

# 1200 Series 1204F-E44TA Industrial Engine

EU Stage IV and EPA Tier 4 Final  
70.0-110.1 kW / 93.9-147.6 hp

The addition of the 1204F range 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 and 2015 respectively. 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 1204F range is available as single turbocharged and series turbocharged, air-to-air charge cooled, 4.4 litre, 4 cylinder units capable of producing 129.4 kW (173.5 hp). 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.



## Emissions

Designed to meet 2014 EU Stage IV (Europe), 2015 EPA Tier 4 Final (US) and MLIT 2014 Regulations (Japan).

Specification		
Number of cylinders	4 in-line	
Bore and stroke	105 x 127 mm	4.13 x 5 in
Displacement	4.4 litres	268.5 in <sup>3</sup>
Aspiration	Turbocharged aftercooled	
Cycle	4 stroke	
Combustion system	Direct injection	
Compression ratio	16.5:1	
Rotation	Anti-clockwise, viewed on flywheel	
Total lubricating capacity	5.2-13.5 litres	1.37-3.57 US gal
Cooling system	Liquid	
Total coolant capacity	10.8 litres	2.85 US gal

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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

### Lifetime of low cost

- Fuel consumption optimised to match operating cycles of a wide range of equipment and applications. No additional fluids or additives are required which lowers operating costs
- 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 maximum service access
- Extended Service Contracts – protect and plan the cost of ownership  
Discover more: [www.perkins.com/esc](http://www.perkins.com/esc)

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

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## Technical information

### 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, SAE2 and SAE3 configurations

### Fuel system

- 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, additional SAE A flange available on left-hand side, engine power can also be taken from the front of the engine on some applications
- Factory fitted compressors are also available

### General

- Available with or without balancer

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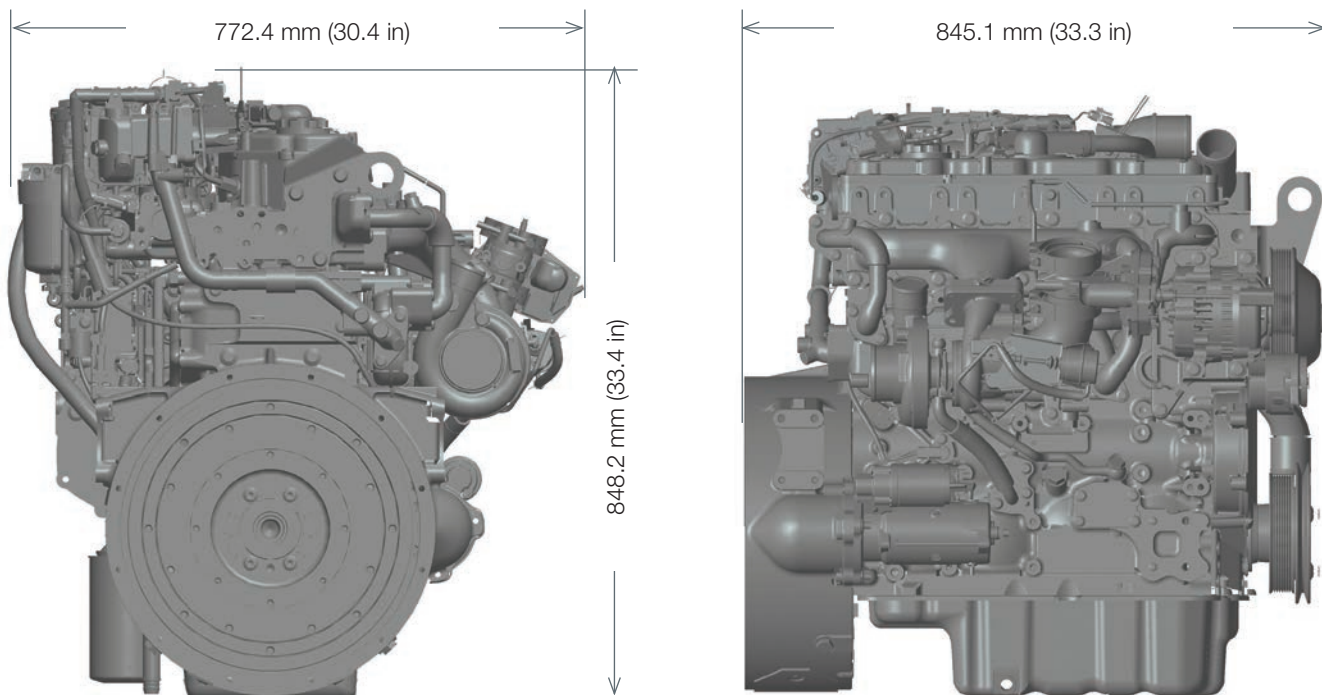
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Engine package weights and dimensions

Length	845.1 mm	33.3 in
Width	772.4 mm	30.4 in
Height	848.2 mm	33.4 in
Weight (dry)	400 kg	882 lb

