The ebm-papst RadiPac EC centrifugal fan series is now complete.

With this catalog, you get the technical documentation for the entire RadiPac family. Some new models have been added and are described briefly below.

**The RadiPac standard**
These are the fans in sizes 250 to 1000; sizes 250 and 280 are equipped with impellers made of high-quality, injection-molded composites. Sizes 310 to 1000 include the high-efficiency aluminum impeller with airfoil blades. This series is designed for maximum efficiency, efficiency thus far unmatched in this breadth by our competitors.

**RadiPac with active PFC**
Sizes 450, 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%.

**RadiPacs with new 150 motor**
Sizes 450, 500 and 560 have been equipped with the new M3G 150 third-generation (Gen. III) motors. These models have been optimized for minimum installed height for use in tight spaces.

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

All products in this catalog are grouped together in a collection in our product selection program, FanScout. We can provide you with this collection on request.
RadiPac - compact version (ø 280 - ø 450):
Aluminum impeller with backward-curved blades; without rotating diffusor on fan outlet. For optimum compactness in all directions.

RadiPac - ATEX version (ø 400 - ø 630):
Aluminum impeller with backward-curved blades combined with EC motor with explosion protection according to EN 60079-0.

Technology:
- Tender specifications
- Accessories
- Connection diagrams
- FanScout product selection program
- Technical parameters & scope

RadiPac - standard (ø 250 - ø 1000):
ø 250 and 280 with composite impellers.
ø 310 to 1000 use the high-efficiency aluminum impeller with airfoil blades.
ø 450, 500 and 560 with motors with integrated active power factor correction.

RadiPac - short version (ø 450 - ø 560):
Combination of aluminum impellers with airfoil blades with the M38150 third-generation (Gen. III) motor. For minimum installed height.
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 – RadiPac

## Standard, Ø 250 - Ø 1000

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<th>Ø</th>
<th>Motor</th>
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<th>Max. input power kW</th>
<th>Centrifugal fan</th>
<th>Centrifugal module with support bracket</th>
<th>Centrifugal module with cube design</th>
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* with active-PFC

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Data is subject to change without notice at ebm-papst discretion.
**Product- & characteristic curves overview – RadiPac**

**Standard, Ø 250 - Ø 1000**

**Type R3G... motor impellers** are available in sizes 250 to 560 for all impeller/motor combinations. For sizes 630 to 800, these versions are only available in combination with the lightweight size 150 motor. Operation of a type R3G... motor impeller requires an inlet ring and a motor mounting of suitable dimensions to be provided by the customer.

**Type K3G... centrifugal fans** are also available in sizes 250 to 560 and for all impeller/motor combinations in a ready-to-install design with support struts for wall mounting. For sizes 630 to 800, these versions are only available in combination with the lightweight size 150 motor. The K3G “spider” design includes the motor impeller, a welded support strut assembly, an inlet ring and a square mounting plate.

**Type K3G... centrifugal fans** with impeller diameters 630 to 1000 and the “large” size 200 motor are only available in the cube design intended for floor mounting. The struts are extruded aluminum profile, the corner joints are made of die-cast aluminum, and the motor mounting plate, the inlet ring and the nozzle plate are made of galvanized sheet steel. This version is not suitable for wall mounting.

The graph shows 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!
Product overview – RadiPac

Standard, Ø 250 - Ø 800 with reversed nozzle plate or with improved corrosion protection

Centrifugal module with support bracket

Type K3G... centrifugal fans are available in sizes 310 to 560 in an additional mechanical design with a reversed mounting plate. In the standard versions (see pages 6-7), the circumferential chamfer on the mounting plate faces upstream. In the “reversed” version described here, the chamfer faces downstream.

Centrifugal module with support bracket and reversed nozzle plate:

Motor Nominal voltage range VAC Max. input power kW

250

<table>
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<th>Centrifugal module with support bracket and improved corrosion protection</th>
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<td>---</td>
<td>---</td>
<td>K3G 800-PW07 -02</td>
</tr>
</tbody>
</table>

Centrifugal module with support bracket / with cube design and corrosion protection:

The ready-to-install K3G... centrifugal fans in sizes 250 to 800 are also available in a version with enhanced corrosion protection. In this version, all metal surfaces have an additional coating. The color used is black.

Data is subject to change without notice at ebm-papst discretion.
Product overview – RadiPac
Short version Ø 450 - Ø 560 / Compact version Ø 280 - Ø 450 / ATEX version Ø 400 - Ø 630

<table>
<thead>
<tr>
<th>Ø</th>
<th>Motor</th>
<th>Nominal voltage range VAC</th>
<th>Max. input power kW</th>
<th>Centrifugal fan (Short version)</th>
<th>Centrifugal module with support bracket (Short version)</th>
<th>Page ff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>450</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>4.50</td>
<td>R3G 450-PA31 -03</td>
<td>K3G 450-PA31 -03</td>
<td>---</td>
</tr>
<tr>
<td>500</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>3.80</td>
<td>R3G 500-PA28 -03</td>
<td>K3G 500-PA28 -03</td>
<td>---</td>
</tr>
<tr>
<td>560</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>4.20</td>
<td>R3G 500-PB24 -03</td>
<td>K3G 500-PB24 -03</td>
<td>---</td>
</tr>
</tbody>
</table>

**Short version:**
In addition to the standard versions, size 450, 500 and 560 RadiPac centrifugal fans in the R3G (motor impeller) and K3G (modular) design variants are also combined with the third-generation M3G 150 motor. The result is a higher-performance version with additional functionality such as programmable inputs and outputs and an LED status indicator. Moreover, mounting the impeller on the base flange results in a lower installed height.

<table>
<thead>
<tr>
<th>Ø</th>
<th>Motor</th>
<th>Nominal voltage range VAC</th>
<th>Max. input power kW</th>
<th>Centrifugal fan (Compact version)</th>
<th>Centrifugal module with support bracket</th>
<th>Page ff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>280</td>
<td>M3G 084-GF</td>
<td>3~380-480</td>
<td>0.99</td>
<td>R3G 280-AJ14 -C1</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>310</td>
<td>M3G 112-GA</td>
<td>3~380-480</td>
<td>1.65</td>
<td>R3G 310-BC38 -01</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>355</td>
<td>M3G 112-GA</td>
<td>3~380-480</td>
<td>1.73</td>
<td>R3G 355-BD43 -01</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>400</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>2.84</td>
<td>R3G 400-AS23 -01</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>450</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>2.38</td>
<td>R3G 450-AS24 -01</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

**Compact version:**
RadiPac centrifugal fans in sizes 280 to 450 are also available as compact R3G motor impellers. The aluminum impeller without airfoil blades and without radial diffusor has a very small footprint and is intended for use in single-inlet scroll or half-scroll housings.

<table>
<thead>
<tr>
<th>Ø</th>
<th>Motor</th>
<th>Nominal voltage range VAC</th>
<th>Max. input power kW</th>
<th>Centrifugal fan (ATEX version)</th>
<th>Centrifugal module with cube design (ATEX version)</th>
<th>Page ff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>3.10</td>
<td>---</td>
<td>K3G 400-AO23 -90</td>
<td>90</td>
</tr>
<tr>
<td>450</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>2.95</td>
<td>---</td>
<td>K3G 450-AO24 -90</td>
<td>90</td>
</tr>
<tr>
<td>500</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>2.97</td>
<td>---</td>
<td>K3G 500-AP25 -90</td>
<td>90</td>
</tr>
<tr>
<td>560</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>2.94</td>
<td>---</td>
<td>K3G 560-AP23 -90</td>
<td>90</td>
</tr>
<tr>
<td>630</td>
<td>M3G 150-NA</td>
<td>3~380-480</td>
<td>2.97</td>
<td>---</td>
<td>K3G 630-AP01 -90</td>
<td>90</td>
</tr>
</tbody>
</table>

**ATEX fans:**
RadiPac centrifugal fans for use in potentially explosive atmospheres. These fans are available in sizes 400 to 630. The combination of high-efficiency EC motor and integrated control electronics for use in potentially explosive atmospheres of Zones 1 and 2 is unique and simplifies the use of fans in such environments for the operator.

Data is subject to change without notice at ebm-papst discretion.
RadiPac - standard:

Type R3G... RadiPac motor impellers are available in sizes 250 to 560 for all impeller/motor combinations. For sizes 630 to 800, these versions are only available in combination with the lightweight size 150 motor. Operation of a type R3G... motor impeller requires an inlet ring and a motor mounting of suitable dimensions to be provided by the customer.

Type K3G... centrifugal fans are also available in sizes 250 to 560 and for all impeller/motor combinations in a ready-to-install design with support struts for wall mounting. For sizes 630 to 800, these versions are only available in combination with the lightweight size 150 motor. The K3G “spider” design includes the motor impeller, a welded support strut assembly, an inlet ring and a square mounting plate.

Type K3G... centrifugal fans with impeller diameters 630 to 1000 and the “large” size 200 motor are only available in the cube design intended for floor mounting. The struts are extruded aluminum profile, the corner joints are made of die-cast aluminum, and the motor mounting plate, the inlet ring and the nozzle plate are made of galvanized sheet steel. This version is not suitable for wall mounting.
EC centrifugal fans – RadiPac
Standard, Ø 250 - Ø 1000
EC centrifugal fans – RadiPac
backward curved, Ø 250

- **Material:** Support bracket: Steel, painted black
  Support plate and inlet ring: Sheet steel, galvanized
  Impeller: PP 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>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 250</td>
<td>M3G 084-DF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>3080</td>
<td>0,50</td>
<td>2,30</td>
<td>-25..+40</td>
<td>4,2</td>
</tr>
<tr>
<td>*3G 250</td>
<td>M3G 084-DF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>3450</td>
<td>0,75</td>
<td>3,30</td>
<td>-25..+40</td>
<td>4,6</td>
</tr>
<tr>
<td>*3G 250</td>
<td>M3G 084-DF</td>
<td>3~380-480</td>
<td>50/60</td>
<td>4000</td>
<td>1,18</td>
<td>1,80</td>
<td>-25..+40</td>
<td>4,5</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: 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 126 ff. for detailed information.
- Technical features: See connection diagram P. 118 f.
- **EMC:**
  - Interference emission according to EN 61000-6-3
  - Interference emission according to EN 61000-6-3, 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
  - Circuit feedback according to EN 61000-3-2/3
- **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 61800-5-1, CE; EN 60335-1
- **Approvals:** C22.2 Nr.77 + CAN/CSA-E60730-1, UL 1004-7 + 60730
- **Efficiency:** Ecodesign EU regulation EU 327/2011

### Weight

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight</th>
<th>Inlet ring with one pressure tap</th>
<th>Centrifugal module with support bracket</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 250-PR04 -H1</td>
<td>4.2 kg</td>
<td>96355-2-4013</td>
<td>K3G 250-PR04 -H2</td>
<td>8.5 kg</td>
</tr>
<tr>
<td>R3G 250-PR17 -I1</td>
<td>4.6 kg</td>
<td>96355-2-4013</td>
<td>K3G 250-PR17 -J2</td>
<td>8.9 kg</td>
</tr>
<tr>
<td>R3G 250-PR02 -J1</td>
<td>4.5 kg</td>
<td>96355-2-4013</td>
<td>K3G 250-PR02 -J2</td>
<td>8.8 kg</td>
</tr>
</tbody>
</table>
EC centrifugal fans – RadiPac
backward curved, Ø 250

R3G 250-PR04-H1 (Centrifugal fan)

Accessory part: Inlet ring 96355-2-4013
Not included in scope of delivery (k-factor: 76)
Dimensions: see “Accessories” chapter

Max. clearance of screw 16 mm

K3G 250-PR04-H2 (Centrifugal module with support bracket)

Attachment for inlet ring and FlowGrid (4x)

Pressure tap (k-factor: 76)
EC centrifugal fans – RadiPac
backward curved, Ø 250

R3G 250-PR17-I1 (Centrifugal fan)
Accessory part: Inlet ring 96355-2-4013
Not included in scope of delivery (k-factor: 76)
Dimensions: see “Accessories” chapter
Max. clearance of screw 16 mm

K3G 250-PR17-I2 (Centrifugal module with support bracket)
Attachment for inlet ring and FlowGrid (4x)
Pressure tap (k-factor: 76)

Cable PVC AWG18, 5x crimped ferrules
Cable PVC AWG22, 5x crimped ferrules

Max. clearance of screw 16 mm

Information
ø 250
ø 280
ø 310
ø 355
ø 400
ø 450
ø 500
ø 550
ø 580
ø 630
ø 650
ø 710
ø 800
ø 1000
ATEX version
Short version
Compact version
Technology
Agents

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12.07.2017   06:48:23
EC_Radialventilatoren_RadiPac_2017_EN_bis_560_10_07_2017_.indd   15
EC centrifugal fans – RadiPac
backward curved, Ø 250

**R3G 250-PR02-J1 (Centrifugal fan)**

Accessory part: Inlet ring 96355-2-4013
Not included in scope of delivery (k-factor: 76)
Dimensions: see "Accessories" chapter

Max. clearance of screw 16 mm

**K3G 250-PR02-J2 (Centrifugal module with support bracket)**

Attachment for inlet ring and FlowGrid (4x)

Pressure tap (k-factor: 76)

- Max. clearance of screw 16 mm
- Cable PVC AWG18, 6x crimped ferrules
- Cable PVC AWG22, 5x crimped ferrules
EC centrifugal fans – RadiPac
backward curved, Ø 280

- **Material:** Support bracket: Steel, painted black
  Support plate and inlet ring: Sheet steel, galvanized
  Impeller: PP 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>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 280</td>
<td>M3G 084-DF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>2670</td>
<td>0,50</td>
<td>2,30</td>
<td>-25..+45</td>
<td>4,2</td>
</tr>
<tr>
<td>*3G 280</td>
<td>M3G 084-DF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>3000</td>
<td>0,75</td>
<td>3,30</td>
<td>-25..+45</td>
<td>4,9</td>
</tr>
<tr>
<td>*3G 280</td>
<td>M3G 084-FA</td>
<td>3~380-480</td>
<td>50/60</td>
<td>3400</td>
<td>1,05</td>
<td>1,60</td>
<td>-25..+45</td>
<td>5,4</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: 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 126 ff. for detailed information.

