

R3G280-RO40-73 ebmpapst Datasheet  
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Nominal data

|                          |                   |            |
|--------------------------|-------------------|------------|
| Type                     | R3G280-RO40-73    |            |
| Motor                    | M3G084-DF         |            |
| 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> | 2530       |
| Power consumption        | W                 | 470        |
| Current draw             | A                 | 3.1        |
| 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 $\eta_{es}$ | % | 65.3   | 47.9      |
| 02 Measurement category           |   | A      |           |
| 03 Efficiency category            |   | Static |           |
| 04 Efficiency grade N             |   | 79.4   | 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                | 0.45 |
| 09 Air flow $q_v$             | m³/h              | 1805 |
| 09 Pressure increase $p_{fs}$ | Pa                | 533  |
| 10 Speed (rpm) n              | min <sup>-1</sup> | 2540 |
| 11 Specific ratio*            |                   | 1.01 |

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

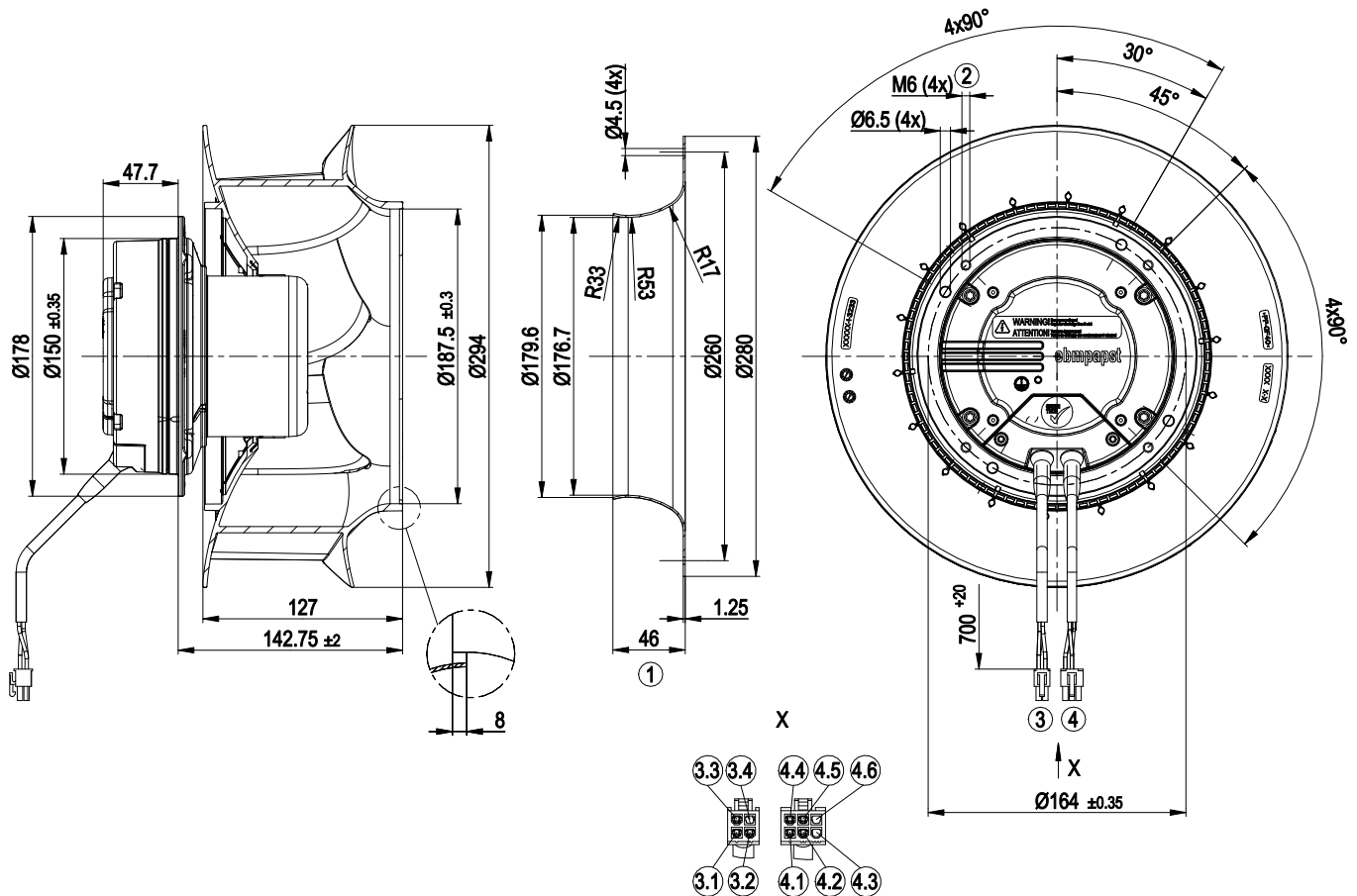
LU-137431



## Technical description

|                                                                            |                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                                                                     | 4.2 kg                                                                                                                                                                                                                                                                                                                                                    |
| Fan size                                                                   | 280 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                                                       | IP54                                                                                                                                                                                                                                                                                                                                                      |
| 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                                                      | Shaft horizontal or rotor on bottom; rotor on top on request                                                                                                                                                                                                                                                                                              |
| Condensation drainage holes                                                | On rotor side                                                                                                                                                                                                                                                                                                                                             |
| Mode                                                                       | S1                                                                                                                                                                                                                                                                                                                                                        |
| Motor bearing                                                              | Ball bearing                                                                                                                                                                                                                                                                                                                                              |
| Technical features                                                         | <ul style="list-style-type: none"> <li>- Alarm relay</li> <li>- Motor current limitation</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from the mains</li> <li>- Thermal overload protection for electronics/motor</li> <li>- Line undervoltage 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 61000-6-3 (household 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                                                                                                                                                                                                                                                                                                     |
| With cable                                                                 | Variable                                                                                                                                                                                                                                                                                                                                                  |
| Protection class                                                           | I (with customer connection of protective earth)                                                                                                                                                                                                                                                                                                          |
| Conformity with standards                                                  | EN 60335-1; CE                                                                                                                                                                                                                                                                                                                                            |

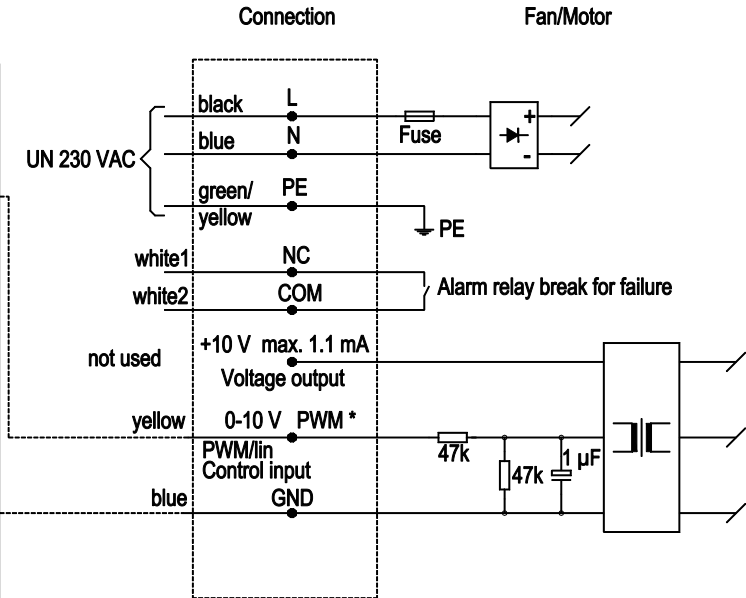
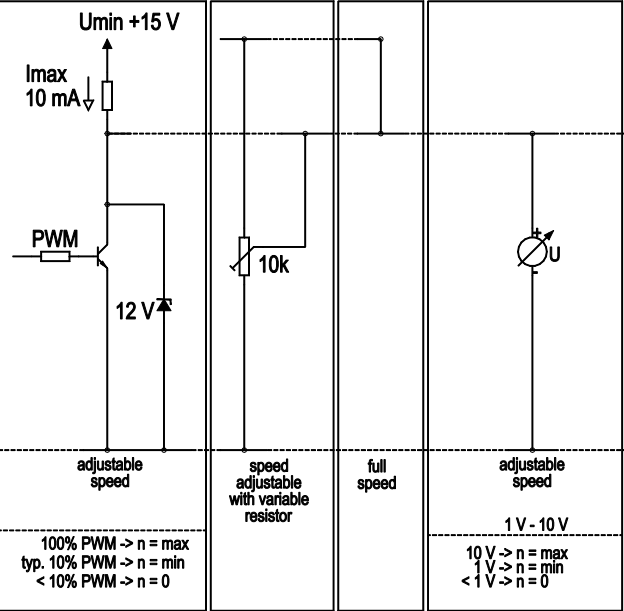
## Product drawing



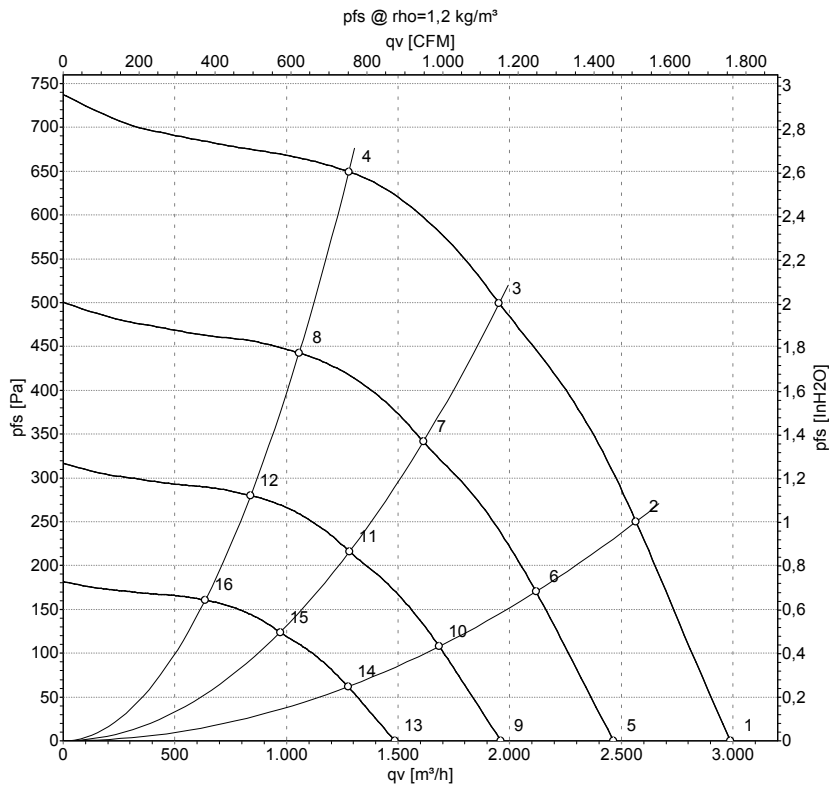
|     |                                                                                     |
|-----|-------------------------------------------------------------------------------------|
| 1   | Accessory part: inlet ring 28000-2-4013 not included in scope of delivery           |
| 2   | Max. clearance for screw 10 mm                                                      |
| 3   | Cable PVC AWG18 with 4-pole connector housing AMP 1586765-4, 3x socket AMP 794956-3 |
| 3.1 | L (black)                                                                           |
| 3.2 | N (blue)                                                                            |
| 3.3 | PE (green/yellow)                                                                   |
| 3.4 | not used                                                                            |
| 4   | Cable PVC AWG22 with 6-pole connector housing AMP 1586765-6, 4x socket AMP 794956-3 |
| 4.1 | 0-10 V/PWM (yellow)                                                                 |
| 4.2 | GND (blue)                                                                          |
| 4.3 | not used                                                                            |
| 4.4 | NC (white1)                                                                         |
| 4.5 | COM (white2)                                                                        |
| 4.6 | not used                                                                            |

Connection diagram

Customer circuit  
Application instructions for various control options



## Curves: Air performance 50 Hz



Measurement: LU-137431-1

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> | qv   | p <sub>fs</sub> | qv   | p <sub>fs</sub> |
|----|-----|----|-------------------|-----------------|------|-------------------|-------------------|------|-----------------|------|-----------------|
|    | V   | Hz | min <sup>-1</sup> | W               | A    | dB(A)             | dB(A)             | m³/h | Pa              | CFM  | inH2O           |
| 1  | 230 | 50 | 2530              | 335             | 2.20 | 73                | 80                | 2985 | 0               | 1760 | 0.00            |
| 2  | 230 | 50 | 2530              | 419             | 2.76 | 69                | 77                | 2565 | 250             | 1510 | 1.00            |
| 3  | 230 | 50 | 2530              | 470             | 3.10 | 65                | 73                | 1950 | 500             | 1150 | 2.01            |
| 4  | 230 | 50 | 2530              | 415             | 2.76 | 66                | 76                | 1280 | 650             | 755  | 2.61            |
| 5  | 230 | 50 | 2100              | 188             | 1.23 |                   |                   | 2465 | 0               | 1450 | 0.00            |
| 6  | 230 | 50 | 2100              | 236             | 1.55 |                   |                   | 2120 | 171             | 1245 | 0.69            |
| 7  | 230 | 50 | 2100              | 255             | 1.68 |                   |                   | 1615 | 341             | 950  | 1.37            |
| 8  | 230 | 50 | 2100              | 234             | 1.55 |                   |                   | 1055 | 443             | 620  | 1.78            |
| 9  | 230 | 50 | 1670              | 95              | 0.62 |                   |                   | 1960 | 0               | 1155 | 0.00            |
| 10 | 230 | 50 | 1670              | 119             | 0.78 |                   |                   | 1685 | 108             | 990  | 0.43            |
| 11 | 230 | 50 | 1670              | 128             | 0.84 |                   |                   | 1285 | 216             | 755  | 0.87            |
| 12 | 230 | 50 | 1670              | 117             | 0.78 |                   |                   | 840  | 280             | 495  | 1.12            |
| 13 | 230 | 50 | 1265              | 41              | 0.27 |                   |                   | 1485 | 0               | 875  | 0.00            |
| 14 | 230 | 50 | 1265              | 52              | 0.34 |                   |                   | 1275 | 62              | 750  | 0.25            |
| 15 | 230 | 50 | 1265              | 56              | 0.37 |                   |                   | 970  | 124             | 570  | 0.50            |
| 16 | 230 | 50 | 1265              | 51              | 0.34 |                   |                   | 635  | 161             | 375  | 0.65            |

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  
 qv = Air flow · p<sub>fs</sub> = Pressure increase