



**SPARTAN** Power Solutions



# Industrial Range

## Perkins Series

### Model SP220 Generator set



## General Performance Data

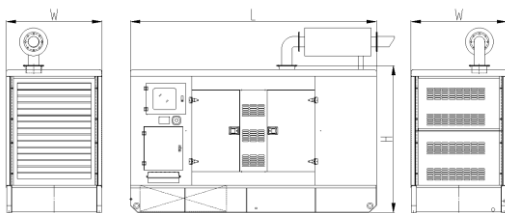
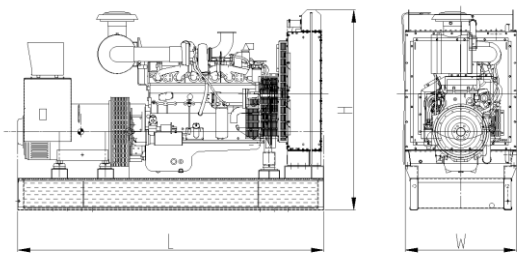
Prime Power	200KVA/160KW	Engine	Brand	Perkins
Stand by Power	220KVA/176KW		Model	1106A-70TAG4
Frequency/Speed	50Hz/1500rpm	Control module	Deepsea 6120	
Rated Power Factor(cosφ)	0.8	Rated Current	278A	
Standard Voltage	240V/415V	Capacity of Breaker	315A	
Phases	3	Starting Voltage	DC12V	

## Fuel consumption

Rated output	Fuel consumption rate	
	g/KW.h	L/h
100%Standby	209g/KW.h	49.4L/h
100%Prime	213g/KW.h	45.8L/h
75%Prime	215g/KW.h	34.7 L/h
50%Prime	215g/KW.h	23.1 L/h
25%Prime	235g/KW.h	12.6L/h

## Standards followed

ISO9001	ISO14001
ISO8528	ISO12100
ISO13849	EN12601
GB12786	GB/T2820
IEC60034	IEC60204
CE	RETIE



## Dimensions and Weights

Type	Open	Silent
Length(mm)	2400	3500
Width(mm)	820	1100
Height(mm)	1580	1870
Weight(kg)	1800	2550
Base fuel tank volume (L)	340	340

## Engine specification

### Basic parameter

Manufacturer	Perkins
Model	1106A-70TAG4
No. of cylinder	6
Type	4 cycle, Vertical In-line
Prime Power	178.9kw /243.3HP
Standby Power	196.3kw /267HP
Induction system	Turbocharged and air charge cooled
Governor	Mechanical
Bore x Stroke	105x135mm
Displacement	7.01L
Compression ratio	16:1
Oil Capacity(Total)	18L
Coolant Capacity(Engine only)	21L
Cranking Motor Voltage	DC12V

### Fuel System

Type Injection system	Indirect injection
Min. Allowable flow of fuel to fuel pump	49.4 L/h

### Lubrication system

Oil Pressure	
---Idle speed	460kPa
---Rated speed	Min 520kPa
Max. allowable oil temperature	125°C
Oil Pan capacity - Low/High	12.5L/16.1L
Total system capacity	18L
Angularity of oil pan-Front Down	25°

### Air induction system

Maximum allowable intake air restriction	
---with clean filter element	3.0kPa
---with dirty filter element	5.0kPa
---air filter type	paper element

### Exhaust system

Max. allowable back pressure	6.0kPa
Standard exhaust pipe diameter	72mm

### Cooling system

Coolant capacity	
---Engine only	9.5L
---Total system	21L
---With heat exchanger	-
Standard thermostat(modulating) range	82-93 °C
Max. coolant temperature	110 °C
Max. allowable top tank temperature for stand by/prime power	110 °C

### Electric system

Min. recommended battery capacity (12V)	
---10°C(50°F) & above- 0°F CCA	960A
--- 0°C(32°F) to 10°C(50°F)- 0°F CCA	960A
---18°C(0°F) to 0°C(32°F)- 0°F CCA	960A
Minimum cranking speed	60 rev/min
Starter(heave,Anode)	DC12V
Battery recharge system, negative ground	65ampere

