**R3G280-RNA8-01**

# EC centrifugal fan - RadiCal

backward curved, single inlet

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ErP2015 EXCEEDS THE NORM

## Nominal data

| | | |
|---|---|---|
| **Type** | **R3G280-RNA8-01** | |
| **Motor** | **M3G074-CF** | |
| Nominal voltage | VDC | 24 |
| Nominal voltage range | VDC | 16 .. 28 |
| Type of data definition | | fa |
| Speed | min$^{-1}$ | 1850 |
| Power input | W | 140 |
| Current draw | A | 5.8 |
| 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

## Data according to ErP directive

| | |
|---|---|
| Installation category | A |
| Efficiency category | Static |
| Variable speed drive | Yes |
| Specific ratio* | 1.00 |

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

| | | Actual | Request 2013 | Request 2015 |
|---|---|---|---|---|
| Overall efficiency $\eta_{es}$ | | 60.1 | 39.1 | 43.1 |
| Efficiency grade N | | 79 | 58 | 62 |
| Power input $P_e$ | kW | 0.16 | | |
| Air flow $q_v$ | m³/h | 1205 | | |
| Pressure increase $p_{fs}$ | Pa | 266 | | |
| Speed n | min$^{-1}$ | 1775 | | |

Data established at point of optimum efficiency



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## Technical features

| | |
|---|---|
| **Mass** | 2.41 kg |
| **Size** | 280 mm |
| **Surface of rotor** | Coated in black |
| **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** | Any |
| **Condensate discharge holes** | None |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Tach output<br>- Motor current limit<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Over-temperature protected electronics |
| **EMC interference immunity** | Acc. to EN 61000-6-2 (industrial environment) |
| **EMC interference emission** | Acc. to EN 55022 (Class B, household environment) |
| **Motor protection** | Reverse polarity and locked-rotor protection |
| **Cable exit** | Variable |
| **Protection class** | I (if protective earth is connected by customer at the connection point of the housing) |
| **Product conforming to standard** | EN 60950-1 |