### Table

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>VAC</th>
<th>Hz</th>
<th>rpm</th>
<th>P_{ed}</th>
<th>I</th>
<th>L_{wA}</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 280</td>
<td>M3G 084-DF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>2670</td>
<td>0,50</td>
<td>2,18</td>
<td>85</td>
</tr>
<tr>
<td>*3G 280</td>
<td>M3G 084-DF</td>
<td>1~200-277</td>
<td>50/60</td>
<td>3000</td>
<td>0,75</td>
<td>2,30</td>
<td>79</td>
</tr>
<tr>
<td>*3G 280</td>
<td>M3G 084-FA</td>
<td>3~380-480</td>
<td>50/60</td>
<td>3400</td>
<td>1,05</td>
<td>1,60</td>
<td>77</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. 118 f.
- **EMC:**
  - Interference emission according to EN 61000-6-3
  - Interference emission according to EN 61000-6-3, 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
  - 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 61800-5-1, CE; EN 60335-1
- **Approvals:** C22.2 Nr.77 + CAN/CSA-E60730-1, UL 1004-7 + 60730
- **Efficiency:** Ecodesign EU regulation EU 327/2011

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight centrifugal fan</th>
<th>Inlet ring with one pressure tap</th>
<th>Centrifugal module with support bracket</th>
<th>Weight centrifugal support bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 280-PR03 -H1</td>
<td>4.2 kg</td>
<td>28004-2-4013</td>
<td>K3G 280-PR03 -H2</td>
<td>8.4 kg</td>
</tr>
<tr>
<td>R3G 280-PR04 -I1</td>
<td>4.9 kg</td>
<td>28004-2-4013</td>
<td>K3G 280-PR04 -J2</td>
<td>9.1 kg</td>
</tr>
<tr>
<td>R3G 280-PS10 -J1</td>
<td>5.4 kg</td>
<td>28004-2-4013</td>
<td>K3G 280-PS10 -J2</td>
<td>9.3 kg</td>
</tr>
</tbody>
</table>
**R3G 280-PR03-H1** (Centrifugal fan)

Accessory part: Inlet ring 28004-2-4013
Not included in scope of delivery (k-factor: 77)
Dimensions: see "Accessories" chapter

Max. clearance of screw 16 mm

Cable PVC AWG18, 5x crimped ferrules
Cable PVC AWG22, 5x crimped ferrules

**K3G 280-PR03-H2** (Centrifugal module with support bracket)

Attachment for inlet ring and FlowGrid (4x)

Pressure tap (k-factor: 77)

Max. clearance of screw 16 mm

Cable PVC AWG18, 5x crimped ferrules
EC centrifugal fans – RadiPac
backward curved, Ø 280

R3G 280-PR04-I1 (Centrifugal fan)
Accessory part: Inlet ring 28004-2-4013
Not included in scope of delivery (k-factor: 77)
Dimensions: see “Accessories” chapter
Max. clearance of screw 16 mm

K3G 280-PR04-I2 (Centrifugal module with support bracket)
Attachment for inlet ring and FlowGrid (4x)
Pressure tap (k-factor: 77)
EC centrifugal fans – RadiPac
backward curved, Ø 280

R3G 280-PS10-J1 (Centrifugal fan)

Accessory part: Inlet ring 28004-2-4013
Not included in scope of delivery (k-factor: 77)
Dimensions: see "Accessories" chapter

Max. clearance of screw 16 mm

K3G 280-PS10-J2 (Centrifugal module with support bracket)

Attachment for inlet ring and FlowGrid (4x)

Pressure tap (k-factor: 77)
EC centrifugal fans – RadiPac
backward curved, Ø 310

- **Material:** Support bracket: Steel, painted black
  Support plate and inlet ring: Sheet steel, galvanized
  Impeller: Sheet aluminium
  Rotor: Painted black
  Electronics housing: Die-cast aluminium
- **Number of blades:** 5
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** A IP 55; B IP 54
- **Insulation class:** A "F"; B C "B"
- **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>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 310</td>
<td>M3G 084-GF</td>
<td>3</td>
<td>380-480</td>
<td>50/60</td>
<td>3010</td>
<td>1,23</td>
<td>1,90</td>
<td>-25..+40</td>
</tr>
<tr>
<td>*3G 310</td>
<td>M3G 112-GA</td>
<td>3</td>
<td>380-480</td>
<td>50/60</td>
<td>3410</td>
<td>1,80</td>
<td>2,80</td>
<td>-25..+50</td>
</tr>
<tr>
<td>*3G 310</td>
<td>M3G 112-GA</td>
<td>3</td>
<td>380-480</td>
<td>50/60</td>
<td>4000</td>
<td>2,95</td>
<td>4,60</td>
<td>-25..+40</td>
</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 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: 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 126 ff. for detailed information.

---

**Curves page:**

1. **Power [kW]**
2. **Speed [rpm]**
3. **Input current [A]**
4. **Input power [kW]**
5. **Sound level [dB(A)]**

---

**Diagram page:**

1. **Power [kW]**
2. **Speed [rpm]**
3. **Input current [A]**
4. **Sound level [dB(A)]**

---

**Diagram page (lower):**

1. **Power [kW]**
2. **Speed [rpm]**
3. **Input current [A]**
4. **Sound level [dB(A)]**
- **Technical features**: See connection diagram P. 116 ff.
- **EMC**: Interference emission according to EN 61000-6-3, 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.
- **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**: C22.2 Nr.77 + CAN/CSA-E60730-1, UL 1004-7 + 60730.
- **Efficiency**: Ecodesign EU regulation EU 327/2011.
EC centrifugal fans – RadiPac
backward curved, Ø 310

R3G 310-PT08-J1 (Centrifugal fan)

Accessory part: Inlet ring 31475-2-4013
Not included in scope of delivery (k-factor: 116)
Dimensions: see "Accessories" chapter

Max. clearance of screw 16 mm

Cable gland
M20 x 1.5:
Cable diameter
min. 8 mm, max. 12 mm
Tightening torque 2.5 ± 0.4 Nm
(included seal must be used)

M16 x 1.5 (2x):
Cable diameter
min. 6 mm, max. 10 mm
Tightening torque 2.5 ± 0.4 Nm

Tightening torque 1.5 ± 0.2 Nm

Attachment for FlowGrid (4x)

Pressure tap (k-factor: 116)

K3G 310-PT08-J2 (Centrifugal module with support bracket)

Cable gland
M20 x 1.5:
Cable diameter
min. 8 mm, max. 12 mm
Tightening torque 2.5 ± 0.4 Nm

Tightening torque 2.5 ± 0.4 Nm

M16 x 1.5 (2x):
Cable diameter
min. 6 mm, max. 10 mm
Tightening torque 2.5 ± 0.4 Nm

Max. clearance of screw 16 mm

Accessory part: Inlet ring 31475-2-4013
Not included in scope of delivery (k-factor: 116)
Dimensions: see "Accessories" chapter

Cable gland
M6 (4x)

4x90°

45°

108.5

255.5±1.8

179

98.2

54.5

Ø186±0.5

6

ø169

±0.35

Ø186±0.5

M6 (4x)

54.5

179

98.2

255.5±1.8

108.5

6

ø169

±0.35

EC centrifugal fans – RadiPac
backward curved, Ø 310
EC centrifugal fans – RadiPac
backward curved, Ø 310

R3G 310-PH38-01 (Centrifugal fan)

Accessory part: Inlet ring 31475-2-4013
Not included in scope of delivery (k-factor: 116)
Dimensions: see “Accessories” chapter

Max. clearance of screw 20 mm

M10 (6x)

Tightening torque
3.5 ± 0.5 Nm

Cable gland
M20 x 1.5
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

K3G 310-PH38-02 (Centrifugal module with support bracket)

Pressure tap (k-factor: 116)

Note installed position!
Install support struts as illustrated

Attachment for FlowGrid (4x)

2017-07
EC centrifugal fans – RadiPac
backward curved, Ø 310

R3G 310-PH58-01  (Centrifugal fan)

Accessory part: Inlet ring 31475-2-4013
Not included in scope of delivery (k-factor: 116)
Dimensions: see “Accessories” chapter

Max. clearance of screw 20 mm

M10 (8x)

Tightening torque
3.5 ± 0.5 Nm

Cable gland
M20 x 1.5
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

K3G 310-PH58-02  (Centrifugal module with support bracket)

Pressure tap (k-factor: 116)

Note installed position!
Install support struts as illustrated

Attachment for FlowGrid (4x)
**EC centrifugal fans – RadiPac**
backward curved, Ø 355

- **Material:** Support bracket: Steel, painted black
  Support plate and inlet ring: Sheet steel, galvanized
  Impeller: Sheet aluminium
  Rotor: Painted black
  Electronics housing: Die-cast aluminium
- **Number of blades:** 5
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 55; C IP 54
- **Insulation class:** A “F”, B “B”
- **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>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 355</td>
<td>M3G 112-EA</td>
<td>3~380-480</td>
<td>50/60</td>
<td>2400</td>
<td>1,10</td>
<td>1,70</td>
<td>-25..+60</td>
<td>8,7</td>
</tr>
<tr>
<td>*3G 355</td>
<td>M3G 112-GA</td>
<td>3~380-480</td>
<td>50/60</td>
<td>2870</td>
<td>1,90</td>
<td>3,00</td>
<td>-25..+55</td>
<td>13,0</td>
</tr>
<tr>
<td>*3G 355</td>
<td>M3G 112-IA</td>
<td>3~380-480</td>
<td>50/60</td>
<td>3230</td>
<td>2,68</td>
<td>4,10</td>
<td>-25..+40</td>
<td>15,0</td>
</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 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: 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 126 ff. for detailed information.

### Technical features and connection diagram

- Motor types: *3G 355
- Max. input power
- Max. input current
- Perm. ambient temp.
- Weight

---

**Subject to change**

(1) Nominal data at operating point with maximum load and 400 VAC.
- **Technical features**: See connection diagram P. 116 ff.
- **EMC**: Interference emission according to EN 61000-6-3, 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.
- **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**: C22.2 Nr.77 + CAN/CSA-E60730-1, UL 1004-7 + 60730.
- **Efficiency**: Ecodesign EU regulation EU 327/2011.

---

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>kg</th>
<th>Inlet ring with one pressure tap</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 355-PJ75 -01</td>
<td>8.7</td>
<td>35675-2-4013</td>
<td></td>
</tr>
<tr>
<td>R3G 355-PH49 -01</td>
<td>13.0</td>
<td>35675-2-4013</td>
<td></td>
</tr>
<tr>
<td>R3G 355-P93 -01</td>
<td>15.0</td>
<td>35675-2-4013</td>
<td></td>
</tr>
<tr>
<td>K3G 355-PJ75 -01</td>
<td>16.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K3G 355-PH49 -02</td>
<td>23.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K3G 355-P93 -02</td>
<td>26.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
EC centrifugal fans – RadiPac
backward curved, Ø 355

**R3G 355-PJ75-01** (Centrifugal fan)

Accessory part: Inlet ring 35675-2-4013
Not included in scope of delivery (k-factor: 148)
Dimensions: see "Accessories" chapter

Max. clearance of screw 20 mm

**K3G 355-PJ75-01** (Centrifugal module with support bracket)

Installation position!
Install support struts as illustrated

Attachment for FlowGrid (4x)
EC centrifugal fans – RadiPac
backward curved, Ø 355

R3G 355-PH49-01 (Centrifugal fan)

Accessory part: Inlet ring 35675-2-4013
Not included in scope of delivery (k-factor: 148)
Dimensions: see “Accessories” chapter

Max. clearance of screw 20 mm

Cable gland
M20 x 1.5.
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

K3G 355-PH49-02 (Centrifugal module with support bracket)

Attachment for FlowGrid (4x)

Pressure tap (k-factor: 148)

Note installed position!
Install support struts as illustrated

Cable gland
M10 (8x)
Tightening torque 3.5 ± 0.5 Nm

Tightening torque

Note installed position!
Install support struts as illustrated

Max. clearance of screw 20 mm
EC centrifugal fans – RadiPac
backward curved, Ø 355

R3G 355-P193-01 (Centrifugal fan)
Accessory part: Inlet ring 35675-2-4013
Not included in scope of delivery (k-factor: 148)
Dimensions: see "Accessories" chapter
Max. clearance of screw 20 mm

K3G 355-P193-02 (Centrifugal module with support bracket)
Pressure tap (k-factor: 148)
Note installed position!
Install support struts as illustrated
Attachment for FlowGrid (4x)

Tightening torque
3.5 ± 0.5 Nm

Cable gland
M20 x 1.5
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Max. clearance of screw 20 mm

Attachment for FlowGrid (4x)
### Nominal data

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor</th>
<th>VAC</th>
<th>Hz</th>
<th>rpm</th>
<th>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 400</td>
<td>M3G 112-IA</td>
<td>3~380-480</td>
<td>50/60</td>
<td>2450</td>
<td>2,50</td>
<td>3,80</td>
<td>-25...+40</td>
<td>14,6</td>
</tr>
<tr>
<td>*3G 400</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>50/60</td>
<td>2750</td>
<td>3,35</td>
<td>5,20</td>
<td>-25...+60</td>
<td>20,3</td>
</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 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: LwA 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 126 ff. for detailed information.
- **Technical features**: See connection diagram P. 116 ff.
- **EMC**: Interference emission according to EN 61000-6-3, 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.
- **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**: C22.2 Nr.77 + CAN/CSA-E60730-1, UL 1004-7 + 60730 EAC.
- **Efficiency**: Ecodesign EU regulation EU 327/2011.

### Weight

<table>
<thead>
<tr>
<th>Centrifugal fan model</th>
<th>Weight (kg)</th>
<th>Centrifugal module with support bracket</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 400-P92 -01</td>
<td>14.6</td>
<td>K3G 400-P92 -02</td>
<td>26.0</td>
</tr>
<tr>
<td>R3G 400-PA27 -71</td>
<td>20.3</td>
<td>K3G 400-PA27 -71</td>
<td>32.0</td>
</tr>
</tbody>
</table>
EC centrifugal fans – RadiPac
backward curved, Ø 400

R3G 400-PI92-01   (Centrifugal fan)
Accessory part: Inlet ring 40078-2-4013
Not included in scope of delivery (k-factor: 188)
Dimensions: see "Accessories" chapter

Max. clearance of screw 20 mm

Cable gland
M20 x 1.5:
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

K3G 400-PI92-02   (Centrifugal module with support bracket)
Pressure tap (k-factor: 188)
Note installed position!
Install support struts as illustrated

Attachment for FlowGrid (4x)

Note installed position!
Install support struts as illustrated
**EC centrifugal fans – RadiPac**

**backward curved, Ø 400**

**R3G 400-PA27-71** (Centrifugal fan)

Accessory part: Inlet ring 40078-2-4013
Not included in scope of delivery (k-factor: 188)
Dimensions: see "Accessories" chapter

Max. clearance of screw 25 mm

Cable gland
M20 x 1.5
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

**K3G 400-PA27-71** (Centrifugal module with support bracket)

Pressure tap (k-factor: 188)

Note installed position!
Install support struts as illustrated

Attachment for FlowGrid (4x)
EC centrifugal fans – RadiPac
backward curved, Ø 450

- Material: Support bracket: Steel, painted black
  Support plate and inlet ring: Sheet steel, galvanized
  Impeller: Sheet aluminium
  Rotor: Painted black
  Electronics housing: Die-cast aluminium
- Number of blades: 5
- Direction of rotation: Clockwise viewed toward rotor
- Degree of protection: IP 54; IP 55
- Insulation class: "B";
- 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 Hz rpm kW A °C kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 450</td>
<td>M3G 112-IA</td>
<td>3~380-480 50/60 1790 1,74 2,70 -25...+50 17,0</td>
</tr>
<tr>
<td>*3G 450</td>
<td>M3G 150-FF</td>
<td>3~380-480 50/60 2140 2,90 4,50 -25...+60 23,5</td>
</tr>
<tr>
<td>*3G 450</td>
<td>M3G 150-FF</td>
<td>3~380-480 50/60 2200 3,19 4,60 -25...+40 27,5</td>
</tr>
<tr>
<td>*3G 450</td>
<td>M3G 150-IF</td>
<td>3~380-480 50/60 2600 5,25 8,00 -25...+50 31,0</td>
</tr>
</tbody>
</table>

