

# 1200 Series 1206F-E70TTA Industrial Open Power Unit

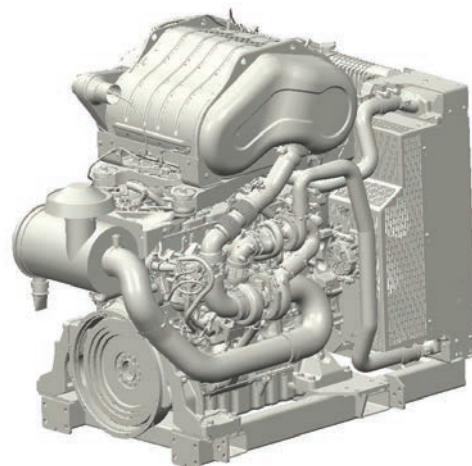
EU Stage IV, EPA Tier 4 Final  
151-225 kW / 202-301 bhp

The addition of the 1206F IOPU to our 1200 Series ensures our customers have a complete power solution ready and available when they need to change over to the next stage of emissions legislation – EU Stage IV, Tier 4 Final in 2014. They offer not only specific power outputs but also a choice of engine configurations and options. Their robust technology allows our OEMs the ability to integrate these engines into their equipment with the minimum of re-engineering.

The 1206F IOPU is a series turbocharged, air-to-air charge cooled, 7 litre, 6 cylinder units capable of producing 225 kW (301 bhp). Their high power density, combined with excellent torque, enables the machine manufacturers to select this engine where previously they may have used an engine of a higher cubic capacity. This downsizing represents a cost saving and creates more space to package the new aftertreatment units.

The Perkins® 1200 Series engines have the innovative design to meet the latest, stringent emissions legislation; the flexibility to integrate into more than 800 different types of equipment.

Perkins have developed a reputation for designing and building reliable and durable engines suitable for the most demanding applications.



## Engine data

Number of cylinders .....	6 vertical in-line
Bore and stroke.....	105 mm x 135 mm (4.13 in x 5.3 in)
Displacement .....	7.01 litres (427.7 cubic in)
Aspiration TTA.....	Series turbocharged aftercooled
Cycle.....	4 stroke
Combustion system.....	Direct injection
Compression ratio .....	16.5:1
Rotation.....	Anti-clockwise, viewed on flywheel
Cooling system.....	Liquid
Total lubricating capacity.....	13-16 litres (3.4-4.2 US gal)
Total coolant capacity .....	15.2 litres (4 US gal)
Dimensions (including electrics and backend)	
Length .....	1769 mm (69.6 in)
Width.....	916 mm (36.0 in)
Height.....	1461 mm (57.5 in)
Dry weight .....	1087 kg (2396 lbs)

Final weight and dimensions will depend on completed specification

## Emissions

Designed to meet 2014 EU Stage IV (Europe), EPA Tier 4 Final (US) and MLIT 2014 Regulations (Japan).

## Dependable power

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

## Designed to be productive

Turbocharging with smart wastegate available on all ratings for fast response, high power, and increased torque.

## Lifetime of low cost

- Fuel consumption optimised to match operating cycles of a wide range of equipment and applications.
- Hydraulic tappets, multi-vee belts, service-free aftertreatment and 500 hour oil change intervals enable low-cost maintenance. Many service items have a choice of location on either side of the engine to enable choice of service access.

## Industry leading flexibility

Exceptional power density enables standardisation across numerous applications. Multiple installation options minimise total package size. Ideal for equipment with narrow engine compartments.

## 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.
- Perkins information systems enable our distributors to quickly diagnose engine faults and identify the right parts. The Perkins logistics operation is able to dispatch more than 45,000 different parts from stock, reaching the customer within 24 hours.
- Extended Service Contracts – protect and plan the cost of ownership.