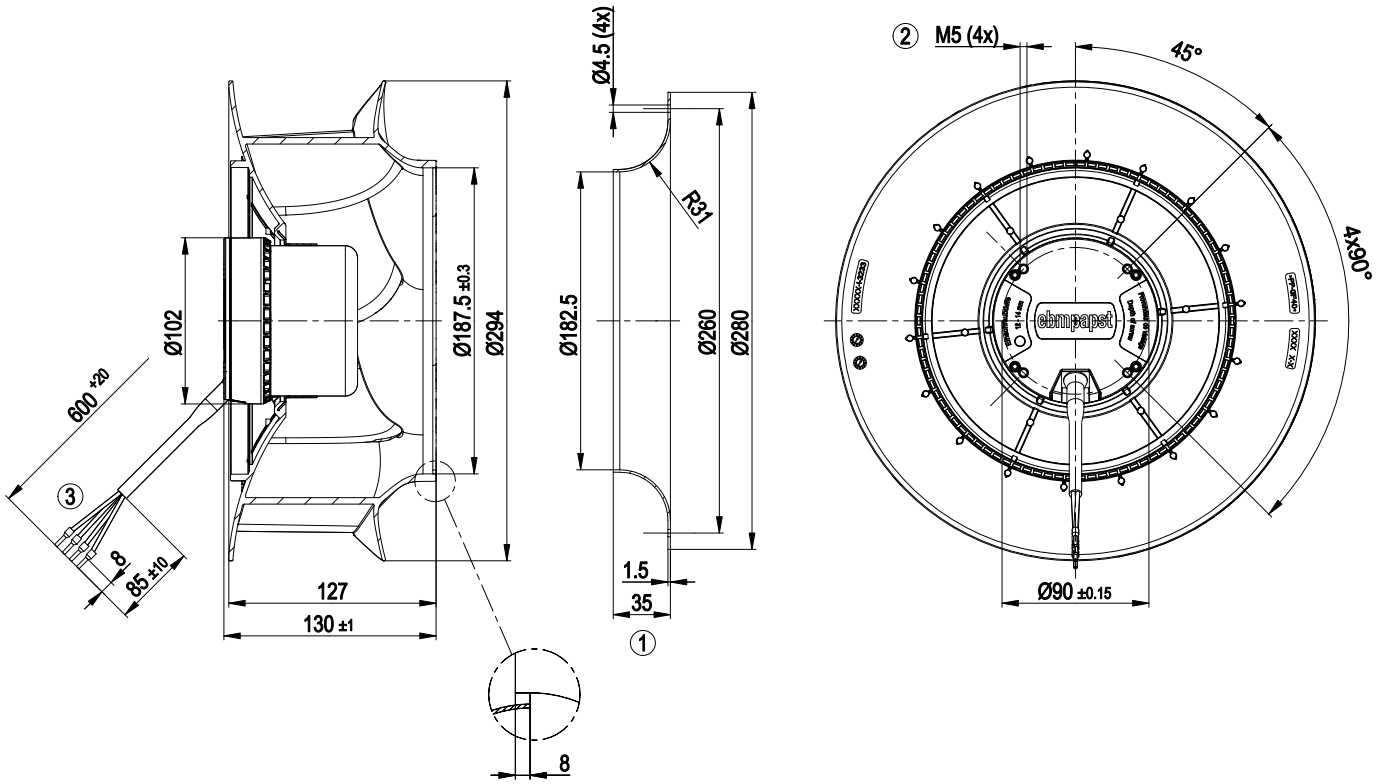


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## Product drawing




| | |
|---|---|
| 1 | Accessory part: Inlet nozzle 96360-2-4013, not included in the standard scope of delivery |
| 2 | Connection line PVC AWG 16, 4x crimped core-end sleeves |
| 3 | Depth of screw max. 12 - 14 mm |

