



Genset

Model	JHP5-12GF
Voltage	230/400V
Frequency&Speed	50HZ;1500RPM
Prime Power	12kW/15kVA
Standby Power	13kW/17kVA

Basic technical data

Number of cylinders	3
Cylinder arrangement	Vertical inline
Cycle	4 stroke
Induction system	Naturally aspirated
Compression ratio	22.5:1
Bore	84 mm
Stroke	90 mm
Displacement	1.496 litres
Direction of rotation when viewed from flywheel	Anticlockwise
Firing order	1, 2, 3

Weight of of ElectropaK

Dry (estimated)	197 kg
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Overall dimensions of ElectropaK

Height	793 mm
Length	820 mm
Width	469 mm

Centre of gravity

Forward from rear of block	139 mm
Above centre line of block	67 mm

Moments of inertia

Engine rotational components	0.45 kgm ²
Flywheel	2.01 kgm ²

➤Engine: Perkins 403A-15G2

➤Alternator:Stamford/Leroy Somer
/Hengsheng

➤Controller:DeepSea/SmartGen
/DEIF/ComAp

Cyclic irregularity for engine standby power

At 110% TBA

Ratings

Steady state speed stability at constant load..... ± 0.75%

Performance

Average sound pressure level for bare engine
(without inlet and exhaust) at 1 metre76.7 dB(A)

Note: All data based on operation to ISO 3046/1:2002 standard reference conditions.

Note: For engines operating in ambient conditions other than the standard reference conditions stated below, a suitable derate must be applied

Note: Derate tables for increased ambient temperature and/or altitude are available, please contact Perkins Applications Department.

Test conditions

Air temperature	25°C
Barometric pressure	100 kPa
Relative humidity	31.5%
Air inlet restriction at maximum power (nominal)	3 kPa
Exhaust back pressure at maximum power (nominal)	10.2 kPa
Fuel temperature (inlet pump)	40°C
All ratings certified to within	± 5%

Note: If the engine is to operate in ambient conditions other than those of the test conditions, suitable adjustments must be made for these changes. For full details, contact Perkins Technical Service Department.

General installation

Designation	Units	Type of operation and application	
		Prime power (50 Hz)	Standby power (50 Hz)
Gross engine power	kWb	13.7	15.1
Gross BMEP	kPa	734	808
Mean piston speed	m/s	4.5	
ElectropaK nett engine power	kW	13.5	14.9
Engine coolant flow against 35 kPa restriction	litres/min	40.3	
Combustion air flow	m ³ /min	1.0	TBA
Exhaust gas flow (maximum) at atmospheric pressure	m ³ /min	2.2	TBA
Exhaust gas temperature (maximum)	°C	470	580
Overall thermal efficiency	%	33.35	33.42
Typical Genset electrical output (0.8pf 25°C)	kWe	11.75	12.93
	kVa	14.69	16.16
Assumed alternator efficiency	%	87	

Rating definitions

Prime power

Variable load. Unlimited hours usage with an average load factor of 80% of the published prime power over each 24 hour period. A 10% overload is available for 1 hour in every 12 hour operation.

Standby power

Limited to 500 hours annual usage with an average load factor of 80% of the published standby power rating over each 24 hour period. Up to 300 hours of annual usage may be run continuously. No overload is permitted on standby power.

Cooling system

Recommended coolant: 50% anti freeze/50% water.

For details of recommended coolant specifications, please refer to the Operation and Maintenance Manual (OMM) for this engine model.

Total coolant capacity

ElectropaK (with radiator)	6 litres
ElectropaK (without radiator)	2.6 litres
Maximum top tank temperature	112°C
Maximum static pressure head on pump	30.4 kPa
Temperature rise across engine	5.1°C
Maximum permissible external system resistance	TBA kPa
Thermostat operation range	82 - 95°C

Radiator

Radiator face area	0.167 m²
Material and number of rows	Aluminium, 2 rows
Material and fins per inch	Aluminium, 4.5 fins/inch
Width of matrix	334.2 mm
Height of matrix	500 mm
Pressure cap setting	90 kPa
Estimated cooling air flow reserve	0.125 kPa

Fan

Type	Pusher
Diameter	320 mm
Number of blades	6
Material	Plastic
Drive ratio	1.25:1

Duct allowance - Maximum additional restriction to cooling airflow and resultant minimum airflow		
Ambient clearance 50% Glycol	Duct allowance (Pa)	m³/sec
53°C	45	41.4
46°C	83	41.4

Fuel system

Type of injection	Indirect injection
Fuel injection pump	Cassette type
Fuel injector	Pintle nozzle
Nozzle opening pressure	14.7 MPa
Maximum particle size	25 microns

Fuel lift pump

Type	Mechanical (camshaft driven)
Flow/hour	63 litres/hour
Pressure	10 kPa
Maximum suction head	0.8 metres
Maximum static pressure head	3 metres
Maximum fuel temperature at lift pump inlet	40°C
Maximum fuel filter service interval	1000 hours
Governor type	Mechanical
Speed control conforms to	G2

Fuel specification

USA Fed Off Highway	EPA2D 89.330-96
Europe Off Highway	CEC RF-06-99

Note: For further information on fuel specifications and restrictions, refer to the OMM fuels section for this engine model.

Fuel consumption

Power rating %	14.6 kW/1500 rpm	
	g/kWh	litres/hour
25	355	1.47
50	271	2.24
75	251	3.11
100	260	4.30
110	277	5.04

Cold start recommendations

Minimum cranking speed @ 1500 rpm

Minimum starting temp	Grade of engine lubricating oil	Battery specifications			
		BS3911 Cold start amps	SAEJ537 Cold cranking amps	Number of batteries required	Commercial ref number
0°C	20W	420	590	1	72
-15°C	10W	420	590	1	72
-20°C	5W	540	740	1	647

Alternator

Pole No.	4-Pole
Exciter Type	Single bearing, Brushless, Self-excited
Power factor	0.8
Voltage adjust range	≤ 5%
Insulation Grade	H
Protection Grade	IP23/22
Phase / wire	3 phase 4 wires

- ✧ 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 drip-proof 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:

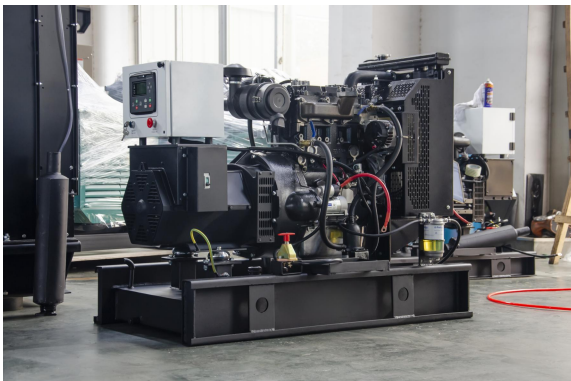
Generator voltage;
Output frequency;
Engine speed;
Battery voltage;
Engine hours run.

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:1250*700*1100mm
Weight:350kg



Dimension:2200*1000*1550mm
Weight:900kg
Fuel Tank Capacity:180L

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

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