**R3G560-PC04-09**

# EC centrifugal fan - RadiPac

backward curved, single inlet

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## Nominal data

| | |
|---|---|
| **Type** | **R3G560-PC04-09** |
| **Motor** | **M3G150-NA** |

| | | |
|---|---|---|
| Phase | | 3~ |
| Nominal voltage | VAC | 400 |
| Nominal voltage range | VAC | 380 .. 480 |
| Frequency | Hz | 50/60 |
| Type of data definition | | ml |
| Speed (rpm) | $min^{-1}$ | 1760 |
| Power input | W | 5000 |
| Current draw | A | 7.7 |
| 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

| | | Actual | Request 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 70.2 | 58.9 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 73.3 | 62 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power input $P_{ed}$ | kW | 5.03 |
| 09 Air flow $q_v$ | $m^3/h$ | 11760 |
| 09 Pressure increase $p_{fs}$ | Pa | 1035 |
| 10 Speed (rpm) n | $min^{-1}$ | 1770 |
| 11 Specific ratio* | | 1.01 |

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + $p_{fs}$ / 100 000 Pa

LU-173565

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## Technical features

| | |
|---|---|
| **Mass** | 38.5 kg |
| **Size** | 560 mm |
| **Surface of rotor** | Coated in black |
| **Material of electronics housing** | Die-cast aluminium |
| **Material of impeller** | Aluminium sheet |
| **Number of blades** | 5 |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 55 |
| **Insulation class** | "F" |
| **Humidity (F)/environmental protection class (H)** | H1 |
| **Note ambient temperature** | Occasional start-up between -40°C and -25°C is permissible.<br>For continuous operation at ambient temperatures below -25°C (e.g. refrigeration applications) we recommend our fan version with special low-temperature bearings. |
| **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 bottom; rotor on top on request |
| **Condensate discharge holes** | Rotor-side |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Output 10 VDC, max. 10 mA<br>- External 24 V input (programming)<br>- Alarm relay<br>- Integrated PID controller<br>- Output limit<br>- Motor current limit<br>- PFC, passive<br>- RS485 MODBUS RTU<br>- Soft start<br>- Control input 0-10 VDC<br>- Control interface with SELV potential safely disconnected from the mains<br>- Over-temperature protected electronics / motor<br>- Line undervoltage / phase failure detection |
| **EMC interference immunity** | Acc. to EN 61000-6-2 (industrial environment) |
| **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** | Via terminal box |
| **Motor protection** | Reverse polarity and locked-rotor protection |
| **Protection class** | I (if protective earth is connected by customer) |
| **Product conforming to standard** | EN 61800-5-1; CE |
| **Approval** | UL 1004-7 + 60730; EAC; C22.2 Nr.77 + CAN/CSA-E60730-1 |

