# EC centrifugal fan - RadiCal

backward-curved, single-intake

with housing (flange)



## Nominal data

| | |
|---|---|
| **Type** | **G3G160-RF31-03** |
| **Motor** | **M3G055-BD** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 240 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | $min^{-1}$ | 4300 |
| Power consumption | W | 85 |
| Current draw | A | 0.75 |
| Min. back pressure | Pa | 0 |
| Min. back pressure | in. wg | 0 |
| 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

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## Technical description

| | |
|---|---|
| **Weight** | 1.52 kg |
| **Size** | 160 mm |
| **Motor size** | 55 |
| **Rotor surface** | Thick-film passivated |
| **Impeller material** | PP plastic |
| **Housing material** | PP plastic |
| **Number of blades** | 7 |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | IP54 |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | H1+ = Moist – temporary or constantly high level of humidity + additional load |
| **Max. permitted ambient temp. for motor (transport/storage)** | + 80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | - 40 °C |
| **Installation position** | Any |
| **Condensation drainage holes** | None, open rotor |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing; (sealed, without air gap) |
| **Technical features** | - Output 10 VDC, max. 10 mA<br>- Tach output<br>- Power limiter<br>- Motor current limitation<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Control interface with SELV potential safely disconnected from the mains<br>- Overvoltage detection<br>- Thermal overload protection for electronics/motor<br>- Line undervoltage detection |
| **EMC immunity to interference** | According to EN 61000-6-2 (industrial environment) |
| **EMC circuit feedback** | According to EN 61000-3-2/3 |
| **EMC interference emission** | According to EN 61000-6-3 (household environment) |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | <= 3.5 mA |
| **Motor protection** | Electronic motor protection |
| **With cable** | Variable |
| **Protection class assignment** | I; If a protective earth is connected.<br>The built-in component has several local protection class assignments.<br>The final protection class is determined by the intended installation. |
| **Conformity with standards** | EN 60034-1; EN 60204-1; EN 60335-1; CE |
| **Comment on CE** | Ecodesign Directive 2009/125/EC + Fan Directive (EC) No. 327/2011 does not apply, as power consumption <125W. |

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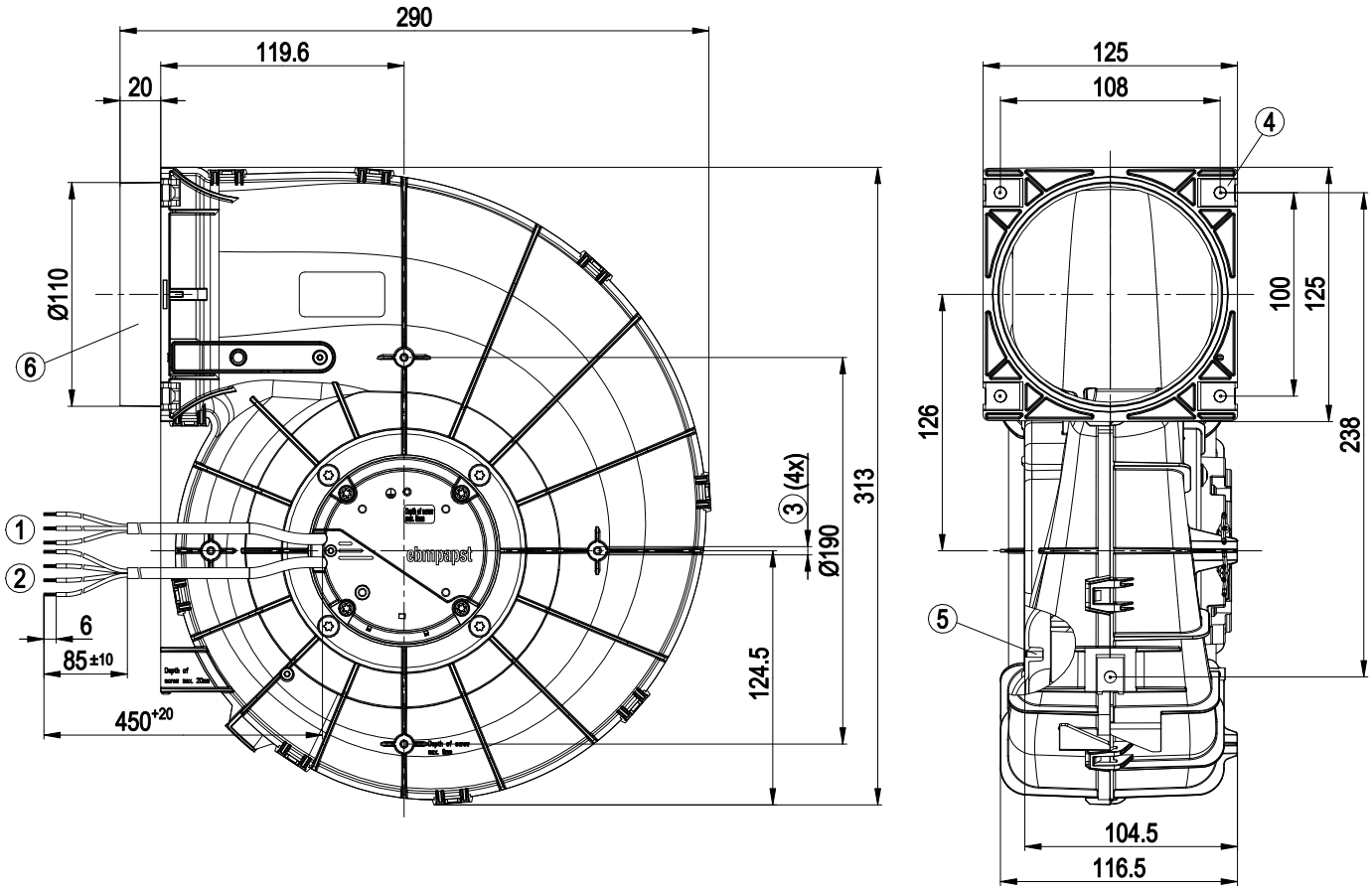
## Product drawing




