**G1G170-AB31-03**

# EC centrifugal fan

backward-curved, single-intake

with housing (flange), Gas blower for condensing boilers



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## Nominal data

| | |
|---|---|
| **Type** | **G1G170-AB31-03** |
| **Motor** | **M1G074-CF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Frequency | Hz | 50 |
| Method of obtaining data | | fa |
| Speed (rpm) | $min^{-1}$ | 5650 |
| Power consumption | W | 315 |
| Current draw | A | 2.15 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 55 |

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

| | | Actual | Req. 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 61.3 | 44.9 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 77.4 | 61 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power consumption $P_{ed}$ | kW | 0.29 |
| 09 Air flow $q_v$ | $m^3/h$ | 370 |
| 09 Pressure increase $p_{fs}$ | Pa | 1601 |
| 10 Speed (rpm) n | $min^{-1}$ | 5960 |
| 11 Specific ratio* | | 1.02 |

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 Pa

LU-48240

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## Technical description

| | |
|---|---|
| **Weight** | 4.5 kg |
| **Size** | 170 mm |
| **Motor size** | 74 |
| **Rotor surface** | Painted black |
| **Cover material** | Polyflam RPP 374-ND CS1 (UL 97-V0) |
| **Impeller material** | Sheet aluminum |
| **Housing material** | Die-cast aluminum |
| **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** | Any |
| **Cooling hole/opening** | On rotor side |
| **Premixing** | If gas is premixed in the blower, then a special blower must be used. |
| **Motor mounting** | Ball bearing |
| **Technical features** | - Tach output<br>- Motor current limitation<br>- Emergency operation<br>- PWM control input<br>- Control interface with SELV potential safely disconnected from the mains<br>- Thermal overload protection for motor |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | <= 3.5 mA |
| **Electrical hookup** | Plug |
| **Motor protection** | Thermal overload protector (TOP) internally connected |
| **Conformity with standards** | CE |
| **Approval** | CSA C22.2 No. 113; UL 507; VDE; CCC |



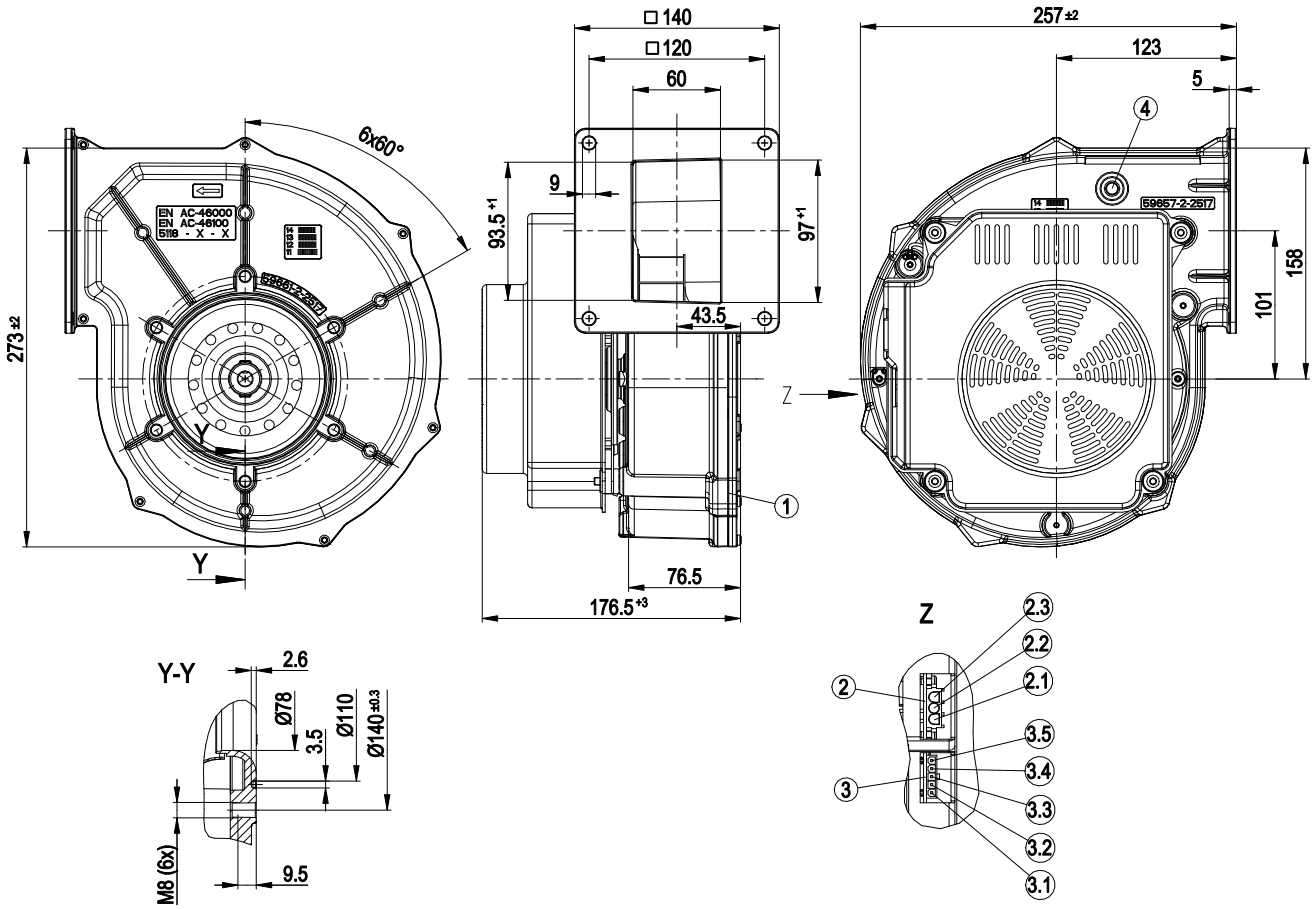
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## Product drawing