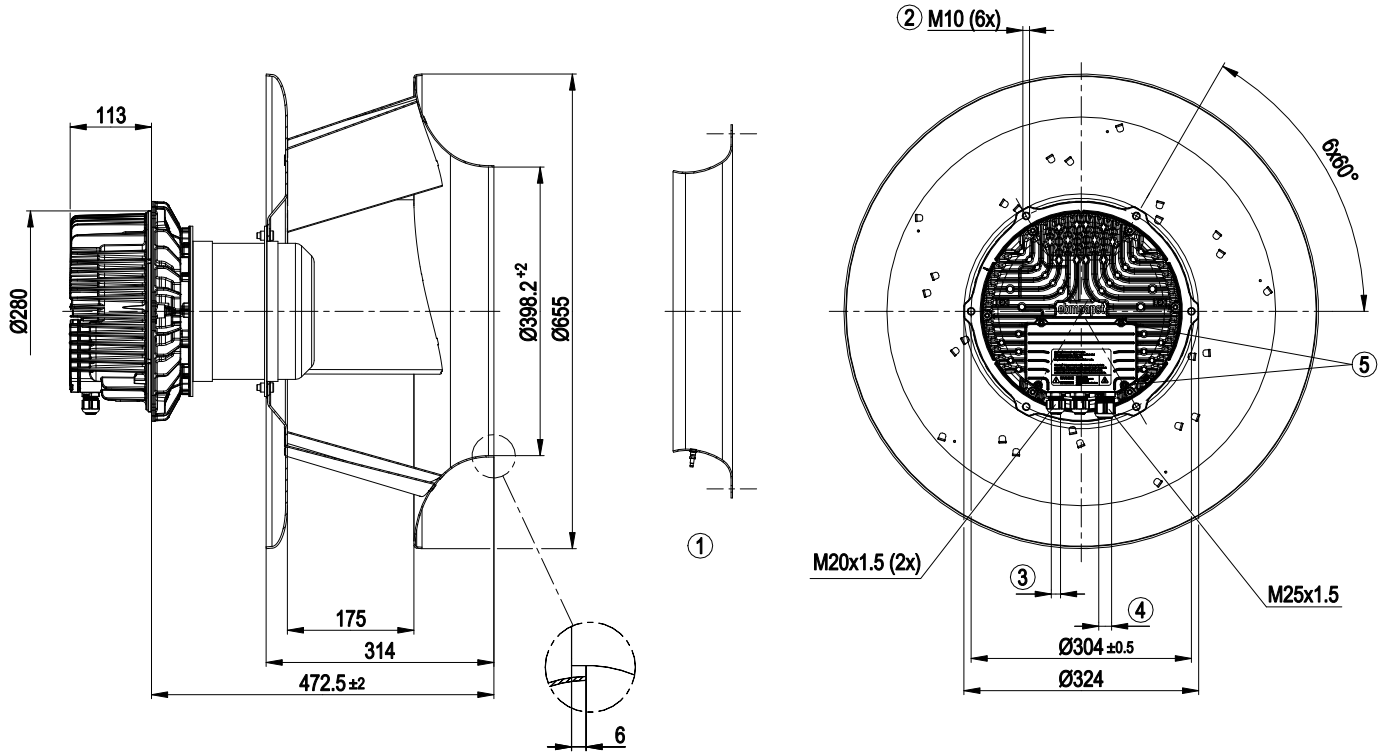


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## Product drawing




| | |
|---|---|
| 1 | Accessory part: inlet nozzle 64030-2-4013 with pressure tap (k-factor: 348) not included in scope of delivery |
| 2 | Thread reach max. 20 mm |
| 3 | Cable diameter min. 4 mm, max. 10 mm, tightening torque 4±0.6 Nm |
| 4 | Cable diameter min. 9 mm, max. 16 mm, tightening torque 6±0.9 Nm |
| 5 | Tightening torque 3.5±0.5 Nm |

