# EC centrifugal fan

backward-curved, single-intake



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** | **R3G220-AD17-18** |
| **Motor** | **M3G055-CF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Frequency | Hz | 50/60 |
| Speed (rpm) | $min^{-1}$ | 2740 |
| Power consumption | W | 100 |
| Current draw | A | 0.75 |
| 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** | 1.4 kg |
| **Fan size** | 220 mm |
| **Rotor surface** | Galvanized |
| **Electronics housing material** | Die-cast aluminum |
| **Impeller material** | PA plastic |
| **Number of blades** | 7 |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | IP44 |
| **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** | Any |
| **Condensation drainage holes** | On rotor side |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Tach output<br>- Power limit<br>- Motor current limitation<br>- Soft start<br>- Set value input Lin 0-10 VDC / PWM (1.4 V corresponds to V=min, 10 V corresponds to V=max)<br>- Control interface with SELV potential safely disconnected from supply<br>- Thermal overload protection for motor |
| **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** | Thermal overload protector (TOP) internally connected |
| **With cable** | Variable |
| **Protection class** | I (with customer connection of protective earth) |
| **Conformity with standards** | EN 60335-1; CE |

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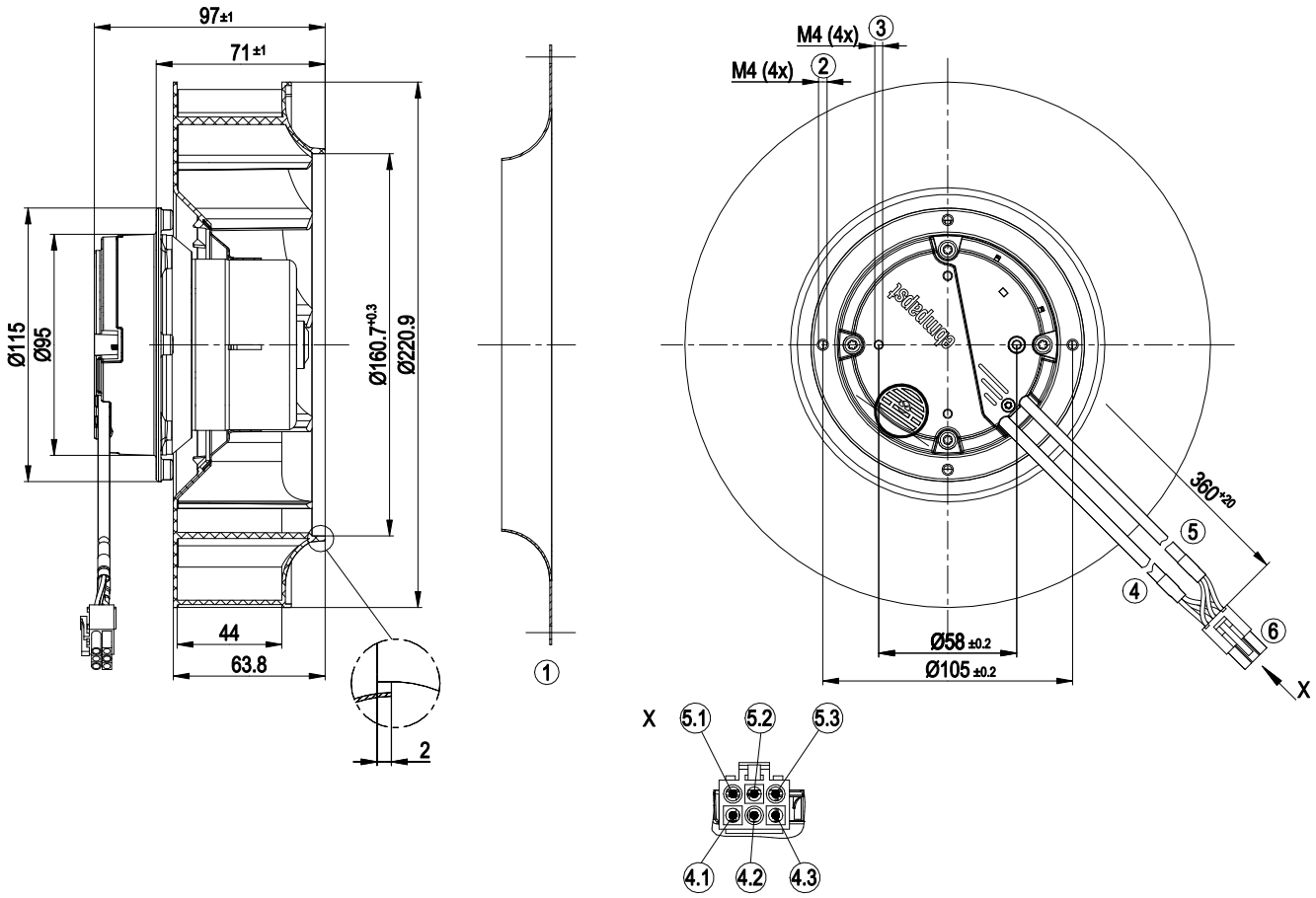
## Product drawing




