

2800 Series 2806F/J-E18TA/TTA Industrial Engine

U.S. EPA Tier 4 Final / EU Stage V-capable*
429-597 kW / 575-800 hp

The ability to power your machine line-up with one engine supplier is truly achievable with Perkins. We have introduced a platform of 9-18 litre industrial engines that completes our market-leading industrial power range and covers 8.2-597 kW (11-800 hp).

This model is a turbocharged, air-to-air chargecooled, 18.1 litre, 6 cylinder product capable of producing 597 kW (800 hp).

Using DPF technology, these engines meet Stage IV / Tier 4 Final certification, and are Stage V-capable*. This allows for sales into countries with the highest global emissions standards.

To support the demands of your machine installation we offer a choice of engine configurations and options. The robust technology allows you to integrate these engines into your equipment with the minimum of re-engineering.

Perkins has developed a reputation for designing and building reliable and durable engines for the most demanding applications. Choosing Perkins as your engine supplier means your development costs can be reduced and your machines are future-proofed to meet anticipated emissions standards.



- 2806F-E18TA - EU Stage IV / U.S. EPA Tier 4 Final
- 2806J-E18TA - EU Stage V-capable*

Specification		
Number of cylinders	6 vertical in-line	
Bore and stroke	145 x 183 mm	5.7 x 7.2 in
Displacement	18.1 litres	1104.5 cubic in
Aspiration	Turbocharged aftercooled	
Cycle	4 stroke	
Combustion system	Direct injection	
Compression ratio	16.0:1	
Rotation	Anti-clockwise, viewed on flywheel	
Total lubricating capacity	40-74 litres	10.5-19.5 US gal
Cooling system	Liquid	
Total coolant capacity	26.9 litres	7 US gal

*as proposed Stage V emissions standards.

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 **Perkins®**

THE HEART OF EVERY GREAT MACHINE

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Features and benefits

Dependable power

- World-class manufacturing capability and processes coupled with proven core engine designs assure reliability, quiet operation and many hours of productive life

High performance

- Simple and efficient turbocharger or series turbocharger** with balance valve provides optimal air management and improved fuel efficiency

Lifetime of low cost

- Fuel consumption optimised to match operating cycles of a wide range of equipment and applications
- Minimum 5,000 hour diesel particulate filter (DPF) ash service and capability of 500 hour oil change intervals enable low-cost maintenance

Fuel and oil

- Tier 4 Final, Stage IV and Stage V engines require Ultra Low Sulfur Diesel (ULSD) fuel containing a maximum of 15 ppm sulfur, and new oil formulations to support the new technology. Biofuel up to B20 is supported

Package size

- Exceptional power density enables standardisation across numerous applications. Multiple installation options available to minimize total package size

Local support, global coverage

- Perkins recognise that the customer relationship is important to machine manufacturers and we can offer a range of flexible solutions to help provide appropriate support, either to the OEM's network or directly to the machine customer
- With highly trained Perkins distributors in thousands of communities in over 180 countries, you are never far away from expert product knowledge, genuine parts and a range of advanced diagnostic technology for keeping your engine in peak condition
- To find your local distributor: www.perkins.com/distributor

** Series turbocharger configuration only available on specific ratings.

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Technical information

Air inlet

- Turbocharged aftercooled
- Single or Series** configuration

Control system

- Full electronic control system
- All connectors and wiring looms waterproof and designed to withstand harsh off-highway environments
- Flexible and configurable software features and well supported SAE J1939 CAN bus enables highly integrated machines

Cooling system

- Vertical outlet thermostat housing, centrifugal water pump
- Detailed guidance on cooling system design and validation available to ensure machine reliability

Flywheel and housing

- Wide choice of drivetrain interfaces, SAE0 and SAE1 configurations

Fuel and fuel system

- Mechanical Unit Injector Fuel system, controlled electronically
- Industrial technology requires Ultra Low Sulphur Diesel fuel (ULSD, 15 ppm sulphur), in addition to ultra low sulphur diesel oils, for use in Tier 4 Final/Stage IV engines. These cleaner fuels and oils will help reduce ash and maintain service intervals. In addition, B20 biodiesel capability adds even greater sustainability where desired or required

Oil system

- Choice of sumps for different applications
- Open crankcase ventilation system with fumes disposal (optional OCV filter system)
- Oil cooler, oil filler, oil filter, oil dipstick, oil pump (gear-driven)

Power take-off

- SAE1 power take-off available with optional SAE A, SAE B and SAE C power take-off drives
- Engine power can also be taken from the front of the engine on some applications

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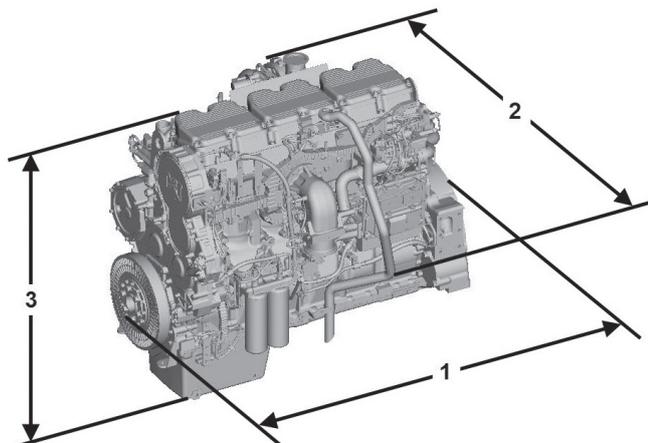
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Engine package dimensions and weight

