EU Stage V/U.S. EPA Tier 4 Final 112-150 kW/149-200 hp

The Perkins 1204J, the 4 cylinder option for the 1200 Series, gives you a complete power solution that meets the latest EU Stage V/U.S. EPA Tier 4 Final emission standards. The choice of options, engine configurations and robust technology allows you to integrate the 1204 range into your equipment with minimum re-engineering.

The innovative, compact and flexible design of the Perkins 1200 Series means it can be found in more than 800 different models of equipment.

Stage V/EPA Tier 4 Final emission standards.



Power rating							
Minimum power	112 kW	149 hp					
Maximum power	150 kW* 200 hp*						
Rated speed	2200 rpm						
Maximum torque	750 Nm @ 1400 rpm 553 lb-ft 1400 rpm						
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	Series turbocharged aftercooled						
Cycle	4 stroke						
Combustion system	Direct injection						
Compression ratio	16.5:1						
Rotation	Anti-clockwise, viewed on flywheel						
Total lubricating capacity	13.5 litres	3.57 US gal					
Cooling system	Liquid						
Total coolant capacity	10.8 litres 2.85 US gal						

\*D-tier rating - maximum duty cycle of 10%

Engine package weights and dimensions							
Length	845.1 mm 33.3 in						
Width	741.6 mm	29.1 in					
Height	867.6 mm	34.1 in					
Weight (dry)	420 kg	926 lb					

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# **Perkins**®

THE HEART OF EVERY GREAT MACHINE

### EU Stage V/U.S. EPA Tier 4 Final 112-150 kW/149-200 hp

#### Features and benefits

#### A lifetime of low cost

We have designed the Perkins 1204 range with optimised fuel consumption in mind, matching it to the operating cycles of a wide range of equipment and applications.

Low cost maintenance is achieved through hydraulic tappets, multi-vee belts, service free aftertreatment and 500 hour oil change intervals.

In addition, on the 1204J industrial engine, many service items can be located on either side of the engine to give you maximum access for servicing.

#### Easy to switch

The 1204 range features core technologies to support your move from Stage IIIB/Tier 4 Interim to Stage V/Tier 4 Final. Following the introduction of the latest emission standards for engines below 130 kW (175 hp), in October 2014 in the EU and in January 2015 in the U.S., our technology consistently delivers with the minimum amount of difficulty.

Like you, we believe there is no need for a trade-off between meeting emission standards and delivering on performance. The 1200 Series tackles the emissions challenge head-on and gives you improved productivity levels and fuel consumption compared to the previous generation Stage IIIB/Tier 4 Interim engines.

#### Ideal for downsizing

High power density, combined with excellent torque in the 1204 range allows you to select a more compact engine where previously you might have used an engine of a higher cubic capacity. This downsizing has several benefits, including saving you money and providing more space to package aftertreatment units.

#### Tailored for your machines

Your needs are our top priority, which is why we provide more tailored technology for OEMs than anyone else. Working closely with OEMs, we have developed the 1204 range with hundreds of variables so that it easily fits into your machine.

Our 1204 range engines come with two year warranties as standard and can also be supported by extended service contracts.

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### EU Stage V/U.S. EPA Tier 4 Final 112-150 kW/149-200 hp

### **Technical information**

#### Aftertreatment technology

- DOC Diesel Oxidation Catalyst
- SCR Selective Catalytic Reduction
- DPF Diesel Particulate Filter option available
- 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

#### 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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Speed rpm	Power kW	Power hp	Speed rpm	Torque Nm	Torque lb∙ft	Rating type
2200	112	150	1400	650	479	С
2200	117	156.9	1400	710	524	С
2200	129.4	173	1400	750	553	С
2200	140	187.7	1400	825	608	С
2200	149.8*	200	1400	825	608	D

\*D-tier rating - maximum duty cycle of 10%

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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