



➤ **Engine: Perkins 1104D-44TG2**

➤ **Alternator: Stamford/Leroy Somer**  
**/Hengsheng**

➤ **Controller: DeepSea/SmartGen**  
**/DEIF/ComAp**

## Genset

Model	JHPE-50GF
Voltage	277/480V
Frequency&Speed	60HZ;1800RPM
Prime Power	52kW/65kVA
Standby Power	69kW/86kVA

The Perkins® 1104D turbocharged ElectropaKs are the latest addition to the 1100 Series ElectropaK range. Perkins has developed this engine in line with our customer's needs by providing the options of either electronic common rail or mechanically controlled fuel systems.

These ultra clean engines are assembled on a new high technology production line. Frequent computerized checks during the production process ensure high build quality is maintained throughout.

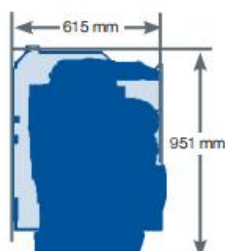
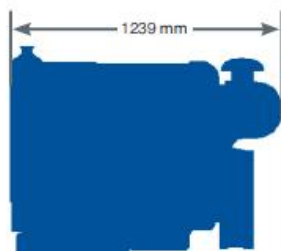
Perkins has produced a world-class product for their customers, engineered to give even greater levels of reliability, yet with a lower cost of ownership.



## Emissions

Certified against the requirements of EU Stage IIIA legislation for non-road mobile machinery, powered by constant speed engines (EU 2011 97/68/EC Stage IIIA).

Specification		
Number of cylinders	4 vertical in-line	
Bore and stroke	105 x 127 mm	4.1 x 5.0 in
Displacement	4.41 litres	269 in³
Aspiration	Turbocharged	
Cycle	4 stroke	
Combustion system	Direct injection	
Compression ratio	18.2:1	
Rotation	Anti-clockwise, viewed on flywheel	
Total lubricating capacity	8 litres	2.1 US gal
Cooling system	Water-cooled	
Total coolant capacity	16.5 litres	4.4 US gal



Engine package weights and dimensions		
Length	1239 mm	49 in
Width	615 mm	24.2 in
Height	951 mm	37.4 in
Weight (dry)	401 kg	884 lb

## Cooling system

### Cooling pack

Overall weight (wet)	71 kg
Overall face area	0.27 m <sup>2</sup>
Width	0.550 m
Height	0.762 m

### Radiator

Face area	0.27 m <sup>2</sup>
Number of rows	2 rows, Aluminium
Matrix density and material	12.7 fins/inch, Aluminium
Width of matrix	526.2 mm
Height of matrix	524.2 mm
Pressure cap setting	100 kPa (nominal)

### Fan

Type	Pusher
Diameter	457.2 mm
Drive ratio	1.25:1
Number of blades	7
Material	composite
Cooling fan air flow @ 1500 rpm	82 m <sup>3</sup> /min

### Coolant

Total system capacity	16.5 litres
Bare engine capacity	7.0 litres
Maximum top tank temperature	112°C
Thermostat operation range	82 - 93°C
Temperature rise across engine (maximum)	6.6 - 7.0°C

### Recommended coolant

Perkins extended life coolant (ELC) coolants to 1E1966 50% anti freeze / 50% water. For complete details of recommended coolant specifications, refer to the Operation and Maintenance Manual for this engine model.

### Maximum additional restriction (Duct allowance) to cooling airflow and resultant minimum airflow. Pusher

	Ambient clearance	Duct allowance	Cooling fan airflow	Radiator core resistance
rpm	°C	Pa	m <sup>3</sup> /min	Pa
1500	46	200	154	
	53	120	182	
1800	46	200	184	
	53	120	218	

**Note:** Above table example only.

## Alternator

Pole No.	4-Pole
Exciter Type	Single bearing, Brushless, Self-excited
Power factor	0.8
Voltage range	adjust $\leq 5\%$
Insulation Grade	H
Protection Grade	IP23/22

## Electrical system

Alternator	Unit	N0101
Alternator voltage	Volts	12
Alternator output	Amps	65

Starter	Unit	E0311
Starter motor voltage	Volts	12
Starter motor power	kW	3.2
Number of teeth on flywheel	(D0004)	126
Number of teeth on starter pinion		10
Minimum cranking speed	rpm	130
Starter solenoid - Maximum pull-in current @ -20°C	Amps	62
Starter solenoid - Maximum hold-in current @ -20°C	Amps	14

Engine stop method..... Mechanical

## Cold start recommendations

### Minimum battery cold cranking amps

Cold start recommendation	Minimum battery Cold Cranking Amps (CCA)	Minimum battery Cold Cranking Amps (CCA)
	With glow plugs 12v	Without glow plugs 12v
-5 - 15W40	750	750
-10 - 15W40	850	950
-15 - 15W40	1125	Glow plugs must be used
-20 - 10W40	1125	
-25 - 5W30	1500	
Maximum battery CCA.	2400	

### Notes:

- Glow plugs needed below -10°C
  - For cable sizes see Applications and Installation manual.
- The table above shows the recommended battery sizes against starter model, temperature and oil viscosity and is based on the test results from starting a 'bare' engine with batteries at a 75% state of charge and with a cable resistance of 0.0017 Ohms.

- ✧ NEMAMG1.JIANGHAO, and ANSI standards compliance for temperature rise and motor starting.
- ✧ Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- ✧ Sustained short-circuit current enabling down stream circuit breakers to trip without collapsing the generator field.
- ✧ Self-ventilated and dripproof construction.
- ✧ Superior voltage waveform from two-thirds pitch windings and skewed stator.
- ✧ Digital solid-state volts-per-hertz voltage regulator with +1% no-load to full-load regulation.

## Control Panel



The control module gives digital readouts of:

Generator voltage;  
Output frequency;  
Engine speed;  
Battery voltage;  
Engine hours run.

The **control panel** is an Digital Control Module suitable for a wide variety of single, diesel or gas, gen-set applications.

Monitoring an extensive number of engine parameters, the module will display warnings, shutdown and engine status information on the back-lit LCD screen and illuminated LEDs.

**The control module has indicators for failure information:**

Over speed/Low speed,  
Emergency stop  
Low oil pressure;  
High water temperature  
Failure to start  
Battery charger failure



Dimension:1830\*780\*1250mm  
Weight:800kg

**Automatic shutdown occurs under:**

Low engine oil pressure;  
High engine water temperature;  
Over speed/Low speed;  
Failure to start after three attempts.

## Electrical system

- Maintenance-free and anti-explosion battery
- Standard breaker
- ABB breaker (optional)
- ATS (optional)
- Battery charger (optional)
- GMS monitoring (optional)

## Packing

- Wrapping film packaging
- Tray packaging
- plywood box packaging



Dimension:3000\*1100\*1700mm  
Weight:1700kg  
Fuel Tank Capacity:280L

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