

# EC centrifugal fan

backward curved, single inlet

with housing (large flange), Gas blower for gas-condensing heating


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## Nominal data

|                           |                   |       |
|---------------------------|-------------------|-------|
| Type                      | G1G170-AB53-80    |       |
| Motor                     | M1G074-CF         |       |
| Phase                     |                   | 1~    |
| Nominal voltage           | VAC               | 230   |
| Frequency                 | Hz                | 50/60 |
| Type of data definition   |                   | fa    |
| Speed                     | min <sup>-1</sup> | 5830  |
| Power input               | W                 | 360   |
| Current draw              | A                 | 1.6   |
| Min. ambient temperature  | °C                | -25   |
| Max. ambient temperature  | °C                | +55   |
| Min. temp. of flow medium | °C                | -25   |
| Max. temp. of flow medium | °C                | +80   |

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*       | 1.02   |

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

|                                | Actual            | Request 2013 | Request 2015 |
|--------------------------------|-------------------|--------------|--------------|
| Overall efficiency $\eta_{es}$ | 58.8              | 42           | 45           |
| Efficiency grade N             | 74.8              | 58           | 61           |
| Power input $P_{ed}$           | kW                | 0.3          |              |
| Air flow $q_v$                 | m <sup>3</sup> /h | 285          |              |
| Pressure increase $p_{fs}$     | Pa                | 2000         |              |
| Speed n                        | min <sup>-1</sup> | 6220         |              |

Data established at point of optimum efficiency



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## Technical features

|                                                                    |                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mass                                                               | 4.5 kg                                                                                                                                                                                                                                         |
| Size                                                               | 170 mm                                                                                                                                                                                                                                         |
| Surface of rotor                                                   | Coated in black                                                                                                                                                                                                                                |
| Material of protective cover                                       | Polyflam RPP 374-ND CS1 (UL 97-V0)                                                                                                                                                                                                             |
| Material of impeller                                               | Aluminium sheet                                                                                                                                                                                                                                |
| Housing material                                                   | Die-cast aluminium                                                                                                                                                                                                                             |
| Direction of rotation                                              | Clockwise, seen on rotor                                                                                                                                                                                                                       |
| Type of protection                                                 | IP 20                                                                                                                                                                                                                                          |
| Insulation class                                                   | "B"                                                                                                                                                                                                                                            |
| Max. permissible ambient motor temp. (transp./ storage)            | +80 °C                                                                                                                                                                                                                                         |
| Min. permissible ambient motor temp. (transp./storage)             | -40 °C                                                                                                                                                                                                                                         |
| Mounting position                                                  | Any                                                                                                                                                                                                                                            |
| Cooling bore / aperture                                            | Rotor-side                                                                                                                                                                                                                                     |
| Operation mode                                                     | S1                                                                                                                                                                                                                                             |
| Motor bearing                                                      | Ball bearing                                                                                                                                                                                                                                   |
| Technical features                                                 | <ul style="list-style-type: none"> <li>- Tach output</li> <li>- Output 10 VDC, max. 10 mA</li> <li>- Motor current limit</li> <li>- PFC, active</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Over-temperature protected motor</li> </ul> |
| 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                                                                                                                                                                                              |
| Approval                                                           | CCC; UL 507; CSA C22.2 Nr.113                                                                                                                                                                                                                  |

