**R3G190-AB23-02**

# EC centrifugal fan

backward curved, single inlet



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## Nominal data

| | | |
|---|---|---|
| **Type** | **R3G190-AB23-02** | |
| **Motor** | **M3G055-CF** | |
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Frequency | Hz | 50/60 |
| Type of data definition | | ml |
| Speed | $min^{-1}$ | 3350 |
| Power input | W | 100 |
| Current draw | A | 0.74 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 60 |

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

preliminary

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## Technical features

| | |
|---|---|
| **Mass** | 1.3 kg |
| **Size** | 190 mm |
| **Surface of rotor** | Thick layer passivated |
| **Material of electronics housing** | Die-cast aluminium |
| **Material of impeller** | PA plastic |
| **Number of blades** | 7 |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 44 |
| **Insulation class** | "B" |
| **Humidity class** | F3-1 |
| **Max. permissible ambient motor temp. (transp./ storage)** | + 80 °C |
| **Min. permissible ambient motor temp. (transp./storage)** | - 40 °C |
| **Mounting position** | Shaft horizontal or rotor on bottom; rotor on top on request |
| **Condensate discharge holes** | Rotor-side |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Output 10 VDC, max. 1.1 mA<br>- Tach output<br>- Motor current limit<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Over-temperature protected motor |
| **EMC interference immunity** | Acc. to EN 61000-6-2 (industrial environment) |
| **EMC harmonics** | Acc. to EN 61000-3-2/3 |
| **EMC interference emission** | Acc. to EN 61000-6-3 (household environment) |
| **Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)** | <= 3.5 mA |
| **Motor protection** | Thermal overload protector (TOP) wired internally |
| **Cable exit** | Variable |
| **Protection class** | I (if protective earth is connected by customer) |
| **Product conforming to standard** | EN 60335-1; CE |
| **Approval** | CCC |

