q_v$ | $m^3/h$ | 450 |
| 09 Pressure increase $p_{fs}$ | Pa | 471 |
| 10 Speed (rpm) n | $min^{-1}$ | 2905 |
| 11 Specific ratio* | | 1.01 |

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

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

LU-178207

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## Technical features

| | |
|---|---|
| **Mass** | 2.4 kg |
| **Size** | 146 mm |
| **Material of impeller** | Plastic PP, galvanised round sheet-metal plate |
| **Housing material** | PP plastic |
| **Motor suspension** | Motor mounted vibration-free on both sides |
| **Direction of rotation** | Counter-clockwise, seen on rotor |
| **Type of protection** | IP 20 |
| **Insulation class** | "B" |
| **Max. permissible ambient motor temp. (transp./ storage)** | + 80 °C |
| **Min. permissible ambient motor temp. (transp./storage)** | - 40 °C |
| **Mounting position** | Any |
| **Condensate discharge holes** | None, open rotor |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Motor current limit<br>- Soft start<br>- PWM control input<br>- Control interface with SELV potential safely disconnected from the mains<br>- Over-temperature protected motor |
| **Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)** | <= 3.5 mA |
| **Electrical leads** | With plug |
| **Motor protection** | Thermal overload protector (TOP) wired internally |
| **Protection class** | Built-in component with basic insulation, safety classification after installation in accordance with intended use |
| **Product conforming to standard** | EN 60335-1; EN 60335-2-31; CE |
| **Approval** | VDE |

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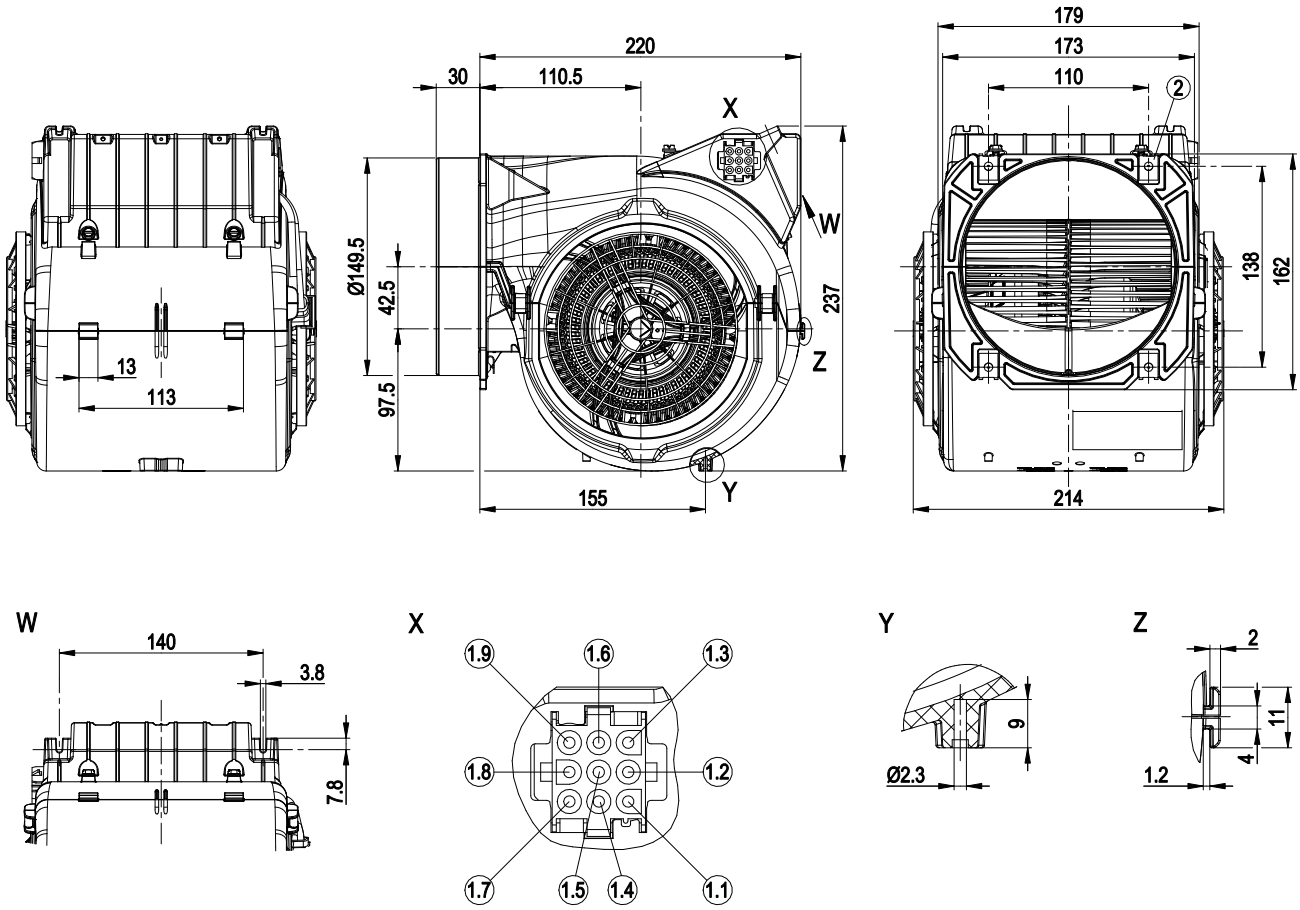
## Product drawing




| | |
|---|---|
| 1 | Coded plug system: Connector housing 9-pole tyco 927231-7, 5x plug pin tyco 926887-1 |
| | Mating connector (not included in scope of delivery): Connector housing 9-pole tyco 1-1863003-2, female connector tyco 926884-1 |
| 1.1 | L (brown) |
| 1.2 | N (blue) |
| 1.3 | FE (green/yellow) |
| 1.4 | not used |
| 1.5 | not used |
| 1.6 | not used |
| 1.7 | PWM (yellow) |
| 1.8 | GND (blue) |
| 1.9 | not used |
| 2 | 4x sheet metal nut for EN ISO 1478-ST4.8 thread |

