**G3G190-RQ45-12**

# EC centrifugal fan - RadiCal

backward-curved, single-intake

with housing (flange)

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## Nominal data

| | |
|---|---|
| **Type** | **G3G190-RQ45-12** |
| **Motor** | **M3G055-CF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 240 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | $min^{-1}$ | 4150 |
| Power consumption | W | 170 |
| Current draw | A | 1.35 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 50 |

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 (EN 17166)

| | | Actual | Req. 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 64.8 | 42.5 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 83.3 | 61 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power consumption $P_{ed}$ | kW | 0.17 |
| 09 Air flow $q_v$ | $m^3/h$ | 465 |
| 09 Pressure increase $p_{fs}$ | Pa | 763 |
| 10 Speed (rpm) n | $min^{-1}$ | 4215 |
| 11 Specific ratio* | | 1.01 |

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-188479

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## Technical description

| | |
|---|---|
| **Weight** | 2.3 kg |
| **Size** | 190 mm |
| **Motor size** | 55 |
| **Rotor surface** | Thick-film passivated |
| **Impeller material** | PA plastic |
| **Housing material** | PP plastic |
| **Number of blades** | 7 |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | Motor IP54, electronics IP20 |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | H0+ |
| **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 |
| **Technical features** | - Power limiter<br>- Motor current limitation<br>- RS-485 MODBUS-RTU<br>- Soft start<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 |
| **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** | I (with customer connection of protective earth) |
| **Conformity with standards** | EN 60335-1; CE |



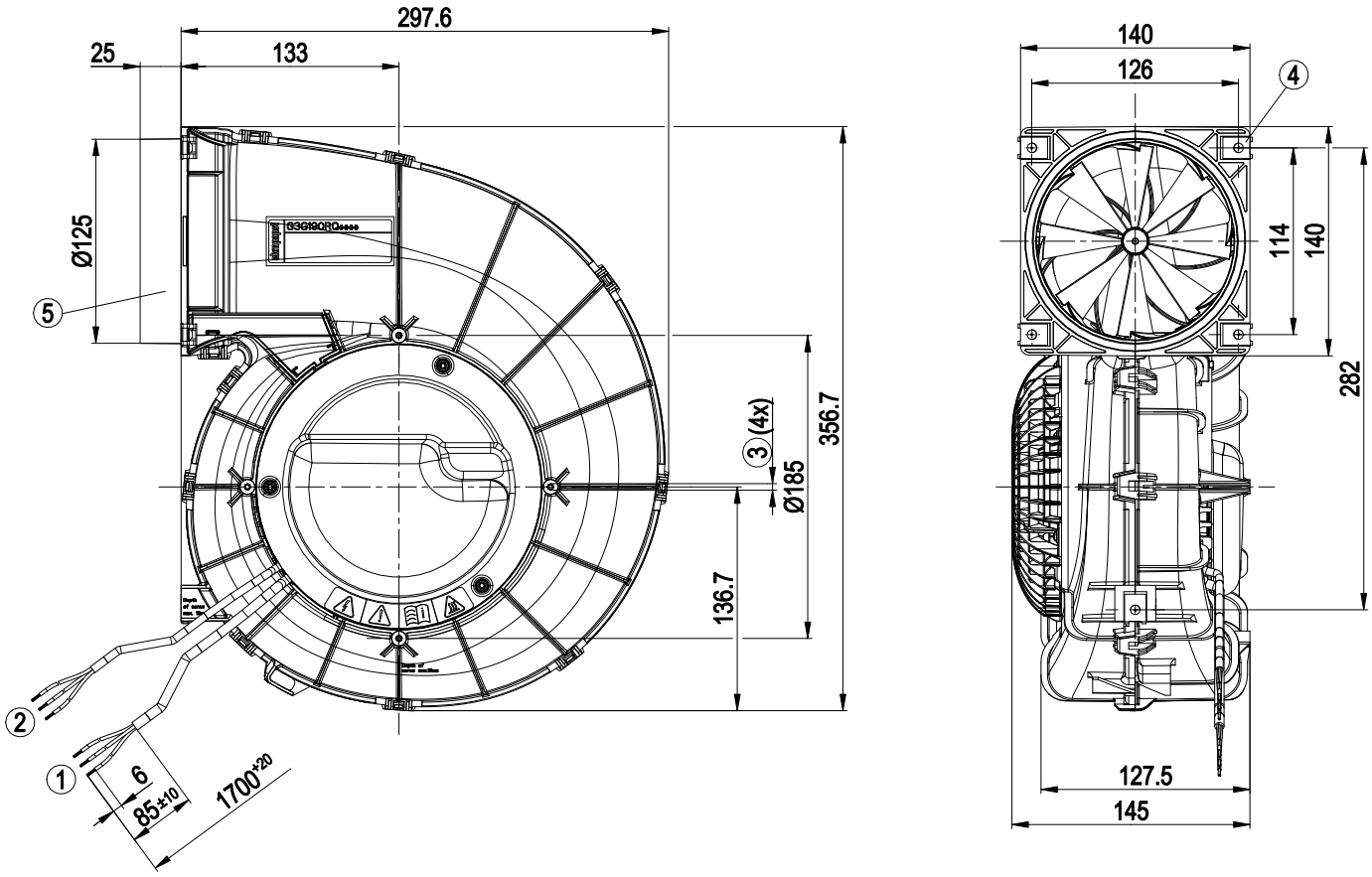
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## Product drawing




