**R3G450-AL34-63**

# EC centrifugal fan

backward curved, single inlet



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ErP2015 EXCEEDS THE NORM

## Nominal data

| | | |
|---|---|---|
| **Type** | **R3G450-AL34-63** | |
| **Motor** | **M3G084-FA** | |
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 277 |
| Frequency | Hz | 50/60 |
| Type of data definition | | ml |
| Speed | $min^{-1}$ | 1050 |
| Power input | W | 330 |
| Current draw | A | 1.4 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 40 |

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 $\eta_{es}$ | | 60.2 | 42.2 | 46.2 |
| Efficiency grade N | | 76 | 58 | 62 |
| Power input $P_{ed}$ | kW | 0.31 | | |
| Air flow $q_v$ | $m^3/h$ | 2855 | | |
| Pressure increase $p_{fs}$ | Pa | 216 | | |
| Speed n | $min^{-1}$ | 1055 | | |

Data established at point of optimum efficiency



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## Technical features

| | |
|---|---|
| **Mass** | 6.8 kg |
| **Size** | 450 mm |
| **Surface of rotor** | Coated in black |
| **Material of electronics housing** | Plastic PA6.6, fibreglass-reinforced |
| **Material of impeller** | PP-GF40 plastic |
| **Number of blades** | 6 |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 20 |
| **Insulation class** | "B" |
| **Humidity class** | F0 |
| **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 top; rotor on bottom on request |
| **Condensate discharge holes** | None |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Operation and alarm display: Reversible voltage output 0 V / +15 V<br>- Integrated PID controller<br>- Motor current limit<br>- PFC, active<br>- RS485 ebmBUS<br>- Soft start<br>- Over-temperature protected electronics / motor<br>- Line undervoltage / phase failure detection |
| **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 61000-6-4 (industrial environment) |
| **Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)** | <= 3.5 mA |
| **Electrical leads** | With plug |
| **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 61800-5-1; CE |
| **Approval** | UL 2111; CCC; CSA C22.2 Nr.77 |

