

4000 Series

4012-46TWG2A

Diesel Engine – Electropak

Non-Emissions compliant

1166 kWm 1500 rpm
1155 kWm 1800 rpm

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.

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 4012-46TWG2A 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.

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	Baseload Power	989	791	884	1185	833	1117
	Prime Power	1253	1002	1106	1483	1055	1415
	Standby Power	1385	1108	1217	1632	1166	1564
1800	Baseload Power	976	781	880	1180	822	1102
	Prime Power	1240	992	1102	1478	1044	1400
	Standby Power	1371	1097	1213	1626	1155	1548

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

Baseload Power: Power available for continuous full load operation. No overload is permitted.

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.

All information in this document is substantially correct at time of printing and may be altered subsequently

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4012 Series

4012-46TWG2A

Standard ElectropaK Specification

Air inlet

- Mounted air filters and turbochargers

Fuel System

- Direct fuel injection system with fuel lift pump
- 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 temperate shutdown switches
- Twin low oil pressure shutdown switches

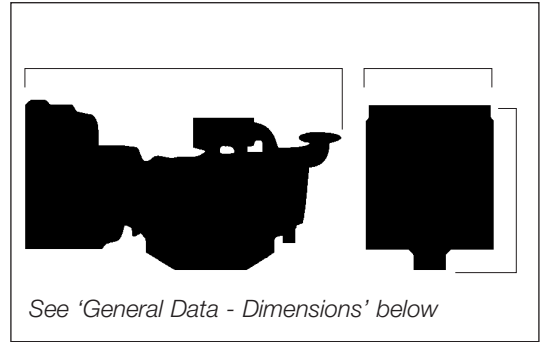
Flywheel and Housing

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

Optional Equipment

Choice of temperate or tropical radiators available dependant on operational cooling requirements
 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



Engine Speed	Fuel Consumption			
	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
Standby	211	291	213	289
Prime power	211	262	212	260
Continuous baseload	213	209	214	207
75% of prime power	tbc	tbc	tbc	tbc
50% of prime power	tbc	tbc	tbc	tbc

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	13.6:1		
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	177.6 litres		
Total coolant capacity	Temperate	Tropical	
Total weight	225 litres	240 litres	
Dimensions	5540 kg	5650 kg	
	Length	3924 mm	3944 mm
	Width	2192 mm	2192 mm
	Height	2267 mm	2759 mm

Final weight and dimensions will depend on completed specification



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