**R3G250-AH52-01**

# EC centrifugal fan

backward-curved, single-intake

**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
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

## Nominal data

| | |
|---|---|
| **Type** | **R3G250-AH52-01** |
| **Motor** | **M3G074-CF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 277 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | $min^{-1}$ | 2600 |
| Power consumption | W | 160 |
| Current draw | A | 1.2 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 60 |

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

| | | Actual | Req. 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 47.1 | 43.1 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 66 | 62 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power consumption $P_{ed}$ | kW | 0.16 |
| 09 Air flow $q_v$ | $m^3/h$ | 690 |
| 09 Pressure increase $p_{fs}$ | Pa | 350 |
| 10 Speed (rpm) n | $min^{-1}$ | 2595 |
| 11 Specific ratio* | | 1.00 |

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 Pa

LU-74719

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## Technical description

| | |
|---|---|
| **Weight** | 2.4 kg |
| **Fan size** | 250 mm |
| **Rotor surface** | Thick-film passivated |
| **Electronics housing material** | Die-cast aluminum |
| **Impeller material** | PA66 plastic, glass-fiber reinforced |
| **Number of blades** | 11 |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | IP44; installation- and position-dependent |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | F3-1 |
| **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 top; rotor on bottom on request |
| **Condensation drainage holes** | None |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Output 10 VDC, max. 1.1 mA<br>- Tach output<br>- Motor current limitation<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Thermal overload protection for electronics/motor |
| **EMC immunity to interference** | According to EN 61000-6-2 (industrial environment) |
| **EMC interference emission** | According to EN 61000-6-4 (industrial environment) |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | <= 3.5 mA |
| **Motor protection** | Thermal overload protector (TOP) internally connected |
| **With cable** | Variable |
| **Protection class** | I (with customer connection of protective earth) |
| **Conformity with standards** | EN 60335-1; EN 60950-1; EN 61800-5-1; CE |
| **Approval** | CCC; EAC; UL1004-3 +60730; C22.2 No.77 + CAN/CSA-E60730-1 |

