

R3G450-RG51-25 ebmpapst Datasheet

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Nominal data

| | | |
|--------------------------|-------------------|------------|
| Type | R3G450-RG51-25 | |
| Motor | M3G112-EA | |
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 277 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | min ⁻¹ | 1250 |
| Power consumption | W | 500 |
| Current draw | A | 2.2 |
| 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 Commission Regulation (EU) 327/2011 (EN 17166)

| | | Actual | Req. 2015 | | | |
|-----------------------------------|---|--------|-----------|-------------------------------|-------------------|------|
| 01 Overall efficiency η_{es} | % | 67 | 48.3 | 09 Power consumption P_{ed} | kW | 0.5 |
| 02 Measurement category | | A | | 09 Air flow q_v | m ³ /h | 3730 |
| 03 Efficiency category | | Static | | 09 Pressure increase p_{fs} | Pa | 292 |
| 04 Efficiency grade N | | 80.7 | 62 | 10 Speed (rpm) n | min ⁻¹ | 1260 |
| 05 Variable speed drive | | Yes | | 11 Specific ratio* | | 1.00 |

Data obtained at optimum efficiency level.

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

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

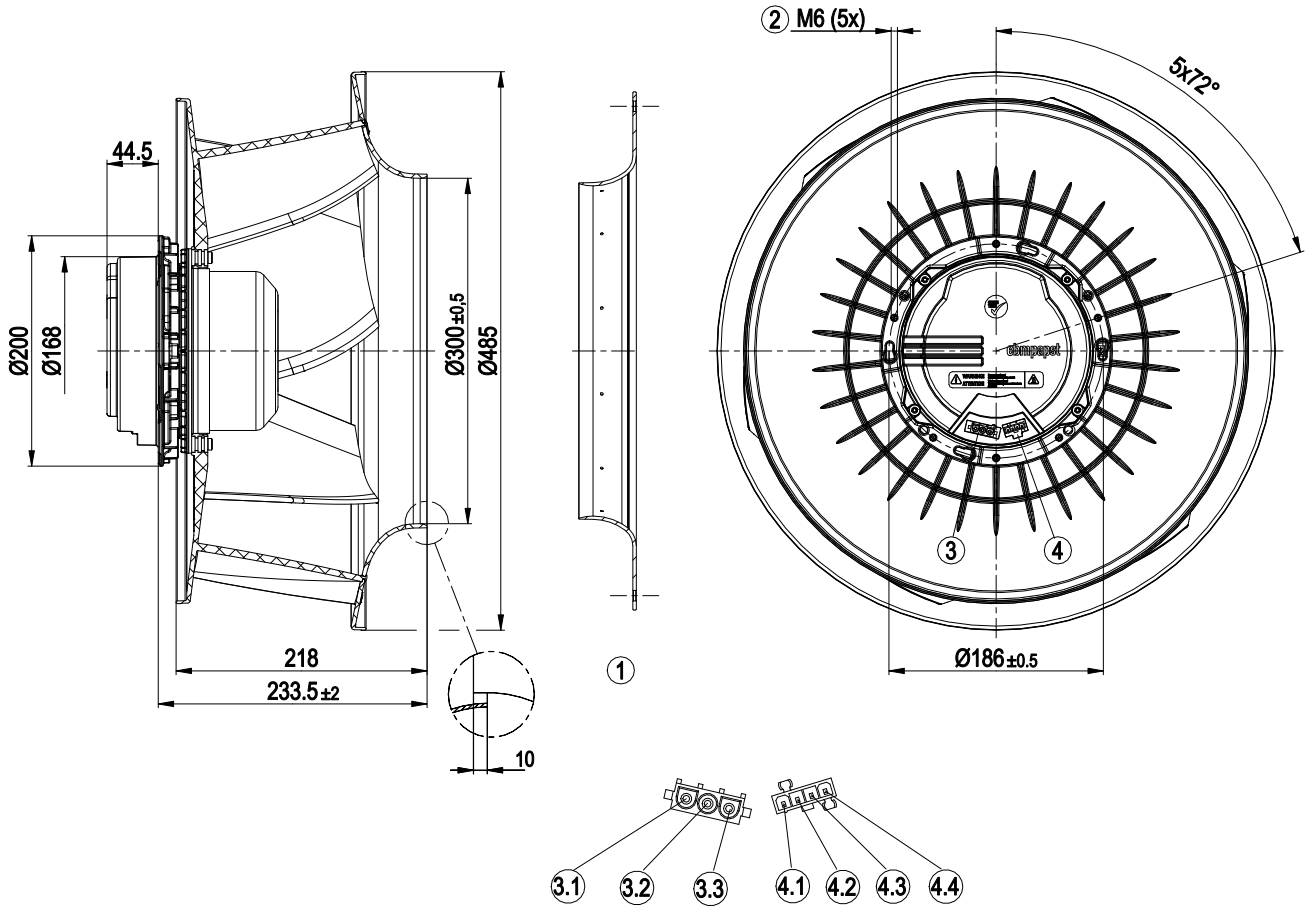
LU-153672



Technical description

| | |
|--|---|
| Weight | 9 kg |
| Size | 450 mm |
| Motor size | 112 |
| Rotor surface | Painted black |
| Electronics housing material | PA plastic |
| Impeller material | PP plastic |
| Number of blades | 6 |
| Direction of rotation | Clockwise, viewed toward rotor |
| Degree of protection | IP20 |
| Insulation class | "B" |
| Moisture (F) / Environmental (H) protection class | H0 - dry environment |
| 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"> - Operation and alarm display: reversible voltage output 0 V / +15 V - Integrated PID controller - Motor current limitation - PFC, active - RS-485 ebmBUS - Soft start - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection |
| Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system) | <= 3.5 mA |
| Electrical hookup | Terminal box |
| Motor protection | Thermal overload protector (TOP) internally connected |
| With cable | Variable |
| Protection class | I (with customer connection of protective earth) |
| Conformity with standards | EN 61800-5-1; CE |

