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## Nominal data

|                          |                   |            |
|--------------------------|-------------------|------------|
| Type                     | R3G400-RP45-61    |            |
| Motor                    | M3G084-FA         |            |
| Phase                    |                   | 1~         |
| Nominal voltage          | VAC               | 230        |
| Nominal voltage range    | VAC               | 200 .. 277 |
| Frequency                | Hz                | 50/60      |
| Method of obtaining data |                   | ml         |
| Speed (rpm)              | min <sup>-1</sup> | 1300       |
| Power consumption        | W                 | 330        |
| Current draw             | A                 | 1.5        |
| Min. ambient temperature | °C                | -25        |
| Max. ambient temperature | °C                | 40         |

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment

Subject to change

## Data according to ErP Directive

|                                   |   | Actual | Req. 2015 |
|-----------------------------------|---|--------|-----------|
| 01 Overall efficiency $\eta_{es}$ | % | 64.3   | 46.3      |
| 02 Measurement category           |   | A      |           |
| 03 Efficiency category            |   | Static |           |
| 04 Efficiency grade N             |   | 80     | 62        |
| 05 Variable speed drive           |   | Yes    |           |

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

|                               |                   |      |
|-------------------------------|-------------------|------|
| 09 Power consumption $P_{ed}$ | kW                | 0.32 |
| 09 Air flow $q_v$             | m <sup>3</sup> /h | 2805 |
| 09 Pressure increase $p_{fs}$ | Pa                | 242  |
| 10 Speed (rpm) n              | min <sup>-1</sup> | 1270 |
| 11 Specific ratio*            |                   | 1.00 |