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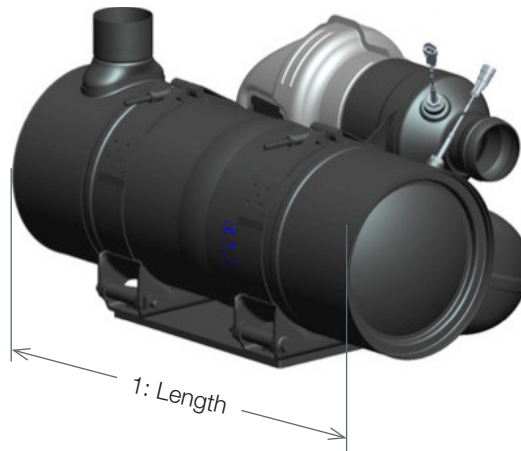
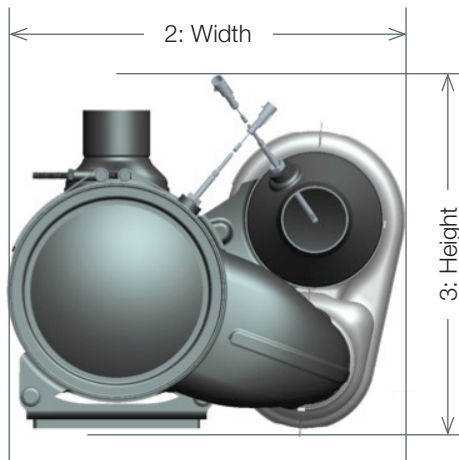
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DOC/SCR		Aftertreatment weights and dimensions			
		≤ 92.6 kW (124.2 bhp)		> 92.6 kW (124.2 bhp)	
1	Length	647 mm	25.4 in	675 mm	26.5 in
2	Width	453 mm	17.8 in	478 mm	18.8 in
3	Height	372 mm	14.6 in	390 mm	15.3 in
	Weight	40 kg	88 lb	45 kg	99 lb

Aftertreatment module shipped as separate part to be assembled by customer.

## Aftertreatment

- DOC – Diesel Oxidation Catalyst
- SCR – Selective Catalytic Reduction
- 3 inch flex pipe kits available with a variety of elbow options for turbocharger connection
- SCR Auxiliaries – A range of tanks and heated lines are available

## Technology

The DOC/SCR technology provides customers with as compact as possible aftertreatment solution.

## Power

Using our advanced research and development techniques, we have perfectly matched both aftertreatment systems to the engine. The engine performance has then been optimised to give the application maximum productivity with both aftertreatment options being invisible to the machine operator whilst in use.

## Mounting

Remote and engine mounted installation options provide customers with flexibility for many applications.

## Service

Both aftertreatment systems are designed to be service-free.

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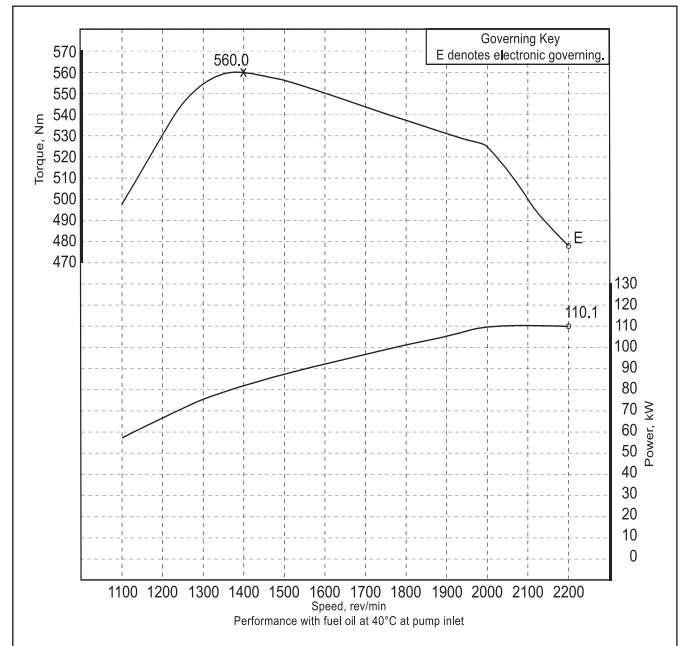
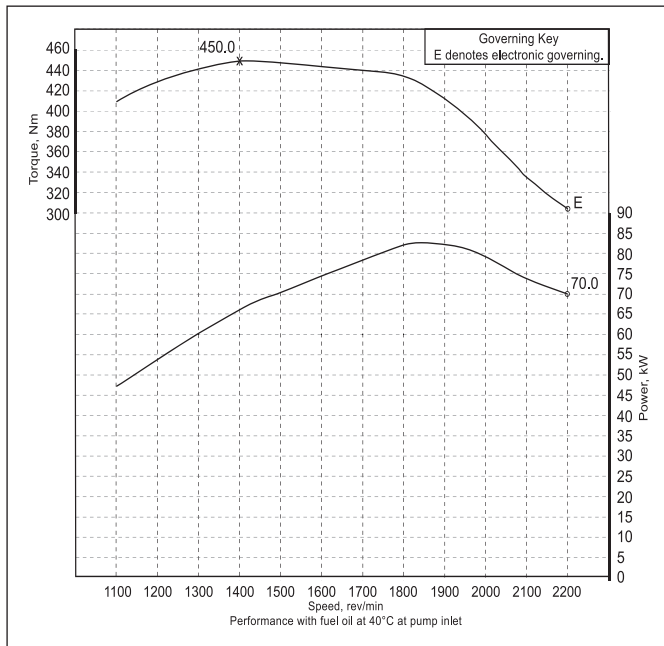
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Speed rpm	Power kW	Power hp	Speed rpm	Torque Nm	Torque lb·ft	Rating type
2200	*70.0	93.9	1400	450	332.0	C
2200	74.4	99.8	1400	450	332.0	C
2200	82.0	109.9	1400	450	332.0	C
2200	85.9	115.2	1400	500	368.7	B
2200	91.0	122.0	1400	500	368.7	B
2200	92.6	124.2	1400	530	391.0	C
2200	97.9	131.3	1400	530	391.0	C
2200	102.1	136.9	1400	560	413.0	C
2200	106.0	142.1	1400	560	413.0	C
2200	*110.1	147.6	1400	560	413.0	C

\* Curve shown

Rating Standard ISO 14396:2002

Unless otherwise specified, all stated data is for maximum rated speed and 100% load

B rating performance data will be added upon availability

## 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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