

R3G140-AV03-02

## EC centrifugal fan

forward curved, single inlet



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## Nominal data

|                          |                   |       |
|--------------------------|-------------------|-------|
| Type                     | R3G140-AV03-02    |       |
| Motor                    | M3G055-CF         |       |
| Phase                    |                   | 1~    |
| Nominal voltage          | VAC               | 230   |
| Frequency                | Hz                | 50/60 |
| Speed                    | min <sup>-1</sup> | 1800  |
| Power input              | W                 | 66    |
| Current draw             | A                 | 0.5   |
| Min. ambient temperature | °C                | -25   |
| Max. ambient temperature | °C                | 60    |

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit  
Subject to alterations



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## Technical features

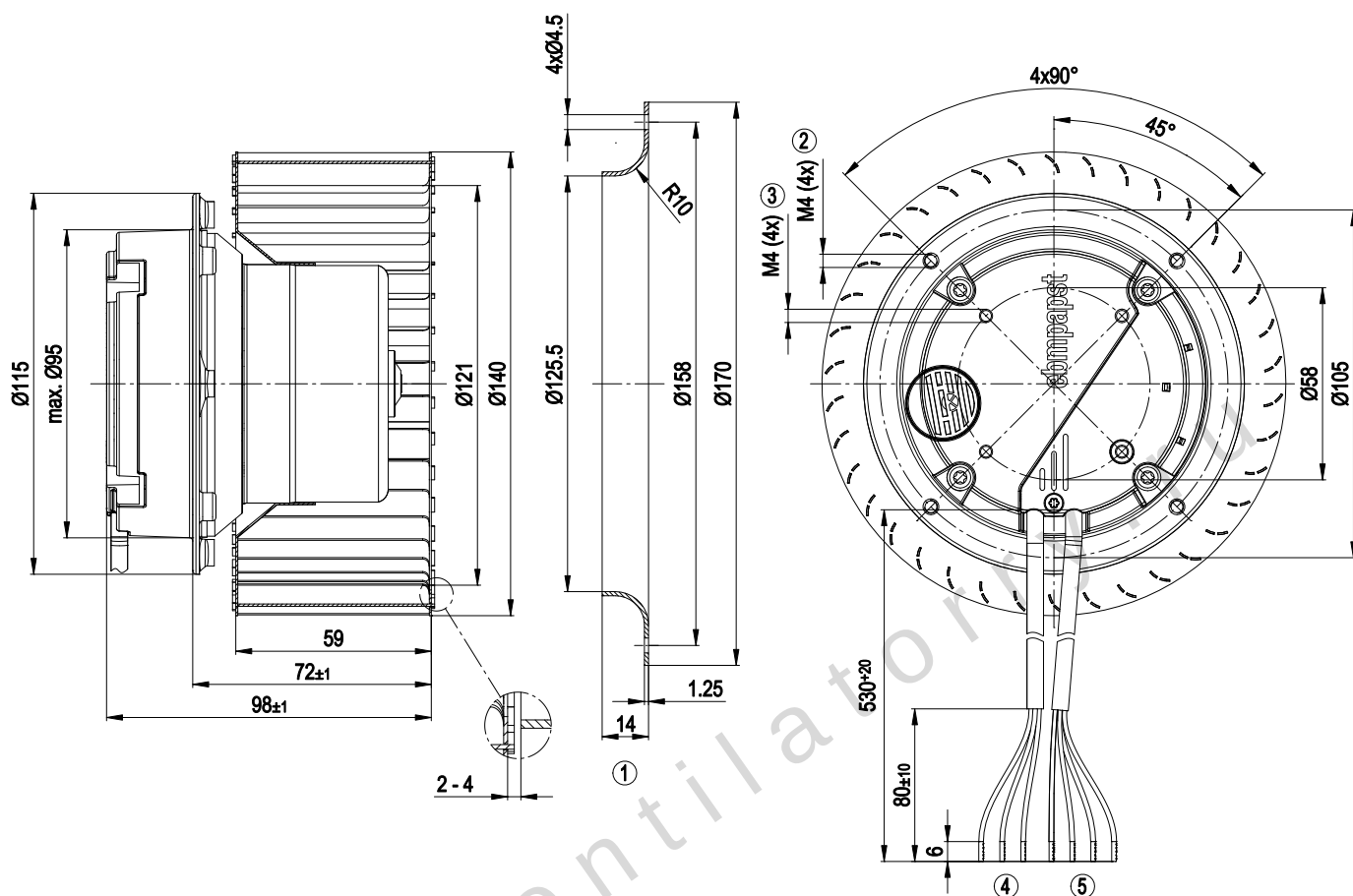
|                                                                    |                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mass                                                               | 1.24 kg                                                                                                                                                                                                                                                                                                                            |
| Size                                                               | 140 mm                                                                                                                                                                                                                                                                                                                             |
| Surface of rotor                                                   | Thick layer passivated                                                                                                                                                                                                                                                                                                             |
| Material of electronics housing                                    | Die-cast aluminium                                                                                                                                                                                                                                                                                                                 |
| Material of impeller                                               | Sheet steel, galvanised                                                                                                                                                                                                                                                                                                            |
| Direction of rotation                                              | Clockwise, seen on rotor                                                                                                                                                                                                                                                                                                           |
| Type of protection                                                 | IP 44                                                                                                                                                                                                                                                                                                                              |
| Insulation class                                                   | "B"                                                                                                                                                                                                                                                                                                                                |
| Humidity class                                                     | F3-1                                                                                                                                                                                                                                                                                                                               |
| Max. permissible ambient motor temp. (transp./ storage)            | + 80 °C                                                                                                                                                                                                                                                                                                                            |
| Min. permissible ambient motor temp. (transp./storage)             | - 40 °C                                                                                                                                                                                                                                                                                                                            |
| Mounting position                                                  | Any                                                                                                                                                                                                                                                                                                                                |
| Condensate discharge holes                                         | Rotor-side                                                                                                                                                                                                                                                                                                                         |
| Operation mode                                                     | S1                                                                                                                                                                                                                                                                                                                                 |
| Motor bearing                                                      | Ball bearing                                                                                                                                                                                                                                                                                                                       |
| Technical features                                                 | <ul style="list-style-type: none"> <li>- Output 10 VDC, max. 1.1 mA</li> <li>- Tach output</li> <li>- Motor current limit</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from the mains</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 61000-6-3 (household environment)                                                                                                                                                                                                                                                                                       |
| Touch current acc. IEC 60990 (measuring network Fig. 4, TN system) | <= 3.5 mA                                                                                                                                                                                                                                                                                                                          |
| 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 60335-1; CE                                                                                                                                                                                                                                                                                                                     |
| Approval                                                           | CCC; EAC                                                                                                                                                                                                                                                                                                                           |

