RadiCal impellers are made of high-tech composite material. Optimized flow control combined with high-efficiency GreenTech EC motors – not only for ventilation and air conditioning.

Those are the main features of the backward-curved centrifugal fans in the RadiCal series. The small RadiCal fans installed in an aerodynamically optimized 3D scroll housing are the latest addition.

This enhancement includes increased efficiency and added functionality such as measurement of air flow, air temperature or humidity.

So that this data can also be used, there is an optional serial MODBUS-RTU interface.

The impellers for the sizes from 133 to 560 mm are made of special composite material. This enables high rotational velocity and high power density for the fan.

The shape of the impellers was refined with complex simulation models in combination with measurements made on prototypes. The result is optimized low-loss flow through the impeller; there are no cross-section changes to cause losses in the impeller.

A uniform flow profile without laminar separation results in fewer sources of noise and better acoustics.

Active PFC with RadiCal:
Sizes 500 and 560 are now available with the new three-phase 3 kW motor with integrated active PFC.
With these products, we can now fulfill the increasingly frequent requests for total harmonic distortion of no more than 5%.
Their characteristic curves are shown with those of the standard fans in a curve family.
That makes it easy to find comparable types.

Small RadiCals with more of what you need:
A new addition to the catalog is size 175, with various motor/impeller combinations.
Also new are RadiCals in sizes from 175 to 250 in a version with MODBUS-RTU and a basic PWM version.
Sizes 190 and 225 are the first innovative RadiCals in a scroll housing.
The various designs from basic control to smart and autonomous open up whole new possibilities.

Changes and additions worth mentioning in this catalog are:
RadiCal with M3G150 Gen III:
In addition to the previous versions, sizes 500 and 560 are now available with the new EC motors in size M3G150 Gen III.
"In addition" because the motors in combination with the known impellers deliver significantly increased air performance.
To illustrate the air performance benefits compared with the previous fans, their characteristic curves are shown in curve families for each size.

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The new RadiPacs stand out with the following features:
– Best overall efficiency
– Comfortable noise level
– Compact design
– Fast availability
– Easy startup with uncomplicated configuration of control electronics
– Finely tuned system with pre-configured motor / control electronics / impeller unit
– Plug & play: fully pre-assembled unit ready to install
– Single source: one contact for everything
– Logistic advantages due to complete unit
– Complete product line without gaps
– No magnets with rare earths

Subject to technical changes.
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- FanScout product selection program
- Technical parameters & scope

ebm-papst agents
As technological leader for ventilation and drive engineering, *ebm-papst* is in demand as an engineering partner in many industries. With over 15,000 different products, we provide the right solution for just about any challenge. Our fans and drives are reliable, quiet and energy-efficient.

**Six reasons that make us the ideal partner:**

**Our systems expertise.**
You want the best solution for every project. The interrelationships between ventilation and drive engineering must thus be considered as a whole. And that’s what we do – with motor technology that sets standards, sophisticated electronics and aerodynamic designs – all from a single source and perfectly matched. These system solutions release unique synergies worldwide. And in particular – they relieve you of a lot of work, so that you can concentrate on your core competency.

**The *ebm-papst* spirit of invention.**
In addition to our wide range of products, we are always able to develop customized solutions for you. A diversified team of 600 engineers and technicians works at our three locations in Germany: Mulfingen, Landshut and St. Georgen. Contact us to discuss your next project.

**Our lead in technology.**
As pioneer and trail-blazer for developing highly efficient EC technology, we are way ahead of other motor manufacturers. Almost all our products are also available with GreenTech EC technology. The list of benefits is long: higher efficiency, maintenance-free, longer service life, sound reduction, intelligent control characteristics and unrivalled energy efficiency with savings of up to 80% compared to conventional AC technology. Let our technology be your competitive advantage as you lead in your industry.

**Closeness to our customers.**
*ebm-papst* has 25 production locations worldwide (including facilities in Germany, China and the USA), together with 49 sales offices, each of which has a dense network of sales representatives. You will always have a local contact, someone who speaks your language and knows your market.

**Our standard of quality.**
Of course you can rely on the highest standards of quality with our products. Our quality management is uncompromising, at every step in every process. This is underscored by our certification according to international standards including DIN EN ISO 9001, TS declaration of conformity and DIN EN ISO 14001.

**Our sustainable approach.**
Assuming responsibility for the environment, for our employees and for society is an integral part of our corporate philosophy. We develop products with an eye to maximum environmental compatibility, in particular resource-preserving production methods. We promote environmental awareness among our young staff and are actively involved in sports, culture and education. That’s what makes us a leading company – and an ideal partner for you.
The story of our success to market and technology pioneer.

1963  Founding of Elektrobau Mulfingen GmbH & Co. KG by Gerhard Sturm and Heinz Ziehl.
1965  First tubeaxial fan developed in EC/DC technology.
1966  ebm’s success takes off with the new 68 motor.
1972  The first ebm foreign subsidiary is established in Sweden.
1988  Gerhard Sturm is awarded the Federal Cross of Merit.
1990  The sixty-millionth external-rotor fan is produced.
1992  Acquisition of PAPST Motoren GmbH in St. Georgen.
1997  Buyout of the Landshut (mvl) plant.
1998  Development of first fans with integrated electronics.
2003  Change of name to ebm-papst.
2008  The HyBlade® range of fans sets new efficiency standards.
2010  GreenTech – our sign for energy efficiency and resource preservation.
2011  RadiCal defines a new standard for EC centrifugal fans.
2013  ebm-papst takes over the gearbox specialist Zeitlauf and wins the German Sustainability Award.
2014  Team partnership with Mercedes AMG PETRONAS Formula 1 team.
2015  RadiPac pushes the limits of efficiency.
2016  AxiBlade sets new standards in ventilation, refrigeration and air-conditioning.
# Product overview – EC-RadiCal

Ø 133 - Ø 250 (Compact)

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Subject to technical changes.
## Product overview – EC-RadiCal

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### Ø 225

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<th>Nominal voltage range VAC</th>
<th>Max. Input power W</th>
<th>Centrifugal fan with support basket</th>
<th>Technical features</th>
<th>Page ff.</th>
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Subject to technical changes.
# Product overview – EC-RadiCal

## Ø 250 - Ø 560

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<th>Centrifugal module with support bracket</th>
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</table>

* with active-PFC

Subject to technical changes.
The graphics show the maximum air performance for each size. If less performance is required, variants with smaller motors can be used. This saves additional costs. The right fan for every application!

Subject to technical changes.
EC centrifugal fans – RadiCal
Ø 133 - 560
**EC centrifugal fans – RadiCal**

**backward curved, Ø 133**

- **Materials**: Housing: Plastic
  Impeller: Plastic
  Rotor: Thick-film passivated
  Electronics housing: Die-cast aluminium
- **Number of blades**: 7
- **Direction of rotation**: Clockwise viewed toward rotor
- **Degree of protection**: IP 54
- **Insulation class**: “B”
- **Installation position**: Any
- **Condensation drainage holes**: None, open rotor
- **Mode**: Continuous operation (S1)
- **Mounting**: Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>Nominal voltage range</th>
<th>Frequency</th>
<th>Speed (1)</th>
<th>Max. input power (1)</th>
<th>Max. input current (1)</th>
<th>Perm. ambient temp.</th>
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<td>M3G 045-AI</td>
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<td>50/60</td>
<td>3770</td>
<td>0,27</td>
<td>-25...+60</td>
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</table>

Subject to change (1) Nominal data at operating point with maximum load and 230 VAC.

---

**Curves:**

- **Speed-controlled 0-10 V / PWM**

- **Nominal voltage range**
  - 1-200-240 VAC
  - Frequency: 50/60 Hz

- **Speed (1)**
  - RPM: 3770

- **Max. input power (1)**
  - W: 0,27

- **Max. input current (1)**
  - A: -25...+60

- **Perm. ambient temp.**
  - °C: P. 146 / RC3

---

**Intake-side sound level:**

- L\textsubscript{w A} (A) with ebm-papst inlet ring without contact protection.

- Intake-side sound level: L\textsubscript{p A} measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
- **Technical features:** See connection diagram P. 146
- **EMC:** Interference emission according to EN 61000-6-3
  Immunity to interference according to EN 61000-6-2
  Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC are applied for
- **Efficiency:** Ecodesign EU regulation EU 327/2011

---

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<th>Speed-controlled 0-10 V / PWM</th>
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<tbody>
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</table>

(2) PVC AWG 20, 3 x splices
(3) PVC AWG 22, 4 x splices
EC centrifugal fans – RadiCal
backward curved, Ø 133, Speed-controlled

R3G 133-RA01-03  (Centrifugal fan)

Screw-in depth max. 5 mm

M4 (4x)

Accessory part: Inlet ring 09566-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

K3G 133-RA01-03  (Centrifugal module with support basket)

Cable
PVC AWG 22,
4x crimped splices

Mounting dimensions:

Cable
PVC AWG 20,
3x crimped splices

Accessory part: Inlet ring 09566-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter
EC centrifugal fans – RadiCal
backward curved, Ø 175

- **Material:** Housing: Plastic
  Impeller: Plastic
  Rotor: Thick-film passivated
  Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** “B”
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

### Nominal data

<table>
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<th>Type</th>
<th>Motor</th>
<th>Curve</th>
<th>Nominal voltage range</th>
<th>Frequency</th>
<th>Speed(1)</th>
<th>Max. Input power(1)</th>
<th>Max. Input current(1)</th>
<th>Perm. ambient temp.</th>
<th>Tech. features and connection diagram</th>
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Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

### Curves:

2 Speed stages

![Curves diagram](image_url)

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: Lw A according to ISO 13347, Lp A measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

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– Technical features: See connection diagram P. 144 ff.
– Touch current: <= 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
– Cable exit: Variable
– Protection class: I (with customer connection of protective earth)
– Conformity with standards: CE
– Approvals: UL 1004-7 + 60730; C22.2 Nr.77 + CAN/CSA-E60730-1
– Efficiency: Ecodesign EU regulation EU 327/2011

### Centrifugal Fan

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<th>Weight kg</th>
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<tr>
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<td>R3G 175-RC05-08</td>
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<tr>
<td>R3G 175-RD03-08</td>
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</tr>
</tbody>
</table>

### Curves: Speed-controlled 0-10 V / PWM PWM MODBUS-RTU

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Intake-side sound level: $L_{WA}$ according to ISO 13347, $L_{PA}$ measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
EC centrifugal fans – RadiCal
backward curved, Ø 175, 2 Speed stages, 85 W - Electronics

R3G 175-RC05-01 (Centrifugal fan)

Screw-in depth max. 5 mm
Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

K3G 175-RC05-01 (Centrifugal module with support basket)

Cable
PVC AWG 20,
4x crimped splices

Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Mounting dimensions:
EC centrifugal fans – RadiCal
backward curved, Ø 175, 2 Speed stages, 170 W - Electronics

R3G 175-RD53-01 (Centrifugal fan)

K3G 175-RD53-01 (Centrifugal module with support basket)
EC centrifugal fans – RadiCal
backward curved, Ø 175, Speed-controlled, 85 W - Electronics

R3G 175-RC05-03 / R3G 175-RC05-07 (Centrifugal fan)

K3G 175-RC05-03 / K3G 175-RC05-07 (Centrifugal module with support basket)

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 17.
EC centrifugal fans – RadiCal
backward curved, Ø 175, Speed-controlled, 115 W - Electronics

R3G 175-RG19-05 / R3G 175-RG19-09 (Centrifugal fan)
Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

K3G 175-RG19-05 / K3G 175-RG19-09 (Centrifugal module with support basket)
Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 17.
EC centrifugal fans – RadiCal
backward curved, Ø 175, Speed-controlled, 170 W - Electronics

R3G 175-RD53-03 / R3G 175-RD53-07 / R3G 175-RD53-08 (Centrifugal fan)

Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

K3G 175-RD53-03 / K3G 175-RD53-07 / K3G 175-RD53-08 (Centrifugal module with support basket)

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 17.
**EC centrifugal fans – RadiCal**

**backward curved, Ø 190**

- **Material:** Housing: Plastic  
  Impeller: Plastic  
  Rotor: Thick-film passivated  
  Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** “B”
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

---

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>VAC</th>
<th>Hz</th>
<th>rpm</th>
<th>W</th>
<th>A</th>
<th>°C</th>
<th>P. 145 / RC2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 190</td>
<td>M3G 055-BD</td>
<td>1~200-240</td>
<td>50/60</td>
<td>2710</td>
<td>57</td>
<td>0,43</td>
<td>-25..+60</td>
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</tr>
<tr>
<td>*3G 190</td>
<td>M3G 055-CF</td>
<td>1~200-240</td>
<td>50/60</td>
<td>4120</td>
<td>169</td>
<td>1,35</td>
<td>-25..+60</td>
<td></td>
</tr>
<tr>
<td>*3G 190</td>
<td>M3G 055-BI</td>
<td>1~200-240</td>
<td>50/60</td>
<td>3200</td>
<td>83</td>
<td>0,75</td>
<td>-25..+60</td>
<td></td>
</tr>
<tr>
<td>*3G 190</td>
<td>M3G 055-BI</td>
<td>1~200-240</td>
<td>50/60</td>
<td>3200</td>
<td>83</td>
<td>0,75</td>
<td>-25..+60</td>
<td></td>
</tr>
<tr>
<td>*3G 190</td>
<td>M3G 055-CF</td>
<td>1~200-240</td>
<td>50/60</td>
<td>3635</td>
<td>115</td>
<td>0,90</td>
<td>-25..+55</td>
<td></td>
</tr>
<tr>
<td>*3G 190</td>
<td>M3G 055-CF</td>
<td>1~200-240</td>
<td>50/60</td>
<td>3635</td>
<td>115</td>
<td>0,90</td>
<td>-25..+55</td>
<td></td>
</tr>
<tr>
<td>*3G 190</td>
<td>M3G 055-CF</td>
<td>1~200-240</td>
<td>50/60</td>
<td>4120</td>
<td>169</td>
<td>1,35</td>
<td>-25..+60</td>
<td></td>
</tr>
<tr>
<td>*3G 190</td>
<td>M3G 055-CF</td>
<td>1~200-240</td>
<td>50/60</td>
<td>4120</td>
<td>169</td>
<td>1,35</td>
<td>-25..+60</td>
<td></td>
</tr>
</tbody>
</table>

Subject to change  

(1) Nominal data at operating point with maximum load and 230 VAC.

---

### Curves:

2 Speed stages

---

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.  
Intake-side sound level: $L_{WA}$ according to ISO 13347, $L_{PA}$ measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

---

Contact [ebm-papst](https://www.ebmpapst.com) for detailed information.
Technical features: See connection diagram P. 144 ff.

EMC: Interference emission according to EN 61000-6-3
   Immunity to interference according to EN 61000-6-2
   Circuit feedback according to EN 61000-3-2/3

Touch current: < 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)

Cable exit: Variable

Protection class: I (with customer connection of protective earth)

Conformity with standards: EN 60335-1, CE

Approvals: VDE, UL, CSA, CCC, EAC on request

Efficiency: Ecodesign EU regulation EU 327/2011

---

### Centrifugal fans

<table>
<thead>
<tr>
<th>Model</th>
<th>n rpm</th>
<th>P ed</th>
<th>I A</th>
<th>LwA dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 190-RB01 -01</td>
<td>3420</td>
<td>75</td>
<td>0.67</td>
<td>73</td>
</tr>
<tr>
<td>R3G 190-RD45 -01</td>
<td>3360</td>
<td>79</td>
<td>0.70</td>
<td>68</td>
</tr>
<tr>
<td>R3G 190-RC05 -03</td>
<td>3200</td>
<td>83</td>
<td>0.75</td>
<td>66</td>
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<tr>
<td>R3G 190-RD45 -05</td>
<td>3275</td>
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<td>0.73</td>
<td>69</td>
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<tr>
<td>R3G 190-RG19 -01</td>
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<td>110</td>
<td>0.90</td>
<td>77</td>
</tr>
<tr>
<td>R3G 190-RD45 -03</td>
<td>3870</td>
<td>115</td>
<td>0.90</td>
<td>73</td>
</tr>
<tr>
<td>R3G 190-RD45 -05</td>
<td>3635</td>
<td>115</td>
<td>0.90</td>
<td>70</td>
</tr>
<tr>
<td>R3G 190-RD45 -08</td>
<td>3805</td>
<td>115</td>
<td>0.90</td>
<td>74</td>
</tr>
<tr>
<td>R3G 190-RD45 -03</td>
<td>4440</td>
<td>161</td>
<td>1.35</td>
<td>81</td>
</tr>
<tr>
<td>R3G 190-RD45 -05</td>
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<td>165</td>
<td>1.35</td>
<td>75</td>
</tr>
<tr>
<td>R3G 190-RD45 -08</td>
<td>4120</td>
<td>169</td>
<td>1.35</td>
<td>71</td>
</tr>
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<td>R3G 190-RD45 -03</td>
<td>4180</td>
<td>169</td>
<td>1.35</td>
<td>75</td>
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</tbody>
</table>

---

### Curves

**Speed-controlled 0-10 V / PWM**

**PWM MODBUS-RTU**

---

Air performance measured according to ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: LwA according to ISO 13347, LpA measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
EC centrifugal fans – RadiCal
backward curved, Ø 190, 2 Speed stages, 85 W - Electronics

R3G 190-RB01-01 (Centrifugal fan)
- Screw-in depth max. 6 mm
- Accessory part: Inlet ring 09576-2-4013
- Not included in scope of delivery
- Dimensions: see "Accessories" chapter

K3G 190-RB01-01 (Centrifugal module with support basket)
- Mounting dimensions:
- Cable: PVC AWG 20, 4x crimped splices
EC centrifugal fans – RadiCal
backward curved, Ø 190, 2 Speed stages, 170 W - Electronics

R3G 190-RD45-01 (Centrifugal fan)

Screw-in depth max. 5 mm

M4 (4x)
M6 (4x)

Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

K3G 190-RD45-01 (Centrifugal module with support basket)

Screw-in depth max. 10 mm

Cable PVC AWG 20, 4x crimped splices

Mounting dimensions:

Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter
EC centrifugal fans – RadiCal
backward curved, Ø 190, Speed-controlled, 85 W - Electronics

R3G 190-RC05-03 / R3G 190-RC05-05 (Centrifugal fan)

K3G 190-RC05-03 / K3G 190-RC05-05 (Centrifugal module with support basket)

Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 25.
EC centrifugal fans – RadiCal
backward curved, Ø 190, Speed-controlled, 115 W - Electronics

R3G 190-RG19-01 / R3G 190-RG19-05 (Centrifugal fan)
Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

K3G 190-RG19-01 / K3G 190-RG19-05 (Centrifugal module with support basket)

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 25.
EC centrifugal fans – RadiCal
backward curved, Ø 190, Speed-controlled, 170 W - Electronics

R3G 190-RD45-03 / R3G 190-RD45-05 / R3G 190-RD45-08   (Centrifugal fan)

Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

K3G 190-RD45-03 / K3G 190-RD45-05 / K3G 190-RD45-08   (Centrifugal module with support basket)

Cable
PVC AWG 20,
3x crimped splices

Cable
PVC AWG 22,
4x crimped splices

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 25.
EC centrifugal fans – RadiCal
backward curved, with housing, Ø 190

- Material: Housing: Plastic
  Impeller: Plastic
  Rotor: Thick-film passivated
  Electronics housing: Die-cast aluminium
  Electronics cap: Sheet steel, hot-dip aluminized
- Number of blades: 7
- Direction of rotation: Clockwise viewed toward rotor
- Degree of protection: IP 54, IP 20; depending on installation and position
- Insulation class: “B”
- Installation position: Any
- Condensation drainage holes: None, open rotor
- Mode: Continuous operation (S1)
- Mounting: Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>Curve</th>
<th>Nominal voltage range</th>
<th>Hz</th>
<th>rpm</th>
<th>W</th>
<th>A</th>
<th>°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 190</td>
<td>M3G 055-BI</td>
<td>1~200-240</td>
<td>50/60</td>
<td>3650</td>
<td>115</td>
<td>0,90</td>
<td>-25..+55</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3200</td>
<td>83</td>
<td>0,75</td>
<td>-25..+60</td>
<td></td>
</tr>
<tr>
<td>*3G 190</td>
<td>M3G 055-CF</td>
<td>1~200-240</td>
<td>50/60</td>
<td>4100</td>
<td>170</td>
<td>1,35</td>
<td>-25..+60</td>
<td></td>
</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

### Curves:

- Speed-controlled
- 0-10 V / PWM
- PWM
- MODBUS-RTU

### Graphs:

Air performance measured according to ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: $L_{W A}$ according to ISO 13347, measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

### Table of Values:

<table>
<thead>
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<th>rpm</th>
<th>P_{ed} W</th>
<th>I A</th>
<th>L_{WA} dB(A)</th>
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</thead>
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<tr>
<td>3355</td>
<td>83</td>
<td>0,75</td>
<td>73</td>
</tr>
<tr>
<td>3200</td>
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<td>3230</td>
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<td>3390</td>
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<td>3805</td>
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<td>3650</td>
<td>115</td>
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<td>3660</td>
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<td>70</td>
</tr>
<tr>
<td>3815</td>
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<td>0,90</td>
<td>73</td>
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<tr>
<td>4335</td>
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<td>80</td>
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<tr>
<td>4100</td>
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<td>1,35</td>
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</tr>
<tr>
<td>4440</td>
<td>170</td>
<td>1,35</td>
<td>79</td>
</tr>
</tbody>
</table>
– Technical features: See connection diagram P. 144 ff.
– Touch current: \( \leq 3.5 \, \text{mA} \) according to IEC 60990 (measuring circuit Fig. 4)
– Cable exit: Variable
– Protection class: I (with customer connection of protective earth)
– Conformity with standards: EN 60335-1; CE
– Approvals: VDE, UL, CSA, CCC, EAC on request
– Efficiency: Ecodesign EU regulation EU 327/2011

### Centrifugal fan with housing

<table>
<thead>
<tr>
<th>Model</th>
<th>Weight</th>
<th>Flowcontrolled 0-10 V / PWM</th>
<th>Flowcontrolled PWM</th>
<th>Flowcontrolled MODBUS-RTU</th>
<th>Sensor-controlled MODBUS-RTU</th>
</tr>
</thead>
<tbody>
<tr>
<td>G3G 190-RP03-04</td>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>G3G 190-RC05-02</td>
<td>2.10</td>
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<td>G3G 190-RC05-05</td>
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<td>G3G 190-RG19-01</td>
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<td></td>
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<tr>
<td>G3G 190-RG19-05</td>
<td>2.00</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>G3G 190-RD45-05</td>
<td>2.10</td>
<td>X</td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>G3G 190-RD45-08</td>
<td>2.10</td>
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<td></td>
</tr>
<tr>
<td>G3G 190-RD45-04 (11)</td>
<td>2.20</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

(11) Freely programmable volume flows (constant air flow volume with tolerance related ± 1 % of final value)

### Curves: Sensor-controlled MODBUS-RTU

Air performance measured according to ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: \( L_{pwA} \) according to ISO 13344, measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
EC centrifugal fans – RadiCal
backward curved, with housing, Ø 190

**G3G 190-RC05-02 / G3G 190-RC05-05** (Centrifugal fan with housing) / Speed-controlled, 85 W - Electronics

- Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.

**G3G 190-RG19-01 / G3G 190-RG19-05** (Centrifugal fan with housing) / Speed-controlled, 115 W - Electronics

- Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.

The cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 33.
EC centrifugal fans – RadiCal
backward curved, with housing, Ø 190

G3G 190-RD45-03 / G3G 190-RD45-05 / G3G 190-RD45-08  (Centrifugal fan with housing) / Speed-controlled, 170 W - Electronics

The cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 33.

Cable PVC AWG 20,
3x crimped splices

Cable PVC AWG 22,
4x crimped splices

Screw-on domes are only permissible for Flowgrid!

Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.

5x sheet metal nut for thread
EN ISO 1478-ST4.8
(max. screw length
16 mm plus thickness of mounting material)
EC centrifugal fans – RadiCal
backward curved, with housing, Ø 190

**G3G 190-RP03-04**  (Centrifugal fan with housing) / Sensor-controlled, 85 W - Electronics

Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.

Screw-on domes are only permissible for Flowgrid!

Cable PVC AWG 22, 3x crimped splices

Cable PVC AWG 20, 3x crimped splices

5x sheet metal nut for thread
EN ISO 1478-ST4.8
(max. screw length 16 mm plus thickness of mounting material)
EC centrifugal fans – RadiCal
backward curved, with housing, Ø 190

G3G 190-R045-04 (Centrifugal fan with housing) / Sensor-controlled, 170 W - Electronics

Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.

Cable PVC AWG 22, 3x crimped splices

Cable PVC AWG 20, 3x crimped splices

Screw-on domes are only permissible for Flowgrid!

5x sheet metal nut for thread
EN ISO 1478-ST4.8 (max. screw length 16 mm plus thickness of mounting material)
EC centrifugal fans – RadiCal
backward curved, Ø 220

- Material: Housing: Plastic
  Impeller: Plastic
  Rotor: Thick-film passivated
  Electronics housing: Die-cast aluminium
- Number of blades: 7
- Direction of rotation: Clockwise viewed toward rotor
- Degree of protection: IP 54
- Insulation class: "B"
- Installation position: Any
- Condensation drainage holes: None, open rotor
- Mode: Continuous operation (S1)
- Mounting: Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>Curve</th>
<th>Nominal voltage range</th>
<th>Frequency</th>
<th>Speed (1)</th>
<th>Max. input power (1)</th>
<th>Max. input current (1)</th>
<th>Perm. ambient temp.</th>
<th>Tech. features and connection diagram</th>
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<tbody>
<tr>
<td>*3G 220</td>
<td>M3G 055-BI</td>
<td>1~200-240</td>
<td>50/60</td>
<td>2580</td>
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<td>168</td>
<td>1,40</td>
<td>-25..+50</td>
<td>P. 154 / RC10)</td>
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</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: Lw A according to ISO 13347, Lp A measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

### Curves:

2 Speed stages
- **Technical features:** See connection diagram P. 144 ff.
- **EMC:** Interference emission according to EN 61000-6-3
  Immunity to interference according to EN 61000-6-2
  Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC on request
- **Efficiency:** Ecodesign EU regulation EU 327/2011

**Technical specifications:**

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight</th>
<th>Centrifugal module w. support basket kg</th>
<th>2 Speed stages</th>
<th>Speed-controlled 0-10 V / PWM</th>
<th>Speed-controlled PWM</th>
<th>Speed-controlled MODBUS-RTU</th>
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<tr>
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</tbody>
</table>

Curves:

- Speed-controlled 0-10 V / PWM
- PWM
- MODBUS-RTU

---

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: Lw A according to ISO 13347, Lp A measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
EC centrifugal fans – RadiCal
backward curved, Ø 220, 2 Speed stages, 85 W - Electronics

R3G 220-RC05-01 (Centrifugal fan)

Screw-in depth max. 5 mm

Accessory part: Inlet ring 09609-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

K3G 220-RC05-01 (Centrifugal module with support basket)

Cable
PVC 4G 0.5 mm²,
4x crimped splices

Accessory part: Inlet ring 09609-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

Mounting dimensions:
**EC centrifugal fans – RadiCal**
backward curved, Ø 220, 2 Speed stages, 170 W - Electronics

**R3G 220-RD53-01** (Centrifugal fan)

Screw-in depth max. 10 mm
Screw-in depth max. 5 mm

**K3G 220-RD53-01** (Centrifugal module with support basket)

Accessory part: Inlet ring 09609-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

Cable PVC AWG 20,
4x crimped splices

**Mounting dimensions:**
EC centrifugal fans – RadiCal
backward curved, Ø 220, Speed-controlled, 85 W - Electronics

R3G 220-RC05-03 / R3G 220-RC05-05 (Centrifugal fan)

K3G 220-RC05-03 / K3G 220-RC05-05 (Centrifugal module with support basket)

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 39.
EC centrifugal fans – RadiCal
backward curved, Ø 220, Speed-controlled, 115 W - Electronics

R3G 220-RG19-01 / R3G 220-RG19-05  (Centrifugal fan)

K3G 220-RG19-01 / K3G 220-RG19-05  (Centrifugal module with support basket)

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 39.
EC centrifugal fans – RadiCal
backward curved, Ø 220, Speed-controlled, 170 W - Electronics

R3G 220-RD53-03 / R3G 220-RD53-05 / R3G 220-RD53-08 (Centrifugal fan)

K3G 220-RD53-03 / K3G 220-RD53-05 / K3G 220-RD53-08 (Centrifugal module with support basket)

Accessory part: Inlet ring 09609-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 39.
EC centrifugal fans – RadiCal
backward curved, Ø 225

- Material: Housing: Plastic
  Impeller: Plastic
  Rotor: Thick-film passivated
  Electronics housing: Die-cast aluminium
- Number of blades: 7
- Direction of rotation: Clockwise viewed toward rotor
- Degree of protection: IP 54
- Insulation class: “B”
- Installation position: Any
- Condensation drainage holes: None, open rotor
- Mode: Continuous operation (S1)
- Mounting: Maintenance-free ball bearings

<table>
<thead>
<tr>
<th>Nominal data</th>
<th>Curve</th>
<th>Motor</th>
<th>VAC</th>
<th>Hz</th>
<th>rpm</th>
<th>W</th>
<th>A</th>
<th>°C</th>
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<tbody>
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<td>055-CF</td>
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<td>Type 03G 225</td>
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<td>Type 03G 225</td>
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<td>Type 03G 225</td>
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<td>Type 03G 225</td>
<td>055-DF</td>
<td>286</td>
<td>170</td>
<td>1,40</td>
<td>-25..+60</td>
<td></td>
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</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Curves:
2 Speed stages

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: $L_w A$ according to ISO 13347, $L_p A$ measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
- Technical features: See connection diagram P. 144 ff.
- EMC:
  - Interference emission according to EN 61000-6-3
  - Immunity to interference according to EN 61000-6-2
  - Circuit feedback according to EN 61000-3-2/3
- Touch current: < 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
- Cable exit: Variable
- Protection class: I (with customer connection of protective earth)
- Conformity with standards: EN 60335-1, CE
- Approvals: VDE, UL, CSA, CCC, EAC on request
- Efficiency: Ecodesign EU regulation EU 327/2011

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight kg</th>
<th>Centrifugal module w. support basket</th>
<th>2 Speed stages</th>
<th>Speed-controlled 0-10 V / PWM</th>
<th>Speed-controlled PWM</th>
<th>Speed-controlled MODBUS-RTU</th>
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</thead>
<tbody>
<tr>
<td>R3G 225-RH19 -01</td>
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<td>K3G 225-RH19 -05</td>
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</table>

Curves:
- Speed-controlled 0-10 V / PWM
- PWM
- MODBUS-RTU

Air performance measured according to ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: LwA according to ISO 13347, LpA measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
EC centrifugal fans – RadiCal
backward curved, Ø 225, 2 Speed stages, 85 W - Electronics

R3G 225-RD05-01 (Centrifugal fan)

Screw-in depth max. 5 mm

Accessory part: Inlet ring 96358-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

K3G 225-RD05-01 (Centrifugal module with support basket)

Cable PVC AWG 20,
4x crimped splices

Accessory part: Inlet ring 96358-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter
EC centrifugal fans – RadiCal
backward curved, Ø 225, 2 Speed stages, 170 W - Electronics

R3G 225-RE07-01  (Centrifugal fan)

K3G 225-RE07-01  (Centrifugal module with support basket)
EC centrifugal fans – RadiCal
backward curved, Ø 225, Speed-controlled, 85 W - Electronics

R3G 225-RD05-03 / R3G 225-RD05-05 (Centrifugal fan)

Accessory part: Inlet ring 96358-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

K3G 225-RD05-03 / K3G 225-RD05-05 (Centrifugal module with support basket)

Cable
PVC AWG 22,
4x crimped splices

Cable
PVC AWG 20,
3x crimped splices

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 47.
EC centrifugal fans – RadiCal
backward curved, Ø 225, Speed-controlled, 115 W - Electronics

R3G 225-RH19-01 / R3G 225-RH19-05 (Centrifugal fan)

K3G 225-RH19-01 / K3G 225-RH19-05 (Centrifugal module with support basket)

Accessory part: Inlet ring 96358-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Cable PVC 3X 0.25 mm², 3x crimped splices

Mounting dimensions:
The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 47.
EC centrifugal fans – RadiCal
backward curved, Ø 225, Speed-controlled, 170 W - Electronics

R3G 225-RE07-03 / R3G 225-RE07-05 / R3G 225-RE07-22 (Centrifugal fan)

K3G 225-RE07-03 / K3G 225-RE07-05 / K3G 225-RE07-22 (Centrifugal module with support basket)

Accessory part: Inlet ring 96358-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Cable
PVC 3G AWG 20,
3x crimped splices

Cable
PVC 4X AWG 22,
4x crimped splices

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 47.
EC centrifugal fans - RadiCal
Ø 133-250 (Compact)

EC centrifugal fans - RadiCal
Ø 250-560

Agents

Information

Technology
EC centrifugal fans – RadiCal
backward curved, with housing, Ø 225

- Material: Housing: Plastic
  Impeller: Plastic
  Rotor: Thick-film passivated
  Electronics housing: Die-cast aluminium
  Electronics cap: Sheet steel, hot-dip aluminized
- Number of blades: 7
- Direction of rotation: Clockwise viewed toward rotor
- Degree of protection: IP 54, IP 20; depending on installation and position
- Insulation class: “B”
- Installation position: Any
- Condensation drainage holes: None, open rotor
- Mode: Continuous operation (S1)
- Mounting: Maintenance-free ball bearings

Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>Curve</th>
<th>Nominal voltage range</th>
<th>Frequency</th>
<th>Speed (1)</th>
<th>Max. input power (1)</th>
<th>Max. input current (1)</th>
<th>Perm. ambient temp.</th>
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</thead>
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<td>M3G 055-CF</td>
<td>①</td>
<td>1–200-240</td>
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</table>

Subject to change
(1) Nominal data at operating point with maximum load and 230 VAC.

Curves: Speed-controlled
0-10 V / PWM
PWL
MODBUS-RTU

Air performance measured according to ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: Lw A according to ISO 13347, Lp A measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
– Technical features: See connection diagram P. 144 ff.
– Touch current: <= 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
– Cable exit: Variable
– Protection class: I (with customer connection of protective earth)
– Conformity with standards: EN 60335-1; CE
– Approvals: VDE, UL, CSA, CCC, EAC on request
– Efficiency: Ecodesign EU regulation EU 327/2011

### Centrifugal fan with housing

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<th>Model</th>
<th>Weight (kg)</th>
<th>Speed-controlled 0-10 V / PWM</th>
<th>Speed-controlled PWM</th>
<th>Speed-controlled MODBUS-RTU</th>
<th>Sensor-controlled MODBUS-RTU</th>
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(11) Freely programmable volume flows (constant air flow volume with tolerances related to 1 % of final value)

### Curves: Sensor-controlled MODBUS-RTU

Air performance measured according to ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: Lw A according to ISO 13347, Lp A measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

---

**EC centrifugal fans - RadiCal**
- Ø 133-250 (Compact)
- Ø 250-560

---

**Technology**

**Information**

**Agents**
EC centrifugal fans – RadiCal
backward curved, with housing, Ø 225

G3G 225-RD05-02 / G3G 225-RD05-05 (Centrifugal fan with housing) / Speed-controlled, 85 W - Electronics

Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.

G3G 225-RH19-01 / G3G 225-RH19-05 (Centrifugal fan with housing) / Speed-controlled, 115 W - Electronics

Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.

Screw-on domes are only permissible for Flowgrid!

The cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 55.
EC centrifugal fans – RadiCal
backward curved, with housing, Ø 225

G3G 225-RE07-03 / G3G 225-RE07-05 / G3G 225-RE07-22 (Centrifugal fan with housing) / Speed-controlled, 170 W - Electronics

Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.

