



4000 Series

4012TWG2

Diesel Engine – ElectropaK
Non-Emissions compliant

1156 kWm at 1500 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 over 4,000 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 Perkins New 4012TWG ElectropaK has been designed using the already successful 4012TWG Electrounit engine. This engine has been designed to meet today's uncompromising demands within the power generation industry and includes superior performance and reliability.

The 4012TWG2 ElectropaK is a turbocharged air to water charge cooled, 12 cylinder diesel engine which offers a choice of Temperate or Tropical cooling packages. Its 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.

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	992	794	878	1177	827	1109
	Prime Power	1255	1004	1097	1471	1046	1402
	Standby (maximum)	1387	1110	1207	1618	1156	1550

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

4012TWG2

Standard ElectropaK Specification

Air inlet

- Mounted air filters and turbochargers

Fuel System

- Direct fuel injection system with fuel lift pump
- Electronic governor to ISO 3046 part 4 class A1
- 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

- Twin gear driven circulating pumps
- Two twin thermostats
- 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/40 alternator with integral regulator and DC output
- Overspeed switch and magnetic pickup
- Turbine inlet temperature shutdown switch
- 24 volt stop solenoid (energised to run)
- 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

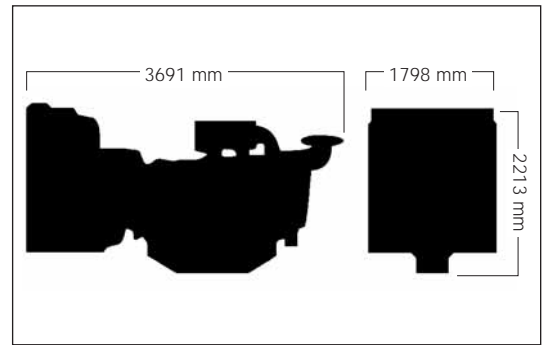
Optional Equipment

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



General Data

Number of cylinders	12
Cylinder arrangement	60° Vee form
Cycle	4 stroke
Induction system	Turbocharged and air to water charge cooled
Combustion system	Direct injection
Cooling system	Water-cooled
Bore and stroke	160 x 190 mm
Displacement	45.842 litres
Compression ratio	13.6:1
Direction of rotation	Anti-clockwise, viewed from flywheel end
Firing order	1A, 6B, 5A, 2B, 3A, 4B, 6A, 1B, 2A, 5B, 4A, 3B
Total lubrication system capacity	177 litres
	Temperate Tropical
Total coolant capacity	73 litres 235 litres
Total weight	5180 kg 5220 kg
Dimensions	Length 3691 mm 3703 mm
	Width 1798 mm 1780 mm
	Height 2213 mm 2207 mm

Final weight and dimensions will depend on completed specification

Fuel Consumption (g/kWh)		
Engine Speed	1500 rev/min	
	g/kwh	l/hr
Standby	207	294
Prime Power Rating	205	265
Continuous Baseload Rating	204	211
At 75% of Prime Power Rating	210	203
At 50% of Prime Power Rating	238	154



Perkins Engines Company Limited

Peterborough PE1 5NA

United Kingdom

Telephone +44 (0)1733 583000

Fax +44 (0)1733 582240

www.perkins.com

Distributed by