Subject to change
(1) Nominal data at operating point with maximum load and 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: 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 126 ff. for detailed information.
- **Technical features:** See connection diagram P. 116 ff.
- **EMC:**
  - Interference emission according to EN 61000-6-3, 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
- **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:**
  - C22.2 Nr.77 + CAN/CSA-E60730-1, UL 1004-7 + 60730
  - C EAC
  - EAC, UL, CSA
- **Efficiency:** Ecodesign EU regulation EU 327/2011
EC centrifugal fans – RadiPac
backward curved, Ø 450

**R3G 450-P186-01  (Centrifugal fan)**

Accessory part: Inlet ring 45075-2-4013
Not included in scope of delivery (k-factor: 240)
Dimensions: see "Accessories" chapter

**K3G 450-P186-02  (Centrifugal module with support bracket)**

Pressure tap (k-factor: 240)
Note installed position!
Install support struts as illustrated

Attachment for FlowGrid (4x)
EC centrifugal fans – RadiPac
backward curved, Ø 450

R3G 450-PA23-71  (Centrifugal fan)

Accessory part: Inlet ring 45075-2-4013
Not included in scope of delivery (k-factor: 240)
Dimensions: see “Accessories” chapter

Max. clearance of screw 25 mm

M10 (6x)

Tightening torque 3.5 ± 0.5 Nm

Cable gland
M20 x 1.5
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

K3G 450-PA23-71  (Centrifugal module with support bracket)

Pressure tap (k-factor: 240)

Note installed position!
Install support struts as illustrated

Attachment for FlowGrid (4x)
**EC centrifugal fans – RadiPac**
backward curved, Ø 450 (Active-PFC)

### R3G 450-PA21-C1 (Centrifugal fan)

Accessory part: Inlet ring 45075-2-4013
Not included in scope of delivery (k-factor: 240)
Dimensions: see "Accessories" chapter

Max. clearance of screw 20 mm

### K3G 450-PA21-C1 (Centrifugal module with support bracket)

Pressure tap (k-factor: 240)

Note installed position!
Install support struts as illustrated

Attachment for FlowGrid (4x)

Cable gland
M20 x 1.5 (2x): Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Cable gland
M25 x 1.5: Cable diameter
min. 9 mm, max. 16 mm
Tightening torque 6 ± 0.9 Nm

Tightening torque 3.5 ± 0.5 Nm

Max. clearance of screw 20 mm

Max. clearance of screw 20 mm

Max. clearance of screw 20 mm

Max. clearance of screw 20 mm
EC centrifugal fans – RadiPac
backward curved, Ø 450

R3G 450-PB24-01  (Centrifugal fan)

Accessory part: Inlet ring 45075-2-4013
Not included in scope of delivery (k-factor: 240)
Dimensions: see “Accessories” chapter

K3G 450-PB24-01  (Centrifugal module with support bracket)

Attachment for FlowGrid (4x)

Pressure tap (k-factor: 240)
Note installed position!
Install support struts as illustrated
EC centrifugal fans – RadiPac
backward curved, Ø 500

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

- **Number of blades**: 5
- **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>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 500</td>
<td>M3G 150-FF</td>
<td>3-380-480</td>
<td>50/60</td>
<td>1810</td>
<td>3.10</td>
<td>4.50</td>
<td>-25..+40</td>
<td>28.5</td>
</tr>
<tr>
<td>*3G 500</td>
<td>M3G 150-FF</td>
<td>3-380-480</td>
<td>50/60</td>
<td>1910</td>
<td>3.45</td>
<td>5.30</td>
<td>-25..+40</td>
<td>24.3</td>
</tr>
<tr>
<td>*3G 500</td>
<td>M3G 150-IF</td>
<td>3-380-480</td>
<td>50/60</td>
<td>2250</td>
<td>5.70</td>
<td>9.00</td>
<td>-25..+40</td>
<td>32.0</td>
</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 400 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 126 ff. for detailed information.

---

### Curves

![Curves Diagram](image-url)
– **Technical features:** See connection diagram P. 116 ff.
– **EMC:**
  - Interference emission according to EN 61000-6-4
  - Interference emission according to EN 61000-6-3, 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
– **Touch current:** $\leq 3.5$ 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:**
  - C22.2 Nr.77 + CAN/CSA-E60730-1, UL 1004-7 + 60730
– **Efficiency:** Ecodesign EU regulation EU 327/2011

### Weight centrifugal fans

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight kg</th>
<th>Inlet ring with one pressure tap</th>
<th>Centrifugal module with support bracket kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 500-PA26 -C1(2)</td>
<td>28,5</td>
<td>64025-2-4013</td>
<td>K3G 500-PA26-C1(2) 46,5</td>
</tr>
<tr>
<td>R3G 500-PA23 -71</td>
<td>24,3</td>
<td>64025-2-4013</td>
<td>K3G 500-PA23 -71 38,7</td>
</tr>
<tr>
<td>R3G 500-PB33 -01</td>
<td>32,0</td>
<td>64025-2-4013</td>
<td>K3G 500-PB33 -01 48,0</td>
</tr>
</tbody>
</table>

(2) with Active-PFC

---

**Information**

<table>
<thead>
<tr>
<th>ø</th>
<th>Weight centrifugal module with support bracket kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>12,0</td>
</tr>
<tr>
<td>350</td>
<td>14,0</td>
</tr>
<tr>
<td>450</td>
<td>18,0</td>
</tr>
<tr>
<td>500</td>
<td>23,0</td>
</tr>
<tr>
<td>550</td>
<td>25,0</td>
</tr>
</tbody>
</table>

**Technology**

- Compact version
- ATEX version

---

**Drawings**

- Drawings P. 40 ff.
- FlowGrid air inlet guard / intake finger guard P. 104 ff.
- Inlet ring P. 106 ff.
- Conn. diagram P. 110 ff.
**EC centrifugal fans – RadiPac**
backward curved, Ø 500 (Active-PFC)

**R3G 500-PA26-C1**  (Centrifugal fan)

Accessory part: Inlet ring 64025-2-4013
Not included in scope of delivery (k-factor: 281)
Dimensions: see "Accessories" chapter

Max. clearance of screw 20 mm

Cable gland
M20 x 1.5 (2x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Tightening torque 3.5 ± 0.5 Nm

**K3G 500-PA26-C1**  (Centrifugal module with support bracket)

Pressure tap (k-factor: 281)
Install support struts as illustrated

Attachment for FlowGrid (4x)

**Note installed position!**
EC centrifugal fans – RadiPac
backward curved, Ø 500

R3G 500-PA23-71  (Centrifugal fan)

Accessory part: Inlet ring 64025-2-4013
Not included in scope of delivery (k-factor: 281)
Dimensions: see “Accessories” chapter

Max. clearance of screw 25 mm

Cable gland
M20 x 1.5:
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

K3G 500-PA23-71  (Centrifugal module with support bracket)

Attachment for FlowGrid (4x)

Pressure tap (k-factor: 281)

Note installed position!
Install support struts as illustrated

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

R3G 500-PB33-01 (Centrifugal fan)

Accessory part: Inlet ring 64025-2-4013
Not included in scope of delivery (k-factor: 281)
Dimensions: see "Accessories" chapter

Max. clearance of screw 20 mm

Cable gland
M20 x 1.5 (2x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Cable gland
M25 x 1.5:
Cable diameter
min. 9 mm, max. 16 mm
Tightening torque 6 ± 0.9 Nm

K3G 500-PB33-01 (Centrifugal module with support bracket)

Pressure tap (k-factor: 281)

Note installed position!
Install support struts as illustrated

Accessory part: Inlet ring 64025-2-4013
Not included in scope of delivery (k-factor: 281)
Dimensions: see "Accessories" chapter
EC centrifugal fans – RadiPac
backward curved, Ø 560

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

- **Number of blades:** 5
- **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>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
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<tr>
<td>*3G 560</td>
<td>M3G 150-IF</td>
<td>3–380-480</td>
<td>50/60</td>
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<td>M3G 150-IF</td>
<td>3–380-480</td>
<td>50/60</td>
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<td>*3G 560</td>
<td>M3G 150-NA</td>
<td>3–380-480</td>
<td>50/60</td>
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<td>38.5</td>
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</table>

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

### Curves

![Curves Diagram](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 126 ff. for detailed information.
- **Technical features**: See connection diagram P. 116 f.
- **EMC**: Interference emission according to EN 61000-6-3, except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW.
- **Protection class**: I (with customer connection of protective earth)
- **EMC**: Immunity to interference according to EN 61000-6-2
- **Touch current**: <= 3.5 mA according to IEC 60990 (measuring circuit Fig. 4)
- **Terminal box design**: Electrical connection via terminal strip

**Efficiency**: Ecodesign EU regulation EU 327/2011
EC centrifugal fans – RadiPac
backward curved, Ø 560 (Active-PFC)

R3G 560-PB22-C1 (Centrifugal fan)

Accessory part: Inlet ring 640300-2-4013
Not included in scope of delivery (k-factor: 348)
Dimensions: see "Accessories" chapter

Max. clearance of screw 20 mm

K3G 560-PB22-C1 (Centrifugal module with support bracket)

Note installed position!
Install support struts as illustrated

Attachment for FlowGrid (4x)
EC centrifugal fans – RadiPac
backward curved, Ø 560

R3G 560-PB31-71 (Centrifugal fan)
Accessory part: Inlet ring 64030-2-4013
Not included in scope of delivery (k-factor: 346)
Dimensions: see “Accessories” chapter

Max. clearance of screw 25 mm

Cable gland
M20 x 1.5
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

K3G 560-PB31-71 (Centrifugal module with support bracket)
Pressure tap (k-factor: 348)

Note installed position!
Install support struts as illustrated

Attachment for FlowGrid (4x)

Tightening torque 3.5 ± 0.5 Nm

Cable gland
M10 (6x)

Max. clearance of screw 25 mm

Ebmpapst
EC centrifugal fans – RadiPac
backward curved, Ø 560

R3G 560-PC04-01 (Centrifugal fan)

Accessory part: Inlet ring 64030-2-4013
Not included in scope of delivery (k-factor: 348)
Dimensions: see “Accessories” chapter

Max. clearance of screw 20 mm

Cable gland
M20 x 1.5 (2x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Cable gland
M25 x 1.5:
Cable diameter
min. 9 mm, max. 16 mm
Tightening torque 6 ± 0.9 Nm

Pressure tap (k-factor: 348)

Note installed position!
Install support struts as illustrated

Attachment for FlowGrid (4x)

K3G 560-PC04-01 (Centrifugal module with support bracket)
EC centrifugal fans – RadiPac
backward curved, Ø 630

- **Material**: Support plate and inlet ring: Sheet steel, galvanized
  - Support bracket: Steel, painted black
  - Cube design, Spacer: Aluminium
  - Impeller: Sheet aluminium; Rotor: Painted black
  - Electronics housing: Die-cast aluminium
- **Number of blades**: 5
- **Direction of rotation**: Clockwise viewed toward rotor
- **Degree of protection**: IP 55; IP 54
- **Insulation class**: “F”
- **Installation position**: Shaft horizontal (base mounting only) 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>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
<th>Tech. features and connection diagram</th>
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<td>P.116 / RP1)</td>
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<td>M3G 200-HF</td>
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*Subject to change

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

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**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, 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 126 ff. for detailed information.

### Curves:

- n: rpm
- P: kW
- I: A
- LwA: dB(A)

**N = \eta \cdot \text{max.}**
- **Technical features:** See connection diagram P. 116 f.
- **EMC:** Interference emission according to EN 61000-6-3, 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
- **Touch current:** \( \leq 3.5 \text{ mA} \) 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:** C22.2 Nr.77 + CAN/CSA-E60730-1, UL 1004-7 + 60730
- **Efficiency:** Ecodesign EU regulation EU 327/2011

### Technical Specifications

**Centrifugal Fan**

<table>
<thead>
<tr>
<th>Weight centrifugal fan (kg)</th>
<th>Centrifugal module with support bracket (kg)</th>
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<tbody>
<tr>
<td>R3G 630-PB32 -71</td>
<td>K3G 630-PB32 -71: 32.0</td>
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<tr>
<td>R3G 630-PC08 -01</td>
<td>K3G 630-PC08 -01: 39.5</td>
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<td>K3G 630-PV04 -01: 57.9</td>
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<td>K3G 630-PW04 -01: 57.9</td>
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<td></td>
<td>K3G 630-PW04 -01: 116</td>
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**Inlet Ring with One Pressure Tap**

<table>
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<tr>
<th>Weight centrifugal module with support bracket (kg)</th>
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</thead>
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<tr>
<td>R3G 630-PB32 -71: 32.0</td>
</tr>
<tr>
<td>R3G 630-PC08 -01: 39.5</td>
</tr>
</tbody>
</table>

**Centrifugal Module with Support Bracket**

<table>
<thead>
<tr>
<th>Weight centrifugal module with cube design (kg)</th>
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</thead>
<tbody>
<tr>
<td>R3G 630-PB32 -71: 32.0</td>
</tr>
<tr>
<td>R3G 630-PC08 -01: 39.5</td>
</tr>
</tbody>
</table>

**Centrifugal Module with Cube Design**

<table>
<thead>
<tr>
<th>Weight centrifugal module with cube design (kg)</th>
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</thead>
<tbody>
<tr>
<td>R3G 630-PB32 -71: 32.0</td>
</tr>
<tr>
<td>R3G 630-PC08 -01: 39.5</td>
</tr>
</tbody>
</table>

---
EC centrifugal fans – RadiPac
backward curved, Ø 630

R3G 630-PB32-71 (Centrifugal fan)
Accessory part: inlet ring 64040-2-4013
Not included in scope of delivery (k-factor 438)
Dimensions: see “Accessories” chapter

K3G 630-PB32-71 (Centrifugal module with support bracket)
Attachment for FlowGrid
Pressure tap (k-factor 438)
Note installed position!
Install support struts as illustrated!

Max. clearance of screw
max. 25 mm
Tightening torque
3.5 ± 0.5 Nm

Cable gland
M20 x 1.5 (3x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Dimensions: see “Accessories” chapter

Attachment for FlowGrid
Pressure tap (k-factor 438)
Note installed position!
Install support struts as illustrated!
EC centrifugal fans – RadiPac
backward curved, Ø 630

R3G 630-PC08-01 (Centrifugal fan)

Accessory part: Inlet ring 64040-2-4013
Not included in scope of delivery (k-factor 438)
Dimensions: see “Accessories” chapter

Max. clearance of screw max. 25 mm

K3G 630-PC08-01 (Centrifugal module with support bracket)

Attachment for FlowGrid

Pressure tap (k-factor 438)

Note installed position!
Install support struts as illustrated!

