Vehicle Generators
Panda Vehicle Generators

The water-cooled diesel generators from Fischer Panda are renowned worldwide for being innovative, reliable and extremely quiet. The product range includes more than two hundred generators from 2.5 kW to 200 kW.

Fischer Panda generators feature an effective water-cooling system and a lightweight compact construction. This has made Fischer Panda a leader in Europe for mobile super-silent diesel generators. These highly proven marine and vehicle generators supply power to electrical systems, drives and complete mobile energy systems.

Fischer Panda GmbH manufactures compact and quiet diesel generators for marine and vehicle applications. These are sold in more than sixty countries worldwide under the trade name “Fischer Panda”.

The company, based in Paderborn-Germany, was founded in 1977 under the name Icemaster GmbH and renamed as Fischer Panda GmbH in 2007.

Mobile and Stationary Applications

Designed for use in special and diverse areas of the vehicle industry, Fischer Panda generators are installed in the smallest and tightest places available. Fischer Panda generators can be found in numerous mobile applications worldwide.

Recreational
- Motorized RVs & Mobile Homes
- Expedition Vehicles
- Off Grid and Remote Sites

Touring
- Luxury Motor Coaches
- Limousine Coaches
- Holiday Homes

Communications
- Mobile Broadcasting
- Relay and Transmitter Sites
- Commercial Vehicles
Promotion
- Mobile Stages
- Trade Show Vehicles
- Formula 1 Team Vehicles

Emergency Services
- Command Centres
- Border Control & Customs
- Mobile Blood Donor Units

Specialist Services
- Environmental Monitoring
- Railway & Track Maintenance
- Tactical Shelters
Fischer Panda supplies installation kits with all the necessary
cables, hoses, connection pieces and accessories to ensure
that the system can be correctly installed inside the vehicle or
externally on the chassis. Specific hose and cable lengths are
available on request.

Custom services for special requirements
Fischer Panda offers extensive services for adapting generators
for use with special equipment and commercial applications.
This includes electro-magnetic hydraulic couplings for driving
mechanical-hydraulic pumps and also mounting slides to
provide access to the generator during servicing.

Powerful Energy Systems
Fischer Panda Generators form the backbone of our
intelligent and innovative solutions whether you are
upgrading an existing installation, connecting to another
system or ensuring you have sufficient energy when a land
power connection is not available. Read more about this in
the Fischer Panda Systems Brochure.
Global Service Directory

With a coordinated network of distributors, dealers and service stations, Fischer Panda has trained specialists and a worldwide dealer network ready to help, give advice and recommend the best service station depending on your location of your vehicle or yacht. They will also be able to organize and coordinate resources and parts so we can provide you with the best service, wherever you are. The Global Service Directory can be downloaded from the company website at: http://www.fischerpanda.de/globalservice

Service Kits

Fischer Panda Service Kits contain original parts which meet the required specifications and are suited for normal workshop servicing. Fischer Panda Service “Plus” Kits contain all the relevant spare parts for the first 600 hour service intervals. Service Plus kits are supplied in a handy waterproof plastic box so all the items are protected during storage. The Fischer Panda Installation Guide can be downloaded from the company website at: http://www.fischerpanda.de/installation

Fischer Panda SOS-24/7 Hotline

For urgent inquiries or generator failure outside our normal business hours, you can ring the Fischer Panda international switchboard on +49 5254 9202-767 (SOS on a key-operated telephone). Please leave your name, number and the purpose of your call on the answerphone/voice mail. This service is operated 24/7 by employees at Fischer Panda.
Super-Silent Sound Insulation System

The most significant advantage of all Fischer Panda generators is the low sound level. Many parts are required to work together to achieve this result. A flow of cooling air is not required inside the capsule, this also helps maintain constant ambient temperatures. An efficient water-cooling system requires that the radiator be installed separately from the generator.

Fischer Panda generators up to 25 kW are delivered with a fibreglass GFK sound insulation capsule with “3D” sound insulation material as standard (sound insulation material “4DS” is available as an option).

