**D3G250-EF41-01**

# EC centrifugal fan

forward curved, dual inlet

with housing (flange)



**ebm-papst Mulfingen GmbH & Co. KG**
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

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

## Nominal data

| | |
|---|---|
| **Type** | **D3G250-EF41-01** |
| **Motor** | **M3G112-GA** |

| | | |
|---|---|---|
| Phase | | 3~ |
| Nominal voltage | VAC | 400 |
| Nominal voltage range | VAC | 380 .. 480 |
| Frequency | Hz | 50/60 |
| Type of data definition | | ml |
| Speed (rpm) | $min^{-1}$ | 1500 |
| Power input | W | 1000 |
| Current draw | A | 1.7 |
| Min. back pressure | Pa | 100 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 40 |

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

## Data in accordance with ecodesign regulation EU 327/2011 (EN 17166)

| | | Actual | Request 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 48.1 | 36.2 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 55.9 | 44 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power input $P_{ed}$ | kW | 0.59 |
| 09 Air flow $q_v$ | $m^3/h$ | 1805 |
| 09 Pressure increase $p_{fs}$ | Pa | 515 |
| 10 Speed (rpm) n | $min^{-1}$ | 1660 |
| 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-108913

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## Technical features

| | |
|---|---|
| **Mass** | 15.8 kg |
| **Size** | 250 mm |
| **Motor size** | 112 |
| **Surface of rotor** | Coated in black |
| **Material of electronics housing** | Die-cast aluminum |
| **Material of impeller** | Sheet steel, hot-galvanised |
| **Housing material** | Sheet steel, hot-galvanised |
| **Motor suspension** | Motor anti-vibration mounted on one side via brackets |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP54 |
| **Insulation class** | "B" |
| **Humidity (F) / environmental protection class (H)** | H1 |
| **Max. permissible ambient motor temp. (transp./ storage)** | +80 °C |
| **Min. permissible ambient motor temp. (transp./storage)** | -40 °C |
| **Mounting position** | Shaft horizontal |
| **Condensation drainage holes** | None |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - PFC, passive<br>- Control input 0-10 VDC / PWM<br>- Output 10 VDC, max. 10 mA<br>- Alarm relay<br>- Line undervoltage / phase failure detection<br>- Motor current limit<br>- Over-temperature protected electronics / motor<br>- Soft start |
| **EMC interference immunity** | Acc. to EN 61000-6-2 (industrial environment) |
| **EMC harmonics** | Acc. to EN 61000-3-2/3 |
| **EMC interference emission** | Acc. to EN 61000-6-3 (household environment) |
| **Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)** | <= 3.5 mA |
| **Motor protection** | Thermal overload protector (TOP) wired internally |
| **Cable exit** | Variable |
| **Protection class** | I (if protective earth is connected by customer) |
| **Product conforming to standard** | CE |
| **Approval** | CCC; EAC |



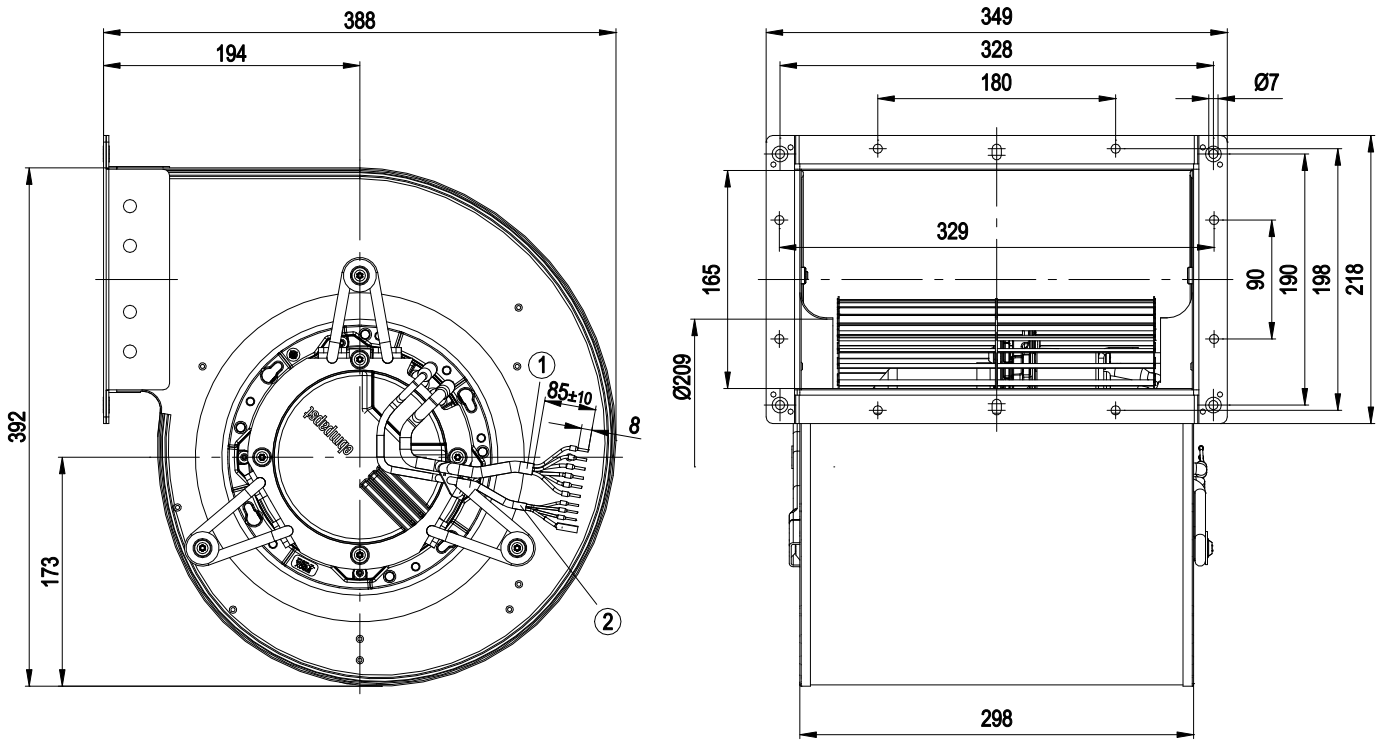
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## Product drawing