Cable gland M20 x 1.5 (2x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Cable gland M25 x 1.5:
Cable diameter min. 9 mm, max. 16 mm
Tightening torque 6 ± 0.9 Nm
EC centrifugal fans – RadiPac
backward curved, Ø 630

K3G 630-PV04-01 (Centrifugal module with cube design)

Mounting position for vibration-absorbing elements,
Tightening torque max. 40 Nm

Cable gland
M20 x 1.5 (2x):
Cable diameter
min. 5 mm, max. 13 mm
Tightening torque 6 ± 0.9 Nm

Cable gland
M25 x 1.5:
Cable diameter
min. 16 mm, max. 20.5 mm
Tightening torque 6 ± 0.9 Nm

Inlet ring with pressure tap
(k-factor 438)

Tightening torque 3.5 ± 0.5 Nm

Note installation position: shaft horizontal (motor support plate must stand upright)
or rotor on bottom; rotor on top on request!
EC centrifugal fans – RadiPac
backward curved, Ø 630

K3G 630-PW04-01 (Centrifugal module with cube design)

Note installation position: shaft horizontal (motor support plate must stand upright)
or rotor on bottom; rotor on top on request!
EC centrifugal fans – RadiPac
backward curved, Ø 710

- **Material:** Support plate and inlet ring: Sheet steel, galvanized
  - Support bracket: Steel, painted black
  - Cube design, Spacer: Aluminium
  Impeller: Sheet aluminium; Rotor: Painted black
  Electronics housing: Die-cast aluminium
- **Number of blades:** 5
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 55; IP 54
- **Insulation class:** “F”
- **Installation position:** Shaft horizontal (base mounting only) 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 Hz</th>
<th>rpm</th>
<th>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 710</td>
<td>M3G 150-NA</td>
<td>3–380-480</td>
<td>50/60</td>
<td>1060</td>
<td>2,90</td>
<td>4,50</td>
<td>-25..+40</td>
</tr>
<tr>
<td>*3G 710</td>
<td>M3G 200-LA</td>
<td>3–380-480</td>
<td>50/60</td>
<td>1430</td>
<td>7,35</td>
<td>11,2</td>
<td>-25..+40</td>
</tr>
<tr>
<td>*3G 710</td>
<td>M3G 200-QA</td>
<td>3–380-480</td>
<td>50/60</td>
<td>1680</td>
<td>11,9</td>
<td>18,3</td>
<td>-25..+40</td>
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</tbody>
</table>

Subject to change (1) Nominal data at operating point with maximum load and 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, 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 126 ff. for detailed information.

![Curves graph](image_url)
- **Technical features:** See connection diagram P. 116 f.
- **EMC:** Interference emission according to EN 61000-6-4
  - Immunity to interference according to EN 61000-6-2
- **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:** C22.2 Nr.77 + CAN/CSA-E60730-1, UL 1004-7 + 60730
- **Efficiency:** Ecodesign EU regulation EU 327/2011

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight centrifugal fan</th>
<th>Inlet ring with one pressure tap</th>
<th>Centrifugal module with support bracket</th>
<th>Weight centrifugal module with support bracket</th>
<th>Weight centrifugal module with cube design</th>
<th>Weight centrifugal module with cube design</th>
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<td>K3G 710-PW05 -01</td>
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<td>K3G 710-PW06 -01</td>
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</tr>
</tbody>
</table>
EC centrifugal fans – RadiPac
backward curved, Ø 710

R3G 710-PC05-71  (Centrifugal fan)

Accessory part: inlet ring 71075-2-4013
Not included in scope of delivery (k-factor 545)
Dimensions: see "Accessories" chapter

K3G 710-PC05-71  (Centrifugal module with support bracket)

Attachment for FlowGrid
Pressure tap (k-factor 545)

Note installed position!
Install support struts as illustrated!

Max. clearance of screw max. 25 mm
Cable gland
M20 x 1.5 (3x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Accessory part: Inlet ring 71075-2-4013
Not included in scope of delivery (k-factor 545)
Dimensions: see "Accessories" chapter

Max. clearance of screw max. 25 mm
Cable gland
M20 x 1.5 (3x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Note installed position!
Install support struts as illustrated!

Max. clearance of screw max. 25 mm
Cable gland
M20 x 1.5 (3x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Note installed position!
Install support struts as illustrated!

Max. clearance of screw max. 25 mm
Cable gland
M20 x 1.5 (3x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

Note installed position!
Install support struts as illustrated!
EC centrifugal fans – RadiPac
backward curved, Ø 710

K3G 710-PV05-01 (Centrifugal module with cube design)

Note installation position: shaft horizontal (motor support plate must stand upright) or rotor on bottom; rotor on top on request!

Mounting position for vibration-absorbing elements,
Tightening torque max. 40 Nm

Cable gland
M20 x 1.5 (2x):
Cable diameter
min. 5 mm, max. 13 mm
Tightening torque 6 ± 0.9 Nm

Cable gland
M25 x 1.5:
Cable diameter
min. 16 mm, max. 20.5 mm
Tightening torque 6 ± 0.9 Nm

Inlet ring with pressure tap
(k-factor 545)

K3G 710-PW06-01 (Centrifugal module with cube design)

Note installation position: shaft horizontal (motor support plate must stand upright) or rotor on bottom; rotor on top on request!

Mounting position for vibration-absorbing elements,
Tightening torque max. 40 Nm

Cable gland
M20 x 1.5 (2x):
Cable diameter
min. 5 mm, max. 13 mm
Tightening torque 6 ± 0.9 Nm

Cable gland
M25 x 1.5:
Cable diameter
min. 16 mm, max. 20.5 mm
Tightening torque 6 ± 0.9 Nm

Inlet ring with pressure tap
(k-factor 545)

Note installation position:
shaft horizontal (motor support plate must stand upright)
or rotor on bottom; rotor on top on request!

Inlet ring with pressure tap
(k-factor 545)

Tightening torque
3.5 ± 0.5 Nm

Mounting position for vibration-absorbing elements,
Tightening torque max. 40 Nm

Cable gland
M20 x 1.5 (2x):
Cable diameter
min. 5 mm, max. 13 mm
Tightening torque 6 ± 0.9 Nm

Cable gland
M25 x 1.5:
Cable diameter
min. 16 mm, max. 20.5 mm
Tightening torque 6 ± 0.9 Nm

Inlet ring with pressure tap
(k-factor 545)

EC centrifugal fans – RadiPac
backward curved, Ø 710

Inlet ring with pressure tap
(k-factor 545)

Tightening torque
3.5 ± 0.5 Nm

Mounting position for vibration-absorbing elements,
Tightening torque max. 40 Nm

Cable gland
M20 x 1.5 (2x):
Cable diameter
min. 5 mm, max. 13 mm
Tightening torque 6 ± 0.9 Nm

Cable gland
M25 x 1.5:
Cable diameter
min. 16 mm, max. 20.5 mm
Tightening torque 6 ± 0.9 Nm

Inlet ring with pressure tap
(k-factor 545)
EC centrifugal fans – RadiPac
backward curved, Ø 800

- Material: Support plate and inlet ring: Sheet steel, galvanized
  - Support bracket: Steel, painted black
  - Cube design, Spacer: Aluminium
Impeller: Sheet aluminium; Rotor: Painted black
Electronics housing: Die-cast aluminium

- Number of blades: 5
- Direction of rotation: Clockwise viewed toward rotor
- Degree of protection: \( \text{IP 55} \)
- Insulation class: "F"
- Installation position: Shaft horizontal (base mounting only) 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>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
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<td>M3G 150-NA</td>
<td>3~380-480</td>
<td>50/60</td>
<td>835</td>
<td>2.60</td>
<td>4.00</td>
<td>-25..+40</td>
<td>42</td>
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<td>*3G 800</td>
<td>M3G 200-QA</td>
<td>3~380-480</td>
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<td>-25..+40</td>
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Subject to change

(1) Nominal data at operating point with maximum load and 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\( \text{w.A} \) 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 126 ff. for detailed information.

<table>
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<th>( P_{\text{ed}} )</th>
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<th>L( \text{w.A} )</th>
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<td>9.60</td>
<td>14.99</td>
<td>88</td>
</tr>
<tr>
<td>1370</td>
<td>11.30</td>
<td>17.50</td>
<td>85</td>
</tr>
<tr>
<td>1370</td>
<td>11.00</td>
<td>17.04</td>
<td>88</td>
</tr>
</tbody>
</table>
- **Technical features:** See connection diagram P. 116 f.
- **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:** ☑ EAC
  ☑ ☑ C22.2 Nr.77 + CAN/CSA-E60730-1, UL 1004-7 + 60730
- **Efficiency:** Ecodesign EU regulation EU 327/2011

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>kg</th>
<th>Inlet ring with one pressure tap</th>
<th>kg</th>
<th>Centrifugal module with support bracket</th>
<th>kg</th>
<th>Centrifugal module with cube design</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 800-PC12 -71</td>
<td>42,0</td>
<td>80075-2-4013</td>
<td>73,0</td>
<td>K3G 800-PC12 -71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
<td>---</td>
<td>---</td>
<td>146</td>
<td>K3G 800-PV13 -01</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
<td>---</td>
<td></td>
<td>---</td>
<td>157</td>
<td>K3G 800-PW07 -01</td>
<td></td>
</tr>
</tbody>
</table>
EC centrifugal fans – RadiPac
backward curved, Ø 800

**R3G 800-PC12-71 (Centrifugal fan)**

Accessory part: Inlet ring 80075-2-4013
Not included in scope of delivery (k-factor 695)
Dimensions: see “Accessories” chapter

**K3G 800-PC12-71 (Centrifugal module with support bracket)**

Attachment for FlowGrid

Pressure tap (k-factor 695)

Note installed position!
Install support struts as illustrated!
EC centrifugal fans – RadiPac
backward curved, Ø 800

K3G 800-PV13-01 (Centrifugal module with cube design)

Note installation position: shaft horizontal (motor support plate must stand upright) or rotor on bottom; rotor on top on request!

Mounting position for vibration-absorbing elements, Tightening torque max. 40 Nm

Cable gland
M20 x 1.5 (2x):
Cable diameter min. 5 mm, max. 13 mm
Tightening torque 6 ± 0.9 Nm

Inlet ring with pressure tap (k-factor 695)

K3G 800-PW07-01 (Centrifugal module with cube design)

Note installation position: shaft horizontal (motor support plate must stand upright) or rotor on bottom; rotor on top on request!

Mounting position for vibration-absorbing elements, Tightening torque max. 40 Nm

Cable gland
M20 x 1.5 (2x):
Cable diameter min. 5 mm, max. 13 mm
Tightening torque 6 ± 0.9 Nm

Inlet ring with pressure tap (k-factor 695)
EC centrifugal fans – RadiPac
backward curved, Ø 1000

- **Material:** Support plate and inlet ring: Sheet steel, galvanized
  Cube design, Spacer: Aluminium
  Impeller: Sheet aluminium; Rotor: Painted black
  Electronics housing: Die-cast aluminium
- **Number of blades:** 5
- **Direction of rotation:** Clockwise viewed toward rotor
- **Degree of protection:** IP 54
- **Insulation class:** "F"
- **Installation position:** Shaft horizontal (base mounting only) or rotor on bottom,
- **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>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>K3G A00-PV03-01</td>
<td>M3G 200-QA</td>
<td>3~380</td>
<td>50/60</td>
<td>750</td>
<td>6.34</td>
<td>9.80</td>
<td>-25...+40</td>
<td>178</td>
</tr>
</tbody>
</table>

Subject to change

(1) Nominal data at operating point with maximum load and 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: 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 126 ff. for detailed information.
- **Technical features**: See connection diagram P. 116
- **Touch current**: \( \leq 3.5 \text{ mA} \) 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**: C22.2 Nr.77 + CAN/CSA-E60730-1, UL 1004-7 + 60730
- **Efficiency**: Ecodesign EU regulation EU 327/2011

---

**Inlet ring**
P. 106 ff.

**FlowGrid air inlet guard** / intake finger guard
P. 104 ff.

**Vibration absorber**
P. 112 ff.

**Conn. diagram**
P. 116
EC centrifugal fans – RadiPac
backward curved, Ø 1000

K3G A00-PV03-01 (Centrifugal module with cube design)

Mounting position for vibration-absorbing elements, Tightening torque max. 40 Nm

Cable gland
M20 x 1.5 (2x):
Cable diameter min. 5 mm, max. 13 mm
Tightening torque 6 ± 0.9 Nm

Cable gland
M25 x 1.5:
Cable diameter min. 16 mm, max. 20.5 mm
Tightening torque 6 ± 0.9 Nm

Inlet ring with pressure tap (k-factor 1200)

Note installation position: shaft horizontal (motor support plate must stand upright) or rotor on bottom; rotor on top on request!
Short version:

In addition to the standard versions, size 450, 500 and 560 RadiPac centrifugal fans in the R3G (motor impeller) and K3G (modular) design variants are also combined with the third-generation M3G 150 motor.

The result is a higher-performance version with additional functionality such as programmable inputs and outputs and an LED status indicator.

Moreover, mounting the impeller on the base flange results in a lower installed height.
EC centrifugal fans – RadiPac

Short version, Ø 450 - Ø 560
EC centrifugal fans – RadiPac
backward curved, Ø 450 - Ø 560 (Short version)

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

- Number of blades: 5
- 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>kW</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 450</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>50/60</td>
<td>2480</td>
<td>4,50</td>
<td>6,80</td>
<td>-25..+40</td>
<td>21,3</td>
</tr>
<tr>
<td>*3G 500</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>50/60</td>
<td>1890</td>
<td>3,80</td>
<td>5,90</td>
<td>-25..+40</td>
<td>22,2</td>
</tr>
<tr>
<td>*3G 500</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>50/60</td>
<td>2000</td>
<td>4,20</td>
<td>6,40</td>
<td>-25..+45</td>
<td>26,6</td>
</tr>
<tr>
<td>*3G 560</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>50/60</td>
<td>1700</td>
<td>4,40</td>
<td>6,60</td>
<td>-25..+40</td>
<td>27,8</td>
</tr>
</tbody>
</table>

Subject to change
(1) Nominal data at operating point with maximum load and 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: $L_{wa}$ 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 126 ff. for detailed information.

