**R3G175-AF01-02**

# EC centrifugal fan

backward curved, single inlet



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## Nominal data

| | |
|---|---|
| **Type** | **R3G175-AF01-02** |
| **Motor** | **M3G055-CF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Frequency | Hz | 50/60 |
| Type of data definition | | fa |
| Speed (rpm) | $min^{-1}$ | 4070 |
| Power input | W | 78 |
| Current draw | A | 0.6 |
| Min. ambient temperature | °C | -30 |
| Max. ambient temperature | °C | 60 |

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

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## Technical features

| | |
|---|---|
| **Mass** | 1.3 kg |
| **Size** | 175 mm |
| **Surface of rotor** | Thick layer passivated |
| **Material of electronics housing** | Die-cast aluminium |
| **Material of impeller** | PA plastic |
| **Number of blades** | 7 |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 44 |
| **Insulation class** | "B" |
| **Humidity (F)/environmental protection class (H)** | 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** | Rotor-side |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Output 10 VDC, max. 1.1 mA<br>- Tach output<br>- Motor current limit<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Control interface with SELV potential safely disconnected from the mains<br>- Over-temperature protected motor |
| **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 |

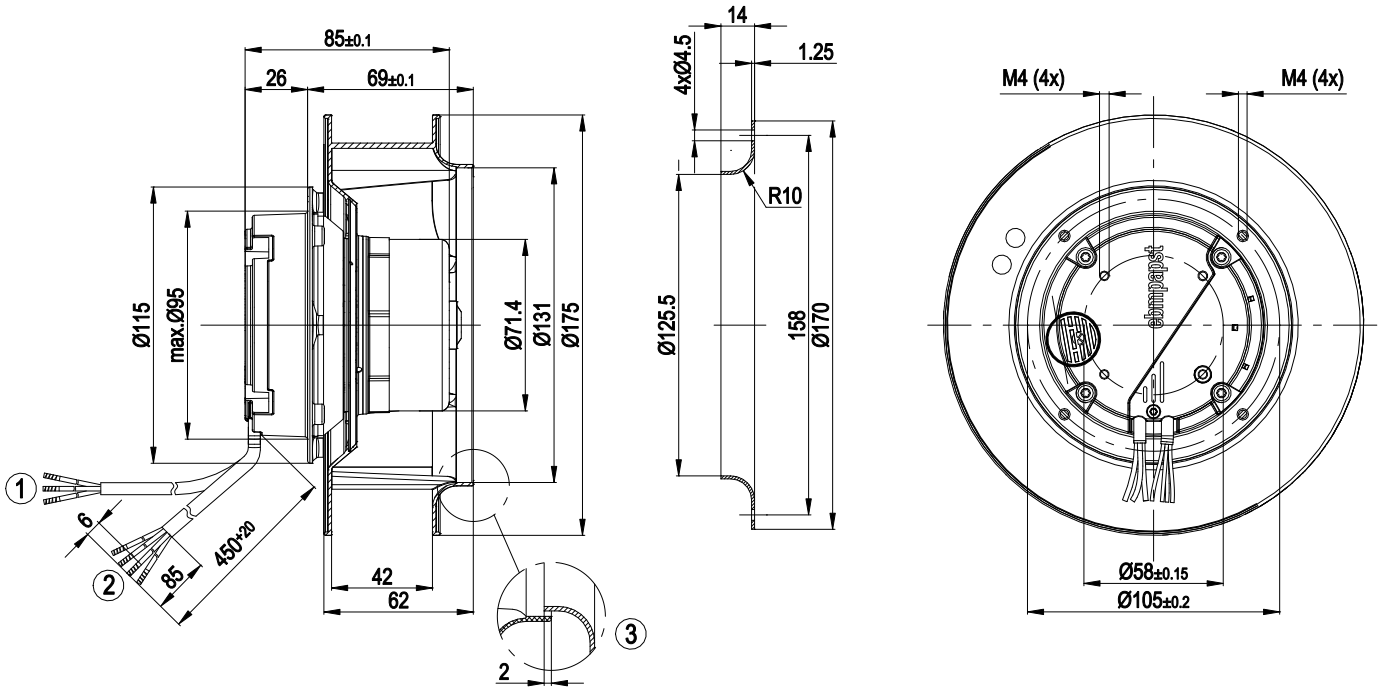


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## Product drawing




| | |
|---|---|
| 1 | Connection line VDE, 3x brass lead tips crimped |
| 2 | Connection line VDE, 4x brass lead tips crimped |
| 3 | Accessory part: Inlet nozzle 09576-2-4013 (not included in the standard scope of delivery) |