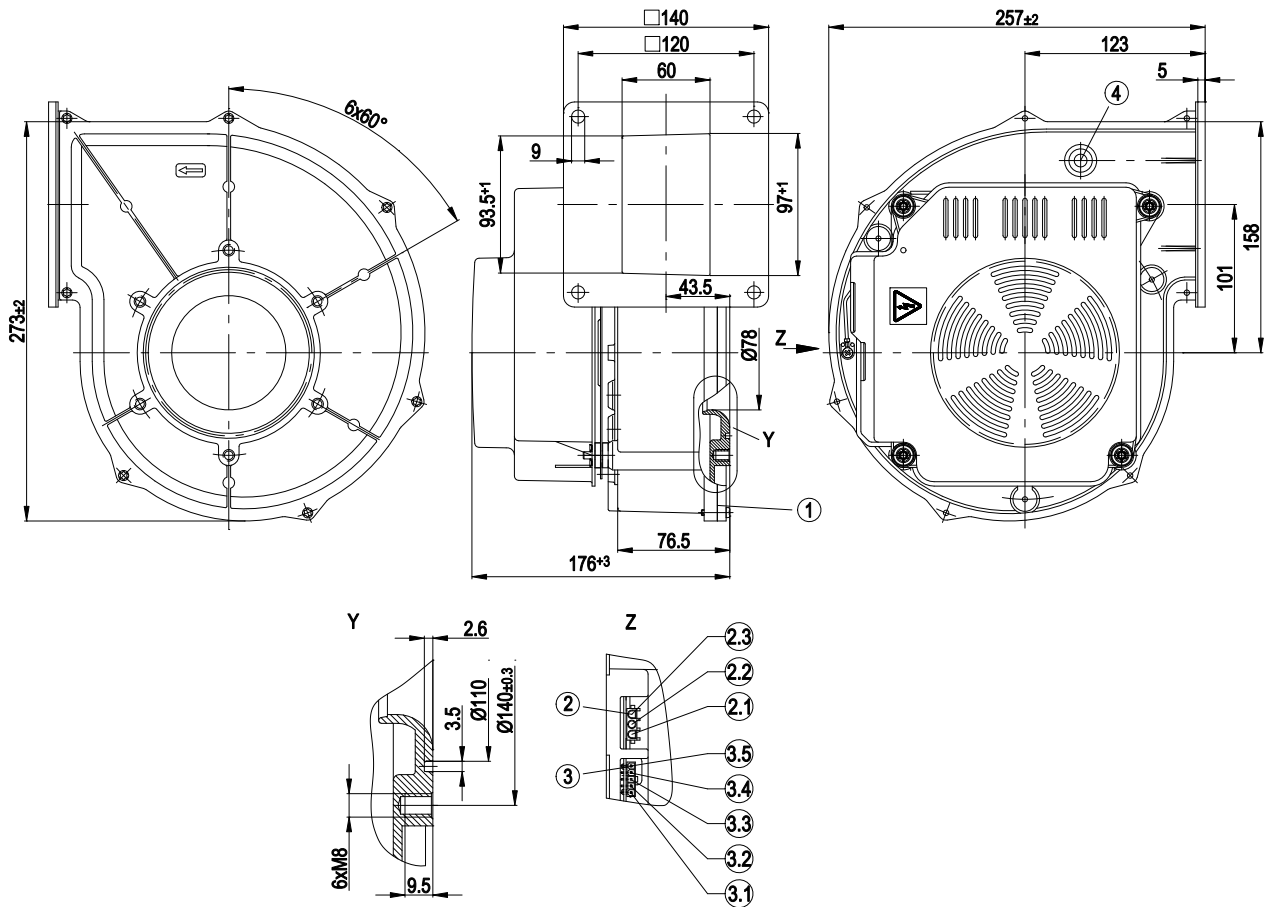


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## Product drawing



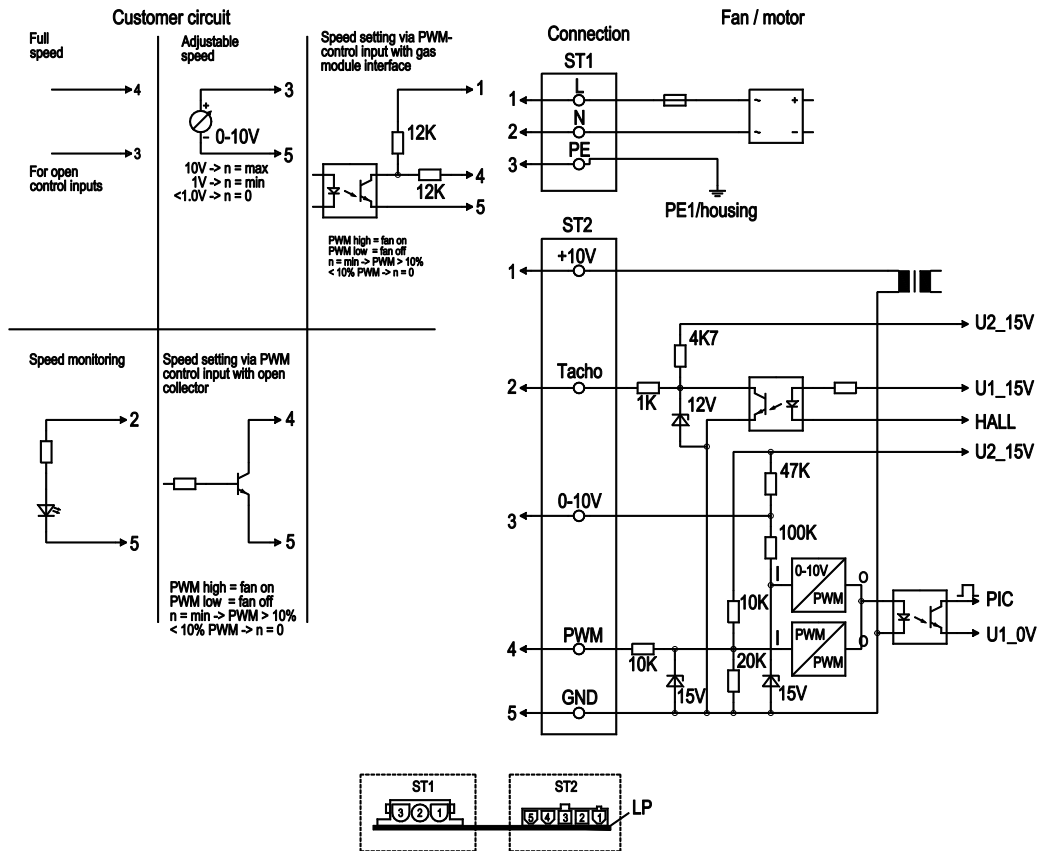
|     |                                                                                                                       |
|-----|-----------------------------------------------------------------------------------------------------------------------|
| 1   | Housing side parts sealed with NBR round cord (pentane-resistant)                                                     |
| 2   | 3-pole strip; mating connector (not included in delivery): tyco No. 350 766-1; female connector: No. 926 884-1        |
| 2.1 | L                                                                                                                     |
| 2.2 | N                                                                                                                     |
| 2.3 | PE                                                                                                                    |
| 3   | 5-pole strip; mating connector (not included in delivery) Molex No. 39-01-4050, female connector Molex No. 39-00-0059 |
| 3.1 | 10V output, max. 10mA                                                                                                 |
| 3.2 | Speed monitoring                                                                                                      |
| 3.3 | Lin control input                                                                                                     |
| 3.4 | PWM input                                                                                                             |
| 3.5 | ( - )                                                                                                                 |
| 4   | Bleeder connection for pressure relief possible                                                                       |
| 5   | View Z                                                                                                                |