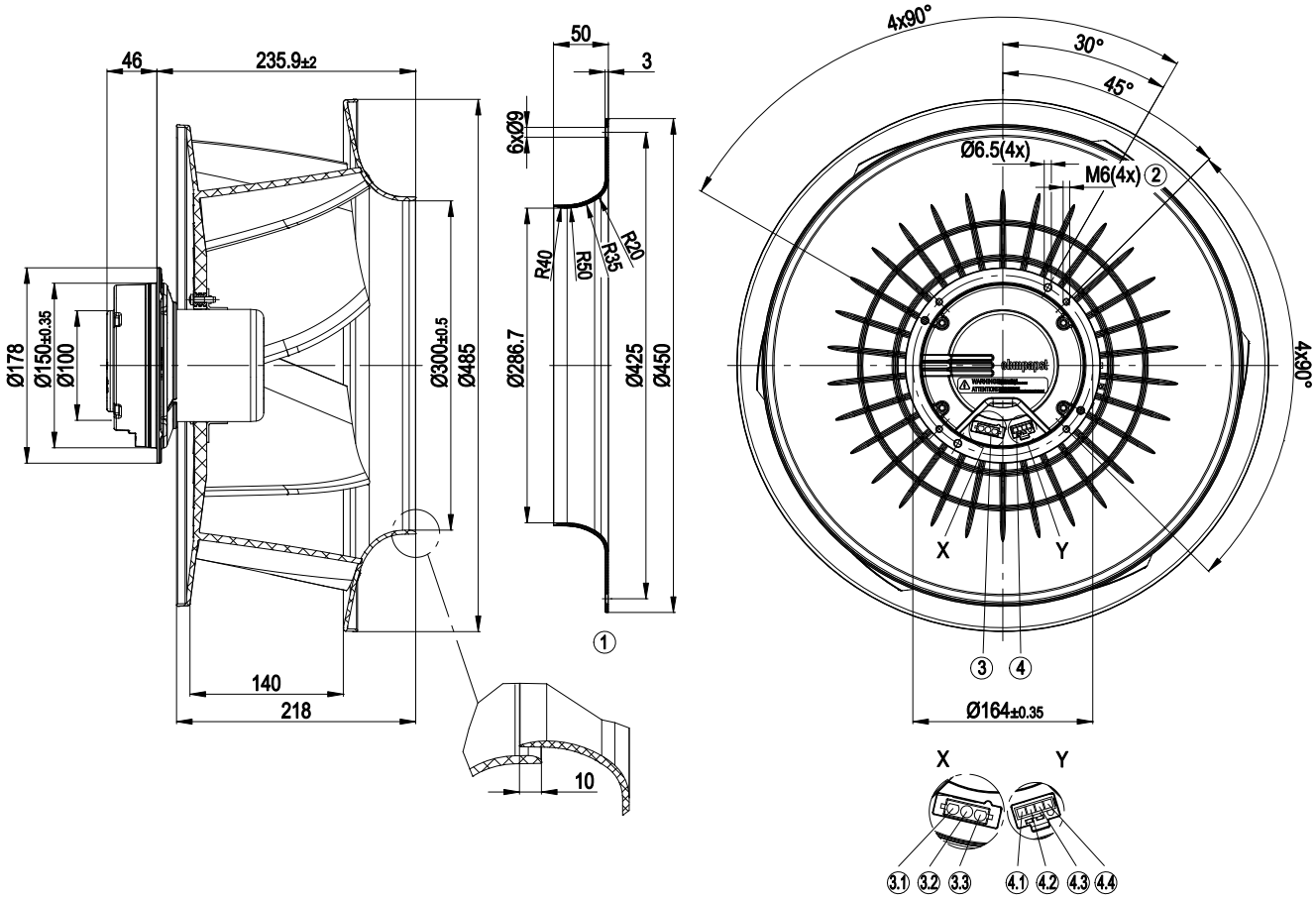


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## Product drawing




| | |
|---|---|
| 1 | Accessory part: Inlet nozzle 45901-2-2943, included in the standard scope of delivery |
| 2 | Depth of screw 8-10 mm |
| 3 | Strip Lonco No. C63502-3A, mating connectors with female terminals are not included in the standard scope of delivery |
| 3.1 | PE |
| 3.2 | L |
| 3.3 | N |
| 4 | Strip Molex No. 39-30-2046, mating connectors with female terminals are not included in the standard scope of delivery |
| 4.1 | RSB |
| 4.2 | RSA |
| 4.3 | +15 V; in the event of fault: 0 V |
| 4.4 | 0 V; in the event of fault: +15 V |