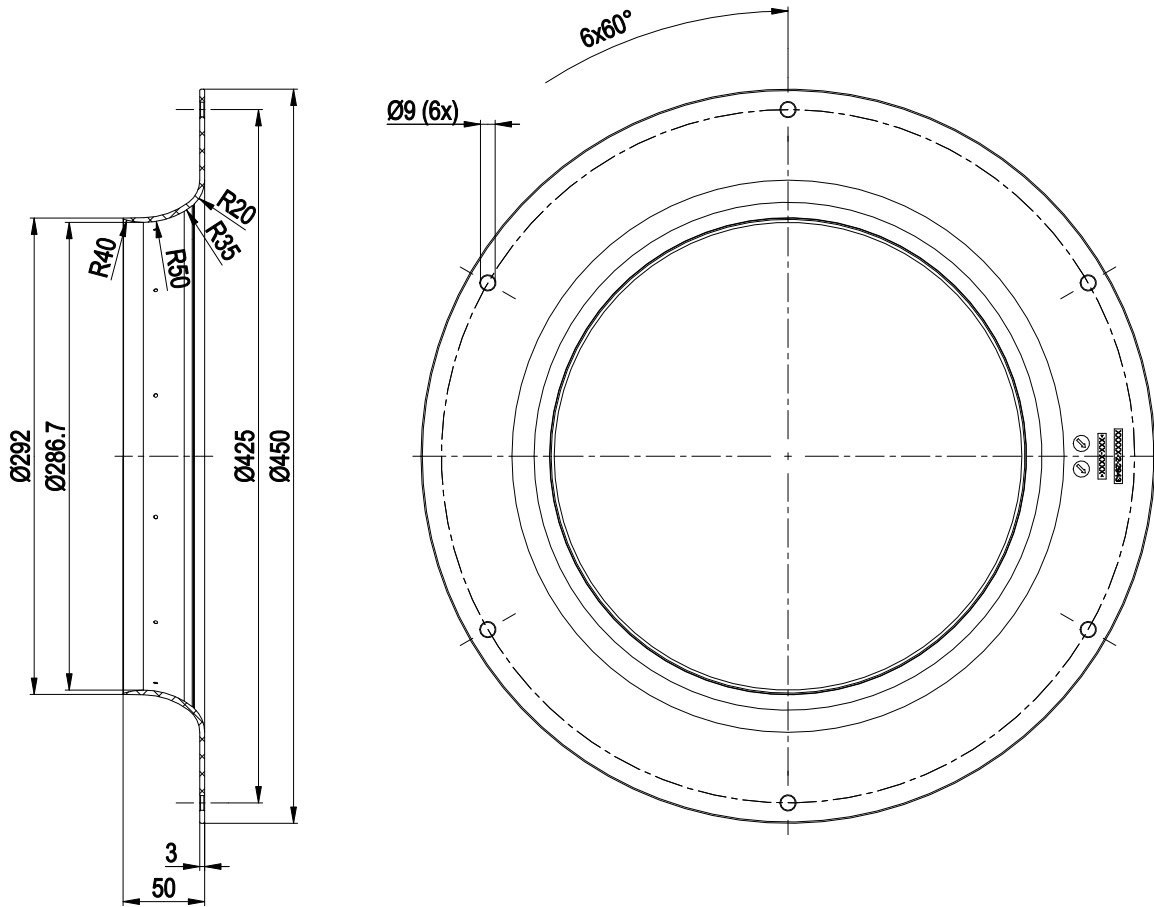
Product drawing



| | |
|-----|---|
| 1 | Accessory part: inlet ring 45901-2-2943 not included in scope of delivery |
| 2 | Max. clearance for screw 16 mm |
| 3 | 3-pole header Lonco C63502-3A, mating connector with sockets not included in scope of delivery |
| 3.1 | PE |
| 3.2 | N |
| 3.3 | L |
| 4 | 4-pole header Molex 39-30-2040, mating connector with sockets not included in scope of delivery |
| 4.1 | RSB |
| 4.2 | RSA |
| 4.3 | 15 V; in case of fault: 0 V |
| 4.4 | 0 V; in case of fault: 15 V |