Cable
PVC AWG 20, 3x crimped splices

Cable
PVC AWG 22, 4x crimped splices

Screw-on domes are only permissible for Flowgrid!

The cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 55.
EC centrifugal fans – RadiCal
backward curved, with housing, Ø 225

G3G 225-RR07-04 (Centrifugal fan with housing) / Sensor-controlled, 170 W - Electronics

Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, screw-in depth max. 15 mm. The torque is to be determined on the basis of the screw.

Screw-on domes are only permissible for Flowgrid!

Cable PVC AWG 22, 3x crimped splices

Cable PVC AWG 20, 3x crimped splices

5x sheet metal nut for thread
EN ISO 1478-ST4.8
(max. screw length 16 mm plus thickness of mounting material)
EC centrifugal fans – RadiCal
backward curved, Ø 250

- **Material:** Housing: Plastic
  Impeller: Plastic
  Rotor: Thick-film passivated
  Electronics housing: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** “B”
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>VAC</th>
<th>Hz</th>
<th>rpm</th>
<th>W</th>
<th>A</th>
<th>°C</th>
<th>Curves: 2 Speed stages</th>
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<tbody>
<tr>
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<td>M3G 055-CF</td>
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<td>80</td>
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<td>50/60</td>
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<td>170</td>
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<td>M3G 055-CF</td>
<td>1~200-240</td>
<td>50/60</td>
<td>1955</td>
<td>80</td>
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<td>*3G 250</td>
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<td>1~200-240</td>
<td>50/60</td>
<td>2510</td>
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<td>1~200-240</td>
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<td>2250</td>
<td>115</td>
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<td>2250</td>
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<td>-25...+60</td>
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<td>M3G 055-DF</td>
<td>1~200-240</td>
<td>50/60</td>
<td>2510</td>
<td>170</td>
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<td>M3G 055-DF</td>
<td>1~200-240</td>
<td>50/60</td>
<td>2510</td>
<td>170</td>
<td>1,40</td>
<td>-25...+60</td>
<td></td>
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</table>

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: Lw A according to ISO 13347, Lp A measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
- **Technical features:** See connection diagram P. 144 ff.
- **EMC:** Interference emission according to EN 61000-6-3
  Immunity to interference according to EN 61000-6-2
  Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC on request
- **Efficiency:** Ecodesign EU regulation EU 327/2011
EC centrifugal fans – RadiCal
backward curved, Ø 250, 2 Speed stages, 85 W - Electronics

R3G 250-RD17-01  (Centrifugal fan)

Screw-in depth max. 5 mm
M4 (4x)

Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

K3G 250-RD17-01  (Centrifugal module with support basket)

Cable
PVC 4G 0.5 mm²,
4x crimped splices

Screw-in depth max. 5 mm
M4 (4x)
EC centrifugal fans – RadiCal
backward curved, Ø 250, 2 Speed stages, 170 W - Electronics

R3G 250-RE07-05  (Centrifugal fan)

K3G 250-RE07-05  (Centrifugal module with support basket)

Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

Screw-in depth max. 10 mm

Screw-in depth max. 5 mm

Mounting dimensions:

Cable PVC AWG 20, 4x crimped splices

Screw-in depth max. 5 mm

Screw-in depth max. 10 mm

Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

Mounting dimensions:
EC centrifugal fans – RadiCal
backward curved, Ø 250, Speed-controlled, 85 W - Electronics

R3G 250-RD17-03 / R3G 250-RD17-05 (Centrifugal fan)

Screw-in depth max. 5 mm

Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

Cable PVC AWG 22,
4x crimped splices

Cable PVC AWG 20,
3x crimped splices

K3G 250-RD17-03 / K3G 250-RD17-05 (Centrifugal module with support basket)

Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 61.
EC centrifugal fans – RadiCal
backward curved, Ø 250, Speed-controlled, 115 W - Electronics

R3G 250-RH13-01 / R3G 250-RH13-05  (Centrifugal fan)

K3G 250-RH13-01 / K3G 250-RH13-05  (Centrifugal module with support basket)

Cable PVC 3G 0.5 mm², 3x crimped splices

Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM design, see page 61.
EC centrifugal fans – RadiCal
backward curved, Ø 250, Speed-controlled, 170 W - Electronics

R3G 250-RE07-07 / R3G 250-RE07-21 / R3G 250-RE07-22 (Centrifugal fan)

Screw-in depth max. 10 mm
Screw-in depth max. 5 mm

Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

K3G 250-RE07-07 / K3G 250-RE07-21 / K3G 250-RE07-22 (Centrifugal module with support basket)

The R- and K-type cables shown refer to the 0-10 V/PWM design. For the illustration of the PWM respectively the MODBUS-RTU design, see page 61.
EC centrifugal fans – RadiCal
backward curved, Ø 175 - Ø 250

- **Material:** Housing: Plastic
  Impeller: Plastic
  Rotor: Thick-film passivated
  Electronics housing: Die-cast aluminium

- **Number of blades:** 7
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** “B”
- **Installation position:** Any
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>Curves</th>
<th>Nominal voltage range</th>
<th>Frequency</th>
<th>Speed</th>
<th>Max. Input power</th>
<th>Max. Input current</th>
<th>Perm. ambient temp.</th>
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<tbody>
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<td>*1G 175</td>
<td>M1G 055-CF</td>
<td>(a)</td>
<td>1–200-240</td>
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<td>0,85</td>
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<td>M1G 055-CF</td>
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<td>100</td>
<td>0,80</td>
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<tr>
<td>*1G 250</td>
<td>M1G 055-CF</td>
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<td>2150</td>
<td>100</td>
<td>0,85</td>
<td>-25...+60</td>
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<tr>
<td></td>
<td></td>
<td>(b)</td>
<td>1~200-240</td>
<td>50/60</td>
<td>3550</td>
<td>100</td>
<td>0,85</td>
<td>-25...+60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c)</td>
<td>1~200-240</td>
<td>50/60</td>
<td>2700</td>
<td>100</td>
<td>0,80</td>
<td>-25...+60</td>
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<td></td>
<td></td>
<td>(d)</td>
<td>1~200-240</td>
<td>50/60</td>
<td>2150</td>
<td>100</td>
<td>0,85</td>
<td>-25...+60</td>
</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

### Curves:

**Speed-controlled PWM**

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: Lw A, according to ISO 13347, Lp A measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

<table>
<thead>
<tr>
<th>n</th>
<th>P</th>
<th>I</th>
<th>Lw A</th>
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<td>4220</td>
<td>93</td>
<td>0.78</td>
<td>75</td>
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<tr>
<td>4120</td>
<td>100</td>
<td>0.83</td>
<td>72</td>
</tr>
<tr>
<td>4050</td>
<td>100</td>
<td>0.85</td>
<td>71</td>
</tr>
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<td>4115</td>
<td>100</td>
<td>0.84</td>
<td>74</td>
</tr>
<tr>
<td>3890</td>
<td>100</td>
<td>0.85</td>
<td>77</td>
</tr>
<tr>
<td>3770</td>
<td>100</td>
<td>0.85</td>
<td>72</td>
</tr>
<tr>
<td>3550</td>
<td>100</td>
<td>0.85</td>
<td>69</td>
</tr>
<tr>
<td>3645</td>
<td>100</td>
<td>0.85</td>
<td>72</td>
</tr>
</tbody>
</table>
- **Technical features**: See connection diagram P. 157
- **EMC**: Interference emission according to EN 61000-6-3 (household environment)
  Immunity to interference according to EN 61000-6-2 (industrial environment)
  Circuit feedback according to EN 61000-3-2/3
- **Touch current**: <= 3,5 mA
- **Cable exit**: Variable
- **Protection class**: I (with customer connection of protective earth)
- **Conformity with standards**: EN 60335-1, CE
- **Approvals**: on request
- **Efficiency**: Ecodesign EU regulation EU 327/2011

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>kg</th>
<th>Centrifugal module w. support basket</th>
<th>kg</th>
<th>Speed-controlled PWM</th>
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<td>R1G 250-RG01 -01</td>
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<td>K1G 250-RG01 -01</td>
<td>2,50</td>
<td>X</td>
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</table>

(5) PVC AWG 20, 3x splices
(6) PVC AWG 22, 3x splices

**Curves: Speed-controlled PWM**

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: Lw A  according to ISO 13347, Lp A  measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

<table>
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<th>n rpm</th>
<th>P ed W</th>
<th>I A</th>
<th>LwA dB(A)</th>
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<td>2700</td>
<td>71</td>
<td>0.61</td>
<td>70</td>
</tr>
<tr>
<td>2700</td>
<td>86</td>
<td>0.73</td>
<td>67</td>
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<tr>
<td>2700</td>
<td>100</td>
<td>0.80</td>
<td>67</td>
</tr>
<tr>
<td>2700</td>
<td>91</td>
<td>0.77</td>
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<td>2655</td>
<td>100</td>
<td>0.90</td>
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<td>2460</td>
<td>100</td>
<td>0.90</td>
<td>69</td>
</tr>
<tr>
<td>2450</td>
<td>100</td>
<td>0.90</td>
<td>67</td>
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<tr>
<td>2590</td>
<td>100</td>
<td>0.90</td>
<td>70</td>
</tr>
<tr>
<td>2290</td>
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</tr>
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<td>2180</td>
<td>97</td>
<td>0.81</td>
<td>71</td>
</tr>
<tr>
<td>2150</td>
<td>100</td>
<td>0.85</td>
<td>68</td>
</tr>
<tr>
<td>2200</td>
<td>95</td>
<td>0.80</td>
<td>69</td>
</tr>
</tbody>
</table>
EC centrifugal fans – RadiCal
backward curved, Ø 175, Speed-controlled, 100 W - Electronics

R1G 175-RF04-01  (Centrifugal fan)

Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

K1G 175-RF04-01  (Centrifugal module with support basket)

Mounting
dimensions:
EC centrifugal fans – RadiCal
backward curved, Ø 190, Speed-controlled, 100 W - Electronics

**R1G 190-RF04-01** (Centrifugal fan)

Screw-in depth max. 6 mm
M4 (4x)
Screw-in depth max. 5 mm
M4 (4x)

Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see *Accessories* chapter

**K1G 190-RF04-01** (Centrifugal module with support basket)

Screw-in depth max. 5 mm
Cable PVC AWG 20, 3x crimped splices

Accessory part: Inlet ring 09576-2-4013
Not included in scope of delivery
Dimensions: see *Accessories* chapter

Mounting dimensions:
Cable PVC AWG 22, 3x crimped splices
EC centrifugal fans – RadiCal
backward curved, Ø 220, Speed-controlled, 100 W - Electronics

R1G 220-RF01-01  (Centrifugal fan)

K1G 220-RF01-01  (Centrifugal module with support basket)
EC centrifugal fans – RadiCal
backward curved, Ø 225, Speed-controlled, 100 W - Electronics

R1G 225-RG04-01 (Centrifugal fan)

K1G 225-RG04-01 (Centrifugal module with support basket)
EC centrifugal fans – RadiCal
backward curved, Ø 250, Speed-controlled, 100 W - Electronics

R1G 250-RG01-01 (Centrifugal fan)

Screw-in depth max. 6 mm

M4 (4x)

Screw-in depth max. 5 mm

M4 (4x)

Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

Cable PVC AWG 22, 3x crimped splices

Cable PVC AWG 20, 3x crimped splices

K1G 250-RG01-01 (Centrifugal module with support basket)

Mounting dimensions:
EC centrifugal fans – RadiCal
backward curved, Ø 250

- **Material**: Support bracket: Steel, painted black
  Support plate and inlet ring: Sheet steel, galvanized
  Impeller: Plastic
  Rotor: Painted black
  Electronics housing: Die-cast aluminium

- **Number of blades**: 7
- **Direction of rotation**: Clockwise viewed toward rotor
- **Degree of protection**: IP 55
- **Insulation class**: “F”
- **Installation position**: Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes**: Rotor side
- **Mode**: Continuous operation (S1)
- **Mounting**: Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>1~200-277</th>
<th>50/60</th>
<th>3740</th>
<th>500</th>
<th>2.20</th>
<th>–25..+60</th>
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<tbody>
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<td>M3G 084-DF</td>
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<td>1</td>
<td>50</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>1~200-277</th>
<th>50/60</th>
<th>4250</th>
<th>750</th>
<th>3.30</th>
<th>–25..+60</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 250</td>
<td>M3G 084-DF</td>
<td></td>
<td>1</td>
<td>50</td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td></td>
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</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

### Curves:

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: Lw A according to ISO 13347, Lp A measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
- **Technical features**: See connection diagram P. 147
- **EMC**: Interference emission according to EN 61000-6-3
  - Immunity to interference according to EN 61000-6-2
  - Circuit feedback according to EN 61000-3-2/3
- **Touch current**: < 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit**: Variable
- **Protection class**: I (with customer connection of protective earth)
- **Conformity with standards**: EN 60335-1, EN 61800-5-1, CE
- **Approvals**: VDE, UL, CSA, CCC, EAC
- **Efficiency**: Ecodesign EU regulation EU 327/2011

### Centrifugal fan

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 250-RR01 -H1</td>
<td>3.90</td>
</tr>
<tr>
<td>R3G 250-RR02 -I1</td>
<td>4.40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Centrifugal module with support bracket</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K3G 250-RR01 -H2</td>
<td>7.90</td>
</tr>
<tr>
<td>K3G 250-RR02 -I2</td>
<td>8.50</td>
</tr>
</tbody>
</table>
EC centrifugal fans – RadiCal
backward curved, Ø 250

**R3G 250-RR01-H1 (Centrifugal fan)**
Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

**K3G 250-RR01-H2 (Centrifugal module with support bracket)**
Screw-in depth max. 16 mm

Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

Note installed position! Install support struts as illustrated

Cable AWG 18,
5x crimped ferrules

Cable AWG 22,
5x crimped ferrules

Screw-in depth max. 16 mm

Cable AWG 18,
5x crimped ferrules

Cable AWG 22,
5x crimped ferrules

Note installed position! Install support struts as illustrated

Screw-in depth max. 16 mm

Cable AWG 18,
5x crimped ferrules

Cable AWG 22,
5x crimped ferrules

Note installed position! Install support struts as illustrated
EC centrifugal fans – RadiCal
backward curved, Ø 250

R3G 250-RR02-I1 (Centrifugal fan)
Accessory part: Inlet ring 96359-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

K3G 250-RR02-I2 (Centrifugal module with support bracket)
Cable AWG 18, 5x crimped ferrules
Cable AWG 22, 5x crimped ferrules

Note installed position! Install support struts as illustrated
EC centrifugal fans – RadiCal
backward curved, Ø 280

- **Material**: Support bracket: Steel, painted black
  Support plate and inlet ring: Sheet steel, galvanized
  Impeller: Plastic
  Rotor: Surface passivated, Painted black
  Electronics housing: Die-cast aluminium

- **Number of blades**: 6
- **Direction of rotation**: Clockwise viewed toward rotor
- **Degree of protection**: A: IP 54, B: IP 55
- **Insulation class**: A: “B”, B: “F”
- **Installation position**: A: Any
  B: Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes**: A: None, open rotor, B: Rotor side
- **Mode**: Continuous operation (S1)
- **Mounting**: Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>Curve</th>
<th>VAC</th>
<th>Hz</th>
<th>rpm</th>
<th>W</th>
<th>A</th>
<th>°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 280</td>
<td>M3G 074-CF</td>
<td>1~200-240</td>
<td>50/60</td>
<td>1910</td>
<td>168</td>
<td>1,40</td>
<td>-25..+60</td>
<td></td>
</tr>
<tr>
<td>*3G 280</td>
<td>M3G 084-DF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>2700</td>
<td>500</td>
<td>2,20</td>
<td>-25..+60</td>
<td></td>
</tr>
<tr>
<td>*3G 280</td>
<td>M3G 084-DF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>2900</td>
<td>660</td>
<td>2,90</td>
<td>-25..+60</td>
<td></td>
</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 230 VAC.

