

# 1200 Series

## 1204E-E44TA/TTA

### Industrial Engine

EU Stage IIIB, EPA Tier 4 Interim and MLIT Step 4  
61.5-129.4 kW /82.5-173.5 hp

**The new, innovative Perkins 1200 Series engines are designed to meet EU Stage IIIB, EPA Tier 4 Interim and Japanese MLIT Step 4 emissions legislation. 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 1204E-E44TA and 1204E-E44TTA are turbocharged and series turbocharged respectively. They are air-to-air charge cooled, 4.4 litre, 4 cylinder units capable of producing 61.5 - 129.4 kW (82.5 - 173.5 hp). These engines provide extra power density and faster response in a compact package.

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 .....	4 vertical in-line
Bore and stroke .....	105 mm x 127 mm (4.13 in x 5 in)
Displacement .....	4.4 litres (268.5 in <sup>3</sup> )
Aspiration 1204E-E44TA.....	Turbocharged aftercooled
Aspiration 1204E-E44TTA.....	Series 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)
Dimensions TA	
Length .....	845.1mm (33.3 in)
Width .....	772.4 mm (30.4 in)
Height .....	848.2 mm 33.4 in)
Dry weight .....	400 kg (882 lb )

#### Dimensions TTA

Length .....	845.1mm (33.3 in)
Width .....	741.6 mm (29.1 in)
Height .....	867.6 mm 34.1 in)
Dry weight .....	420 kg (926 lb)

Final weight and dimensions will depend on completed specification



#### Emissions

Designed to meet 2011 EU Stage IIIB (Europe), EPA Tier 4 Interim (US) and MLIT Step 4 (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

Series turbocharging with smart wastegate available on specific 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. 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.

#### 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.

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## 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, 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

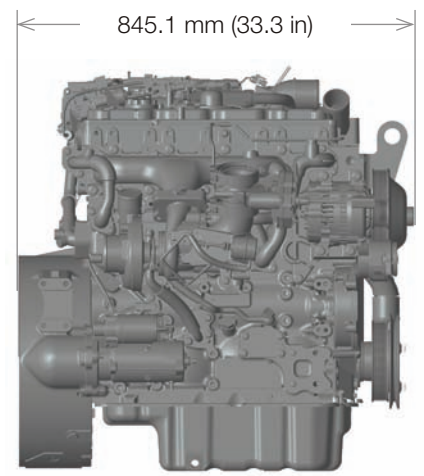
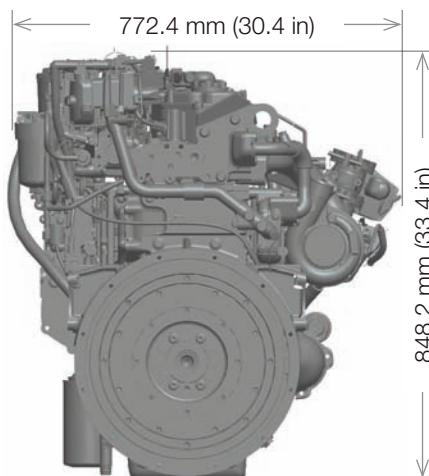
### Power Take-off

- 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

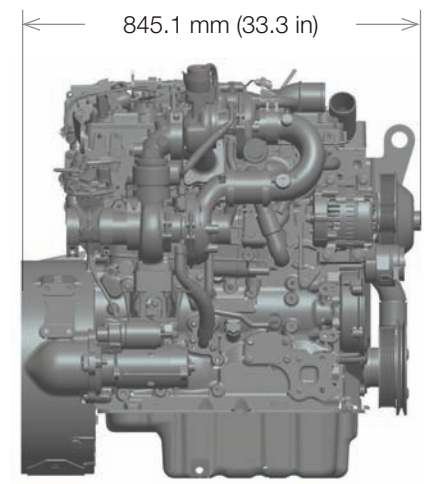
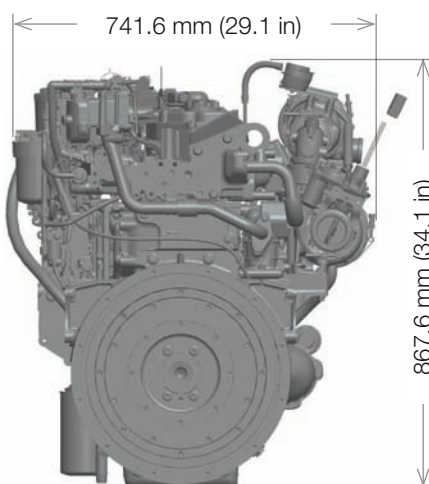
### General