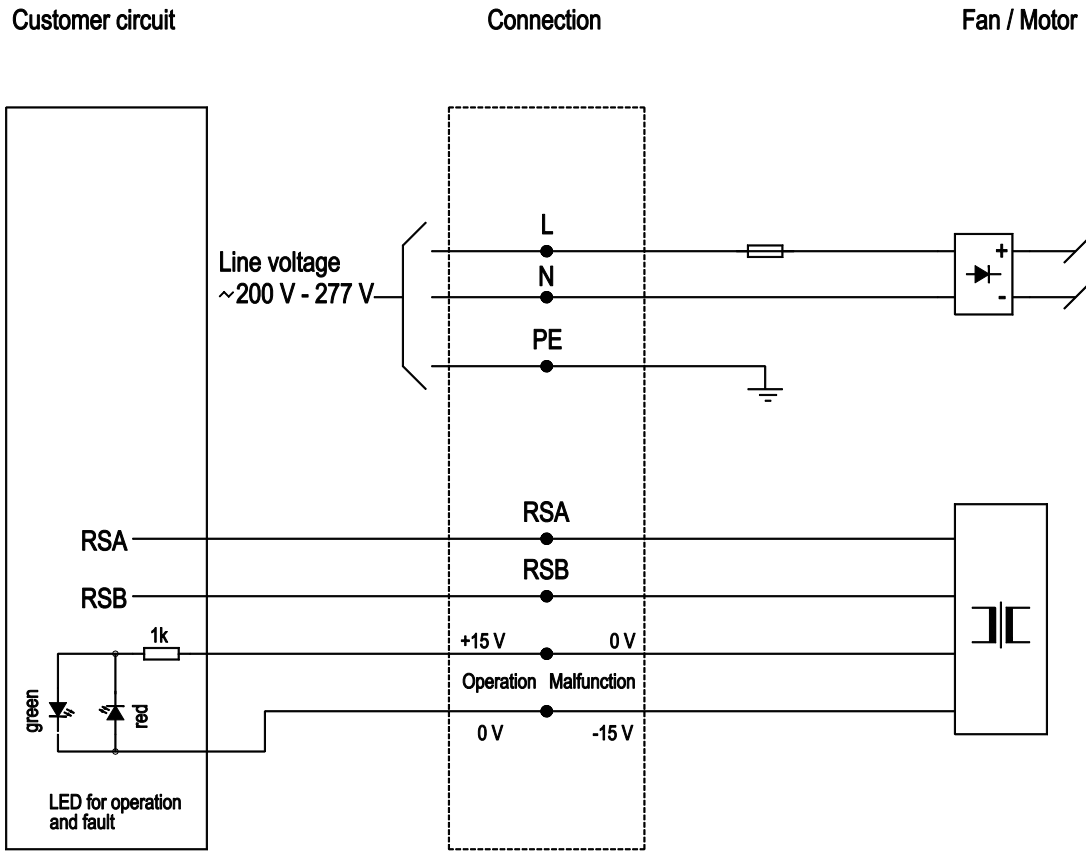
Accessory part



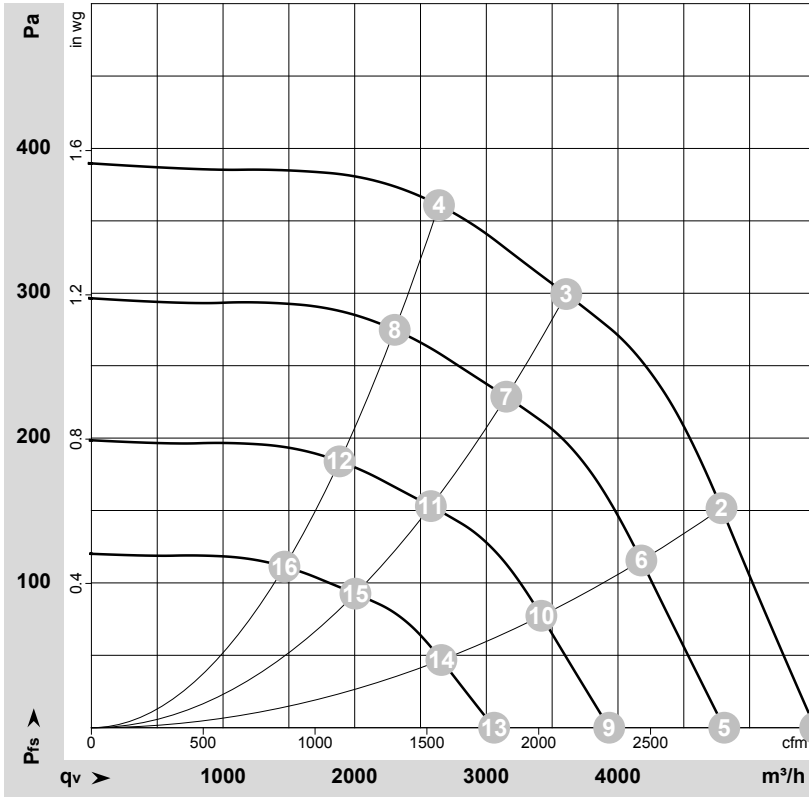
Inlet ring 45901-2-2943 not included in scope of delivery



Connection diagram



Curves: Air performance 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-153672-1

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} | LwA _{out} | q _v | P _{fs} | q _v | P _{fs} |
|----|-----|----|-------------------|-----------------|------|-------------------|-------------------|--------------------|-------------------|-----------------|----------------|-----------------|
| | V | Hz | min ⁻¹ | W | A | dB(A) | dB(A) | dB(A) | m ³ /h | Pa | cfm | in. wg |
| 1 | 230 | 50 | 1250 | 318 | 1.38 | 66 | 74 | 81 | 5500 | 0 | 3235 | 0.00 |
| 2 | 230 | 50 | 1250 | 447 | 1.96 | 64 | 73 | 79 | 4785 | 150 | 2820 | 0.60 |
| 3 | 230 | 50 | 1250 | 500 | 2.20 | 58 | 66 | 73 | 3605 | 300 | 2125 | 1.20 |
| 4 | 230 | 50 | 1250 | 489 | 2.14 | 61 | 69 | 75 | 2640 | 360 | 1555 | 1.45 |
| 5 | 230 | 50 | 1100 | 212 | 0.92 | 62 | 71 | 78 | 4805 | 0 | 2830 | 0.00 |