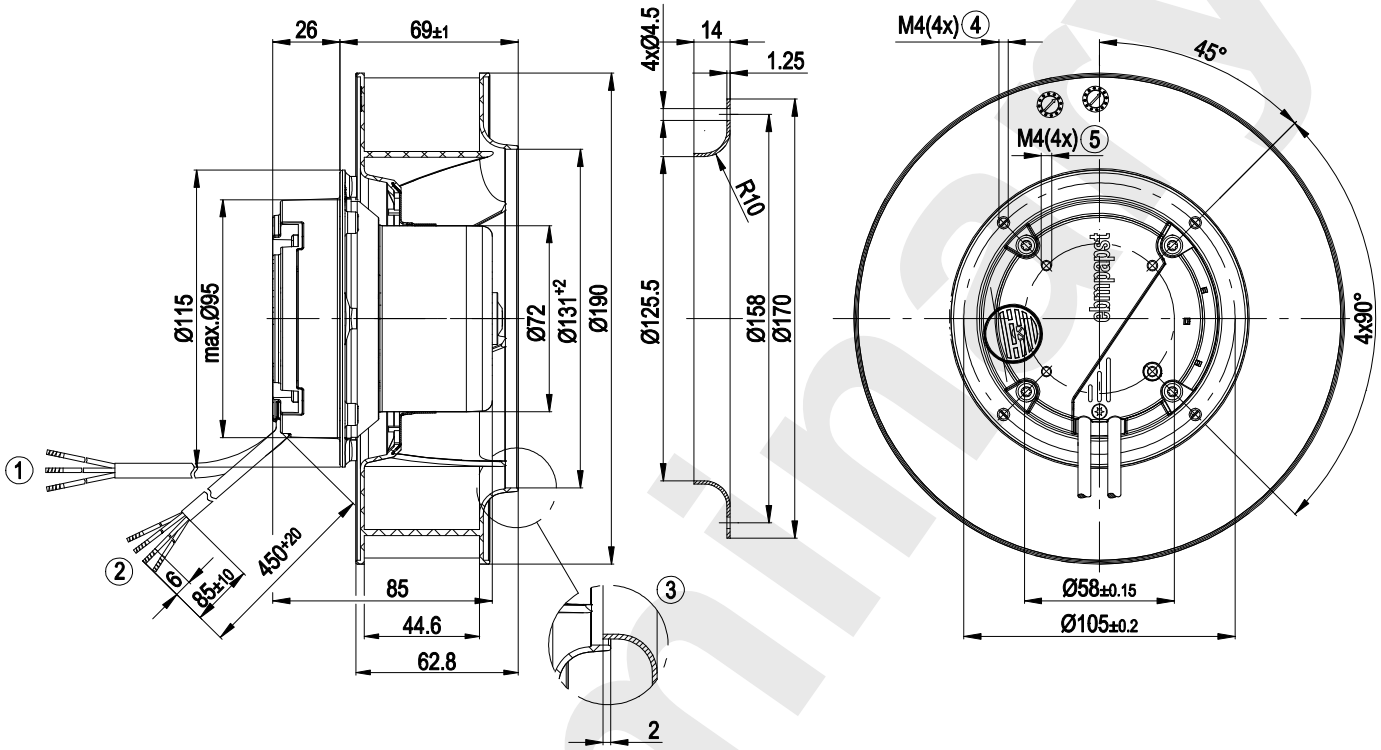


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## Product drawing




| | |
|---|---|
| 1 | Connection line PVC 3G 0.5mm²; 3x brass lead tips crimped |
| 2 | Connection line PVC 4x 0.25 mm²; 4 x brass lead tips crimped |
| 3 | Accessory part: Inlet nozzle 09576-2-4013, not included in the standard scope of delivery |
| 4 | Depth of screw max. 6 mm |
| 5 | Depth of screw max. 6 mm |

preliminary

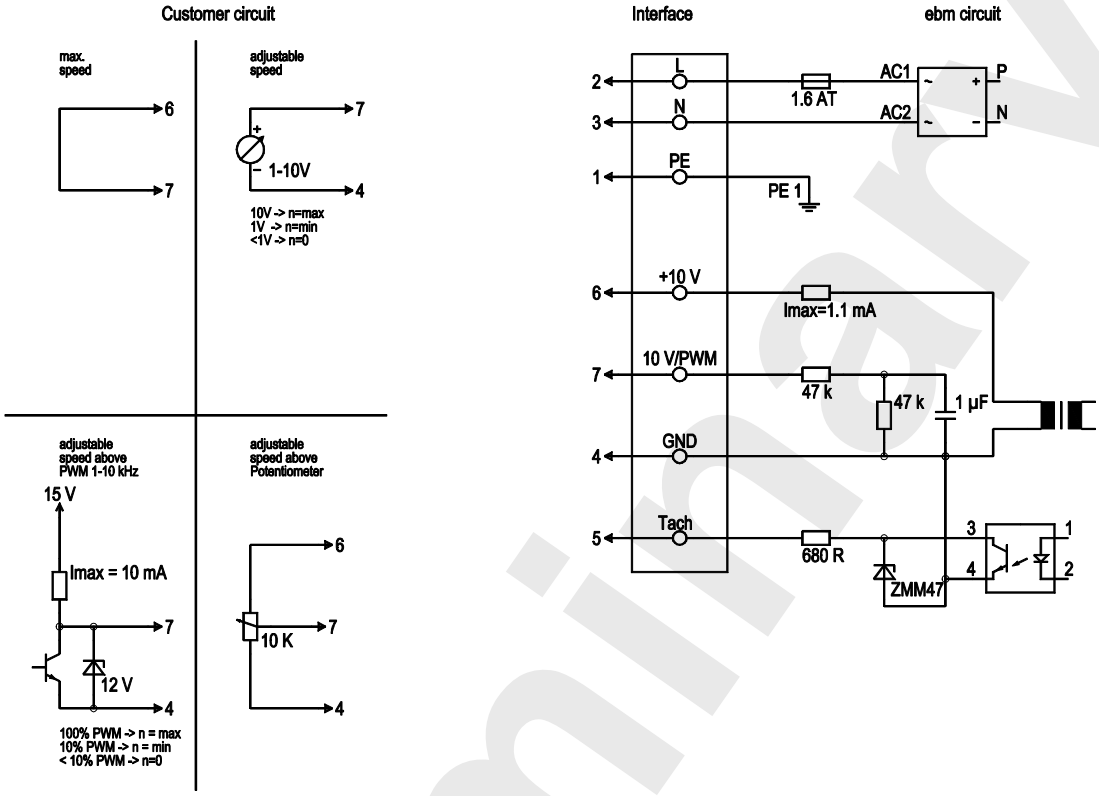


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## Connection screen




| Line | No. | Signal | Colour | Function / assignment |
|---|---|---|---|---|
| 1 | 1 | PE | green/yellow | Protective earth |
| 1 | 2 | L | brown | Power supply 230 VAC, 50-60 Hz, see type plate for voltage range |
| 1 | 3 | N | blue | Neutral conductor |
| 2 | 4 | GND | blue | GND - Connection for control interface |
| 2 | 5 | Tach | white | Tach output: Open Collector, 1 pulse per revolution, electrically isolated |
| 2 | 6 | 10V | red | max. 1.1 mA, voltage output 10 V/1.1 mA, electrically isolated, not short-circuit-proof |
| 2 | 7 | 0-10 V PWM | yellow | Control input 0 - 10 V or PWM, electrically isolated |

