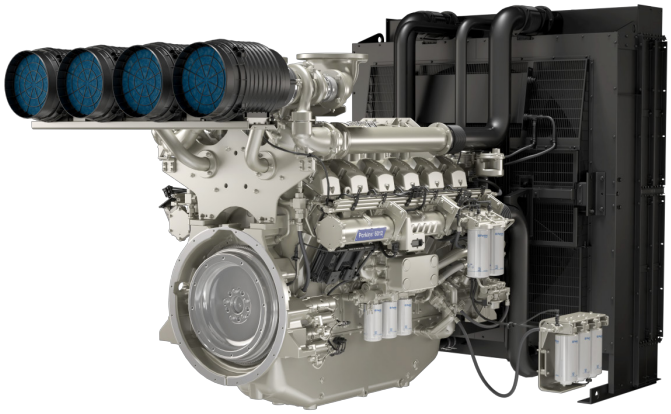
5012A-E46TAG Electric Power Engines

Power range 1500 rpm — 921-1638 kW (engine gross power)

Emissions — Fuel optimised

The Perkins® 5012A-E46TAG has been designed to offer reliable power for all electric power applications, including standby, prime, critical and data centres.

Engineered and built specifically for the power generation industry, the Perkins® 5000 Series is a power-packed engine range built to be dependable, versatile and offer low daily operating costs.



Features and benefits

- The 5000 Series delivers **maximised productivity** through outstanding load acceptance, achieving NFPA110 Type 10 and ISO 8528-5 G2 and G3 performance class and deliver high altitude capability.

  The engine build and performance have been designed from the ground up with **ultimate productivity and dependability** in mind, so customers can be confident that power will be available when required. They have been tested around the world, in the harshest environments, to deliver performance, no matter the conditions.

- Excellent oil consumption through dedicated piston, ring and liner assembly and low fuel consumption deliver **minimised daily operating costs**.

- Design of core engine components mean the 5000 Series **delivers more power**, more quickly no matter the demands of the application or the environment in which it is placed.

  A single point customer electronics connection supports **ease of integration and service accessibility** is provided from a single side with 500 hours or two year oil and fuel service interval whichever comes first.

- The 5000 Series utilises **advanced technology**, with full authority electronics, that easily integrates into the customer's chosen telematic solutions and is optimised for efficiency in fuel consumption.

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Specification

	5012A-E46TAG			
	TAG1	TAG2	TAG3	TAG4
Configuration	Electro unit/ElectropaK			
Cylinders	12 vee			
Displacement, litres (in^3)	45.84 (2797.3)			
Aspiration	Turbocharged and air-to-air chargecooled			
Bore and stroke, mm (in)	160 (6.3) x 190 (7.5)			
Combustion system	Direct injection			
Compression ratio	13.8:1			
Exhaust aftertreatment	N/A			
Rotation (viewed from flywheel)	Anti-clockwise			
Total lubricating oil capacity, litres (US gal)	157.5 (41.60)			
Cooling system	Liquid			
Total coolant capacity, litres (US gal)	233 (61.55)			

Technical Information

Model	Speed	Type of operation	Engine Power		Typical Generator Output* (Net)		Prime Fuel Consumption			
			Gross	Net			ESP	100%	75%	50%
	rpm		kW (hp)	kW (hp)	kVA	kWe	g/kWh	g/kWh	g/kWh	g/kWh
5012A-E46TAG1	1500	Prime/DCP/LTP	1135 (1522)	1074 (1440)	1275	1020	TBC	TBC	TBC	TBC
		Standby/ESP	1241 (1664)	1179 (1581)	1400	1120				
		COP	921 (1235)	859 (1152)	1020	816				
5012A-E46TAG2	1500	Prime/DCP/LTP	1199 (1608)	1137 (1525)	1350	1080	TBC	TBC	TBC	TBC
		Standby/ESP	1325 (1777)	1263 (1694)	1500	1200				
		COP	971 (1302)	909 (1219)	1080	864				
5012A-E46TAG3	1500	Prime/DCP/LTP	1344 (1802)	1263 (1694)	1500	1200	TBC	TBC	TBC	TBC
		Standby/ESP	1470 (1971)	1389 (1863)	1650	1320				
		COP	1091 (1463)	1011 (1356)	1200	960				
5012A-E46TAG4	1500	Prime/DCP/LTP	1499 (2010)	1440 (1931)	1710	1368	TBC	TBC	TBC	TBC
		Standby/ESP	1638 (2197)	1579 (2117)	1875	1500				
		COP	1211 (1624)	1152 (1545)	1368	1094				

*Generator powers are typical and based on typical alternator efficiencies and a power factor (cos θ) or 0.8.

