

1200 Series 1206E-E70TTA Industrial Engine

EU Stage IIIB, EPA Tier 4 Interim and MLIT Step 4
140-225 kW / 187.7-301.8 hp

The new, innovative Perkins® 1200 Series engines are designed to meet EU Stage IIIB and EPA Tier 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.

At the top of the range is the 1206E-E70TTA, a series turbocharged, air-to-air charge cooled, 7 litre, 6 cylinder unit capable of producing 225 kW (301.8 hp). Its 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 2011 EU Stage IIIB (Europe), EPA Tier 4 Interim (US) and MLIT Step 4 (Japan).

Specification		
Number of cylinders	6 vertical in-line	
Bore and stroke	105 x 135 mm	4.13 x 5.3 in
Displacement	7.01 litres	427.7 in ³
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	13-16 litres	3.4-4.2 US gal
Cooling system	Liquid	
Total coolant capacity	15.2 litres	4 US gal

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Final weight and dimensions will depend on completed specification.

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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

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. No additional fluids or additives are required which lowers operating costs
- Hydraulic tappets, multi-vee belts, minimum 5000 hour diesel particulate filter ash service interval 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
- Extended Service Contracts – protect and plan the cost of ownership
Discover more: 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

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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, 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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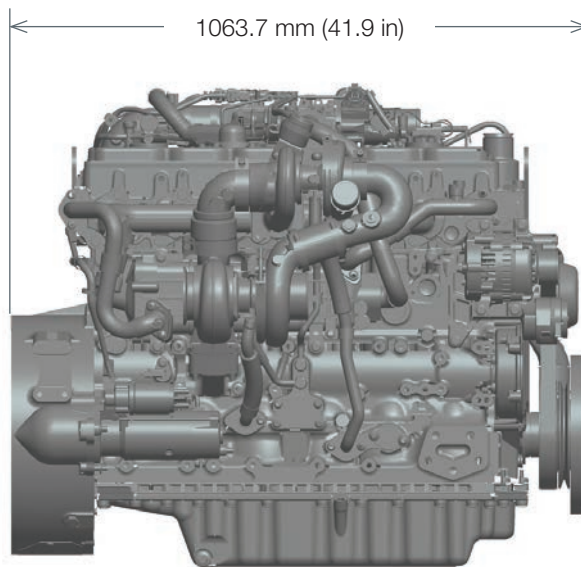
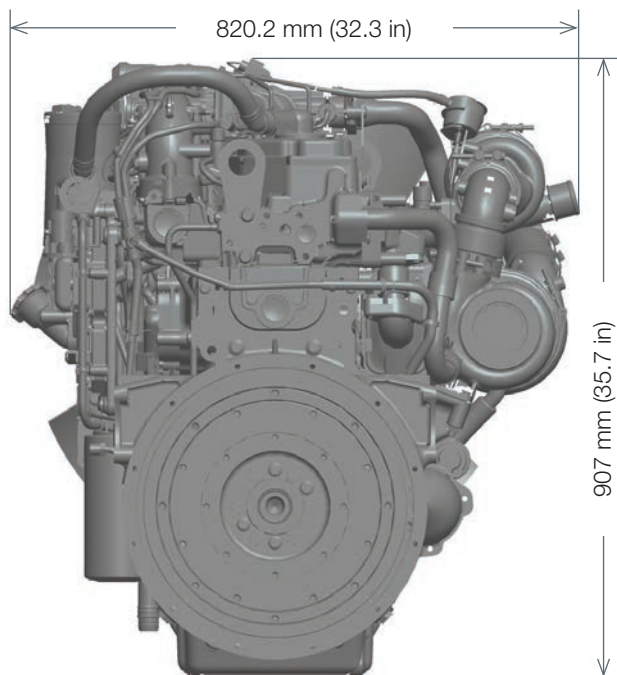
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Engine package weights and dimensions (includes electrics and backend)

Length	1063.7 mm	41.9 in
Width	820.2 mm	32.3 in
Height	907 mm	35.7 in
Weight (dry)	715 kg	1576 lb

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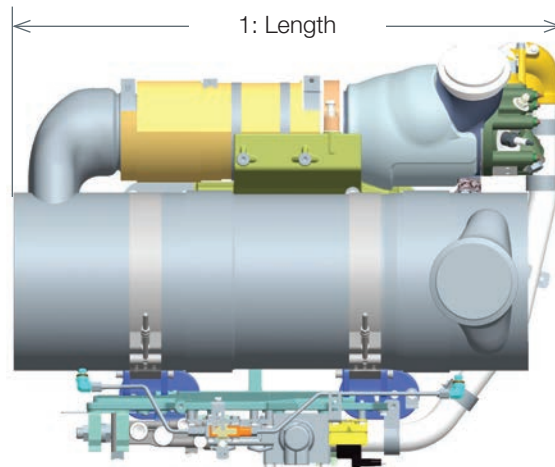
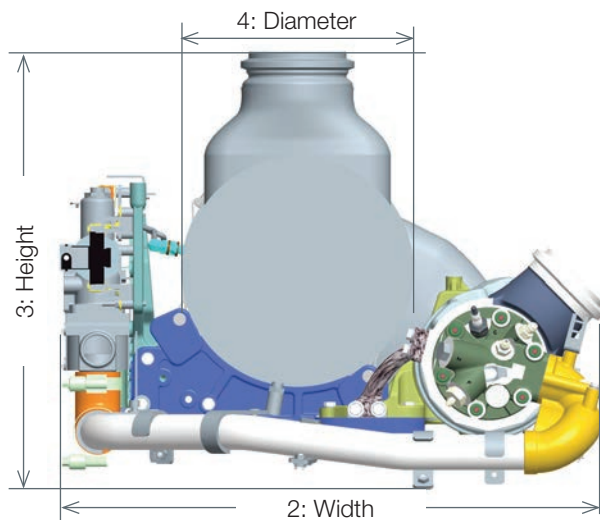
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		Aftertreatment weights and dimensions			
		≤172 kW		≥172 kW	
1	Length	918.7 mm	36.2 in	918.7 mm	36.2 in
2	Width	714.4 mm	28.1 in	714.4 mm	28.1 in
3	Height	618.5 mm	24.3 in	643.9 mm	25.3 in
4	Diameter	287 mm	11.3 in	337.8 mm	13.3 in
	Weight	124 kg	273.4 lb	134 kg	295.4 lb