| | |
|---|---|
| 1 | Accessory part: inlet ring 09609-2-4013 not included in scope of delivery |
| 2 | Max. clearance for screw 6 mm |
| 3 | Max. clearance for screw 5 mm |
| 4 | Cable PVC 3G 0.5 mm², 3x crimped socket JST SLF 41T P1.3E |
| 4.1 | green/yellow |
| 4.2 | blue |
| 4.3 | brown |
| 5 | Cable PVC 3x 0.25 mm², 3x crimped socket JST SLF 01T P1.3E |
| 5.1 | blue |
| 5.2 | yellow |
| 5.3 | white |
| 6 | Connector housing JST ELP 06V |

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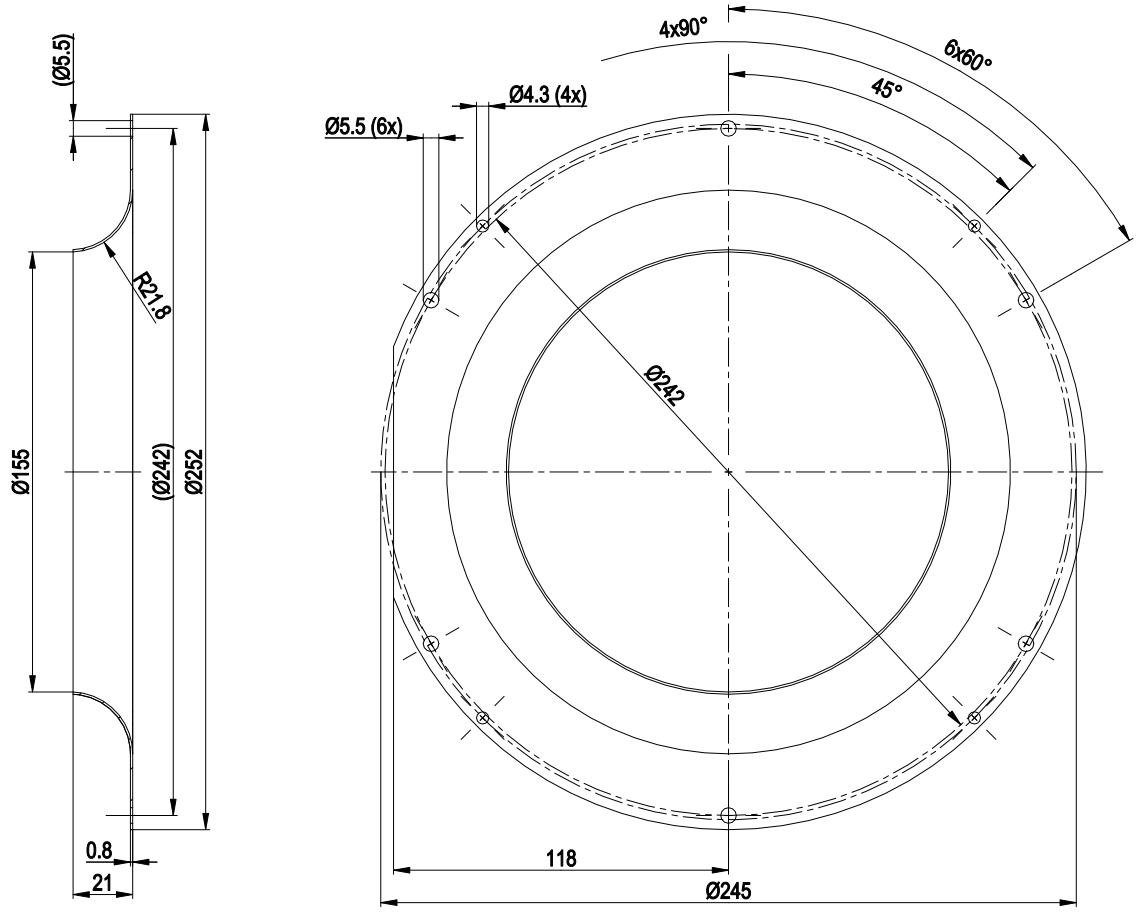
## Accessory part