\* Specific ratio =  $1 + p_{fs} / 100\,000\text{ Pa}$ 

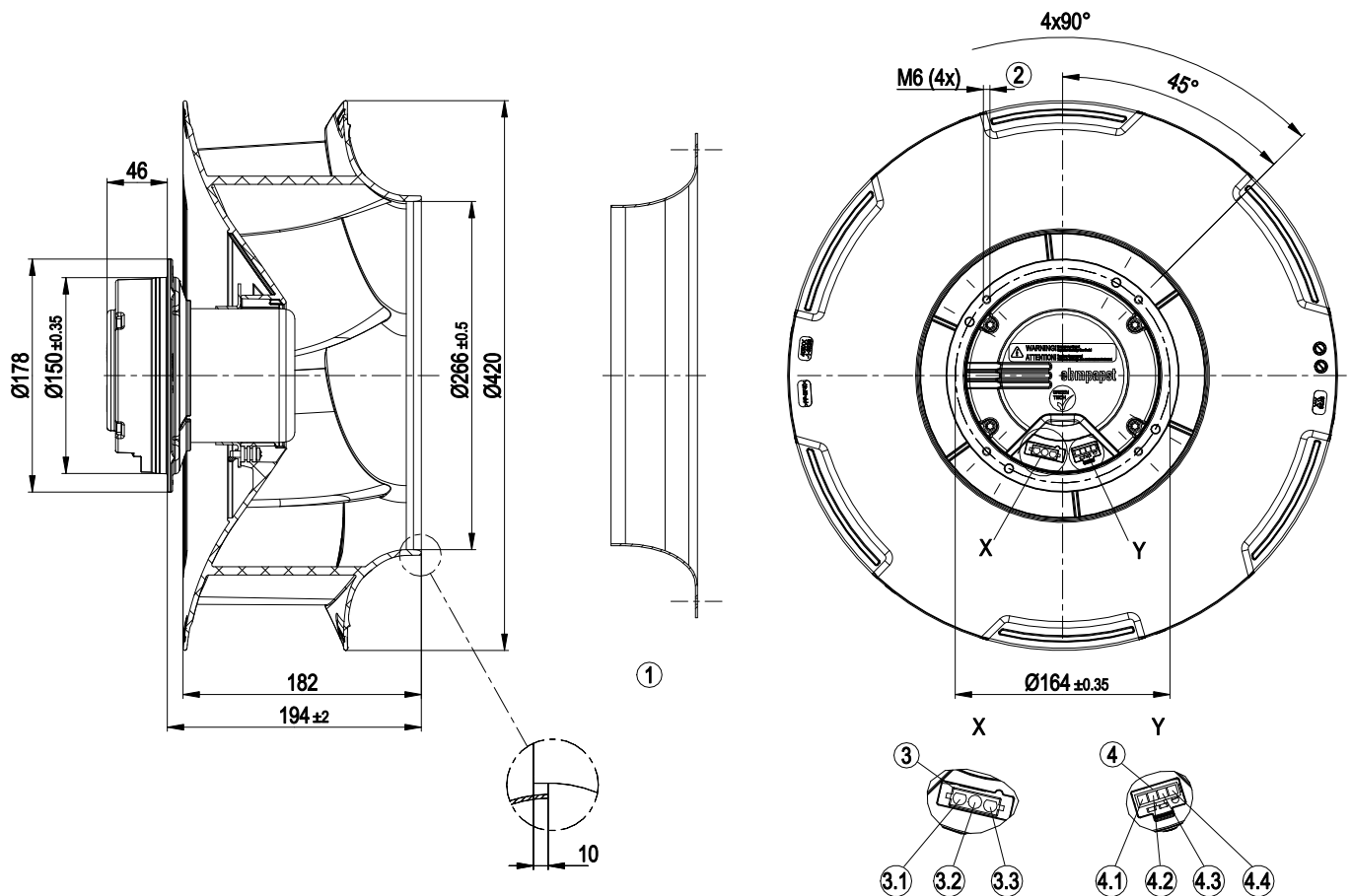
LU-140434



## Technical description

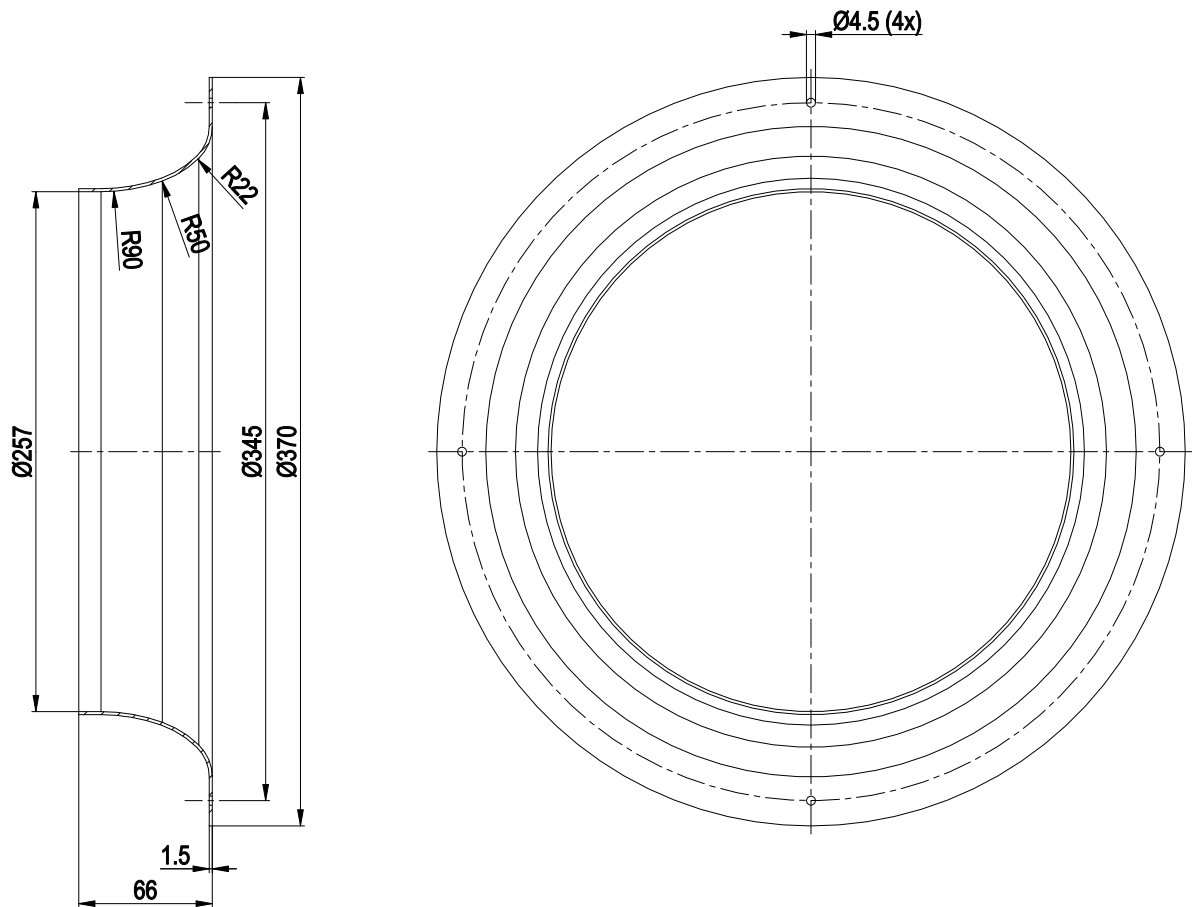
|                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                                                                     | 6 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Fan size                                                                   | 400 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Rotor surface                                                              | Painted black                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Electronics housing material                                               | Die-cast aluminum                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Impeller material                                                          | PP plastic                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Number of blades                                                           | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Direction of rotation                                                      | Clockwise, viewed toward rotor                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Degree of protection                                                       | IP20                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Insulation class                                                           | "B"                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Moisture (F) / Environmental (H) protection class                          | F0                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 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                                                         | <ul style="list-style-type: none"> <li>- Operation and alarm display: reversible voltage output 0 V / +15 V</li> <li>- Integrated PID controller</li> <li>- Motor current limitation</li> <li>- PFC, active</li> <li>- RS-485 ebmBUS</li> <li>- Soft start</li> <li>- Control interface with SELV potential safely disconnected from supply</li> <li>- Thermal overload protection for electronics/motor</li> <li>- Line undervoltage / phase failure detection</li> </ul> |
| 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 61000-6-4 (industrial environment)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system) | <= 3.5 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Electrical hookup                                                          | With plug                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Motor protection                                                           | Thermal overload protector (TOP) internally connected                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Protection class                                                           | I (with customer connection of protective earth)                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Conformity with standards                                                  | EN 61800-5-1; CE                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Approval                                                                   | UL1004-3 <small>+86 10-62547612</small> C22.2 No.77 + CAN/CSA-E60730-1; EAC                                                                                                                                                                                                                                                                                                                                                                                                |