- Available with or without balancer

### 1204E-E44TA



### 1204E-E44TTA



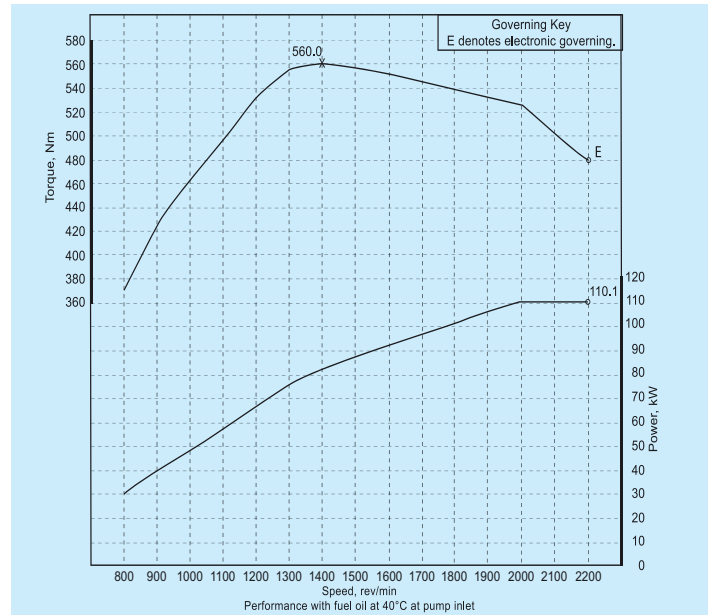
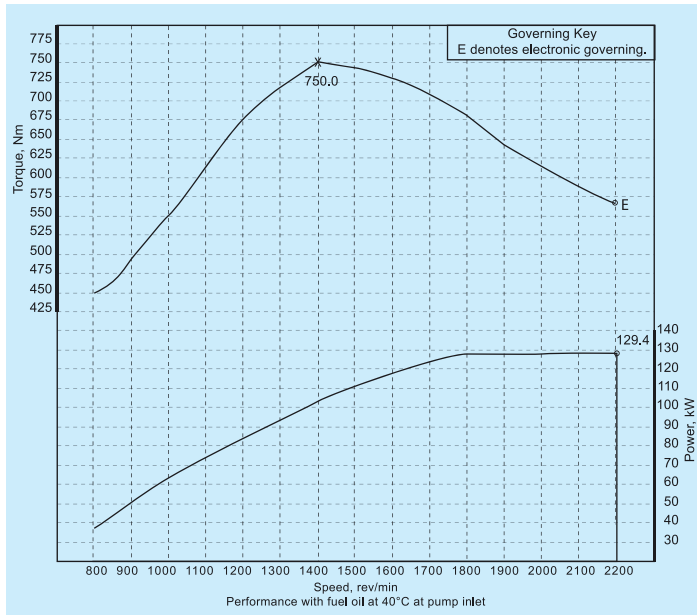
Final weight and dimensions will depend on completed specification

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### Performance Data



Power kW	Power (bhp)	Speed rev/min	Torque Nm	Speed rev/min	Rating Type
61.5	(82.5)	2200	347	1400	C
*65.9	(88.4)	2200	370	1400	B
70.0	(93.9)	2200	400	1400	B
74.5	(100.0)	2200	450	1400	C
82.0	(110.0)	2200	450	1400	C
85.9	(115.2)	2200	480	1400	B
91.0	(122.0)	2200	500	1400	B
92.5	(124.0)	2200	530	1400	B
98.0	(131.4)	2200	500	1400	C
102.1	(137.0)	2200	560	1400	C
106.0	(142.1)	2200	560	1400	C
*110.1	(147.6)	2200	560	1400	C
105.1	(141.0)	2200	650	1400	B
112.0	(150.0)	2200	650	1400	B
117.0	(157.0)	2200	683	1400	C
*129.4	(173.5)	2200	750	1400	C

