

R1G220-AB35-99

# EC centrifugal fan

backward curved, single inlet



R1G220-AB35-99 ebmpapst Datasheet  
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## Nominal data

|                          |                   |          |
|--------------------------|-------------------|----------|
| Type                     | R1G220-AB35-99    |          |
| Motor                    | M1G074-BF         |          |
| Nominal voltage          | VDC               | 24       |
| Nominal voltage range    | VDC               | 16 .. 28 |
| Type of data definition  |                   | fa       |
| Speed                    | min <sup>-1</sup> | 3150     |
| Power input              | W                 | 106      |
| Current draw             | A                 | 5.0      |
| 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

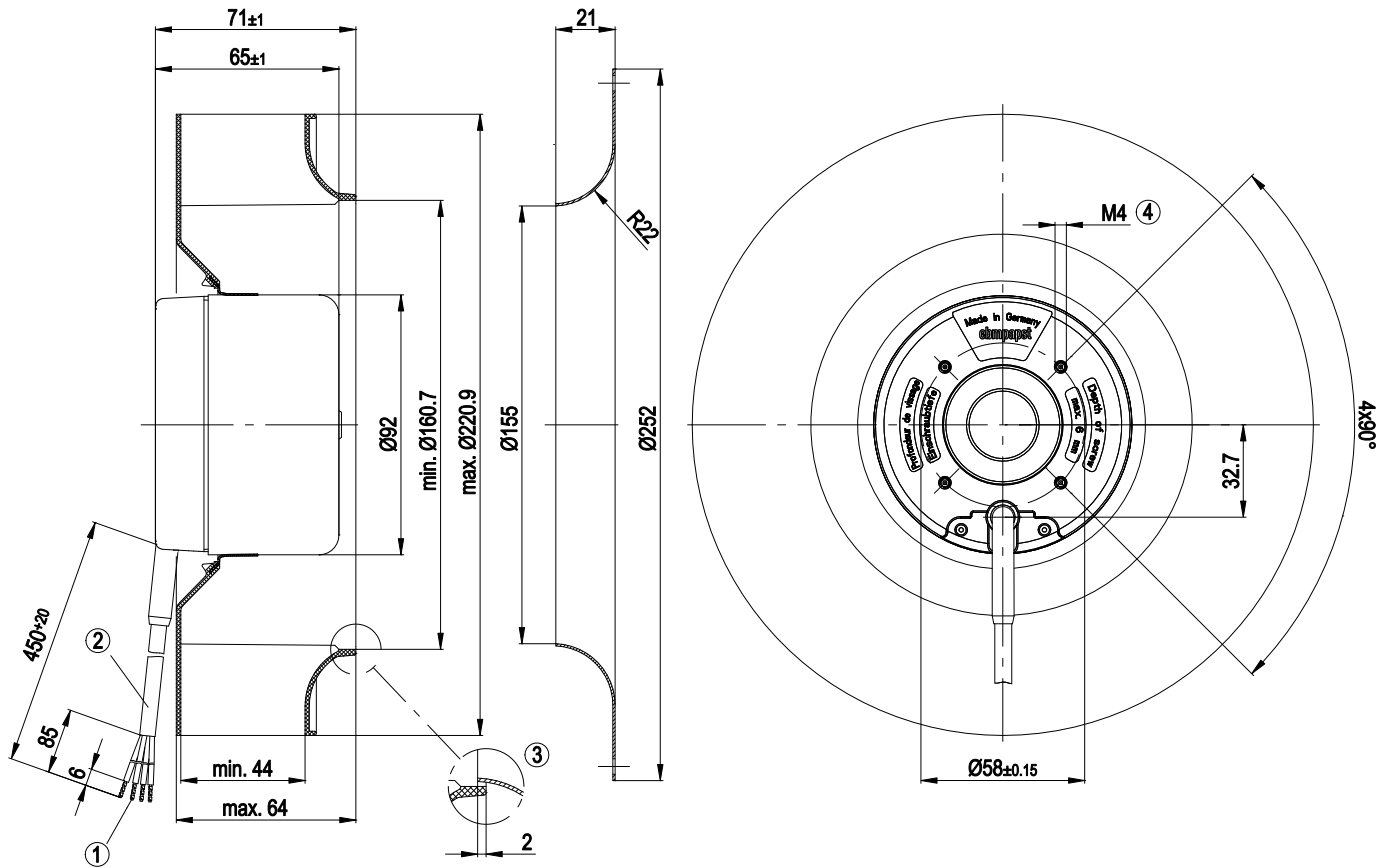


## Technical features

|                                                         |                                                                                        |
|---------------------------------------------------------|----------------------------------------------------------------------------------------|
| Mass                                                    | 1.48 kg                                                                                |
| Size                                                    | 220 mm                                                                                 |
| Surface of rotor                                        | Coated in black                                                                        |
| Material of impeller                                    | PA plastic 6.6, fiberglass-reinforced, round sheet-metal plate coated in black         |
| Number of blades                                        | 11                                                                                     |
| Stability                                               | Salt fog resistant in accordance with TELCORDIA GR-487-CORE, release No. 2, March 2000 |
| Direction of rotation                                   | Clockwise, seen on rotor                                                               |
| Type of protection                                      | IP 44                                                                                  |
| Insulation class                                        | "B"                                                                                    |
| Humidity class                                          | F4-2                                                                                   |
| Max. permissible ambient motor temp. (transp./ storage) | +80 °C                                                                                 |
| Min. permissible ambient motor temp. (transp./storage)  | -40 °C                                                                                 |
| Mounting position                                       | Any                                                                                    |
| Condensate discharge holes                              | None                                                                                   |
| Operation mode                                          | S1                                                                                     |
| Motor bearing                                           | Ball bearing                                                                           |
| Technical features                                      | - Control input 0-10 VDC / PWM<br>- Tach output                                        |
| EMC interference immunity                               | Acc. to EN 61000-6-2                                                                   |
| EMC interference emission                               | Acc. to EN 55022 (Class B)                                                             |
| Motor protection                                        | Reverse polarity and locked-rotor protection                                           |
| Cable exit                                              | Variable                                                                               |
| Product conforming to standard                          | EN 60950-1                                                                             |
| Approval                                                | CSA C22.2 Nr.77; UL 1004-1                                                             |

