مركز البراغي والعدد
BOLTS & TOOLS CENTER

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2015 / 2016

Marine Generators

Fischer Panda®

Power wherever you are™

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Power - wherever you are

Fischer Panda marine generators

Professional solutions

System components

Fischer Panda Plus

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Power - wherever you are

You will always have sufficient power with a Fischer Panda generator onboard

- Generator Systems from 3 kW to 200 kW
- Worldwide partners near you
- Very low vibration and quiet installations

- Up to 40 % weight and 60 % space savings possible
- Parallel operation with multiple generators
- Integration with ship‘s main control systems

Fischer Panda GmbH manufactures compact and quiet diesel generators for marine and vehicle applications. These are sold in over 80 countries worldwide under the trade name “Fischer Panda”.

The water-cooled diesel generators from Fischer Panda are renowned worldwide for being innovative, reliable and extremely quiet. The product range includes over two hundred different generators for performance ranges up to 200 kW

Fischer Panda generators feature an effective water-cooling system and a lightweight compact construction. This ensures Fischer Panda generators is one of the leaders for mobile super-silent diesel generators. These highly-proven marine and vehicle generators supply power to on-board electrical systems, electric drives and complete mobile energy systems.

Company Headquarters in Paderborn, Germany

Worldwide distributors and partners

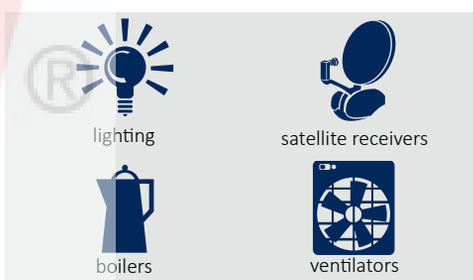
Our worldwide distributors and partners are able to help you to choose the best generator for your requirements.

High performance generators

AC Windings available in three versions to suit your needs:

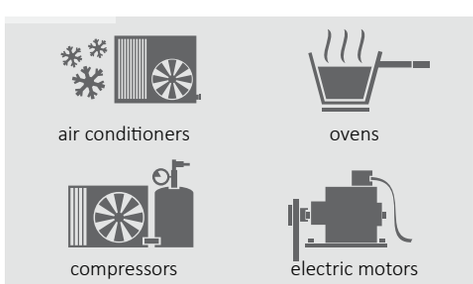
Single-phase windings

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.



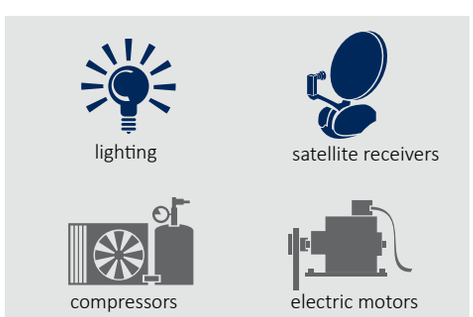
Three-phase windings

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 of 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.



Perfect Power

Generators with variable speed technology

The Panda iSeries generators have been especially designed to be compact, quiet and powerful- with up to 30% weight and space savings! They are ideal for superyacht owners looking for a night generator with low operating sound levels and vibrations. The generators are characterised by their modern, innovative and environmentally friendly inverter technology. The generators can be connected in parallel without any additional cables and synchronised.

The speed of the diesel engine is adjusted according to the user's changing power requirements while the output voltage always remains constant from the inverter. Variable speed control considerably reduces exhaust emissions and fuel consumption in comparison with a traditional generator with a fixed speed. The maximum speed of the engine is 2800 RPM. The electric load is provided with a constant output voltage of 230V/50Hz or 400V/50Hz via an inverter.

- Highly efficient- maximum energy
- Variable speed- load-dependent
- Meets latest emission standards

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

Compact Power

Basic and Premium generators - All the benefits of the asynchronous generator and more:

Basic Line: Fischer Panda generators without electronic regulation

These Panda generators are ideal for those interested in a favourable 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: Fischer 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.

Reliable and durable

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.

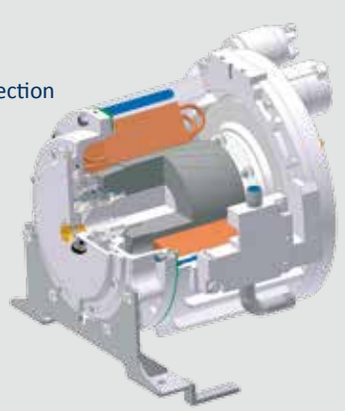
Fischer Panda warrants the rotor, often the most sensitive part of other generator systems, with a lifetime guarantee. Furthermore, the asynchronous generator continues to be the best suited for water-cooling as the copper winding is the only component that produces the heat via the stator. The electrical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

- 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



Super-silent sound insulation system

Compact and lightweight design - quiet operation

- Less space required for installation
- Can be installed anywhere on-board
- Generator can be fitted in centre of gravity

- Hermetically sealed capsule
- All connections pre-fitted on capsule

Panda Marine generators up to 25 kW are delivered with a GFK sound insulation capsule with "3D" sound insulation material as standard. An optional sound insulation material ("4DS") is also available on request.

For generators from 25 kW and above, the capsule is delivered as a stainless steel-version "Metal-Professional Line" (MPL). The MPL sound insulation casing consists of 6-11 parts (depending on the size of the generator) which makes it easier to dismantle and access all areas within. The MPL capsules are also available at an extra cost for generators from 6 kW to 25 kW.

The sound insulation material is available in three different versions depending on application requirements:

"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 (only for MPL)

GFK Sound insulation capsule is standard for generators up to 25 kW.

Stainless steel sound-insulation capsule "MPL" for generators from 25 kW.

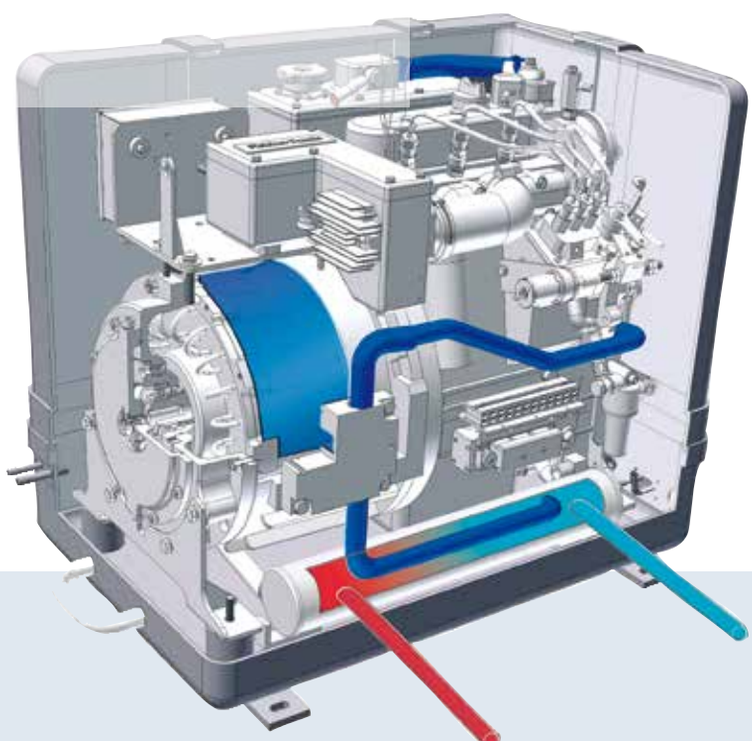
Water-cooling for engine and generator

Performance stability through dual-circuit cooling

- Water-cooled windings
- Dual-circuit cooling
- No appreciable warming of engine room

Fischer Panda has manufactured more than 20,000 marine generators since 1988 with this technology. One of the reasons for the superior efficiency of Panda generators is the very effective cooling system, it ensures that the temperatures inside the sound insulation capsule remain within an acceptable range even in tropical conditions at the same time achieving the best possible sound insulation as free-flowing cooling air is not required.