| | |
|---|---|
| 1 | Cable PVC AWG20 |
| | 3x splice |
| 2 | Cable PVC AWG22 |
| | 3x splice |
| 3 | Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, clearance for screw max. 15 mm. The 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 16 mm plus thickness of mounting material) |
| 5 | Connecting sleeve not suitable for installation with pipe clamps |



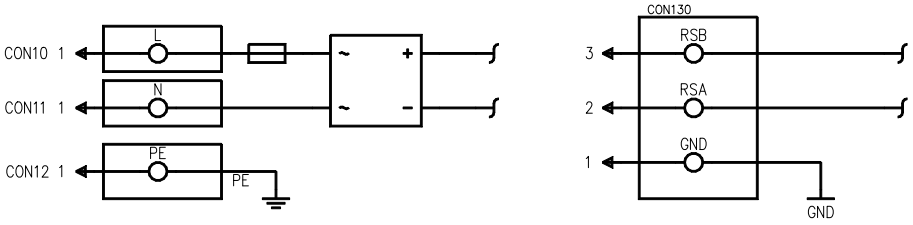
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## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| CON10 | 1 | L | black | Power supply, phase, see nameplate for voltage range |
| CON11 | 1 | N | blue | Power supply, neutral conductor, see nameplate for voltage range |
| CON12 | 1 | PE | green/yellow | Protective earth |
| CON130 | 3 | RSB | brown | RS485 interface for MODBUS, RSB; SELV |
| CON130 | 2 | RSA | white | RS485 interface for MODBUS, RSA; SELV |
| CON130 | 1 | GND | blue | Reference ground for control interface, SELV |