From 30 kW, the capsule is delivered as a stainless steel version MPL. Depending on the size of the generator, the MPL sound-insulation capsule consists of 6 to 11 parts. MPL capsules are also available (at an additional cost) for generators from 6 kW to 25 kW.

Various versions of sound insulation material are available:
3D: 3 layers, up to 25 mm thick
4DS: up to 5 layers, up to 40 mm thick
6DS: up to 6 layers, up to 60 mm thick

Water-cooled Exhaust Silencer

PVMV-N, PVK-U and PVK-UK generators (up to 25 kW) are fitted with an internal water-cooled exhaust silencer.

- Less space required for installation
- Water-cooled AC winding
- Can be installed in tight spaces
- Hermetically sealed capsule
- All connections pre-fitted on capsule
- Modular design ensures installation flexibility
- No appreciable warming of the installation area
- Super-silent sound insulation system
- Water-cooled silencer (up to 25 kW)
- No cooling air circulating within capsule
Using a Fischer Panda vehicle generator with a keel cooler is an alternative to seawater cooling for marine vessels. This eliminates the need for raw water pumps, strainers and an inboard heat exchanger.

Vehicle Installation: Roof-mounted radiator
The radiator must be installed where good access for fresh air circulation is guaranteed. The best location is horizontally on the roof of the vehicle. The radiator has an integrated expansion tank.

Vehicle Installation: Side-mounted radiator
A radiator can be fitted to the vehicle’s side when there is no space on the roof.

Vehicle Installation: Chassis-mounted
When sufficient clearance is available, the radiator may be mounted under the chassis. The air must be able to circulate correctly so warm air does not flow back over the radiator.

Marine Installation: Keel cooling
Using a Fischer Panda vehicle generator with a keel cooler is an alternative to seawater cooling for marine vessels. This eliminates the need for raw water pumps, strainers and an inboard heat exchanger.
High Performance Windings

AC Windings available in three versions to suit your needs:

- **Single-phase windings**

  The 230V 50Hz, (120/240V 60Hz) single phase windings are standard for generators up to 25kW. A three-phase version should be considered above 12 kW, as the Panda generator permits asymmetrical loads up to 50% per phase. A Hybrid Power System should also be taken into consideration (see page 12) for small to middle range on-board power systems.

- **Three-phase windings**

  The 400V AC 50 Hz, (208V 60 Hz) three-phase winding has the highest level of efficiency and the best qualities. This winding can also supply single-phase AC with the appropriate phase distribution. A three-phase generator should always be chosen above 25 kW (from Panda 30).

- **1-phase plus 3-phase (Panda “DVS” Dual Voltage System) Windings**

  The “DVS” Combined-Winding is a special version consisting both a single-phase and a 400V three-phase winding. **This version is only available from Fischer Panda and without additional cost.** Three-phase motors such as compressors can be used and a separate single-phase winding can supply the full nominal performance of the generator without “asymmetrical load problems” on a phase. This simplifies the electrical installation.

  Note: Generators with DVS windings supply only 85% of the nominal performance compared to those with just a single or three-phase winding.
Reliable and Durable: All the benefits of the asynchronous generator and more:

The Panda offers all the advantages of the classic asynchronous generator. The asynchronous generator delivers high standards regarding both operational security and life. Therefore, the asynchronous generator is often the preferred choice when a high degree of safety and reliability is demanded.

Fischer Panda warrants the rotor, often the most sensitive part of other generator systems, with a lifetime guarantee. Furthermore, the asynchronous generator continues to be the best suited for water-cooling as the copper winding is the only component that produces the heat via the stator. The electrical generator is warranted with a 5-year guarantee against corrosion.

- Basic Line: Panda Generators without electronic regulation

These Panda generators are ideal for those interested in a fair price. Basic Line generators are not fitted with electronic speed control. Other major parts: motor, generator, sound insulation casing, and water-cooling are identical to Premium Line models. The voltage tolerance lies within an acceptable range of ±8% (similar to a shore power connection).

