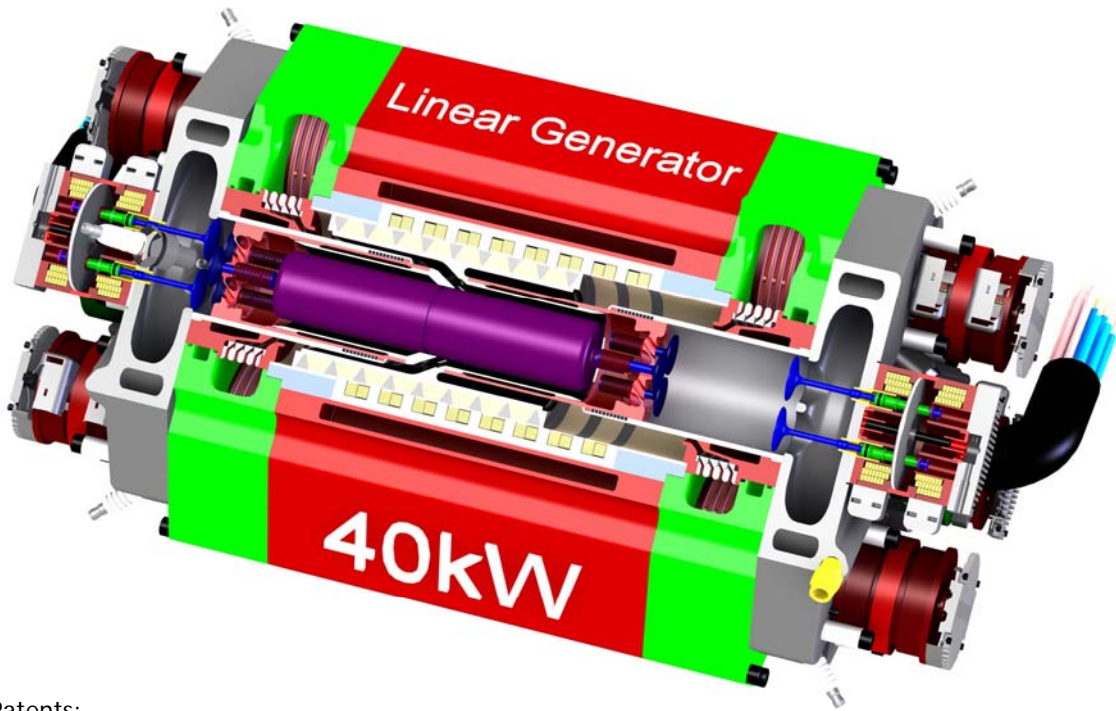


## PROPOSED SERIES HEV

### INTERNAL COMBUSTION ENGINE & LINEAR GENERATOR MODULE:

Linear Generator	Power	40 kW
	Dimensions	225 mm x 225 mm x 520 mm
	Mass	40 kg
Combustion Engine	Cylinders	8
	Bore	52 mm
	Stroke	80 mm
	Capacity	1.36 l
	Power	40 kW
Cylinder Heads	2 Exhaust Valves 22 mm bore (one actuator) 1 Fuel Injector 1 Spark Plug	
Pistons	3 Passive Intake Valves 20 mm bore	
Generators	Mover OD	80 mm
	Mover Length	140 mm
	Number of Coils	6
	Stator OD	110 mm
	Frequency	36 Hz



Patents:		
Australia:	PQ8065	2000, June
USA:	US6,651559B2	2003, November
Europe:	01931200.8	2004, July
Japan:	3607909	2005, January
South Korea:	10-2002-7001442	2005, September

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**BATTERY ASSEMBLY:**

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Batteries:	Power	$37.5 \text{ kW} \times 3 = 112 \text{ kW}$
	Dimensions	$180 \times 590 \times 170 \text{ mm} \times 3$
	Mass	$23 \text{ kg} \times 3 = 69 \text{ kg}$
	56 Li-Ion Cells VL7P	
	Voltage	200 V
	Power	37.5 kW
	Energy	1.4 kWh