### Curves:

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: Lw A according to ISO 13347, Lp A measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

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*EC_Radialventilatoren_RadiCal_2018_EN_EC_bis_400_16_05_2018_.indd* 80

17.05.2018 08:00:54
- **Technical features**: See connection diagram P. 146 f.
- **EMC**: Interference emission according to EN 61000-6-3
  Immunity to interference according to EN 61000-6-2
  Circuit feedback according to EN 61000-3-2/3
  On account of the installation conditions, ferritic damping in the connection line may be required for the application.
- **Touch current**: < 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit**: Variable
- **Protection class**: I (with customer connection of protective earth)
- **Conformity with standards**: © EN 60335-1, CE; © © EN 60335-1, EN 61800-5-1, CE
- **Approvals**: © VDE, CURUS on request; © © VDE, UL, CSA, CCC, EAC
- **Efficiency**: Ecodesign EU regulation EU 327/2011

### Weight

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight</th>
<th>Centrifugal module with support bracket</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>K3G 280-RB02 -03</td>
<td>2,70 kg</td>
<td>K3G 280-RB02 -03</td>
<td>6,80 kg</td>
</tr>
<tr>
<td>K3G 280-RR03 -H1</td>
<td>4,20 kg</td>
<td>K3G 280-RR03 -H2</td>
<td>8,30 kg</td>
</tr>
<tr>
<td>K3G 280-RR04 -I1</td>
<td>4,60 kg</td>
<td>K3G 280-RR04 -I2</td>
<td>8,80 kg</td>
</tr>
</tbody>
</table>
EC centrifugal fans – RadiCal
backward curved, Ø 280

R3G 280-RB02-03 (Centrifugal fan)
Accessory part: Inlet ring 28000-2-4013
Not included in scope of delivery. Dimensions: see "Accessories" chapter
Screw-in depth max. 10 mm
Screw-in depth max. 5 mm

K3G 280-RB02-03 (Centrifugal module with support bracket)
Note installed position!
Install support struts as illustrated
Accessory part: Inlet ring 28000-2-4013
Not included in scope of delivery. Dimensions: see "Accessories" chapter

Cable AWG 20, 3x crimped splices
Cable AWG 22, 4x crimped splices

Screw-in depth max. 10 mm
Screw-in depth max. 5 mm
EC centrifugal fans – RadiCal
backward curved, Ø 280

R3G 280-RR03-H1 (Centrifugal fan)
Accessory part: Inlet ring 28000-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

K3G 280-RR03-H2 (Centrifugal module with support bracket)
Note installed position! Install support struts as illustrated

Cable AWG 18, 5x crimped ferrules
Cable AWG 22, 5x crimped ferrules

Not included in scope of delivery
Dimensions: see "Accessories" chapter
EC centrifugal fans – RadiCal
backward curved, Ø 280

R3G 280-RR04-11  (Centrifugal fan)
Accessory part: Inlet ring 280002-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

K3G 280-RR04-I2  (Centrifugal module with support bracket)
Note installed position! Install support struts as illustrated

Screw-in depth max. 16 mm

Installation notes:
- Cable AWG 18, 5x crimped ferrules
- Cable AWG 22, 5x crimped ferrules
EC centrifugal fans – RadiCal
backward curved, Ø 310

- **Material:** Support bracket: Steel, painted black
  Support plate and inlet ring: Sheet steel, galvanized
  Impeller: Plastic
  Rotor: Surface passivated, Painted black
  Electronics housing: Die-cast aluminium

- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54, IP 55
- **Insulation class:** “B”, “F”
- **Installation position:** Any,
  Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** None, open rotor
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>VAC</th>
<th>Hz</th>
<th>Frequency</th>
<th>Speed</th>
<th>Max.</th>
<th>Max.</th>
<th>Perm. ambient temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 310</td>
<td>M3G 074-CF</td>
<td>1–200-240</td>
<td>50/60</td>
<td>1525</td>
<td>150</td>
<td>1.20</td>
<td>-25...+60</td>
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<tr>
<td>*3G 310</td>
<td>M3G 084-DF</td>
<td>1–200-277</td>
<td>50/60</td>
<td>2360</td>
<td>500</td>
<td>2.20</td>
<td>-25...+60</td>
<td></td>
</tr>
<tr>
<td>*3G 310</td>
<td>M3G 084-FA</td>
<td>1–200-277</td>
<td>50/60</td>
<td>2640</td>
<td>730</td>
<td>3.20</td>
<td>-25...+60</td>
<td></td>
</tr>
<tr>
<td>*3G 310</td>
<td>M3G 084-FA</td>
<td>3–380-480</td>
<td>50/60</td>
<td>2700</td>
<td>790</td>
<td>1.25</td>
<td>-25...+60</td>
<td></td>
</tr>
</tbody>
</table>

Curves:

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: Lw A according to ISO 13347, Lp A measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
- **Technical features:** See connection diagram P. 146 ff.
- **EMC:**
  - Interference emission according to EN 61000-6-3
  - Immunity to interference according to EN 61000-6-2
  - Circuit feedback according to EN 61000-3-2/3
  - On account of the installation conditions, ferritic damping in the connection line may be required for the application.
- **Touch current:** < 3,5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:**
  - EC centrifugal fans - RadiCal Ø 133-250 (Compact)
  - EC centrifugal fans - RadiCal Ø 250-560
- **Approvals:**
  - VDE, CURUS on request;
  - VDE, UL, CSA, CCC, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011

### Weight

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Centrifugal module with support bracket</th>
<th>kg</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 310-RB01 -03</td>
<td>K3G 310-RB01 -03</td>
<td>2,90</td>
<td>7,50</td>
</tr>
<tr>
<td>R3G 310-RR05 -H1</td>
<td>K3G 310-RR05 -H2</td>
<td>4,60</td>
<td>9,50</td>
</tr>
<tr>
<td>R3G 310-RS01 -I1</td>
<td>K3G 310-RS01 -I2</td>
<td>5,70</td>
<td>10,7</td>
</tr>
<tr>
<td>R3G 310-RS05 -J1</td>
<td>K3G 310-RS05 -J2</td>
<td>5,50</td>
<td>11,3</td>
</tr>
</tbody>
</table>

### Curves:

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: Lw A according to ISO 13347, Lp A measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
EC centrifugal fans – RadiCal
backward curved, Ø 310

R3G 310-RB01-03 (Centrifugal fan)
Accessory part: Inlet ring 31000-2-4013
Not included in scope of delivery. Dimensions: see “Accessories” chapter

Screw-in depth max. 10 mm
Screw-in depth max. 5 mm

K3G 310-RB01-03 (Centrifugal module with support bracket)
Note installed position! Install support struts as illustrated

Accessory part: Inlet ring 31000-2-4013
Not included in scope of delivery. Dimensions: see “Accessories” chapter

Cable PVC AWG 20, 3x crimped splices
Cable PVC AWG 22, 4x crimped splices

Screw-in depth max. 10 mm
Screw-in depth max. 5 mm
EC centrifugal fans – RadiCal
backward curved, Ø 310

**R3G 310-RR05-H1** (Centrifugal fan)
- Accessory part: Inlet ring 31000-2-4013
- Not included in scope of delivery
- Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

**K3G 310-RR05-H2** (Centrifugal module with support bracket)
- Note installed position!
- Install support struts as illustrated

Cable PVC AWG 18, 5x crimped ferrules
- Cable PVC AWG 22, 5x crimped ferrules

Accessories:
- Inlet ring 31000-2-4013
- Not included in scope of delivery
- Dimensions: see "Accessories" chapter

** Technologies **

** EBMPAPST **
EC centrifugal fans – RadiCal
backward curved, Ø 310

R3G 310-RS01-I1 (Centrifugal fan)
Accessory part: Inlet ring 31000-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter
Screw-in depth max. 10 mm

K3G 310-RS01-I2 (Centrifugal module with support bracket)
Note installed position! Install support struts as illustrated

Cable PVC AWG 18, 5x crimped ferrules
EC centrifugal fans – RadiCal
backward curved, Ø 310

**R3G 310-RS05-J1** (Centrifugal fan)
Accessory part: Inlet ring 31000-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw in depth max. 16 mm

**K3G 310-RS05-J2** (Centrifugal module with support bracket)
Note installed position! Install support struts as illustrated

Cable PVC AWG 18, 6x crimped ferrules
Cable PVC AWG 22, 5x crimped ferrules

Screw-in depth max. 16 mm

M6 (4x)

4x90°

45°
**EC centrifugal fans – RadiCal**

backward curved, Ø 355

- **Material:** Support bracket: Steel, painted black
  Support plate and inlet ring: Sheet steel, galvanized
  Impeller: Plastic
  Rotor: Surface passivated, Painted black
  Electronics housing: Die-cast aluminium
- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54, IP 55
- **Insulation class:** "B", "F"
- **Installation position:** Any,
  - Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** None, open rotor or Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>VAC</th>
<th>Hz</th>
<th>rpm</th>
<th>W</th>
<th>A</th>
<th>°C</th>
<th>P. 146 / RC3</th>
<th>P. 147 / RC4</th>
<th>P. 147 / RC4</th>
<th>P. 147 / RC4</th>
<th>P. 148 / RC5</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 355</td>
<td>M3G 074-DF</td>
<td>1~200-240</td>
<td>50/60</td>
<td>1250</td>
<td>168</td>
<td>1,40</td>
<td>-25..+60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*3G 355</td>
<td>M3G 084-DF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>1450</td>
<td>250</td>
<td>1,10</td>
<td>-25..+60</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*3G 355</td>
<td>M3G 084-FA</td>
<td>1~200-277</td>
<td>50/60</td>
<td>1850</td>
<td>500</td>
<td>2,20</td>
<td>-25..+60</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>*3G 355</td>
<td>M3G 084-GF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>2100</td>
<td>750</td>
<td>3,30</td>
<td>-25..+55</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>*3G 355</td>
<td>M3G 112-EA</td>
<td>3~380-480</td>
<td>50/60</td>
<td>2400</td>
<td>1100</td>
<td>1,70</td>
<td>-25..+60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subject to change

(1) **Nominal data at operating point with maximum load and 230 or 400 VAC.**

### Curves:

- **Nominal voltage range:** 1~200-240, 50/60 Hz
- **Speed:** 1250 rpm
- **Max. input power:** 168 W
- **Max. input current:** 1,40 A
- **Perm. ambient temp.:** -25..+60 °C

**Curves:**

- **Air performance measured according to:** ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
- **Intake-side sound level:** Lw A according to ISO 13347, Lp A measured at 1 m distance from fan axis.
- **Values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions.**
- **In the event of deviation from the standard configuration, the parameters must be checked in installed condition.**
- **See Page 162 ff. for detailed information.**

### Technical features and connection diagram

- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54, IP 55
- **Insulation class:** "B", "F"
- **Installation position:** Any,
  - Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** None, open rotor or Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

### Material

- Support bracket: Steel, painted black
- Support plate and inlet ring: Sheet steel, galvanized
- Impeller: Plastic
- Rotor: Surface passivated, Painted black
- Electronics housing: Die-cast aluminium

### Technical features

- **Support bracket:** Steel, painted black
- **Support plate and inlet ring:** Sheet steel, galvanized
- **Impeller:** Plastic
- **Rotor:**
  - Surface passivated
  - Painted black
- **Electronics housing:** Die-cast aluminium
- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54, IP 55
- **Insulation class:** "B", "F"
- **Installation position:** Any,
  - Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** None, open rotor or Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>VAC (range)</th>
<th>Hz</th>
<th>rpm</th>
<th>W</th>
<th>A</th>
<th>°C</th>
<th>P. 146 / RC3</th>
<th>P. 147 / RC4</th>
<th>P. 147 / RC4</th>
<th>P. 147 / RC4</th>
<th>P. 148 / RC5</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 355</td>
<td>M3G 084-DF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>1850</td>
<td>500</td>
<td>2,20</td>
<td>-25..+60</td>
<td></td>
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<tr>
<td>*3G 355</td>
<td>M3G 084-FA</td>
<td>1~200-277</td>
<td>50/60</td>
<td>2100</td>
<td>750</td>
<td>3,30</td>
<td>-25..+55</td>
<td></td>
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</tr>
<tr>
<td>*3G 355</td>
<td>M3G 084-GF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>2400</td>
<td>1100</td>
<td>1,70</td>
<td>-25..+60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subject to change

(1) **Nominal data at operating point with maximum load and 230 or 400 VAC.**
- **Technical features:** See connection diagram P. 146 ff.
- **EMC:** Interference emission according to EN 61000-6-3
  - According to 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
  - Immunity to interference according to EN 61000-6-2; according to EN 61000-6-2 (industrial environment)
  - Circuit feedback according to EN 61000-3-2/3
  - On account of the installation conditions, ferritic damping in the connection line may be required for the application.
- **Touch current:** < 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, CE; EN 61800-5-1, CE; EN 61800-5-1, CE
- **Approvals:** VDE, CURUS on request; VDE, UL, CSA, CCC, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011

### Centrifugal fan

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight</th>
<th>kg</th>
<th>Centrifugal module with support bracket</th>
<th>Weight</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 355-RB03 -03</td>
<td>3,70</td>
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<td>K3G 355-RB03 -03</td>
<td>9,70</td>
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</tr>
<tr>
<td>R3G 355-RR06 -01</td>
<td>5,00</td>
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<td>K3G 355-RR06 -02</td>
<td>10,8</td>
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<tr>
<td>R3G 355-RS02 -H1</td>
<td>5,70</td>
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<td>K3G 355-RS02 -H2</td>
<td>11,6</td>
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</tr>
<tr>
<td>R3G 355-RT01 -I1</td>
<td>7,00</td>
<td></td>
<td>K3G 355-RT01 -I2</td>
<td>15,4</td>
<td></td>
</tr>
<tr>
<td>R3G 355-RJ75 -01</td>
<td>8,40</td>
<td></td>
<td>K3G 355-RJ75 -01</td>
<td>16,4</td>
<td></td>
</tr>
</tbody>
</table>

### Curves:

![Curves](image)

Air performance measured according to ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: $L_{wA}$ according to ISO 13347, $L_{pA}$ measured at 1 m distance from fan axis. The values given are only applicable to the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
EC centrifugal fans – RadiCal
backward curved, Ø 355

R3G 355-RB03-03 (Centrifugal fan)
Accessory part: Inlet ring 35500-2-4013
Not included in scope of delivery. Dimensions: see "Accessories" chapter

K3G 355-RB03-03 (Centrifugal module with support bracket)
Note installed position! Install support struts as illustrated

Screw-in depth max. 10 mm
Screw-in depth max. 5 mm

Cable AWG 20,
3x crimped splices
Cable AWG 22,
4x crimped splices

Accessories: Inlet ring 35500-2-4013
Not included in scope of delivery. Dimensions: see "Accessories" chapter

Cable AWG 22,
3x crimped splices
Screw-in depth max. 5 mm

Cable AWG 20,
3x crimped splices
Screw-in depth max. 10 mm
EC centrifugal fans – RadiCal
backward curved, Ø 355

R3G 355-RR06-G1 (Centrifugal fan)
Accessory part: Inlet ring 35500-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

Cable PVC AWG 18,
5x crimped ferrules

Cable PVC AWG 22,
5x crimped ferrules

K3G 355-RR06-G2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated

 ebmpapst
EC centrifugal fans – RadiCal
backward curved, Ø 355

R3G 355-RS02-H1 (Centrifugal fan)

Accessory part: Inlet ring 35500-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

K3G 355-RS02-H2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated

Cable PVC AWG 18, 5x crimped ferrules
Cable PVC AWG 22, 5x crimped ferrules

Accessory part: Inlet ring 35500-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter
EC centrifugal fans – RadiCal
backward curved, Ø 355

R3G 355-RT01-11  (Centrifugal fan)
Accessory part: Inlet ring 35500-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter
Screw-in depth max. 16 mm

K3G 355-RT01-I2  (Centrifugal module with support bracket)
Note installed position! Install support struts as illustrated
Cable PVC AWG 18, 5x crimped ferrules
Cable PVC AWG 22, 5x crimped ferrules

Install support struts as illustrated.
EC centrifugal fans – RadiCal
backward curved, Ø 355

R3G 355-RJ75-01  (Centrifugal fan)
Accessory part: Inlet ring 35500-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

K3G 355-RJ75-01  (Centrifugal module with support bracket)
Note installed position! Install support struts as illustrated

Screw-in depth max. 16 mm
Cable PVC AWG 18, 6x crimped ferrules
Cable PVC AWG 22, 5x crimped ferrules

Accessories: Inlet ring 35500-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Cable PVC AWG 22, 5x crimped ferrules
EC centrifugal fans – RadiCal
backward curved, Ø 400

- **Material**: Support bracket: Steel, painted black
  Support plate and inlet ring: Sheet steel, galvanized
  Impeller: Plastic
  Rotor: Painted black
  Electronics housing: Die-cast aluminium
- **Number of blades**: 6
- **Direction of rotation**: Clockwise viewed toward rotor
- **Degree of protection**: IP 55
- **Insulation class**: "F"
- **Installation position**: Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes**: Rotor side
- **Mode**: Continuous operation (S1)
- **Mounting**: Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>Curve</th>
<th>Nominal voltage range</th>
<th>Frequency</th>
<th>Speed (1)</th>
<th>Max. input power (1)</th>
<th>Max. input current (1)</th>
<th>Perm. ambient temp.</th>
<th>Tech. features and connection diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 400</td>
<td>M3G 084-DF</td>
<td>A</td>
<td>1~200-277</td>
<td>50/60</td>
<td>1170</td>
<td>250</td>
<td>1,10</td>
<td>-25..+60</td>
<td>P. 147 / RC4</td>
</tr>
<tr>
<td>*3G 400</td>
<td>M3G 084-FA</td>
<td>A</td>
<td>1~200-277</td>
<td>50/60</td>
<td>1500</td>
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<td>2,20</td>
<td>-25..+50</td>
<td>P. 147 / RC4</td>
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<td>M3G 084-GF</td>
<td>A</td>
<td>1~200-277</td>
<td>50/60</td>
<td>1700</td>
<td>750</td>
<td>3,30</td>
<td>-25..+55</td>
<td>P. 147 / RC4</td>
</tr>
<tr>
<td>*3G 400</td>
<td>M3G 112-EA</td>
<td>B</td>
<td>3~380-480</td>
<td>50/60</td>
<td>2060</td>
<td>1320</td>
<td>2,10</td>
<td>-25..+50</td>
<td>P. 148 / RC5</td>
</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 230 or 400 VAC.