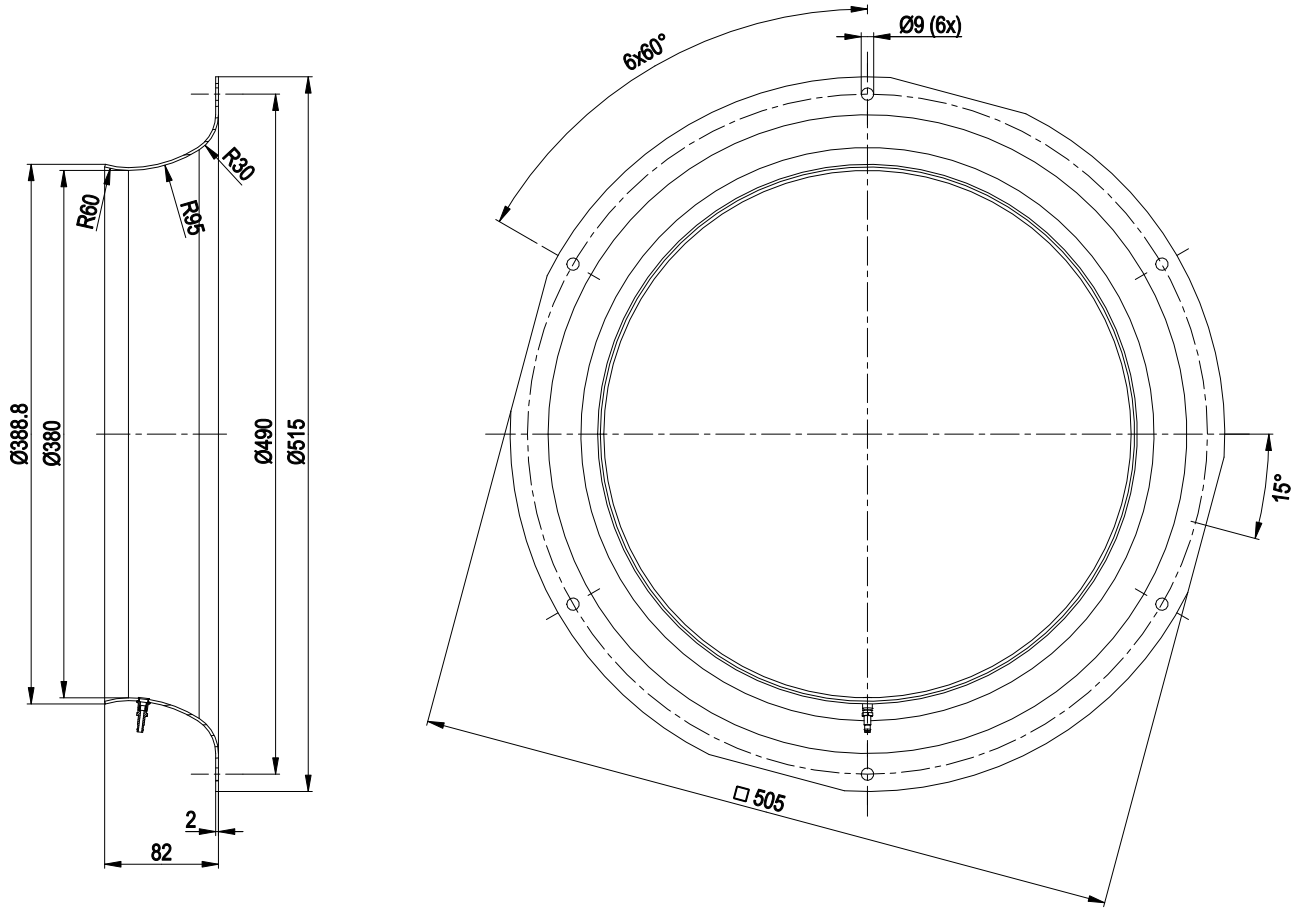


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## Accessory part




Inlet nozzle 64030-2-4013 with pressure tap not included in scope of delivery

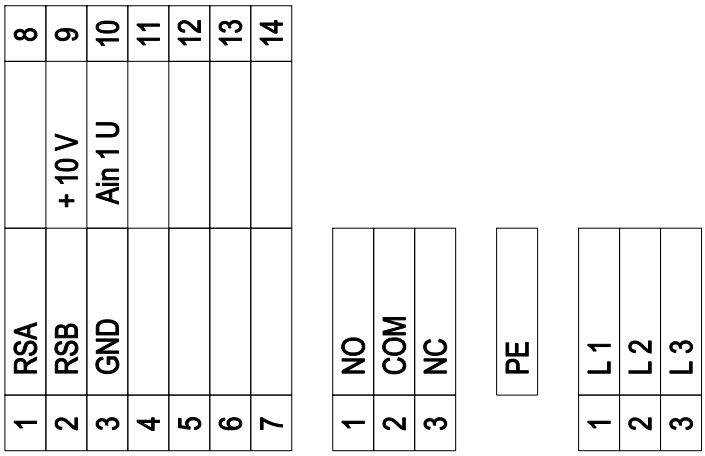


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## Connection screen




| No. | Conn. | Designation | Function / assignment |
|---|---|---|---|
| 1 | 1 | L1 | Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz |
| 1 | 2 | L2 | Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz |
| 1 | 3 | L3 | Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz |
| PE | - | PE | Protective earth connection |
| 2 | 1 | NO | Floating status contact, closes on error |
| 2 | 2 | COM | Floating status contact, changeover contact, common connection<br>(2 A, max. 250 VAC, min. 10 mA, AC1) |
| 2 | 3 | NC | Floating status contact, break for failure |
| 3 | 1 | RSA | RS-485 interface for MODBUS, RSA; SELV |
| 3 | 2 | RSB | RS-485 interface for MODBUS, RSB; SELV |
| 3 | 3 | GND | Signal ground for control interface; SELV |
| 3 | 4 | | not used |
| 3 | 5 | | not used |
| 3 | 6 | | not used |
| 3 | 7 | | not used |
| 3 | 8 | | not used |
| 3 | 9 | +10V | Voltage output 10 VDC (±3%), max. 10 mA,<br>power supply for external devices (e.g. potentiometer); SELV |
| 3 | 10 | Ain1 U | Control input / current sensor value input 0-10 VDC, impedance 100 kΩ; SELV |
| 3 | 11 | | not used |
| 3 | 12 | | not used |
| 3 | 13 | | not used |
| 3 | 14 | | not used |