| | |
|---|---|
| 1 | Housing side parts sealed with NBR round cord (pentane-resistant) |
| 2 | 3-pole header, mating connector (not included in scope of delivery): Tyco no. 350 766-1; socket: Tyco no. 926 884-1 |
| 2.1 | L |
| 2.2 | N |
| 2.3 | PE |
| 3 | 5-pole header; mating connector (not included in scope of delivery): Molex no. 39-01-4050; socket: Molex no. 39-00-0059 |
| 3.1 | (+) |
| 3.2 | Speed monitoring |
| 3.3 | not used |
| 3.4 | PWM input |
| 3.5 | (-) |
| 4 | Pressure tap possible |



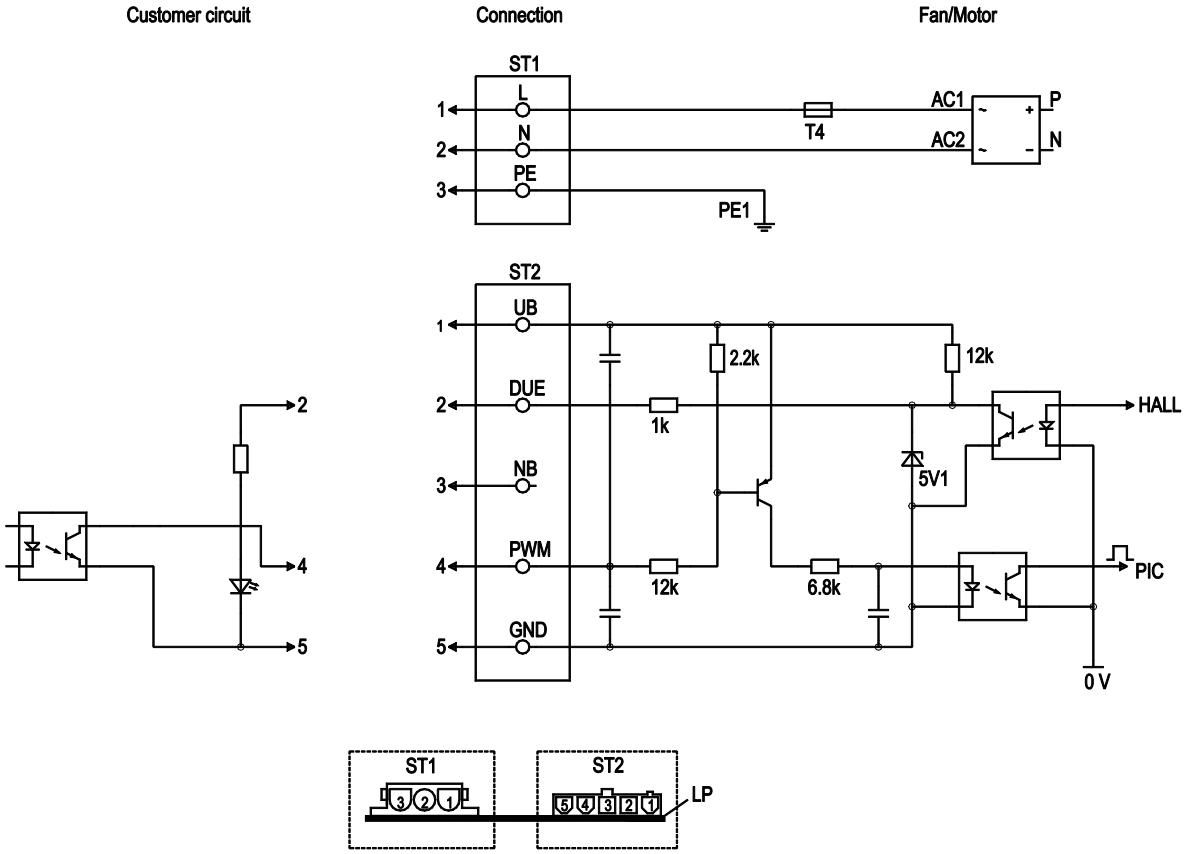
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## Connection diagram