### Curves:

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: $L_w A$ according to ISO 13347, $L_p A$ measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
- **Technical features:** See connection diagram P. 147 f.
- **EMC:** Interference emission according to EN 61000-6-3
  - According to 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
  - Immunity to interference according to EN 61000-6-2; according to EN 61000-6-2 (industrial environment)
  - Circuit feedback according to EN 61000-3-2/3
- **Touch current:** < 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:** EN 60335-1, EN 61800-5-1, CE; EN 61800-5-1, CE
- **Approvals:** VDE, UL, CSA, CCC, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011

### Centrifugal Fans

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight kg</th>
<th>Centrifugal module with support bracket kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 400-RR07 -01</td>
<td>5.60</td>
<td>K3G 400-RR07 -G2 12.5</td>
</tr>
<tr>
<td>R3G 400-RS03 -H1</td>
<td>6.40</td>
<td>K3G 400-RS03 -H2 13.3</td>
</tr>
<tr>
<td>R3G 400-RT02 -I1</td>
<td>7.50</td>
<td>K3G 400-RT02 -I2 15.5</td>
</tr>
<tr>
<td>R3G 400-RJ75 -01</td>
<td>9.10</td>
<td>K3G 400-RJ75 -J1 16.5</td>
</tr>
</tbody>
</table>

### Efficiency Curves

```
<table>
<thead>
<tr>
<th>n rpm</th>
<th>Ped W</th>
<th>I A</th>
<th>LwA dB(A)</th>
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<tbody>
<tr>
<td>2120</td>
<td>965</td>
<td>1.56</td>
<td>89</td>
</tr>
<tr>
<td>2110</td>
<td>1245</td>
<td>2.00</td>
<td>82</td>
</tr>
<tr>
<td>2060</td>
<td>1320</td>
<td>2.10</td>
<td>75</td>
</tr>
<tr>
<td>2100</td>
<td>1285</td>
<td>2.06</td>
<td>78</td>
</tr>
</tbody>
</table>
```

Air performance measured according to ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: LwA according to ISO 13347, LpA measured at 1 m distance from fan axis. The values given are only applicable at the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
EC centrifugal fans – RadiCal
backward curved, Ø 400

R3G 400-RR07-G1 (Centrifugal fan)
Accessory part: Inlet ring 54476-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

Cable PVC AWG 18,
5x crimped ferrules

Cable PVC AWG 22,
5x crimped ferrules

K3G 400-RR07-G2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated

Accessory part: Inlet ring 54476-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter
EC centrifugal fans – RadiCal
backward curved, Ø 400

R3G 400-RS03-H1 (Centrifugal fan)

Accessory part: Inlet ring 54476-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

K3G 400-RS03-H2 (Centrifugal module with support bracket)

Cable PVC AWG 18, 5x crimped ferrules
Cable PVC AWG 22, 5x crimped ferrules

Note installed position! Install support struts as illustrated

Accessories: Inlet ring 54476-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

EC centrifugal fans - RadiCal
Ø 133-250 (Compact)
EC centrifugal fans - RadiCal
Ø 250-560

Cable PVC AWG 22, 5x crimped ferrules
EC centrifugal fans – RadiCal
backward curved, Ø 400

R3G 400-RT02-I1  (Centrifugal fan)
- Accessory part: Inlet ring 54476-2-4013
- Not included in scope of delivery
- Dimensions: see "Accessories" chapter
- Screw-in depth max. 16 mm

K3G 400-RT02-I2  (Centrifugal module with support bracket)
- Note installed position! Install support struts as illustrated
- Cable PVC AWG 18, 5x crimped ferrules
- Cable PVC AWG 22, 5x crimped ferrules
- Screw-in depth max. 16 mm
EC centrifugal fans – RadiCal
backward curved, Ø 400

R3G 400-RJ75-01  (Centrifugal fan)

Accessory part: inlet ring S4476-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter
Screw-in depth max. 16 mm

K3G 400-RJ75-01  (Centrifugal module with support bracket)

Cable PVC AWG 18,
6x crimped ferrules
Cable PVC AWG 22,
5x crimped ferrules

Note installed position! Install support struts as illustrated

Not included in scope of delivery
Dimensions: see "Accessories" chapter
**EC centrifugal fans – RadiCal**

backward curved, Ø 450

- **Material:** Support bracket: Steel, painted black
  Support plate: Sheet steel, galvanized
  Inlet ring: Plastic
  Impeller: Plastic / Rotor: Painted black
  Electronics housing: Die-cast aluminium

- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 55
- **Insulation class:** “F”
- **Installation position:** Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>Curve Nominal voltage range</th>
<th>Speed (1)</th>
<th>Max. Input power (1)</th>
<th>Max. Input current (1)</th>
<th>Perm. ambient temp.</th>
<th>Notes Features and connection diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 450</td>
<td>M3G 084-FA</td>
<td>1–200-277</td>
<td>1000</td>
<td>250</td>
<td>1,10</td>
<td>-25..+60</td>
<td>P. 147 / RC4)</td>
</tr>
<tr>
<td>*3G 450</td>
<td>M3G 084-GF</td>
<td>1–200-277</td>
<td>1260</td>
<td>500</td>
<td>2,20</td>
<td>-25..+50</td>
<td>P. 147 / RC4)</td>
</tr>
<tr>
<td>*3G 450</td>
<td>M3G 112-EA</td>
<td>1–200-277</td>
<td>1440</td>
<td>750</td>
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<td>-25..+60</td>
<td>P. 147 / RC4)</td>
</tr>
<tr>
<td>*3G 450</td>
<td>M3G 112-GA</td>
<td>3–380-480</td>
<td>1550</td>
<td>950</td>
<td>1,50</td>
<td>-25..+60</td>
<td>P. 148 / RC5)</td>
</tr>
</tbody>
</table>

Subject to change  
(1) Nominal data at operating point with maximum load and 230 or 400 VAC.

### Curves:

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: $L_w A$ according to ISO 13347, $L_p A$ measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

### Technical features and connection diagram:

- Shaft horizontal or rotor on bottom, rotor on top on request.
- Condensation drainage holes: Rotor side.
- Mode: Continuous operation (S1).
- Mounting: Maintenance-free ball bearings.

---

**Material:** Support bracket: Steel, painted black
Support plate: Sheet steel, galvanized
Inlet ring: Plastic
Impeller: Plastic / Rotor: Painted black
Electronics housing: Die-cast aluminium

**Number of blades:** 6
**Direction of rotation:** Clockwise viewed toward rotor
**Degree of protection:** IP 55
**Insulation class:** “F”
**Installation position:** Shaft horizontal or rotor on bottom, rotor on top on request
**Condensation drainage holes:** Rotor side
**Mode:** Continuous operation (S1)
**Mounting:** Maintenance-free ball bearings.
- Technical features: See connection diagram P. 147 ff.
- EMC: Interference emission according to EN 61000-6-3
- Immunity to interference according to EN 61000-6-2
- Circuit feedback according to EN 61000-3-2/3
- Touch current: < 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
- Cable exit: Variable
- Protection class: I (with customer connection of protective earth)
- Conformity with standards: EN 60335-1, EN 61800-5-1, CE; EN 61800-5-1, CE
- Approvals: VDE, UL, CSA, CCC, EAC
- Efficiency: Ecodesign EU regulation EU 327/2011

---

### Technical Specifications

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight kg</th>
<th>Centrifugal module with support bracket</th>
<th>Weight kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 450-RS04 -G1</td>
<td>6,70</td>
<td>K3G 450-RS04 -G2</td>
<td>16,7</td>
</tr>
<tr>
<td>R3G 450-RT03 -H1</td>
<td>7,50</td>
<td>K3G 450-RT03 -H2</td>
<td>17,3</td>
</tr>
<tr>
<td>R3G 450-RJ74 -21</td>
<td>9,30</td>
<td>K3G 450-RJ74 -21</td>
<td>19,3</td>
</tr>
<tr>
<td>R3G 450-RK56 -01</td>
<td>10,6</td>
<td>K3G 450-RK56 -01</td>
<td>21,0</td>
</tr>
</tbody>
</table>

---

### Efficiency Curves

Air performance measured according to ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: L_wA according to ISO 13347, L_pA measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
EC centrifugal fans – RadiCal
backward curved, Ø 450

R3G 450-RS04-G1 (Centrifugal fan)

Accessory part: Inlet ring 45901-2-2843
(Material: Plastic)
Not included in scope of delivery
Dimensions: see “Accessories” chapter

Screw-in depth max. 16 mm

K3G 450-RS04-G2 (Centrifugal module with support bracket)

Accessory part: Inlet ring 45901-2-2943
(Material: Plastic)
Not included in scope of delivery
Dimensions: see “Accessories” chapter

Cable PVC AWG 18,
5x crimped ferrules

Cable PVC AWG 22,
5x crimped ferrules

Note installed position! Install support struts as illustrated
EC centrifugal fans – RadiCal
backward curved, Ø 450

R3G 450-RT03-H1 (Centrifugal fan)
Accessory part: Inlet ring 45901-2-2843
(Material: Plastic)
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

K3G 450-RT03-H2 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated

Cable PVC AWG 18,
5x crimped ferrules

Cable PVC AWG 22,
5x crimped ferrules
EC centrifugal fans – RadiCal
backward curved, Ø 450

R3G 450-RJ74-21  (Centrifugal fan)
Accessory part: Inlet ring 45901-2-2843
(Material: Plastic)
Not included in scope of delivery
Dimensions: see “Accessories” chapter
Screw-in depth max. 16 mm

K3G 450-RJ74-21  (Centrifugal module with support bracket)
Accessory part: Inlet ring 45901-2-2943
(Material: Plastic)
Not included in scope of delivery
Dimensions: see “Accessories” chapter
Note installed position! Install support struts as illustrated
EC centrifugal fans – RadiCal
backward curved, Ø 450

R3G 450-RK56-01 (Centrifugal fan)
Accessory part: Inlet ring 45901-2-2843
(Material: Plastic)
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

Cable PVC AWG 18,
6x crimped ferrules

Cable PVC AWG 22,
5x crimped ferrules

K3G 450-RK56-01 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated
EC centrifugal fans – RadiCal
backward curved, Ø 500

- **Material**: Support bracket: Steel, painted black
  Support plate: Sheet steel, galvanized
  Inlet ring: Plastic; Sheet steel, galvanized
  Impeller: Plastic / Rotor: Painted black
  Electronics housing: Die-cast aluminium

- **Number of blades**: 7
- **Direction of rotation**: Clockwise viewed toward rotor
- **Degree of protection**: IP 55
- **Insulation class**: “F”
- **Installation position**: Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes**: Rotor side
- **Mode**: Continuous operation (S1)
- **Mounting**: Maintenance-free ball bearings

### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>Curve</th>
<th>Nominal voltage range</th>
<th>Frequency</th>
<th>Speed (1)</th>
<th>Max. input power (1)</th>
<th>Max. input current (1)</th>
<th>Perm. ambient temp.</th>
<th>Tech. features and connection diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 500</td>
<td>M3G 084-FA</td>
<td>1 ~ 200-277</td>
<td>50/60</td>
<td>750</td>
<td>250</td>
<td>1,10</td>
<td>-25..+60</td>
<td>P. 147 / RC4</td>
<td></td>
</tr>
<tr>
<td>*3G 500</td>
<td>M3G 084-GF</td>
<td>1 ~ 200-277</td>
<td>50/60</td>
<td>900</td>
<td>460</td>
<td>2,00</td>
<td>-25..+40</td>
<td>P. 147 / RC4</td>
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</tr>
<tr>
<td>*3G 500</td>
<td>M3G 112-GA</td>
<td>1 ~ 200-277</td>
<td>50/60</td>
<td>1100</td>
<td>750</td>
<td>3,30</td>
<td>-25..+60</td>
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<td></td>
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<tr>
<td>*3G 500</td>
<td>M3G 112-IA</td>
<td>3 ~ 380-480</td>
<td>50/60</td>
<td>1350</td>
<td>1320</td>
<td>2,10</td>
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</tr>
<tr>
<td>*3G 500</td>
<td>M3G 150-FF</td>
<td>3 ~ 380-480</td>
<td>50/60</td>
<td>1700</td>
<td>2600</td>
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<td>-40..+60</td>
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<tr>
<td>*3G 500</td>
<td>M3G 150-FF</td>
<td>3 ~ 380-480</td>
<td>50/60</td>
<td>1820</td>
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<td>-25..+40</td>
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<td>M3G 150-FF</td>
<td>3 ~ 380-480</td>
<td>50/60</td>
<td>1900</td>
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<td>5,60</td>
<td>-40..+40</td>
<td>P. 153 / RC9</td>
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</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 230 or 400 VAC.

### Curves:

![Curves](image)

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: LwA according to ISO 13347, LpA measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
- **Technical features:** See connection diagram P. 147 ff.
- **EMC:**
  - Interference emission according to EN 61000-6-3
  - Immunity to interference according to EN 61000-6-2
- **Touch current:** < 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Cable exit:** Variable
- **Protection class:** I (with customer connection of protective earth)
- **Conformity with standards:**
  - EN 60335-1, EN 61800-5-1, CE
  - EN 61800-5-1, CE

### Technical Data

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight Centrifugal fan</th>
<th>Centrifugal module with support bracket</th>
<th>Weight Centrifugal module with support bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 500-RS06 -01</td>
<td>8,90 kg</td>
<td>K3G 500-RS06 -02</td>
<td>18,8 kg</td>
</tr>
<tr>
<td>R3G 500-RT04 -01</td>
<td>9,40 kg</td>
<td>K3G 500-RT04 -02</td>
<td>18,7 kg</td>
</tr>
<tr>
<td>R3G 500-RK55 -21</td>
<td>13,0 kg</td>
<td>K3G 500-RK55 -21</td>
<td>23,0 kg</td>
</tr>
<tr>
<td>R3G 500-RL9E -01</td>
<td>15,1 kg</td>
<td>K3G 500-RL9E -01</td>
<td>25,4 kg</td>
</tr>
<tr>
<td>R3G 500-RA24 -71</td>
<td>21,0 kg</td>
<td>K3G 500-RA24 -71</td>
<td>35,0 kg</td>
</tr>
<tr>
<td>R3G 500-RA26 -02</td>
<td>28,0 kg</td>
<td>K3G 500-RA26 -02</td>
<td>43,5 kg</td>
</tr>
<tr>
<td>R3G 500-RA28 -03</td>
<td>21,0 kg</td>
<td>K3G 500-RA28 -03</td>
<td>35,0 kg</td>
</tr>
</tbody>
</table>

(2) with ActiPower-PFC

### Curves:

Air performance measured according to ISO 5801, installation category A; with ebm-papst inlet ring without contact protection. Intake-side sound level: LwA according to ISO 13347, measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.
EC centrifugal fans – RadiCal
backward curved, Ø 500

R3G 500-RS06-G1 (Centrifugal fan)

Accessory part: Inlet ring 50901-2-2843
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

K3G 500-RS06-G2 (Centrifugal module with support bracket)

Accessory part: Inlet ring 50901-2-2843
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Note installed position! Install support struts as illustrated
EC centrifugal fans – RadiCal
backward curved, Ø 500

**R3G 500-RT04-H1 (Centrifugal fan)**

- Accessory part: Inlet ring 50901-2-2843
- Not included in scope of delivery
- Dimensions: see “Accessories” chapter

**K3G 500-RT04-H2 (Centrifugal module with support bracket)**

- Note installed position! Install support struts as illustrated

**Cable PVC AWG 18,**
5x crimped ferrules

**Cable PVC AWG 22,**
5x crimped ferrules

---

EC centrifugal fans – RadiCal
Ø 133-250 (Compact)

EC centrifugal fans – RadiCal
Ø 250-560

---

**Information**

**Technology**

**Agents**

---

EC_Radialventilatoren_RadiCal_2018_EN_EC_450_bis_560_16_05_2018_.indd   115

17.05.2018   08:06:27
EC centrifugal fans – RadiCal
backward curved, Ø 500

R3G 500-RK55-21 (Centrifugal fan)

Accessory part: Inlet ring 50901-2-2843
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 16 mm

K3G 500-RK55-21 (Centrifugal module with support bracket)

Note installed position! Install support struts as illustrated

Accessory part: Inlet ring 50901-2-2943
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Cable PVC AWG 18, 5x crimped ferrules
Cable PVC AWG 22, 5x crimped ferrules

Screw-in depth max. 16 mm
EC centrifugal fans – RadiCal
backward curved, Ø 500

**R3G 500-RL96-01** (Centrifugal fan)

Accessory part: Inlet ring 50901-2-2843
Not included in scope of delivery
Dimensions: see “Accessories” chapter

**K3G 500-RL96-01** (Centrifugal module with support bracket)

Accessory part: Inlet ring 50901-2-2843
Not included in scope of delivery
Dimensions: see “Accessories” chapter

Screw-in depth max. 16 mm

Note installed position!
Install support struts as illustrated

Cable PVC AWG 18,
6x crimped ferrules

Cable PVC AWG 22,
5x crimped ferrules

---

Note: Reference to page numbers is not provided in the document. The page number mentioned in the footer is 117, but it is not relevant to the content provided.
**EC centrifugal fans – RadiCal**

**backward curved, Ø 500**

**R3G 500-RA24-71 (Centrifugal fan)**

Accessory part: Inlet ring 50901-2-2843
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 25 mm

Cable gland M20x1.5 (3x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

**K3G 500-RA24-71 (Centrifugal module with support bracket)**

Note installed position! Install support struts as illustrated
EC centrifugal fans – RadiCal
backward curved, Ø 500 (with Aktive-PFC)

R3G 500-RA26-C1  (Centrifugal fan)
Accessory part: Inlet ring 50901-2-2943
Not included in scope of delivery
Dimensions: see "Accessories" chapter
Screw-in depth max. 20 mm

K3G 500-RA26-C1  (Centrifugal module with support bracket)
Cable gland M20x1.5: (2x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm
Cable gland M25x1.5:
Cable diameter min. 9 mm, max. 16 mm
Tightening torque 6 ± 0.9 Nm

Inlet ring with pressure tap
Note installed position! Install support struts as illustrated

Information
Technology
Agents

EC centrifugal fans - RadiCal
Ø 133-250 (Compact)
EC centrifugal fans - RadiCal
Ø 250-560
EC centrifugal fans – RadiCal
backward curved, Ø 500

**R3G 500-RA28-03** (Centrifugal fan)

Accessory part: Inlet ring 50901-2-2943
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 20 mm

**K3G 500-RA28-03** (Centrifugal module with support bracket)

Attachment for FlowGrid

Cable gland M20x1.5 (3x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 2 ± 0.2 Nm

Note installed position! Install support struts as illustrated
### EC centrifugal fans – RadiCal
backward curved, Ø 560

- **Material:** Support bracket: Steel, painted black
  Support plate and inlet ring: Sheet steel, galvanized
  Impeller: Plastic / Rotor: Painted black
  Electronics housing: Die-cast aluminium

- **Number of blades:** 6
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 55
- **Insulation class:** “F”
- **Installation position:** Shaft horizontal or rotor on bottom, rotor on top on request
- **Condensation drainage holes:** Rotor side
- **Mode:** Continuous operation (S1)
- **Mounting:** Maintenance-free ball bearings

#### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>VAC</th>
<th>Hz</th>
<th>rpm</th>
<th>W</th>
<th>A</th>
<th>°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 560</td>
<td>M3G 150-FF</td>
<td>1–200-277</td>
<td>50/60</td>
<td>1340</td>
<td>1500</td>
<td>6,70</td>
<td>25..+55</td>
</tr>
<tr>
<td>*3G 560</td>
<td>M3G 150-FF</td>
<td>3–380-480</td>
<td>50/60</td>
<td>1650</td>
<td>3190</td>
<td>4,60</td>
<td>25..+40</td>
</tr>
<tr>
<td>*3G 560</td>
<td>M3G 150-FF</td>
<td>3–380-480</td>
<td>50/60</td>
<td>1750</td>
<td>3700</td>
<td>5,70</td>
<td>40..+40</td>
</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 230 or 400 VAC.