- Premium (and HD) Line: Panda Generators with VCS Voltage Control

The Panda Premium Line generators (NE) have been fitted for many years with the tried and tested VCS (Voltage Control System). The engine speed is progressively controlled and the generator can achieve up to 15% more effective performance than a non-regulated generator. The VCS adjusts the voltage with a tolerance of ±3V in the range up to 80% of the nominal performance. Controlling the speed also has a positive effect on exhaust emissions. The VCS and capacitors, used for boosting the starting current, are usually fitted inside an external AC control box.

The next generation of compact, super-silent and powerful generators from Fischer Panda.

- iSeries Generators with variable speed technology

The new Panda iSeries generators are the first of the next generation of compact, super-silent and powerful generators from Fischer Panda.

Using modern diesel engines, which meet the latest emission standards, and variable speed technology, the operating speed can be adjusted to match the load to ensure efficiency while supplying extremely stable voltage and frequency.

The iSeries generators are fitted with a highly effective sound insulation and are water-cooled. The Panda iSeries generators have been especially designed to be light and compact.

- Overload protection
- Water-cooled
- Short-circuit stability
- Highest operating protection
- High protection rating
- Brushless
- Perfect sine wave
- No rotating coils
- No diodes
- Precise control
- No signal noise
- Highly efficient

- Modular design ensures installation flexibility
- Extremely stable voltage and frequency
- High starting capacity for air-conditioners
Monitoring and operation

Perfect Sine Wave

The Panda combines all the advantages of the asynchronous generator with the voltage control of a synchronous generator. Asynchronous Panda Generators supply a particularly clean sine wave which is essential for the smooth running of sensitive electronic devices such as air conditioners, charging devices, laser printers, etc. Generators in this category have achieved exceptional results in numerous tests.

Voltage Stability with patented Voltage Control System (VCS) tolerance ± 3V

For more than ten years, Fischer Panda generators have used the patented electronic Voltage Control System (VCS) for controlling the generator and engine. The engine speed is progressively controlled and the output voltage of the asynchronous generator is within a tolerance of ±3V.

Generator Signal Interface

The Generator Signal Interface (GSI) enables the Fischer Panda Generator to be connected into a power management and control network. Other devices such as programmable logic controllers (PLCs) can then be used to control and monitor the generator remotely. The potential-free contacts enable external applications to access the status signals from the generator. External applications can also start and stop the generator.
Panels for ease of use and operation

Fischer Panda panels allow the generator to be operated from another location within the vehicle. Options are available for connecting panels in parallel or with a slave panel. The generator can then be operated from two locations for even more flexibility. A panel can be installed in the cabin and another panel can be installed in the installation area. Important operating information is also displayed.

The standard version remote control panel (for models Panda 8000 and above) monitors the following functions:

- Engine coolant temperature
- Engine exhaust temperature
- Engine oil pressure
- Battery charging
- 230 Volt AC
- Coolant leakage (optional)

The generator switches itself off when any of these functions are not in the normal state. The standard remote control panel can be upgraded with an additional automatic module to enable the generator to be started (and stopped) by external devices such as timers.
Complete Program

Generators for all types of commercial and recreational vehicle applications

To provide you with an ideal power solution for your vehicle, different types of generators for providing on-board power are available:

**Hybrid AC Energy**

Fischer Panda battery charging generators produce direct current and generally function as part of a Hybrid Power System. Battery levels are monitored and automatically charged by the generator. An inverter supplies energy to the 230V consumers on-board. These systems are ideal for power demands that vary and do not require a generator to constantly run throughout the day.

**DC Generators**

Panda AGT-DC Hybrid Vehicle Battery Charging Generators

12V / 24V / 48V CC

(Other voltages request)

- Longer lifespan for generator
- Reduced maintenance costs
- Reduced environmental impact
- Reduced exhaust emissions
- Reduced fuel consumption
- Less noise on board & outside
- Longer battery life
- Smaller battery bank possible
- Up to 30% smaller and lighter
- Automatic start as standard (optional manual start)

**Battery Powered On-board Systems**

12V / 24 V / 48V CC

**Advanced Generator Technology (AGT)** only from Fischer Panda

**Compact Power**

Suites for typical power applications requiring continuous power and higher starting capabilities.

