

4000 Series

4012-46TAG3A

Diesel Engine – ElectropaK

1579 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 4012-46TAG3A 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	1420	1136	1256	1684	1196	1604
	Prime Power	1705	1364	1496	2006	1436	1925
	Standby (maximum)	1875	1500	1639	2198	1579	2117

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 temperate shutdown switches
- Twin low oil pressure shutdown switches

Flywheel and Housing

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

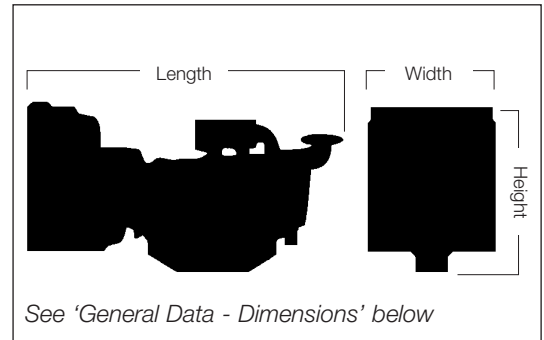
Optional Equipment

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, for further options please contact your Perkins representative



Fuel Consumption		
Engine Speed	1500 rev/min	
	g/kWh	l/hr
Standby	213	391
Prime power	212	354
Continuous baseload	212	295
75% of prime power	208	260
50% of prime power	203	169

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
	198 litres	207 litres
Total weight	6026 kg	
Dimensions	Length	3971mm
	Width	2192 mm
	Height	2260 mm
	3935 mm	2164 mm
	2260 mm	2610 mm

Final weight and dimensions will depend on completed specification



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