## Discover more

[www.perkins.com](http://www.perkins.com)  
[www.perkins.com/esc](http://www.perkins.com/esc)

[www.perkins.com/distributor](http://www.perkins.com/distributor)  
To find your local distributor

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EU Stage IV, EPA Tier 4 Final  
151-225 kW / 202-301 bhp

## Engine specification

### Air inlet

- Standard air cleaners

### 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

- Top tank temperature 108°C as standard to minimise cooling pack size
- 50:50 water glycol mix
- Detailed guidance on cooling system design and validation available to ensure machine reliability

### Standard emissions control equipment

- NRS – NOx Reduction System

### Flywheels and flywheel housing

- Wide choice of drivetrain interfaces, SAE1, SAE2 and SAE3 configurations

### Fuel and fuel system

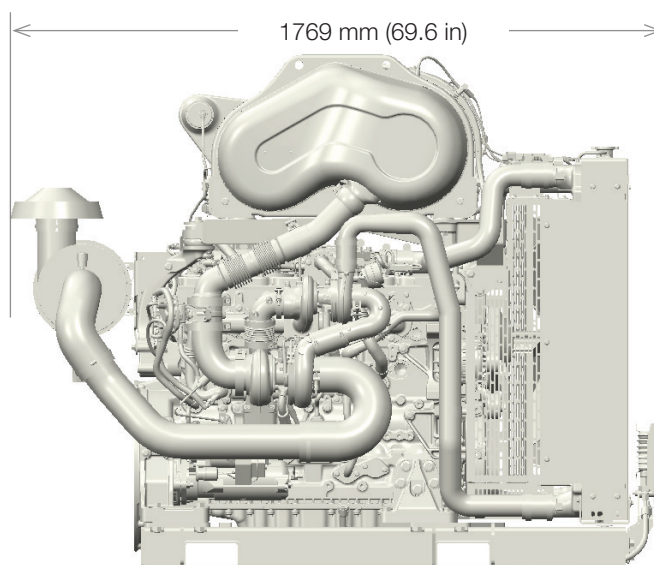
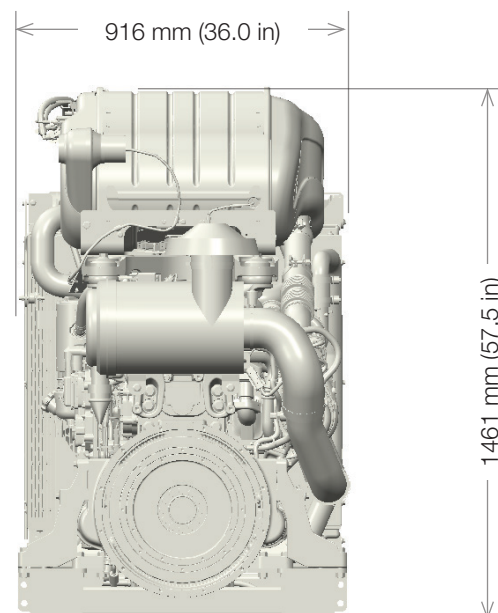
- Industrial technology requires Ultra Low Sulphur Diesel Fuel (ULSD, 15 ppm sulphur), in addition to ultra low sulphur diesel oils, for use In Tier 4 Interim/Stage IIIB engines. These cleaner fuels and oils will help reduce ash and maintain service intervals. In addition, B20 biodiesel capability adds even greater sustainability where desired or required.
- Electronic high pressure common rail
- Innovative filter design – ensures maximum protection of the engine

### Oil system

- Choice of sumps for different applications

### Power take-off

- SAE A or SAE B flanges on left-hand side. Right hand side twin PTO also available. Engine power can also be taken from the front of the engine on some applications
- Factory fitted compressors are also available