### Curves:

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.

Intake-side sound level: $L_{wA}$ according to ISO 13347, $L_{pA}$ measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

<table>
<thead>
<tr>
<th>rpm</th>
<th>$P_{ed}$</th>
<th>I</th>
<th>$L_{wA}$</th>
<th>$L_{pA}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1340</td>
<td>1145</td>
<td>5.03</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>1340</td>
<td>1469</td>
<td>6.66</td>
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<td></td>
</tr>
<tr>
<td>1340</td>
<td>1500</td>
<td>6.70</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>1340</td>
<td>1480</td>
<td>6.47</td>
<td>77</td>
<td></td>
</tr>
</tbody>
</table>
– EMC: ① ② Interference emission according to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW ① ② ③ Immunity to interference according to EN 61000-6-2 (industrial environment) ① ② ③ Circuit feedback according to EN 61000-3-2/3
– Touch current: < 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
– Terminal box design: electrical connection via terminal strip
– Protection class: I (with customer connection of protective earth)
– Conformity with standards: EN 61800-5-1, CE
– Approvals: ① ② ③ ④ ⑤ UL, CSA, EAC
– Efficiency: Ecodesign EU regulation EU 327/2011

### Centrifugal Fans and Modules

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight</th>
<th>Centrifugal module with support bracket</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 3 G 5 6 0 - R A 2 5 - 2 1</td>
<td>22.5 kg</td>
<td>K 3 G 5 6 0 - R A 2 5 - 2 1</td>
<td>44.6 kg</td>
</tr>
<tr>
<td>R 3 G 5 6 0 - R A 2 5 - 7 1</td>
<td>22.4 kg</td>
<td>K 3 G 5 6 0 - R A 2 5 - 7 1</td>
<td>42.0 kg</td>
</tr>
<tr>
<td>R 3 G 5 6 0 - R B 3 1 - 7 1</td>
<td>26.5 kg</td>
<td>K 3 G 5 6 0 - R B 3 1 - 7 1</td>
<td>46.7 kg</td>
</tr>
<tr>
<td>R 3 G 5 6 0 - R B 2 7 - C 1 (2)</td>
<td>33.5 kg</td>
<td>K 3 G 5 6 0 - R B 2 7 - C 1 (2)</td>
<td>58.0 kg</td>
</tr>
<tr>
<td>R 3 G 5 6 0 - R A 2 4 - 0 3</td>
<td>22.7 kg</td>
<td>K 3 G 5 6 0 - R A 2 4 - 0 3</td>
<td>43.3 kg</td>
</tr>
</tbody>
</table>

(2) with Aktive PFC

### Curves

*Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection.
Intake-side sound level: L_w A  according to ISO 13347, L_p A  measured at 1 m distance from fan axis. The values given are only applicable under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked in installed condition. See Page 162 ff. for detailed information.

### Tables

<table>
<thead>
<tr>
<th>rpm</th>
<th>P_{el}</th>
<th>I</th>
<th>L_{w A}</th>
</tr>
</thead>
<tbody>
<tr>
<td>1540</td>
<td>1840</td>
<td>2.89</td>
<td>86</td>
</tr>
<tr>
<td>1540</td>
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<td>2300</td>
<td>3.65</td>
<td>78</td>
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<tr>
<td>1540</td>
<td>2313</td>
<td>3.58</td>
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<td>1650</td>
<td>2030</td>
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<td>4.16</td>
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<td>2900</td>
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<td>77</td>
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<tr>
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<td>2769</td>
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<td>1690</td>
<td>3190</td>
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<td>80</td>
</tr>
<tr>
<td>1690</td>
<td>3180</td>
<td>4.60</td>
<td>82</td>
</tr>
<tr>
<td>1750</td>
<td>2466</td>
<td>3.80</td>
<td>89</td>
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<tr>
<td>1750</td>
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<td>85</td>
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<tr>
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<td>3700</td>
<td>5.70</td>
<td>83</td>
</tr>
<tr>
<td>1750</td>
<td>3517</td>
<td>5.36</td>
<td>85</td>
</tr>
</tbody>
</table>
EC centrifugal fans – RadiCal
backward curved, Ø 560

R3G 560-RA25-21 (Centrifugal fan)
Accessory part: Inlet ring 54482-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

K3G 560-RA25-21 (Centrifugal module with support bracket)
Screw-in depth max. 25 mm

Cable gland M20x1.5 (3x): Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.5 Nm

Note installed position! Install support struts as illustrated
EC centrifugal fans – RadiCal
backward curved, Ø 560

R3G 560-RA25-71  (Centrifugal fan)
Accessory part: Inlet ring 54482-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter
Screw-in depth max. 25 mm
M10 (6x)

K3G 560-RA25-71  (Centrifugal module with support bracket)
Cable gland M20x1.5 (3x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm
Tightening torque 3.5 ± 0.5 Nm

Note installed position! Install support struts as illustrated

Cable gland M20x1.5 (3x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm
Tightening torque 3.5 ± 0.5 Nm

Note installed position! Install support struts as illustrated
EC centrifugal fans – RadiCal
backward curved, Ø 560

R3G 560-RB31-71  (Centrifugal fan)
Accessory part: Inlet ring 54482-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter
Screw-in depth max. 25 mm
Cable gland M20x1.5 (3x): Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.5 Nm

K3G 560-RB31-71  (Centrifugal module with support bracket)
Note installed position! Install support struts as illustrated

Accessory part: Inlet ring 54482-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter
Screw-in depth max. 25 mm
Cable gland M20x1.5 (3x): Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.5 Nm
**EC centrifugal fans – RadiCal**
backward curved, Ø 560 (with Aktive-PFC)

**R3G 560-RB27-C1** (Centrifugal fan)

Accessory part: Inlet ring 54482-2-4013
Not included in scope of delivery
Dimensions: see "Accessories" chapter

Screw-in depth max. 20 mm

Cable gland M20x1.5 (2x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Cable gland M25x1.5:
Cable diameter min. 9 mm, max. 16 mm
Tightening torque 6 ± 0.9 Nm

**K3G 560-RB27-C1** (Centrifugal module with support bracket)

Attachment for FlowGrid
4x90°

Inlet ring with pressure tap

Note installed position! Install support struts as illustrated

Dimensions: see "Accessories" chapter
EC centrifugal fans – RadiCal
backward curved, Ø 560

**R3G 560-RA24-03** (Centrifugal fan)
Accessory part: Inlet ring 54482-2-4013
Not included in scope of delivery
Dimensions: see “Accessories” chapter

**K3G 560-RA24-03** (Centrifugal module with support bracket)
Attachment for FlowGrid
Note installed position! Install support struts as illustrated

---

Cable gland M20x1.5 (3x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 2 ± 0.2 Nm

---

Tightening torque 1.5 ± 0.2 Nm

---

Access to FlowGrid

---

1.5 ± 0.2 Nm

---

ebmpapst
Tender specifications
Fan size 133 to 560

Direct-drive, single inlet centrifugal fans with backward-curved one-piece impellers made of high-tech composite material, based on a GreenTech EC external rotor motor with integrated control electronics.

Impeller, sizes 133 to 560 mm, made of high-tech composite material. This permits high circumferential speeds and thus a high power density suitable for a wide range of applications.

Motor impeller statically and dynamically balanced on two planes to balancing grade G 6.3 in accordance with DIN ISO 1940. GreenTech EC external rotor motor surpasses efficiency class IE4, magnets with no rare earths, maintenance-free ball bearings with long-term lubrication, theoretical nominal service life of at least 40,000 hours of operation.

Soft start, integrated current limitation, extended voltage input 1~200-277 V, 50/60 Hz or 3~380-480 V, 50/60 Hz. The fan can be used with all standard power supply networks with unaltered air performance.

Integrated control electronics, low-noise commutation logic; 100% open-loop speed control; all fans have an optional RS485/MODBUS RTU interface, no shielded cables are required for connection.

All 1~ types feature integrated active PFC (Power Factor Correction) to reduce disturbing harmonic content.

Terminal box made of aluminum/plastic with easily accessible connection area, environment-resistant cable glands, or with brought-out cables.

Any work required for isolation from structure-borne noise is to be performed by the customer. The fan satisfies the applicable EMC guidelines and requirements with regard to harmonic effects (see applicable data sheet for specific figures). Documentation and marking in accordance with the applicable EU directives. Reliable performance data, air performance measurements taken on an intake-side chamber test rig in accordance with ISO 5801 and DIN 24163. Noise measurements taken in an anechoic room in accordance with DIN EN ISO 3745.

Protective devices integrated in the motor:
- Alarm relay with floating contacts (250 V AC/2 A, cos φ = 1)
- Locked-rotor protection
- Phase failure detection
- Soft start of motors
- Line undervoltage detection
- Thermal overload protection for electronics and motor
- Short circuit protection

Version for wall mounting:
Sizes 133 to 560, designed as ready-to-install support bracket intended for wall mounting. With sizes 133 to 250 the support structure is made of plastic, as of size 250 it is a black-coated, welded structure made of bent round steel bar with mounting plate and inlet ring made of sendzimir galvanized sheet steel. Installation position with horizontal motor shaft and vertical motor shaft with rotor on bottom. Vertical installation position with rotor on top on request.

Optional:
- Other and specific requirements on request
Technical data:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fan type</td>
<td></td>
</tr>
<tr>
<td>Air flow qV</td>
<td></td>
</tr>
<tr>
<td>Stat. pressure increase pfs</td>
<td></td>
</tr>
<tr>
<td>Stat. overall efficiency ηes</td>
<td></td>
</tr>
<tr>
<td>Operating speed n</td>
<td></td>
</tr>
<tr>
<td>Motor type</td>
<td>EC motor</td>
</tr>
<tr>
<td>Type of control</td>
<td>0-100 % speed control</td>
</tr>
<tr>
<td>Motor efficiency class</td>
<td>IE4 (equivalent or better)</td>
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<tr>
<td>Total power input Ped</td>
<td></td>
</tr>
<tr>
<td>Specific fan power SFP</td>
<td></td>
</tr>
<tr>
<td>Nominal voltage range UN</td>
<td></td>
</tr>
<tr>
<td>Line frequency f</td>
<td>50 / 60 Hz</td>
</tr>
<tr>
<td>Nominal current IN</td>
<td></td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP54</td>
</tr>
<tr>
<td>Sound power level LA (A, in)</td>
<td></td>
</tr>
<tr>
<td>Sound pressure level (at 1 m)</td>
<td></td>
</tr>
<tr>
<td>Perm. ambient temperature T</td>
<td></td>
</tr>
<tr>
<td>Weight of fan m</td>
<td></td>
</tr>
</tbody>
</table>

EC centrifugal fans - RadiCal
Support basket
Sizes 133 - 250

See data sheet for dimensions and connections.
Accessories
ebm-papst fans are not measured on our own advanced test stands just for their air performance alone. The acoustic behavior of the fans is also examined and the measurement results are included in the technical documentation.

Please note that the measurements are taken under ideal conditions with undisturbed inflow and outflow. If the fans are subsequently installed and used in devices with rather tight spaces, it is to be expected that the noise data provided in the documentation will not be applicable.

In order to minimize the negative impact of the installation situation, ebm-papst offers the FlowGrid air-inlet guard shown here. It is installed on the intake side of the fan and effectively reduces the noise generated by the fan. Particularly annoying, low-frequency noises are reduced efficiently. The level of noise reduction is dependent on the installation situation, which is why no generally applicable data is possible here.

**FlowGrid air inlet grill**

**Efficient noise reduction**

<table>
<thead>
<tr>
<th>FlowGrid air inlet grill</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part number</td>
<td>Fan size</td>
</tr>
<tr>
<td>00190-2-2957</td>
<td>170, 190</td>
</tr>
<tr>
<td>00250-2-2957</td>
<td>220, 225, 250</td>
</tr>
<tr>
<td>20280-2-2957</td>
<td>220, 225, 280</td>
</tr>
<tr>
<td>25310-2-2957</td>
<td>310</td>
</tr>
<tr>
<td>00400-2-2957</td>
<td>355, 400</td>
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<tr>
<td>35505-2-2957</td>
<td>450, 500</td>
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<tr>
<td>00630-2-2957</td>
<td>560</td>
</tr>
</tbody>
</table>

Subject to change

* Recommended tightening torque for fastening screws

Would you like to find out more?

If you need an installation guide or more information about the dimensions, go to:

www.ebmpapst.com
/flowgrid-manual

or scan the QR code below:
Intake finger guard

Wire mesh finger guard

**Material:** Steel wire, phosphated, painted pebble gray (RAL 7032)

### Intake finger guard for backwards-curved centrifugal fans (according to EN ISO 13857)

<table>
<thead>
<tr>
<th>Part number</th>
<th>Fan size</th>
<th>Version</th>
<th>a</th>
<th>b</th>
<th>d</th>
<th>e</th>
<th>Strut division</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>79280-2-4039</td>
<td>250, 280</td>
<td>1</td>
<td>280</td>
<td>4.5</td>
<td>227</td>
<td>2.8</td>
<td>4 x 90°</td>
<td></td>
</tr>
<tr>
<td>79310-2-4039</td>
<td>310</td>
<td>1</td>
<td>325</td>
<td>4.5</td>
<td>271</td>
<td>2.8</td>
<td>4 x 90°</td>
<td></td>
</tr>
<tr>
<td>79355-2-4039</td>
<td>355</td>
<td>1</td>
<td>345</td>
<td>4.5</td>
<td>308</td>
<td>2.8</td>
<td>4 x 90°</td>
<td></td>
</tr>
<tr>
<td>79400-2-4039</td>
<td>400</td>
<td>2</td>
<td>390</td>
<td>8.5</td>
<td>343</td>
<td>2.8</td>
<td>3 x 120°</td>
<td></td>
</tr>
<tr>
<td>79500-2-4039</td>
<td>450, 500</td>
<td>2</td>
<td>445</td>
<td>8.5</td>
<td>417</td>
<td>2.8</td>
<td>3 x 120°</td>
<td></td>
</tr>
<tr>
<td>79560-2-4039</td>
<td>560</td>
<td>2</td>
<td>490</td>
<td>8.5</td>
<td>466</td>
<td>2.8</td>
<td>3 x 120°</td>
<td></td>
</tr>
</tbody>
</table>

### Guard grill for suction side for compact centrifugal modules

**Material:** Plastic, fibreglass-reinforced

<table>
<thead>
<tr>
<th>Part number</th>
<th>Fan size</th>
<th>a</th>
<th>b</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13351-2-2929</td>
<td>133</td>
<td>94.1</td>
<td>7.7</td>
<td></td>
</tr>
<tr>
<td>19051-2-2929</td>
<td>175, 190</td>
<td>133</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>22051-2-2929</td>
<td>220</td>
<td>166</td>
<td>8.7</td>
<td></td>
</tr>
<tr>
<td>22551-2-2929</td>
<td>225</td>
<td>158</td>
<td>8.7</td>
<td></td>
</tr>
<tr>
<td>25051-2-2929</td>
<td>250</td>
<td>177</td>
<td>9.7</td>
<td></td>
</tr>
</tbody>
</table>
Inlet rings
With / without measuring device

- Material: Galvanized sheet steel,
  Fan size 450 / 500: Plastic

### Inlet rings with / without measuring device to determine the air flow for backwards-curved centrifugal fans

<table>
<thead>
<tr>
<th>Part number</th>
<th>Fan size</th>
<th>Dimensions / drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>09566-2-4013(1) (for centrifugal fans with M3G 055)</td>
<td>133</td>
<td>See Page 137</td>
</tr>
<tr>
<td>09576-2-4013(1) (for centrifugal fans with M3G 055)</td>
<td>175 / 190</td>
<td>See Page 137</td>
</tr>
<tr>
<td>09609-2-4013(1) (for centrifugal fans with M3G 055)</td>
<td>220</td>
<td>See Page 137</td>
</tr>
<tr>
<td>96358-2-4013(1) (for centrifugal fans with M3G 055)</td>
<td>225</td>
<td>See Page 137</td>
</tr>
<tr>
<td>96359-2-4013(1) (for centrifugal fans with M3G 055)</td>
<td>250</td>
<td>See Page 137</td>
</tr>
<tr>
<td>96359-2-4013(1) / 96416-2-4013(2) / 96400-2-4013(3)</td>
<td>250</td>
<td>See Page 137</td>
</tr>
<tr>
<td>28000-2-4013(1) / 28004-2-4013(2) / 28003-2-4013(3)</td>
<td>280</td>
<td>See Page 137</td>
</tr>
<tr>
<td>31000-2-4013(1) / 31002-2-4013(2) / 31003-2-4013(3)</td>
<td>310</td>
<td>See Page 138</td>
</tr>
<tr>
<td>35500-2-4013(1) / 35504-2-4013(2) / 35503-2-4013(3)</td>
<td>355</td>
<td>See Page 138</td>
</tr>
<tr>
<td>54476-2-4013(1) / 54250-2-4013(2) / 54501-2-4013(3)</td>
<td>400</td>
<td>See Page 138</td>
</tr>
<tr>
<td>45901-2-2943(1) / 45915-2-2943(2) / 45910-2-2943(3)</td>
<td>450</td>
<td>See Page 138</td>
</tr>
<tr>
<td>50901-2-2943(1) / 50910-2-2943(2) / 50920-2-2943(3)</td>
<td>500</td>
<td>See Page 138</td>
</tr>
<tr>
<td>54482-2-4013(1) / 54495-2-4013(2) / 54492-2-4013(3)</td>
<td>560</td>
<td>See Page 139</td>
</tr>
</tbody>
</table>

Subject to change

(1) Without measuring device
(2) With one pressure tap
(3) With piezometer
Inlet rings
Dimensioned drawings without measuring device

Fan size 133:

Fan size 175 / 190:

Fan size 200:

Fan size 225:

Fan size 250:

Fan size 280:
Inlet rings
Dimensioned drawings without measuring device
Inlet rings
Dimensioned drawings without measuring device

Fan size 560:

Pressure extraction
Centrifugal modules, fan size 133 - 250

<table>
<thead>
<tr>
<th>Part number</th>
<th>Component parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>20000-2-2945</td>
<td>Pressure transducer (A)</td>
</tr>
<tr>
<td>43426-4-5154</td>
<td>Closure cap for pressure transducer</td>
</tr>
<tr>
<td>79600-2-5120</td>
<td>T-tube connector (B)</td>
</tr>
<tr>
<td>02636-7-7024</td>
<td>Silicone tube (C)</td>
</tr>
</tbody>
</table>

Subject to change
Air flow measurement:
The differential pressure method compares the static pressure upstream of the inlet ring with the static pressure in the inlet ring.