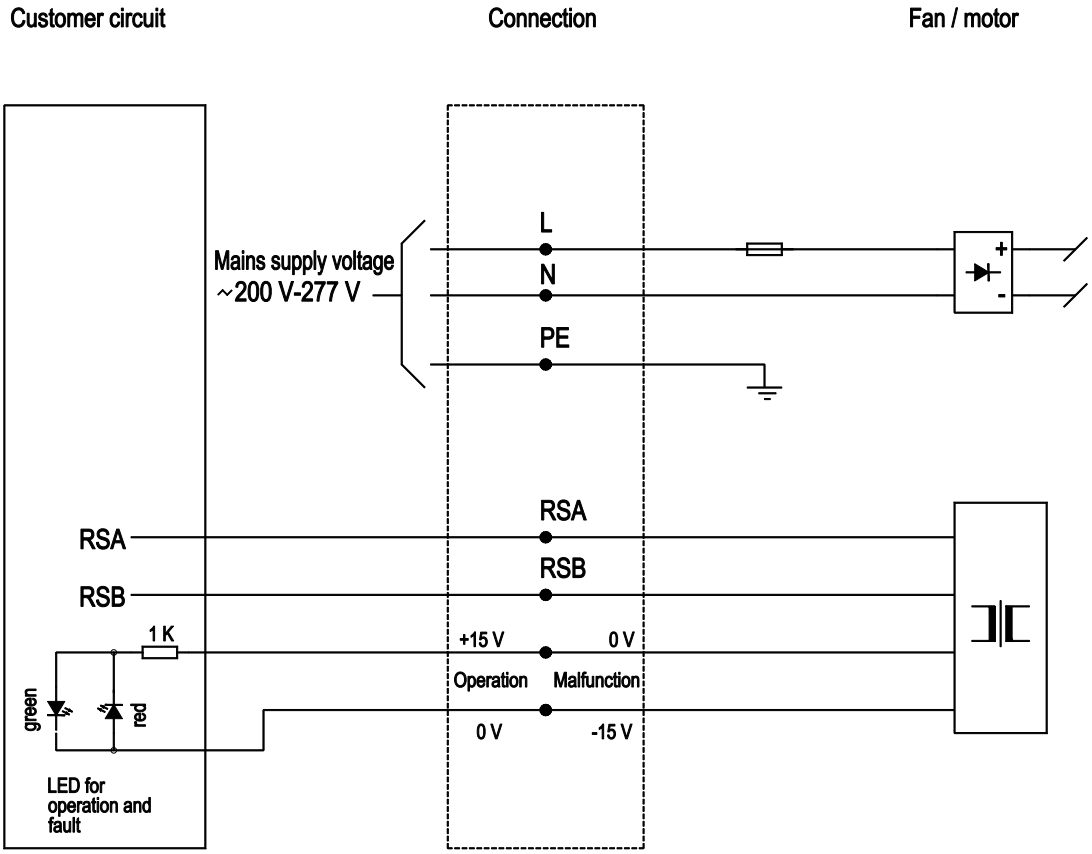


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## Connection screen



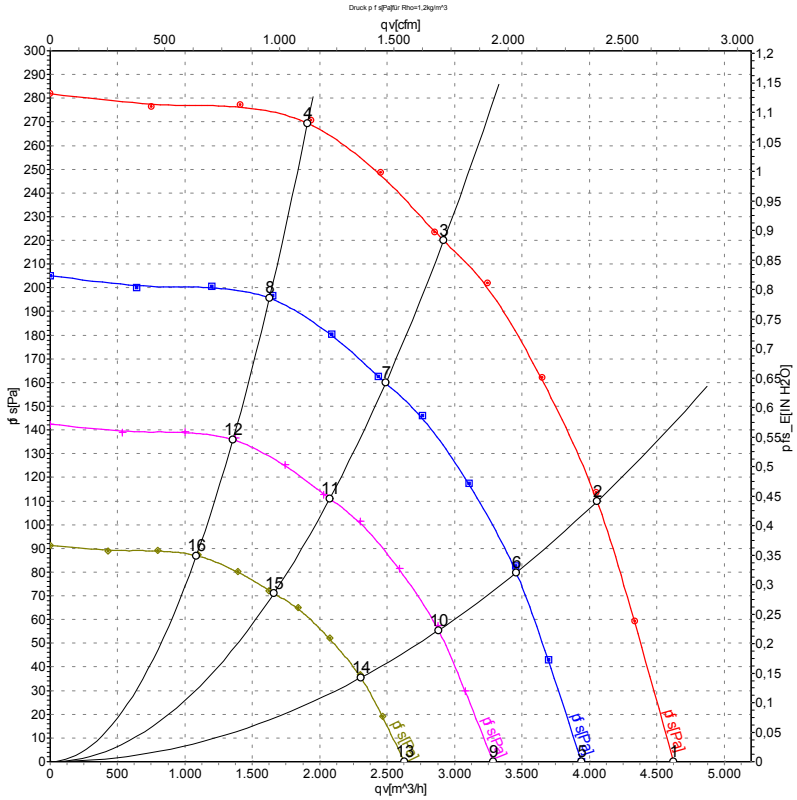



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## Charts: Air flow 50 Hz




Measurement: LU-124818

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 | $LpA_{in}$ | $LwA_{in}$ | $LwA_{out}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | dB(A) | $m^3/h$ | Pa |
| 1 | 230 | 50 | 1050 | 196 | 0.86 | 71 | 77 | 80 | 4625 | 0 |
| 2 | 230 | 50 | 1050 | 283 | 1.24 | 60 | 68 | 75 | 4055 | 110 |
| 3 | 230 | 50 | 1050 | 330 | 1.40 | 53 | 61 | 68 | 2920 | 220 |
| 4 | 230 | 50 | 1050 | 302 | 1.32 | 58 | 66 | 72 | 1910 | 270 |
| 5 | 230 | 50 | 900 | 121 | 0.53 | 67 | 73 | 76 | 3940 | 0 |
| 6 | 230 | 50 | 900 | 175 | 0.77 | 56 | 64 | 72 | 3455 | 82 |
| 7 | 230 | 50 | 900 | 199 | 0.87 | 50 | 58 | 65 | 2490 | 160 |
| 8 | 230 | 50 | 900 | 187 | 0.82 | 54 | 63 | 69 | 1625 | 197 |
| 9 | 230 | 50 | 750 | 70 | 0.31 | 63 | 69 | 72 | 3285 | 0 |
| 10 | 230 | 50 | 750 | 101 | 0.44 | 52 | 60 | 68 | 2880 | 57 |
| 11 | 230 | 50 | 750 | 115 | 0.50 | 46 | 54 | 61 | 2075 | 111 |
| 12 | 230 | 50 | 750 | 108 | 0.47 | 50 | 59 | 65 | 1355 | 137 |
| 13 | 230 | 50 | 600 | 36 | 0.16 | 58 | 65 | 67 | 2630 | 0 |
| 14 | 230 | 50 | 600 | 52 | 0.23 | 47 | 55 | 63 | 2305 | 36 |
| 15 | 230 | 50 | 600 | 59 | 0.26 | 41 | 49 | 56 | 1660 | 71 |
| 16 | 230 | 50 | 600 | 55 | 0.24 | 46 | 54 | 60 | 1085 | 88 |

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 · $LwA_{out}$ = Sound power level outlet side
qv = Air flow · $p_{fs}$ = Pressure increase



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