

# 4000 Series 4012-46TWG4A Diesel Engine – Electropak

Non-Emissions compliant

1342 kWm 1500 rpm

1342 kWm 1800 rpm

The new 4012-46TWG engine has been developed using the latest engineering techniques and builds on the strengths of the already very successful 4012 Series family and addresses today's uncompromising demands within the power generation industry. Developed from a proven heavy-duty industrial base these products offer superior performance and reliability.

The 4012-46TWG4A is a turbocharged and air-to-water charge-cooled, 12 cylinder diesel engine which offers a choice of temperate or tropical cooling. Its premium features provide exceptional power-to-weight ratio resulting in exceptional fuel consumption.

The overall performance and reliability characteristics makes this one of the prime choices for today's power generation industry.

## Economic power

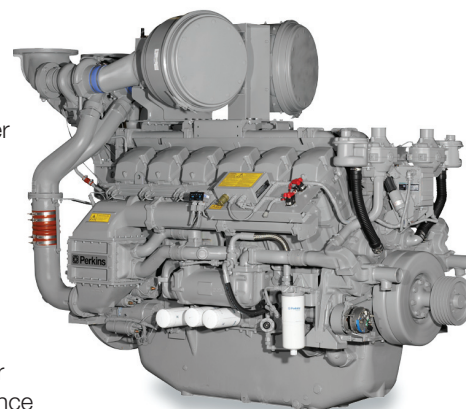
- Individual 4 valve per cylinder give optimised gas flows, while unit fuel injectors ensure ultra fine fuel atomisation and hence controlled rapid combustion for efficiency and economy
- Commonality of components with other engines in the 4000 Series family allows reduced parts stocking levels for the end users

## Reliable power

- Developed and tested using latest engineering techniques
- Piston temperatures are controlled by an advanced gallery jet cooling system
- All engines are tolerant of a wide range of temperatures without derate
- Service is provided through the extensive Perkins network of distributors and dealers worldwide

## Clean, efficient power

- Exceptional power to weight ratio and compact size for easier transportation and installation
- Designed to provide excellent service access for ease of maintenance
- Engines designed to comply with major international standards
- Low gaseous emissions for cleaner operation



## Product support

- Perkins actively pursues product support excellence by ensuring our distribution network invest in their territory – strengthening relationships and providing more value to you, our customer
- Through an experienced global network of distributors and dealers, fully trained engine experts deliver total service support around the clock, 365 days a year. They have a comprehensive suite of web based tools at their fingertips covering technical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine
- Throughout the entire life of a Perkins engine, we provide access to genuine OE specification parts and service. We give 100% reassurance that you receive the very best in terms of quality for lowest possible cost .. wherever your Perkins powered machine is operating in the world

*This engine does not comply with harmonized international regulated emissions limits*

Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power			
				Gross		Net	
		kVA	kWe	kWm	bhp	kWm	bhp
1500	Prime Power	1500	1200	1308	1762	1254	1682
	Standby (maximum)	1600	1280	1396	1931	1342	1800
1800	Prime Power	1500	1200	1308	1762	1254	1682
	Standby (maximum)	1600	1280	1396	1931	1342	1800

The above ratings represent the engine performance capabilities guaranteed within plus or minus 3% at the reference conditions equivalent to those specified in ISO 8528/1, ISO 3046/1, BS 5514/1.

**Rating conditions:** 25°C air inlet temperature, barometric pressure 100 kPa, relative humidity 30%. Please consult your distributor or the factory for ratings in other ambient conditions. *Note: For full ratings please refer to Perkins Engines Company Limited. All electrical ratings are based on an average alternator efficiency and a power factor of 0.8. Fuel specification: BS2869: Class A2.*

### Rating Definitions

**Prime Power:** Power available for variable load with an average load factor not exceeding 80% of the prime power rating in any 24 hour period. Overload of 10% permitted for 1 hour in every 12 hours operation. **Standby (maximum):** Power available at variable load in the event of a main power network failure up to a maximum of 500 hours per year. No overload is permitted.