<table>
<thead>
<tr>
<th>rpm</th>
<th>$P_{ed}$ kW</th>
<th>I A</th>
<th>$L_{wa}$ dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2480</td>
<td>2,62</td>
<td>4,04</td>
<td>99</td>
</tr>
<tr>
<td>2480</td>
<td>3,75</td>
<td>5,73</td>
<td>91</td>
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<tr>
<td>2480</td>
<td>4,50</td>
<td>6,80</td>
<td>85</td>
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<tr>
<td>2480</td>
<td>4,36</td>
<td>6,65</td>
<td>89</td>
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<tr>
<td>1890</td>
<td>2,22</td>
<td>3,45</td>
<td>100</td>
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<td>1890</td>
<td>3,22</td>
<td>4,93</td>
<td>93</td>
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<tr>
<td>1890</td>
<td>3,80</td>
<td>5,90</td>
<td>83</td>
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<tr>
<td>1890</td>
<td>3,40</td>
<td>5,20</td>
<td>87</td>
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<tr>
<td>2000</td>
<td>2,49</td>
<td>3,86</td>
<td>103</td>
</tr>
<tr>
<td>2000</td>
<td>3,45</td>
<td>5,27</td>
<td>94</td>
</tr>
<tr>
<td>2000</td>
<td>4,20</td>
<td>6,40</td>
<td>86</td>
</tr>
<tr>
<td>2000</td>
<td>4,03</td>
<td>6,14</td>
<td>88</td>
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<tr>
<td>1700</td>
<td>2,72</td>
<td>4,17</td>
<td>102</td>
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<tr>
<td>1700</td>
<td>3,74</td>
<td>5,69</td>
<td>91</td>
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<tr>
<td>1700</td>
<td>4,40</td>
<td>6,60</td>
<td>83</td>
</tr>
<tr>
<td>1700</td>
<td>4,24</td>
<td>6,47</td>
<td>87</td>
</tr>
</tbody>
</table>
- Technical features: See connection diagram P. 121
- Touch current: \( \leq 3.5 \) mA
- 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
- Efficiency: Ecodesign EU regulation EU 327/2011

<table>
<thead>
<tr>
<th>Centrifugal fan</th>
<th>Weight centrifugal fan (kg)</th>
<th>Inlet ring with one pressure tap (kg)</th>
<th>Centrifugal module with support bracket (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 450-PA31 -03</td>
<td>21,3</td>
<td>45075-2-4013</td>
<td>K3G 450-PA31 -03</td>
</tr>
<tr>
<td>R3G 500-PA28 -03</td>
<td>22,2</td>
<td>64025-2-4013</td>
<td>K3G 500-PA28 -03</td>
</tr>
<tr>
<td>R3G 500-PB24 -03</td>
<td>26,6</td>
<td>64025-2-4013</td>
<td>K3G 500-PB24 -03</td>
</tr>
<tr>
<td>R3G 560-PB31 -03</td>
<td>27,8</td>
<td>64030-2-4013</td>
<td>K3G 560-PB31 -03</td>
</tr>
</tbody>
</table>
EC centrifugal fans – RadiPac
backward curved, Ø 450 (Short version)

R3G 450-PA31-03 (Centrifugal fan)

K3G 450-PA31-03 (Centrifugal module with support bracket)
EC centrifugal fans – RadiPac
backward curved, Ø 500 (Short version)

R3G 500-PA28-03  (Centrifugal fan)

Max. clearance of screw
max. 20 mm

6x60°

Accessory part: Inlet ring 64025-2-4013
Not included in scope of delivery (k-factor 281)
Dimensions: see "Accessories" chapter

Tightening torque 1.8 ± 0.3 Nm

K3G 500-PA28-03  (Centrifugal module with support bracket)

Attachment for FlowGrid

4x90°  810 (4x)

Pressure tap (k-factor 281)

Note installed position!
Install support struts as illustrated!

Max. clearance of screw
max. 20 mm

M20 x 1.5 (3x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 2.5 ± 0.4 Nm
EC centrifugal fans – RadiPac
backward curved, Ø 500 (Short version)

**R3G 500-PB24-03** (Centrifugal fan)

- Accessory part: Inlet ring 64025-2-4013
- Not included in scope of delivery (k-factor 281)
- Dimensions: see "Accessories" chapter

**K3G 500-PB24-03** (Centrifugal module with support bracket)

- Note installed position!
- Install support struts as illustrated!
EC centrifugal fans – RadiPac
backward curved, Ø 560 (Short version)

R3G 560-PB31-03  (Centrifugal fan)

Max. clearance of screw max. 20 mm

Accessory part: Inlet ring 64030-2-4013
Not included in scope of delivery (k-factor 348)
Dimensions: see “Accessories” chapter

Cable gland
M20 x 1.5 (3x);
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 2.5 ± 0.4 Nm

K3G 560-PB31-03  (Centrifugal module with support bracket)

Attachment for FlowGrid

Pressure tap (k-factor 348)

Note installed position!
Install support struts as illustrated!

Cable gland
M20 x 1.5 (3x):
Cable diameter min. 4 mm, max. 10 mm
Tightening torque 2.5 ± 0.4 Nm

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Compact version:

RadiPac centrifugal fans in sizes 280 to 450 are also available as compact R3G motor impellers.

The aluminum impeller without airfoil blades and without radial diffusor has a very small footprint and is intended for use in single-inlet scroll or half-scroll housings.
EC centrifugal fans – RadiPac
Compact version, Ø 280 - Ø 450
EC centrifugal fans – RadiPac
backward curved, Ø 280 - 450 (Compact version)

- Material: Impeller: Sheet aluminium
  Rotor: Painted black
  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: 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>Weight</th>
<th>Tech. features and connection diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3G 280-AJ14-C1</td>
<td>M3G 084-GF</td>
<td>1</td>
<td>3–380-480</td>
<td>50/60</td>
<td>3260</td>
<td>0,99</td>
<td>1,60</td>
<td>-25..+60</td>
<td>6,8</td>
<td>P. 120 / RP5)</td>
</tr>
<tr>
<td>R3G 310-BC38-01</td>
<td>M3G 112-GA</td>
<td>2</td>
<td>3–380-480</td>
<td>50/60</td>
<td>3170</td>
<td>1,65</td>
<td>2,50</td>
<td>-25..+50</td>
<td>12,1</td>
<td>P. 116 / RP1)</td>
</tr>
<tr>
<td>R3G 355-BD43-01</td>
<td>M3G 112-GA</td>
<td>3</td>
<td>3–380-480</td>
<td>50/60</td>
<td>2650</td>
<td>1,73</td>
<td>2,60</td>
<td>-25..+60</td>
<td>12,6</td>
<td>P. 116 / RP1)</td>
</tr>
<tr>
<td>R3G 400-AS23-01</td>
<td>M3G 150-FF</td>
<td>4</td>
<td>3–380-480</td>
<td>50/60</td>
<td>2550</td>
<td>2,84</td>
<td>4,20</td>
<td>-25..+60</td>
<td>21,3</td>
<td>P. 116 / RP1)</td>
</tr>
<tr>
<td>R3G 450-AS24-01</td>
<td>M3G 150-FF</td>
<td>5</td>
<td>3–380-480</td>
<td>50/60</td>
<td>2040</td>
<td>3,38</td>
<td>3,60</td>
<td>-25..+60</td>
<td>22,0</td>
<td>P. 116 / RP1)</td>
</tr>
</tbody>
</table>

Subject to change

Notes:
(1) Nominal data at operating point with maximum load and 400 VAC.
- **Technical features:** See connection diagram P. 116 ff.
- **EMC:**
  - Interference emission according to EN 61000-6-3, 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
- **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:**
  - C22.2 Nr.77 + CAN/CSA-E60730-1, EAC, UL 1004-7 + 60730
  - VDE, EAC
  - UL, CSA, EAC
- **Efficiency:** Ecodesign EU regulation EU 327/2011
EC centrifugal fans – RadiPac
backward curved, Ø 280 - 450 (Compact version)

R3G 280-AJ14-C1 (Centrifugal fan)

Accessory part: Inlet ring 28075-2-4013
Not included in scope of delivery (k-factor 93)
Max. clearance of screw max. 16 mm
Tightening torque 3.5 ± 0.5 Nm

Cable gland
M16 x 1.5 (3x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 2.5 ± 0.4 Nm

R3G 310-BC38-01 (Centrifugal fan)

Accessory part: Inlet ring 31475-2-4013
Not included in scope of delivery (k-factor 116)
Dimensions: see “Accessories” chapter
Max. clearance of screw max. 20 mm
Tightening torque 3.5 ± 0.5 Nm

Cable gland
M20 x 1.5 (3x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

R3G 355-BD43-01 (Centrifugal fan)

Accessory part: Inlet ring 35675-2-4013
Not included in scope of delivery (k-factor 148)
Dimensions: see “Accessories” chapter
Max. clearance of screw max. 20 mm
Tightening torque 3.5 ± 0.5 Nm

Cable gland
M20 x 1.5 (3x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm
EC centrifugal fans – RadiPac
backward curved, Ø 280 - 450 (Compact version)

R3G 400-AS23-01 (Centrifugal fan)

Accessory part: Inlet ring 40078-2-4013
Not included in scope of delivery (k-factor 188)
Dimensions: see “Accessories” chapter
Max. clearance of screw max. 25 mm

Cable gland
M20 x 1.5 (3x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm

R3G 450-AS24-01 (Centrifugal fan)

Accessory part: Inlet ring 45075-2-4013
Not included in scope of delivery (k-factor 240)
Dimensions: see “Accessories” chapter
Max. clearance of screw max. 25 mm

Cable gland
M20 x 1.5 (3x):
Cable diameter
min. 4 mm, max. 10 mm
Tightening torque 4 ± 0.6 Nm
Certified safety.

ebm-papst’s ex-protected fans are based on the proven 3 kW GreenTech EC external rotor motor and are tested and certified in line with the European product directive 2014/34/EU. They therefore meet all demands made of devices used in areas at risk of explosion. Our axial and centrifugal ex-protected fans are suitable for equipment group II (explosion-protected areas outside mining) and the gases and vapours substance group in explosion group IIB.

Our ex-protected fans can be used in hazard zones 1 and 2. They therefore correspond to category 2G (ATEX) and have the equipment protection level Gb (EN 60079-0).

As per the ATEX 1999/92/EC operating directive, the facility operator is responsible for the categorisation of hazard zones. The corresponding equipment categorisation is performed by the manufacturer, i.e. ebm-papst.

### Ex marking of the ebm-papst fans as per ATEX and EN 60079-0:

<table>
<thead>
<tr>
<th>Ex marking</th>
<th>Group</th>
<th>Equipment category</th>
<th>Ignition protection Types</th>
<th>Equipment protection level</th>
<th>Escape of gases, fog and vapours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ebmpapst</td>
<td>II</td>
<td>2G, Ex</td>
<td>ic, IIA, T1, T2, Gc</td>
<td>Gb</td>
<td>Zone 2, Zone 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Increased protection, Occasional</td>
</tr>
<tr>
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<td>Zone 0</td>
</tr>
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The following requirements are not covered:

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<th>ia</th>
<th>IIC</th>
<th>T4</th>
<th>Ga</th>
<th>Zone 0</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<td></td>
<td>Very high protection</td>
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<td>Zone 0</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>Constantly, often</td>
<td>Zone 0</td>
</tr>
</tbody>
</table>
EC centrifugal fans – RadiPac
ATEX version, Ø 400 - Ø 630
EC centrifugal fans – RadiPac
backward curved, Ø 400 - Ø 630 (ATEX version)

- Material: Cube design with inlet ring: Sheet steel, galvanized
  Impeller: Sheet aluminium
  Rotor: Painted black
  Electronics housing: Die-cast aluminium
- Number of blades: 7
- Direction of rotation: Clockwise viewed toward rotor
- Degree of protection: IP 44
- Insulation class: "F"
- Installation position: Shaft horizontal (base mounting only) or rotor on bottom, rotor on top not allowed
- Condensation drainage holes: Rotor side
- Mode: Continuous operation (S1)
- Mounting: Maintenance-free ball bearings

<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>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>*3G 400</td>
<td>M3G 150-FF</td>
<td>3~380-480</td>
<td>50/60</td>
<td>2550</td>
<td>3,10</td>
<td>4,70</td>
<td>-25..+50</td>
<td>49,4</td>
<td>P. 122 / RP7</td>
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<tr>
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<td>M3G 150-IF</td>
<td>3~380-480</td>
<td>50/60</td>
<td>1780</td>
<td>2,97</td>
<td>4,50</td>
<td>-25..+50</td>
<td>62,5</td>
<td>P. 122 / RP7</td>
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<td></td>
<td>M3G 150-NA</td>
<td>3~380-480</td>
<td>50/60</td>
<td>1130</td>
<td>2,97</td>
<td>4,60</td>
<td>-25..+50</td>
<td>89,3</td>
<td>P. 122 / RP7</td>
</tr>
</tbody>
</table>

(1) Nominal data at operating point with maximum load and 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: 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 126 ff. for detailed information.
- **Technical features:** See connection diagram P. 122
- **EMC:** Interference emission according to EN 61000-6-4 (industrial environment)
  Immunity to interference according to EN 61000-6-2 (industrial environment)
- **Touch current:** $\leq 3.5\,\text{mA}$
- **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, EN 14986, EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-11
- **Approvals:** II 2G

### Table: Weight centrifugal module with cube design

<table>
<thead>
<tr>
<th>Centrifugal module with cube design</th>
<th>kg</th>
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</thead>
<tbody>
<tr>
<td>K3G 400-023 -90</td>
<td>49.4</td>
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<tr>
<td>K3G 450-024 -90</td>
<td>57.5</td>
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<tr>
<td>K3G 500-025 -90</td>
<td>62.5</td>
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<tr>
<td>K3G 560-023 -90</td>
<td>80.8</td>
</tr>
<tr>
<td>K3G 630-021 -90</td>
<td>89.3</td>
</tr>
</tbody>
</table>
EC centrifugal fans – RadiPac
backward curved, Ø 400 (ATEX version)

K3G 400-A023-90 (Centrifugal module with cube design)

Terminal box cover
fastening screws
M4 x 20 (7x)
Tightening torque
3.5 ± 0.5 Nm

Ground connection point M8 (functional earthing for dissipation of electrostatic charge, no protective ground), do not unfasten the nut fitted, another nut is used for contacting.

Screw plug
M20 x 1.5

Inlet ring with pressure tap

Note installation position:
only designed for base mounting, shaft horizontal or rotor on bottom; rotor on top on request!
EC centrifugal fans – RadiPac
backward curved, Ø 450 (ATEX version)

K3G 450-A024-90 (Centrifugal module with cube design)

Mounting position for vibration-absorbing elements

Inlet ring with pressure tap

Axial gap dimension

Radial gap dimension

Terminal box cover fastening screws
M4 x 20 (7x)
Tightening torque 3.5 ± 0.5 Nm

Cable gland: M25 x 1.5: Cable diameter min. 10 mm, max. 16 mm
Tightening torque 6 ± 0.6 Nm
Approximate value depending on the cable

Cable gland: M20 x 1.5: Cable diameter min. 10 mm, max. 14 mm
Tightening torque 6 ± 0.6 Nm
Approximate value depending on the cable

Ground connection point M8 (functional earthing for dissipation of electrostatic charge, no protective ground), do not unfasten the nut fitted, another nut is used for contacting.

Note installation position:
only designed for base mounting, shaft horizontal or rotor on bottom; rotor on top on request!
EC centrifugal fans – RadiPac
backward curved, Ø 500 (ATEX version)

K3G 500-A025-90 (Centrifugal module with cube design)

Note installation position:
only designed for base mounting, shaft horizontal or rotor on bottom; rotor on top on request!
EC centrifugal fans – RadiPac
backward curved, Ø 560 (ATEX version)

K3G 560-AP23-90 (Centrifugal module with cube design)

Mounting position for vibration-absorbing elements

Inlet ring with pressure tap

Terminal box cover
fastening screws
M4 x 20 (7x)
Tightening torque
3.5 ± 0.5 Nm

Cable gland
M25 x 1.5: Cable diameter
min. 10 mm, max. 16 mm
Tightening torque 6 ± 0.6 Nm
Approximate value depending on the cable

Screw plug
M20 x 1.5

Ground connection point M8 (functional earthing for dissipation of electrostatic charge, no protective ground), do not unfasten the nut fitted, another nut is used for contacting.