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

Aftertreatment

- CEM – Clean Emissions Module
- High Temperature Regeneration System
- DOC – Diesel Oxidation Catalyst
- DPF – Diesel Particulate Filter and regeneration system supplied, with a range of inlet and outlet options
- 3 inch flex pipe connection kit with rotatable elbow for 60° and 90° RS inlet flexibility

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 in normal operation, the regeneration is invisible to the operator.

Flexibility

Flexible regeneration options maximise uptime.

Regeneration

High Temperature Regenerations System maximises fuel efficiency during regeneration.

Mounting

Remote installation options provide OEM flexibility for many applications.

Service

5,000 hour DPF ash service interval.
Available in 12 or 24 volt systems.

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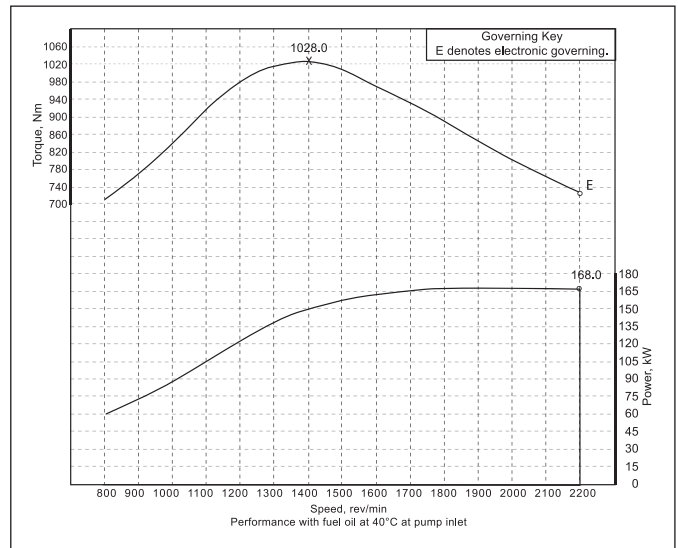
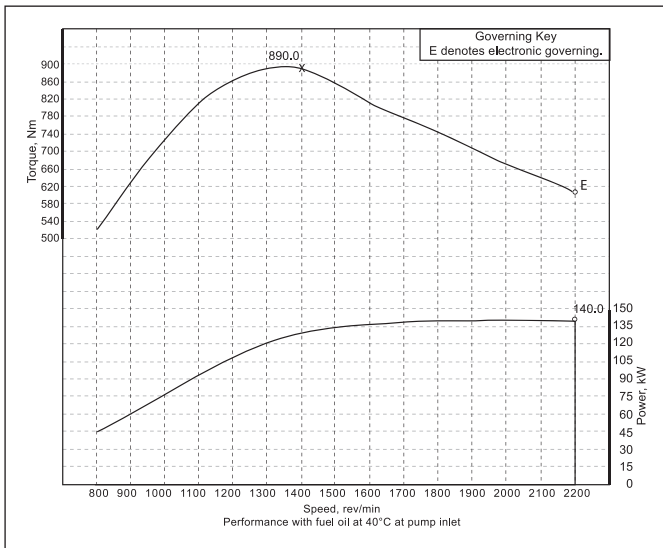
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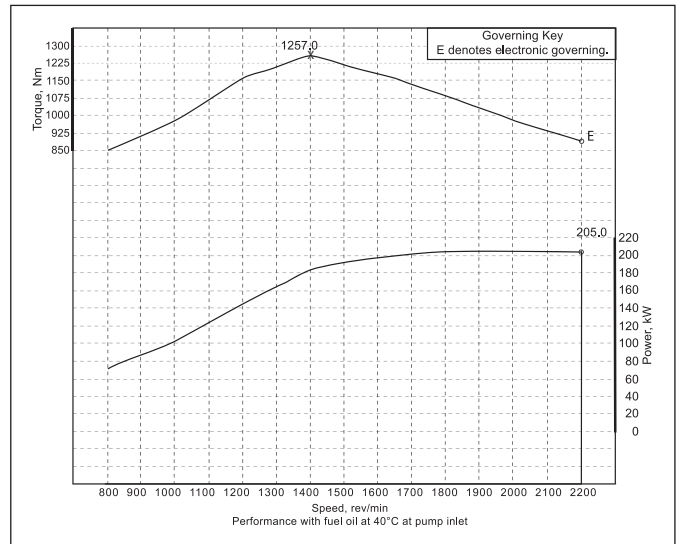
Rating definitions and conditions

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).



Speed rpm	Power kW	Power hp	Speed rpm	Torque Nm	Torque lb-ft	Rating type
2200	*140.0	187.7	1400	890	656.4	B
2200	151.0	202.5	1400	922	680.0	B
2200	158.5	212.5	1400	973	717.6	B
2200	*168.0	225.3	1400	1028	758.2	B
2200	176.5	236.7	1400	1086	801.0	B
2200	186.5	250.1	1400	1142	842.3	C
2200	*205.0	274.9	1400	1257	927.1	C

*Curve shown

Rating Standard ISO 14396:2002

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

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