

# 4000 Series

# 4016TEG1

Diesel Engine –  
Electro Unit

**1692 kWm 1500 rev/min**

**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 4016TEG1 is a turbocharged, air to water charge cooled, 16 cylinder vee form diesel engine. 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.



## Economic power

- Individual 4 valve cylinder heads giving optimised gas flows.
- Unit fuel injectors ensure ultra fine fuel atomisation and hence controlled rapid combustion.
- Commonality of components with other engines in 4000 Series family for reduced stocking levels.

## Reliable power

- Developed and tested using latest engineering techniques.
- Piston temperatures controlled by an advanced gallery jet cooling system.
- Tolerant of a wide range of temperatures without derate.
- Over 4000 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.

Engine Speed rev/min	Type of Operation	Typical Generator Output (Net)		Engine Power			
		kVA	kWe	Gross		Net	
				kWm	bhp	kWm	bhp
1500	Continuous baseload	<b>1476</b>	<b>1181</b>	1230	1650		
	Prime power	<b>1845</b>	<b>1476</b>	1538	2062		
	Standby (maximum)	<b>2030</b>	<b>1624</b>	1692	2269		

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.

**Ratings 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

**Continuous baseload** – 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 for a maximum of 500 hours per year. No overload is permitted.

## Standard Electro Unit Specification

### Governing

- Electronic governor to ISO 3046 part 4 (BS5514/4) A1

### Electrical equipment

- 24 volt electrical equipment comprising twin starter motors, battery charging alternator with integral voltage regulator and activating switch

### Flywheel and housing

- SAE 18 flywheel, SAE 00 housing

### Fuel system

- Direct fuel injection system, fuel lift pump, hand stop control

### Lubrication system

- Lubricating oil filters
- Engine jacket water/oil temperature stabilizers

### Cooling system

- Two twin thermostats, two jacket water pumps
- Free end crankshaft pulley

### Engine protection

- 24 volt stop solenoids (energised to run)
- Combined high coolant – temperature/low oil pressure switch
- Overspeed switch and magnetic pickup
- Induction air shut-off valves
- Thermocouples for exhaust temperature

## Optional Equipment

### The following optional extra equipment is available

- Heat exchanger including pipework and de-aeration tank
- Raw water pump

### Other optional extra equipment available

- Twin heavy duty air cleaners – paper element with pre-cleaner
- Changeover lubricating oil filter
- Changeover fuel oil filter
- Immersion heater with thermostat
- Air starters
- Instrument panel

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



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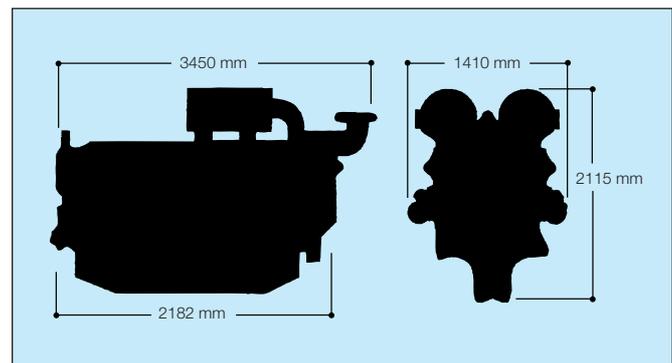
All information given in this leaflet is correct at the time of printing, but it may be changed subsequently by the Company.

## General Data

<b>Number of cylinders</b>	16
<b>Cylinder arrangement</b>	60° Vee form
<b>Cycle</b>	4-stroke
<b>Induction system</b>	Turbocharged. Air to water charge cooled
<b>Combustion system</b>	Direct injection
<b>Cooling system</b>	Water-cooled
<b>Displacement</b>	61.123 litres
<b>Bore and stroke</b>	160 mm x 190 mm
<b>Compression ratio</b>	13.6:1
<b>Direction of rotation</b>	Anti-clockwise, viewed from flywheel end
<b>Firing order</b>	1A,1B,3A,3B,7A,7B,5A,5B 8A,8B,6A,6B,2A,2B,4A,4B
<b>Total lubrication system capacity</b>	237.2 litres

	<b>Electro Unit</b>	<b>Electro Unit with heat exchanger</b>
<b>Total coolant capacity</b>	95 litres	—
<b>Total weight (dry)</b>	5820 kg	6000 kg
<b>Length</b>	3260 mm	3450 mm
<b>Width</b>	1410 mm	1410 mm
<b>Height</b>	2115 mm	2115 mm

<b>Fuel consumption g/kWh</b>	
<b>Engine speed</b>	<b>1500 rev/min</b>
At standby maximum power rating	210
At prime power rating	208
At continuous baseload rating	
At 75% of prime power rating	205
At 50% of prime power rating	210
At 25% of prime power rating	230



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