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## Connection screen



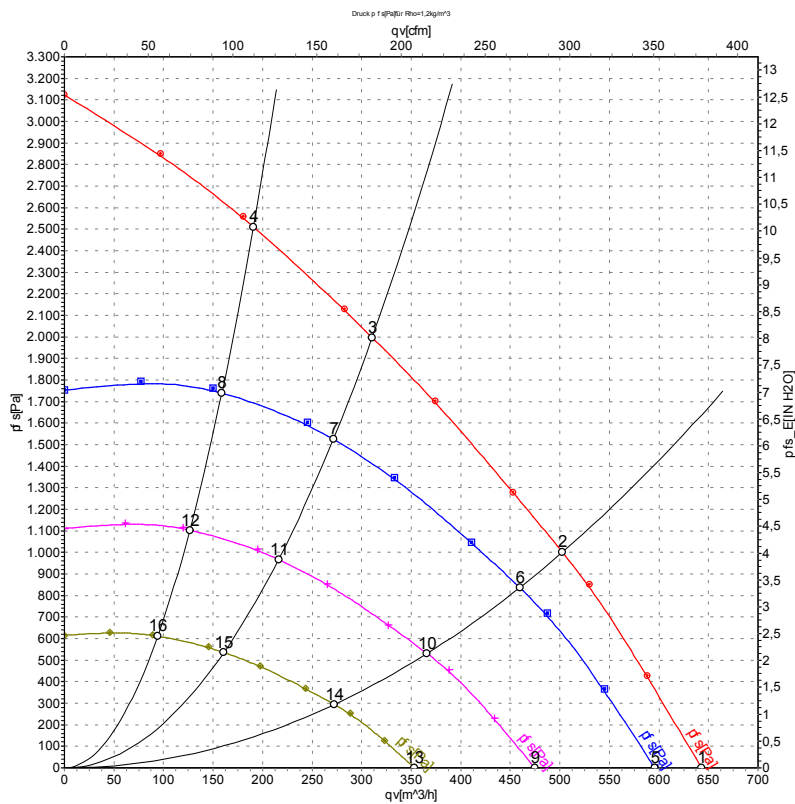
| No. | Pin     | Signal         | Function / assignment                                                                               |
|-----|---------|----------------|-----------------------------------------------------------------------------------------------------|
| ST1 | 1, 2, 3 | L, N, PE       | Power supply 230 VAC, 50-60 Hz, phase, neutral, protective earth                                    |
| ST2 | 1       | 10V/ max. 10mA | Voltage output 10 VAC (+/-3%), max. 10 mA, power supply for ext. devices (e.g. potentiometer), SELV |
| ST2 | 2       | Tach           | Tacho output, 3 pulses per revolution, SELV                                                         |
| ST2 | 3       | 0-10V          | Control input 0-10 V, impedance 100k, SELV                                                          |
| ST2 | 4       | PWM            | Control input PWM, 1-6 kHz, SELV                                                                    |
| ST2 | 5       | GND            | GND - Connection for control interface, SELV                                                        |

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## Charts: Air flow 50 Hz



Measurement: LU-57509

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 <sub>ed</sub> | I    | qv                | P <sub>fs</sub> |
|----|-----|----|-------------------|-----------------|------|-------------------|-----------------|
|    | V   | Hz | min <sup>-1</sup> | W               | A    | m <sup>3</sup> /h | Pa              |
| 1  | 230 | 50 | 5830              | 360             | 1.60 | 645               | 0               |
| 2  | 230 | 50 | 5905              | 346             | 1.52 | 505               | 1000            |
| 3  | 230 | 50 | 6175              | 308             | 1.35 | 310               | 2000            |
| 4  | 230 | 50 | 6480              | 268             | 1.18 | 190               | 2500            |
| 5  | 230 | 50 | 5400              | 287             | 1.26 | 595               | 0               |
| 6  | 230 | 50 | 5400              | 265             | 1.16 | 460               | 838             |
| 7  | 230 | 50 | 5400              | 206             | 0.91 | 270               | 1527            |
| 8  | 230 | 50 | 5400              | 156             | 0.68 | 160               | 1747            |
| 9  | 230 | 50 | 4300              | 145             | 0.63 | 475               | 0               |
| 10 | 230 | 50 | 4300              | 134             | 0.59 | 365               | 531             |
| 11 | 230 | 50 | 4300              | 104             | 0.46 | 215               | 968             |
| 12 | 230 | 50 | 4300              | 79              | 0.34 | 125               | 1108            |
| 13 | 230 | 50 | 3200              | 60              | 0.26 | 355               | 0               |
| 14 | 230 | 50 | 3200              | 55              | 0.24 | 270               | 294             |
| 15 | 230 | 50 | 3200              | 43              | 0.19 | 160               | 536             |
| 16 | 230 | 50 | 3200              | 32              | 0.14 | 95                | 614             |

U = Supply voltage · f = Frequency · n = Speed · P<sub>ed</sub> = Power input · I = Current draw · qv = Air flow · P<sub>fs</sub> = Pressure increase