| 6 | 230 | 50 | 1100 | 297 | 1.30 | 61 | 69 | 76 | 4180 | 116 | 2460 | 0.47 |
| 7 | 230 | 50 | 1100 | 333 | 1.47 | 55 | 63 | 69 | 3150 | 229 | 1855 | 0.92 |
| 8 | 230 | 50 | 1100 | 325 | 1.42 | 57 | 66 | 72 | 2305 | 275 | 1355 | 1.10 |
| 9 | 230 | 50 | 900 | 116 | 0.51 | 57 | 66 | 73 | 3935 | 0 | 2315 | 0.00 |
| 10 | 230 | 50 | 900 | 163 | 0.71 | 56 | 64 | 71 | 3420 | 77 | 2010 | 0.31 |
| 11 | 230 | 50 | 900 | 183 | 0.80 | 50 | 58 | 64 | 2580 | 153 | 1520 | 0.61 |
| 12 | 230 | 50 | 900 | 178 | 0.78 | 52 | 61 | 67 | 1885 | 184 | 1110 | 0.74 |
| 13 | 230 | 50 | 700 | 55 | 0.24 | 51 | 59 | 66 | 3060 | 0 | 1800 | 0.00 |
| 14 | 230 | 50 | 700 | 77 | 0.34 | 49 | 58 | 65 | 2660 | 47 | 1565 | 0.19 |
| 15 | 230 | 50 | 700 | 86 | 0.38 | 43 | 51 | 58 | 2005 | 93 | 1180 | 0.37 |
| 16 | 230 | 50 | 700 | 84 | 0.37 | 46 | 54 | 61 | 1465 | 111 | 865 | 0.45 |

U = Voltage · 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
 LwA_{out} = Sound power level outlet side · q_v = Air flow · P_{fs} = Pressure increase

