

# 4000 Series

## 4012-46TAG2A

Diesel Engine – ElectropaK

1395 kWm 1500 rpm



### Economic power

- Individual four valve per cylinder heads give optimised gas flows, whilst digitally governed 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

### Reliable power

- Developed and tested using latest engineering techniques
- Piston temperature are controlled by an advanced gallery jet cooling system
- All engines are tolerant of a wide range of temperatures without derate
- Service is provided by the extensive Perkins network of over 4,000 distributors and dealers worldwide

### Clean, efficient power

- Exceptional power to weight ratio and compact size for easier transportation and installation
- New designed radiator assemblies with corrosion inhibiting powder coated finish; fewer pipe joints and easier access to reduce maintenance times
- Designed to provide excellent service access for ease of maintenance
- Engines designed to comply with major international standards
- Low gaseous emissions that will satisfy the requirements of 1/2 TA Luft (1986)

The Perkins 4000 Series family of 6, 8, 12 and 16 cylinder diesel engines was designed in advance of today's uncompromising demands within the power generation industry and includes superior performance and reliability. The 4012-46TAG2A ElectropaK is a newly developed turbocharged, air-to-air charge cooled, 12 cylinder diesel engine. Offered with either Temperate or Tropical cooling packages (with or without fuel oil cooling). Their premium design and specification features provide economic and durable operation as well as exceptional power to weight ratio, improved serviceability, low gaseous emissions, overall performance and reliability essential to the power generation market.

Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power			
		kVA	kWe	Gross		Net	
				kWm	bhp	kWm	bhp
1500	Baseload Power	1194	955.2	1047	1405	1005	1348
	Prime Power	1505	1204.0	1309	1756	1267	1700
	Standby (maximum)	1656	1325.0	1437	1926	1395	1870

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.

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### 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 G2 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; air charge cooled 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

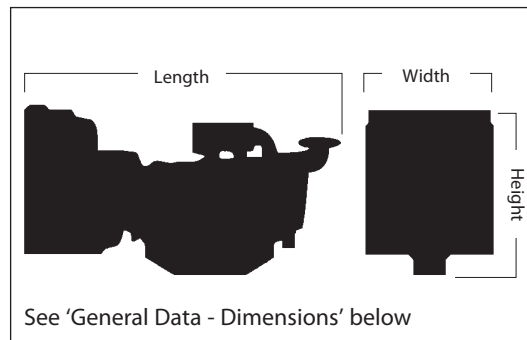
#### Optional Equipment

Choice of temperature 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, for further options please contact your local Perkins representative



Fuel Consumption		
Engine Speed	1500 rev/min	
	g/kWh	l/hr
Standby	210	341
Prime power	207	305
Continuous baseload	204	239
75% of prime power	205	227
50% of prime power	206	152

#### 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 air 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	216 litres	198 litres
Dimensions	5517 kg	6026 kg
Length	3951 mm	3971 mm
Width	1777 mm	2192 mm
Height	2231 mm	2260 mm

Final weight and dimensions will depend on completed specification

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