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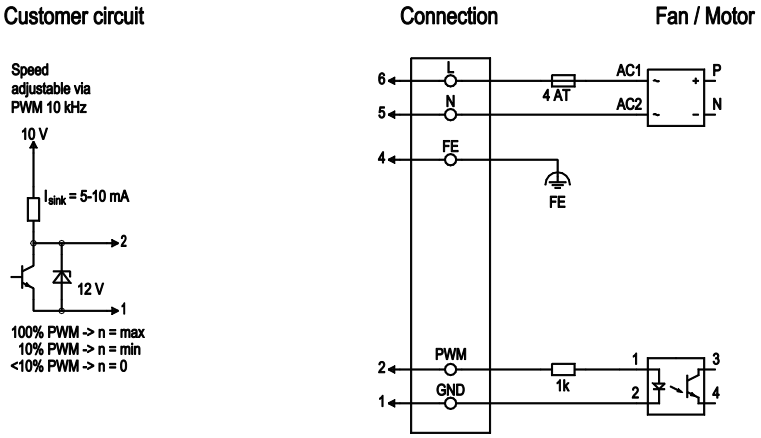
## Connection screen




| No. | Conn. | Designation | Colour | Function / assignment |
|---|---|---|---|---|
| | 6 | L | brown | Power supply 230 VAC, 50-60 Hz, see type plate for voltage range |
| | 5 | N | blue | Neutral conductor |
| | 4 | FE | green/yellow | Functional earth conductor |
| | 2 | PWM | yellow | Control input PWM, electrically isolated, Isink = 5-10 mA |
| | 1 | GND | blue | GND connection for control interface |

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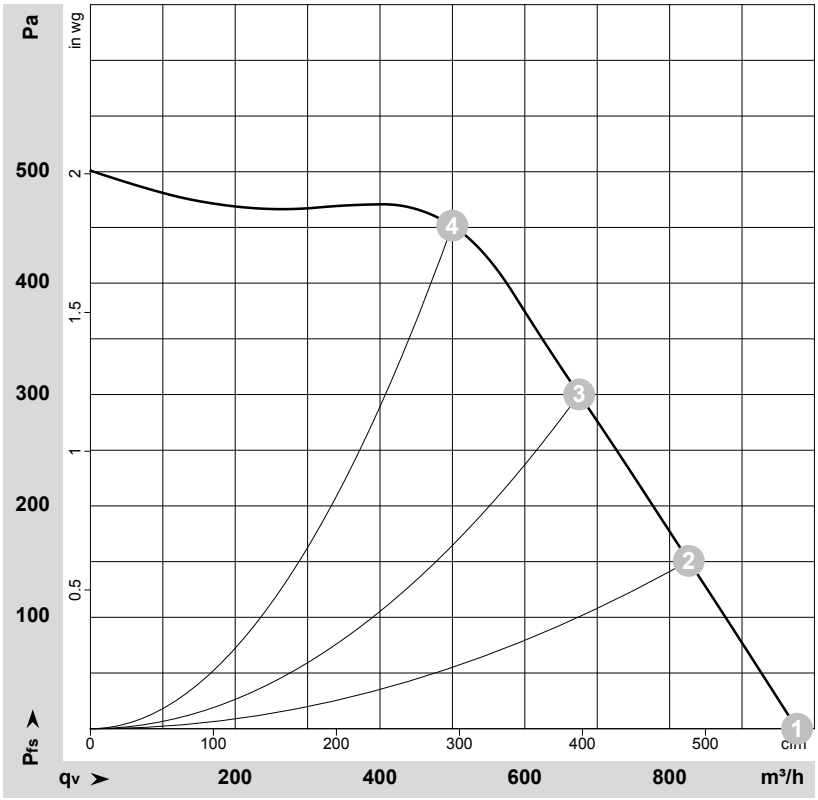
## Charts: Air flow 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-178207-1

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

| | U | f | n | $P_{ed}$ | I | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa | cfm | inH2O |
| 1 | 230 | 50 | 1680 | 165 | 1.35 | 975 | 0 | 575 | 0.00 |
| 2 | 230 | 50 | 2115 | 165 | 1.35 | 825 | 150 | 485 | 0.60 |
| 3 | 230 | 50 | 2485 | 165 | 1.35 | 675 | 300 | 395 | 1.20 |
| 4 | 230 | 50 | 2865 | 156 | 1.29 | 500 | 450 | 295 | 1.81 |

U = Supply voltage · f = Frequency · n = Speed (rpm) · $P_{ed}$ = Power input · I = Current draw · $q_V$ = Air flow · $p_{fs}$ = Pressure increase