

# 4012-46TAG Electric Power Engines

**Power Range 1500 rpm 914-1664 kWm** (engine gross power)

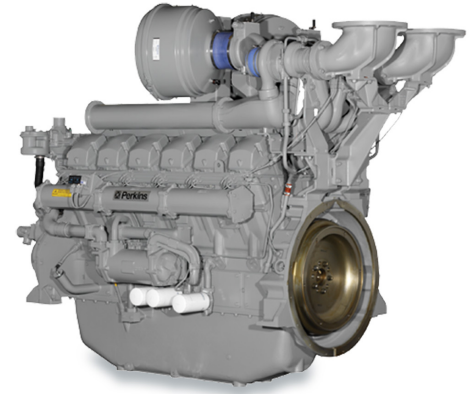
**Power Range 1800 rpm 989-1669 kWm** (engine gross power)

**Emissions Fuel optimised**

The Perkins® 4012 Series family of 12 cylinder diesel engines, designed to address today's uncompromising demands within the power generation industry with particular aim at the standby market sector.

Developed from a proven engine range that offers superior performance and reliability. The 4012 ElectropaKs are turbocharged, air-to-air chargecooled, 12 cylinder diesel engines.

Offered with either temperate or tropical cooling packages (with or without fuel oil cooling). Their premium design and specification features provide economic and durable operation as well as exceptional power to weight ratio, improved serviceability, low gaseous emissions, overall performance and reliability essential to the power generation market.



## Features and benefits

- Individual 4 valve cylinder heads giving optimised gas flows and unit fuel injectors ensure ultra fine fuel atomisation and hence controlled rapid combustion **maximising productivity**.
- Commonality of components with other engines in the 4000 Series family for reduced stocking levels
- Designed to provide **low cost of ownership**, simple maintenance and reduced downtime.
- Perkins engines are designed and developed with our customer in mind. Keeping service cost to a minimum ensures **low periodic running costs**. This is achieved through 500 hour service intervals for oil and fuel as standard under all operating conditions.
- The **long productive life** of our products is supported through the Perkins 12 month warranty as standard for prime power applications, and the 1500 hour or two year emissions warranty. For further peace of mind, there is also the option to extend the warranty period through **Perkins® Platinum Protection**. Contact your local distributor or visit [www.perkins.com/platinumprotection](http://www.perkins.com/platinumprotection).
- Engines are produced using the Caterpillar Production System established in all Perkins manufacturing operations, achieving the same **efficient processes and stringent quality controls** at every global facility.

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 **Perkins®**

THE HEART OF EVERY GREAT MACHINE

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## Specification

	Model			
	4012-46TAG0A	4012-46TAG1A	4012-46TAG2A	4012-46TAG3A
Configuration	Electro unit and ElectropaK			
Cylinders	12 60° vee			
Displacement, litres (in <sup>3</sup> )	45.842 (2979)			
Aspiration	Turbocharged and air-to-air chargecooled			
Bore and stroke, mm (in)	160 x 190 (6.3 x 7.5)			
Combustion system	Direct injection			
Compression ratio	12.8:1			
Exhaust aftertreatment	N/A			
Rotation (viewed from flywheel)	Anti-clockwise, viewed from flywheel end			
Total lubricating oil capacity, litres (US gal)	157.5 (41.6)			
Cooling system	Watercooled			
Total coolant capacity, litres (US gal)*	223 (58.9)		233 (61.6)	

\*dependant on cooling pack selected

## Technical information

Model	Speed rpm	Type of Operation	Engine Power		Typical Generator Output* (Net)		Prime Fuel Consumption			
			Gross	Net			110%	100%	75%	50%
			kWm (hp)	kWm (hp)	kVA	kWe	g/kWh	g/kWh	g/kWh	g/kWh
4012-46TAG0A	1500	Baseload	914 (1226)	842 (1129)	1000	800	198	199	204	216
		Prime/DCP	1125 (1509)	1053 (1412)	1250	1000				
		Standby	1230 (1649)	1158 (1552)	1375	1100				
4012-46TAG1A	1500	Baseload	981 (1316)	909 (1219)	1079	864	198	195	195	204
		Prime/DCP	1220 (1636)	1148 (1539)	1363	1091				
		Standby	1335 (1790)	1263 (1694)	1500	1200				
	1800	Baseload	989 (1326)	913 (1224)	1084	867	207	208	212	218
		Prime/DCP	1228 (1647)	1152 (1545)	1368	1094				
		Standby	1343 (1801)	1267 (1699)	1505	1204				

\*generator powers are typical and based on typical alternator efficiencies and a power factor (cos  $\theta$ ) or 0.8.

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## Technical information cont/d

Model	Speed	Type of Operation	Engine Power		Typical Generator Output* (Net)		Prime Fuel Consumption			
			Gross	Net	Output* (Net)		110%	100%	75%	50%
	rpm		kWm (hp)	kWm (hp)	kVA	kWe	g/kWh	g/kWh	g/kWh	g/kWh
4012-46TAG2A	1500	Baseload	1077 (1444)	1005 (1348)	1193	955	202	199	202	205
		Prime/DCP	1339 (1796)	1267 (1700)	1505	1204				
		Standby	1467 (1967)	1359 (1870)	1657	1325				
	1800	Baseload	1069 (1434)	993 (1332)	1179	943	206	207	213	215
		Prime/DCP	1348 (1808)	1272 (1706)	1511	1208				
		Standby	1475 (1978)	1399 (1876)	1661	1329				
4012-46TAG3A	1500	Baseload	1281 (1718)	1200 (1609)	1425	1140	211	209	203	205
		Prime/DCP	1521 (2040)	1440 (1931)	1710	1368				
		Standby	1664 (2231)	1583 (2123)	1880	1504				
	1800	Baseload	1286 (1725)	1200 (1609)	1425	1140	211	213	214	215
		Prime/DCP	1526 (2046)	1440 (1931)	1710	1368				
		Standby	1669 (2238)	1583 (2123)	1880	1504				