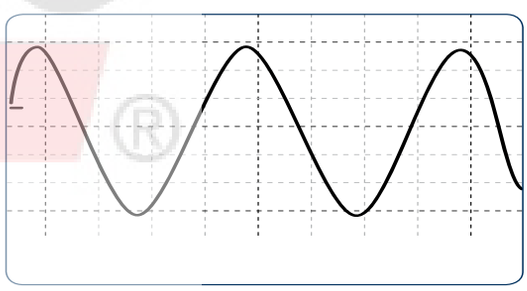
Seawater with high salt content and tropical temperatures increase the danger that metal can be affected by galvanic corrosion (Electrolysis). Even a very small current can have a destructive effect. To prevent this, Fischer Panda uses dual-circuit cooling for generator and engine on all Panda generators from 3.2 kW upwards. The engine and generator are cooled by freshwater. Seawater only comes into contact with the heat exchanger, which is manufactured from a high quality alloy (CuNi10Fe).



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 and have achieved the best results during numerous tests in this category. This is essential for the smooth running of sensitive electronic devices such as air conditioners, charging devices, laser printers etc.



The outstanding sine wave of the Fischer Panda Generator

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

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

The patented Voltage Control System (VCS) from Fischer Panda

Generator Signal Interface

The Generator Signal Interface (GSI) control module enables the Fischer Panda Generator to be connected into a power management and control network. The generator can then be controlled and monitored remotely using other devices such as programmable logic controllers (PLCs). The potential-free contacts of the module enable external applications to access the status signals from the generator and even start and stop the generator.

Generator Signal Interface (GSI) for Fischer Panda generators

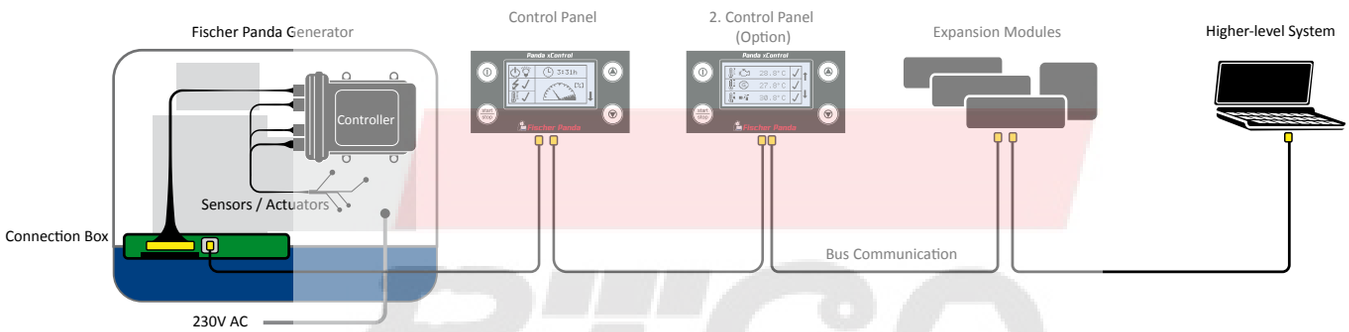
r control

Innovative, flexible and reliable – these are the attributes of the new "xControl" generator control from Fischer Panda.

In the age of modern data communications and energy systems, it is more and more important that the generator is able to integrate with an existing control and regulation systems. With the "xControl", Fischer Panda offers an extremely powerful and user-friendly generator control system:

- "Plug & Play" - reduced installation effort
- Modular system - easy to expand
- Logging and display of operational data- complete control at all times
- Comprehensive event logging - long term service
- Digital panel - easy to use and multilingual
- Communications interface - integration in other control systems
- Self-test of all functions - safe and reliable system
- Automatic start - remote control of generator
- Fast control - stable energy supply

This digital control replaces the current VCS control and the P6+ panel in use on Fischer Panda asynchronous generators



Fischer Panda panels for ease of use and operation

Fischer Panda panels allow the generator to be operated from another location onboard. Important operating information is displayed. Options are available for connecting panels in parallel or with a slave panel. The generator can then be operated from multiple locations for even more flexibility. A panel can be installed in the cabin and another panel can be installed on the flybridge or in the engine room.

Remote control panel for Panda 4500

iControl panel for i-Series generators

Panel for AGT-DC generators

The standard version remote control panel (for models Panda 6000 and upwards) monitors the following functions:

- Engine coolant temperature
- Engine exhaust temperature
- Engine oil pressure
- Battery charging
- 230 Volt AC
- Cooling-water 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.

Generator control panel for Panda 6000 and above

Professional solutions

A complete program for all recreational and commercial marine applications

In order to provide you with an optimal power solution for your ship or yacht, we offer different types of generators for providing on-board power:

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 typically varying power demands which do not require a generator to constantly run throughout the day.

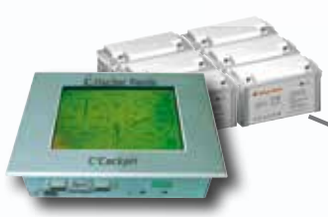
DC Generators

Motion Power

Generators for Whisperprop Drive Systems - designed for providing continuous crusing at higher speeds.

Panda AGT-DE Motion™ Generators for Drive Systems

12 V / 24 V / 48 V DC
(Details see Whisperprop Brochure)



C³Cockpit

Hybrid Power

Powerful battery-charging generators. Ideal for battery systems which may be required to power larger consumers for short periods during the day

Panda AGT-DC Generators for Battery Charging

12 V / 24 V / 48 V)
(other voltages request)

Battery
12 / 24 / 48 V DC

Inverter

Synchronous Generators

Eco Power

Entry level generators for powerful motor-starting capability with easier installation

Panda s-Series Marine Synchronous Generators

3000 rpm- 50 Hz- 230V

Drive Systems

Fischer Panda Drives
48 V / 288 V DC

Battery Powered On-board Systems

12 V / 24 V / 48 V DC

AC direct

Fischer Panda AC Generators are designed for continual operation. They produce alternating current directly while running. Not only for operating domestic electrical appliances and electric cooking, they are the best choice for operating demanding consumers such as **air conditioning and diving compressors.** They also produce an extremely clean sine wave for sensitive electronic equipment.

Asynchronous Generators

Compact Power

For typical power applications requiring continuous power and high starting capabilities.

Panda Basic Line Marine Asynchronous Generators without voltage control
Voltage tolerance ±8%

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

For applications requiring continuous power and high starting capabilities with a very stable voltage supply

Panda Premium Line Asynchronous Marine Generators with voltage control
Voltage tolerance ±3V

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

Suited for heavier commercial applications with long life spans

Panda 1500/1800 rpm Series Asynchronous Marine Generators with voltage control
Voltage tolerance ±3V

1500 rpm- 50 Hz- 230 V
1500 rpm- 50 Hz- 400 V
1800 rpm- 60 Hz- 120 / 240 V
1800 rpm- 60 Hz- 208 V AC

Inverter Generators

Perfect Power

Generators with variable speed for lower fuel consumption, quieter operation and reduced exhaust emissions

Panda i-Series Marine Generators with variable speed technology

50 Hz- 230 V
50 Hz- 400 V
60 Hz- 120 V

variable speed- load dependent

Power for Domestic Electrical Consumers






230 V / (120 V / 240 V) AC

Up to 6 kW power requirements

“With up to 6kW, you do not need to worry about returning early to recharge your batteries”

					Hybrid Power
					DC Series
Model		AGT-DC 4000-12V PMS	AGT-DC 4000-24V PMS	AGT-DC 5000-12V PMS	AGT-DC 6000-24V PMS
Nominal Performance [1]	kW	4	4	5.0	6.0
Continuous Performance [1]	kW	3.2	3.2	4.0	4.8
Nominal Voltage	DC	12	24	12	24
Constant Current Rate	A	220	110	250	170
Peak Current Rate	A	280	140	280	210
Engine Speed	rpm	2400-3000	2400-3000	1800-2200	2400-3200
Voltage Tolerance					
Cooling Circuits		2	2	2	2
Sound Insulation		3D	3D	3D	3D
Capsule Type		GFK	GFK	GFK	GFK
Engine Manufacturer		Kubota	Kubota	Kubota	Kubota
Engine Type		EA300	EA300	Z482	Z482
Engine Displacement	cm^3	309	309	479	479
Number of Cylinders		1	1	2	2
Sound Level 7m/3m/1m	dbA	54/64/68	54/64/68	53/63/68	53/63/68
Approx. Capsule Dimensions excl. fittings LxBxH	mm	598 398 410	598 398 410	560 510 584	560 510 584
Approx. Weight incl. Capsule	kg	90	90	139	139

The data in this publication reflects the technical state at time of print. Due to our policy of continual product development, we reserve the right to alter technical specifications without notice. Dimensions apply for the sound insulation capsule only and do not include latches, fittings etc. Additional room will need to be calculated for the installation to include hoses, cables and capsule mountings.