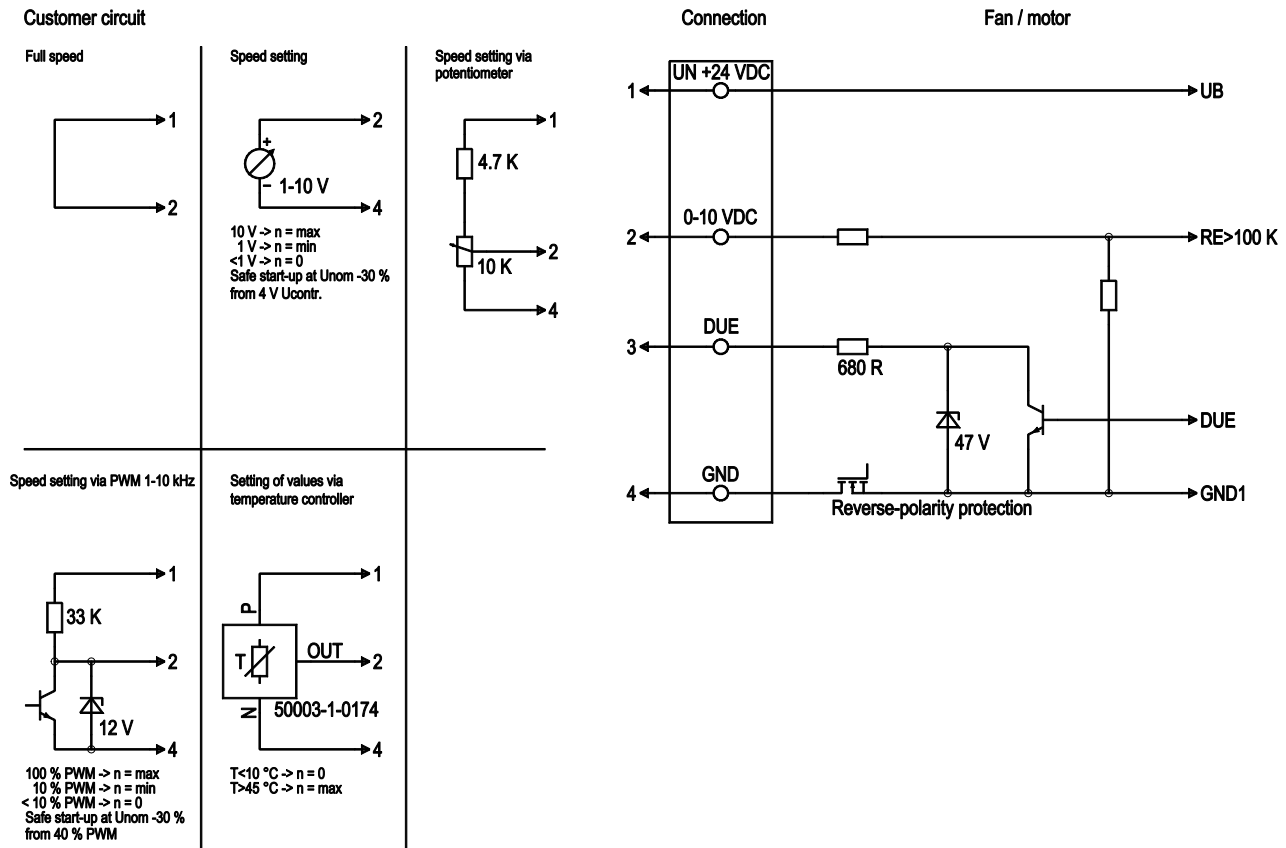


## Product drawing



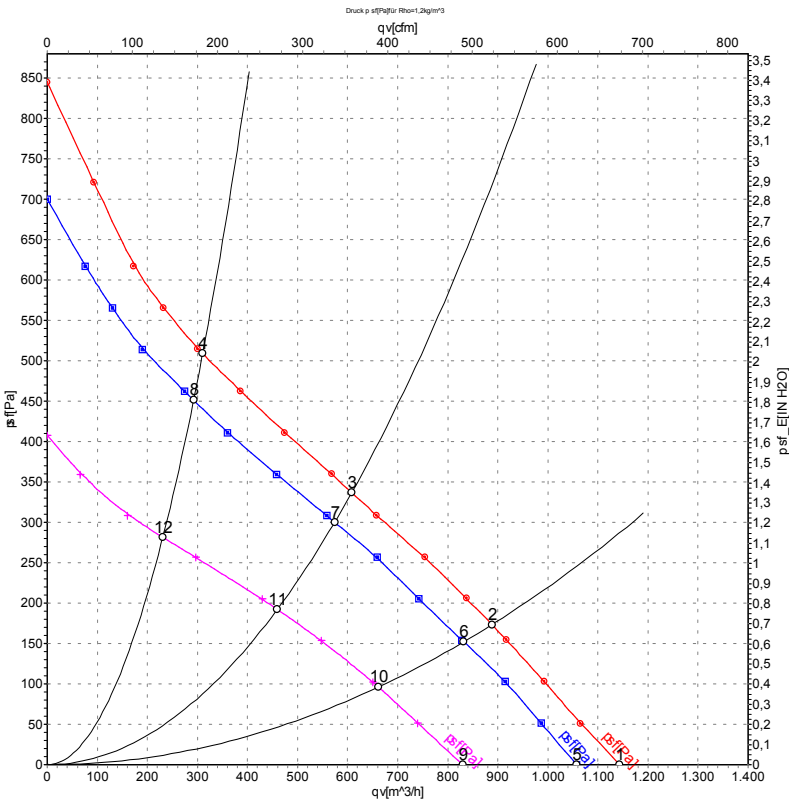
|   |                                                                                           |
|---|-------------------------------------------------------------------------------------------|
| 1 | Brass lead tips                                                                           |
| 2 | Connection line 4 x AWG20                                                                 |
| 3 | Accessory part: Inlet nozzle 09609-2-4013, not included in the standard scope of delivery |
| 4 | Depth of screw max. 6 mm                                                                  |

## Connection screen



| Line | No. | Signal     | Colour | Function / assignment                                             |
|------|-----|------------|--------|-------------------------------------------------------------------|
| 1    | 1   | Un +24 VDC | red    | Power supply 24 VDC, residual ripple 3.5 %                        |
| 1    | 2   | 0-10 VDC   | yellow | Control input Re > 100 K                                          |
| 1    | 3   | DUE        | white  | Speed monitoring output, 3 pulses per rotation, Isink max = 10 mA |
| 1    | 4   | GND        | blue   | Reference mass                                                    |

Charts: Air flow



Measurement: LU-48202  
Measurement: LU-48200  
Measurement: LU-48201

