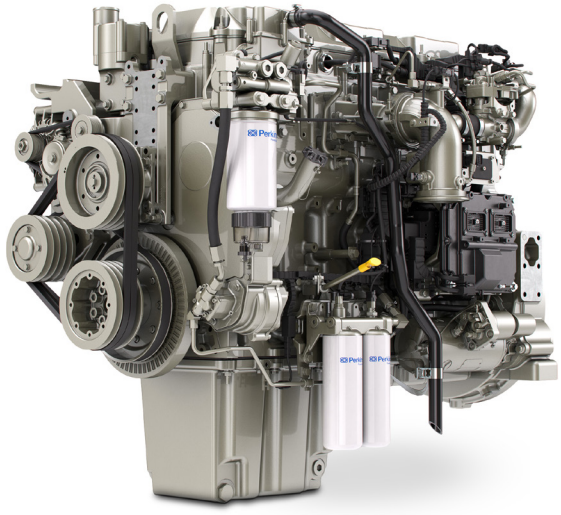
2400 Series Industrial Engine

2406J-E13TA EU Stage V/U.S. EPA Tier 4 Final

2406EA-E13TA China Nonroad Stage IV

340-430 kW (456-577 hp)



Perkins has expanded its industrial engine range with the addition of the 2400 Series. Focused on delivering power density and performance, the 12.5 litre engine will be capable of power up to 430 kW (577 hp) and 2634 Nm torque.

The 2406J/EA-E13TA utilises advanced technologies including a compact aftertreatment, non-EGR (Exhaust Gas Recirculation) air system and the latest electronics - controlling all engine and aftertreatment systems with a single engine mounted control module - to provide high performance characteristics while lowering customer's cost of ownership.

The 2406J/EA-E13TA offers outstanding power density up to 34.4 kW/L (46.2 hp/L) that allows OEMs to downsize their engine platform without sacrificing performance or reliability. It is designed to allow simple, low-cost installations with low heat rejection for optimal cooling package sizing and features like engine mounted aftertreatment and installed radiators from the factory to reduce installation cost.

The 2406J-E13TA is certified to EU Stage V/U.S. EPA Tier 4 Final, along with Japan 2014 (Tier 4 Final) and Korea Tier 4 Final. The 2406EA-E13TA is certified to China Nonroad (NR) Stage IV. This simplifies the decision-making process for global customers by allowing them to standardise their worldwide product offering and reap the benefits of common installation, maintenance and service requirements from a single supplier solution.

End users will enjoy a low cost of ownership from low fuel consumption and an aftertreatment system designed and validated to regenerate transparently without any impact on engine performance, enhancing both uptime and productivity.

Specification		
Number of cylinders	6 vertical in-line	
Bore and stroke	130 x 157 mm	5.1 x 6.2 in
Displacement	12.5 litres	763 cubic in
Aspiration	Turbocharged aftercooled	
Cycle	4 stroke	
Combustion system	Direct injection	
Compression ratio	15.8:1	
Rotation	Counterclockwise, viewed on flywheel	
Total lubricating capacity*	34-41 litres	9-10.8 US gal
Cooling system	Liquid	
Total coolant capacity	18.7 litres	4.9 US gal

* Varies based on sump / oil pan selection.

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Features and benefits

High power density and torque

- A 6 cylinder, 12.5 liter engine with power up to 430 Nm and peak torque of 2640 Nm to enable engine downsizing

Low cost of ownership

- Optimised design across all systems – fuel, air, electrical, thermal – driving efficiency and lowering total fluid consumption

Innovative solutions

- Perkins design technology and high-efficiency SCR enable a compact, lightweight aftertreatment with simple installation requirements

Maximum uptime

- Thermal management designed to provide transparent regeneration, without distraction to the operator or impact to machine performance

Low installation costs

- Fully configurable product with factory solutions such as engine mounted aftertreatment and full power units to limit installation complexity

Global solution

- The 2406J-E13TA is available in single label certification for Stage V/Tier 4 Final, Japan 2014, and Korea Tier 4. The 2406EA-E13TA is available for China NR IV. Identical performance across these certifications provides global customers a single source solution, streamlining design, installation, and service processes

Dependable power

- World-class manufacturing capability and processes coupled with proven core engine designs - over 109 million off-highway field hours - assure reliability, quiet operation and many hours of productive life

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Technical information

Air inlet

- Turbocharged aftercooled

Control system

- Full electronic control system with all system functions controlled from a single, engine mounted electronic control module (ECM)
- 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 or right-hand thermostat outlet, centrifugal water pump
- Detailed guidance on cooling system design and validation available to ensure machine reliability

Flywheel and housing

- Wide choice of drivetrain interfaces, SAE1 configurations

Fuel and fuel system

- Mechanical Unit Injector Fuel system, controlled electronically
- Industrial technology requires Ultra Low Sulphur Diesel fuel (ULSD, not to exceed 15 ppm sulphur), in addition to ultra low sulphur diesel oils, for use in Stage V/Tier 4 Final and China NR IV engines. These cleaner fuels and oils help reduce ash and maintain service intervals.
- 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 (OCV filter option required for EU Stage V certification engines)
- Oil cooler, oil filler, oil filter, oil dipstick, oil pump (gear-driven)