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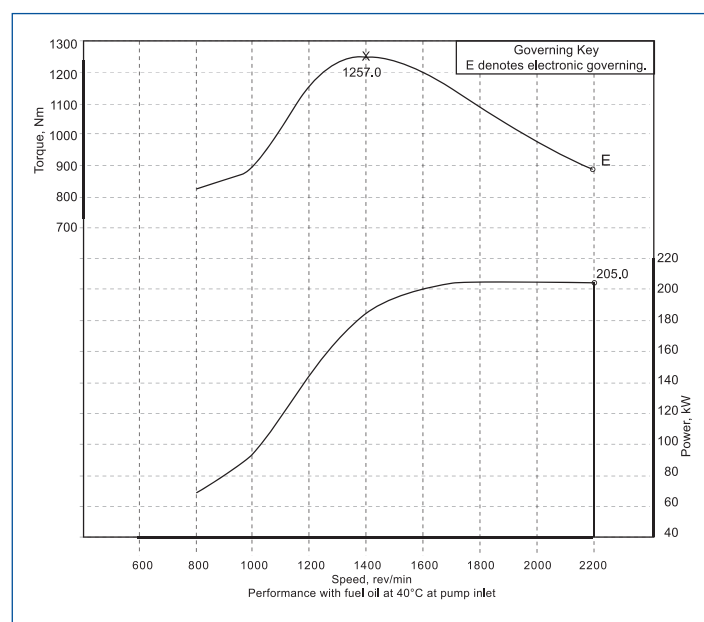
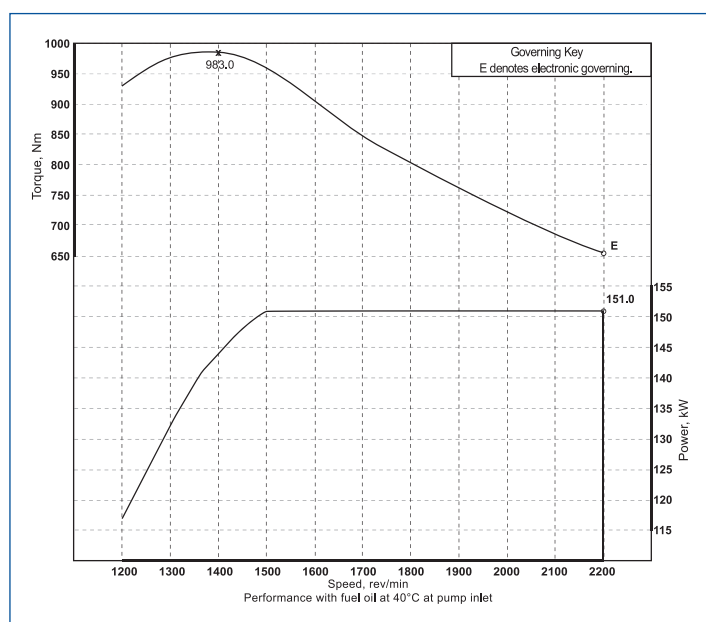
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## Performance data

Aspiration	Power		Speed (rpm)	Torque		Speed (rpm)	Rating Type
	kW	(bhp)		Nm	(lbf-ft)		
TTA	*151	(202)	2200	922	(680)	1400	B
TTA	168	(225)	2200	1028	(758)	1400	B
TTA	186	(249)	2200	1142	(842)	1400	C
TTA	*205	(275)	2200	1257	(927)	1400	C
TTA	*225	(301)	2200	1274	(939)	1400	C

\*Curve shown  
Rating Standard ISO 14396:2002  
Unless otherwise specified, all stated data is for maximum rated speed and 100% load.



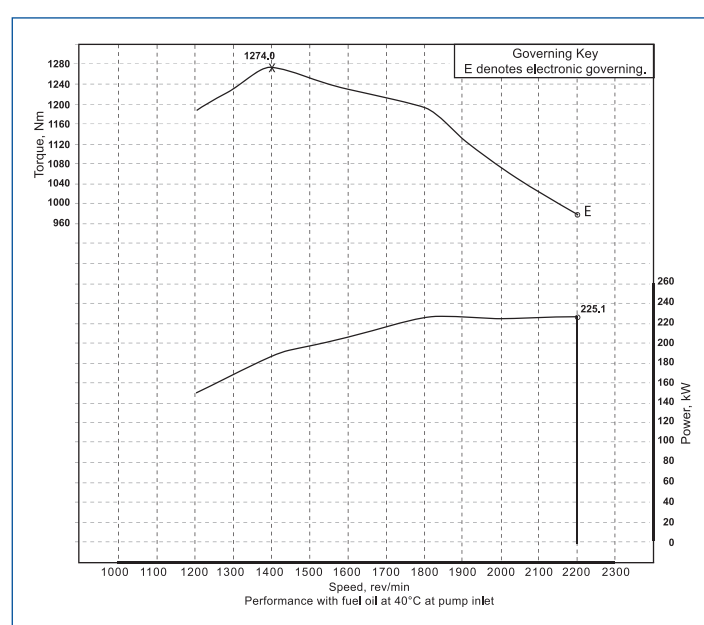
## Rating definitions and conditions

**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%).

Additional ratings are available for specific customer requirements. Consult your Perkins distributor.