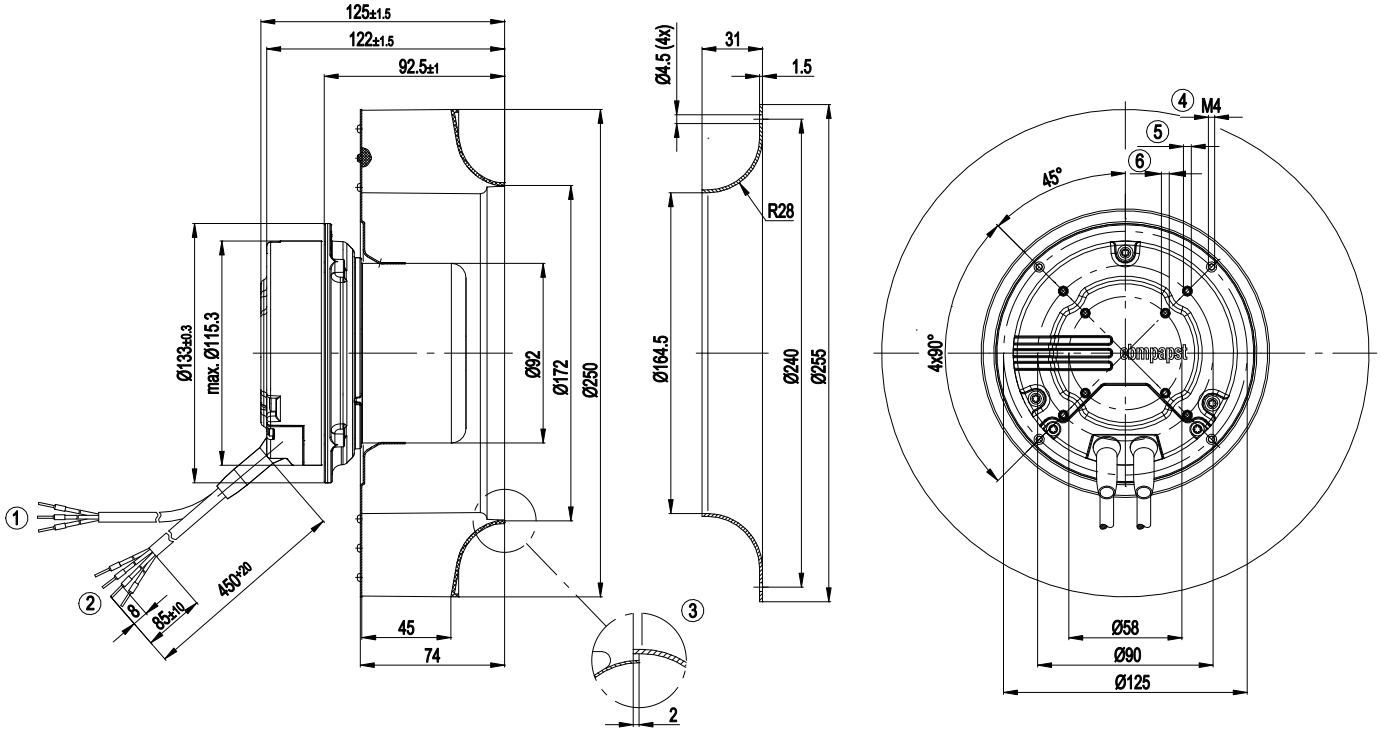


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## Product drawing




| | |
|---|---|
| 1 | Cable AWG18, 3x crimped ferrules |
| 2 | Cable AWG22, 4x crimped ferrules |
| 3 | Accessory part: inlet ring 96359-2-4013 not included in scope of delivery, other inlet rings on request |
| 4 | Clearance for screw 8-10 mm, tightening torque 2.5 ± 0.2 Nm; gluing the screws is recommended |
| 5 | Tapping hole ready for self-tapping M4 screw, max. clearance for screw 6 mm |
| 6 | Tapping hole ready for self-tapping M4 screw, max. clearance for screw 8 mm |

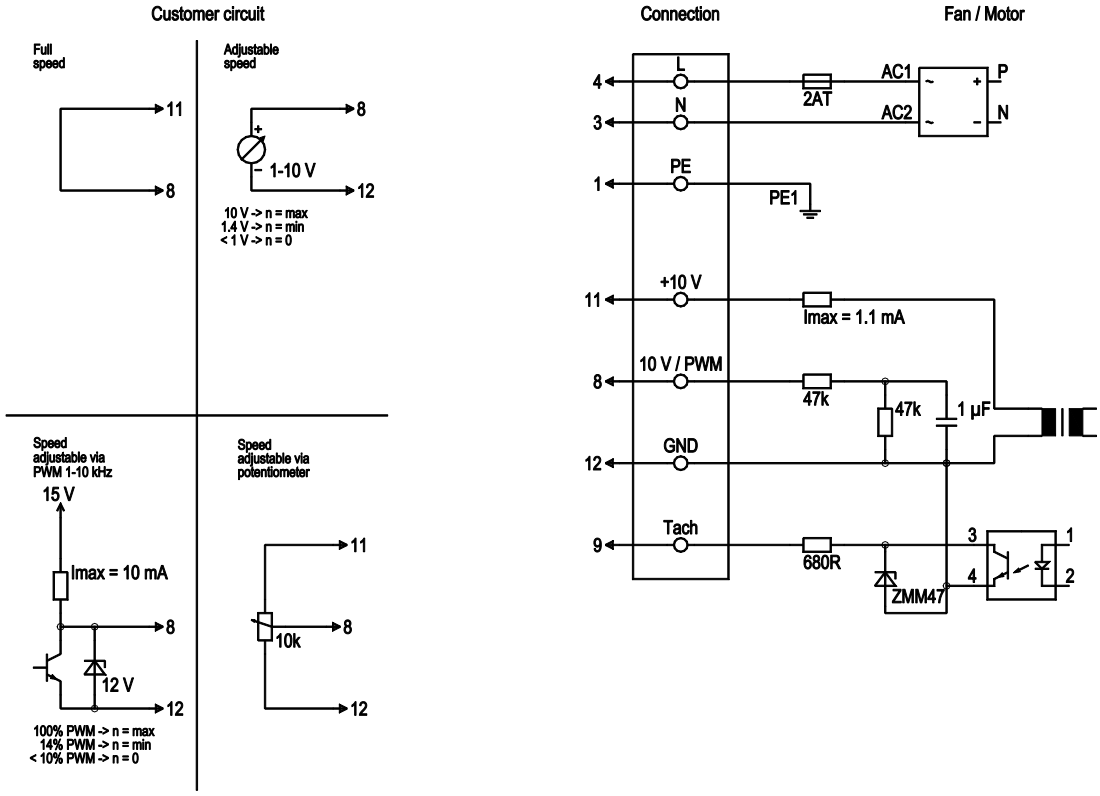


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## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| | 4 | L | black | Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range |
| | 3 | N | blue | Neutral conductor |
| | 1 | PE | green/yellow | Protective earth |
| | 8 | 0-10 V PWM | yellow | Control input 0-10 V or PWM, electrically isolated |
| | 9 | Tach | white | Tach output: open collector, 1 pulse per revolution, electrically isolated |
| | 11 | 10V / max 1.1 mA | red | Voltage output 10 V/max. 1.1 mA, electrically isolated |
| | 12 | GND | blue | GND connection for control interface |