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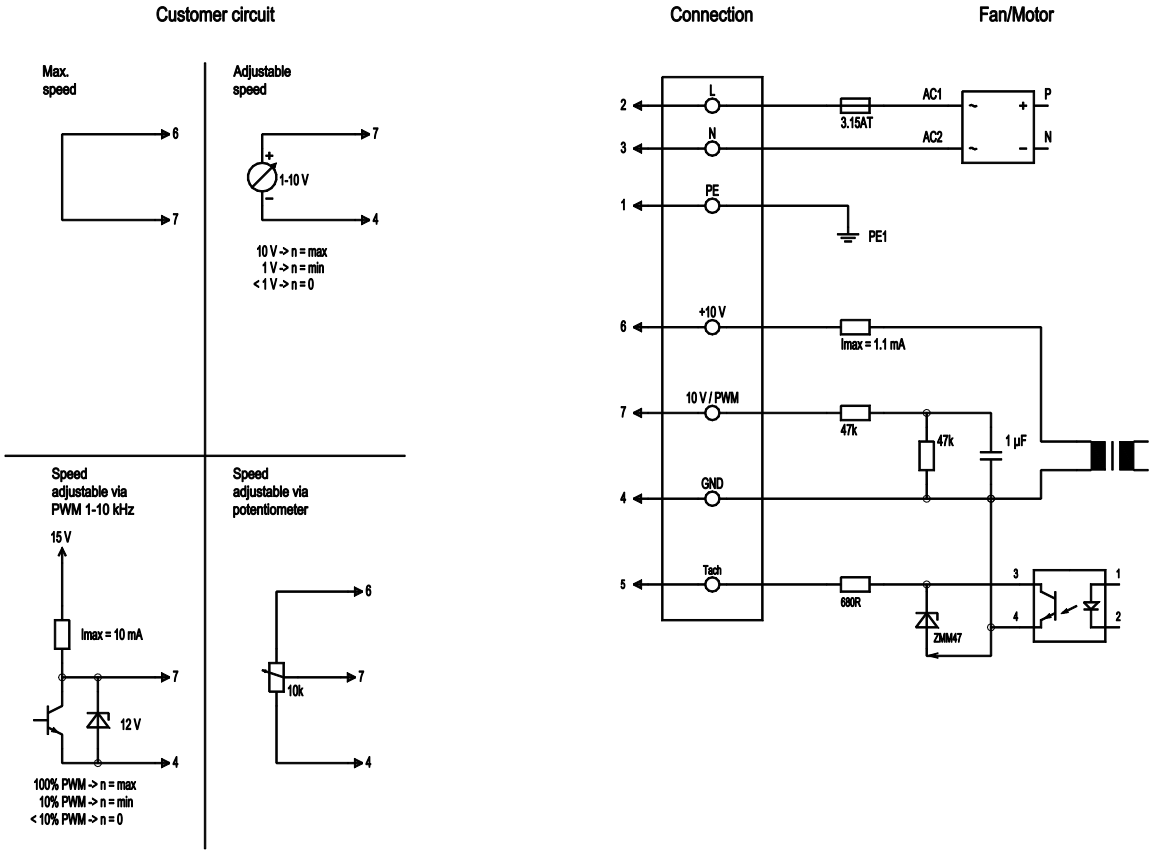
## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| | 2 | L | brown | Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range |
| | 3 | N | blue | Neutral conductor |
| | 1 | PE | green/yellow | Protective earth |
| | 7 | 0-10V PWM | yellow | Control input 0-10 V or PWM, electrically isolated |
| | 5 | Tacho | white | Tach output: Open collector, 1 pulse per revolution, electrically isolated, Isink_max = 10 mA |
| | 6 | 10V/ max 1.1mA | red | Voltage output 10 V / 1.1 mA, electrically isolated |
| | 4 | GND | blue | GND connection for control interface |