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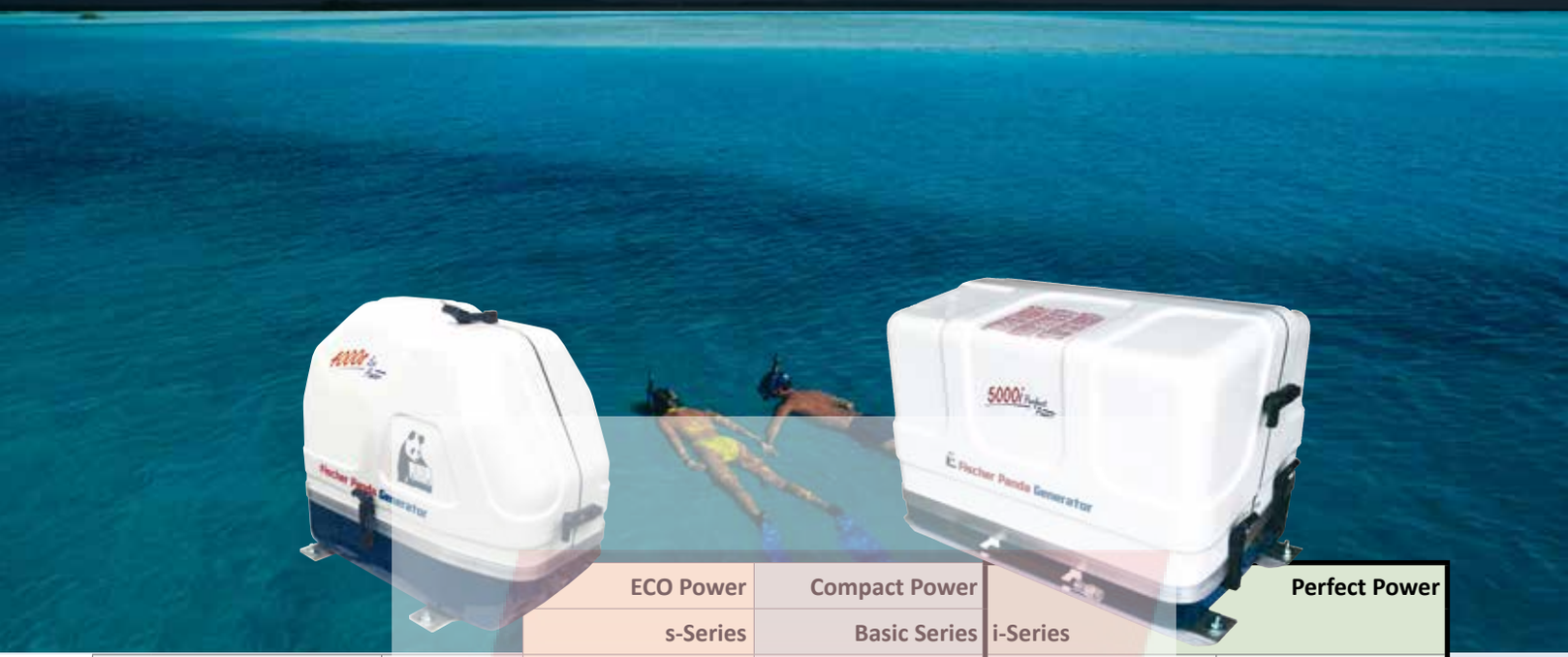
[1]The performance of an AGT-DC generator must be limited to the constant performance when batteries are used.

Up to 6 kW power requirements



			ECO Power	Compact Power		Perfect Power
			s-Series	Basic Series	i-Series	
Model			Panda 4000s FC PMS	Panda 4200 PMS	Panda 4800i PMS	Panda 5000i PMS
Nominal Performance*)	**230V** 1-phase 50 Hz	kW	3.8 kW		0-3.8	0-4.0
		kVA	4.5 kW		0-4.8	0-5.0
	400V 3-phase 50 Hz	kW				
		kVA				
	230/400V 1- plus 3-phase 50Hz	kW (1-ph.)				
		kW (3-ph.)				
	120V / 240V 1-phase 60 Hz	kW		3.8		0-4.0
		kVA		4.5		0-5.0
	208V 3-phase 60 Hz	kW		3.8		
		kVA		4.5		
Engine Speed		rpm	3000	3600	2200- 2800	2200- 2800
Voltage Tolerance			±5%	±3V	± 3%	± 3%
Cooling Circuits			2	2	2	2
Sound Insulation			3D	3D	3D	3D
Capsule Type			GFK	GFK	GFK	GFK
Engine Manufacturer			Farymann	Farymann	Farymann	Kubota
Engine Type			18W430	18W430	18W430	EA 300
Engine Displacement		cm^3	298	298	298	309
Number of Cylinders			1	1	1	1
Sound Level 7m/3m/1m		dbA	54/64/69	54/64/68	54/64/68	54/64/68
Approx. Capsule Dimensions excl. fittings LxBxH		mm	580 370 545	520 365 525	580 370 545	595 390 410
Approx. Weight incl. Capsule		kg	97	110	97 + Inverter 7.9	79 + Inverter 7.9

NOTE: *) For inverter generators: performance is calculated with a cosPhi factor = 0,8 up to 40°C ambient temperature, otherwise calculate with a factor 1 up to 50°C. Dimensions and weights are approximate values only. Please confirm current dimensions and weights when ordering. For asynchronous generators up to and including P15000: the KVA is calculated with cosPhi = 0.85 for a short starting performance of inductive consumers. Otherwise it should be calculated with a factor of 1. Generators above and including P15000 with asynchronous starting performance with compensation or starting-current booster are calculated with cosPhi = 0.85 otherwise it should be calculated with a factor of 1.

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6-12 kW Power Requirements

“Perfect for starting a diving compressor or a 24.000 BTU air conditioner”

		Hybrid Power DC Series					Basic Series
ModelModel		AGT-DC 8000-24V PMS	AGT-DC 10000 PMS	AGT-DC 11000 PMS	Model		Panda 6500 PMS
Nominal Performance [1]	kW	8.0			Nominal Performance *) 230V 1-phase 50 Hz	kW	
Continuous Performance [1]	kW	6.4	9.1	10.9		kVA	
Nominal Voltage	DC	24	24V- 400V versions available. Current dependent upon voltage		400V 3-phase 50 Hz	kW	
Constant Current Rate	A	220				kVA	
Peak Current Rate	A	280			230/400V 1- plus 3-phase 50Hz	kW (1-ph.)	
						kW (3-ph.)	
					120V / 240V 1-phase 60 Hz	kW	7.0
						kVA	7.0
					208V 3-phase 60 Hz	kW	7.0
						kVA	7.0
Engine Speed	rpm	2200-2600	2300-2900	2300-2900	Engine Speed	rpm	3600
Voltage Tolerance					Voltage Tolerance		±8 %
Cooling Circuits		2	2	2	Cooling Circuits		2
Sound Insulation		GFK	GFK	GFK	Sound Insulation		GFK
Capsule Type		3D	3D	3D	Capsule Type		3D
Engine Manufacturer		Kubota	Kubota	Kubota	Engine Manufacturer		Kubota
Engine Type		D722	D722	D902	Engine Type		Z482
Engine Displacement	cm^3	719	719	898	Engine Displacement	cm^3	479
Number of Cylinders		3	3	3	Number of Cylinders		2
Sound Level 7m/3m/1m	dbA	53/63/68	53/63/67	54/64/68	Sound Level 7m/3m/1m	dbA	53/63/68
Approx. Capsule Dimensions excl. fittings LxBxH	mm	660 515 594	650 505 594	660 515 594	Approx. Capsule Dimensions excl. fittings LxBxH	mm	595 445 555
Approx. Weight incl. Capsule	kg	139	160	165	Approx. Weight incl. Capsule	kg	164

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[1] The performance of an AGT-DC generator must be limited to the constant performance when batteries are used.

6-12 kW Power Requirements

Compact Power								Perfect Power	
Premium Series					1500/1800 Series			i-Series	
Panda 8000 PMS	Panda 8 Mini PMS	Panda 10000 PMS	Panda 12000 PMS	Panda 12 Mini PMS	Panda 7.5-4 PMS	Panda 9-4 PMS	Panda 12-4 PMS	Panda 8000i PMS	Panda 10000i PMS
6.8		8.0	10.2		6.5	8.0	10.5	0-6.4	0-8.0
8.0		9.4	12.0		7.6	9.4	12.3	0-8.0	0-10.0
6.8		8.0	10.2		6.5	8.0	10.5		
8.0		9.4	12.0		7.6	9.4	12.3		
6.0		7.0	9.0						
6.0		7.0	9.0						
	7.5			11.5		(9.6)	(12.6)	0-6.4	0-8.0
	7.5			11.5		(11.3)	(14.8)	0-8.0	0-10.0
	7.5			11.5		(9.6)	(12.6)		
	7.5			11.5		(11.3)	(14.8)		
3000	3600	3000	3000	3600	1500/(1800)			2200- 2800	2200- 2800
±3 V	±3 V	±3 V	±3 V	±3 V	±3 V	±3 V	±3 V	± 3%	± 3%
2	2	2	2	2	2	2	2	2	2
GFK	GFK	GFK	GFK	GFK	GFK	GFK	GFK	GFK	GFK
3D	3D	3D	3D	3D	3D	3D	3D	3D	3D
Kubota	Kubota	Kubota	Kubota	Kubota	Kubota	Kubota	Kubota	Kubota	Kubota
Z482	Z482	Z602	D722	D722	D1105	D1105	V1505	Z482	Z602
479	479	599	719	719	1123	1123	1123	479	599
2	2	2	3	3	3	3	3	2	2
52/62/67	53/63/68	52/62/67	53/63/67	54/64/68	52/62/66	52/62/66	52/62/66	52/62/67	52/62/67
595 445 555	695 445 555	650 445 570	705 450 565	705 445 590	830 515 627	830 515 665	940 515 669	520 445 545	540 445 555
164	164	180	195	195	278	289	315	110+Inverter 10	120 + Inverter 13.5

NOTE: *) For inverter generators: performance is calculated with a cosPhi factor = 0,8 up to 40°C ambient temperature, otherwise calculate with a factor 1 up to 50°C. Dimensions and weights are approximate values only. Please confirm current dimensions and weights when ordering. For asynchronous generators up to and including P15000: the KVA is calculated with cosPhi = 0.85 for a short starting performance of inductive consumers. Otherwise it should be calculated with a factor of 1. Generators above and including P15000 with excellent starting performance with compensation or starting-current booster are calculated with cosPhi = 0.85 otherwise it should be calculated with a factor of 1.

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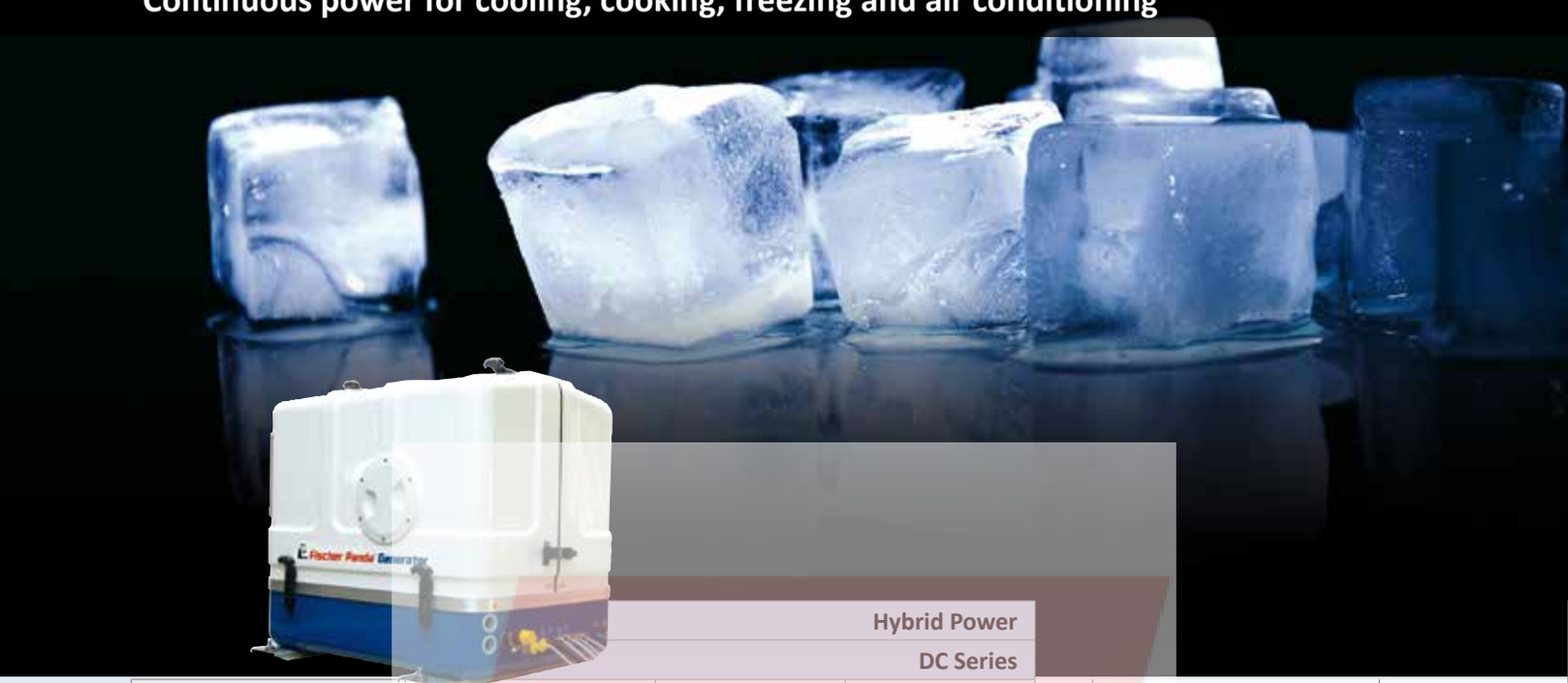
12-20 kW power requirements

"Continuous power for cooling, cooking, freezing and air conditioning"



Hybrid Power

DC Series

ModelModel		AGT-DC 13000 PMS	AGT-DC 15000 PMS	AGT-DC 18000 PMS
Nominal Performance [1]	kW			
Continuous Performance [1]	kW	12.7	15,6	17.9
Nominal Voltage	DC	12V- 400V versions available. Current dependent upon voltage		
Constant Current Rate	A			
Peak Current Rate	A			
Engine Speed	rpm	2400-3000	2400-3000	2400-3000
Voltage Tolerance				
Cooling Circuits		2	2	2
Sound Insulation		GFK	GFK	GFK
Capsule Type		3D	3D	3D
Engine Manufacturer		Kubota	Kubota	Kubota
Engine Type		D1105	D1305	V1505
Engine Displacement	cm^3	1123	1261	1498
Number of Cylinders		3	3	4
Sound Level 7m/3m/1m	dbA	55/65/69	55/65/69	55/65/69
Approx. Capsule Dimensions excl. fittings LxBxH	mm	760 540 670	825 510 658	870 540 675
Approx. Weight incl. Capsule	kg	226	250	265

Model		
Nominal Performance*)	**230V** 1-phase 50 Hz	kW
		kVA
	400V 3-phase 50 Hz	kW
		kVA
	230/400V 1- plus 3-phase 50Hz	kW (1-ph.)
		kW (3-ph.)
	120V / 240V 1-phase 60 Hz	kW
		kVA
	208V 3-phase 60 Hz	kW
		kVA
Engine Speed		rpm
Voltage Tolerance		
Cooling Circuits		
Sound Insulation		
Capsule Type		
Engine Manufacturer		
Engine Type		
Engine Displacement		cm^3
Number of Cylinders		
Sound Level 7m/3m/1m		dbA
Approx. Capsule Dimensions excl. fittings LxBxH		mm
Approx. Weight incl. Capsule		kg

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[1] The performance of an AGT-DC generator must be limited to the constant performance when batteries are used.

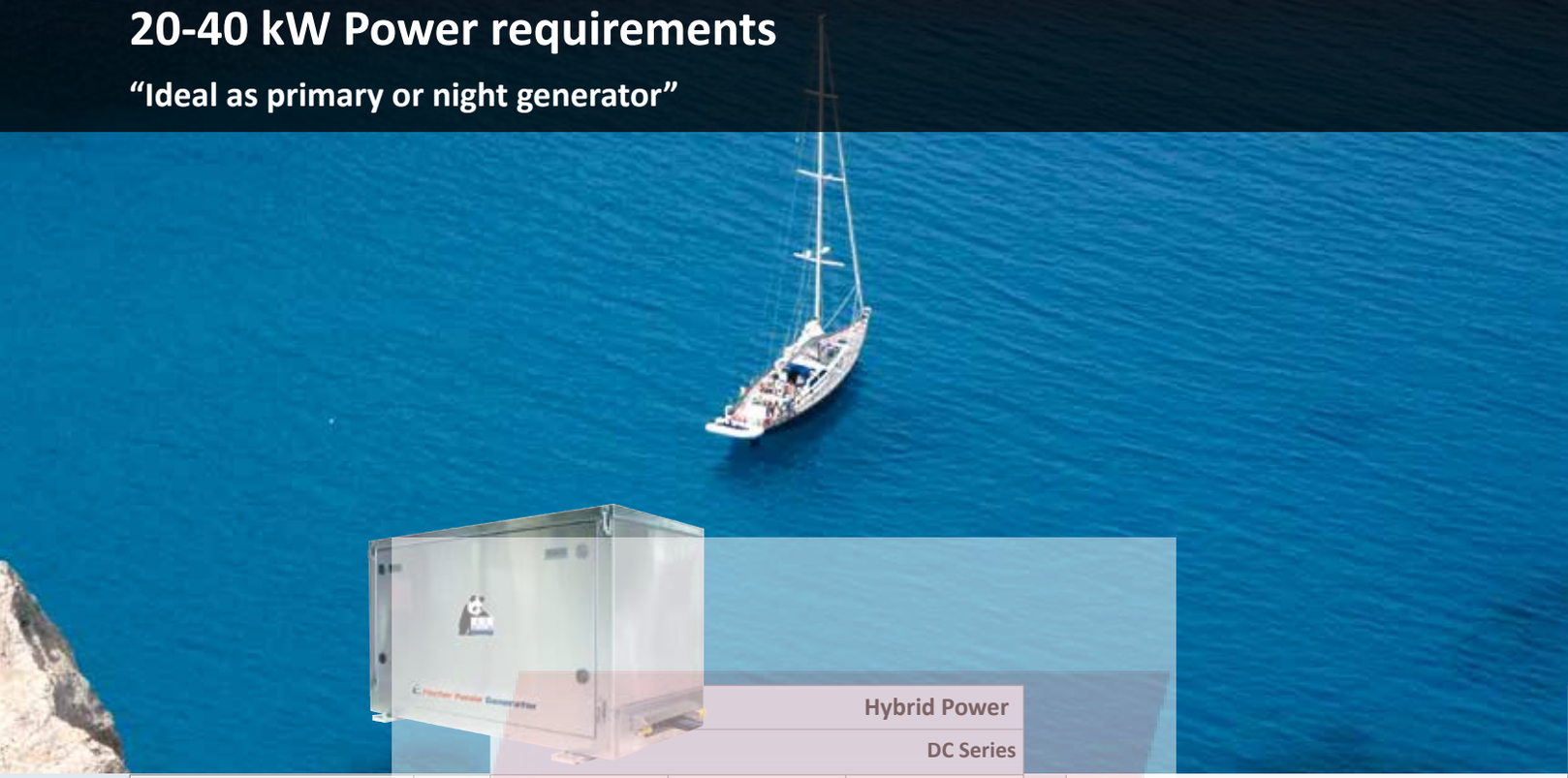
12-20 kW power requirements

			Compact Power		Hybrid Power
	Premium Series		1500/1800 Series		i-Serie
Panda 15000 PMS	Panda 18 PMS	Panda 17-4 PMS	Panda 22-4 PMS	Panda 15000i PMS
12.7	15.3	14.7	18.6	0-12.0
15.0	18.0	17.5	21.9	0-15.0
12.7	15.3	14.7	18.6	
15.0	18.0	17.5	21.9	
11.1	13.5			
13.0	13.5			
		(17.6)	(22.3)	0-12.0
		(17.6)	(22.3)	0-15.0
		(17.6)	(22.3)	
		(17.6)	(22.3)	
3000	3000	1500/(1800)	1500/(1800)	2200-2800
±3 V	±3 V	±3 V	±3 V	230V ± 3%
2	2	2	2	2
GFK	GFK	MPL	MPL	GFK
3D	3D	4DS	4DS	3D
Kubota	Kubota	Kubota	Kubota	Kubota
D902	D1105	V2203	V2403M	D902
898	1123	2197	2434	898
3	3	4	4	3
54/64/68	55/65/69	53/63/67	53/63/67	54/64/68
740 480 600	820 505 620	1200 720 770	1255 720 770	650 465 589
249	297	553	610	162 + Inverter 16

NOTE: *) For inverter generators: performance is calculated with a cosPhi factor = 0,8 up to 40°C ambient temperature, otherwise calculate with a factor 1 up to 50°C. Dimensions and weights are approximate values only. Please confirm current dimensions and weights when ordering. For asynchronous generators up to and including P15000: the KVA is calculated with cosPhi = 0.85 for a short starting performance of inductive consumers. Otherwise it should be calculated with a factor of 1. Generators above and including P22000 with overload start performance with compensation or starting-current booster are calculated with cosPhi = 0.85 otherwise it should be calculated with a factor of 1.

20-40 kW Power requirements

"Ideal as primary or night generator"



Hybrid Power

DC Series

		AGT-DC 22000 PMS	AGT-DC 25000 PMS	AGT-DC PMS
Nominal Performance [1]	kW			
Continuous Performance [1]	kW	21.9	24	
Nominal Voltage	DC			
Constant Current Rate	A	Current dependent on voltage		>= 25kW Versions available on request.
Peak Current Rate	A			
Engine Speed	rpm	2400-3000	2400-3000	
Voltage Tolerance				
Cooling Circuits		2	2	
Sound Insulation		MPL	MPL	
Capsule Type		4DS	4DS	
Engine Manufacturer		Kubota	Kubota	>= 25kW Versions available on request.
Engine Type		V1505T	V2403	
Engine Displacement	cm^3	1498	2434	
Number of Cylinders		4	4	
Sound Level 7m/3m/1m	dbA	55/65/69	53/63/67	
Approx. Capsule Dimensions excl. fittings LxBxH	mm	980 600 700	request	
Approx. Weight incl. Capsule	kg	350	request	

Model		
Nominal Performance*)	**230V** 1-phase 50 Hz	kW
		kVA
	400V 3-phase 50 Hz	kW
		kVA
	230/400V 1- plus 3-phase 50Hz	kW (1-ph.)
		kW (3-ph.)
	120V / 240V 1-phase 60 Hz	kW
		kVA
	208V 3-phase 60 Hz	kW
		kVA
Engine Speed		rpm
Voltage Tolerance		
Cooling Circuits		
Sound Insulation		
Capsule Type		
Engine Manufacturer		
Engine Type		
Engine Displacement		cm^3
Number of Cylinders		
Sound Level 7m/3m/1m		dbA
Approx. Capsule Dimensions excl. fittings LxBxH		mm
Approx. Weight incl. Capsule		kg

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[1] The performance of an AGT-DC generator must be limited to the constant performance when batteries are used.

20-40 kW Power requirements

						Compact Power	Perfect Power
		Premium Series				1500/1800 Series	iSeries
Panda 24 PMS	Panda 30 PMS	Panda 30IC PMS	Panda 22-4 PMS	Panda 30-4 PMS	Panda 40-4 PMS	Panda 50-4 PMS	Panda 25i PMS
20.4	25.5	27	18.6	25.5	35		0-20.0
24	30	31.7	21.9	30	41.1		0-25.0
20.4	25.5	27	18.6	25.5	35	40	
24	30	31.7	21.9	30	41.1	47	
18	22.4	23.8					
18	22.4	23.8					
			(22.3)	(30)	(40)		
			(22.3)	(30)	(40)		
			(22.3)			(50)	
			(22.3)			(50)	
3000	3000	3000	1500/(1800)	1500 / (1800)	1500 / (1800)	1500 / (1800)	2200-2800
±3 V	±3 V	±3 V	±3 V	±3 V	±3 V	±3 V	230V ± 3%
2	2	2	2	2	2	2	4
GFK	GFK	GFK	MPL	MPL	MPL	MPL	GFK
3D	3D	3D	4DS	4DS	4DS	4DS	4DS
Kubota	Kubota	Kubota	Kubota	Mitsubishi	Mitsubishi	JCB	Kubota
V1505	V1505T	V1505T IC	V2403M	S4S	S4S DT	NA-47	V1505
1498	1498	1498	2434	3331	3331	4399	1498
4	4	4	4	4	4	4	4
55/65/69	55/65/69	55/65/69	53/63/67	request	request	request	55/60/70
1010 515 674	1010 515 674	1010 515 674	1200 620 770	request	request	request	840 515 664
355	403	403	request	request	request	request	263 + Inverter 18.9

NOTE: *) For inverter generators: performance is calculated with a cosPhi factor = 0,8 up to 40°C ambient temperature, otherwise calculate with a factor 1 up to 50°C. Dimensions and weights are approximate values only. Please confirm current dimensions and weights when ordering. For asynchronous generators up to and including P15000: the KVA is calculated with cosPhi = 0.85 for a short starting performance of inductive consumers. Otherwise it should be calculated with a factor of 1. Generato[illegible]ce with compensation or starting-current booster are calculated with cosPhi = 0.85 otherwise it should be calculated with a factor of 1.

Over 40 kW power requirements

“up to 200 kW power for super yachts”

		Hybrid Power DC Series			Premium Series		
		AGT-DC PMS	Model		Panda 45 PMS	Panda 65 PMS	Panda 85 PMS
Nominal Performance [1]	kW	>= 40kW Versions available on request.	Nominal Performance*) 230V 1-phase 50 Hz	kW	-	-	-
Continuous Performance [1]	kW			kVA	-	-	-
Nominal Voltage	DC		400V 3-phase 50 Hz	kW	38	55	72
Constant Current Rate	A			kVA	45	65	85
Peak Current Rate	A		230/400V 1- plus 3-phase 50Hz	kW (1-ph.)	-	-	-
				kW (3-ph.)	-	-	-
			120V / 240V 1-phase 60 Hz	kW			
				kVA			
			208V 3-phase 60 Hz	kW			
				kVA			
Engine Speed	rpm	>= 40kW Versions available on request.	Engine Speed	rpm	3000	3000	3000
Voltage Tolerance			Voltage Tolerance		±3 V	±3 V	±3 V
Cooling Circuits			Cooling Circuits		2	2	2
Sound Insulation			Sound Insulation		MPL	MPL	MPL
Capsule Type			Capsule Type		4DS	4DS	4DS
Engine Manufacturer			Engine Manufacturer		Lombardini	Engine available on request	Engine available on request
Engine Type			Engine Type		2204MT		
Engine Displacement	cm^3		Engine Displacement	cm3	2199		
Number of Cylinders			Number of Cylinders		4		
Sound Level 7m/3m/1m	dbA		Sound Level 7m/3m/1m	dbA	request	request	request
Approx. Capsule Dimensions excl. fittings LxBxH	mm		Approx. Capsule Dimensions excl. fittings LxBxH	mm	1230 650 770	request	request
Approx. Weight incl. Capsule	kg		Approx. Weight incl. Capsule	kg	767	request	request

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Over 40 kW power requirements

Compact Power							Perfect Power		
	1500/1800 Series						i-Series	i-Series	i-Series
Panda 100 PMS	Panda 60-4 PMS	Panda 70-4 PMS	Panda 85-4 PMS	Panda 110-4 PMS	Panda 130-4 PMS	Panda 200-4 PMS	Panda 45i PMS	Panda 60i PMS	Panda 150i PMS
-	-	-	-	-	-				
-	-	-	-	-	-				
85	50	61	73	92	111	170	0-36	0-43.2	0-120.0
100	59	72	86	109	130	200	0-45	0-60	0-150
-									
-									
	(60)	(70)	(85)	(110)	(130)				
	(60)	(70)	(85)	(110)	(130)				
3000	1500 / (1800)	1500 / (1800)	1500 / (1800)	1500 / (1800)	1500 / (1800)	1500 / (1800)	1500-2700	1400-2600	1400-2600
±3 V	±3 V	±3 V	±3 V	±3 V	±3 V	±3 V	± 3%	± 3%	± 3%
2	2	2	2	2	2	2	2	2	2
MPL	MPL	MPL	MPL	MPL	MPL	MPL	MPL	MPL	MPL
4DS	6DS	6DS	6DS	6DS	6DS	6DS	4DS	4DS	4DS
Engine available on request	Deutz	Deutz	Deutz	Deutz	Deutz	Deutz	Kubota	Engine available on request	Engine available on request
	BF4M2012C	BF4M1013E	BF4M1013EC	BF6M1013E	BF6M1013EC	BF6M1015E	V2403T		
	4040	4764	4764	7146	7146	11910	2434		
	4	4	4	6	6	6	4		
request	request	request	request	request	request	request	54/59/69	55/60/70	55/60/70
request	1500 790 1000	1650 830 1100	request	request	request	request	1130 660 810	1430 720 880	1480 890 920
request	request	request	request	request	request	request	495	770	1100

NOTE: *) For inverter generators: performance is calculated with a cosPhi factor = 0,8 up to 40°C ambient temperature, otherwise calculate with a factor 1 up to 50°C. Dimensions and weights are approximate values only. Please confirm current dimensions and weights when ordering. For asynchronous generators up to and including P15000: the KVA is calculated with cosPhi = 0.85 for a short starting performance of inductive consumers. Otherwise it should be calculated with a factor of 1. Generato[illegible] above and [illegible] with an optional [illegible] performance with compensation or starting-current booster are calculated with cosPhi = 0.85 otherwise it should be calculated with a factor of 1.