Photographs are for illustrative purposes only and may not reflect final specification.

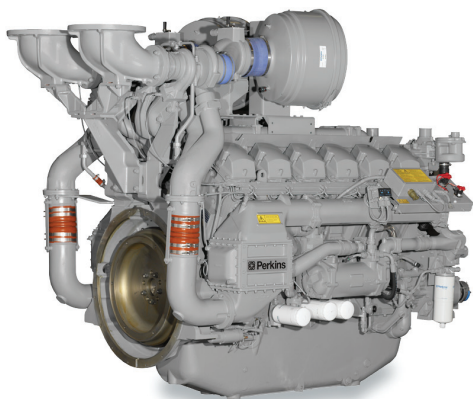
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THE HEART OF EVERY GREAT MACHINE

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1342 kWm 1500 rpm  
1342 kWm 1800 rpm



## Standard ElectropaK specification

### Air inlet

- Mounted air filters and turbochargers

### Fuel system

- Direct fuel injection system with fuel lift pump
- New compact air-to-water charge coolers
- Governing to ISO 8528-5 class G3 with isochronous capability
- Full-flow spin-on fuel oil filters

### Lubrication system

- Wet sump with filler and dipstick
- Full-flow spin-on oil filters
- Engine jacket water/lub oil temperature stabiliser

### Cooling system

- Two twin thermostats
- System designed for ambients up to 50°C
- Powder coated radiator comprising: water radiator; fuel oil cooling (optional); all pipes, hoses and clips; fan; pulleys; fan belts and safety guards

### Electrical equipment

- 24 volt starter motor and 24 volt alternator with integral regulator and DC output
- Overspeed switch and magnetic pickup
- Turbine inlet temperature shutdown switch
- Twin high coolant temperature shutdown switches
- Twin low oil pressure shutdown switches

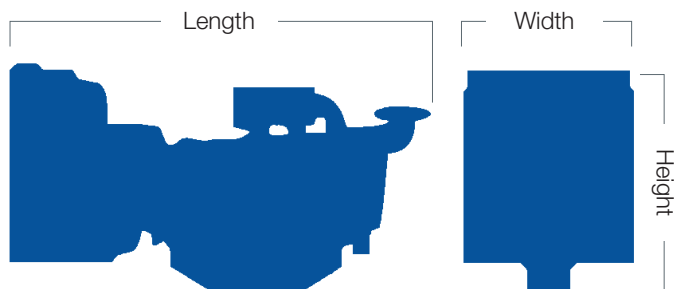
### Flywheel and housing

- Flywheel to SAE J620 size 18
- SAE 00 flywheel housing

## Optional equipment

Fuel oil cooler integral to the radiator assembly  
Immersion heater with thermostat

*Note: This list is not exhaustive, further options will be available at the product's introduction*



See 'General data – Dimensions' below

Fuel Consumption (based on net power)				
Engine Speed	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
Standby Power	219	350	222	355
100% Prime Power	217	316	222	323
75% Prime Power	214	233	220	257
50% Prime Power	220	160	225	175

## General data

Number of cylinders .....	12
Cylinder arrangement .....	60° Vee form
Bore and stroke .....	160 x 190 mm
Displacement .....	45.842 litres
Induction system ....	Turbocharged and air to water charge cooled
Cycle .....	4 stroke
Combustion system .....	Direct injection
Compression ratio .....	13:1
Rotation .....	Anti-clockwise, viewed from flywheel end
Cooling system .....	Water-cooled
Firing order .....	1A, 6B, 5A, 2B, 3A, 4B, 6A, 1B, 2A, 5B, 4A, 3B
Total lubrication system capacity .....	177 litres
Total coolant capacity .....	201 litres
Total weight (dry) .....	5283 kg
	<b>Temperature</b>
	<b>Tropical</b>
Dimensions – Length .....	3714 mm
Width .....	1780 mm
Height .....	2255 mm

Final weight and dimensions will depend on completed specification

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