

# 2800 Series 2806F-E18TAG1 Diesel Engine – Electropak

555 kWm at 1800 rpm

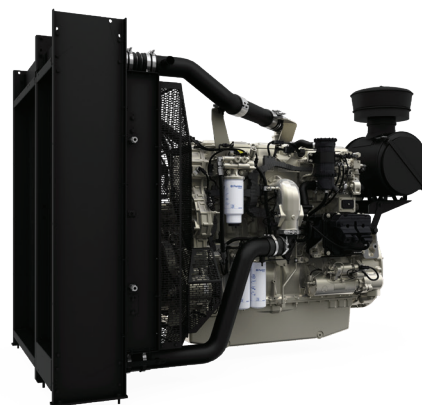
Building on its already strong EPA Tier 4 electric power range, Perkins is pleased to announce the addition of the Tier 4 Final certified 2806 Electropak.

The Perkins® 2000 Series is a family of well-proven 6 cylinder 13, 15, and 18 litre diesel engines, designed to address today's uncompromising demands within the power generation industry for both prime and standby applications.

Both the engine and the after-treatment share a common core and strong heritage with on-highway truck and heavy duty construction engines, offering superior performance and reliability.

Perkins trusted performance, borne out of thousands of hours of validation in the real world, has made it the engine of choice in the power generation market.

The 2806F-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.



Specification		
Number of cylinders	6 vertical inline	
Bore and stroke	145 x 183 mm	5.7 x 7.2 in
Displacement	18.1 litres	1106 in <sup>3</sup>
Aspiration	Turbocharged and air-to-air chargecooled	
Cycle	4 stroke	
Combustion system	Electronic unit injection	
Compression ratio	16:1	
Rotation	Anti-clockwise, viewed on flywheel	
Total lubricating capacity	74 litres	19.5 US gal
Cooling system	Water-cooled	
Total coolant capacity	56 litres	14.8 US gal

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THE HEART OF EVERY GREAT MACHINE

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## Features and benefits

### Economic power

- Mechanically operated unit fuel injectors with electronic control combined with carefully matched turbocharging, provide excellent fuel economy and low emissions

### 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
- Perkins global product support is designed to enhance the customer experience of owning a Perkins powered machine. We deliver this through the quality of our distribution network, extensive global coverage and a range of Perkins supported OEM partnership options. So whether you are an end-user or an equipment manufacturer our engine expertise is essential to your success

### Compact, clean and efficient power

- Exceptional power to weight ratio and compact size give optimum power density with easier installation and cost effective transportation
- Designed to provide excellent service access for ease of maintenance

### Product support

- Perkins actively pursues product support excellence by ensuring our distribution network invest in their territory – strengthening relationships and providing more value to you, our customer
- Through an experienced global network of distributors and dealers, fully trained engine experts deliver total service support around the clock, 365 days a year. They have a comprehensive suite of web based tools at their fingertips covering technical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine
- Throughout the entire life of a Perkins engine, we provide access to genuine OE specification parts and service. We give 100% reassurance that you receive the very best in terms of quality for lowest possible cost .. wherever your Perkins powered machine is operating in the world

Certified against the requirements of EPA U.S. EPA Tier 4 Final legislation for non-road mobile machinery, powered by constant speed engines.

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## Technical information

### Air inlet

- Mounted air filter

### Fuel system

- Mechanically actuated electronically controlled unit fuel injectors with full authority electronic control
- Governing to ISO 8528-5 class G2 with isochronous capability
- Replaceable spin on fuel filter elements with primary filter/water separator
- Fuel cooler

### Lubrication system

- Wet sump with filler and dipstick
- Full-flow replaceable 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 85 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 14
- SAE '1' flywheel housing

