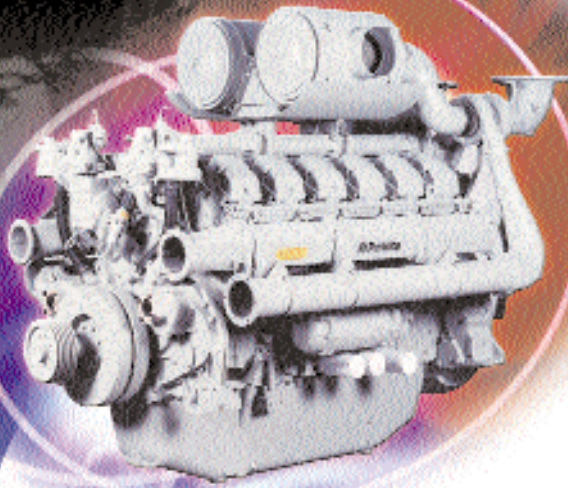




# 4000 Series Diesel Engine - Electro Unit 4012TAG1 4012TAG1A 1250 kWm 1500 rpm 1255 kWm 1800 rpm



The Perkins 4000 Series family of 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 4012TAG1 and 1A are turbo-charged, air-to-air charge cooled, 12 cylinder vee form diesel engines. 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.

### Economic power

Individual four valve cylinder heads 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 4000 Series family allows reduced parts stocking levels.

### 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 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.  
Designed to provide excellent service access for ease of maintenance.  
Engines designed to comply with major international standards.  
Low gaseous emissions for cleaner operation

Engine Speed rev/min	Type of Operation	Typical Generator Output (Net)		Engine Power			
				Gross		Net	
		kVA	kWe	kW	bhp	kW	bhp
1500 4012TAG1A	Baseload Power	1080	864	942	1263	900	1208
	Prime Power	1364	1091	1178	1579	1136	1523
	Standby (maximum)	1500	1200	1292	1732	1250	1676
1800 4012TAG1	Baseload Power	1086	869	942	1263	905	1213
	Prime Power	1369	1095	1178	1579	1141	1529
	Standby (maximum)	1506	1205	1292	1733	1255	1682

**Note:** 4012TAG1A is offered for 50 hz operation only

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, BS5514/1.

**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 A1 +A2 or ASTM D975 No 2D.

#### 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 one hour in every twelve 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.

# 4000 Series

## 4012TAG1

## 4012TAG1A

### Standard Electro Unit Specification

#### Air Inlet

Mounted air filters and turbochargers

#### Fuel System

Unit fuel injectors with lift pump and hand stop control  
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  
Crankshaft pulley for fan drive

#### Electrical Equipment

24 volt starter motor and 24 volt/40 amp alternator with integral regulator and DC output  
24 volt combined high coolant temperature/low oil pressure switch  
Overspeed switch and magnetic pickup  
Turbine inlet temperature shutdown switch  
24 volt stop solenoid (energised to run)

#### Flywheel and Housing

Flywheel to SAE J620 size 18  
SAE 00 flywheel housing

### Optional Equipment

The following optional extra equipment is available to make up the specifications to the Perkins ElectropaK specification:  
Tropical radiator including: water pipes, clips and hoses, fan, fan guards and belts

#### Other optional extra equipment available:

Twin heavy duty air cleaner - paper element with pre-cleaner  
Changeover lubricating oil filter  
Changeover fuel oil filter  
Immersion heater with thermostat  
Water pipes, clips and hoses for radiator  
Air starters  
Instrument panel

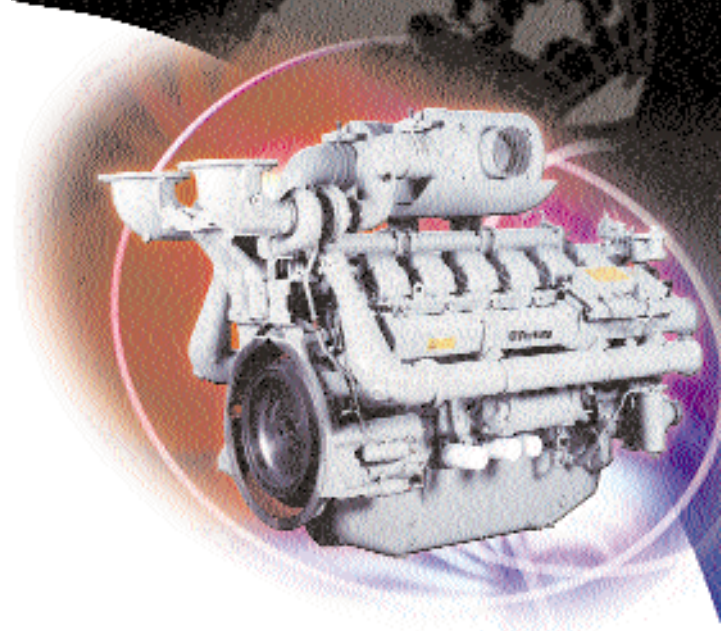
*Note: This list is not exhaustive, further options may be available to meet particular applications on enquiry to Perkins Sales Department*



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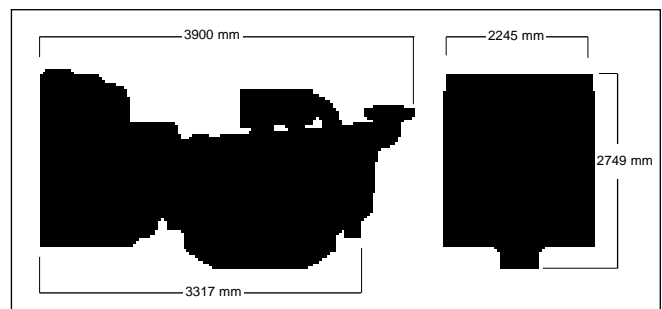
All information given in this leaflet is correct at the time of printing but it may be changed subsequently by the Company



### General Data

<b>Number of Cylinders</b>	12	
<b>Cylinder Arrangement</b>	60° vee form	
<b>Cycle</b>	4 stroke	
<b>Induction System</b>	Turbocharged and air to air charge cooled	
<b>Combustion System</b>	Direct injection	
<b>Cooling System</b>	Water-cooled	
<b>Bore and Stroke</b>	160 x 190 mm	
<b>Displacement</b>	45.842 litres	
<b>Compression Ratio</b>	13.6:1	
<b>Direction of Rotation</b>	Anti-clockwise, viewed from flywheel end	
<b>Firing Order</b>	1A, 6B, 5A, 2B, 3A, 4B, 6A, 1B, 2A, 5B, 4A, 3B	
<b>Total Lubrication System Capacity</b>	177.6 litres	
	<b>Electro Unit</b>	<b>ElectropaK</b>
<b>Total Coolant Capacity</b>	73 litres	235 litres
<b>Total Weight (Dry)</b>	4400 kg	5760 kg
<b>Length</b>	2715 mm	3900 mm
<b>Width</b>	1725 mm	2245 mm
<b>Height</b>	2120 mm	2749 mm

Fuel Consumption g/kWh		
Engine speed	1500 rev/min	1800 rev/min
	4012TAG1A	4012TAG1
At standby maximum power rating	203	206
At prime power rating	199	202
At continuous baseload rating	197	199
At 75% of prime power rating	195	198
At 50% of prime power rating	194	199
At 25% of prime power rating	207	212



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