## Product drawing



|     |                                                                                                 |
|-----|-------------------------------------------------------------------------------------------------|
| 1   | Accessory part: inlet ring 54476-2-4013 not included in scope of delivery                       |
| 2   | Max. clearance for screw 10 mm                                                                  |
| 3   | Header Lonco no. C63502-3A, mating connectors with sockets not included in scope of delivery    |
| 3.1 | PE                                                                                              |
| 3.2 | N                                                                                               |
| 3.3 | L                                                                                               |
| 4   | 4-pole header Molex 39-30-2040, mating connector with sockets not included in scope of delivery |
| 4.1 | RSB                                                                                             |
| 4.2 | RSA                                                                                             |
| 4.3 | +15 V; in case of fault: 0 V                                                                    |
| 4.4 | 0 V; in case of fault: +15 V                                                                    |

## Accessory part

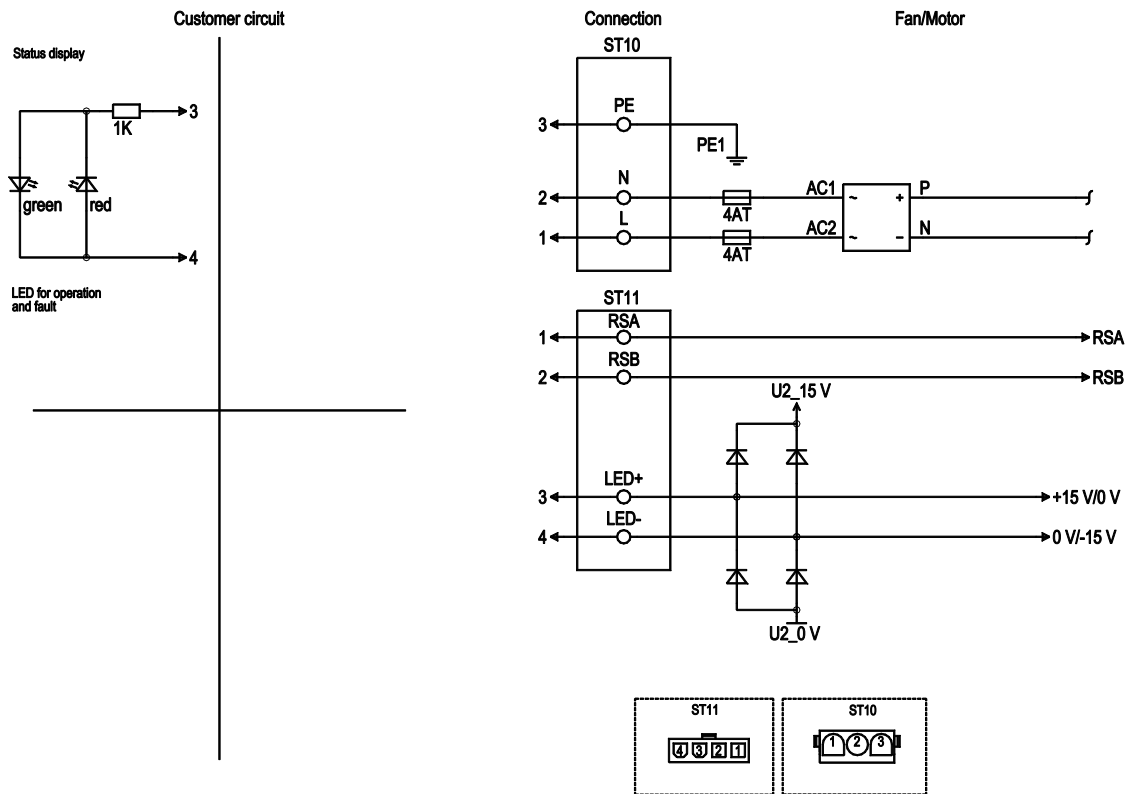


Inlet ring 54476-2-4013 not included in scope of delivery

# EC centrifugal fan - RadiCal

backward-curved, single-intake

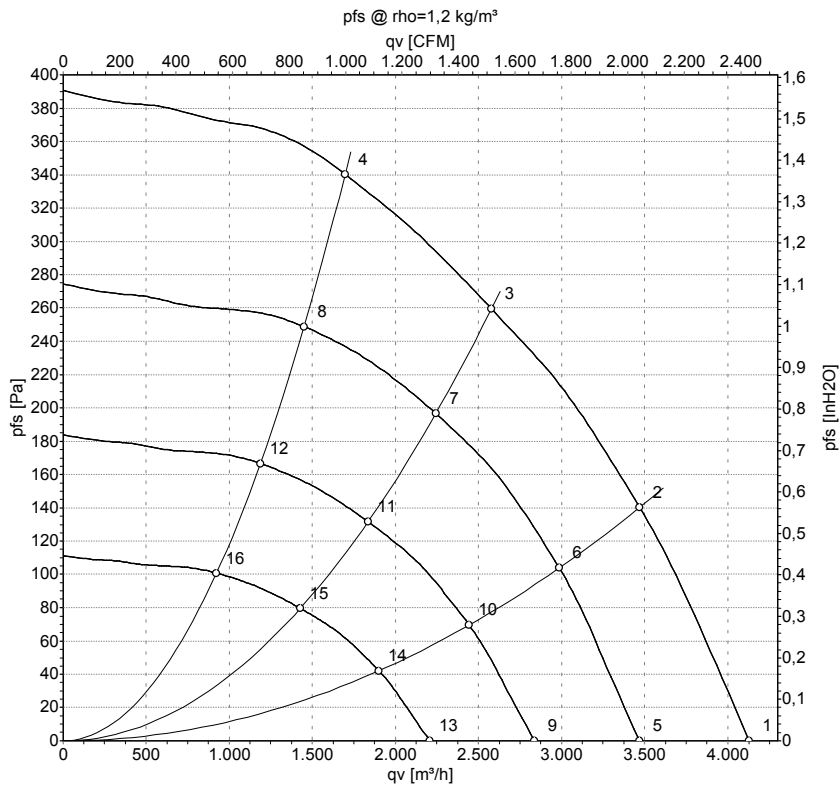
## Connection diagram



| No. | Conn. | Designation | Color | Function/assignment                                                                                                |
|-----|-------|-------------|-------|--------------------------------------------------------------------------------------------------------------------|
| 10  | 1     | L           |       | Power supply, phase, 50/60 Hz                                                                                      |
| 10  | 2     | N           |       | Power supply, neutral conductor, 50/60 Hz                                                                          |
| 10  | 3     | PE          |       | Protective earth                                                                                                   |
| 11  | 1     | RSA         |       | RS485 interface for ebmBUS, RSA, SELV                                                                              |
| 11  | 2     | RSB         |       | RS485 interface for ebmBUS, RSB, SELV                                                                              |
| 11  | 3     | LED +       |       | Voltage output 15 V (+15%/-10%), max. 30 mA, power supply for external devices (e.g. status display for LED), SELV |
| 11  | 4     | LED -       |       | Reference ground for control interface, SELV                                                                       |



## Curves: Air performance 50 Hz



Measurement: LU-142789-1