## Alternator specification

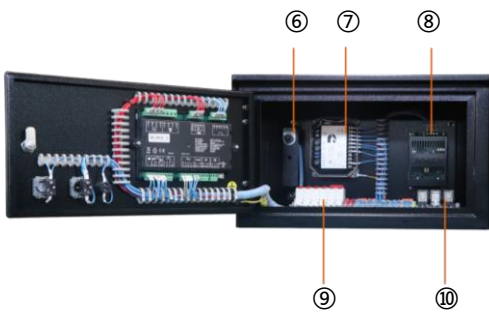
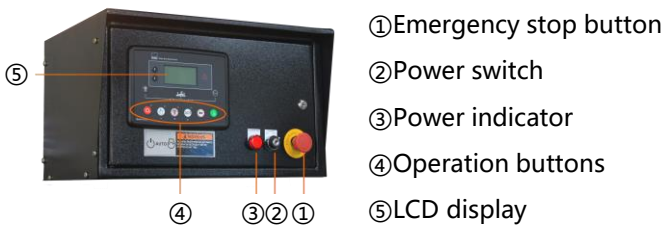
Phases	3
Poles	4
Power factor(cosφ)	0.8
Winding connection	Star
Winding pitch	2/3
Voltage regulator type	AVR

Coating	Vacuum impregnation
Insulation class	H
Protection	IP23
Excitation system	Self-excited
Bearing	Single Bearing
Coupling	Flexible disc

# Control system Introduction

## Deepsea 6120 Auto start & auto mains failure control panel

**Deepsea 6120** is an auto mains failure controller for single generator, it can monitor and protect the generator working all the time. it has a LCD display which clearly shows the status of the engine. this controller include seven inputs and six outputs. This controller can also be programmed using the front panel or by using DSE configuration Suite PC software



- ⑥ Voltage and frequency trimmer
- ⑦ Governor
- ⑧ Charger
- ⑨ MCB
- ⑩ Relay

## Key Features:

- Auto start/stop, load transfer and alarming of generator
- Remote start on or off load
- With hierarchical loading function
- Multiple start/stop cycles can be preset
- 3 phase generator and mains voltage monitoring.
- Generator/load power detection(kW, kVA, kVA<sub>r</sub> PF)
- Overload protection (kW)
- Load current monitoring and protection
- Engine speed protection
- Engine pre-heat
- Engine start idle & stop idle
- Battery voltage monitoring
- Start under the low battery
- 4 active outputs
- 4 digital inputs and 3 analogue inputs.
- 6 Custom digital input
- 6 outputs(4 configurable on magnetic pick-up, 6 configurable on Canbus version)
- DSE2130,DSE2157,DSE2548 expansion module can be connected
- Support 0-10V or 4-20mA oil pressure sensor

## Main features:

- Multi language display
- Mains failure self starting
- The running time of the engine can be recorded to facilitate the maintenance and repair of the unit
- User-friendly set-up and button layout
- LCD display can display multiple parameters at the same time
- Support EFI engine
- IP65 rating (with optional gasket)
- PC and front panel configuration
- 100 event records
- Data recording and trend analysis

## Protection:

- Two sets of protection parameters can be preset
- Normal alarm, electrical trip and shutdown alarm can be set to effectively monitor the engine speed,oil pressure, water temperature and oil level, as well as the frequency, voltage, current and power of the alternator, for complete engine/alternator protection
- Low Oil Pressure
- High water Temperature
- High voltage and low voltage
- Overspeed
- Emergency stop
- Fail to start

# Soundproof Canopy Introduction:

## Standard Type :

- The arc angle structure makes the appearance beautiful and not easy to bump
- High quality coating powder, chemical surface treatment & 100-120um coating thickness greatly improving the anti-corrosion and anti rust level
- Stainless steel hinge & door lock are beautiful and anti-rust
- 2.0mm cold rolled plate used makes the body more solid
- The bottom forklift and loading port design enables easy loading and unloading
- The drainage outlets are all connected to the outside for easy operation
- The sufficient air in & out design ensure long-term and stable operation of the unit
- Isolation net is designed for air inlet, exhaust outlet and muffler outlet to prevent objects from entering the unit
- High density foam used inside effectively reduces noise
- Ceiling Lighting is equipped for easy operation
- The built-in base fuel tank with fuel filler set on the shell facilitates refueling
- Models above medium power range are designed with top hoisting mechanism to facilitate transportation of the unit.

## Imitated container type :

- The shell is made of 3.0mm hot rolled steel plate so as to withstand the lifting capacity of 15-ton without deformation
- The switch cabinet and control panel are respectively set on both sides of the shell for easy maintenance & operation
- The shell looks similar to standard container, and can be loaded into 40HQ container for transportation, which is convenient for shipping
- The lifting eye holes are designed on the top same as the standard container for easy handling
- High density foam used inside effectively reduces noise
- The built-in base fuel tank with fuel filler set on the shell facilitates refueling
- Double emergency stop button set on different surfaces enables quick response to operation requirements
- The shell base is independent from the unit with 3mm thick checkered steel plate floor, which is beautiful & antiskid, and is convenient for overhaul & maintenance of the unit
- The door handle, lock and hinge are all made of stainless steel to avoid rusting
- The air out louver made of the mesh plate with powder coating and pasted with high-density glass fiber is beautiful and not easy to rust, and can further reduce the noise
- Isolation net is designed for air inlet, exhaust outlet and muffler outlet to prevent objects from entering the unit
- The sufficient air in & out design ensure long-term and stable operation of the unit
- The drainage outlets are all connected to the outside for easy operation
- Ceiling Lighting is equipped for easy operation