**Rating Conditions for Diesel Engines** – up to 7.1 litres are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in. Hg), with a vapour pressure of 1 kPa (0.295 in Hg) and 25°C (77°F). Performance is measured using fuel to specification EPA 2D 89.330-96 with a density of 0.845-0.850 kg/L @ 15°C (59°F) and fuel inlet temperature 40°C (104°F).



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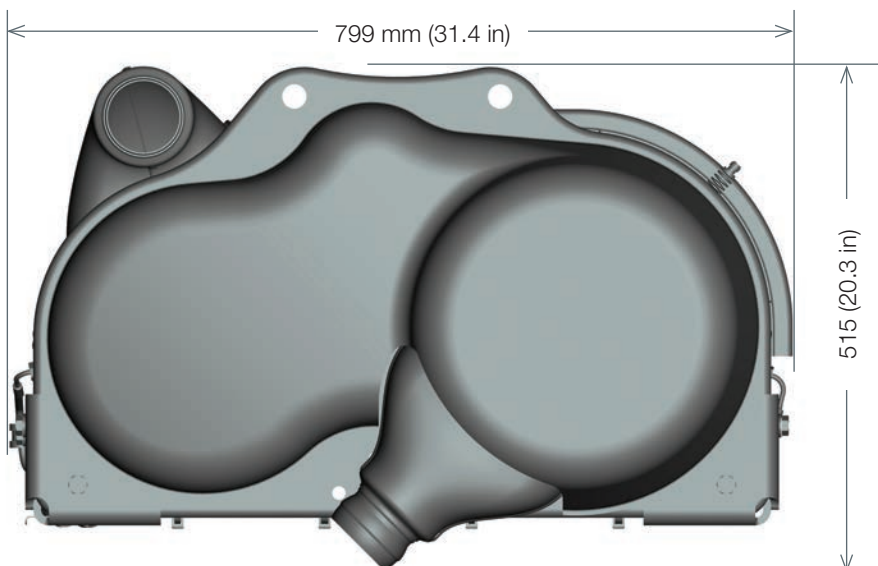
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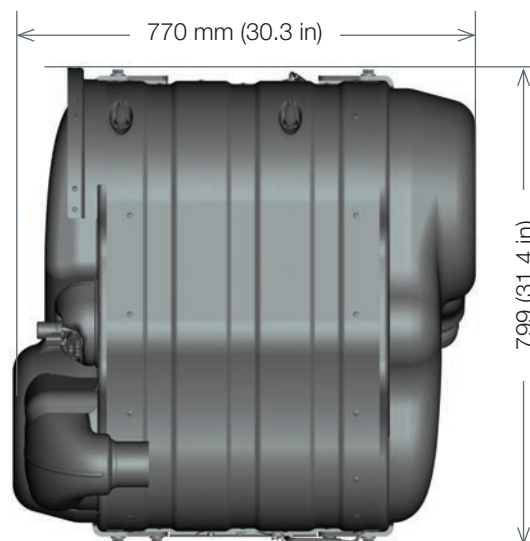
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## Aftertreatment configuration

Front view



Top view



Final weight and dimensions will depend on completed specification

### 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

Passive Regenerations System maximises fuel efficiency during regeneration.

### Mounting

Engine mounted aftertreatment provides the OEM with a simple-to-install solution.

### Service

Aftertreatment designed to be service-free.

### Aftertreatment

- CEM – Clean Emissions Module
- Basic aftertreatment package includes DOC / DPF/ SCR
- DOC – Diesel Oxidation Catalyst
- DPF – Diesel Particulate Filter
- SCR – Selective Catalytic Reduction
- 3" flex pipe connection kit with rotatable elbow for 60° and 90° RS inlet flexibility

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