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## Standard equipment

	Model			
	4012-46TAG0A	4012-46TAG1A	4012-46TAG2A	4012-46TAG3A
Electro unit or ElectropaK	Both	Both	Both	Both
Radiator fitted	✓	✓	✓	✓
Fuel filter, engine mounted	✓	✓	✓	✓
Water separator	✓	✓	✓	✓
Fuel priming pump (manual/electric)	Manual	Manual	Manual	Manual
Fuel cooler	✓	✓	✓	✓
Air filter, engine mounted	✓	✓	✓	✓
Engine ECM, engine mounted	N/A	N/A	N/A	N/A
Wiring harness to ECM	N/A	N/A	N/A	N/A
Wiring harness (all connectors to single customer interface)	N/A	N/A	N/A	N/A
Starter motor	✓	✓	✓	✓
Battery charging alternator	✓	✓	✓	✓
Flywheel housing	✓	✓	✓	✓
Flywheel	✓	✓	✓	✓
Fan	✓	✓	✓	✓
Fan guard	✓	✓	✓	✓
Temperature and oil pressure for automatic stop/alarm configurable	✓	✓	✓	✓

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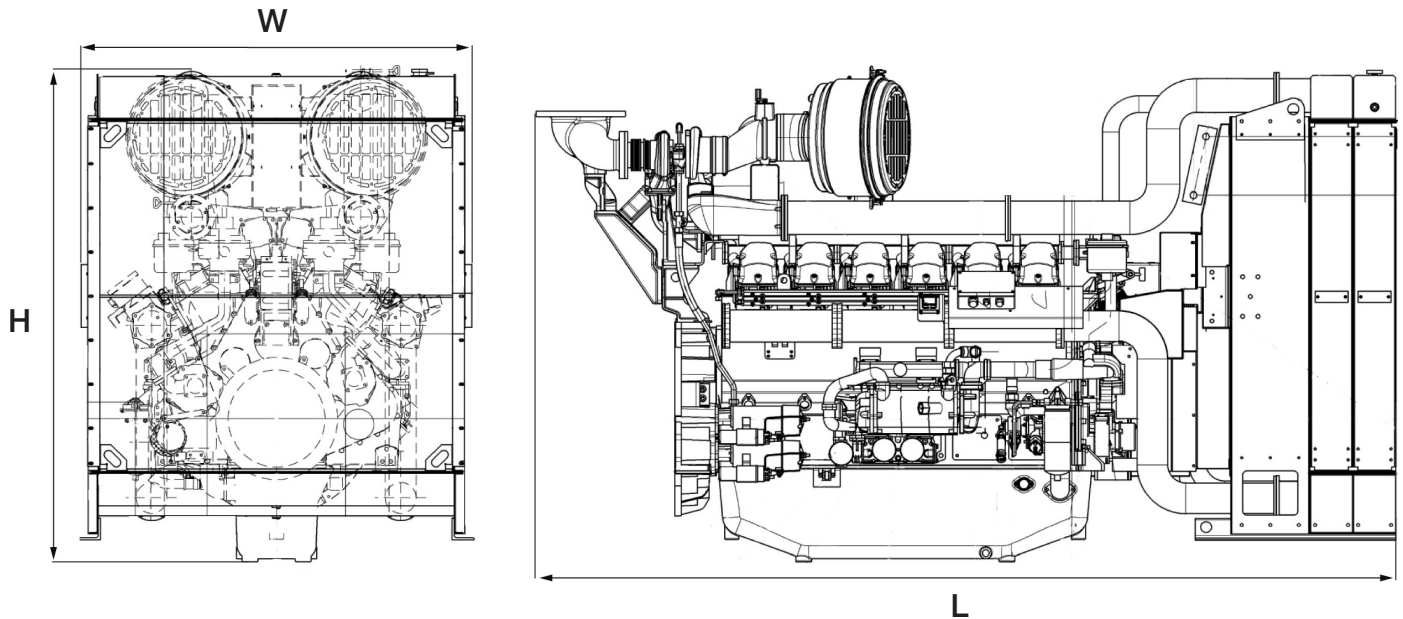
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## Engine package weights and dimensions



	Model			
	4012-46TAG0A	4012-46TAG1A	4012-46TAG2A	4012-46TAG3A
Configuration	ElectropaK			
Temperate dimensions, H x L x W, mm (in)	2269 x 3915 x 2200 (89 x 154 x 87)			
Temperate dry weight, kg (lb)	5663 (12487)		5690 (12546)	
Tropical dimensions, H x L x W, mm (in)	2269 x 3915 x 2200 (89 x 154 x 87)			2614 x 3919 x 2200 (103 x 154 x 87)
Tropical dry weight, kg (lb)	5690 (12546)			5860 (12921)

**Baseload:** Power available at constant load, no overload is permitted.

**Prime power:** Power available at variable load in lieu of a main power network. Overload of 10% is permitted for 1 hour in every 12 hours of operation.

**Data Centre Power (DCP):** Power available for variable or continuous electrical loads in a Data Centre Application. Overload of 10% is permitted for 1 hour in every 12 hours of operation.

**Standby (maximum):** Power available at variable load in the event of a main power network failure. No overload is permitted.

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