Power take-off

- SAE1 flywheel housing with optional SAE B and SAE C power take off options (dual rear)
- Engine power can also be taken from the front of the engine on some applications

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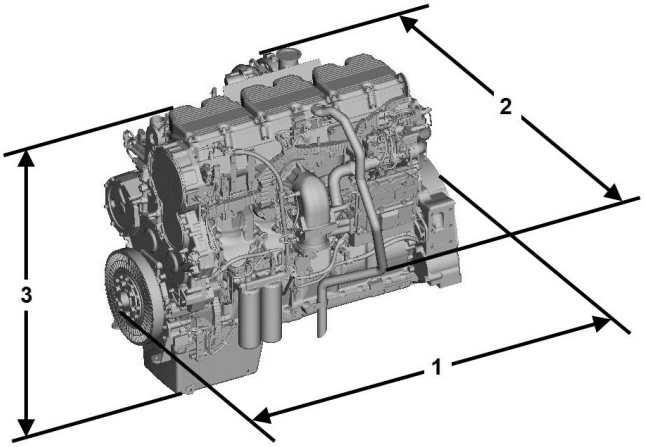

Engine package weights and dimensions			
1	Length	1274 mm	50 in
2	Width	994 mm	39 in
3	Height	1134 mm	45 in
	Weight (dry)	1125 kg	2480 lb

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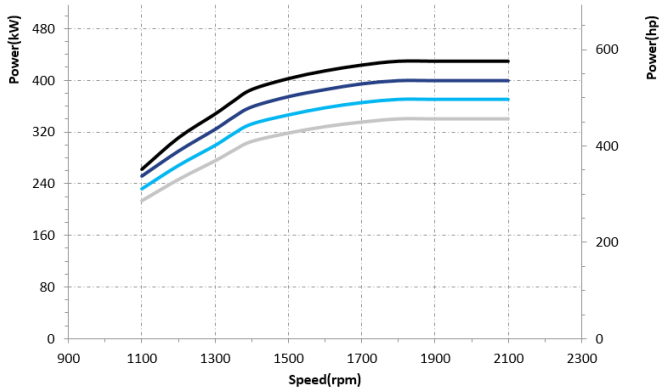

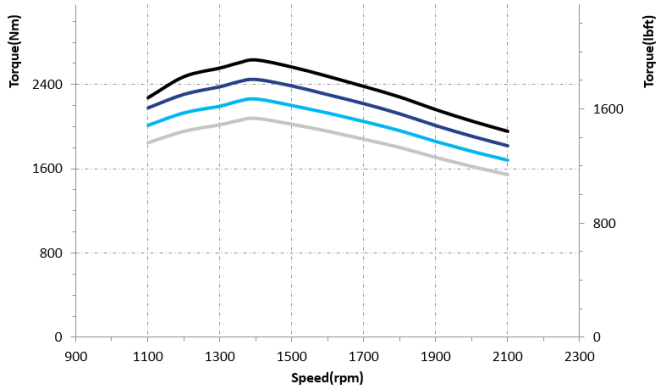

Rating type	Rated Speed rpm	Power kW	Power hp	Torque Nm	Torque lb·ft	Speed rpm
A	1800-2100	340	456	2082	1536	1400
B	1800-2100	370	496	2266	1671	1400
C	1800-2100	400	536	2450	1807	1400
D	1800-2100	430	577	2634	1943	1400

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 interrruption 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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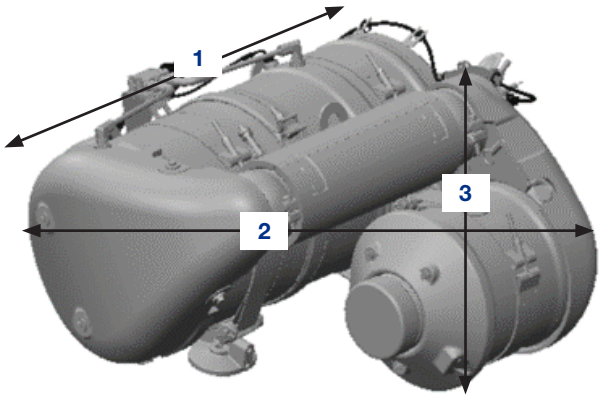
2406J-E13TA and 2406EA-E13TA Aftertreatment



Aftertreatment dimensions and weight			
1	Length	896 mm	35.3 in
2	Width	807 mm	31.8 in
3	Height	460 mm	18.1 in
	Weight	100 kg	220 lb

Aftertreatment components

- DOC - Diesel Oxidation Catalyst
- DPF - Diesel Particulate Filter
- SCR - Selective Catalytic Reduction
- SCR Auxiliaries - A range of fully validated and integrated Diesel Exhaust Fluid (DEF) tanks up to 93.7 litres, lines and accessory options are available

Features and Benefits

- Perkins patented design technology and high efficiency SCR enable simple and optimized package
- Compact, lightweight aftertreatmet allows for flexible mounting options including remote mount and on engine, lowering installation costs
- Regeneration designed and validated to be transparent to the operator and without impact to machine performance, providing maximum uptime

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