



Genset

Model	JHP-1350GF
Voltage	277/480V
Frequency&Speed	60HZ;1800RPM
Prime Power	1350kW/1688kVA
Standby Power	1500kW/1875kVA

Basic technical data

Number of cylinders	12
Cylinder arrangement	Vee, 60°
Cycle	4 stroke
Induction system	Turbocharged
Combustion system	direct injection
Compression ratio	13:1
Bore	160 mm
Stroke	190 mm
Cubic capacity	45.842 litres
Direction of rotation	anti-clockwise when viewed from flywheel
Firing order	1 ^A , 6 ^B , 5 ^A , 2 ^B , 3 ^A , 4 ^B , 6 ^A , 1 ^B , 2 ^A , 5 ^B , 4 ^A , 3 ^B
Cylinder 1	furthest from flywheel

Note: Cylinders designated 'A' are on the right hand side of the engine when viewed from the flywheel end

Approximate weights

Description	unit	Tropical	Temperate
Engine (dry)	Kg	4400	4400
Electropak (wet) + fuel cooler	Kg	6450	6086
Electropak (wet) - fuel cooler	Kg	6425	6070

Overall dimensions of ElectropakK

	unit	Tropical	Temperate
Height	mm	2610	2259
Length	mm	3883	3915
Width	mm	2164	2198

Moment of inertia

Total engine inertia 19,3 kgm²

Centre of gravity

Bare engine (dry)

-forward of the rear face of the cylinder block	771 mm
-above the crankshaft centre line	32 mm
ElectropakK - temperate cooling (wet)	
-forward of the rear face of the cylinder block	1227 mm
-above the crankshaft centre line	152 mm
ElectropakK - tropical cooling (wet)	
-forward of the rear face of the cylinder block	1089 mm
-above the crankshaft centre line	190 mm

Fuel consumption

4012-46TAG3A Temperate cooling - 60 Hz		
Ratings	g/kWhr	litres/hr
Standby	213	390
Prime	213	356
Baseload	210	281
75% Prime	221	277
50% Prime	222	185

Note: Fuel consumption calculated on nett rated powers.

➤ **Engine: Perkins 4012-46TAG3A**

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

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

Cyclic irregularity for engine/flywheel maximum

4012-46TAG3A 1:975

Ratings

Steady state speed stability at constant load ± 0.25%
Electrical rating are based on average alternator efficiency and are for guidance only (0.8 power factor being used).

Operating point

Engine speed 1800 rev/min
Static injection timing 20° BTDC
see engine number plate
Fuel data to conform to BS2869 class A2 or BS EN590

Performance

All data based on operation to ISO 3046/1, BS 5514 and DIN 6271 standard reference conditions.

Noise

Estimated sound pressure level at 1 metre 114dB(A)

Test conditions

Air temperature 25 °C
Barometric pressure 100 kPa
Relative humidity 30%
Air inlet restriction at maximum power (nominal) 2,5 kPa
Exhaust back pressure at maximum pressure (nominal) 3,0 kPa
Fuel temperature (inlet pump) 58 °C maximum
For engines operating in ambient conditions other than the standard reference conditions stated below, a suitable de-rate must be applied.

De-rate tables for increased ambient temperature and /or altitude are available on the Perkins Secured Web site.

For test conditions relevant to data on load acceptance, refer to the rear of this document.

Emissions capability

All 4012-46TAG ratings are optimised to the 'best fuel consumption' and do not comply to Harmonised International Regulation Emission Limits. More information on these statements can be obtained by contacting the Applications Department at Perkins Engines Company Limited.

4012-46TAG3A - Temperate, Standby power

Maximum additional restriction (duct allowance) to cooling airflow and resultant minimum airflow		
Ambient clearance: 50% Glycol	Duct allowance (Pa)	Min airflow (m³/sec)
40 °C	250	32

4012-46TAG3A - Tropical, Standby power

Maximum additional restriction (duct allowance) to cooling airflow and resultant minimum airflow		
Ambient clearance: 50% Glycol	Duct allowance (Pa)	Min airflow (m³/sec)
50 °C	125	36

Induction system

Maximum air intake restriction of engine:

-clean filter	2 kPa
-dirty filter	5 kPa
-air filter type	paper element

Exhaust system

Exhaust outlet flange size..... 2 x 254 mm Table D flanges
Back pressure for total system at standby power..... 5 kPa
For recommended pipe sizes, please refer to the Installation Manual.

Fuel system

Recommended fuel to conform to:

BS2869 1998 Class A2 or BS EN590

Injection system..... direct
Fuel injection pump and injector type..... combined unit injector
Injector pressure..... 140 MPa
Lift pump type..... Tuthill TCH 1-089

Delivery

-4012-46TAG3A..... 1224 litres/hour
Heat retained in fuel to tank..... 8 kWt
Fuel inlet temperature to be less than..... 58 °C
Delivery pressure..... 300 kPa
Maximum suction head at pump inlet..... 2,5 m
Maximum static pressure head.. see installation manual for details
Fuel filter spacing..... 10 microns
Governor type..... electronic
Governing to ISO 8528-12 CLASS 3 and 4; ISO 8528-5 CLASS G2
Tolerance on fuel consumption..... +5%

Fuel consumption

4012-46TAG3A Tropical cooling - 60 Hz		
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75% Prime	221	277
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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

Electrical system

Type..... negative ground / insulated return
Alternator voltage..... 24 volts with integral regulator
Alternator output..... 40 amps output, 28 volts at 20 °C ambient
Starter type..... axial
Starter motor voltage..... 24 volts
Starter motor power..... 16,4 kW
Number of teeth on flywheel..... 156
Number of teeth on starter pinion..... 12
Minimum cranking speed..... 120 rev/min
Pull in current of starter motor
solenoid @ -25 °C max ⁽¹⁾..... 30 amps at 24 volts
Hold in current of starter motor
solenoid @ -25 °C max..... 9 amps at 24 volts
Stop solenoid pull-in current ⁽¹⁾..... 31 amps at 24 volts
Stop solenoid hold-in..... 0,6A at 24 volts
1. All leads to rated at 10 amps minimum

Cold start recommendations

Temperature range	
5 °C down to -10 °C	Oil: 15W40 CH4 Starter: 2 x 24 volts Battery: 4 x 12V 286 Ah Max. breakaway current: 1600 amps Cranking current: 810 amps Aids: block heaters Min mean cranking speed: 120 rev/min

Notes:

- The battery capacity is defined by the 20 hour rate
- The oil specification should be for the minimum ambient temperature as the oil will not be warmed by the immersion heater
- Breakaway current is dependant on battery capacity available. Cables should be capable of handling the transient current which may be up to double the steady cranking current.

Engine mounting

Maximum static bending moment at rear face of block... 1356 Nm
Maximum additional load applied to flywheel
due to all rotating components..... 850 kg

- ✧ 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:5000*2150*2500mm
Weight:10000kg



Dimension:6000*2400*2900mm
Weight:12300kg
Fuel Tank Capacity:1000-3000L

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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