1	Length	1438 mm	56.6 in
2	Width	969 mm	38.1 in
3	Height	1248 mm	49.1 in
	Weight	1542 kg	3399.5 lb

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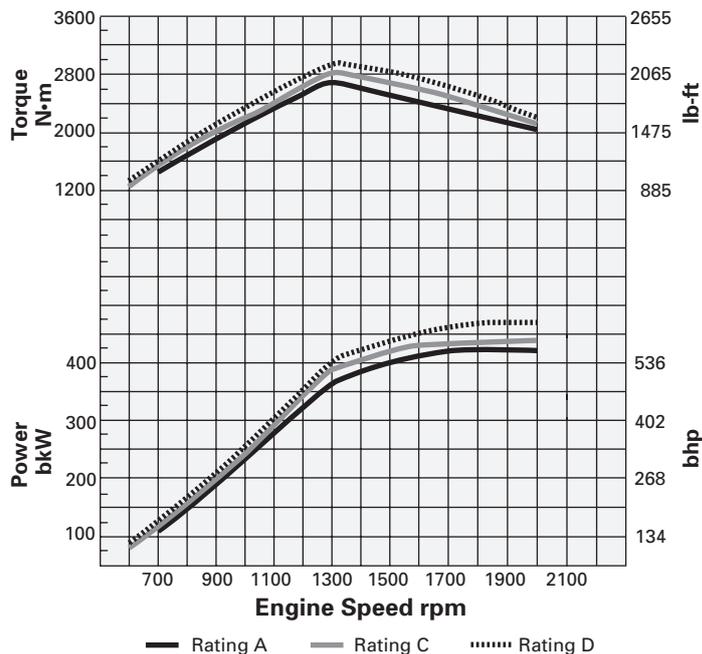
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TA Ratings Curve



Aspiration	Speed rpm	Power kW	Power hp	Speed rpm	Torque Nm	Torque lb-ft	Rating type
TA	2000	429	575	1300	2694	1987	A
TA	2000	447	600	1300	2811	2073	B
TA	2000	470	630	1300	2951	2176	C
TTA	1800	563	755	1300	3501	2581	C
TTA	1800	597	800	1300	3661	2699	D

Rating definitions and conditions

IND-A (Continuous) for heavy duty service where the engine is operated at maximum power and speed up to 100% of the time without interruption or load cycling.

IND-B for service where power and/or speed are cyclic (time at full load not to exceed 80%).

IND-C (Intermittent) is the horsepower and speed capability of the engine where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

IND-D for service where maximum power is required for periodic overloads (time at full load not to exceed 10% of the duty cycle).

Rating Conditions for Diesel Engines – greater than 7 litre

All rating conditions are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42,780 kJ/kg (18,390 btu/lb) when used at 29°C (84.2°F) with a density of 838.9 g/L.

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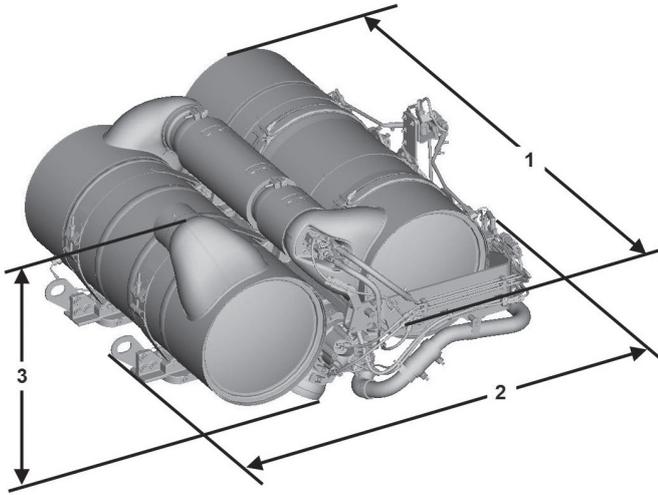
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Aftertreatment dimensions and weight

1	Length	1153 mm	45.4 in
2	Width	1112 mm	43.8 in
3	Height	652 mm	25.7 in
	Weight	268 kg	590.8 lb

Aftertreatment

- DOC – Diesel Oxidation Catalyst
- DPF – Diesel Particulate Filter
- SCR - Selective Catalytic Reduction
- ECU - Aftertreatment Electronic Control Units
- SCR Auxiliaries - A range of tanks and heated lines are available

Technology

The DPF technology chosen is a wall flow filter configuration that performs through the whole work cycle of the engine thus allowing it to work efficiently.

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.

Mounting

Remote installation options provide OEM flexibility for many applications, including horizontal and vertical mounting.

Regeneration

The active regeneration system maximises fuel efficiency during regeneration. Transparent regeneration for minimum downtime.

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