Cable length from electronics enclosure: 800+20 mm

| | |
|---|---|
| 1 | Connection line AWG18, 6x crimped core-end sleeves |
| 2 | Connection line AWG22, 3 x crimped core-end sleeves |



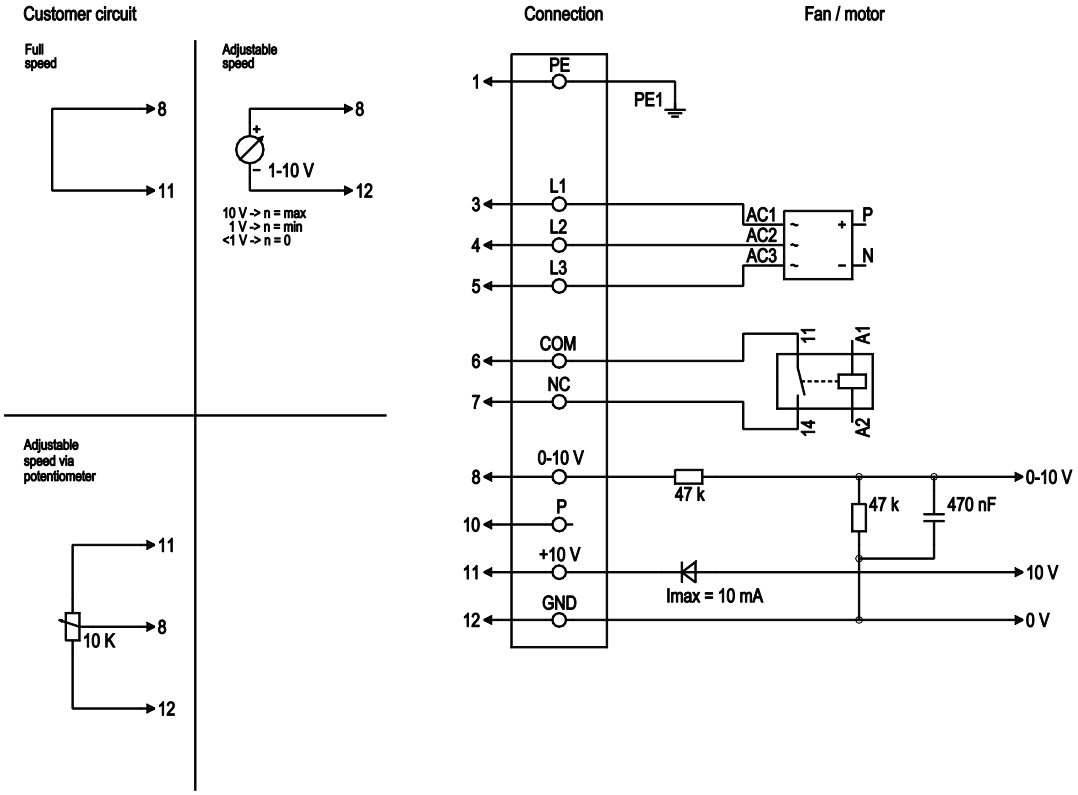
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## Connection screen




| No. | Conn. | Designation | Colour | Function / assignment |
|---|---|---|---|---|
| 1 | 1 | PE | green/yellow | Ground wire |
| 1 | 3 | L1 | black | Supply voltage, 50/60 Hz |
| 1 | 4 | L2 | black | Supply voltage, 50/60 Hz |
| 1 | 5 | L3 | black | Supply voltage, 50/60 Hz |
| 1 | 6 | COM | white 1 | Floating status message contact, normally closed connection (2 A, max. 250 VAC, min. 10 mA, AC1) |
| 1 | 7 | NC | white 2 | Floating status message contact, normally closed connection |
| 2 | 8 | 0-10 V | yellow | Control input, set value 0-10 VDC, impedance 100 kΩ, SELV |
| 2 | 10 | P | orange | Do not use |
| 2 | 11 | +10 V | red | Voltage output 10 VDC (+/-3%), max. 10 mA, supply voltage for external devices (e.g. potentiometer), SELV |
| 2 | 12 | GND | blue | Reference mass for control interface, SELV |