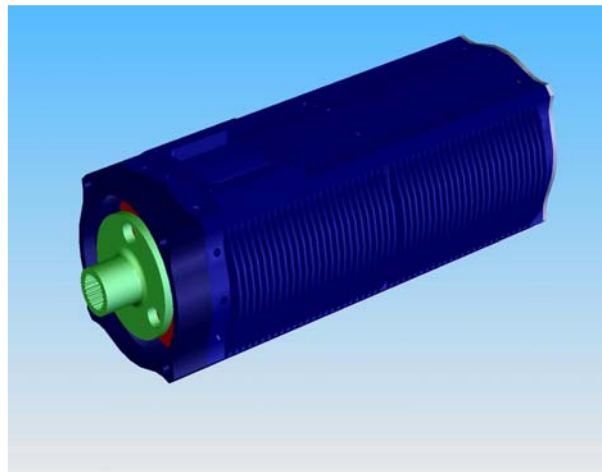


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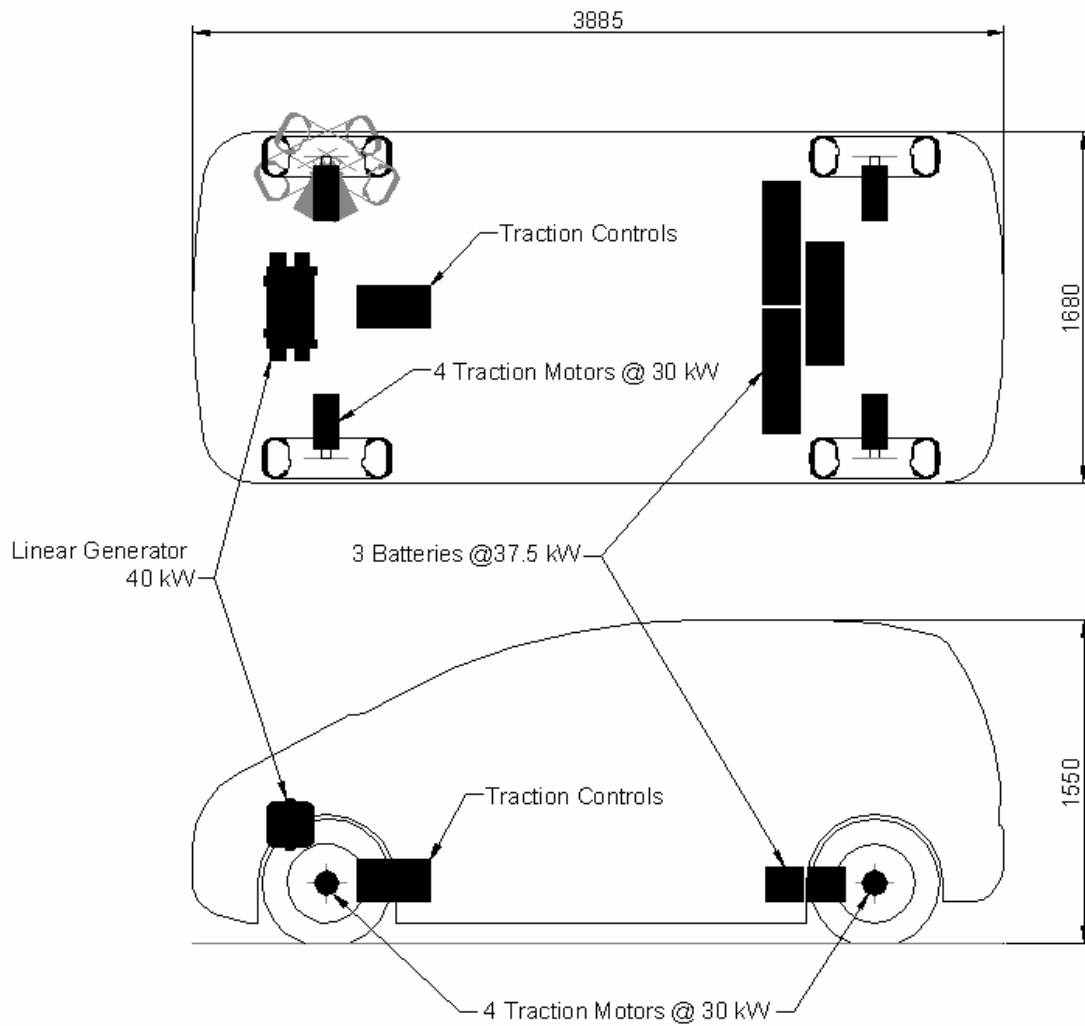
**WHEEL MOTORS:**

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Traction Motor:	Power	$30 \text{ kW} \times 4 = 120 \text{ kW}$
	Dimensions	$\text{Ø}120 \times 200 \text{ mm}$
	Mass	$13 \text{ kg} \times 4 = 52 \text{ kg}$
	Gear ratio	6.75 : 1



PROPOSED SERIES HEV CONFIGURATION:



**Predicted Performance:**

Acceleration for a vehicle mass of 1000 kg from 0 to 100 km/h: 6 seconds

Regenerating Capacity for a vehicle mass of 1000 kg:

Vehicle Speed	Retardation
< 43 km/h	10.0 m/s <sup>2</sup>
50 km/h	8.6 m/s <sup>2</sup>
60 km/h	7.2 m/s <sup>2</sup>
80 km/h	5.4 m/s <sup>2</sup>
100 km/h	4.3 m/s <sup>2</sup>
120 km/h	3.6 m/s <sup>2</sup>

Fuel consumption in city traffic measured in accordance with NEDC: 1.6 l/100 km