**Battery, Inverter**

Panda Basic Line Vehicle Asynchronous Generators without voltage control

Voltage tolerance ±8%

- 3000 rpm - 50 Hz - 230V
- 3000 rpm - 50 Hz - 400V
- 3600 rpm - 60 Hz - 120 / 240V
- 3600 rpm - 60 Hz - 208V AC

**Hybrid Power**

Hybrid AC Energy

- 3000 rpm - 50 Hz - 230V
- 3000 rpm - 50 Hz - 400V
- 3600 rpm - 60 Hz - 120 / 240V
- 3600 rpm - 60 Hz - 208V AC
**Fischer Panda AC Generators** are designed for continuous operation. They produce alternating current directly while running. Not only for operating domestic electrical appliances and electric cooking, they are the right choice for operating demanding consumers such as air-conditioning and compressors. They also produce a very clean sine wave, ideal for sensitive electronic equipment.

**Asynchronous Generators**

- **Panda Premium Line**
  - Asynchronous Vehicle Generators with voltage control
  - Voltage tolerance ±3V
  - 3000 rpm - 50 Hz - 230V
  - 3000 rpm - 50 Hz - 400V
  - 3600 rpm - 60 Hz - 120 / 240V
  - 3600 rpm - 60 Hz - 208V AC

- **Panda 1500/1800 rpm Series**
  - Asynchronous Vehicle Generators with voltage control
  - Voltage tolerance ±3V
  - 1500 rpm - 50 Hz - 230V
  - 1500 rpm - 50 Hz - 400V
  - 1800 rpm - 60 Hz - 120 / 240V
  - 1800 rpm - 60 Hz - 208V AC

**Inverter Generators**

- **Panda i-Series**
  - Vehicle Generators with variable speed technology
  - Voltage tolerance ±3V
  - 50 Hz - 230V
  - 50 Hz - 400V
  - variable speed - load dependent

**Power for Domestic Electrical Consumers**

- 230V / (120/240V) CA
Complete Program

Fischer Panda generators are available in different versions to suit your needs

Fischer Panda generators are of compact construction and highly suited for applications with limited space available. Generators are available for installation inside the vehicle and for mounting externally on the chassis. The modular versions PVMV-N, PVM-NE and PVK-U have been designed to be installed with an external radiator. The most effective cooling is usually achieved using a cooling system with a roof-mounted radiator.

Panda PVM-NE

The PVM-NE is the standard version for generators above 30 kW. The PVM-NE is similar to the PVMV-N with the exception that the silencer is not water-cooled and is externally mounted on the capsule.

The generator must be installed in a well-ventilated area because heat is absorbed by the silencer. An additional silencer is not necessary. The generator is housed within a sound insulation capsule.

- Suitable for internal installation
- Requires external radiator
- Easy to install

Panda PVMV-N

Vehicle generator with sound insulation capsule, integrated water-cooled vertically mounted pre-silencer and main silencer

- Easy to install
- Requires external radiator
- Suitable for keel cooling in ships
- Suitable for internal installation
- Best choice, when space and length available
- Complete water-cooled silencer inside capsule
- Glass-reinforced plastic (GRP) capsule is standard for models up to 12 kW
- Stainless steel capsule (MPL) for models from 15 kW and above

Panda PVK-U

Panda Vehicle Generator with internal water-cooled silencer for mounting externally on the vehicle chassis

This generator type is ideal for installing on trucks with limited space between axles. The heavy-duty housing is also suitable for expedition vehicles.

- Designed for external mounting
- Assembly bolts pre-fitted to housing
- Metal capsule with a heavy-duty cover
- Wide access hatch for easier access
- Water-cooled exhaust silencer inside capsule
- No additional exhaust silencer required
- Requires external radiator

Complete Program

Panda PVM-NE

The PVM-NE is the standard version for generators above 30 kW. The PVM-NE is similar to the PVMV-N with the exception that the silencer is not water-cooled and is externally mounted on the capsule.

The generator must be installed in a well-ventilated area because heat is absorbed by the silencer. An additional silencer is not necessary. The generator is housed within a sound insulation capsule.

- Suitable for internal installation
- Requires external radiator
- Easy to install

Panda PVMV-N

Vehicle generator with sound insulation capsule, integrated water-cooled vertically mounted pre-silencer and main silencer

- Easy to install
- Requires external radiator
- Suitable for keel cooling in ships
- Suitable for internal installation
- Best choice, when space and length available
- Complete water-cooled silencer inside capsule
- Glass-reinforced plastic (GRP) capsule is standard for models up to 12 kW
- Stainless steel capsule (MPL) for models from 15 kW and above

Panda PVK-U

Panda Vehicle Generator with internal water-cooled silencer for mounting externally on the vehicle chassis

This generator type is ideal for installing on trucks with limited space between axles. The heavy-duty housing is also suitable for expedition vehicles.

- Designed for external mounting
- Assembly bolts pre-fitted to housing
- Metal capsule with a heavy-duty cover
- Wide access hatch for easier access
- Water-cooled exhaust silencer inside capsule
- No additional exhaust silencer required
- Requires external radiator
Panda PVK-UK

Panda Vehicle Generator “Compact Construction” with integrated cooling system for mounting externally on the vehicle chassis.

- Designed for external mounting
- Assembly bolts pre-fitted to housing
- Metal capsule with a heavy-duty cover
- Wide access hatch for easier access
- Sound insulation capsule
- Water-cooled exhaust silencer inside capsule
- No additional exhaust silencer required
- Integrated radiator and cooling system

Panda PSC

Panda Self-Contained generators are complete “turnkey” units fitted with an integrated cooling system, fuel tank and electrical cabinet.

- Integrated fuel tank
- Vertically or horizontally mounted radiator
- Suitable for external mounting
- Sound insulation capsule
- Water-cooled exhaust silencer inside capsule
- No additional exhaust silencer required
- Integrated radiator and cooling system
Technical Data for Fischer Panda Vehicle Generators

iSeries - Inverter Line
Fischer Panda Series generators take full advantage of modern diesel engines designed to run at lower speeds and meet current emission standards. Engine speed is adjusted according to the electrical load which makes it economical to run. These generators are ideal for powering varying load profiles.

Basic Line Versions
Fischer Panda “Basic Line” version generators are ideal for the price-conscious customer. The generators are not fitted with an electronic speed control. Voltage tolerance lies within an acceptable range of ±8% which is similar to a land power connection. Major parts: engine, generator, sound enclosure casing and water-cooling are identical to the NE models.

Premium Line Versions
These asynchronous generator are fitted with the Panda Voltage Control System (VCS) which progressively controls the engine speed. This has an enormously positive effect on the exhaust emissions and the generator achieves up to 15% more effective performance than other non-controlled generators. The VCS adjusts the voltage with a tolerance of ±3V in the range up to 80% of the nominal performance. The VCS and the capacitors (used for boosting the starting current) are fitted in an external AC control box for the standard versions of Panda NE generators up to Panda 18NE.

For asynchronous generators (up to and including Panda 15000), the KVA is calculated with Cos Phi 0.85 for a short starting performance of inductive consumers. Otherwise it should be calculated with factor 1.0. Generators above and including Panda 16 are calculated with an optional start performance with compensation or starting current booster, otherwise it should be calculated with a factor of 1.

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### Inverter Line - Panda Generators with variable speed technology

<table>
<thead>
<tr>
<th>Model / Type</th>
<th>Performance (kW)</th>
<th>Voltage (V)</th>
<th>Engine Revolutions (rpm)</th>
<th>Voltage Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panda 5000i</td>
<td>0.4 5</td>
<td>±3V</td>
<td>1500</td>
<td>Kubota EA300</td>
</tr>
<tr>
<td>Panda 8000i</td>
<td>0.6 8</td>
<td>±3V</td>
<td>1500</td>
<td>Z482 479</td>
</tr>
<tr>
<td>Panda 10000i</td>
<td>0.8 10</td>
<td>±3V</td>
<td>1500</td>
<td>Z602 599</td>
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<tr>
<td>Panda 15000i</td>
<td>1.2 15</td>
<td>±3V</td>
<td>1500</td>
<td>D902 898</td>
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</table>

### Basic Line Generators - 3000 rpm - 50 Hz Panda Vehicle Generators without electronic regulation

<table>
<thead>
<tr>
<th>Model / Type</th>
<th>Performance (kW)</th>
<th>Voltage (V)</th>
<th>Engine Revolutions (rpm)</th>
<th>Voltage Tolerance</th>
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<tr>
<td>Panda 4.5 ND</td>
<td>3.8 4.5</td>
<td>±8 %</td>
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<td>Farymann 18W430</td>
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### Premium Line Panda NE Generators - 3000 rpm - 50 Hz Panda Vehicle Generators with VCS Voltage Control System

<table>
<thead>
<tr>
<th>Model / Type</th>
<th>Performance (kW)</th>
<th>Voltage (V)</th>
<th>Engine Revolutions (rpm)</th>
<th>Voltage Tolerance</th>
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</thead>
<tbody>
<tr>
<td>Panda 8000</td>
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<td>±3V</td>
<td>1500</td>
<td>Kubota Z482 479</td>
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<tr>
<td>Panda 10000</td>
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<td>±3V</td>
<td>1500</td>
<td>Z602 599</td>
</tr>
<tr>
<td>Panda 12000</td>
<td>10.2 12.0</td>
<td>±3V</td>
<td>1500</td>
<td>D722 719</td>
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<tr>
<td>Panda 15000</td>
<td>12.7 15.0</td>
<td>±3V</td>
<td>1500</td>
<td>D902 898</td>
</tr>
<tr>
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<td>15.3 18.0</td>
<td>±3V</td>
<td>1500</td>
<td>D1105 1123</td>
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<tr>
<td>Panda 24</td>
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<td>1500</td>
<td>V1505 1498</td>
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### Panda HD - 1500 rpm - 50 Hz Panda Vehicle Heavy Duty Generators with VCS Voltage Control System

<table>
<thead>
<tr>
<th>Model / Type</th>
<th>Performance (kW)</th>
<th>Voltage (V)</th>
<th>Engine Revolutions (rpm)</th>
<th>Voltage Tolerance</th>
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</thead>
<tbody>
<tr>
<td>Panda 7.5-4</td>
<td>6.5 7.6</td>
<td>±3V</td>
<td>1500</td>
<td>Kubota D1105 1123</td>
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<td>Panda 9-4</td>
<td>8.0 9.4</td>
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<td>1500</td>
<td>D1105 1123</td>
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<tr>
<td>Panda 12-4</td>
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<td>±3V</td>
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<td>V2203 2197</td>
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<td>Panda 22-4</td>
<td>18.6 21.9</td>
<td>±3V</td>
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<td>V2403 2434</td>
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<td>Panda 30-4</td>
<td>25.0 29.4</td>
<td>±3V</td>
<td>1500</td>
<td>Mitsubishi MI 545</td>
</tr>
<tr>
<td>Panda 40-4</td>
<td>35.0 41.1</td>
<td>±3V</td>
<td>1500</td>
<td>Mitsubishi MI 545DT</td>
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<tr>
<td>Panda 50-4</td>
<td>40.0 47.0</td>
<td>±3V</td>
<td>1500</td>
<td>JCB NA.47 4399</td>
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<tr>
<td>Panda 60-4</td>
<td>50.0 59.0</td>
<td>±3V</td>
<td>1500</td>
<td>Deutz BF4M1012C</td>
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<tr>
<td>Panda 70-4</td>
<td>61.0 72.0</td>
<td>±3V</td>
<td>1500</td>
<td>Deutz BF4M1013E</td>
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<td>Panda 85-4</td>
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<td>1500</td>
<td>Deutz BF4M1013E</td>
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<td>Panda 110-4</td>
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<td>±3V</td>
<td>1500</td>
<td>Deutz BF6M1013E</td>
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<td>Panda 130-4</td>
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<td>±3V</td>
<td>1500</td>
<td>Deutz BF6M1013E</td>
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### AGT-DC Battery Charging Generators with VCS Voltage Control System