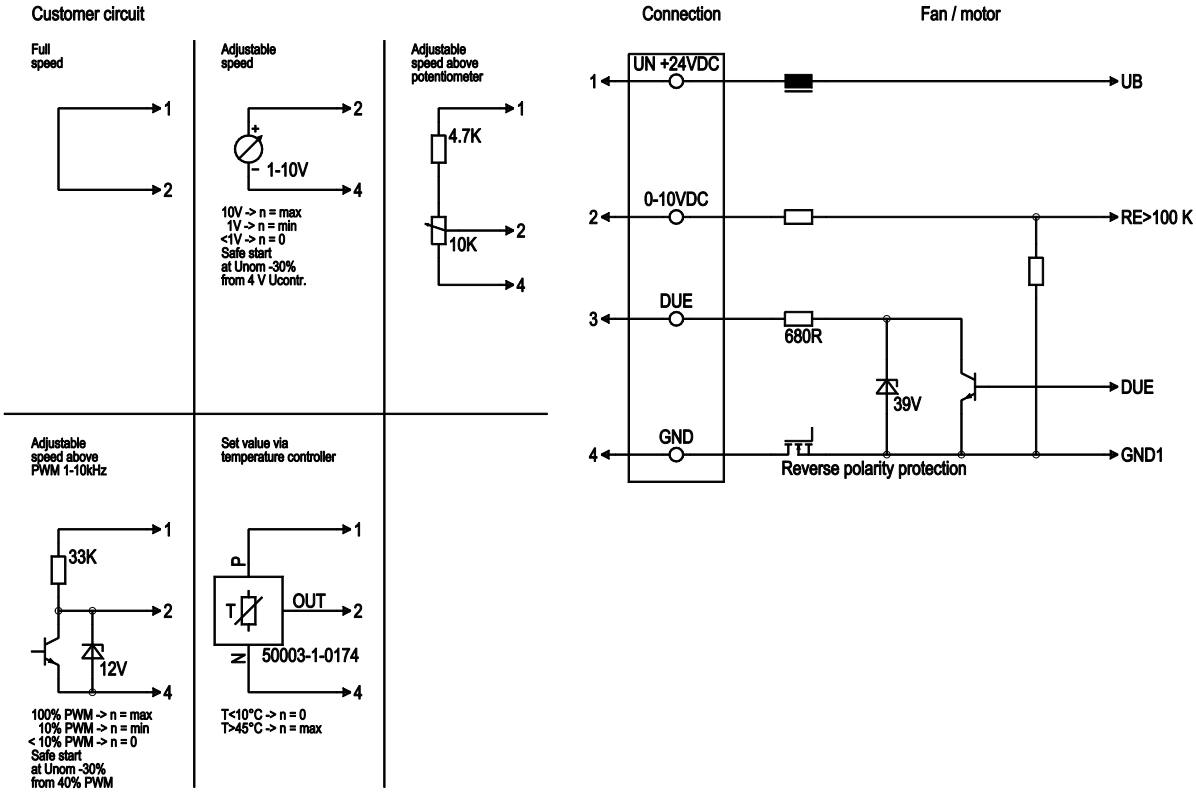


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## Connection screen




| Line | No. | Signal | Colour | Function / assignment |
|---|---|---|---|---|
| | 1 | Un +24 VDC | red | Power supply 24 VDC, residual ripple 3.5 % |
| | 2 | 0-10 VDC | yellow | Control input Re>100 K |
| | 3 | Tach | white | Speed monitoring output, 3 pulses per revolution, Isink max = 10 mA |
| | 4 | GND | blue | Reference mass |

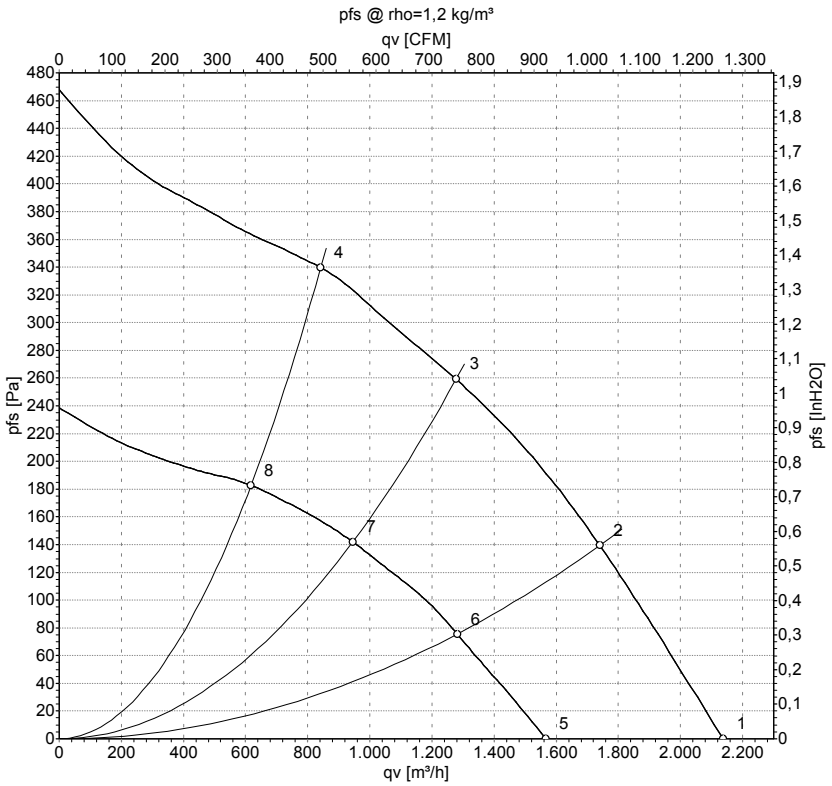


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## Charts: Air flow




Measurement: LU-139983
Measurement: LU-139987

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 | n | $P_{ed}$ | I | $LpA_{in}$ | $LwA_{in}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|
| | V | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa |
| 1 | 24-28 | 1850 | 140 | 5.80* | 66 | 74 | 2135 | 0 |
| 2 | 24-28 | 1800 | 161 | 6.71* | 62 | 68 | 1740 | 140 |
| 3 | 24-28 | 1775 | 169 | 7.04* | 59 | 65 | 1275 | 260 |
| 4 | 24-28 | 1815 | 157 | 6.53* | 60 | 66 | 840 | 340 |
| 5 | 16 | 1365 | 57 | 3.53 | | | 1565 | 0 |
| 6 | 16 | 1325 | 65 | 4.07 | | | 1280 | 76 |
| 7 | 16 | 1310 | 69 | 4.31 | | | 945 | 142 |
| 8 | 16 | 1340 | 63 | 3.92 | | | 615 | 183 |

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



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