| | |
|---|---|
| 1 | Cable PVC 3G 0.5 mm² |
| | 3x splice |
| 2 | Cable PVC 4x 0.25 mm² |
| | 4x splice |
| 3 | Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 9 mm, torque is to be determined on the basis of the screw. |
| 4 | 5x sheet metal nut for thread EN ISO 1478-ST4.8 (max. screw length 20 mm plus thickness of mounting material) |
| 5 | Screw-on domes are only permissible for Flowgrid! |
| 6 | Connecting sleeve not suitable for installation with pipe clamps |

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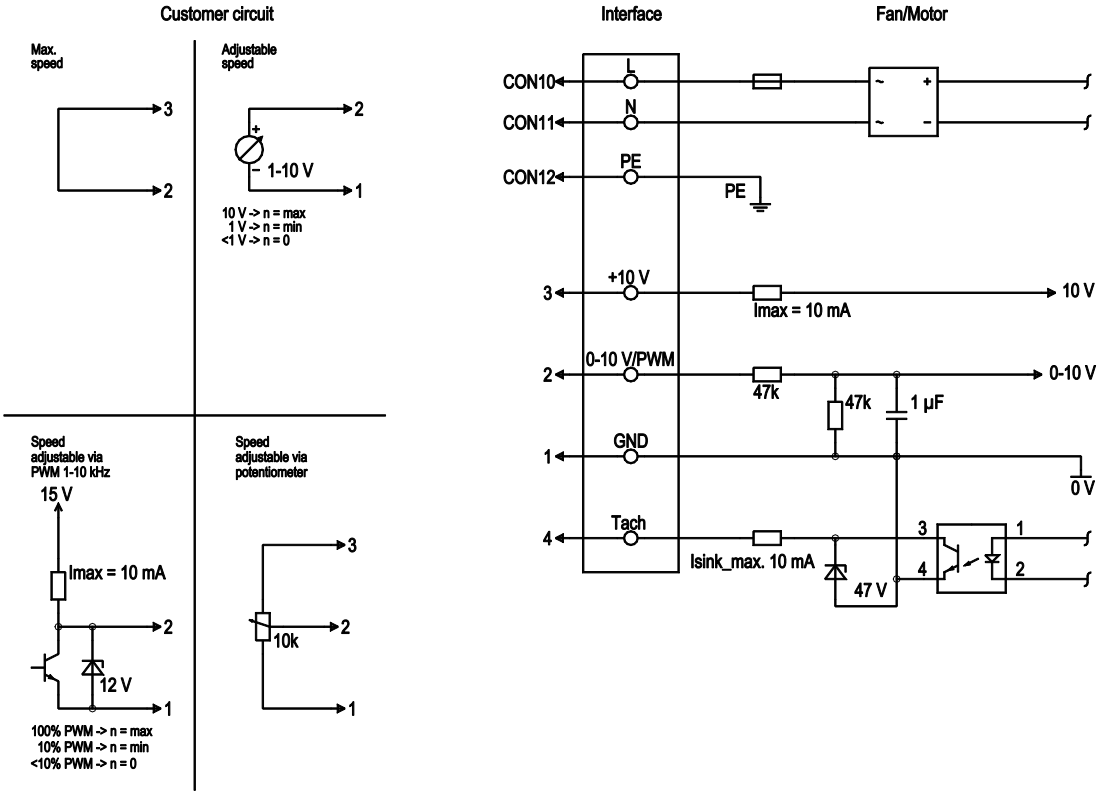
## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| | CON10 | L | brown | Supply connection, power supply, phase, see nameplate for voltage range |
| | CON11 | N | blue | Supply connection, power supply, neutral conductor, see nameplate for voltage range |
| | CON12 | PE | green/yellow | Ground connection |
| | 2 | 0- 10V PWM | yellow | 0-10 V / PWM control input, Ri=100 kΩ, SELV |
| | 4 | Tach | white | Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV |
| | 3 | +10 V | red | Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV |
| | 1 | GND | blue | Reference ground for control interface, SELV |