### Mountings

- Front engine mounting bracket

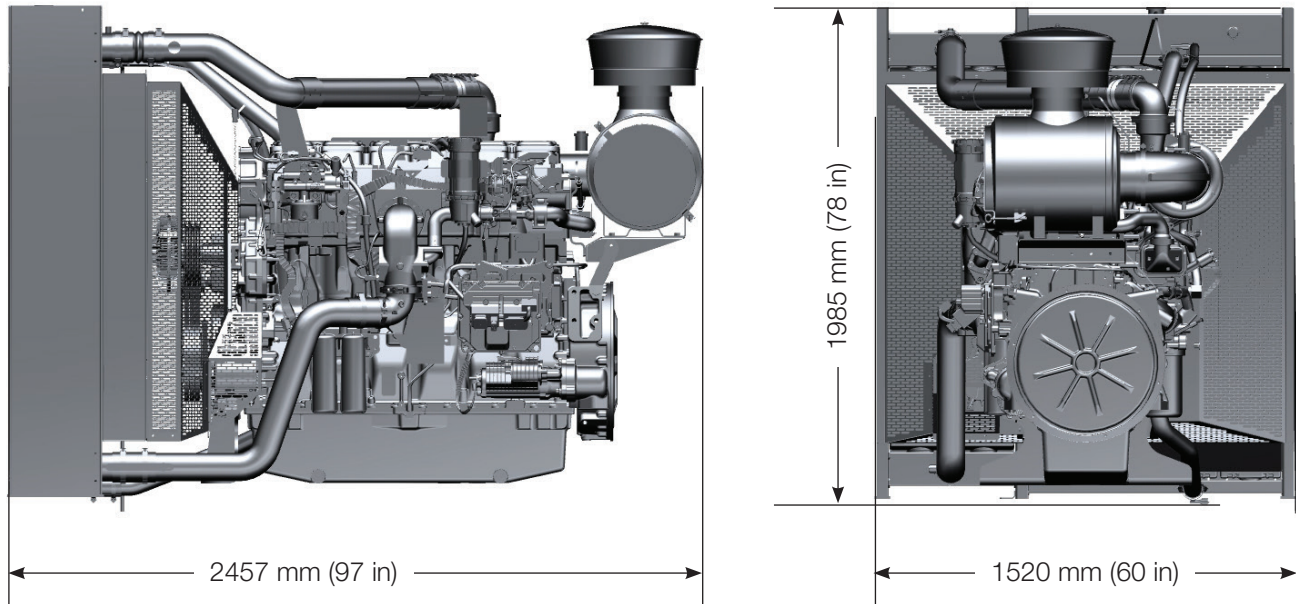
### Literature

- User's Handbook

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## Engine and aftertreatment



Engine package dimensions and weight		
Length	2457 mm	97 in
Width	1520 mm	60 in
Height	1985 mm	78 in
Weight	2065 kg	4552 lb

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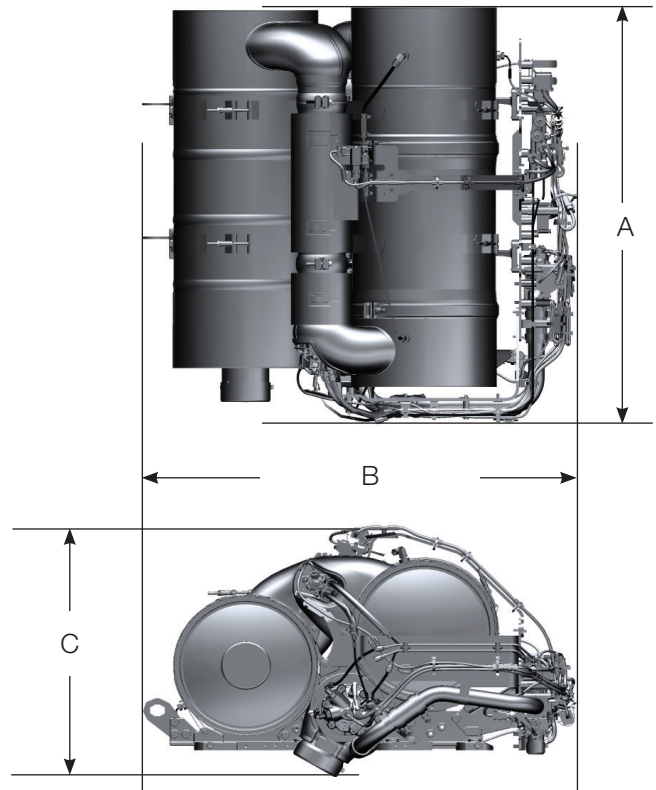
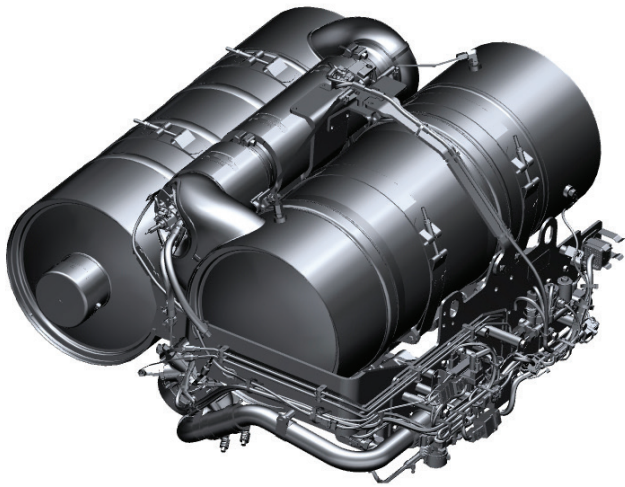
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Aftertreatment dimensions and weight		
A	1106 mm	43.5 in
B	1164 mm	45.8 in
C	695 mm	27.4 in
Weight	263 kg	580 lb

## Aftertreatment

- CEM – Clean Emissions Module
- Basic aftertreatment package includes DOC / DPF / SCR
- DOC – Diesel Oxidation Catalyst
- DPF – Diesel Particulate Filter
- SCR - Selective Catalytic Reduction

## Technology

The DPF technology chosen is a wall flow filter configuration. This enables the engine to be optimised for superior performance and low fuel consumption.