The air flow can be calculated from the differential pressure (between the static pressures) according to the following equation:

\[ q_V = k \cdot \sqrt{\Delta p} \]

\[ q_V \text{ in } [m^3/h] \text{ and } \Delta p \text{ in } [Pa] \]

If the air flow is to be regulated to remain constant, the inlet pressure must be kept constant:

\[ \Delta p = q_V^2 : k^2 \]

\[ q_V \text{ in } [m^3/h] \text{ and } \Delta p \text{ in } [Pa] \]

k takes into account the specific properties of the inlet ring.

The pressure is tapped at 1 (4) point(s) on the circumference of the inlet ring. The customer connection consists of a built-in T-shaped hose fitting. The hose fitting is suitable for pneumatic hoses with an inside diameter of 4 mm.

---

### k-factors: (for RadiCal inlet rings)

<table>
<thead>
<tr>
<th>Fan size</th>
<th>133</th>
<th>175</th>
<th>190</th>
<th>220</th>
<th>225</th>
<th>250</th>
<th>280</th>
</tr>
</thead>
<tbody>
<tr>
<td>k-factor</td>
<td>15</td>
<td>30</td>
<td>30</td>
<td>50</td>
<td>51</td>
<td>60/61</td>
<td>77</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fan size</th>
<th>310</th>
<th>355</th>
<th>400</th>
<th>450</th>
<th>500</th>
<th>560</th>
</tr>
</thead>
<tbody>
<tr>
<td>k-factor</td>
<td>93</td>
<td>128</td>
<td>180</td>
<td>190</td>
<td>260</td>
<td>405</td>
</tr>
</tbody>
</table>
Connection diagrams
**Technical features** (M3G 055 Speed-controlled):

- Control input 0-10 VDC / PWM
- Output 10 VDC max. 1,1 mA
- Tach output
- Thermal overload protection for electronics/motor
- Motor current limitation
- Locked-rotor protection
- Soft start
- Control interface with SELV potential safely disconnected from supply

<table>
<thead>
<tr>
<th>Wire</th>
<th>Connection</th>
<th>Color</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L</td>
<td>brown</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>N</td>
<td>blue</td>
<td>Power supply, neutral conductor, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>PE</td>
<td>green/yellow</td>
<td>Protective earth</td>
</tr>
<tr>
<td>2</td>
<td>0-10 V / PWM</td>
<td>yellow</td>
<td>Control input 0-10 V or PWM, impedance 100 kΩ, SELV</td>
</tr>
<tr>
<td>2</td>
<td>Tacho</td>
<td>white</td>
<td>Tach output: Open Collector, 1 pulse per revolution, SELV</td>
</tr>
<tr>
<td>2</td>
<td>+10 V/max. 1.1 mA</td>
<td>red</td>
<td>Voltage output, SELV</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>blue</td>
<td>Reference ground for control interface</td>
</tr>
</tbody>
</table>
**Information Technology Agents**

**EC centrifugal fans - RadiCal**

- Ø 133-250 (Compact)
- Ø 250-560

### Technical features

(M3G 045 / M3G 055 with 2 Speed stages):

- Speed adjustment input (230V)
- Thermal overload protection for electronics/motor
- Motor current limitation
- Locked-rotor protection
- Soft start

### Connection diagram EC RC2)

#### Wire 1

<table>
<thead>
<tr>
<th>Wire</th>
<th>Connection</th>
<th>Color</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L</td>
<td>black</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>N</td>
<td>blue</td>
<td>Power supply, neutral conductor, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>PE</td>
<td>green/yellow</td>
<td>Protective earth</td>
</tr>
<tr>
<td>1</td>
<td>SL</td>
<td>brown</td>
<td>Speed selection: switch open = speed 1; switch closed = speed 2</td>
</tr>
</tbody>
</table>
Technical features (M3G 045 / M3G 055 Speed-controlled; M3G 074):

- Control input 0-10 VDC / PWM
- Output 10 VDC max. 1.1 mA
- Tach output
- Thermal overload protection for electronics/motor
- Motor current limitation
- Locked-rotor protection
- Soft start
- Control interface with SELV potential safely disconnected from supply

<table>
<thead>
<tr>
<th>Wire</th>
<th>Connection</th>
<th>Color</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L</td>
<td>black</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>N</td>
<td>blue</td>
<td>Power supply, neutral conductor, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>PE</td>
<td>green/yellow</td>
<td>Protective earth</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>blue</td>
<td>Reference ground for control interface</td>
</tr>
<tr>
<td>2</td>
<td>0-10 V / PWM</td>
<td>yellow</td>
<td>Control input 0-10 V or PWM, impedance 100 kΩ, SELV</td>
</tr>
<tr>
<td>2</td>
<td>+10 V/max. 1.1 mA</td>
<td>red</td>
<td>Voltage output, SELV</td>
</tr>
<tr>
<td>2</td>
<td>Tacho</td>
<td>white</td>
<td>Tach output: Open Collector, 1 pulse per revolution, SELV</td>
</tr>
</tbody>
</table>
**Connection diagram EC RC4**

**Technical features:**
- PFC (active)
- Integrated PI controller
- Control input 0-10 VDC / PWM
- Output 10 VDC max. 10 mA
- Operation and fault indicator
- RS485 MODBUS-RTU
- Motor current limitation, Alarm relay
- Undervoltage/phase failure detection
- Thermal overload protection for electronics/motor
- Locked-rotor protection, Soft start
- Control interface with SELV potential safely disconnected from supply

<table>
<thead>
<tr>
<th>Wire</th>
<th>Connection</th>
<th>Color</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PE</td>
<td>green/yellow</td>
<td>Protective earth</td>
</tr>
<tr>
<td>1</td>
<td>N</td>
<td>blue</td>
<td>Power supply, neutral conductor, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>L</td>
<td>black</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>NC</td>
<td>white 1</td>
<td>Status relay, floating status contact, break for failure</td>
</tr>
<tr>
<td>1</td>
<td>COM</td>
<td>white 2</td>
<td>Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side</td>
</tr>
<tr>
<td>2</td>
<td>0-10 V, PWM</td>
<td>yellow</td>
<td>Control input 0-10 V or PWM, impedance 100 kΩ, adjustable curve, SELV</td>
</tr>
<tr>
<td>2</td>
<td>RSB</td>
<td>brown</td>
<td>RS-485 interface for MODBUS RSB, SELV</td>
</tr>
<tr>
<td>2</td>
<td>RSA</td>
<td>white</td>
<td>RS-485 interface for MODBUS RSA, SELV</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>blue</td>
<td>Reference ground for control interface, SELV</td>
</tr>
<tr>
<td>2</td>
<td>+10 V/max. 10 mA</td>
<td>red</td>
<td>Voltage output 10 VDC, power supply for external devices (e.g. potentiometers), SELV</td>
</tr>
</tbody>
</table>
### Technical features:
- **PFC (passive)**
- **Integrated PI controller**
- **Control input 0-10 VDC / PWM**
- **Output 10 VDC max. 10 mA**
- **Operation and fault indicator**
- **RS485 MODBUS-RTU**
- **Motor current limitation, Alarm relay**
- **Undervoltage/phase failure detection**
- **Thermal overload protection for electronics/motor**
- **Locked-rotor protection, Soft start**
- **Control interface with SELV potential safely disconnected from supply**

### Connection diagram EC (RC5)

#### Wire 1
- **PE** (green/yellow) - Protective earth
- **L1, L2, L3** (black) - Power supply, phase, voltage range see nameplate
- **NC** (white 1) - Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
- **COM** (white 2) - Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side

#### Wire 2
- **0-10 V** (yellow) - Analog input (set value), 0-10 V, impedance 100 kΩ, adjustable curve, SELV
- **RSB** (brown) - RS-485 interface for MODBUS RSB, SELV
- **RSA** (white) - RS-485 interface for MODBUS RSA, SELV
- **GND** (blue) - Reference ground for control interface, SELV
- **+ 10 V** (red) - Fixed voltage output 10 VDC, +10 V +/- 3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometers), SELV
**Technical features:**
- PFC (passive)
- Integrated PI controller
- Control input 0-10 VDC / PWM
- External enable input
- External 24 V input (parameterization)
- Output 10 VDC max. 10 mA
- Operation and fault indicator
- RS485 MODBUS-RTU
- Motor current limitation
- Alarm relay
- Undervoltage/phase failure detection
- Thermal overload protection for electronics/motor
- Reverse polarity and locked-rotor protection
- Soft start
- Control interface with SELV potential safely disconnected from supply

---

**Connection diagram EC RC6**

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Connection</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>KL1</td>
<td>L1</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td></td>
<td>L2</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td></td>
<td>L3</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td></td>
<td>PE</td>
<td>Protective earth</td>
</tr>
<tr>
<td>KL2</td>
<td>RSA</td>
<td>RS-485 interface for MODBUS RSA, SELV</td>
</tr>
<tr>
<td></td>
<td>RSB</td>
<td>RS-485 interface for MODBUS RSB, SELV</td>
</tr>
<tr>
<td></td>
<td>GND</td>
<td>Reference ground for control interface, SELV</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>Status relay, floating status contact, changeover contact, common connection; contact rating 250 VAC / 2 A (AC1), min. 10 mA</td>
</tr>
<tr>
<td></td>
<td>Din1</td>
<td>Digital input 1: Enable electronics; Enable: Pin open or applied voltage 5 to 50 VDC; Disable: Bridge to GND or applied voltage &lt; 1 VDC; Reset function: Triggering of software reset after a level change to &lt; 1V, SELV</td>
</tr>
<tr>
<td></td>
<td>+ 10 V</td>
<td>Fixed voltage output 10 VDC; +10 V ±3 %; max. 10 mA; short-circuit-proof; Power supply for external devices (e.g. potentiometers), SELV</td>
</tr>
<tr>
<td></td>
<td>Ain1 U</td>
<td>Analog input 1; set value; 0-10 V, R=100 kΩ; adjustable curve, SELV</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>Status relay, floating status contact, break for failure</td>
</tr>
</tbody>
</table>
**Connection diagram EC RC7**

**Technical features:**
- PFC (active)
- Integrated PI controller
- Control input 0-10 VDC / PWM
- Input for sensor 0-10 V or 4-20 mA
- External 24 V input (parameterization)
- External enable input
- Output for Slave 0-10 V max. 3 mA
- Output 20 VDC (+20 %) max. 50 mA
- Output 10 VDC (+10 %) max. 10 mA
- Tach output
- RS485 MODBUS-RTU
- Alarm relay
- Undervoltage/phase failure detection
- Motor current limitation
- Power limiter
- Thermal overload protection for electronics/motor
- Reverse polarity and locked-rotor protection
- Soft start
- Control interface with SELV potential safely disconnected from supply

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Connection</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>KL1</td>
<td>N</td>
<td>Power supply, neutral conductor, voltage range see nameplate</td>
</tr>
<tr>
<td>L1</td>
<td></td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td>PE</td>
<td>PE</td>
<td>Protective earth</td>
</tr>
<tr>
<td>KL2</td>
<td>NC</td>
<td>Status relay, floating status contact, option 1: break for failure, option 2: break for run monitoring error message</td>
</tr>
<tr>
<td></td>
<td>COM</td>
<td>Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) min. 10 mA, reinforced insulation on supply side and on control interface side</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>Status relay, floating status contact, option 1: make for failure, option 2: make for run monitoring error message</td>
</tr>
<tr>
<td>KL3</td>
<td>DIN1</td>
<td>Digital input 1: Enable electronics, Enable: Pin open or applied voltage 5...50 VDC, Disable: Bridge to GND or applied voltage &lt; 1,0 VDC, Reset function: Triggering of software reset after level change to &lt; 1,0 V</td>
</tr>
<tr>
<td></td>
<td>Ain1 I</td>
<td>Analog input 1; set value; 4-20 mA; Ri=100 Ω; adjustable curve, only for use as alternative to input Ain1 U, SELV</td>
</tr>
<tr>
<td></td>
<td>+10 V/50 mA</td>
<td>Voltage output 10 VDC, power supply for external devices (e.g. potentiometers), SELV</td>
</tr>
<tr>
<td></td>
<td>Ain1 U</td>
<td>Analog input 1; set value; 0-10 V, Ri=100 kΩ; adjustable curve, only for use as alternative to input Ain1 I, SELV</td>
</tr>
<tr>
<td></td>
<td>GND</td>
<td>Reference ground for control interface</td>
</tr>
<tr>
<td></td>
<td>RSB</td>
<td>RS-485 interface for MODBUS RSB</td>
</tr>
<tr>
<td></td>
<td>RSA</td>
<td>RS-485 interface for MODBUS RSA</td>
</tr>
<tr>
<td></td>
<td>Aout</td>
<td>Analog output 0-10 V; max. 5 mA; output of current motor modulation level / current motor speed; adjustable curve; SELV</td>
</tr>
<tr>
<td></td>
<td>Ain2 I</td>
<td>Analog input 2; Measured value; 4-20 mA; Ri=100 Ω; adjustable curve, only for use as alternative to input Ain2 U, SELV</td>
</tr>
<tr>
<td>Terminal</td>
<td>Connection</td>
<td>Assignment/function</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>KL3</td>
<td>+ 20 V</td>
<td>Fixed voltage output 20 VDC, + 20 V ±10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors)</td>
</tr>
<tr>
<td>Ain2 U</td>
<td>Analog input 2; Measured value; 0-10 V; Ri=100 kΩ; adjustable curve, only for use as alternative to input Ain2 I, SELV</td>
<td></td>
</tr>
<tr>
<td>GND</td>
<td>Reference ground for control interface</td>
<td></td>
</tr>
<tr>
<td>Din3</td>
<td>Digital input 3: Direction of action of integrated controller, according to EEPROM setting, the direction of action of the integrated controller can be selected as normal/inverse via bus or digital input Normal: Pin open or applied voltage 5-50 VDC; Inverse: Bridge to GND or applied voltage &lt; 0.8 VDC</td>
<td></td>
</tr>
<tr>
<td>Din2</td>
<td>Digital input 2: Switching parameter sets 1/2; according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input Din2. Parameter set 1: Pin open or applied voltage 5-50 VDC; Parameter set 2: Bridge to GND or applied voltage &lt; 0.8 VDC</td>
<td></td>
</tr>
</tbody>
</table>
Technical features:

- Control input 0-10 VDC / PWM
- Output 10 VDC max. 10 mA
- Motor current limitation
- Power limiter
- Overvoltage detection
- Soft start

- Thermal overload protection for electronics/motor
- Control interface with SELV potential safely disconnected from supply

### Connection Diagram EC RC8)

**Technical Features:**

<table>
<thead>
<tr>
<th>Wire</th>
<th>Connection</th>
<th>Color</th>
<th>Assignment/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L</td>
<td>black</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>N</td>
<td>blue</td>
<td>Power supply, neutral conductor, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>PE</td>
<td>green/yellow</td>
<td>Protective earth</td>
</tr>
<tr>
<td>2</td>
<td>+10 V</td>
<td>red</td>
<td>Fixed voltage output 10 VDC +/−3 %, Imax. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer), SELV</td>
</tr>
<tr>
<td>2</td>
<td>0-10 V / PWM</td>
<td>yellow</td>
<td>Control input 0-10 V or PWM, impedance 100 kΩ, SELV</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>blue</td>
<td>Reference ground for control interface, SELV</td>
</tr>
<tr>
<td>2</td>
<td>Tacho</td>
<td>white</td>
<td>Tach output: Open Collector, 1 pulse per revolution, SELV</td>
</tr>
</tbody>
</table>
Connection diagram EC RC9)

Technical features:
• Configurable inputs/outputs (I/O)
• RFID - ISO 15693 compatible
• Operation and alarm display with LED
• Integrated PI controller
• Locked-rotor protection
• Motor current limitation / Alarm relay
• Soft start
• Voltage output 3.3-24 VDC, Pmax = 800 mW
• RS 485 MODBUS-RTU / MODBUS V6
• Undervoltage/phase failure detection
• Control interface with SELV potential safely disconnected from supply
• External 15-50 VDC input (parameterization)

Terminal
<table>
<thead>
<tr>
<th>Connection</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON1</td>
<td>L1, L2, L3</td>
</tr>
<tr>
<td>PE</td>
<td>PE</td>
</tr>
<tr>
<td>CON2</td>
<td>RSA</td>
</tr>
<tr>
<td></td>
<td>RSB</td>
</tr>
<tr>
<td></td>
<td>GND</td>
</tr>
<tr>
<td>I01</td>
<td>IN2: Digital input</td>
</tr>
<tr>
<td></td>
<td>- normal: Pin open</td>
</tr>
<tr>
<td></td>
<td>- inverse: applied</td>
</tr>
<tr>
<td>I02</td>
<td>IN1: Analog input</td>
</tr>
<tr>
<td></td>
<td>characteristic curve</td>
</tr>
<tr>
<td>I03</td>
<td>OUT1: Analog output</td>
</tr>
<tr>
<td></td>
<td>max output frequency</td>
</tr>
<tr>
<td>V out</td>
<td>Voltage output</td>
</tr>
<tr>
<td></td>
<td>short-circuitproof,</td>
</tr>
<tr>
<td></td>
<td>alternatively: 15-50 VDC input for parameterization via Modbus without line voltage</td>
</tr>
<tr>
<td>COM</td>
<td>Status relay,</td>
</tr>
<tr>
<td></td>
<td>max 2A (AC1), min 10mA; reinforced insulation according to EN60335-1, EN61800-5-1, UL60730-1</td>
</tr>
<tr>
<td>NC</td>
<td>Status relay,</td>
</tr>
</tbody>
</table>
Connection diagram EC RC10)

**Technical features** (M3G 055 Speed-controlled):
- Control input PWM
- Tach output
- Thermal overload protection for electronics/motor
- Motor current limitation
- Locked-rotor protection
- Soft start
- Control interface with SELV potential safely disconnected from supply

<table>
<thead>
<tr>
<th>Wire</th>
<th>Connection</th>
<th>Color</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L</td>
<td>black</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>N</td>
<td>blue</td>
<td>Power supply, neutral conductor, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>PE</td>
<td>green/yellow</td>
<td>Protective earth</td>
</tr>
<tr>
<td>2</td>
<td>PWM</td>
<td>yellow</td>
<td>Control input PWM / 1-10 kHz, impedance 1 kΩ, Isink = 5-10 mA, SELV</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>blue</td>
<td>Reference ground for control interface, SELV</td>
</tr>
<tr>
<td>2</td>
<td>Tacho</td>
<td>white</td>
<td>Tach output: Open Collector, 1 pulse per revolution, SELV</td>
</tr>
</tbody>
</table>
**Connection diagram EC RC11**

**Technical features:**
- Integrated PI controller
- Power limiter
- Motor current limitation
- Locked-rotor protection, Soft start
- Operation and fault indicator
- RS485 MODBUS-RTU
- Undervoltage detection
- Thermal overload protection for electronics/motor
- Control interface with SELV potential safely disconnected from supply
- Auto addressing can be activated via BUS

**Wire Connection Diagram**

<table>
<thead>
<tr>
<th>Wire</th>
<th>Connection</th>
<th>Color</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L</td>
<td>black</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>N</td>
<td>blue</td>
<td>Power supply, neutral conductor, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>PE</td>
<td>green/yellow</td>
<td>Protective earth</td>
</tr>
<tr>
<td>2</td>
<td>RSB</td>
<td>brown</td>
<td>RS-485 interface for MODBUS RSB, SELV</td>
</tr>
<tr>
<td>2</td>
<td>RSA</td>
<td>white</td>
<td>RS-485 interface for MODBUS RSA, SELV</td>
</tr>
<tr>
<td>2</td>
<td>Aout</td>
<td>grey</td>
<td>Auto addressing</td>
</tr>
<tr>
<td>2</td>
<td>Din1</td>
<td>yellow</td>
<td>Auto addressing</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>blue</td>
<td>Reference ground for control interface, SELV</td>
</tr>
</tbody>
</table>

**Wire Colors:**
- Wire 1: black, blue, green/yellow
- Wire 2: brown, white, grey, yellow, blue
Technical features (M3G 055 Sensor-controlled):
- Power limiter
- RS485 MODBUS-RTU
- Overvoltage detection
- Under voltage detection
- Thermal overload protection for electronics/motor
- Control interface with SELV potential safety disconnected from supply
- Motor current limitation
- Soft start

<table>
<thead>
<tr>
<th>Wire</th>
<th>Connection</th>
<th>Color</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L</td>
<td>black</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>N</td>
<td>blue</td>
<td>Power supply, neutral conductor, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>PE</td>
<td>green/yellow</td>
<td>Protective earth</td>
</tr>
<tr>
<td>2</td>
<td>RSB</td>
<td>brown</td>
<td>RS-485 interface for MODBUS RSB, SELV</td>
</tr>
<tr>
<td>2</td>
<td>RSA</td>
<td>white</td>
<td>RS-485 interface for MODBUS RSA, SELV</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>blue</td>
<td>Reference ground for control interface, SELV</td>
</tr>
</tbody>
</table>
EC centrifugal fans - RadiCal
Ø 133-250 (Compact)

**Technical features (M16 055 Speed-controlled):**
- Tach output
- Control input PWM
- Power limiter
- Thermal overload protection for motor
- Control interface with SELV potential safely disconnected from supply
- Motor current limitation
- Soft start

---

**Connection diagram EC RC13**

<table>
<thead>
<tr>
<th>Wire</th>
<th>Connection</th>
<th>Color</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L</td>
<td>black</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>N</td>
<td>blue</td>
<td>Power supply, neutral conductor, voltage range see nameplate</td>
</tr>
<tr>
<td>1</td>
<td>PE</td>
<td>green/yellow</td>
<td>Protective earth</td>
</tr>
<tr>
<td>2</td>
<td>PWM</td>
<td>yellow</td>
<td>Control input PWM / 1-10 kHz, impedance 1 kΩ, Isink = 5-10 mA, SELV</td>
</tr>
<tr>
<td>2</td>
<td>Tacho</td>
<td>white</td>
<td>Tach output: Open Collector, 1 pulse per revolution, SELV</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>blue</td>
<td>Reference ground for control interface, SELV</td>
</tr>
</tbody>
</table>
Connection diagram EC RC14)

Technical features:
- PFC (active)
- Integrated PI controller
- Control input 0-10 VDC / PWM
- Input for sensor 0-10 V or 4-20 mA
- External 24 V input (parameterization)
- External enable input
- Output for Slave 0-10 V max. 3 mA
- Output 20 VDC (+20 %) max. 50 mA
- Output 10 VDC (+10 %) max. 10 mA
- Soft start
- RS485 MODBUS-RTU
- Operation and fault indicator
- Undervoltage/phase failure detection
- Motor current limitation
- Power limiter
- Thermal overload protection for electronics/motor
- Reverse polarity and locked-rotor protection
- Control interface with SELV potential safely disconnected from supply

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Connection</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>KL1</td>
<td>L1, L2, L3</td>
<td>Power supply, phase, voltage range see nameplate</td>
</tr>
<tr>
<td>PE</td>
<td>PE</td>
<td>Protective earth</td>
</tr>
<tr>
<td>KL2</td>
<td>NC</td>
<td>Status relay, floating status contact, break for failure</td>
</tr>
<tr>
<td>COM</td>
<td></td>
<td>Status relay, floating status contact, common connection, contact rating</td>
</tr>
<tr>
<td>NO</td>
<td></td>
<td>Status relay, floating status contact, make for failure</td>
</tr>
<tr>
<td>KL3</td>
<td>DIN1</td>
<td>Digital input 1: Enable electronics, Enable: Pin open or applied voltage 5...50 VDC, Disable: Bridge to GND or applied voltage &lt; 1 VDC, Reset function: Triggering of software reset after level change to &lt; 1 V; SELV</td>
</tr>
<tr>
<td></td>
<td>Ain1 I</td>
<td>Analog input 1; set value; 4-20 mA; Ri=100 Ω; adjustable curve, only for use as alternative to input Ain1 U, SELV</td>
</tr>
<tr>
<td></td>
<td>Aout</td>
<td>Analog output 0-10 V; max. 5 mA; output of current motor modulation level / current motor speed; adjustable curve; SELV</td>
</tr>
<tr>
<td></td>
<td>Ain2 I</td>
<td>Analog input 2; Measured value; 4-20 mA; Ri=100 Ω; adjustable curve, only for use as alternative to input Ain2 U, SELV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Power supply for external devices (e.g. potentiometer); SELV</td>
</tr>
<tr>
<td></td>
<td>Ain1 U</td>
<td>Analog input 1; set value; 0-10 V, Ri=100 kΩ; adjustable curve, only for use as alternative to input Ain1 I, SELV</td>
</tr>
<tr>
<td></td>
<td>GND</td>
<td>Reference ground for control interface; SELV</td>
</tr>
<tr>
<td></td>
<td>RSB</td>
<td>RS-485 interface for MODBUS RSB; SELV</td>
</tr>
<tr>
<td></td>
<td>RSA</td>
<td>RS-485 interface for MODBUS RSA; SELV</td>
</tr>
<tr>
<td></td>
<td>Aout</td>
<td>Analog output 0-10 V; max. 5 mA; output of current motor modulation level / current motor speed; adjustable curve; SELV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Power supply for external devices (e.g. potentiometer); SELV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reference ground for control interface; SELV</td>
</tr>
<tr>
<td>Terminal</td>
<td>Connection</td>
<td>Assignment/function</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>KL3</td>
<td>+ 20 V</td>
<td>Fixed voltage output 20 VDC, 20 V ±25/-10%, max. 50 mA, short-circuit-proof, Power supply for external devices (e.g. sensors); SELV Alternative + 24 VDC input for parameterization without supply voltage</td>
</tr>
<tr>
<td>Ain2 U</td>
<td>Analog input 2; Measured value; 0-10 V; Ri=100 kΩ; adjustable curve, only for use as alternative to input Ain2 I, SELV</td>
<td></td>
</tr>
<tr>
<td>GND</td>
<td>Reference ground for control interface; SELV</td>
<td></td>
</tr>
<tr>
<td>Din3</td>
<td>Digital input 3: Direction of action of integrated controller, according to EEPROM setting, the direction of action of the integrated controller can be selected via bus or via digital input Din3. Normal: Pin open or applied voltage 5-50 VDC; Inverse: Bridge to GND or applied voltage &lt; 1 VDC; SELV</td>
<td></td>
</tr>
<tr>
<td>Din2</td>
<td>Digital input 2: Switching parameter sets 1/2; according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input Din2. Parameter set 1: Pin open or applied voltage 5-50 VDC; Parameter set 2: Bridge to GND or applied voltage &lt; 1 VDC; SELV</td>
<td></td>
</tr>
</tbody>
</table>
ebm-papst FanScout
Click your way to the ideal RadiCal
With the FanScout selection software from ebm-papst, you can quickly and easily find the ideal product for your exact requirements from our extensive product range.

Fans operated in parallel, so-called FanGrids, are also included in the selection.

The software can be easily integrated into your device configuration program using the DLL interface.

Since our software is based on real measured values, the data you get with ebm-papst FanScout will always be absolutely reliable and above all extremely accurate.

This has been confirmed by TÜV SÜD, the German technical service organization. It assigned the accuracy of FanScout’s calculations in comparison with real measurements to the highest class.

In a short time, not only can you find the best solution for your use case, you can also simulate various operating scenarios that take the fans’ operating points, operating times and space requirements into account to provide you with an estimate of annual energy consumption.

To make the decision even easier for you, ebm-papst FanScout also takes life cycle costs into account: the purchase price and the operating and service costs.

ebm-papst FanScout is available to our customers only.

Please contact your ebm-papst representative or call us at +49 7938 81-0.
Technical parameters and scope

High standards for all ebm-papst products
At ebm-papst we are always looking to improve our products to be able to offer customers just what they need for their particular requirements. Careful monitoring of the market enables us to constantly incorporate enhancements into our products. As shown by the technical parameters listed below, you can always be sure of finding the right solution from ebm-papst for whatever application you may have in mind.

General performance parameters
Any deviations from the technical data and technical parameters described here are given in the product-specific data sheet.

Degree of protection
The degree of protection is specified in the product-specific data sheets.

Insulation class
The insulation class is specified in the product-specific data sheets.

Installation position
The installation position is specified in the product-specific data sheets.

Condensation drainage holes
Information on condensation drainage holes is provided in the product-specific data sheets.

Mode of operation
The mode of operation is specified in the product-specific data sheets.

Protection class
The protection class is specified in the product-specific data sheets.

Service life
The service life of ebm-papst products depends on two main factors:
– The service life of the insulation system
– The service life of the bearing system
The service life of the insulation system is essentially governed by the voltage level, the temperature and the ambient conditions such as humidity and condensation.

The service life of the bearing system is primarily governed by the thermal load on the bearings. For the majority of our products we use maintenance-free ball bearings which can be fitted in any installation position. Sleeve bearings can alternatively be employed, as described in the product-specific data sheets.

As a rough guide (depending on the general conditions), the ball bearings have a life expectancy L10 of approx. 40,000 hours of operation at an ambient temperature of 40 °C.

We will gladly provide you with a life expectancy calculation based on your specific usage conditions.

Motor protection/thermal protection
Information on motor protection and thermal protection is provided in the product-specific data sheets.

The following protection methods are provided depending on the type of motor and area of application:
– Thermal overload protector, in-circuit or external
– PTC with electronic diagnostics
– Impedance protection
– Thermal overload protector with electronic diagnostics
– Current limitation via electronics

If use is made of an external thermal overload protector, a commercially available tripping unit must be connected by the customer for shut-off.

Motor protection conforming to the applicable standard must be fitted for products not provided with a built-in thermal overload protector and not protected against improper use.

Mechanical strain/performance parameters
All ebm-papst products are subjected to comprehensive testing in conformity with the normative specifications and also incorporating the extensive experience of ebm-papst.
Vibration testing
Vibration testing is performed as follows:
- Vibration test in operation according to DIN IEC 68 Part 2-6
- Vibration test at standstill according to DIN IEC 68 Part 2-6

Shock load
Shock load testing is performed as follows:
- Shock load according to DIN IEC 68 Part 2-27

Balancing grade
Balancing grade testing is performed as follows:
- Residual imbalance according to DIN ISO 1940
- Standard balancing quality level G 6.3

Should your particular application require a higher level of balancing, please contact us and specify the details in your order.

Chemical and physical strain/performance parameters
Please consult your ebm-papst contact for any questions regarding chemical and physical strain.

Areas of use, industries & applications
Our products are used in a variety of industries and for numerous applications:
- Ventilation, air conditioning and refrigeration technology, clean room technology, automotive and railway engineering, medical and laboratory technology, electronics, computer and office systems, telecommunications, household appliances, heating systems, machinery and installations, drive engineering.
- Our products are not intended for use in the aerospace industry!

Legal and normative specifications
The products described in this catalog are developed and manufactured in accordance with the standards applying to the particular product and, if known, in accordance with the conditions of the particular area of application.

Standards
Information on standards is provided in the product-specific data sheets.

EMC
Information on EMC standards is provided in the product-specific data sheets.
Compliance with EMC standards has to be assessed on the final product, as EMC properties may change under different installation conditions.

Touch current
Information on touch current is provided in the product-specific data sheets.
Measurement is performed according to IEC 60990.

Approvals
Please contact us if you require a specific type of approval (VDE, UL, GOST, CCC, CSA, etc.) for your ebm-papst product.
Most of our products can be supplied with the applicable approval.
Information on existing approvals is provided in the product-specific data sheets.

Air performance measurements
All air performance measurements are conducted on intake-side chamber test rigs conforming to the requirements of ISO 5801 and DIN 24163. The fans under test are attached to the measuring chamber with free air intake and exhaust (installation category A) and operated at nominal voltage, with alternating current also at nominal frequency, without any additional attachments such as a guard grill.
As required by the standards, the air performance curves shown are referenced to an air density of 1.15 kg/m³.
Air and sound measurement conditions

Measurements on ebm-papst products are taken under the following conditions:
- Axial and diagonal fans in airflow direction "V" in full nozzle without guard grill
- Backward-curved centrifugal fans, free-running with inlet ring
- Forward-curved single and dual-inlet centrifugal fans with housing
- Backward-curved dual-inlet centrifugal fans with housing

Sound measurements

All sound measurements are taken in anechoic rooms with reverberant floor. Ebm-papst acoustic test chambers meet the requirements of accuracy class 1 as per DIN EN ISO 3745. For sound measurement, the fans being tested are positioned in a reverberant wall and operated at nominal voltage, with alternating current also at nominal frequency, without any additional attachments such as a guard grill.

Sound pressure and sound power level

All acoustic values are determined in accordance with ISO 13347, DIN 45635 and ISO 3744/3745 as per accuracy class 2 and given in A-rated form.

For measurement of the sound pressure level $L_p$, the microphone is located on the intake side of the fan being tested, generally at a distance of 1 m on the fan axis.

For measurement of the sound power level $L_w$, 10 microphones are distributed over an enveloping surface on the intake side of the fan being tested (see graphic). The measured sound power level can be roughly calculated from the sound pressure level by adding 7 dB.

Measurement set-up according to ISO 13347-3 and DIN 45635-38:
- 10 measuring points
- $d \geq D$
- $h = 1.5d \ldots 4.5d$
- Measurement area $S = 6d^2 + 7d (h + 1.5d)$
Cumulative level of several sound sources with the same level

The addition of 2 sound sources with the same level produces a level increase of approx. 3 dB. The noise characteristics of several identical fans can be predicted on the basis of the sound values specified in the data sheet. This is shown in the adjacent graph.

Example: There are 8 axial fans A3G800 on a condenser. According to the data sheet, the sound pressure level of one fan is 75 dB(A). The level increase determined from the graph is 9 dB. This means that a total level of 84 dB(A) is to be expected for the installation.

Cumulative level of two sound sources with different levels

The noise characteristics of two different fans can be predicted on the basis of the sound values specified in the data sheet. This is shown in the adjacent graph.

Example: In a ventilation unit, there is one axial fan A3G800 with a sound pressure level of 75 dB(A) at the point of operation and one axial fan A3G710 with 71 dB(A). The difference in level is 4 dB. The level increase of approx. 1.5 dB can now be read off the graph. This means that a total level of 76.5 dB(A) is to be expected for the unit.

Distance laws

The sound power level is not governed by the distance from the noise source. By contrast, the sound pressure level decreases with increasing distance from the sound source. The adjacent graph shows the decrease in level under far field conditions. Far field conditions apply if there is a considerable distance between the microphone and the fan in relation to the fan diameter and the wavelength under consideration. On account of the complexity of the topic, literature should be consulted for more detailed information on far fields. The level in the far field decreases by 6 dB each time the distance is doubled. Different relationships apply in the near field of the fan and the level may decrease to a far lesser extent. The following example only applies to far field conditions and may vary considerably as a result of installation effects:

For an axial fan A3G300, a sound pressure level of 65 dB(A) was measured at a distance of 1 m. From the adjacent graph, this would yield a reduction of 26 dB at a distance of 20 m, i.e. a sound pressure level of 39 dB(A).
### Europe

<table>
<thead>
<tr>
<th>Country</th>
<th>Address</th>
<th>Phone</th>
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<th>Email</th>
<th>Website</th>
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