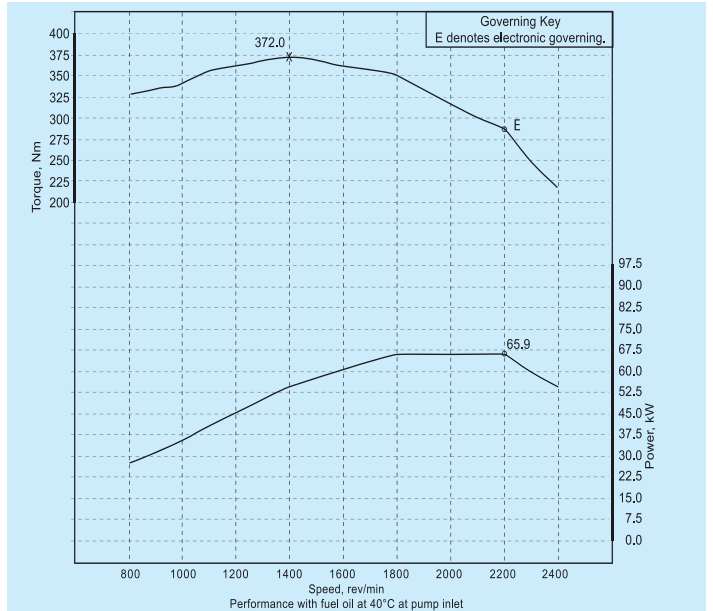
\* Curve shown  
Rating Standard ISO 14396:2002. Unless otherwise specified, all stated data is for maximum rated speed and 100% load.

### 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%).

Photographs are for illustrative purposes only and may not reflect final specification.  
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Additional ratings are available for specific customer requirements. Consult your Perkins distributor.

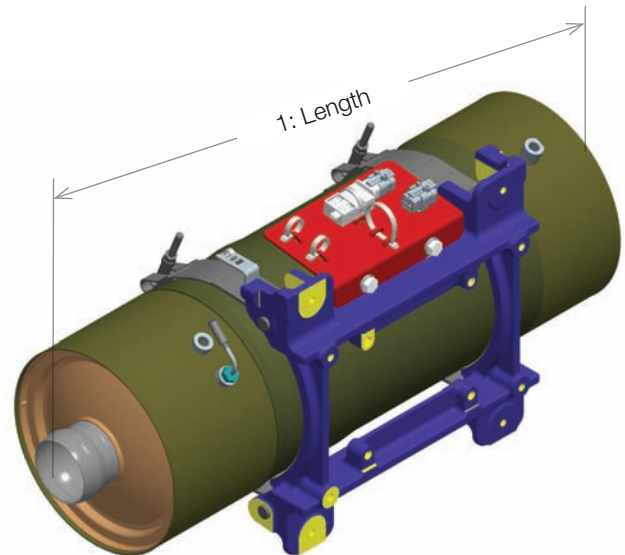
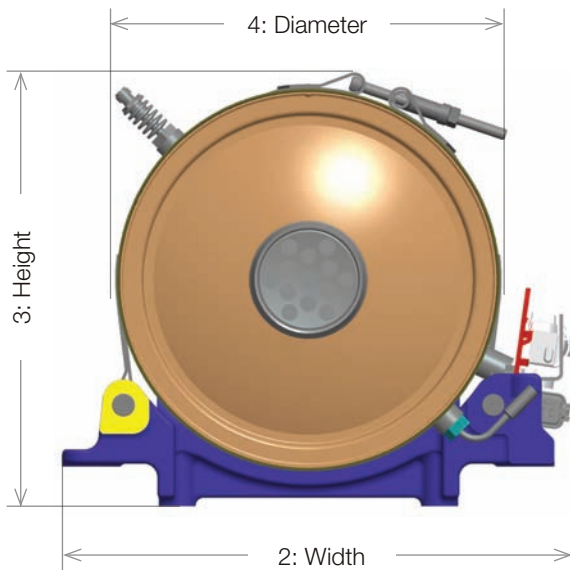
Rating Conditions for Diesel Engines - up to 7.1 litres are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in. Hg), with a vapour pressure of 1 kPa (0.295 in Hg) and 25°C (77°F). Performance is measured using fuel to specification EPA 2D 89.330-96 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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### Aftertreatment Configuration



#### 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 the regeneration is invisible to the operator.

#### Mounting

Remote and engine-mounted installation options provide OEM flexibility for many applications.

#### Service

Aftertreatment designed to be service-free (minimum 8,000 hours).

		≤ 82 kW (110 hp)	> 82 kW (110 hp)
1	Length	802.5 mm (31.6 in)	828 mm (32.6 in)
2	Width	365 mm (14.3 in)	365 mm (14.3 in)
3	Height	279 mm (11 in)	300.5 mm (11.8 in)
4	Diameter	244.9 mm (9.6 in)	270.3 mm (10.6 in)
	Weight	34 kg (75 lbs)	37 kg (81.6 lbs)

Final weight and dimensions will depend on completed specification

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

#### Aftertreatment

- DOC - Diesel Oxidation Catalyst
- DPF - Diesel Particulate Filter supplied, with a range of inlet and outlet options
- No ash service requirement, low temperature regeneration
- 3" flex pipe kits available with a variety of elbow options for turbocharger connection

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