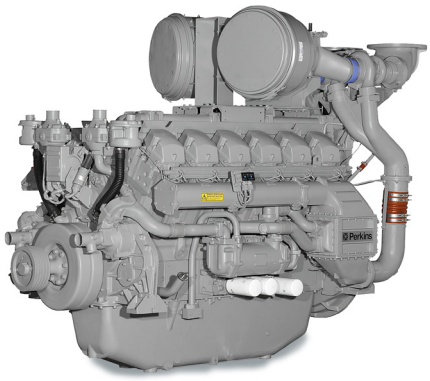
4012-46TWG Electric Power Engines

Power range 1500 rpm **886-1405 kWm** (engine gross power)
Power range 1800 rpm **888-1409 kWm** (engine gross power)
Emissions **Fuel optimised**



The 4012-46TWG engine has been developed using the latest engineering techniques and builds on the strengths of the already very successful 4012 Series family and addresses today's uncompromising demands within the power generation industry.

Developed from a proven heavy-duty industrial base these products offer superior performance and reliability. Turbocharged and air-to-water chargecooled, 12 cylinder diesel engines which offer a choice of temperate or tropical cooling. Its premium features provide exceptional power-to-weight ratio resulting in exceptional fuel consumption.

The overall performance and reliability characteristics makes this one of the prime choices for today's power generation industry.

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 purchase Extended Service Contracts through **Perkins Platinum Protection**. Contact your local distributor or visit www.perkins.com/en_GB/aftermarket/perkins-platinum-protection.
- 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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Specification

	Model		
	4012-46TWG2A	4012-46TWG3A	4012-46TWG4A
Configuration	Electro unit and ElectropaK		
Cylinders	12 60° vee		
Displacement, litres (in^3)	45.8 (2797)		
Aspiration	Turbocharged and air-to-water 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)*	173 (45.7)		

*dependant on cooling pack selected

Technical information

Model	Speed	Type of Operation	Engine Power		Typical Generator Output* (Net)		Prime Fuel Consumption			
			Gross	Net			110%	100%	75%	50%
	rpm		kWm (hp)	kWm (hp)	kVA	kWe	g/kWh	g/kWh	g/kWh	g/kWh
4012-46TWG2A	1500	Baseload	886 (1188)	833 (1117)	989	791	198	196	196	204
		Prime/DCP	1108 (1486)	1055 (1414)	1253	1002				
		Standby	1219 (1635)	1166 (1563)	1385	1108				
	1800	Baseload	888 (1191)	833 (1117)	989	791	202	198	197	223
		Prime/DCP	1110 (1489)	1055 (1414)	1253	1002				
		Standby	1221 (1637)	1166 (1563)	1385	1108				
4012-46TWG3A	1500	Baseload	972 (1304)	909 (1218)	1079	864	202	197	194	200
		Prime/DCP	1212 (1625)	1149 (1540)	1364	1092				
		Standby	1326 (1778)	1263 (1694)	1500	1200				
	1800	Baseload	976 (1313)	909 (1218)	1079	864	208	201	196	214
		Prime/DCP	1216 (1631)	1149 (1540)	1364	1092				
		Standby	1330 (1784)	1263 (1694)	1500	1200				
4012-46TWG4A	1500	Prime	1317 (1766)	1254 (1682)	1505	1204	202	200	195	201
		Standby	1405 (1884)	1342 (1800)	1610	1288				
	1800	Prime	1321 (1772)	1254 (1682)	1505	1204	211	208	194	203
		Standby	1409 (1890)	1342 (1800)	1610	1288				

*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

	Model		
	4012-46TWG2A	4012-46TWG3A	4012-46TWG4A
Electro unit or ElectropaK	Both	Both	Both
Fuel filter, engine mounted	✓	✓	✓
Water separator	✓	✓	✓
Fuel priming pump (manual/electric)	Manual	Manual	Manual
Fuel cooler	✓	✓	✓
Air filter, engine mounted	✓	✓	✓
Engine ECM, engine mounted	N/A	N/A	N/A
Wiring harness to ECM	N/A	N/A	N/A
Wiring harness (all connectors to single customer interface)	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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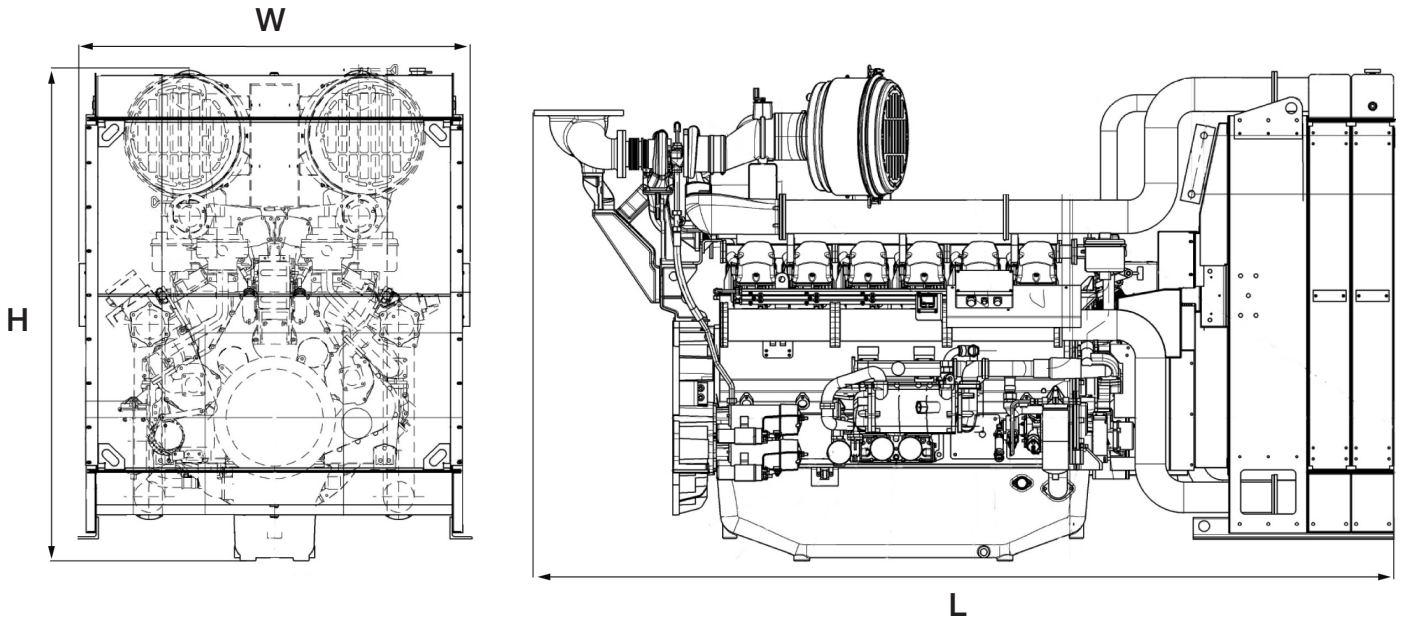
Engine package weights and dimensions



	Model		
	4012-46TWG2A	4012-46TWG3A	4012-46TWG4A
Configuration	ElectropaK		
Temperate dimensions, H x L x W, mm (in)	2241 x 3767 x 1920 (88 x 148 x 76)		
Temperate dry weight, kg (lb)	5260 (11598)	5277 (11636)	
Tropical dimensions, H x L x W, mm (in)	2241 x 3677 x 1920 (88 x 148 x 76)		
Tropical dry weight, kg (lb)	5277 (11636)		

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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