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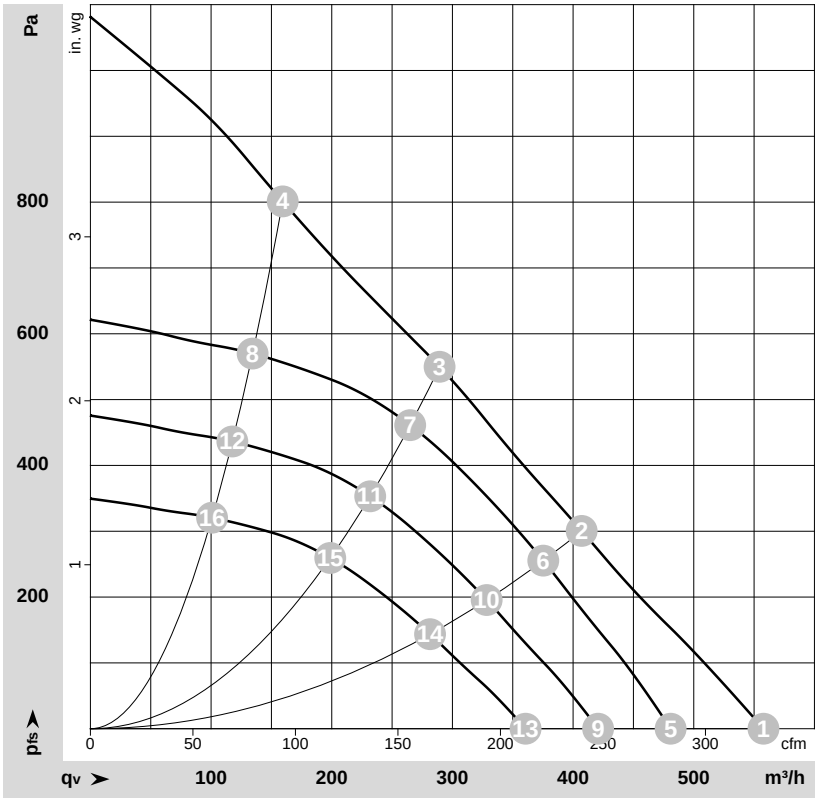
## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-196001-1
Date: 2026-07-15
Nozzle: 16000-1-2950

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

| | Wired | U | f | n | $P_{ed}$ | I | $LpA_{in}$ | $LwA_{in}$ | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa | cfm | in. wg |
| 1 | 1~ | 230 | 50 | 4640 | 85 | 0.75 | 71 | 78 | 560 | 0 | 330 | 0.00 |
| 2 | 1~ | 230 | 50 | 4300 | 85 | 0.75 | 64 | 70 | 405 | 300 | 240 | 1.20 |
| 3 | 1~ | 230 | 50 | 4365 | 85 | 0.75 | 64 | 71 | 290 | 550 | 170 | 2.21 |
| 4 | 1~ | 230 | 50 | 4735 | 85 | 0.75 | 70 | 77 | 160 | 800 | 95 | 3.21 |
| 5 | 1~ | 230 | 50 | 4000 | 56 | 0.47 | 67 | 74 | 480 | 0 | 285 | 0.00 |
| 6 | 1~ | 230 | 50 | 4000 | 67 | 0.57 | 62 | 68 | 375 | 256 | 220 | 1.03 |
| 7 | 1~ | 230 | 50 | 4000 | 66 | 0.57 | 62 | 69 | 265 | 462 | 155 | 1.85 |
| 8 | 1~ | 230 | 50 | 4000 | 52 | 0.45 | 66 | 72 | 135 | 571 | 80 | 2.29 |
| 9 | 1~ | 230 | 50 | 3500 | 37 | 0.32 | 64 | 71 | 420 | 0 | 250 | 0.00 |
| 10 | 1~ | 230 | 50 | 3500 | 45 | 0.38 | 59 | 65 | 330 | 196 | 195 | 0.79 |
| 11 | 1~ | 230 | 50 | 3500 | 44 | 0.38 | 58 | 66 | 230 | 354 | 135 | 1.42 |
| 12 | 1~ | 230 | 50 | 3500 | 35 | 0.30 | 62 | 69 | 120 | 437 | 70 | 1.75 |
| 13 | 1~ | 230 | 50 | 3000 | 23 | 0.20 | 60 | 67 | 360 | 0 | 210 | 0.00 |
| 14 | 1~ | 230 | 50 | 3000 | 28 | 0.24 | 55 | 61 | 280 | 144 | 165 | 0.58 |
| 15 | 1~ | 230 | 50 | 3000 | 28 | 0.24 | 55 | 62 | 200 | 260 | 115 | 1.04 |
| 16 | 1~ | 230 | 50 | 3000 | 22 | 0.19 | 58 | 65 | 100 | 321 | 60 | 1.29 |

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · $P_{ed}$ = Power consumption · I = Current draw · $LpA_{in}$ = Sound pressure level intake side · $LwA_{in}$ = Sound power level intake side
$q_V$ = Air flow · $p_{fs}$ = Pressure increase