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## Product drawing



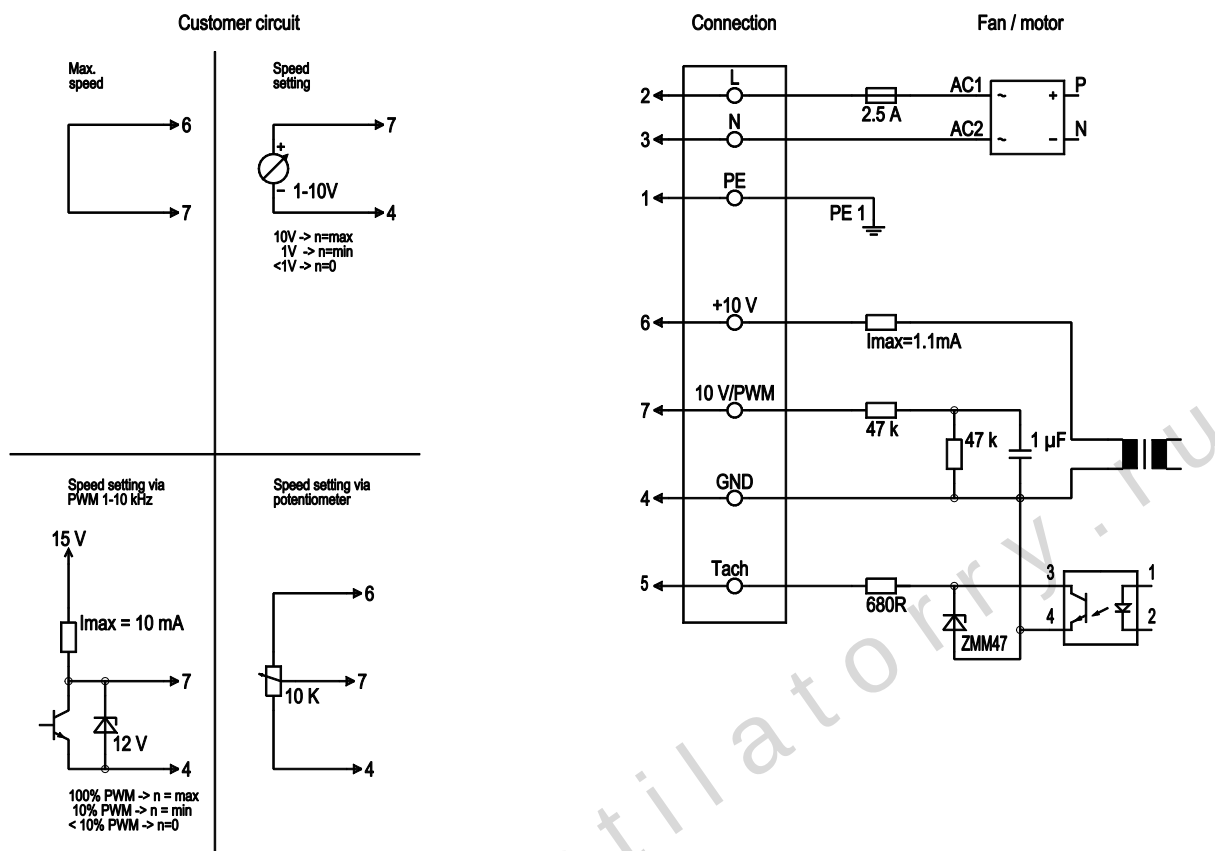
|   |                                                                                           |
|---|-------------------------------------------------------------------------------------------|
| 1 | Accessory part: Inlet nozzle 09576-2-4013, not included in the standard scope of delivery |
| 2 | Depth of screw max. 6 mm                                                                  |
| 3 | Depth of screw max. 6 mm                                                                  |
| 4 | Connection line PVC 3G 0.5 mm <sup>2</sup> ; 3 x brass lead tips crimped                  |
| 5 | Connection line PVC 4 x 0.25 mm <sup>2</sup> ; 4 x brass lead tips crimped                |