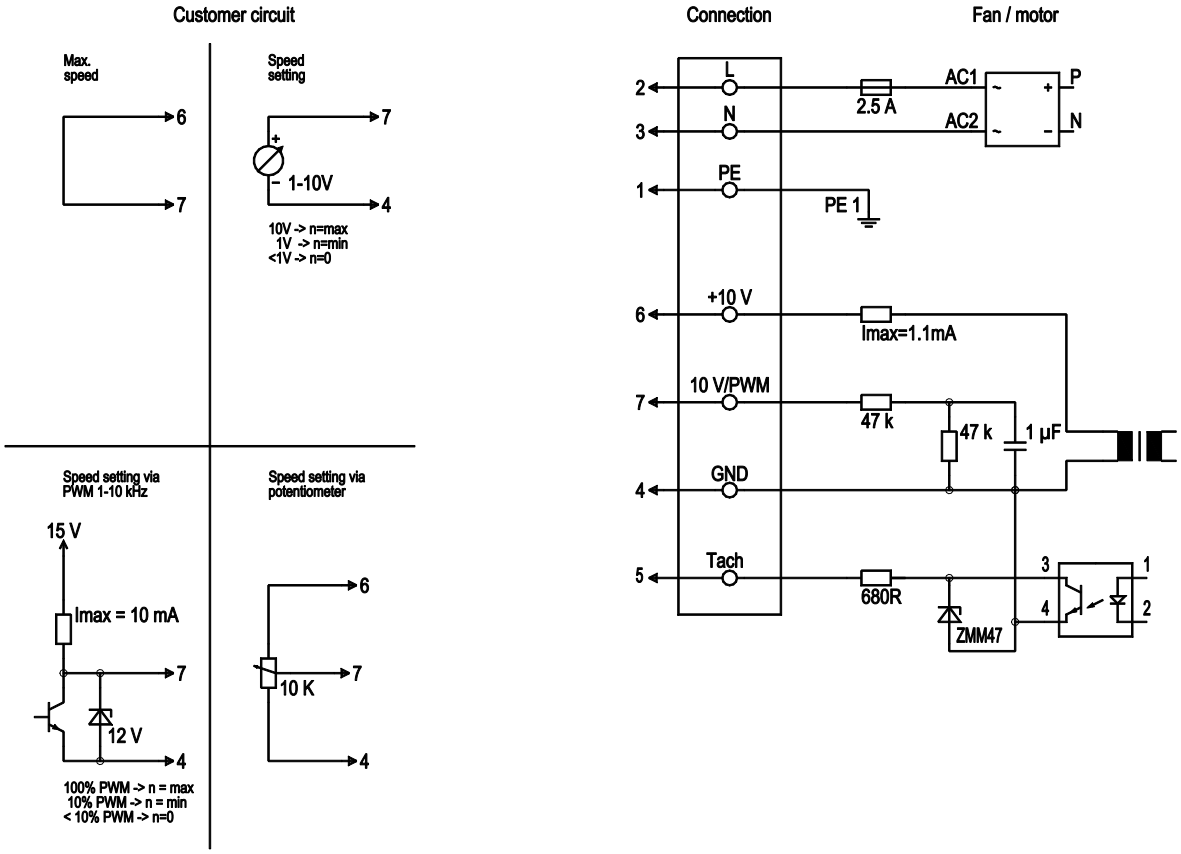


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## Connection screen




| No. | Conn. | Designation | Colour | Function / assignment |
|---|---|---|---|---|
| | 2 | L | brown | Power supply 230 VAC, 50-60 Hz, see type plate for voltage range |
| | 3 | N | blue | Neutral conductor |
| | 1 | PE | green/yellow | Protective earth |
| | 7 | 0-10 V PWM | yellow | Control input 0 - 10 V or PWM, electrically isolated |
| | 5 | Tach | white | Tach output: Open Collector, 1 pulse per revolution, electrically isolated |
| | 6 | 10V / max. 1.1 mA | red | Voltage output 10V / 1.1mA, electrically isolated, not short-circuit-proof |
| | 4 | GND | blue | GND - Connection for control interface |