<table>
<thead>
<tr>
<th>Generator with sound insulation capsule</th>
<th>Nominal Performance (kW)</th>
<th>Continuous Performance (kW)</th>
<th>Nominal voltage (DC)</th>
<th>Engine Revolutions (rpm)</th>
<th>Voltage Tolerance</th>
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</thead>
<tbody>
<tr>
<td>AGT-DC 4000-12V</td>
<td>4 3.2</td>
<td>12 220</td>
<td>2400-3000</td>
<td>±3V</td>
<td>Kubota EA300 309 1 55/65/69</td>
</tr>
<tr>
<td>AGT-DC 4000-24V</td>
<td>4 3.2</td>
<td>24 110</td>
<td>2400-3000</td>
<td>±3V</td>
<td>Kubota EA300 309 1 55/65/69</td>
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<td>AGT-DC 5000-12V</td>
<td>4.5 3.6</td>
<td>12 250</td>
<td>1800-2200</td>
<td>±3V</td>
<td>Z482 479 2 55/65/69</td>
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<tr>
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<td>(kVA*)</td>
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<td>Voltage Tolerance</td>
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### Komplette Programm um Komplettanlagen (Kühlung)

#### Approximate Dimensions (L x B x H) mm

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<th>Randa 15000</th>
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<th>Randa 15000</th>
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#### RD-D: DC Roof mounted radiators

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#### RV-D: Side-/underneath (chassis mounted) radiators DC

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#### RV-A: Side mounted Radiators AC

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<td>RV-D: Side-/underneath (chassis mounted) radiators DC</td>
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**Approximate Dimensions**

- **(L x B x H) mm**
- **Weight (dry) kg**
- **Panda 4,5 ND**
- **Panda 5000i**
- **Panda 8000i**
- **Panda 10000i**
- **Panda 15000i**
- **Panda 8000**
- **Panda 10000**
- **Panda 12000**
- **Panda 15000**
- **Panda 18**
- **Panda 24**
- **Panda 30**
- **Panda 40**
- **Panda 60**
- **Panda 75**
- **Panda 100**
- **Panda 7,5-4**
- **Panda 9-4**
- **Panda 12-4**
- **Panda 17-4**
- **Panda 22-4**
- **Panda 30-4**
- **Panda 40-4**
- **Panda 50-4**
- **Panda 60-4**
- **Panda 70-4**
- **Panda 85-4**
- **Panda 110-4**
- **Panda 130-4**
- **Panda 190-4**

**Expansion Tank**

**Fan Controller**

**RV3.2**

**RV13.160**
Power for Rail and Locomotive

Generators for Railway Applications

- Auxiliary power and charging
- Maintenance wagon equipment
- Accommodation carriage systems

Fischer Panda Generators are installed on a variety of railway applications providing battery charging for the locomotives, powering equipment used by maintenance wagons or supplying power to accommodation carriages.

Generators provide power to each of four accommodation carriages on board the luxury Danube Express, supplying electrical systems for air-conditioning, en suite showers and cabin lighting. The quiet supply of power is also of importance during overnight stops in cities that restrict the operation of locomotive engines at night because of noise levels.

The generators are also used as auxiliary power sources supplying power for tasks that would usually be driven by idling the locomotive’s engine such as cabin heating or preventing cooling systems from freezing in winter weather. AC generators are also used on maintenance wagons to power tools, compressors, pumps and floodlighting during track repair & replacement.

