

## 4000 Series

### 4012TAG1

### 4012TAG1A

#### Diesel Engine – Electro Unit

1250 kWm 1500 rpm

1255 kWm 1800 rpm



#### 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

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.

Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power			
		kVA	kWe	Gross		Net	
				kWm	bhp	kWm	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, 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 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 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.

# 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

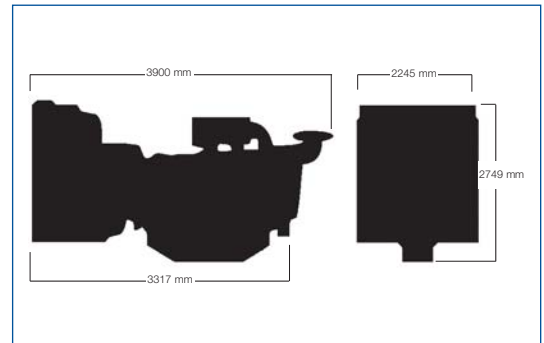
Immersion heater with thermostat

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*



### General Data

Number of cylinders	12
Cylinder arrangement	60° Vee form
Cycle	4 stroke
Induction system	Turbocharged and air to air 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	177.6 litres
Total coolant capacity	<b>Electro Unit</b> 73 litres <b>ElectropaK</b> 235 litres
Total weight (dry)	4400 kg    5760 kg
Length	2715 mm    3900 mm
Width	1725 mm    2245 mm
Height	2120 mm    2749 mm

Final weight and dimensions will depend on completed specification

Fuel Consumption (g/kWh)		
Engine Speed	1500 rev/min 4012TAG1A	1800 rev/min 4012TAG1
At Standby Maximum 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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