

# 4000 Series

## 4012-46TWG3A

Diesel Engine – Electropak

Non-Emissions compliant

1263 kWm 1500 rpm

1263 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 4012-46TWG3A 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			
		kVA	kWe	Gross		Net	
				kWm	bhp	kWm	bhp
1500	Baseload Power	1080	864	967	1297	909	1220
	Prime Power	1364	1091	1207	1618	1149	1540
	Standby (maximum)	1500	1200	1321	1772	1263	1694
1800	Baseload Power	1086	869	973	1304	915	1226
	Prime Power	1369	1095	1211	1624	1153	1546
	Standby (maximum)	1500	1200	1321	1772	1263	1694

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.

# 4012 Series

## 4012-46TWG3A

### 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

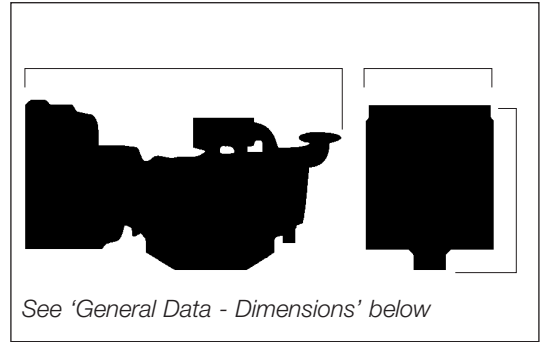
#### Optional Equipment

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*



See 'General Data - Dimensions' below

Engine Speed	Fuel Consumption			
	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
Standby	215	320	216	321
Prime power	211	285	212	288
Continuous baseload	212	227	213	229
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	
	<b>Temperate</b>	<b>Tropical</b>
Total coolant capacity	225 litres	240 litres
Total weight	5540 kg	5650 kg
Dimensions	Length	3924 mm
	Width	2192 mm
	Height	2267 mm

Final weight and dimensions will depend on completed specification



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