Note installation position: shaft horizontal (motor support plate must stand upright) or rotor on bottom; rotor on top on request!
EC centrifugal fans – RadiPac
backward curved, Ø 630 (ATEX version)

K3G 630-AP01-90 (Centrifugal module with cube design)

Note installation position: shaft horizontal (motor support plate must stand upright) or rotor on bottom; rotor on top on request!

Inlet ring with pressure tap

Ground connection point M8 (functional earthing for dissipation of electrostatic charge, no protective ground), do not unfasten the nut fitted, another nut is used for contacting.

Terminal box cover
fastening screws M4 x 20 (7x)
Tightening torque 3.5 ± 0.5 Nm

Axial gap dimension

Radial gap dimension

Cable gland
M25 x 1.5: Cable diameter min. 10 mm, max. 16 mm
Tightening torque 6 ± 0.6 Nm
Approximate value depending on the cable

Cable gland
M20 x 1.5: Cable diameter min. 10 mm, max. 14 mm
Tightening torque 6 ± 0.6 Nm
Approximate value depending on the cable

Mounting position for vibration-absorbing elements

Screw plug M20 x 1.5

B-B
Direct-drive single inlet centrifugal fans with backwards-curved high-performance centrifugal impellers with radial diffusers, mounted on a GreenTech EC external rotor motor with integrated control electronics.

Impeller made of aluminum, with 5 backwards-curved, continuously welded, hollow-profile blades; impeller sizes 250 and 280 made of plastic; flow-optimized inlet ring made of galvanized sheet steel with pressure test nipple.

Motor impeller statically and dynamically balanced on two planes to balancing grade G 6.3 (motor size 200 to balancing grade G 4.0) 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 respectively 3~380-480 V, 50/60 Hz. Fan can be used with all standard power supply networks with unaltered air performance. Integrated electronics, low-noise commutation logic; 100 % open-loop speed control; all fans have an RS485/MODBUS RTU interface, and do not need to be installed with shielded cables. All 1~ types have an integrated active PFC (Power Factor Correction) to reduce disturbing harmonic content. Terminal box made of aluminum/plastic with easily accessible connection area with spring-loaded terminals, environment-resistant cable glands, or with external variable cable (sizes 250 to 280).

Version for wall mounting:
Support bracket, sizes 250 to 560 and 630 to 800 with size 150 motor as ready-to-install support bracket intended for wall mounting. Support bracket made of bent round bar steel or round tube, welded and coated in black. Mounting plate and inlet ring made of sendzimir galvanized sheet steel.

Version for floor mounting:
Cube design, sizes 630 to 1000 with size 200 motor as ready-to-install cube design intended exclusively for floor mounting. Struts made of extruded aluminum sections connected to die-cast corner plates, nozzle plate and inlet ring made of sendzimir galvanized sheet steel, motor mounting plate made of coated sheet steel. This version is not suitable for wall mounting.

Any work required for isolation from structure-borne noise to be performed by the customer. Fan satisfies the applicable EMC guidelines and requirements with regard to circuit feedback (for specific information, see the respective data sheet). Documentation and marking conform to the applicable EU Directives.

Reliable performance data, air performance measurements on intake-side chamber test rig according to ISO 5801 and DIN 24163, noise measurements in anechoic rooms according to DIN EN ISO 3745.

Integrated protective devices:
- Alarm relay with zero-potential change-over contacts (250 V AC/2 A, cos φ = 1)
- Locked-rotor protection
- Phase failure detection
- Soft start of motors
- Mains under-voltage detection
- Thermal overload protection for electronics and motor
- Short circuit protection

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

Fan type

Air flow \( qV \) = _________________________________ \( \text{m}^3/\text{h} \), cfm

Stat. pressure increase \( pfs \) = _________________________________ Pa, in wg

Stat. overall efficiency \( \eta_{es} \) = _________________________________ %

Operating speed \( n \) = _________________________________ rpm

Motor type

Type of control = 0-100 % speed control

Motor efficiency class = IE4 equivalent or better

Total power input \( P_{ed} \) = _________________________________ kW

Specific fan power \( SFP \) = _________________________________ kW/(m\(^3\)/s)

Nominal voltage range \( U_N \) = _________________________________ V

Line frequency \( f \) = 50 / 60 Hz

Nominal current \( I_N \) = _________________________________ A

Degree of protection = IP54

Sound power level \( L_{WA}(\text{A, in}) \) = _________ / \( L_{WA}(\text{A, out}) \) = _________ dB(A)

Sound pressure level (at 1 m) \( L_{PA}(\text{A, in}) \) = _________ / \( L_{PA}(\text{A, out}) \) = _________ dB(A)

Perm. ambient temperature \( T \) = ____________ to ____________ °C

Weight of fan \( m \) = _________________________________ kg

EC centrifugal fans - RadiPac
Support bracket
Sizes 250 - 800

EC centrifugal fans - RadiPac
Cube design
Sizes 630 - 1000

Refer to data sheet for dimensions and wiring.
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

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>
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<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>
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<tr>
<td>79355-2-4039</td>
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<td>1</td>
<td>345</td>
<td>4.5</td>
<td>308</td>
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<td>4 x 90°</td>
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</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>
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<tr>
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<td>560</td>
<td>2</td>
<td>490</td>
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<td>466</td>
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<td>3 x 120°</td>
<td></td>
</tr>
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<td>79630-2-4039</td>
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<td>600</td>
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<td>551</td>
<td>3.9</td>
<td>3 x 120°</td>
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<tr>
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<td>630</td>
<td>3</td>
<td>600</td>
<td>8.5</td>
<td>551</td>
<td>3.9</td>
<td>3 x 120°</td>
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<tr>
<td>79710-2-4039</td>
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<td>700</td>
<td>8.5</td>
<td>651</td>
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<td>3 x 120°</td>
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<tr>
<td>79900-2-4039</td>
<td>1000</td>
<td>4</td>
<td>850</td>
<td>8.5</td>
<td>801</td>
<td>3.9</td>
<td>6 x 60°</td>
<td></td>
</tr>
</tbody>
</table>

Subject to change

---

- **Material**: Steel wire, phosphated,
  - Versions 1 and 2: Painted pebble gray (RAL 7032)
  - Versions 3 and 4: Painted light gray (RAL 7035)

---

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>
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<th>Dimensions (mm)</th>
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<tbody>
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<td>227</td>
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<td>4 x 90°</td>
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<td>79310-2-4039</td>
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<td>325</td>
<td>4.5</td>
<td>271</td>
<td>2.8</td>
<td>4 x 90°</td>
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<td>79355-2-4039</td>
<td>355</td>
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<td>4 x 90°</td>
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<td>3 x 120°</td>
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<td>79710-2-4039</td>
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<td>8.5</td>
<td>801</td>
<td>3.9</td>
<td>6 x 60°</td>
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</tr>
</tbody>
</table>
## Inlet rings

With / without measuring device

---

Material: Galvanised sheet steel

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

<table>
<thead>
<tr>
<th>Part number</th>
<th>Fan size</th>
<th>Dimensions / drawing</th>
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</thead>
<tbody>
<tr>
<td>96350-2-4013/</td>
<td>250</td>
<td>siehe Seite 107</td>
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<td>96355-2-4013/</td>
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<td>96345-2-4013/</td>
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<td>28000-2-4013/</td>
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<td>28004-2-4013/</td>
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<td></td>
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<tr>
<td>28003-2-4013/</td>
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<tr>
<td>28070-2-4013/</td>
<td>280 (compact)</td>
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<td>siehe Seite 107</td>
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<td>64025-2-4013/</td>
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<td>64002-2-4013/</td>
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<td>63071-2-4013/</td>
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<td>siehe Seite 109</td>
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<td>80075-2-4013/</td>
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<td></td>
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<tr>
<td>80080-2-4013/</td>
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<td></td>
</tr>
</tbody>
</table>

Subject to change

- (1) Without measuring device
- (2) With one pressure tap
- (3) With piezometer

### Diagrams

1. Without measuring device:
2. With one pressure tap:
3. With piezometer:
Inlet rings
Dimensioned drawings with one pressure tap
Inlet rings
Dimensioned drawings with one pressure tap

Fan size 500:

Fan size 560:
Inlet rings
Dimensioned drawings with one pressure tap

Fan size 630:

Fan size 710:

Fan size 800:
Effects of installation space:
Installation in a square box may cause a reduction of the air performance.

\[ \text{Direction of air flow} \]

\[ \begin{align*}
\text{d}_h &= \text{Hydraulic diameter} \\
\text{Formula: } d_h &= \frac{2 \times W \times H}{W + H} \\
W &= \text{Width of the box} \\
H &= \text{Height of the box} \\
D &= \text{Outside diameter of the fan}
\end{align*} \]

Correction values for the air flow
Fan size 250 - 1000:

\[ \text{The correction values shown here were determined from an extensive series of measurements taken on our own internal chamber test rig.} \]

\[ \text{Here, square and rectangular outflow cross sections were considered.} \]

\[ \text{This is why the hydraulic diameter was used to determine the correction values.} \]

\[ \text{The new RadiPac fans are known to be less vulnerable to tight installation situations.} \]

\[ \text{For square cross sections that are greater than } 1.7 \times \text{ the impeller diameter, no deduction has to be applied to the catalog curves.} \]
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:

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

where \( q_V \) is the air flow in \([m^3/h]\) and \( \Delta p \) in \([Pa]\).

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

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

\( k \) 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 RadiPac inlet rings)**

<table>
<thead>
<tr>
<th>Fan size</th>
<th>250</th>
<th>280</th>
<th>310</th>
<th>355</th>
<th>400</th>
<th>450</th>
<th>500</th>
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</thead>
<tbody>
<tr>
<td>k-factor</td>
<td>76</td>
<td>77</td>
<td>116</td>
<td>148</td>
<td>188</td>
<td>240</td>
<td>281</td>
</tr>
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<table>
<thead>
<tr>
<th>Fan size</th>
<th>560</th>
<th>630</th>
<th>710</th>
<th>800</th>
<th>1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>k-factor</td>
<td>348</td>
<td>438</td>
<td>545</td>
<td>695</td>
<td>1200</td>
</tr>
</tbody>
</table>
Vibration absorbers

- **Packaging:** Part numbers refer to one set consisting of 4x spring elements each.
  
  Supplied in a box.

- **For further information, see:**
  Installation instructions no.: 45014-4-8670

### Vibration absorbers (steel)

<table>
<thead>
<tr>
<th>Part number (set)</th>
<th>Type</th>
<th>Minimum speed (rpm)</th>
<th>Deflection (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11064-4-5142</td>
<td>K3G 630-PV04-01</td>
<td>510</td>
<td>7.5</td>
</tr>
<tr>
<td>11065-4-5142</td>
<td>K3G 630-PW04-01</td>
<td>570</td>
<td>5.9</td>
</tr>
<tr>
<td>11065-4-5142</td>
<td>K3G 710-PV05-01</td>
<td>530</td>
<td>6.5</td>
</tr>
<tr>
<td>11065-4-5142</td>
<td>K3G 710-PW06-01</td>
<td>490</td>
<td>7.8</td>
</tr>
<tr>
<td>11065-4-5142</td>
<td>K3G 800-PV13-01</td>
<td>500</td>
<td>7.4</td>
</tr>
<tr>
<td>11065-4-5142</td>
<td>K3G 800-PW07-01</td>
<td>480</td>
<td>8.0</td>
</tr>
<tr>
<td>11064-4-5142</td>
<td>K3G A00-PV03-01</td>
<td>370</td>
<td>13.8</td>
</tr>
</tbody>
</table>

### Vibration absorbers (rubber)

<table>
<thead>
<tr>
<th>Part number (set)</th>
<th>Type</th>
<th>Minimum speed (rpm)</th>
<th>Deflection (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10005-4-5164</td>
<td>K3G 630-PV04-01</td>
<td>790</td>
<td>2.1</td>
</tr>
<tr>
<td>10005-4-5164</td>
<td>K3G 630-PW04-01</td>
<td>725</td>
<td>2.5</td>
</tr>
<tr>
<td>10005-4-5164</td>
<td>K3G 710-PV05-01</td>
<td>701</td>
<td>2.6</td>
</tr>
<tr>
<td>10005-4-5164</td>
<td>K3G 710-PW06-01</td>
<td>629</td>
<td>3.3</td>
</tr>
<tr>
<td>10005-4-5164</td>
<td>K3G 800-PV13-01</td>
<td>656</td>
<td>3.1</td>
</tr>
<tr>
<td>10005-4-5164</td>
<td>K3G 800-PW07-01</td>
<td>620</td>
<td>3.4</td>
</tr>
<tr>
<td>10008-4-5164</td>
<td>K3G A00-PV03-01</td>
<td>496</td>
<td>5.3</td>
</tr>
</tbody>
</table>

Subject to change
Attention:
The vibration absorbers recommended by ebm-papst are available in a set of 4 pieces. The vibration absorbers are perfectly matched to their intended fans and the specified minimum speed. The installation and operation of several fans on one set of spring elements is not allowed. During start-up, the fan has to pass through the speed range corresponding to the resonance frequency (below the minimum speed). The vibrations caused by the fan’s residual imbalance are strongest within this speed range. This speed range must be passed through as quickly as possible to avoid damage to the fan. Operation below, close to or at the resonance frequency will destroy the fan!

When the fan is being operated, take care to ensure that the fan’s speed does not go below the specified minimum speed. This will prevent the fan from being operated continuously near the resonance frequency. The specified minimum speed is always for an individual fan without any influences from the system it is installed in.

The configuration of the unit in which the fan is installed can have a strong influence on the fan’s vibration characteristics, so a vibration test always has to be performed after the fan has been installed. The fan’s vibration characteristics must be tested under all relevant operating conditions (such as speed, back pressure, systemic fluctuations in back pressure) – when installed and in interaction with the complete system.

The maximum vibration severity may not exceed 3.5 mm/s, measured at the motor’s fastening pitch circle on the motor support plate in the direction of and perpendicular to the motor’s axis of rotation.

Even when the vibration absorbers recommended by ebm-papst are used, their effectiveness must be tested in the application. If vibration absorbers other than those specified are used, tests must be performed to determine how the resonance frequency, and thus the operating requirements, change.