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Standard Equipment

	5012A-E46TAG			
	TAG1	TAG2	TAG3	TAG4
Electro unit or ElectropaK	Electro unit/ElectropaK			
Radiator fitted	ElectropaK only			
Fuel filter, engine mounted	✓			
Water separator	Optional			
Fuel priming pump (manual/electric)	Electric			
Fuel cooler (not required for most installations)	ElectropaK only			
Air filter, engine mounted	✓			
Engine ECM, engine mounted	✓			
Wiring harness to ECM	✓			
Wiring harness (all connectors to single customer interface)	✓			
Starter motor	✓			
Battery charging alternator	✓			
Flywheel housing	✓			
Flywheel	✓			
Fan	ElectropaK only			
Fan guard	ElectropaK only			
Temperature and oil pressure for automatic stop/alarm configurable	✓			

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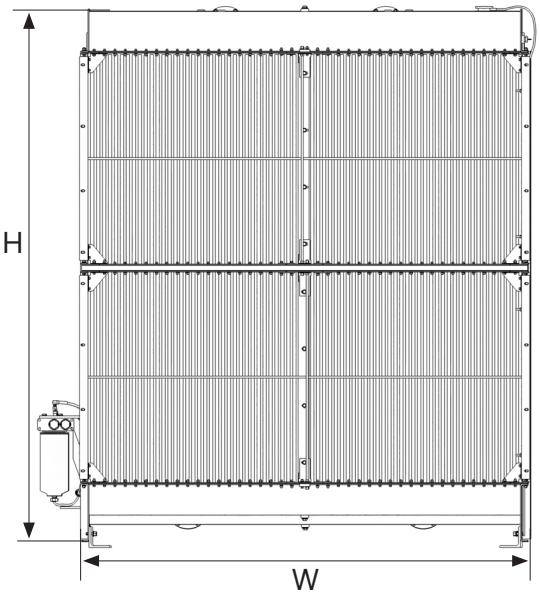
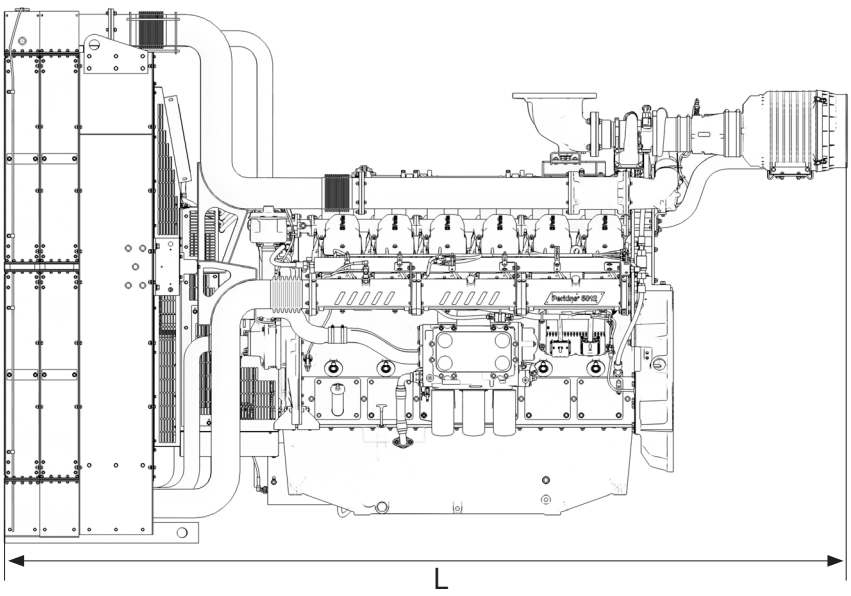
Engine Package Weights and Dimensions





	5012A-E46TAG			
	TAG1	TAG2	TAG3	TAG4
Configuration	ElectropaK			
Dimensions, H x L x W, mm (in)	2614 × 3913 × 2200 (102.9 × 154.1 × 86.6)			
Dry weight, kg (lb)	5860 (12919)			

Continuous operating power (COP): Unlimited hours usage with an average load factor of 100 percent of the published continuous operating power. No overload is permitted on continuous operating power.

Prime power: Unlimited hours usage with an average load factor of 80 percent of the published prime power over each 24 hour period. A 10 percent overload is available for one hour in every 12 hours operation. No overload is permitted.

Data centre power (DCP): Power available for variable or continuous electrical loads in a data centre application. Up to 100 percent load factor of the published DCP power is permitted for unlimited time. An overload of 10 percent is permitted for one hour in every 12 hours of operation. No overload is permitted. DCP power definition relies on ISO8528-1 2018 standard to be followed by generator set manufacturer, and will support Tier I to Tier IV classifications of data centres as per UPTIME institute guidelines.

Standby power: Limited to 500 hours annual usage with an average load factor of 80 percent of the published standby power over each 24 hour period. Up to 300 hours of annual usage may be run continuously. No overload is permitted.

Limited-time running power (LTP): Maximum of 500 hours annual usage with an average load factor of 100 percent of the published LTP power.

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