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  | n                 | P <sub>e</sub> | I    | q <sub>v</sub>    | p <sub>sf</sub> |
|----|----|-------------------|----------------|------|-------------------|-----------------|
|    | V  | min <sup>-1</sup> | W              | A    | m <sup>3</sup> /h | Pa              |
| 1  | 28 | 3405              | 129            | 5.33 | 1145              | 0               |
| 2  | 28 | 3135              | 134            | 5.71 | 890               | 173             |
| 3  | 28 | 2985              | 137            | 5.96 | 610               | 337             |
| 4  | 28 | 3175              | 133            | 5.63 | 310               | 508             |
| 5  | 24 | 3150              | 106            | 5.00 | 1055              | 0               |
| 6  | 24 | 2930              | 112            | 5.32 | 830               | 150             |
| 7  | 24 | 2810              | 114            | 5.52 | 575               | 300             |
| 8  | 24 | 2980              | 111            | 5.25 | 290               | 450             |
| 9  | 16 | 2460              | 50             | 3.50 | 830               | 0               |
| 10 | 16 | 2330              | 56             | 3.88 | 660               | 97              |
| 11 | 16 | 2260              | 59             | 4.11 | 460               | 192             |
| 12 | 16 | 2360              | 55             | 3.81 | 230               | 282             |

