



2800 Series

Diesel Engine - ElectropaK

2806C-E18TAG1

553 kWm at 1500 rpm
591 kWm at 1800 rpm



The Perkins 2800 Series is a family of well-proven 6 cylinder 16 and 18 litre in-line diesel engines, designed to address today's uncompromising demands within the power generation industry with particular aim at the standby market sector. Developed from a proven heavy duty industrial base, the engine offers superior performance and reliability.

The 2806C-E18TAG1 is a turbocharged and air-to-air charge cooled, 6 cylinder diesel engine of 18 litres capacity. Its premium features provide economic and durable operation, low gaseous emissions and advanced overall performance and reliability.

Economic power

- Mechanically operated unit fuel injectors with electronic control combined with carefully matched turbocharging give excellent fuel atomisation and combustion with optimum economy.
- Low emissions result from electronic control of fuel injected.

Reliable power

- Developed and tested using the 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.
- Support comes from a worldwide network of 4,000 distributors and dealers.

Compact, clean and efficient power

- Exceptional power to weight ratio and compact size give optimum power density and make installation and transportation easier and cheaper.
- Designed to provide excellent service access for ease of maintenance.
- The availability of a low emissions specification allows minimum environmental impact through operation, and complies with all major emissions legislation. The standard specification model provides superior fuel consumption which maximises engine efficiency.

Clean power

- The 2806C-E18TAG1 is capable of meeting the requirements of EPA Tier II, EU Stage 2, 1/2 TA luft (1986), TA luft (1986) and Indian emissions legislation.

Engine Speed rev/min	Type of Operation	Typical Generator Output (Net)		Engine Power			
				Gross		Net	
		kVA	kWe	kW	bhp	kW	bhp
1500	Continuous Baseload*	450	360	394	528	386	518
	Prime power	550	440	483	648	475	637
	Standby (maximum)	635	508	561	752	553	742
1800	Continuous Baseload*	563	450	498	668	484	649
	Prime Power	625	500	552	740	538	721
	Standby (maximum)	688	550	605	811	591	793

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS5514/1

* Baseload ratings are under development and will be available later.

Derating may be required for conditions outside these; consult Perkins Engines Company Limited

Generator powers are typical and are based on an average alternator efficiency and a power factor (cos. θ) of 0.8

Fuel specification: BS 2869: Part 2 1998 Class A2 or ASTM D975 D2

Lubricating oil: 15W40 to API CG4

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 a load factor not exceeding 80% of the prime power rating. Overload of 10% is permitted for 1 hour in every 12 hours' operation

Standby power: Power available 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 run continuously. Load factor may be up to 100% of standby power. No overload is permitted.

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Standard ElectropaK Specification

Air Inlet

Mounted air filter

Fuel System

Mechanically actuated electronically controlled unit fuel injectors with full authority electronic control
Governing to ISO8528-5 class G2 with isochronous capability
Replaceable 'Ecoplus' fuel filter elements with primary filter/water separator
Fuel cooler

Lubrication System

Wet sump with filler and dipstick
Full-flow replaceable 'Ecoplus' filter
Oil cooler integral with filter header

Cooling System

Gear-driven circulating pump
Mounted belt-driven pusher fan
Radiator incorporating air-to-air charge cooler, (supplied loose)
System designed for ambients up to 50°C
Low coolant level switch

Electrical Equipment

24 volt starter motor and 24 volt 70 amp alternator with DC output
ECM mounted on engine with wiring looms and sensors
3 level engine protection system

Flywheel and Housing

High inertia flywheel to SAE J620 size 18
SAE 'O' flywheel housing

Mountings

Front engine mounting bracket

Literature

User's Handbook

Optional Equipment

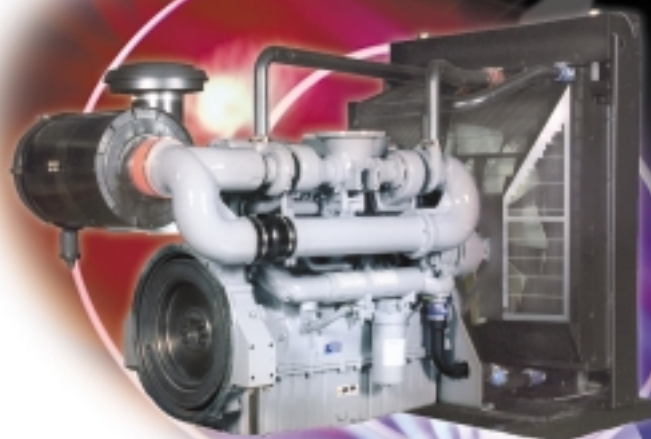
110/240 volt immersion heater
Additional speed sensor
Temperature and pressure sensors for gauges
Electric hours counter
Air filter rain hood
Twin starters/facility for second starter
Tool kit
Parts manual/Workshop manual



Perkins Engines Company Limited

Peterborough PE1 5NA
United Kingdom
Telephone +44 (0)1733 583000
Fax +44 (0)1733 582240
www.perkins.com

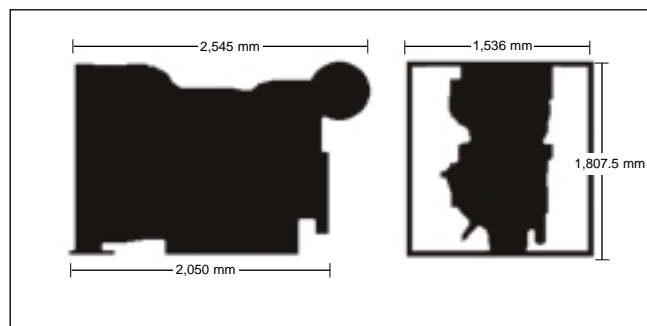
All information given in this leaflet is correct at the time of printing but it may be changed subsequently by the Company



General Data

Number of Cylinders	6
Cylinder Arrangement	Vertical in-line
Cycle	4 stroke
Induction System	Turbocharged and air-to-air charge cooled
Combustion System	Direct injection
Cooling System	Water-cooled
Bore and Stroke	145 mm x 183 mm
Displacement	18.1 litres
Compression Ratio	14.5:1
Direction of Rotation	Anti-clockwise, viewed on flywheel
Total Lubrication System Capacity	55.5 litres
Total Coolant Capacity	61 litres
Length	2,545 mm
Width	1,536 mm
Height	1,807.5 mm
Dry Weight (Engine)	1,832 kg

Fuel Consumption				
Engine speed	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
At Standby power	199	128	204	140
At Prime power	196	108	203	127
At Baseload power	196	88	201	113
At 75% of Prime power	196	81	202	95
At 50% of Prime power	202	56	211	66



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