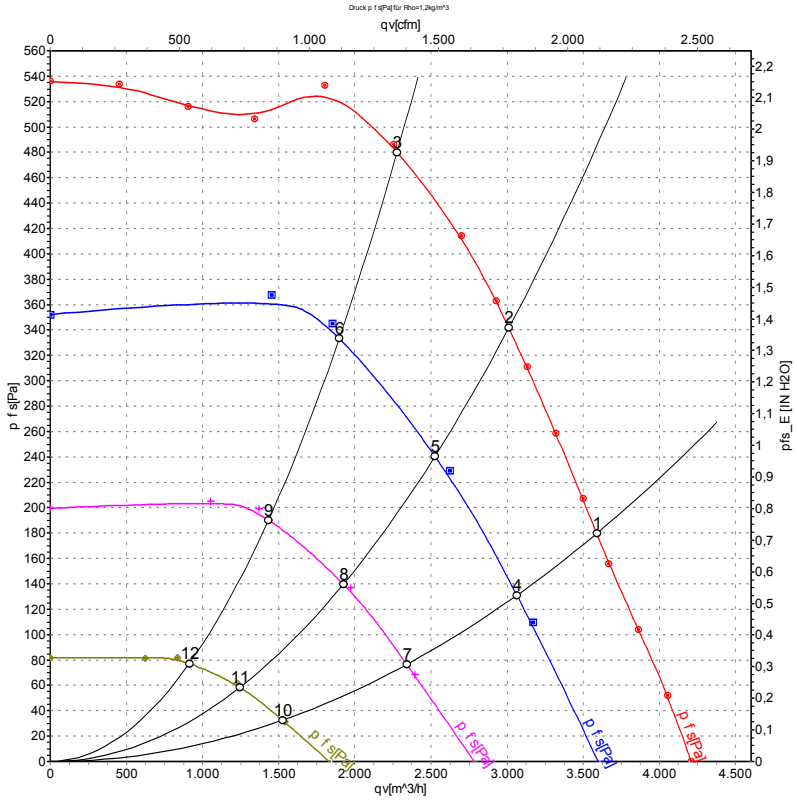
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## Charts: Air flow 50 Hz




Measurement: LU-108913-1
Measurement: LU-109037-1
Measurement: LU-109038-1
Measurement: LU-109039-1

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 | $LpA_{in}$ | $LwA_{in}$ | $LwA_{out}$ | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | dB(A) | $m^3/h$ | Pa | cfm | in. wg |
| 1 | 400 | 50 | 1500 | 1000 | 1.70 | 78 | 86 | 88 | 3590 | 180 | 2110 | 0.72 |
| 2 | 400 | 50 | 1565 | 883 | 1.41 | 75 | 83 | 85 | 3010 | 340 | 1770 | 1.36 |
| 3 | 400 | 50 | 1630 | 708 | 1.16 | 73 | 81 | 82 | 2275 | 480 | 1340 | 1.93 |
| 4 | 400 | 50 | 1280 | 603 | 1.02 | 73 | 82 | 83 | 3065 | 132 | 1805 | 0.53 |
| 5 | 400 | 50 | 1315 | 507 | 0.90 | 70 | 79 | 81 | 2525 | 244 | 1485 | 0.98 |
| 6 | 400 | 50 | 1360 | 402 | 0.76 | 68 | 76 | 78 | 1895 | 338 | 1115 | 1.36 |
| 7 | 400 | 50 | 985 | 288 | 0.58 | 67 | 76 | 77 | 2340 | 77 | 1380 | 0.31 |
| 8 | 400 | 50 | 1010 | 242 | 0.50 | 64 | 72 | 73 | 1925 | 142 | 1135 | 0.57 |
| 9 | 400 | 50 | 1035 | 187 | 0.40 | 60 | 69 | 71 | 1435 | 193 | 845 | 0.77 |
| 10 | 400 | 50 | 650 | 92 | 0.24 | 56 | 64 | 65 | 1525 | 33 | 900 | 0.13 |
| 11 | 400 | 50 | 655 | 81 | 0.21 | 52 | 61 | 62 | 1245 | 60 | 730 | 0.24 |
| 12 | 400 | 50 | 665 | 66 | 0.19 | 48 | 58 | 59 | 910 | 78 | 535 | 0.31 |

U = Supply voltage · f = Frequency · n = Speed (rpm) · $P_{ed}$ = Power input · I = Current draw · $LpA_{in}$ = Sound pressure level inlet side · $LwA_{in}$ = Sound power level inlet side · $LwA_{out}$ = Sound power level outlet side
$q_V$ = Air flow · $p_{fs}$ = Pressure increase



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