## Power

Using our advanced research and development techniques, we have perfectly matched the aftertreatment to the engine. The engine performance has then been optimised to give the maximum power and in normal operation, the regeneration is invisible to the operator.

## Regeneration

Transparent Regeneration system means no machine downtime, no operator intervention, and maximized fuel efficiency during DPF regeneration.

## Mounting

Remote and engine-mounted installation options provide OEM flexibility for many applications.

## Service

Aftertreatment designed to be service-free.

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Speed rpm	Type of operation	Typical generator output (Net)		Engine power			
				Gross		Net	
		kVA	kWe	kWm	hp	kWm	hp
1800	Prime power	569	455	501	672	475	637
	Standby power	625	500	555	744	529	709

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1. 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.  $\theta$ ) of 0.8. Fuel specification: BS 2869: Part 2 1998 Class A2 or ASTM D975 D2. Lubricating oil: 15W40 to API CG4.

#### Rating definitions

**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.

Percent of prime power	Fuel consumption at 1800 rpm g/kWh	Fuel consumption at 1800 rpm l/hr
Standby power	211.7	140.1
Prime power	212.0	126.7
75% Prime	213.3	96.7
50% Prime	221.9	69.2

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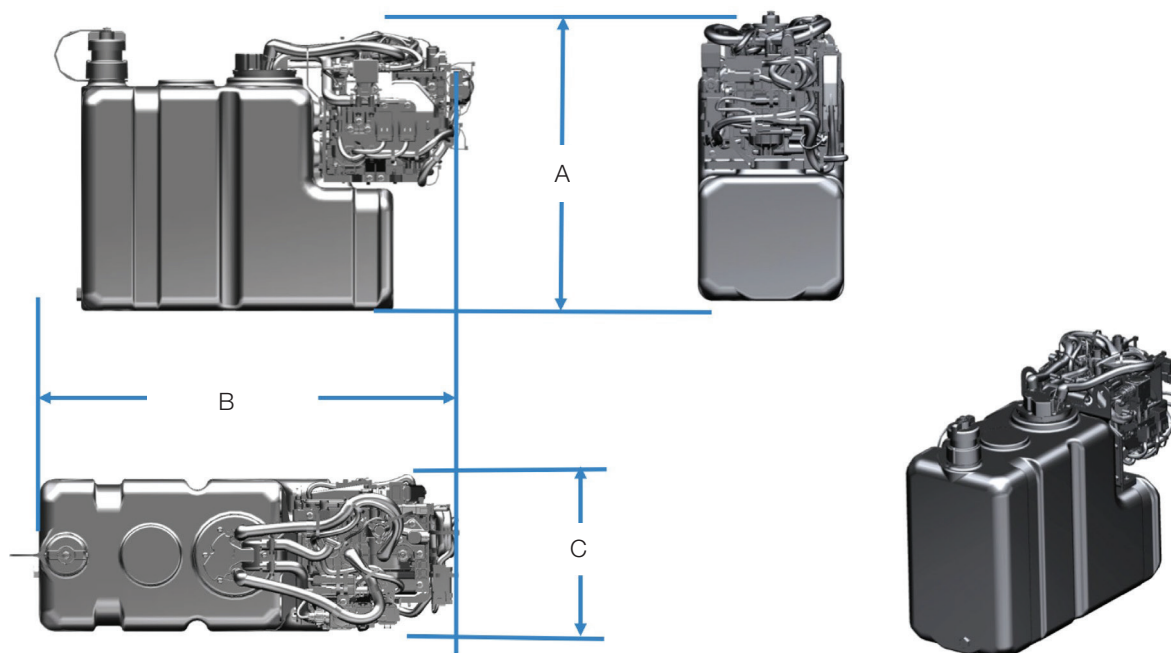
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Dimensions - standard 44.5 litre (11.6 US gal) tank		
A	550.5 mm	21.7 in
B	907 mm	35.7 in
C	280 mm	11 in

Note:

- 60 Hz: Up to 19 hours of running time at 75% of prime rating and 17 hours at 75% of standby rating

Dimensions - optional 93.7 litre (24.7 US gal) tank		
A	567.8 mm	22.3 in
B	919.7 mm	36.2 in
C	485 mm	19.1 in

Note:

- 60 Hz: Up to 37 hours of running time at 75% of prime rating and 34 hours at 75% of standby rating

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