The generator’s low profile is ideal for mounting externally underneath the wagon. The heavy-duty sound shield provides additional protection if the generator is installed externally.
Power for Isolated & Unmanned Applications

Ideal for remote communication and monitoring

- Fully automatic operation and monitoring
- Extremely long service interval (up to 1500 hours)
- Hybrid Systems: combine with battery, solar and wind power

Fischer Panda generators are ideal for remote communication and monitoring sites. Their compact and robust design makes them suitable for operating in remote areas and exposed locations. These sites are often unmanned and operate for prolonged periods, requiring only routine maintenance schedules and refueling.

Fischer Panda Hybrid-DC generators provide powerful battery charging capabilities and can be integrated with wind and solar-based systems. The generator starts and stops automatically when the battery banks require recharging.

Fischer Panda AC generators are especially suited for applications which require even more continuous power such as providing extra coverage at large events. The iSeries generators with iControl are designed to allow longer periods between maintenance schedules when operating with lower loads.

Options and services are available to meet individual specifications and requirements. The generators are designed to be connected to an external fuel source within a container-based system. Generators with integrated fuel tank and electrical distribution are available on request.

Even when the unit is completely submerged under drifting snow, the raised exhaust and air intakes allow the generator to continue operating.

This 12kW Panda, inside a mobile GSM station from Czech company Meico Systems, carried out 24-hour operational periods for over one and a half years. The unit operated for more than 19,960 hours; stopping only for routine servicing and minor repairs.
Fischer Panda generators are ideal for supplying power to off-grid or remotely located buildings such as mountain hostels, weekend homes or even alpine huts. The generator’s low space requirements and compact construction is suited to these buildings where space is limited. Effective sound shielding reduces operating noise and low vibrations. The generator is easy to operate using a panel which also features an automatic start.

Power is available for larger consumers including electric cooking, boilers and even air-conditioning. Guests can also enjoy the comfort of being able to use domestic consumer appliances such as hair dryers and coffee makers.

The generator can also be used to form an effective Combined Heat and Power system (CHP) system that uses heat from the exhaust and radiator to supply the water-heating system while the generator is running. The system’s overall efficiency is increased. Fuel supply may be an important factor in remote locations. Options for using alternative fuels are available on request. A higher degree of efficiency can be achieved if used in a hybrid system with battery, solar and wind power.
Power for Utility-Connected Homes

iSeries BHKWs with Inverter Technology

- Increase supply safety with “Islanding” option
- Grid-feeding capabilities
- Alternative fuels available on request

The new iSeries BHKWs (Combined Heating and Power Units) are the latest range of compact, quiet and powerful Fischer Panda generators designed for co-generation applications. These offer both feed-in (supplying unused energy in the grid) and islanding (for backup operations or applications without grid connection).

Utilizing the independent (variable) operating speed of the engine, grid supply is achieved using inverter technology. Electrical grids are supplied by solar photovoltaic (PV) installations in the same way.

Typically, most co-generation units without inverter technology use fixed-speed engines. These are set to operate either at 3000 rpm (2-pole) or 1500 rpm (4-pole) whereas the speed of the Fischer Panda iSeries BHKWs can vary and output optimally matched to the engine.

If the grid fails, an “Islanding Inverter” is optionally available that secures the supply for continuous operation. This provides greater safety and independence from grid failure coupled with the latest grid feed technology.
Disclaimer:
The information contained here is to the best of our knowledge accurate at the date of publication. Please note that the data in this publication reflects the technical state at time of print. Dimensions apply for the sound insulation capsule only and do not include latches, fittings, etc. Additional room will need to be calculated for installation to include hoses, cables and capsule mountings. Additional components or alternators may also affect capsule dimensions. Due to our policy of continual product development, we reserve the right to alter technical specifications without notice. All performance data relates to air and water temperatures of 20°C. Performance reduction (approx. 1% per 100m height and approx 2% per 5°C air temperature and approx. 1% per 1°C water temperature above 20°C).

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