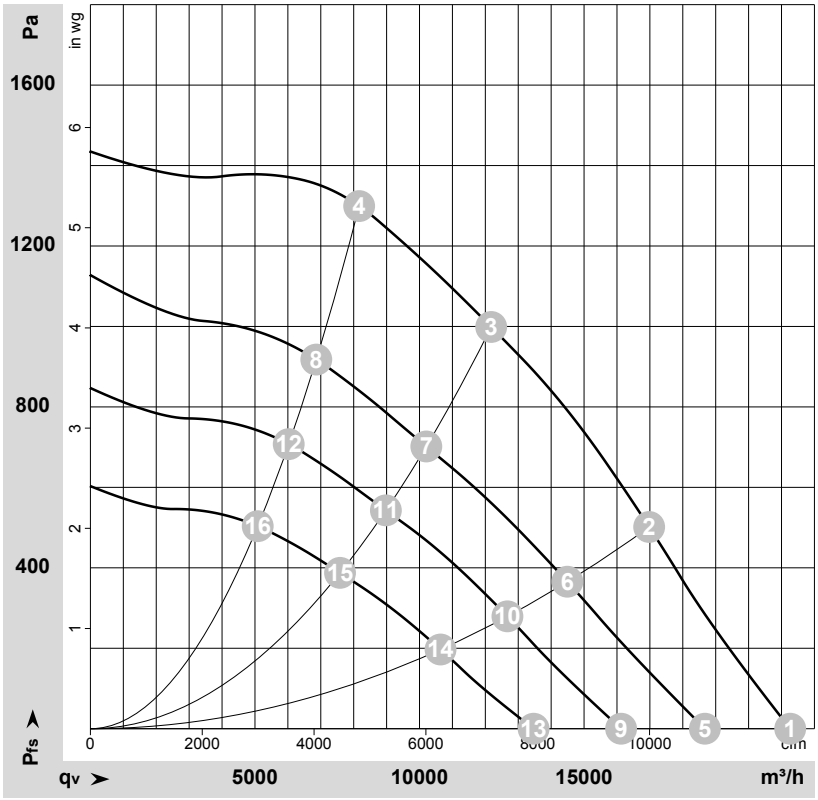


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## Charts: Air flow 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-173565-1

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 | $LpA_{in}$ | $LwA_{in}$ | $LwA_{out}$ | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | dB(A) | $m^3/h$ | Pa | cfm | inH2O |
| 1 | 400 | 50 | 1760 | 2788 | 4.36 | 95 | 101 | 101 | 21265 | 0 | 12515 | 0.00 |
| 2 | 400 | 50 | 1760 | 4251 | 6.52 | 85 | 92 | 94 | 16980 | 500 | 9995 | 2.01 |
| 3 | 400 | 50 | 1760 | 5000 | 7.70 | 77 | 84 | 89 | 12180 | 1000 | 7170 | 4.01 |
| 4 | 400 | 50 | 1760 | 4788 | 7.32 | 80 | 87 | 92 | 8165 | 1300 | 4805 | 5.22 |
| 5 | 400 | 50 | 1575 | 1956 | 3.17 | 90 | 97 | 96 | 18670 | 0 | 10990 | 0.00 |
| 6 | 400 | 50 | 1510 | 2650 | 4.16 | 80 | 88 | 90 | 14495 | 368 | 8530 | 1.48 |
| 7 | 400 | 50 | 1480 | 2956 | 4.61 | 73 | 79 | 85 | 10205 | 701 | 6010 | 2.81 |
| 8 | 400 | 50 | 1490 | 2845 | 4.45 | 75 | 82 | 88 | 6865 | 920 | 4040 | 3.69 |
| 9 | 400 | 50 | 1365 | 1306 | 2.29 | 85 | 93 | 93 | 16125 | 0 | 9490 | 0.00 |
| 10 | 400 | 50 | 1325 | 1802 | 2.96 | 78 | 85 | 87 | 12670 | 281 | 7460 | 1.13 |
| 11 | 400 | 50 | 1305 | 2023 | 3.27 | 70 | 77 | 82 | 8980 | 543 | 5285 | 2.18 |
| 12 | 400 | 50 | 1310 | 1937 | 3.15 | 72 | 80 | 85 | 6025 | 709 | 3545 | 2.85 |
| 13 | 400 | 50 | 1145 | 827 | 1.58 | 81 | 89 | 90 | 13465 | 0 | 7925 | 0.00 |
| 14 | 400 | 50 | 1115 | 1113 | 2.04 | 73 | 80 | 83 | 10640 | 199 | 6260 | 0.80 |
| 15 | 400 | 50 | 1100 | 1271 | 2.25 | 65 | 72 | 77 | 7585 | 388 | 4465 | 1.56 |
| 16 | 400 | 50 | 1105 | 1212 | 2.17 | 67 | 74 | 79 | 5085 | 505 | 2990 | 2.03 |

U = Supply voltage · f = Frequency · n = Speed (rpm) · $P_{ed}$ = 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
$q_V$ = Air flow · $p_{fs}$ = Pressure increase



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