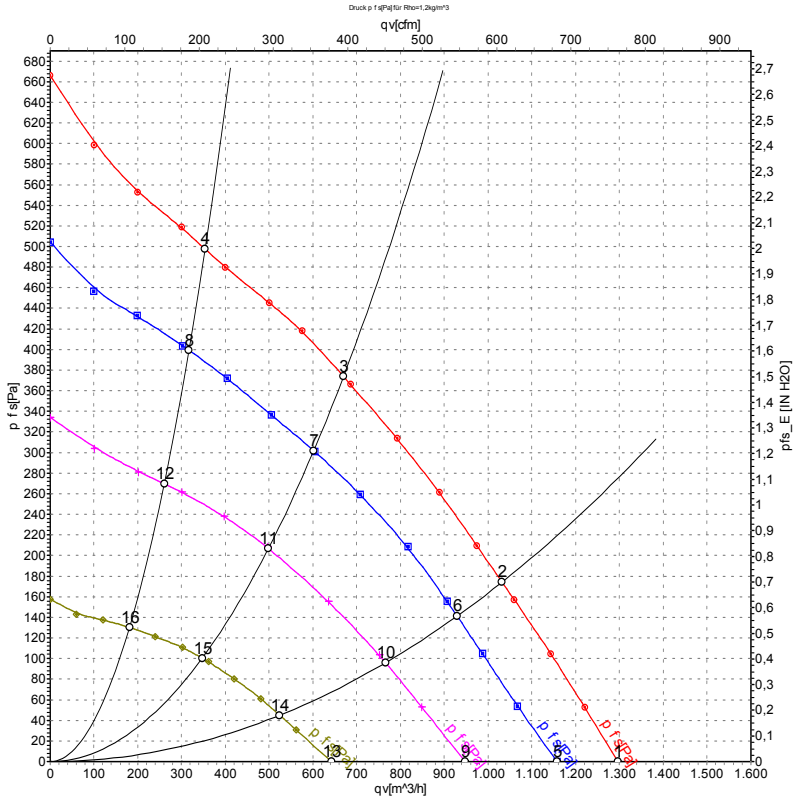


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## Curves: Air performance 50 Hz




Measurement: LU-74719-1
Measurement: LU-67431-1
Measurement: LU-67432-1
Measurement: LU-67433-1

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 | $P_{ed}$ | I | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa | cfm | inH2O |
| 1 | 230 | 50 | 2770 | 123 | 0.90 | 1295 | 0 | 765 | 0.00 |
| 2 | 230 | 50 | 2660 | 148 | 1.08 | 1030 | 175 | 605 | 0.70 |
| 3 | 230 | 50 | 2600 | 160 | 1.20 | 670 | 375 | 395 | 1.51 |
| 4 | 230 | 50 | 2680 | 147 | 1.08 | 355 | 500 | 210 | 2.01 |
| 5 | 230 | 50 | 2455 | 88 | 0.66 | 1155 | 0 | 680 | 0.00 |
| 6 | 230 | 50 | 2380 | 106 | 0.81 | 930 | 141 | 545 | 0.57 |
| 7 | 230 | 50 | 2335 | 116 | 0.87 | 600 | 302 | 355 | 1.21 |
| 8 | 230 | 50 | 2400 | 105 | 0.79 | 315 | 399 | 185 | 1.60 |
| 9 | 230 | 50 | 2000 | 53 | 0.40 | 945 | 0 | 555 | 0.00 |
| 10 | 230 | 50 | 1960 | 62 | 0.47 | 765 | 96 | 450 | 0.39 |
| 11 | 230 | 50 | 1935 | 69 | 0.51 | 500 | 208 | 295 | 0.84 |
| 12 | 230 | 50 | 1965 | 61 | 0.46 | 260 | 270 | 155 | 1.08 |
| 13 | 230 | 50 | 1380 | 22 | 0.17 | 640 | 0 | 380 | 0.00 |
| 14 | 230 | 50 | 1365 | 25 | 0.20 | 525 | 45 | 310 | 0.18 |
| 15 | 230 | 50 | 1350 | 28 | 0.22 | 345 | 100 | 205 | 0.40 |
| 16 | 230 | 50 | 1360 | 25 | 0.19 | 180 | 130 | 105 | 0.52 |

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



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