Installation example:
Floor-mounted, shaft horizontal
Connection diagrams
Connection diagram: RP1)
M3G112 & M3G150 & M3G200, 3–

Technical features:
• Control input 0-10 VDC / PWM
• Output 10 VDC (+10 %) max. 10 mA
• Output 20 VDC (+/-20 %) max. 50 mA
• Output for slave 0-10 V max. 5 mA
• Input for sensor 0-10 V or 4-20 mA
• Operation and fault indicator
• Integrated PI controller
• Locked-rotor protection / Soft start / Motor current limitation
• RS 485 MODBUS-RTU / Alarm relay
• PFC, passive (standard) or PFC, active (see product-specific catalog page)
• Thermal overload protection for electronics/motor
• Undervoltage/phase failure detection
• Control interface with SELV potential safely disconnected from supply
• External enable input/External 24 V input (parameterization)

Terminal | Pin | Connection | Assignment/function
---|---|---|---
KL1<br>1 | L1 | Power supply, phase, see nameplate for voltage range<br>2 | L2 | Power supply, phase, see nameplate for voltage range<br>3 | L3 | Power supply, phase, see nameplate for voltage range<br>PE<br>PE | Protective earth
KL2<br>1 | NO | Status relay, floating status contact, option 1: break for failure, option 2: break for run monitoring error message<br>2 | COM | 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<br>3 | NC | Status relay, floating status contact, option 1: make for failure, option 2: make for run monitoring error message
KL3<br>1 | RSA | RS-485 interface for MODBUS RSA, SELV<br>2 | RS8 | RS-485 interface for MODBUS RSB, SELV<br>3/10 | GND | Reference ground for control interface, SELV<br>4 | Ain1 U / PWM | Analog input 1 (set value); 0-10 V; Ri= 100 kΩ; adjustable curve; only for use as alternative to input Ain1 I, SELV<br>5 | +10 V | Voltage output, power supply for external devices (e.g. potentiometers), SELV<br>6 | Ain1 I | Analog input 1 (set value); 4-20 mA; Ri= 100 Ω; adjustable curve, only for use as alternative to input Ain1 U, SELV<br>7 | Din1 | Digital input 1: Enable electronics; Enable: Pin open or applied voltage 5...50 VDC; Disable: Bridge to GND or applied voltage < 1 VDC; Reset function: Triggering of software reset after level change to < 1VDC, SELV<br>8 | Din2 | Digital input 2: Switching parameter sets 1/2, according to EEPROM setting, the valid/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 < 1 VDC, SELV<br>9 | Din3 | 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 or applied voltage < 1 VDC, SELV<br>11 | Ain2 U | Analog input 2; Measured value 0-10 V; Ri= 100 kΩ; adjustable curve; only for use as alternative to input Ain2 I, SELV<br>12 | +20 V | Voltage output, power supply for external devices (e.g. sensors), SELV<br>13 | Ain2 I | Analog input 2; Measured value 4-20 mA; Ri= 100 Ω; adjustable curve, only for use as alternative to input Ain2 U, SELV<br>14 | Aout | Analog output 0-10 V, max. 5 mA; output of current motor modulation level/current motor speed. Adjustable curve, SELV
**Connection diagram: RP2)**

**M3G150, 3~**

**Technical features:**
- Control input 0-10 VDC / PWM
- Output 10 VDC max. 10 mA
- RS 485 MODBUS-RTU / PFC, passive
- Thermal overload protection for electronics/motor
- Locked-rotor protection / Soft start
- Operation and fault indicator
- Integrated PI controller
- Motor current limitation / Alarm relay
- Undervoltage/phase failure detection
- Control interface with SELV potential safely disconnected from supply
- External enable input / External 24 V input (parameterization)

---

### Terminal Pin Connection Assignment/function

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Pin</th>
<th>Connection</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>KL1</td>
<td>1</td>
<td>L1</td>
<td>Power supply, phase, see nameplate for voltage range</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>L2</td>
<td>Power supply, phase, see nameplate for voltage range</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>L3</td>
<td>Power supply, phase, see nameplate for voltage range</td>
</tr>
<tr>
<td>PE</td>
<td></td>
<td></td>
<td>Protective earth</td>
</tr>
<tr>
<td>KL2</td>
<td>1</td>
<td>RSA</td>
<td>RS-485 interface for MODBUS RSA, SELV</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>RSB</td>
<td>RS-485 interface for MODBUS RSB, SELV</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>GND</td>
<td>Reference ground for control interface; SELV</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>C</td>
<td>Status relay, floating status contact, 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>5</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: triggers software reset after a level change to &lt; 1 V; SELV</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>+10 V</td>
<td>Voltage output, power supply for external devices (e.g. potentiometers), SELV or: +24 VDC input for parameter setting via MODBUS without line voltage</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Ain1 U</td>
<td>Analog input 1 (set value) 0-10 V, Ri = 100 kΩ, adjustable curve; SELV</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>NC</td>
<td>Status relay, floating status contact, break for failure</td>
</tr>
</tbody>
</table>

---

**Connection diagram:**

- KL1
- PE
- KL2

---

**Terminal assignment:**

- **KL1:**
  - 1: L1
  - 2: L2
  - 3: L3

- **KL2:**
  - 1: RSA
  - 2: RSB
  - 3: GND
  - 4: C
  - 5: DIN1
  - 6: +10 V
  - 7: Ain1 U
  - 8: NC
Connection diagram: RP3)

M3G084, 1–

Technical features:
- Control input 0-10 VDC / PWM
- Output 10 VDC max. 10 mA
- Operation and fault indicator
- Alarm relay
- Locked-rotor protection, Soft start
- Power limiter
- PFC, active
- Motor current limitation
- RS 485 MODBUS-RTU
- Thermal overload protection for electronics/motor
- Undervoltage
- Control interface with SELV potential safely disconnected from supply

---

<table>
<thead>
<tr>
<th>Wire</th>
<th>No.</th>
<th>Connection</th>
<th>Color</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1, 2 PE</td>
<td>green/yel.</td>
<td>Protective earth</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3 N</td>
<td>blue</td>
<td>Power supply, neutral conductor, voltage range see nameplate</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>5 L</td>
<td>black</td>
<td>Power supply, phase, voltage range see nameplate</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>6 NC</td>
<td>white 1</td>
<td>Status relay, floating status contact, break for failure</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7 COM</td>
<td>white 2</td>
<td>Status relay, floating status contact, contact rating 250 VAC / 2 A (AC1) min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8 0-10 V / PWM</td>
<td>yellow</td>
<td>Control input 0-10 V or PWM, impedance 100 kΩ, SELV, adjustable curve</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10 RSB</td>
<td>brown</td>
<td>RS485 interface for MODBUS, RSB, SELV</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>11 RSA</td>
<td>white</td>
<td>RS485 interface for MODBUS, RSA, SELV</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>12 GND</td>
<td>blue</td>
<td>Reference ground for control interface, SELV</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>13 + 10 V / max. 10 mA</td>
<td>red</td>
<td>Voltage output, power supply for ext. devices (e.g. potentiometer), SELV</td>
<td></td>
</tr>
</tbody>
</table>
Technical features:

- Control input 0-10 VDC / PWM
- Motor current limitation
- Output 10 VDC max. 10 mA
- RS 485 MODBUS-RTU
- Operation and fault indicator
- Thermal overload protection for electronics/motor
- Integrated PI controller
- Undervoltage/phase failure detection
- Alarm relay
- External 24 V input (parameterization)
- Locked-rotor protection, Soft start
- Control interface with SELV potential safely disconnected from supply
- PFC, passive

Connection diagram: RP4)

M3G084 & M3G112, 3–
### Technical features:
- Control input 0-10 VDC / PWM
- Input for sensor 0-10 V or 4-20 mA
- Output for slave 0-10 V max. 3 mA
- Output 20 VDC (+25 %/-10 %) max. 50 mA
- Output 10 VDC (+/-3 %) max. 10 mA
- Integrated PI controller
- PFC, passive
- Motor current limitation, Alarm relay
- RS 485 MODBUS-RTU
- Thermal overload protection for electronics/motor
- Undervoltage/phase failure detection
- Locked-rotor protection, Soft start
- External 24 V input (parameterization)
- Control interface with SELV potential safely disconnected from supply

### Terminal Assignment/function

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Connection</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE</td>
<td>PE</td>
<td>Protective earth</td>
</tr>
<tr>
<td>KL1</td>
<td>L3</td>
<td>Power supply, phase, see nameplate for voltage range</td>
</tr>
<tr>
<td></td>
<td>L2</td>
<td>Power supply, phase, see nameplate for voltage range</td>
</tr>
<tr>
<td></td>
<td>L1</td>
<td>Power supply, phase, see nameplate for voltage range</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>OUT</td>
<td>Analogue output 0-10 VDC max. 3 mA, SELV; Output of the actual motor duty cycle (PWM): 1 V corresponds to 10 % PWM, 10 V correspond to 100 % PWM.</td>
</tr>
<tr>
<td></td>
<td>GND</td>
<td>Reference ground for control interface, SELV</td>
</tr>
<tr>
<td></td>
<td>0-10 V / PWM</td>
<td>Control input/current sensor value input 0-10 VDC, (impedance 100 kΩ), only for use as alternative to input 4-20 mA, SELV</td>
</tr>
<tr>
<td></td>
<td>+10 V</td>
<td>Voltage output, power supply for external devices (e.g. potentiometers), SELV</td>
</tr>
<tr>
<td></td>
<td>+20 V</td>
<td>Voltage output, power supply for external devices (e.g. sensors), SELV; or: +24 VDC input for parameter setting via MODBUS without line voltage</td>
</tr>
<tr>
<td></td>
<td>4-20 mA</td>
<td>Control input/current sensor value input 4-20 mA, (Impedance 100 Ω), only for use as alternative to input 0-10 V, SELV</td>
</tr>
<tr>
<td></td>
<td>0-10 V / PWM</td>
<td>Control input/current sensor value input 0-10 VDC, (Impedance 100 kΩ), only for use as alternative to input 4-20 mA, 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>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>
</tbody>
</table>
Connection diagram: RP6)

**Technische Ausstattung:**
- 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
- Thermal overload protection for electronics/motor
- Undervoltage/phase failure detection
- Control interface with SELV potential safely disconnected from supply
- External 15-50 VDC input (parameterization)

**Connection diagram:**

<table>
<thead>
<tr>
<th>No.</th>
<th>Connection</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON1</td>
<td>L1, L2, L3</td>
<td>Power supply, phase, see nameplate for voltage range</td>
</tr>
<tr>
<td>PE</td>
<td>PE</td>
<td>Protective earth</td>
</tr>
<tr>
<td>CON2</td>
<td>RSA</td>
<td>RS-485 interface for MODBUS RSA, SELV</td>
</tr>
<tr>
<td>CON2</td>
<td>RS6</td>
<td>RS-485 interface for MODBUS RS6, SELV</td>
</tr>
<tr>
<td>CON2</td>
<td>GND</td>
<td>Reference ground for control interface, SELV</td>
</tr>
</tbody>
</table>
| CON2 | IO1 | IN2: Digital input - positive logic (factory setting: Enable) function parameterizable, SELV
- normal: Pin open or applied voltage < 1.5 VDC
- inverse: applied voltage 3.5-50 VDC |
| CON2 | IO2 | IN1: Analog input 0-10 V
0-10 V, Ri=100 K, parameterizable as set value or measured value (factory setting: set value) characteristic curve parameterizable, SELV |
| CON2 | IO3 | OUT1: Analog output 0-10 V
0-10 V, max 5 mA, function parameterizable (factory setting: modulation level)
max output frequency 300 Hz, SELV |
| CON2 | Vout | Voltage output 3.3-24 VDC +/-5%, Pmax=800 mW, voltage parameterizable (factory setting: 10 VDC)
short-circuit-proof, supply for external devices, SELV
alternatively: 15-50 VDC input for parameterization via Modbus without line voltage |
| CON2 | COM | Status relay, floating status contact, contact rating 250 VAC / 2 A (AC) min. 10 mA,
reinforced insulation on supply side and on control interface side |
| CON2 | NC | Status relay, floating status contact, option 1: break for failure, option 2: break for run monitoring error message |
### Connection diagram: RP7)

**M3G150, 3-**

#### Technical features:
- Control input 0-10 VDC / PWM
- Output 10 VDC max. 10 mA
- Output 20 VDC max. 50 mA
- Output for slave 0-10 V
- Input for sensor 0-10 V or 4-20 mA
- Operation and fault indicator
- Integrated PI controller
- Alarm relay
- Locked-rotor protection / Soft start
- Motor current limitation
- RS 485 MODBUS-RTU / PFC, passive
- Thermal overload protection for electronics/motor
- Undervoltage/phase failure detection
- External enable input / External 24 V input (parameterization)

---

### Terminal Connection Assignment/function

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Connection</th>
<th>Assignment/function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KL1</strong></td>
<td>PE</td>
<td>Protective earth</td>
</tr>
<tr>
<td></td>
<td>L1</td>
<td>Power supply, phase, see nameplate for voltage range</td>
</tr>
<tr>
<td></td>
<td>L2</td>
<td>Power supply, phase, see nameplate for voltage range</td>
</tr>
<tr>
<td></td>
<td>L3</td>
<td>Power supply, phase, see nameplate for voltage range</td>
</tr>
<tr>
<td></td>
<td>HZ</td>
<td>not used (optional: internal heating element)</td>
</tr>
<tr>
<td><strong>KL2</strong></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>Ain1 U</td>
<td>Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1; SELV</td>
</tr>
<tr>
<td></td>
<td>+10 V</td>
<td>Voltage output, power supply for external devices (e.g. potentiometers), SELV</td>
</tr>
<tr>
<td></td>
<td>Ain1 I</td>
<td>Analog input 1, set value: 4-20 mA, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1; SELV</td>
</tr>
<tr>
<td></td>
<td>Din 1</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; SELV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>reset function: triggers software reset after a level change to &lt; 1 VDC; SELV</td>
</tr>
<tr>
<td></td>
<td>Aout</td>
<td>Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV</td>
</tr>
<tr>
<td></td>
<td>Din 2</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>
</tr>
<tr>
<td></td>
<td>Din 3</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; 1 VDC; SELV</td>
</tr>
<tr>
<td></td>
<td>Ain2 U</td>
<td>Analog input 2, measured value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2; SELV</td>
</tr>
<tr>
<td></td>
<td>+20 V</td>
<td>Voltage output, power supply for external devices (e.g. sensors), SELV or: +24 VDC input for parameter setting via MODBUS without line voltage</td>
</tr>
<tr>
<td></td>
<td>Ain2 I</td>
<td>Analog input 2, measured value: 4-20 mA, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2 U; SELV</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></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>NC</td>
<td>Status relay, floating status contact, option 1: break for failure, option 2: break for run monitoring error message</td>
</tr>
</tbody>
</table>
ebm-papst FanScout
Click your way to the ideal RadiPac
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).
ebm-papst in Germany

ebm-papst Mulfteningen GmbH & Co. KG
Bachmühle 2
74673 Mulfteningen
GERMANY
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com

ebm-papst St. Georgen GmbH & Co. KG
Herrmann-Papst-Straße 1
78112 St. Georgen
GERMANY
Phone +49 7724 81-0
Fax +49 7724 81-1309
info2@de.ebmpapst.com

ebm-papst Landshut GmbH
Hofmark-Aich-Straße 25
84302 Landshut
GERMANY
Phone +49 871 707-0
Fax +49 871 707-465
info3@de.ebmpapst.com

Berlin
Dipl.-Ing. (TH) Jens Duchow
Händelstraße 7
16341 Panketal
GERMANY
Phone +49 30 944149-62
Fax +49 30 944149-63
Jens.Duchow@de.ebmpapst.com

Dortmund
Dipl.-Ing. (FH) Wolf-Jürgen Weber
Auf den Steinern 3
59519 Möhnesee-Völlingenhausen
GERMANY
Phone +49 2925 800-407
Fax +49 2925 800-408
Hans-Joachim.Pundt@de.ebmpapst.com