preliminary

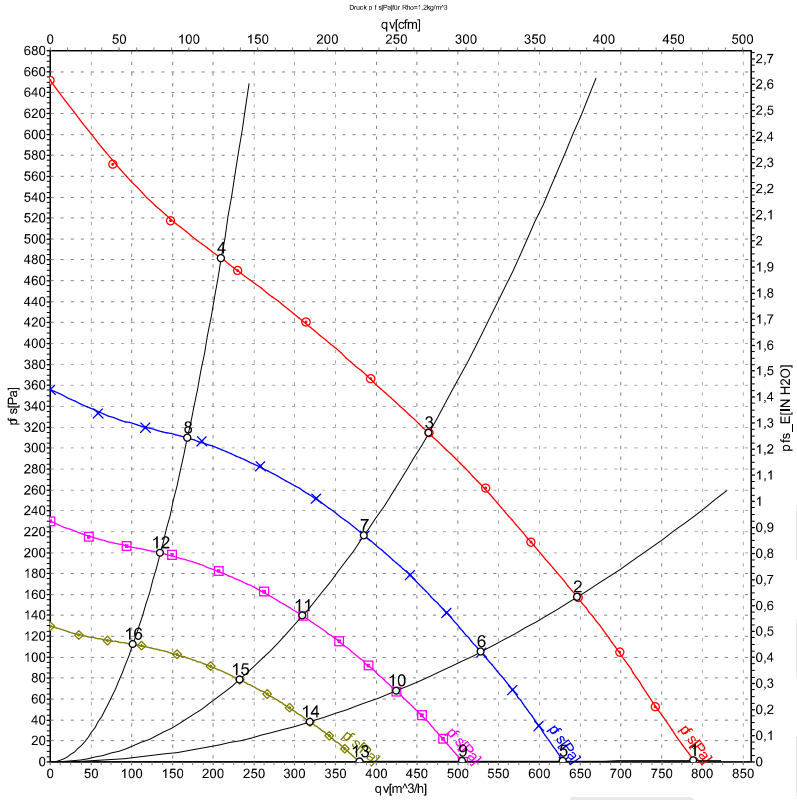


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## Charts: Air flow 50 Hz




Measurement: LU-110198

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

## Measured values

| | U | f | n | $P_{ed}$ | I | $LpA_{in}$ | $LwA_{in}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | min$^{-1}$ | W | A | dB(A) | dB(A) | m$^3$/h | Pa |
| 1 | 230 | 50 | 3535 | 88 | 0.71 | 71 | 78 | 790 | 0 |
| 2 | 230 | 50 | 3455 | 97 | 0.74 | 67 | 75 | 645 | 160 |
| 3 | 230 | 50 | 3350 | 100 | 0.74 | 63 | 71 | 465 | 315 |
| 4 | 230 | 50 | 3515 | 90 | 0.71 | 64 | 72 | 210 | 480 |
| 5 | 230 | 50 | 2820 | 45 | 0.36 | 66 | 76 | 630 | 0 |
| 6 | 230 | 50 | 2820 | 53 | 0.41 | 63 | 74 | 530 | 105 |
| 7 | 230 | 50 | 2820 | 58 | 0.45 | 59 | 70 | 385 | 217 |
| 8 | 230 | 50 | 2820 | 47 | 0.37 | 59 | 70 | 170 | 310 |
| 9 | 230 | 50 | 2265 | 23 | 0.19 | 61 | 68 | 505 | 0 |
| 10 | 230 | 50 | 2265 | 27 | 0.21 | 58 | 66 | 425 | 68 |
| 11 | 230 | 50 | 2265 | 30 | 0.24 | 54 | 62 | 310 | 140 |
| 12 | 230 | 50 | 2265 | 24 | 0.19 | 54 | 62 | 135 | 200 |
| 13 | 230 | 50 | 1700 | 9.8 | 0.08 | 55 | 62 | 380 | 0 |
| 14 | 230 | 50 | 1700 | 12 | 0.09 | 52 | 60 | 320 | 38 |
| 15 | 230 | 50 | 1700 | 13 | 0.10 | 48 | 56 | 230 | 79 |
| 16 | 230 | 50 | 1700 | 10 | 0.08 | 48 | 56 | 100 | 113 |

U = Supply voltage · f = Frequency · n = Speed · $P_{ed}$ = Power input · I = Current draw · $LpA_{in}$ = Sound pressure level inlet side · $LwA_{in}$ = Sound power level inlet side · qv = Air flow
$p_{fs}$ = Pressure increase



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