

3000 Series

Diesel engine - ElectropaK 3012TAG1A

589 kWm @ 1500 rev/min
660 kWm @ 1800 rev/min

The Perkins 3000 Series is a family of well proven 8 and 12 cylinder vee form diesel engines designed in advance of today's uncompromising demands within the power generation industry including superior performance and reliability.

The 3012TAG1A is a turbocharged and air-to-air charge cooled 12 cylinder diesel engine. Its premium design and specification features provide economic and durable operation as well as exceptional power to weight ratio, commonality of components, improved serviceability, low gaseous emissions, overall performance and reliability essential to the power generation market.

Economic power

Directed input ports in monobloc cylinder heads give optimised gas flows. High compression ratios combined with high injection pressures ensure ultra fine atomisation and controlled rapid combustion with low emissions. Commonality of components with other engines in the 3000 Series family for reduced stocking levels.

Reliable power

Developed and tested using latest engineering techniques and finite element analysis for high reliability, low oil usage and low wear rates. High compression ratios also ensure clean rapid starting in all conditions. Supported by a worldwide network of 4,000 distributors and dealers.

Clean, efficient power

Exceptional power to weight ratio and compact size give optimum power density and make installation and transportation easier. Designed to provide excellent service access for ease of maintenance.

Engine Speed rev/min	Type of Operation	Typical Generator Output (Net)		Engine Power			
		kVA	kWe	Gross		Net	
				kW	bhp	kW	bhp
1500	Baseload Power	575	458	502	673	487	653
	Prime Power	630	504	551	739	536	719
	Standby (Maximum)	692	554	604	810	589	790
1800	Baseload Power	642	513	574	769	546	732
	Prime Power	705	564	628	842	600	805
	Standby (Maximum)	776	620	688	923	660	885

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1, DIN 6271. Derating may be required for conditions outside these: consult Perkins Engines Company Limited.

Fuel specification: BS 2869 Class 2 or ASTM D975 D2. **Lubricating Oil:** 15W40 to ACEA E3 or API CG4.

Genset powers are typical and are calculated on an average alternator efficiency, and power factor (cos θ) of 0.8.

Rating Definitions

Baseload Power – Power available for continuous full load operation. Overload of 10% permitted for 1 hour in every 12 hours' operation.

Prime Power – Power available at variable load with an average load factor not exceeding 80% of the Prime Power rating. 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, of which up to 300 hours may be continuous. No overload is permitted.

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Standard ElectropaK Specification

Air Inlet

Mounted air filters and twin turbochargers

Fuel System

In-line fuel injection pump with mechanical governor.
Governing to ISO 3046/4:1986 (BS 5514/4) Class A1
Spin-on fuel filters with primary filter/water separator

Lubrication System

Wet sump with filler and dipstick
Full-flow 'spin-on' filters; oil cooler incorporated in filter header

Cooling System

Gear-driven circulating pump
Mounted belt-driven fan
Radiator supplied loose incorporating air-to-air charge cooler
System designed for ambients up to 54°C (non-glycol)

Electrical Equipment

24 Volt starter motor and 24V 55 Amp alternator with DC output
24 Volt instrument senders/switches for oil pressure, coolant temperature and coolant level
24 Volt stop solenoid (energised to run)

Flywheel and Housing

High inertia flywheel to SAE J620 Size 18
SAE 0 flywheel housing
Position for magnetic speed sensor

Mountings

Front mounting bracket

Literature

User's Handbook and Parts Manual

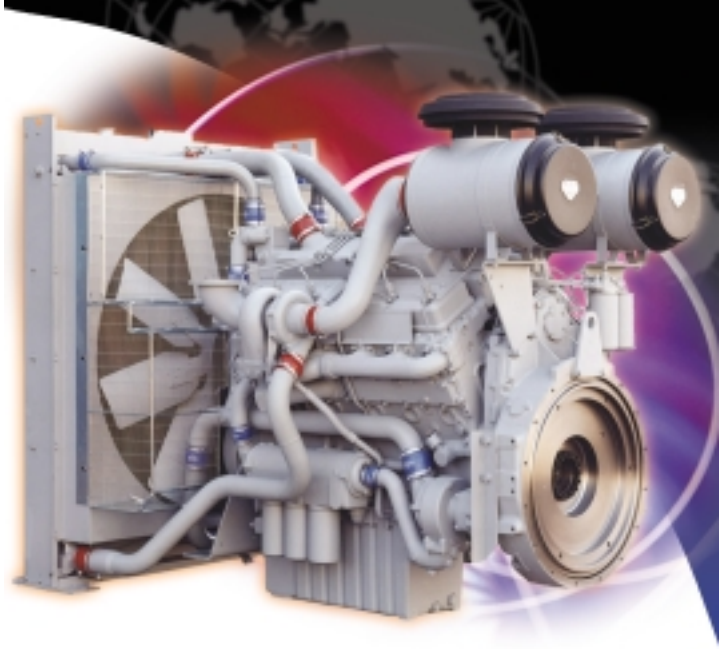
Optional Equipment

Barber-Colman Electric Governor
240 Volt/1500 Watt immersion heaters (2)
Hours Counter
Electric Tachometer with speed sensor



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All information in this leaflet is substantially correct at the time of printing but 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	135 x 152 mm
Displacement	26.11 litres
Compression Ratio	14.5:1
Direction of Rotation	Anti-clockwise viewed on flywheel
Total Lubrication System Capacity	73.8 litres
Total Coolant Capacity	122.7 litres
Dry Weight (ElectropaK)	2365 kg
Length	2315 mm
Width	1406 mm
Height	1756 mm

Fuel Consumption				
Engine speed	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
At Standby Maximum rating	212	148.7	215	168.9
At Prime Power rating	212	135.3	215	153.6
At Baseload rating	212	130.0	216	140.4
At 75% of Prime Power rating	213	101.9	220	117.9
At 50% of Prime Power rating	220	70.2	229	81.8