Frankfurt
Dipl.-Ing. Christian Kleffmann
Dr.-Hermann-Krause-Straße 23
63452 Hanau
GERMANY
Phone +49 6181 1898-12
Fax +49 6181 1898-13
Christian.Kleffmann@de.ebmpapst.com

Halle
Dipl.-Ing. (TU) Michael Hanning
Larchenek 4
06198 Salzatal / OT Lieskau
GERMANY
Phone +49 345 55124-56
Fax +49 345 55124-57
Michael.Hanning@de.ebmpapst.com

Hamburg
Ingenieurbüro Breueell GmbH
Ing. Dirk Kahl
Elektroingenieur
Oststraße 96
22844 Norderstedt
GERMANY
Phone +49 40 538092-19
Fax +49 40 538092-84
Kahl@breueell-hilgenfeldt.de

Heilbronn / Heidelberg
Dipl.-Ing. Mark Gartner
Geitweg 12
74199 Unterheinriet
GERMANY
Phone +49 7130 404569-1
Fax +49 7130 404569-2
Mark.Gartner@de.ebmpapst.com

Kassel
Dipl.-Ing. (FH) Ralph Brück
Hoferanstraße 3 b
35075 Gladenbach
GERMANY
Phone +49 6642 4071-10
Fax +49 6642 4071-11
Ralph.Breueck@de.ebmpapst.com

Koblenz
Winfried Scharfer
Hinter der Kirch 10
52767 Uersfeld
GERMANY
Phone +49 2657 16-96
Fax +49 2657 16-76
Winfried.Scharfer@de.ebmpapst.com

Munich
Dipl.-Wirt.-Ing. (FH) Jens Peter
Landsbergser Straße 14
86932 Fürsten
GERMANY
Phone +49 8196 99877-54
Fax +49 8196 99877-55
Jens.Peter@de.ebmpapst.com

Nuremberg
Dipl.-Wirt.-Ing. (FH) Axel Resch
Dr.-August-Koch-Str. 1
91639 Wolframs-Eschenbach
GERMANY
Phone +49 9875 9783-170
Fax +49 9875 9783-171
Axel.Resch@de.ebmpapst.com

Offenburg
Dipl.-Ing. (FH) Ralf Braun
Hubenweg 21
77704 Oberkirch
GERMANY
Phone +49 7802 9822-52
Fax +49 7802 9822-53
Ralf.Braun@de.ebmpapst.com

Stuttgart
Dipl.-Ing. (FH) Rudi Weinmann
Hindenburgstraße 100/1
73027 Plochingen
GERMANY
Phone +49 7153 9289-80
Fax +49 7153 9289-81
Rudi.Weinmann@de.ebmpapst.com

Distributors
Frankfurt
R.E.D. Handelsgesellschaft mbH
Gutenbergr Straße 3
63110 Rodgau - Jügesheim
GERMANY
Phone +49 6106 841-0
Fax +49 6106 841-111
info@red-elektromaschik.de
www.red-elektromaschik.de

Munich
A. Schweiger GmbH
Ohmstraße 1
82054 Sauerlach
GERMANY
Phone +49 8104 897-0
Fax +49 8104 897-90
info@schweiger-gmbh.de
www.schweiger-gmbh.com

Express Service-Center (1 to 5 pieces)

North
Breueell + Hilgenfeldt GmbH
Oststraße 96
22844 Norderstedt
GERMANY
Phone +49 40 538092-20
Fax +49 40 538092-84
info@breueell-hilgenfeldt.de

South
HDS Ventilatoren Vertriebs GmbH
Glaswiesenstraße 1
74677 Ditzbach
GERMANY
Phone +49 7937 80355-20
Fax +49 7937 80355-25
info@hds-gmbh.net
www.hds-gmbh.net
ebm-papst in Europe

Europe

Austria
ebm-papst Motoren & Ventilatoren GmbH
Straubingstraße 17
4030 Linz
AUSTRIA
Phone +43 732 321150-0
Fax +43 732 321150-20
info@at.ebmpapst.com
www.ebmpapst.at

Belarus
ebm-papst Bel AgmbH
House 6, Office 332
BY-22019 Minsk
BELARUS
Phone +375 17 2015216
Fax +375 17 2015216
info@by.ebmpapst.com
www.ebmpapst.by

Belgium
ebm-papst Benelux B.V.
Sales office Belgium-Luxembourg
Romeinsestraat 6/101
3001 Herve/Leuven
BELGIUM
Phone +32 16 396-200
Fax +32 16 396-220
info@be.ebmpapst.com
www.ebmpapst.be

Bulgaria
ebm-papst Romania P.L.
Str. Taranavei No. 20
50327 Brasso
ROMANIA
Phone +40 268 331859
Fax +40 268 312805
dudaslavovic@net.ro

croatia

Croatia
ebm-papst Industries Kft.
Erzeg u. 2
1044 Budapest
HUNGARY
Phone +36 1 8722-190
Fax +36 1 8722-194
office@hu.ebmpapst.com

Cyprus
Helcoma
E. Rota and Co. OE
Davaki 65
17872 Kallithea-Attiki
GREECE
Phone +30 210 9513-705
Fax +30 210 9513-480
contact@helcoma.gr
www.helcoma.gr

Czech Republic / Slovakia
ebm-papst CZ s.r.o.
Kaišťánová 34a
620 00 Brno
CZECH REPUBLIC
Phone +420 544 502-411
Fax +420 547 232-622
info@ebmpapst.cz
www.ebmpapst.cz

Denmark
ebm-papst Denmark ApS
Vallensbekvej 21
2605 Brendby
DENMARK
Phone +45 43 631111
Fax +45 43 630505
mail@dk.ebmpapst.com
www.ebmpapst.dk

Estonia
ebm-papst Oy, Eesti Filiaal
Kesk tee 21
Anuiku küla, Jürri Tehnopark
73301 Rae Vald, Harjumaa
ESTONIA
Phone +372 65569-78
www.ebmpapst.ee

Finland
ebm-papst Oy
Pustole 1
02760 Espoo
FINLAND
Phone +358 9 887022-0
Fax +358 9 887022-13
mailbox@ebmpapst.fi
www.ebmpapst.fi

France
ebm-papst sarl
Parc d’Activités Nord
1 rue Mohier – BP 62
67212 Obernai Cedex
FRANCE
Phone +33 3 88 68 03 00
info@ebmpapst.fr
www.ebmpapst.fr

Greece
Helcoma
E. Rota and Co. OE
Davaki 65
17872 Kallithea-Attiki
GREECE
Phone +30 210 9513-705
Fax +30 210 9513-480
contact@helcoma.gr
www.helcoma.gr

Hungary
ebm-papst Industries Kft.
Erzeg u. 2
1044 Budapest
HUNGARY
Phone +36 1 8722-190
Fax +36 1 8722-194
office@hu.ebmpapst.com

Iceland
RJ Engineers
Stangarhyl 1a
110 Reykjavik
ICELAND
Phone +354 567 8030
Fax +354 567 8015
rj@rj.is
www.rj.is

Ireland
ebm-papst UK Ltd.
Chelmsford Business Park
Chelmsford Essex CM2 5EZ
UNITED KINGDOM
Phone +44 1245 486555
Fax +44 1245 466336
sales@uk.ebmpapst.com
www.ebmpapst.co.uk

Aubren Limited
Portlaoise Business & Technology Park
Mountoath Road
Portlaoise, Co. Laois
IRELAND
Phone +353 57 8864343
Fax +353 57 8864346
sales@ie.aubren.com
www.aubren.com

Italy
ebm-papst Srl
Via Cornaggia 108
22076 Mozzate (Co)
ITALY
Phone +39 0331 836201
Fax +39 0331 821510
info@it.ebmpapst.com
www.ebmpapst.it

Technology

 agents

131
ebm-papst in America and Africa

America
- Argentina
  - ebm-papst de Argentina S.A.
  - Hernandarias 148 Lomas del Mirador
  - Pcia. de Buenos Aires (1752)
  - ARGENTINA
  - Phone +54 11 46576135
  - Fax +54 11 46572082
  - ventas@ar.ebmpapst.com
  - www.ebmpapst.com.ar
- Brazil
  - ebm-papst Motores Ventiladores Ltda.
  - Av. José Giorgi, 301 Galpões B6+B7
  - Condominio Logical Center
  - 06707-100 Cota - São Paulo
  - BRAZIL
  - Phone +55 11 4613-8700
  - Fax +55 11 4777-1456
  - vendas@br.ebmpapst.com
  - www.ebmpapst.com.br
- Canada
  - ebm-papst Canada Inc.
  - 1800 Ironstone Manor, Unit 2
  - Pickering, Ontario, L1W3J9
  - CANADA
  - Phone +1 905 420-3533
  - Fax +1 905 420-3772
  - sales@ca.ebmpapst.com
  - www.ebmpapst.com.ca
- Mexico
  - ebm Industrial S. de R.L. de C.V.
  - Paseo de Tamarindos 400-A, 4to Piso
  - Col. Bosques de las Lomas
  - Mexico 05120, D.F.
  - MEXICO
  - Phone +52 55 3300-5144
  - Fax +52 55 3300-5243
  - sales@mx.ebmpapst.com
  - www.ebmpapst.com.mx

USA
- ebm-papst Inc.
  - P.O. Box 4009
  - 100 Hyde Road
  - Farmington, CT 06034
  - UNITED STATES
  - Phone +1 860 674-1515
  - Fax +1 860 674-8536
  - sales@us.ebmpapst.com
  - www.ebmpapst.us
- ebm-papst Automotive & Drives, Inc.
  - 3200 Greenfield, Suite 130
  - Dearborn, MI 48120
  - UNITED STATES
  - Phone +1 313 406-8080
  - Fax +1 313 406-8081
  - automotive@us.ebmpapst.com
  - www.ebmpapst-automotive.us

Africa
- South Africa
  - ebm-papst South Africa (Pty) Ltd.
  - P.O. Box 3124
  - 1119 Yacht Avenue
  - 2040 Honeydew
  - SOUTH AFRICA
  - Phone +27 11 794-3434
  - Fax +27 11 794-5020
  - info@za.ebmpapst.com
  - www.ebmpapst.co.za
ebm-papst in Asia

China
ebm-papst Ventilator (Shanghai) Co., Ltd.
No. 418, Huajing Road
WaGaOiao Free Trade Zone
No. 2001, Yang Gao (N) Road
200131 Shanghai
P.R. of CHINA
Phone +86 21 5046-0183
Fax +86 21 5046-1119
sales@cn.ebmpapst.com
www.ebmpapst.com.cn

Hong Kong
ebm-papst Hong Kong Ltd.
Room 17E, MG Tower
133 Hoi Bun Road, Kwun Tong
Hong Kong
P.R. of CHINA
Phone +852 2145-8678
Fax +852 2145-7678
info@hk.ebmpapst.com

India
ebm-papst India Pvt. Ltd.
26/3, G.N.T. Road, Erukkencherry
Chennai-600118
INDIA
Phone +91 44 25372556
Fax +91 44 25371149
info@in.ebmpapst.com
www.ebmpapst.in

Indonesia
ebm-papst Indonesia
Representative Office
German Centre, 4th Floor, Suite 4470
Jl. Kapt. Subijono Dj., Bumi Serpong Damai
15221 Tangerang
INDONESIA
Phone +62 21 5376250
Fax +62 21 5388305
salesdept@id.ebmpapst.com

Israel
Polak Bros. Import Agencies Ltd.
9 Hamefasim Street
Kiryat Arba, Petach-Tikva 49514
ISRAEL
Phone +972 3 9100300
Fax +972 3 5796679
polak@polak.co.il
www.polak.co.il

Japan
ebm-papst Japan K.K.
Attend on Tower 13F
Shinnyokohama 2-8-12, Kohoku-ku
222-0033 Yokohama-City, Kanagawa
JAPAN
Phone +81 45 47057-51
Fax +81 45 47057-52
info@jp.ebmpapst.com
www.ebmpapst.jp

Korea
ebm-papst Korea Co. Ltd.
6F, Trutec Bldg.
12, WorldCupbuk-ro 56-gil
Mapo-Gu
SEOUL 03924
KOREA
Phone +82 2 366213-24
Fax +82 2 366213-26
info@kr.ebmpapst.com
www.ebmpapst.co.kr

Malaysia
ebm-papst Malaysia
Representative Office
No. 16-1, Jalan Putra Mahkota 7/5A
Putra Heights
Selangor Darul Ehsan
47880 Subang Jaya
MALAYSIA
Phone +60 3 5192-7688
Fax +60 3 5814-3078
salesdept@my.ebmpapst.com

Philippines
ebm-papst SEA Pte. Ltd.
Representative Office (Philippines)
ALPAP II Building
Trade Street Corner Investment Drive
Unit 1101 Madrigal Business Park
1799 Ayala Alabang / Muntinlupa City
Phone: +63 02 8042747
Fax: +63 02 8042757
salesdept@ph.ebmpapst.com

Singapore
ebm-papst SEA Pte. Ltd.
9 Tai Seng Drive
#03-01 Geo-Tele Centre, Lobby B
SINGAPORE 535227
SINGAPORE
Phone +65 65513789
Fax +65 68428439
salesdept@sg.ebmpapst.com

Taiwan
ETECO Engineering & Trading Corp.
10F-I, No. 92, Teh-Wei Str.
Tsuei-Linn District, Kaohsiung
TAINAN
Phone +866 7 557-4268
Fax +866 7 557-2788
eteco@ms22.hinet.net
www.ebmpapst.com.tw

Thailand
ebm-papst Thailand Co., Ltd.
99/9 Moo 2, Central Chiangwattana Tower
14th Floor, Room 1402
Chiangwattana Road Bangtarad, Paikret
11120 Nonthaburi
THAILAND
Phone +66 2 8353785-7
Fax +66 2 8353788
salesdept@th.ebmpapst.com

United Arab Emirates
ebm-papst Middle East FZE
PO Box 17755
Jebel Ali Free Zone / FZS1 / AP05
Dubai
UNITED ARAB EMIRATES
Phone +971 4 88698-26
Fax +971 4 88688-27
info@ae.ebmpapst.com
www.ebmpapst.ae

Vietnam
ebm-papst SEA Pte. Ltd.
Representative Office
Room 402, 4th Floor, Saigon 3 Building
140 Nguyen Van Thu Street
Dakao Ward, District 1
Ho Chi Minh City
VIETNAM
Phone +848 3910 4099
Fax +848 3910 3970
salesdept@vn.ebmpapst.com
Oceania

Australia
ebm-papst A&NZ Pty Ltd.
10 Oxford Road
Laverton North, Victoria, 3026
AUSTRALIA
Phone +61 3 9360-6400
Fax +61 3 9360-6464
sales@ebmpapst.com.au
www.ebmpapst.com.au

New Zealand
ebm-papst A&NZ Pty Ltd.
61 Hugo Johnston Drive, Unit H
Penrose 1061, Auckland
NEW ZEALAND
PO Box 112278,
Penrose 1642, Auckland
Phone +64 9 525-0245
Fax +64 9 525-0246
sales@ebmpapst.com.au
www.ebmpapst.com.au