

4000 Series

Diesel Engine - Electro Unit

4012TAG2

4012TAG2A

1380 kWm 1500 rpm
1386 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 4012TAG2 and 2A 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 4012TAG2A	Baseload Power	1194	955	1038	1391	995	1364
	Prime Power	1505	1204	1296	1737	1254	1682
	Standby (maximum)	1656	1325	1422	1906	1380	1851
1800 4012TAG	Baseload Power	1201	961	1038	1391	1001	1342
	Prime Power	1512	1210	1297	1738	1260	1689
	Standby (maximum)	1663	1331	1423	1907	1386	1858

Note: 4012TAG2A 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.

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4012TAG2A

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

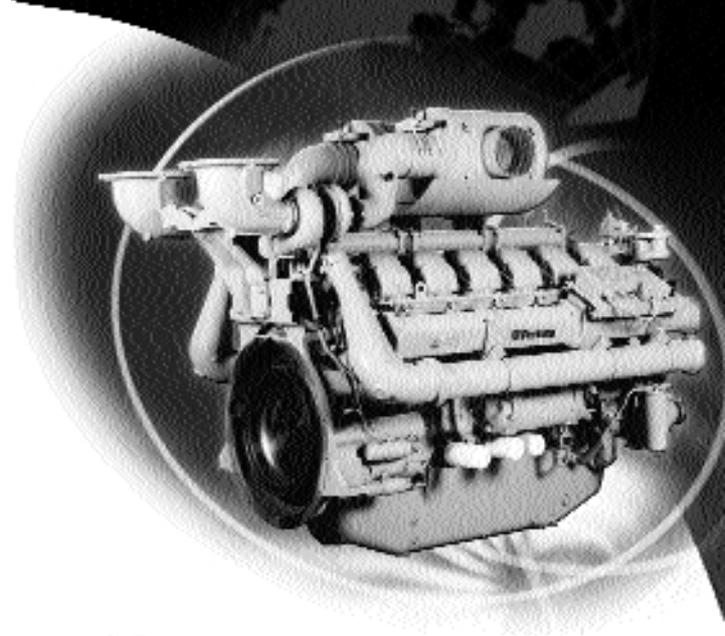
Note: This list is not exhaustive, further options may be available to meet particular applications on enquiry to Perkins Sales Department



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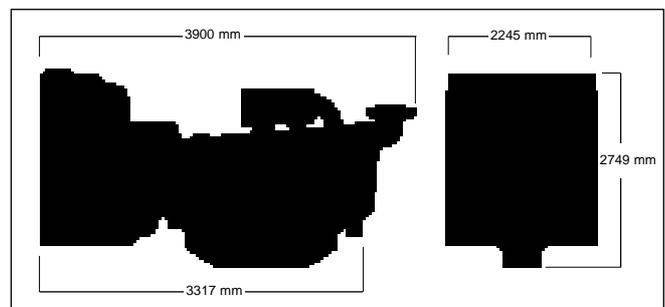
All information given in this leaflet is correct at the time of printing but it may be changed subsequently by the Company



General Data

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	Electro Unit 73 litres	ElectropaK 235 litres
Total Weight (Dry)	4400 kg	5800 kg
Length	2715 mm	3900 mm
Width	1725 mm	2245 mm
Height	2120 mm	2749 mm

Engine speed	Fuel Consumption g/kWh	
	1500 rev/min 4012TAG2A	1800 rev/min 4012TAG2
At standby maximum power rating	206	209
At prime power rating	201	208
At continuous baseload rating	197	202
At 75% of prime power rating	197	204
At 50% of prime power rating	195	203
At 25% of prime power rating	207	221



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