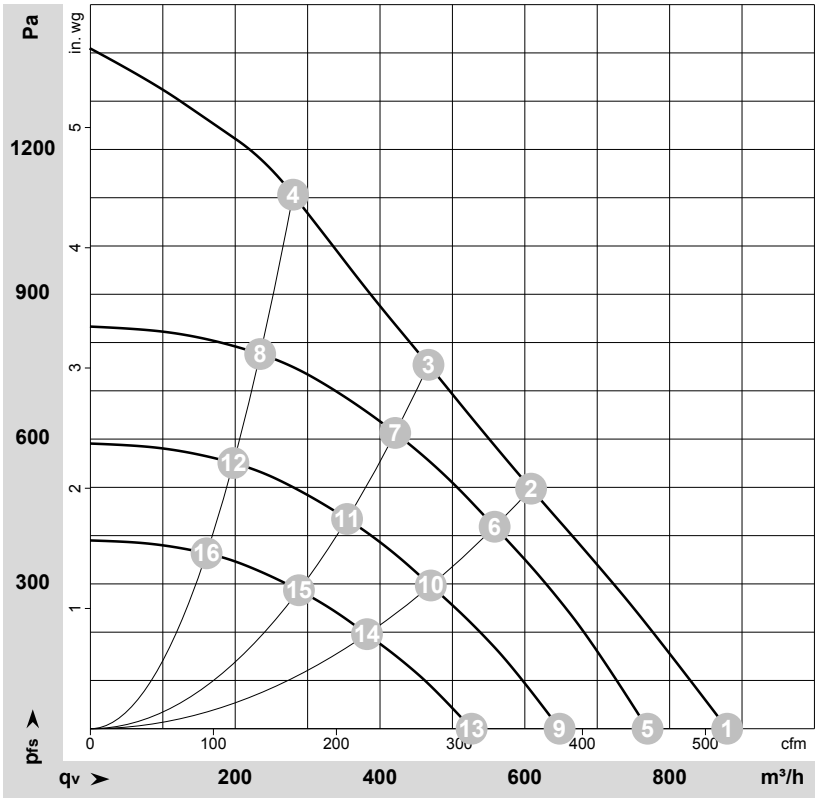
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## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-188479-1

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

| | 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 | 4345 | 170 | 1.35 | 76 | 82 | 880 | 0 | 520 | 0.00 |
| 2 | 1~ | 230 | 50 | 4150 | 170 | 1.35 | 68 | 75 | 610 | 500 | 360 | 2.01 |
| 3 | 1~ | 230 | 50 | 4210 | 170 | 1.35 | 68 | 74 | 465 | 750 | 275 | 3.01 |
| 4 | 1~ | 230 | 50 | 4535 | 170 | 1.35 | 73 | 79 | 280 | 1100 | 165 | 4.42 |
| 5 | 1~ | 230 | 50 | 3800 | 115 | 0.92 | 72 | 78 | 770 | 0 | 455 | 0.00 |
| 6 | 1~ | 230 | 50 | 3800 | 133 | 1.06 | 66 | 72 | 560 | 419 | 330 | 1.68 |
| 7 | 1~ | 230 | 50 | 3800 | 126 | 1.01 | 65 | 71 | 420 | 614 | 250 | 2.46 |
| 8 | 1~ | 230 | 50 | 3800 | 101 | 0.80 | 68 | 74 | 235 | 776 | 140 | 3.12 |
| 9 | 1~ | 230 | 50 | 3200 | 69 | 0.55 | 68 | 74 | 650 | 0 | 380 | 0.00 |
| 10 | 1~ | 230 | 50 | 3200 | 80 | 0.64 | 62 | 68 | 470 | 297 | 275 | 1.19 |
| 11 | 1~ | 230 | 50 | 3200 | 75 | 0.60 | 60 | 67 | 355 | 436 | 210 | 1.75 |
| 12 | 1~ | 230 | 50 | 3200 | 60 | 0.48 | 64 | 70 | 195 | 550 | 115 | 2.21 |
| 13 | 1~ | 230 | 50 | 2600 | 37 | 0.29 | 63 | 69 | 525 | 0 | 310 | 0.00 |
| 14 | 1~ | 230 | 50 | 2600 | 43 | 0.34 | 56 | 63 | 380 | 196 | 225 | 0.79 |
| 15 | 1~ | 230 | 50 | 2600 | 40 | 0.32 | 55 | 61 | 290 | 288 | 170 | 1.16 |
| 16 | 1~ | 230 | 50 | 2600 | 32 | 0.26 | 59 | 65 | 160 | 363 | 95 | 1.46 |

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



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