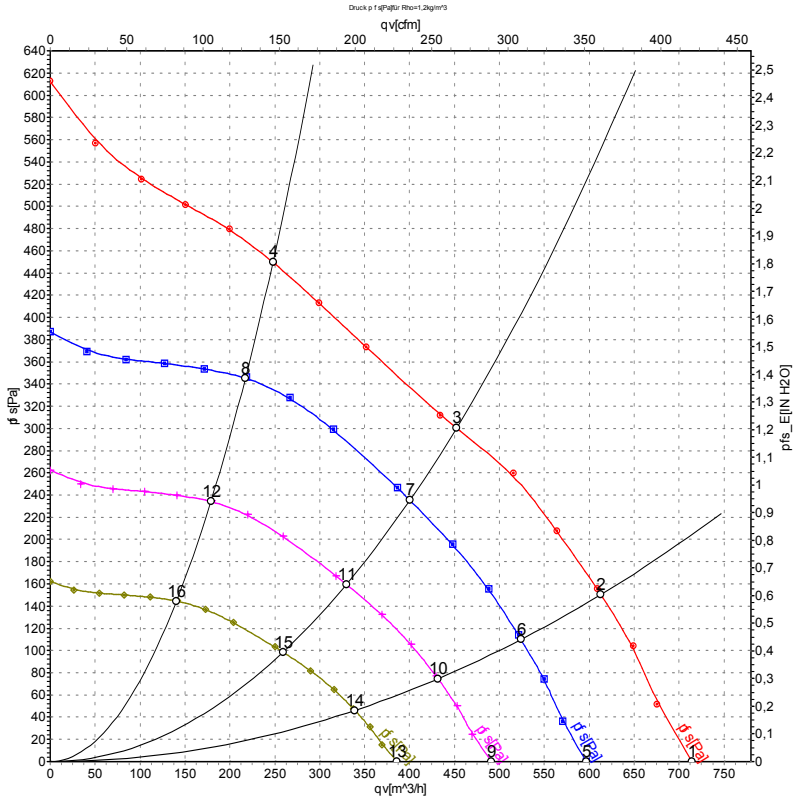


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## Charts: Air flow 50 Hz




Measurement: LU-70125-1

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 | 4070 | 78 | 0.60 | 715 | 0 | 420 | 0.00 |
| 2 | 230 | 50 | 3975 | 83 | 0.63 | 615 | 150 | 360 | 0.60 |
| 3 | 230 | 50 | 3840 | 86 | 0.65 | 450 | 300 | 265 | 1.20 |
| 4 | 230 | 50 | 3875 | 85 | 0.65 | 250 | 450 | 145 | 1.81 |
| 5 | 230 | 50 | 3400 | 45 | 0.34 | 595 | 0 | 350 | 0.00 |
| 6 | 230 | 50 | 3400 | 52 | 0.39 | 525 | 110 | 310 | 0.44 |
| 7 | 230 | 50 | 3400 | 59 | 0.45 | 400 | 236 | 235 | 0.95 |
| 8 | 230 | 50 | 3400 | 57 | 0.44 | 215 | 346 | 130 | 1.39 |
| 9 | 230 | 50 | 2800 | 25 | 0.19 | 490 | 0 | 290 | 0.00 |
| 10 | 230 | 50 | 2800 | 29 | 0.22 | 430 | 75 | 255 | 0.30 |
| 11 | 230 | 50 | 2800 | 33 | 0.25 | 330 | 160 | 195 | 0.64 |
| 12 | 230 | 50 | 2800 | 32 | 0.24 | 180 | 235 | 105 | 0.94 |
| 13 | 230 | 50 | 2200 | 12 | 0.09 | 385 | 0 | 225 | 0.00 |
| 14 | 230 | 50 | 2200 | 14 | 0.11 | 340 | 46 | 200 | 0.18 |
| 15 | 230 | 50 | 2200 | 16 | 0.12 | 260 | 99 | 150 | 0.40 |
| 16 | 230 | 50 | 2200 | 16 | 0.12 | 140 | 145 | 85 | 0.58 |

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



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