| No. | Conn. | Designation | Function/assignment |
|---|---|---|---|
| ST1 | 1, 2, 3 | L, N, PE | Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range, neutral conductor, protective earth |
| ST2 | 1 | UB | external voltage 18 - 43 VDC |
| ST2 | 2 | Tach | DUE connection, monitoring output, 3 pulses per revolution, Isource 2 mA |
| ST2 | 3 | N.C. | not used |
| ST2 | 4 | PWM | PWM - 2 - 6 kHz control input, PWM on n = 100%, PWM low n = 0% |
| ST2 | 5 | GND | GND connection for control interface |



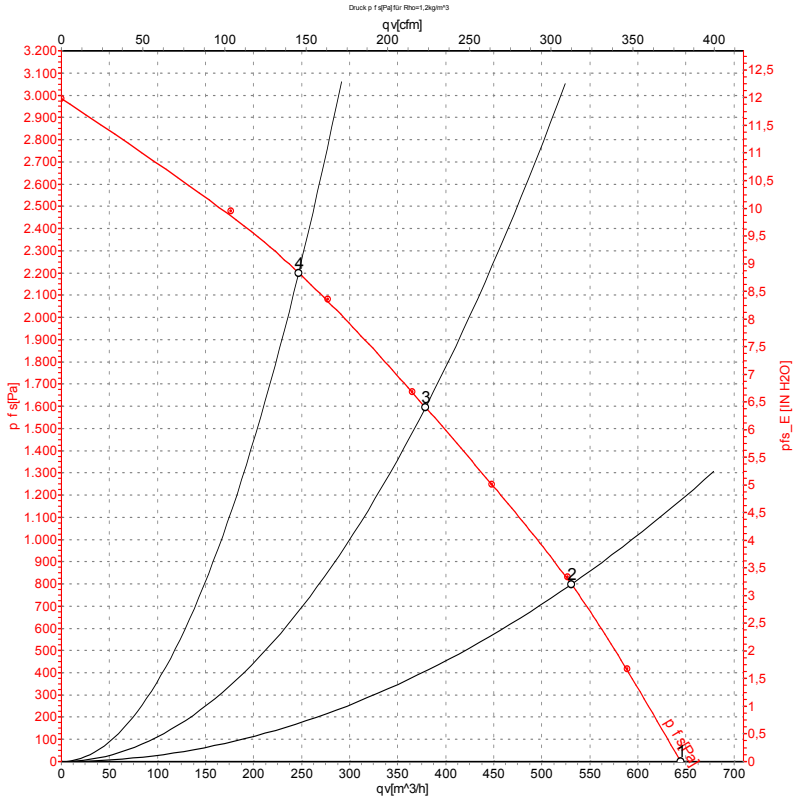
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## Curves: Air performance 50 Hz




Measurement: LU-48240-1

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 | $P_{ed}$ | I | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa | cfm | in. wg |
| 1 | 230 | 50 | 5650 | 315 | 2.15 | 645 | 0 | 380 | 0.00 |
| 2 | 230 | 50 | 5740 | 315 | 2.15 | 530 | 800 | 315 | 3.21 |
| 3 | 230 | 50 | 5940 | 300 | 2.08 | 380 | 1600 | 225 | 6.42 |
| 4 | 230 | 50 | 6215 | 273 | 1.88 | 245 | 2200 | 145 | 8.83 |

U = Power supply · f = Frequency · n = Speed (rpm) · $P_{ed}$ = Power consumption · I = Current draw · $q_V$ = Air flow · $p_{fs}$ = Pressure increase



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