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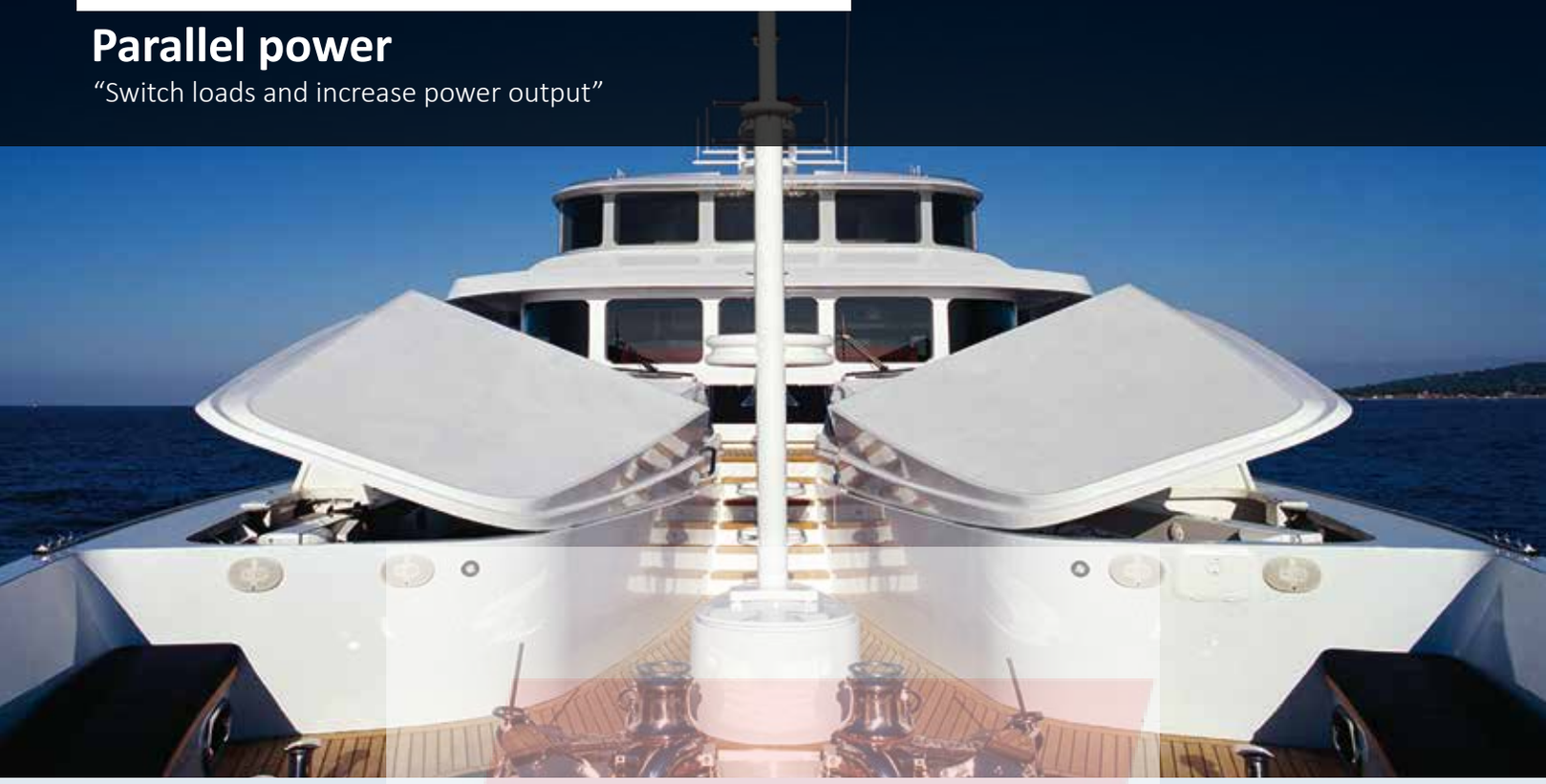
Parallel power

"Switch loads and increase power output"



Parallel Transfer Unit

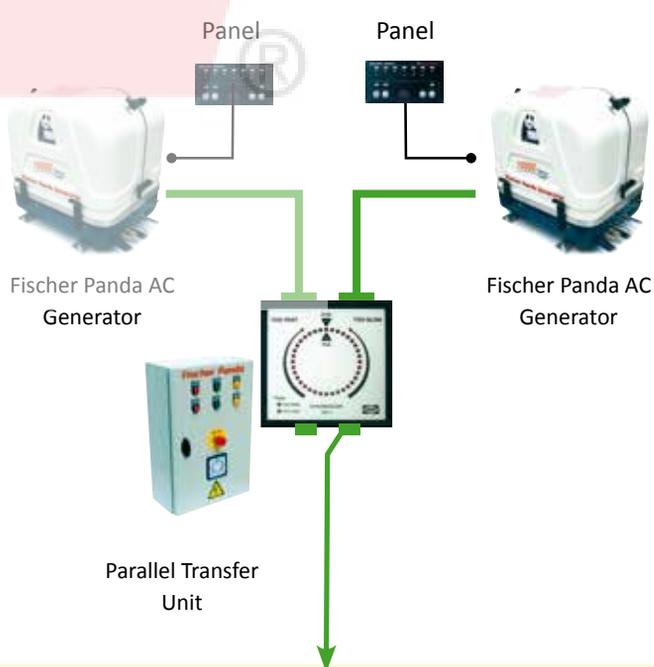
Load switching or doubling power output for Basic and Premium Line Generators

The Fischer Panda unit is designed for connecting two Fischer Panda AC Generators in parallel. The unit can be used to synchronize both generators to switch the load from one generator to another or operate both generators in parallel during peak load periods.

A range of units are available to suit varying generator types and power requirements up to 100kW per generator. The parallel power units can be combined with the automatic AC transfer unit into a single housing on request.

The parallel transfer unit does not feature load-sharing capabilities for safety reasons. Both generators are coupled and operate together as one unit. To increase operational safety, both generators are shutdown if a system failure occurs.

Parallel Transfer unit



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Parallel power

Perfect for Multihulls

Parallel iSeries Generators

Parallel connected iSeries- the high performance solution for even more comfort and safety

Several iSeries generators of different types can be easily connected in parallel. Extra cables or additional cabinets are not required. Each generator is fully independent and can be individually operated.

- Multiple generators can be easily connected in parallel - even if they have different outputs with the “parallel” inverters (optional)
- Load-Sharing: both generators are equally loaded when operating in parallel
- Ideal for applications (multihulls - catamarans, trimarans) which may benefit from installing various smaller generators to improve weight distribution

PMGi Parallel Inverter

PMGi Parallel Inverter

PMGi Parallel Inverter

Domestic Power Circuit

Air Conditioning *Compressors* *Appliances* *Refrigeration*

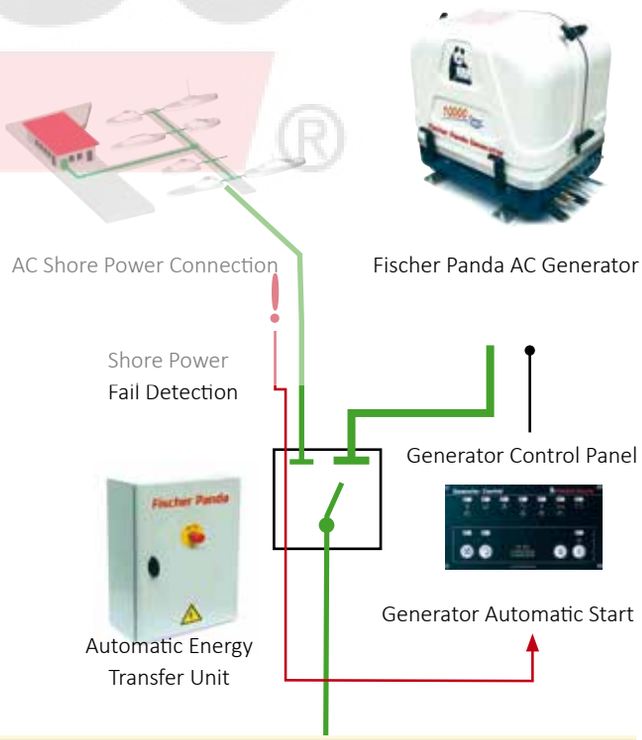
System Components

Automatic energy transfer unit

Automatic transfer if shore power fails

The Fischer Panda Automatic Transfer Unit monitors the presence of AC shore power. If the shore power supply is not available, the AC Generator is automatically started.

As soon as the shore power supply has been restored, the power can be manually switched back (if required) and the AC Generator can be stopped.



Fischer Panda Plus

The Fischer Panda Warranty Plus

More security and peace of mind with your Fischer Panda generator

What is the extended Fischer Panda Guarantee?
The extended Fischer Panda Guarantee**) is a component of the generator warranty. Once accepted, it applies up to the first inspection/interval service and extends thereafter automatically up to the respective next inspection/interval service at a Fischer Panda Service partner but not beyond the specified date on the certificate of guarantee*

Fischer Panda generators are issued with a Basic Guarantee.
The Basic Guarantee**) is free of charge for you and applies generally from date of delivery by Fischer Panda provided that regular and proven maintenance with original Fischer Panda parts is carried out*

Commercial usage 1 year or 1000 operation hours [1)]
Private usage 2 years or 1000 operation hours [1)]

The Basic Guarantee**) also provides for an additional 5 years from delivery date for electrical parts of asychronous generators (stator with winding, alternator housing, sealing and all water-bearing parts). This extended warranty covers damage caused by cooling water to the above mentioned parts. An additional 10 years guarantee on the rotor from date of delivery is also included.*

Warranty Pack 1000)**
If your Fischer Panda generator has been installed and commissioned by an official Fischer Panda partner and the installation is confirmed by sending the commissioning protocol to Fischer Panda GmbH Germany, a 1000 Plus Warranty can be applied for. This is free of charge and extends the Basic Guarantee by 1 year or max. 1000 operation hours [1)]*

Warranty Packs 1250 and 1500)**
These additional warranty packs can be arranged with the purchase of the generator to provide cover for generators which will be used for longer operational periods.*

Options for buyers of Fischer Panda generators whereby the previous owners did not follow the specified service intervals.
Under certain circumstances, a “1250 Refit” warranty may be considered and granted for owners of a used Fischer Panda Generator.

*) Please consult the Fischer Panda Warranty Plus for the exact requirements and conditions for Extended Warranty, Guarantee and Warranty packs. Furthermore, the general Guarantee Conditions for mobile and stationary Fischer Panda generators apply.
**) The above listed guarantee / warranty packages are only available for Fischer Panda marine und commercial vehicle generators.
1) Whichever comes first.

Fischer Panda Plus

Installation and custom services

Installation kits

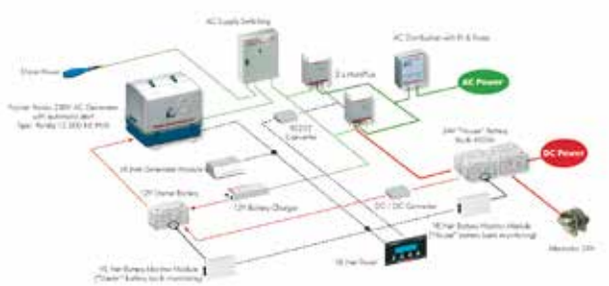
Fischer Panda supplies installation kits with all the necessary cables, hoses, connection pieces and accessories to ensure that the system can be correctly installed whether your installing in a yacht's engine room, catamaran's hull or inside a vehicle. This even includes when you require specific hose and cable lengths.

Custom services for special requirements

Fischer Panda offers a wide range of services for customising and adapting generators for use with special equipments and commercial applications. This includes electric-magnetic hydraulic couplings to drive mechanical hydraulic pumps and mounting slides to access the generator for service purposes.

Powerful energy systems

Fischer Panda marine generators form the backbone of our intelligent and innovative solutions ensuring you have sufficient energy even when there is no shore power connection available. It is possible to enhance an existing installation and interface with the ship's control system.



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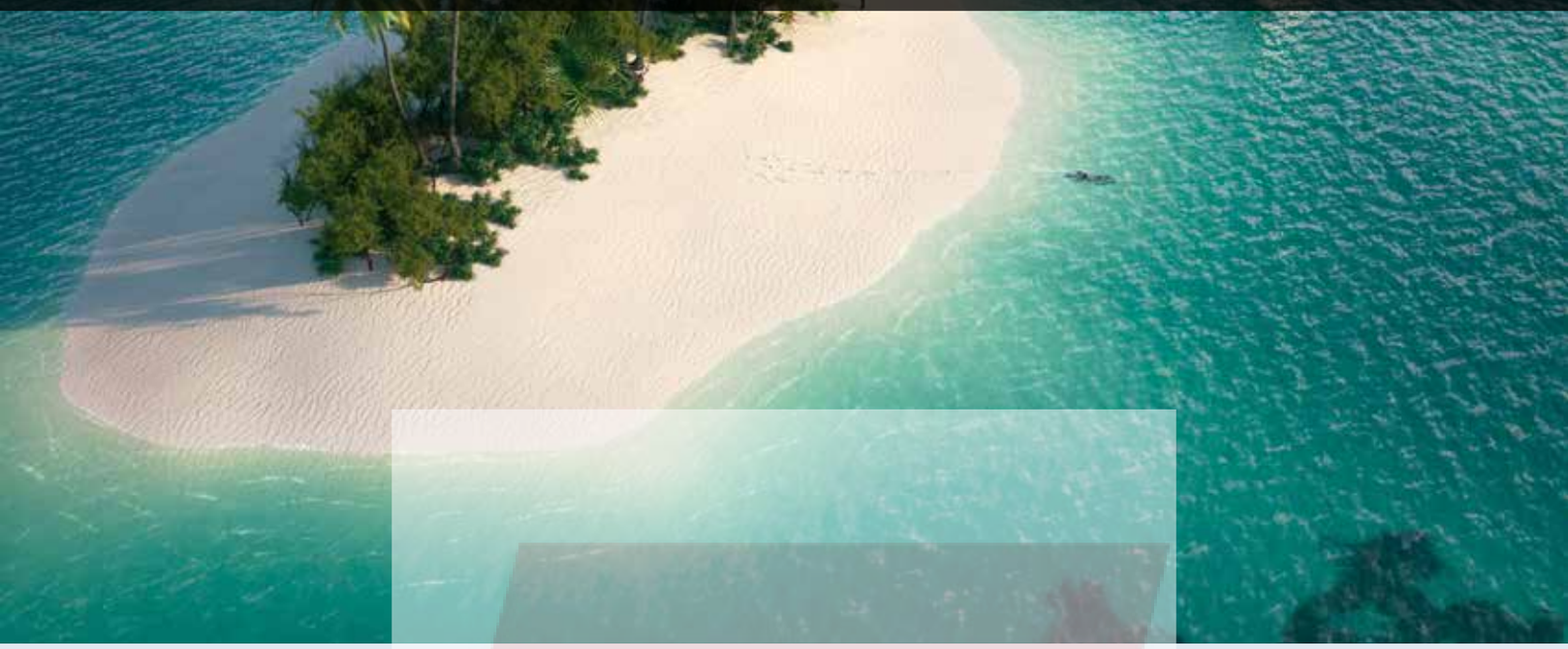
Fischer Panda Plus



Service and support

Service kits

Fischer Panda Service Kits include only original spare parts which meet their required specifications. The Fischer Panda service kits are suited for the type of servicing normally carried out by workshops. Fischer Panda Service Plus Kits include only the original spare parts which meet their required specifications and all the relevant spare parts for the first 600 h service intervals.
Service Plus kits are supplied in a handy waterproof plastic box so all the items are protected while storing.
The Fischer Panda Installation Guide can be downloaded from the company website at: http://www.fischerpanda.de/installation

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, advise and recommend the best service station depending on your location of your vehicle or yacht. They will also be able to organise 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

Fischer Panda SOS-24/7 Hotline

In case of a generator failure or urgent inquiries of any kind outside our normal business hours you can ring the Fischer Panda 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 customer service is operated around the clock by employees at Fischer Panda.

Fischer Panda

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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 or fittings etc. Additional room will need to be calculated for the 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 approximately 2% per 5 °C air temperature and approximately. 1% per 1°C water temperature above 20°C)

Stand: 01-2015 Art.: 71.02.01.003H