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 <sub>ed</sub> | I    | LpA <sub>in</sub> | LwA <sub>in</sub> | q <sub>v</sub> | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|----|-----|----|-------------------|-----------------|------|-------------------|-------------------|----------------|-----------------|----------------|-----------------|
|    | V   | Hz | min <sup>-1</sup> | W               | A    | dB(A)             | dB(A)             | m³/h           | Pa              | cfm            | inH2O           |
| 1  | 230 | 50 | 1300              | 267             | 1.16 | 72                | 78                | 4130           | 0               | 2430           | 0.00            |
| 2  | 230 | 50 | 1300              | 313             | 1.37 | 67                | 73                | 3470           | 140             | 2040           | 0.56            |
| 3  | 230 | 50 | 1300              | 330             | 1.50 | 59                | 66                | 2575           | 260             | 1515           | 1.04            |
| 4  | 230 | 50 | 1300              | 308             | 1.35 | 58                | 67                | 1695           | 340             | 1000           | 1.36            |
| 5  | 230 | 50 | 1100              | 158             | 0.69 | 67                | 74                | 3465           | 0               | 2040           | 0.00            |
| 6  | 230 | 50 | 1100              | 199             | 0.87 | 63                | 69                | 2985           | 104             | 1755           | 0.42            |
| 7  | 230 | 50 | 1100              | 217             | 0.95 | 55                | 63                | 2245           | 197             | 1320           | 0.79            |
| 8  | 230 | 50 | 1100              | 192             | 0.84 | 54                | 63                | 1450           | 249             | 855            | 1.00            |
| 9  | 230 | 50 | 900               | 87              | 0.38 | 62                | 69                | 2835           | 0               | 1670           | 0.00            |
| 10 | 230 | 50 | 900               | 109             | 0.48 | 58                | 64                | 2445           | 69              | 1440           | 0.28            |
| 11 | 230 | 50 | 900               | 119             | 0.52 | 50                | 58                | 1835           | 132             | 1080           | 0.53            |
| 12 | 230 | 50 | 900               | 105             | 0.46 | 49                | 58                | 1185           | 167             | 700            | 0.67            |
| 13 | 230 | 50 | 700               | 41              | 0.18 | 56                | 62                | 2205           | 0               | 1300           | 0.00            |
| 14 | 230 | 50 | 700               | 51              | 0.22 | 52                | 58                | 1900           | 42              | 1120           | 0.17            |
| 15 | 230 | 50 | 700               | 56              | 0.25 | 44                | 51                | 1425           | 80              | 840            | 0.32            |
| 16 | 230 | 50 | 700               | 50              | 0.22 | 43                | 51                | 925            | 101             | 545            | 0.41            |

U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
 q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase