



R3G190-RD45-10 ebmpapst Datasheet
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Nominal data

| | | |
|--------------------------|-------------------|------------|
| Type | R3G190-RD45-10 | |
| Motor | M3G055-CF | |
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 240 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | min ⁻¹ | 4120 |
| Power consumption | W | 169 |
| Current draw | A | 1.35 |
| 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

Data according to ErP Directive

| | | Actual | Req. 2015 | | | |
|-----------------------------------|---|--------|-----------|-------------------------------|-------------------|------|
| 01 Overall efficiency η_{es} | % | 56 | 43.1 | 09 Power consumption P_{ed} | kW | 0.16 |
| 02 Measurement category | | A | | 09 Air flow q_v | m ³ /h | 565 |
| 03 Efficiency category | | Static | | 09 Pressure increase p_{fs} | Pa | 524 |
| 04 Efficiency grade N | | 74.9 | 62 | 10 Speed (rpm) n | min ⁻¹ | 4055 |
| 05 Variable speed drive | | Yes | | 11 Specific ratio* | | 1.01 |

Data obtained at optimum efficiency level.

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

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

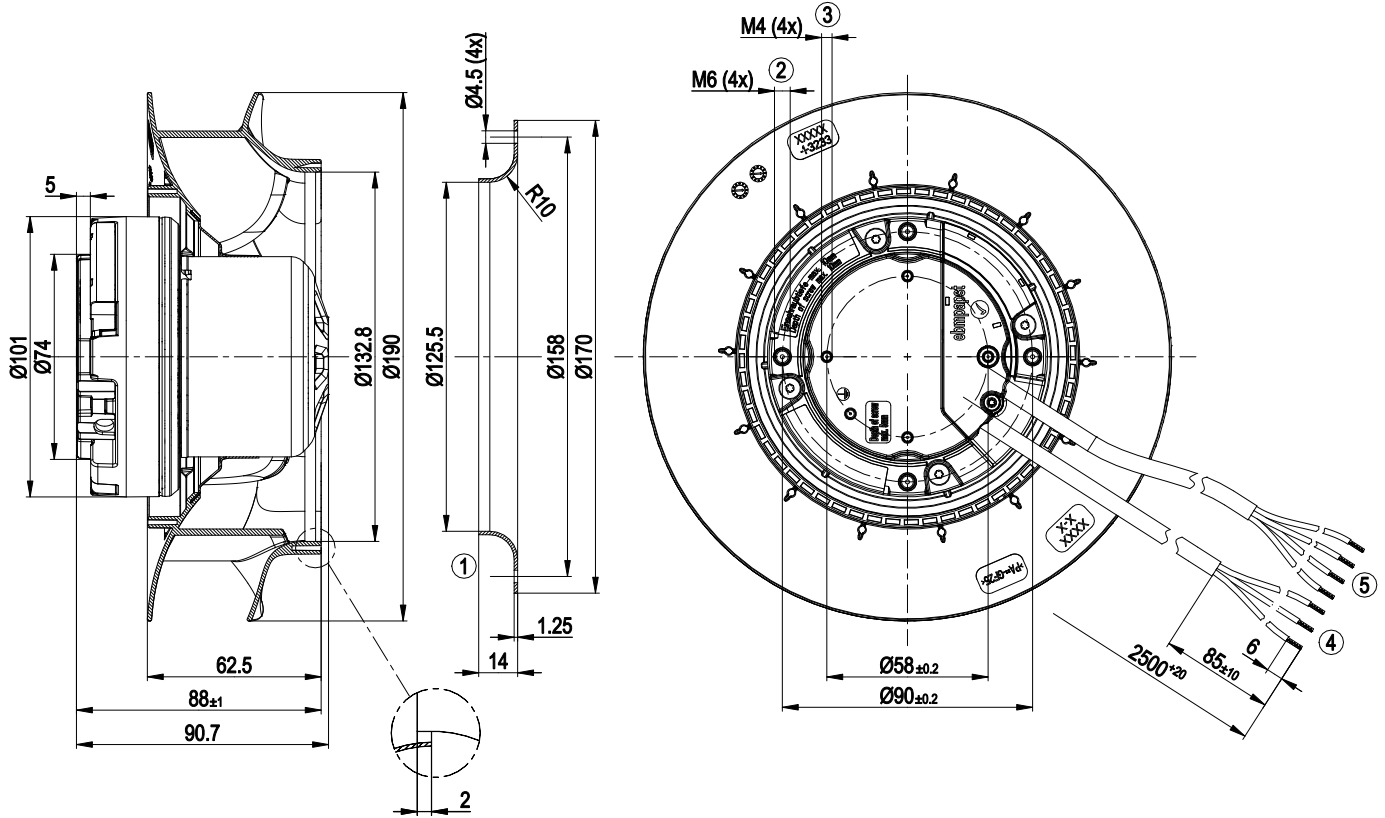
LU-132500



Technical description

| | |
|--|--|
| Weight | 1 kg |
| Fan size | 190 mm |
| Impeller material | PA plastic |
| Number of blades | 7 |
| Direction of rotation | Clockwise, viewed toward rotor |
| Degree of protection | IP54 |
| Insulation class | "B" |
| 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 | None, open rotor |
| Mode | S1 |
| Motor bearing | Ball bearing |
| Technical features | <ul style="list-style-type: none"> - Output 10 VDC, max. 10 mA - Tach output - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection |
| Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system) | <= 3.5 mA |
| Motor protection | Locked-rotor protection |
| With cable | Variable |
| Protection class | I (with customer connection of protective earth) |
| Conformity with standards | EN 60335-1; CE |

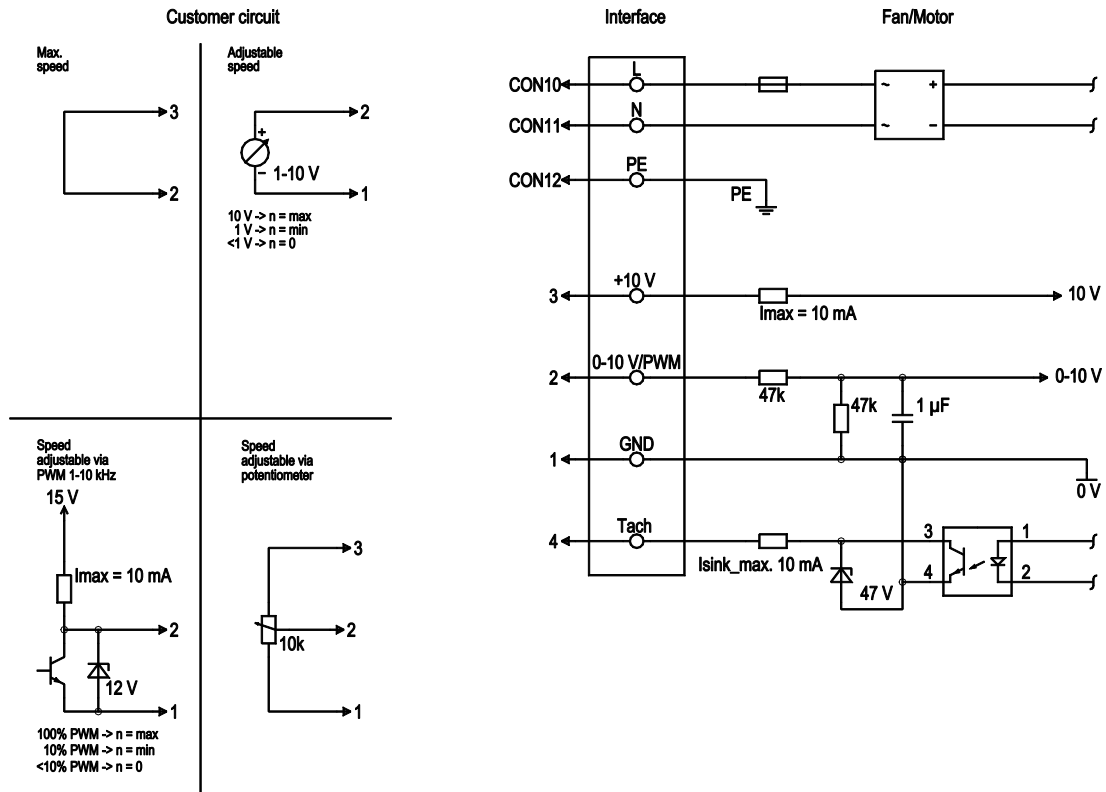
Product drawing



| | |
|---|--|
| 1 | Accessory part: Inlet ring 09576-2-4013, not included in scope of delivery |
| 2 | Max. clearance for screw 5 mm |
| 3 | Max. clearance for screw 5 mm |
| 4 | Cable PVC 3G AWG20, 3x crimped splices |
| 5 | Cable PVC 4x AWG22, 4x crimped splices |



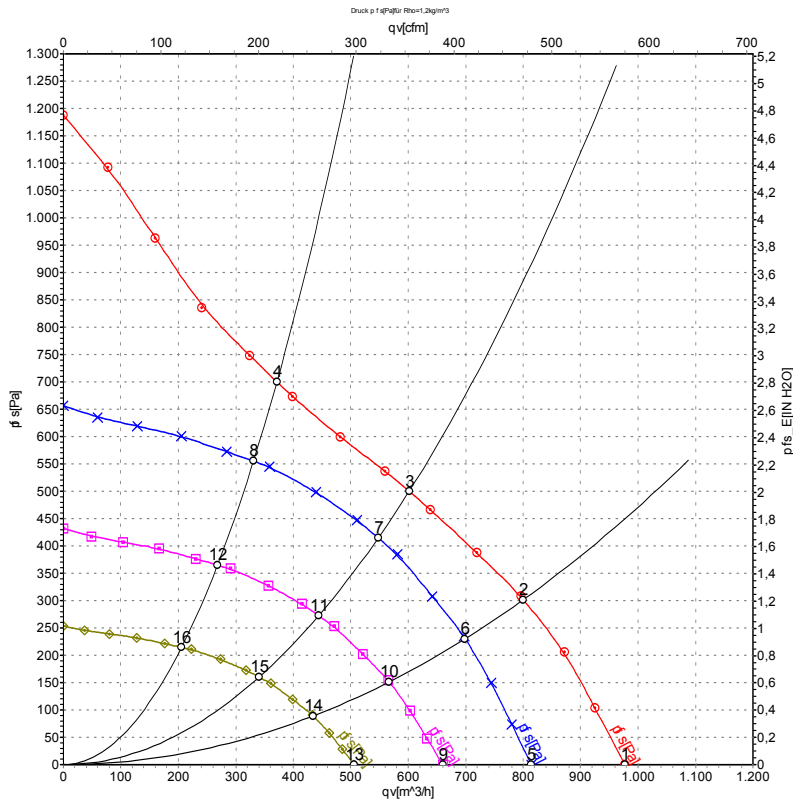
Connection diagram



| No. | Conn. | Designation | Color | Function/assignment |
|-----|-------|-------------|--------------|---|
| | CON10 | L | black | Supply connection, power supply, phase, see nameplate for voltage range |
| | CON11 | N | blue | Supply connection, power supply, neutral conductor, see nameplate for voltage range |
| | CON12 | PE | green/yellow | Ground connection |
| | 2 | 0- 10V PWM | yellow | 0-10 V / PWM control input, R _i =100 kΩ, SELV |
| | 4 | Tach | white | Tach output, open collector, 1 pulse per revolution, I _{sink max} = 10 mA, SELV |
| | 3 | +10 V | red | Fixed voltage output 10 VDC +/-3 %, I _{max} . 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV |
| | 1 | GND | blue | Reference ground for control interface, SELV |



Curves: Air performance 50 Hz



Measurement: LU-132500-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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 | LpA _{in} | LwA _{in} | q _v | P _{fs} | q _v | P _{fs} |
|----|-----|----|-------------------|-----------------|------|-------------------|-------------------|-------------------|-----------------|----------------|-----------------|
| | V | Hz | min ⁻¹ | W | A | dB(A) | dB(A) | m ³ /h | Pa | cfm | inH2O |
| 1 | 230 | 50 | 4440 | 161 | 1.35 | 72 | 81 | 975 | 0 | 575 | 0.00 |
| 2 | 230 | 50 | 4235 | 165 | 1.35 | 67 | 75 | 800 | 300 | 470 | 1.20 |
| 3 | 230 | 50 | 4120 | 169 | 1.35 | 63 | 72 | 600 | 500 | 355 | 2.01 |
| 4 | 230 | 50 | 4150 | 160 | 1.35 | 66 | 74 | 370 | 700 | 220 | 2.81 |
| 5 | 230 | 50 | 3700 | 93 | 0.81 | 69 | 77 | 815 | 0 | 480 | 0.00 |
| 6 | 230 | 50 | 3700 | 110 | 0.93 | 64 | 72 | 700 | 233 | 410 | 0.94 |
| 7 | 230 | 50 | 3700 | 125 | 1.06 | 61 | 70 | 550 | 415 | 325 | 1.67 |
| 8 | 230 | 50 | 3700 | 114 | 0.97 | 64 | 72 | 330 | 556 | 195 | 2.23 |
| 9 | 230 | 50 | 3000 | 50 | 0.43 | 64 | 73 | 660 | 0 | 390 | 0.00 |
| 10 | 230 | 50 | 3000 | 59 | 0.50 | 59 | 68 | 565 | 153 | 335 | 0.61 |
| 11 | 230 | 50 | 3000 | 67 | 0.57 | 56 | 65 | 445 | 273 | 260 | 1.10 |
| 12 | 230 | 50 | 3000 | 61 | 0.52 | 59 | 67 | 270 | 365 | 160 | 1.47 |
| 13 | 230 | 50 | 2300 | 22 | 0.19 | 58 | 67 | 505 | 0 | 300 | 0.00 |
| 14 | 230 | 50 | 2300 | 26 | 0.22 | 53 | 62 | 435 | 90 | 255 | 0.36 |
| 15 | 230 | 50 | 2300 | 30 | 0.26 | 51 | 59 | 340 | 160 | 200 | 0.64 |
| 16 | 230 | 50 | 2300 | 27 | 0.23 | 54 | 61 | 205 | 215 | 120 | 0.86 |

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
 q_v = Air flow · P_{fs} = Pressure increase