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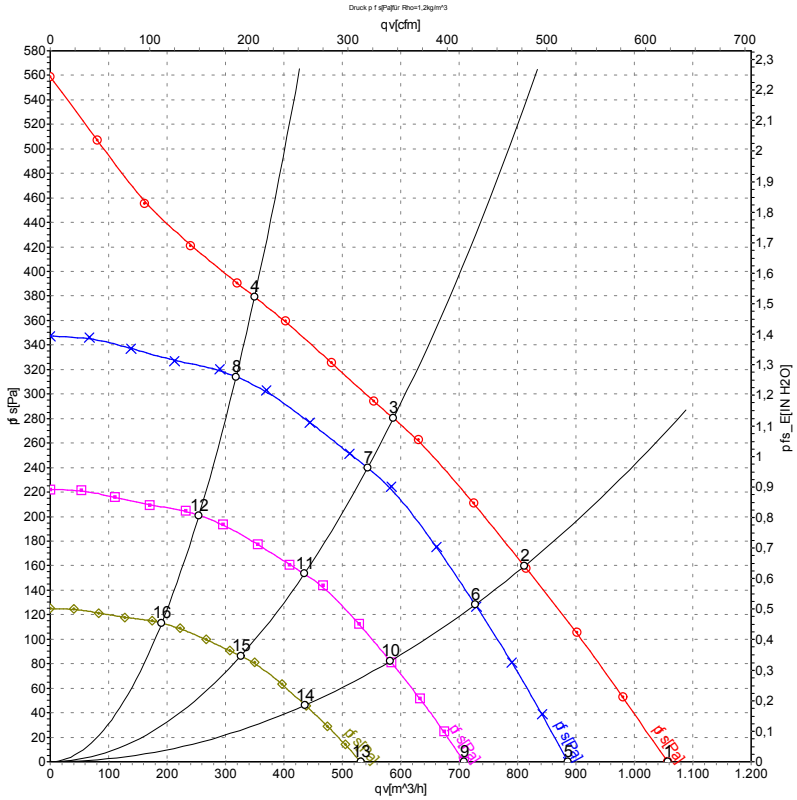
## Curves: Air performance 50 Hz




Measurement: LU-107164-1

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 | qv | $p_{fs}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa | CFM | inH2O |
| 1 | 230 | 50 | 2985 | 80 | 0.59 | 1055 | 0 | 620 | 0.00 |
| 2 | 230 | 50 | 2790 | 96 | 0.71 | 810 | 160 | 480 | 0.64 |
| 3 | 230 | 50 | 2740 | 100 | 0.75 | 590 | 280 | 345 | 1.12 |
| 4 | 230 | 50 | 2745 | 98 | 0.74 | 350 | 380 | 205 | 1.53 |
| 5 | 230 | 50 | 2500 | 47 | 0.35 | 885 | 0 | 520 | 0.00 |
| 6 | 230 | 50 | 2500 | 69 | 0.51 | 730 | 128 | 430 | 0.51 |
| 7 | 230 | 50 | 2500 | 81 | 0.60 | 545 | 240 | 320 | 0.96 |
| 8 | 230 | 50 | 2500 | 74 | 0.56 | 320 | 314 | 185 | 1.26 |
| 9 | 230 | 50 | 2000 | 24 | 0.18 | 710 | 0 | 415 | 0.00 |
| 10 | 230 | 50 | 2000 | 36 | 0.26 | 580 | 82 | 345 | 0.33 |
| 11 | 230 | 50 | 2000 | 42 | 0.31 | 435 | 153 | 255 | 0.61 |
| 12 | 230 | 50 | 2000 | 38 | 0.29 | 255 | 201 | 150 | 0.81 |
| 13 | 230 | 50 | 1500 | 10 | 0.08 | 530 | 0 | 315 | 0.00 |
| 14 | 230 | 50 | 1500 | 15 | 0.11 | 435 | 46 | 255 | 0.18 |
| 15 | 230 | 50 | 1500 | 18 | 0.13 | 325 | 86 | 190 | 0.35 |
| 16 | 230 | 50 | 1500 | 16 | 0.12 | 190 | 113 | 110 | 0.45 |

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