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## Connection screen



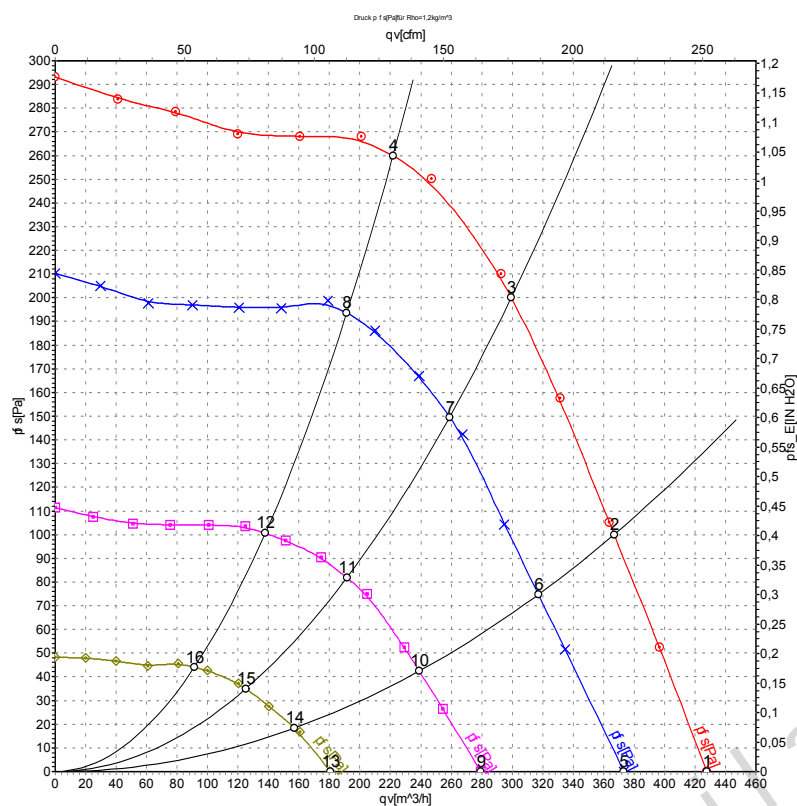
| No. | Conn. | Designation       | Colour       | Function / assignment                                                      |
|-----|-------|-------------------|--------------|----------------------------------------------------------------------------|
|     | 2     | L                 | brown        | Power supply 230 VAC, 50-60 Hz, see type plate for voltage range           |
|     | 3     | N                 | blue         | Neutral conductor                                                          |
|     | 1     | PE                | green/yellow | Protective earth                                                           |
|     | 7     | 0-10 V PWM        | yellow       | Control input 0 - 10 V or PWM, electrically isolated                       |
|     | 5     | Tach              | white        | Tach output: Open Collector, 1 pulse per revolution, electrically isolated |
|     | 6     | 10V / max. 1.1 mA | red          | Voltage output 10V / 1.1mA, electrically isolated, not short-circuit-proof |
|     | 4     | GND               | blue         | GND - Connection for control interface                                     |

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## Charts: Air flow 50 Hz



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    | m³/h | Pa              |
| 1  | 230 | 50 | 1800              | 66              | 0.50 | 430  | 0               |
| 2  | 230 | 50 | 1855              | 59              | 0.43 | 365  | 100             |
| 3  | 230 | 50 | 1960              | 50              | 0.36 | 300  | 200             |
| 4  | 230 | 50 | 2075              | 42              | 0.31 | 220  | 260             |
| 5  | 230 | 50 | 1580              | 46              | 0.35 | 375  | 0               |
| 6  | 230 | 50 | 1630              | 40              | 0.30 | 315  | 75              |
| 7  | 230 | 50 | 1710              | 34              | 0.26 | 260  | 150             |
| 8  | 230 | 50 | 1780              | 27              | 0.21 | 190  | 194             |
| 9  | 230 | 50 | 1195              | 22              | 0.17 | 280  | 0               |
| 10 | 230 | 50 | 1220              | 18              | 0.14 | 240  | 42              |
| 11 | 230 | 50 | 1265              | 16              | 0.13 | 190  | 82              |
| 12 | 230 | 50 | 1305              | 13              | 0.11 | 140  | 101             |
| 13 | 230 | 50 | 810               | 9.0             | 0.08 | 180  | 0               |
| 14 | 230 | 50 | 830               | 8.1             | 0.07 | 155  | 19              |
| 15 | 230 | 50 | 845               | 6.9             | 0.07 | 125  | 35              |
| 16 | 230 | 50 | 890               | 6.4             | 0.06 | 90   | 44              |

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