## Standard container type :

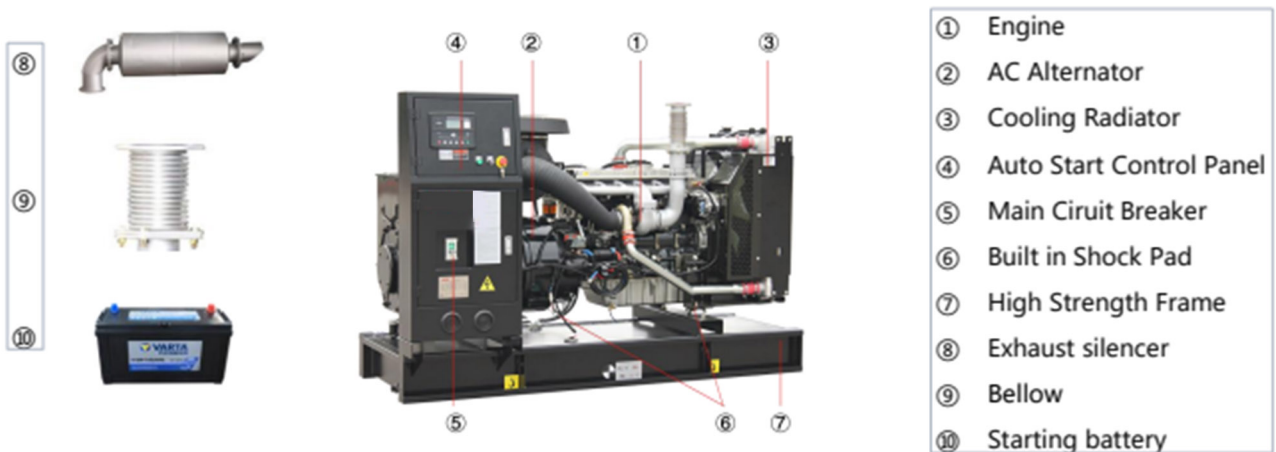
- Can be shipped on board directly during transportation
- The mesh plate with powder coating and inner pasted with high-density glass fiber is installed inside the shell, which is beautiful and anti-rust, and can further reduce the noise
- 3mm thick checkered steel plate floor is beautiful & antiskid, and is convenient for overhaul & maintenance of the unit
- Double emergency stop button set on different surfaces enables quick response to operation requirements
- The independent daily fuel tank can be designed to put inside to meet requirements of continuous operation
- The fuel filler is set on the shell to facilitate refueling
- The switch cabinet and control panel are respectively set on both sides of the shell for easy maintenance & operation
- The air in & out louver made of the mesh plate with powder coating and pasted with high-density glass fiber is beautiful and not easy to rust, and can further reduce the noise
- Isolation net is designed for air inlet, exhaust outlet and muffler outlet to prevent objects from entering the unit
- The sufficient air in & out design ensure long-term and stable operation of the unit
- The drainage outlets are all connected to the outside for easy operation
- Ceiling Lighting is equipped for easy operation



# Decomposition diagram introduction of Typical Canopy



## Standard supply scope:



## Optional supply scope:

Genset	Engine	Alternator	Control system
<ul style="list-style-type: none"> <li>• Tool box</li> <li>• Base fuel tank</li> <li>• External daily fuel tank</li> <li>• Trailer</li> </ul>	<ul style="list-style-type: none"> <li>• Fuel heater</li> <li>• Fuel and water separator</li> </ul>	<ul style="list-style-type: none"> <li>• Temp. detector for winding and bearing</li> <li>• PMG</li> <li>• Antirust, mildew and salt fog treatment</li> <li>• Anti condensation heater</li> </ul>	<ul style="list-style-type: none"> <li>• ATS</li> <li>• Synchronization System</li> <li>• Adjustable earth relay</li> </ul>
Breaker	Fuel system	Lub-oil system	Cooling system
<ul style="list-style-type: none"> <li>• ABB</li> <li>• Schneider</li> </ul>	<ul style="list-style-type: none"> <li>• Low fuel level alarm</li> <li>• Auto Fuel Pump</li> <li>• T Valve</li> </ul>	<ul style="list-style-type: none"> <li>• Lub oil heater</li> <li>• Temp.-sensor</li> <li>• Oil drain Pump</li> </ul>	<ul style="list-style-type: none"> <li>• Elec.coolant Heater</li> </ul>



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