北圭汽车
CHINA VEHICLE INDUSTRY

江苏北圭汽车科技有限公司

China Vehicle Industry Co.,Ltd

Subdivision
/Leading/Specialization
/concentration

2023年01月01日

江苏北圭汽车科技有限公司
CHINA VEHICLE INDUSTRY CO.,LTD

地　址：No. 35 Rich road, Dongchen Town, Rugao, Jiangsu, China
电　话：+86-15062773571
网　址：www.China-vehicle.com

2023

CHINA VEHICLE INDUSTRY

Powering Your Future

Engineering The Impossible

Powering Your Future

Focus on One-Stop Service for Full Spectrum of Vehicles

Commited to Electrification Platform & New Energy R&D

Contribute to Sustainable Energy

致力于一站式解决新能源平台方案

北汽汽车

CHINA VEHICLE INDUSTRY

Company Profile

CHINA VEHICLE INDUSTRY CO., LTD. Founded in JiangSu Province,China,was initiated and established by the Chinese Academy of Engineering in conjunction with advantageous R&D resources of First Tier universities of China and Leading with iconic and representative project for national science and technology system reform and innovation, a National High-Tech Enterprise driven by technological innovation, specializing in precision and newness.

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The Enterprise has the capability of Supplying the One-Stop Service including: Manufacturer Factory Building, Production Line Established, KD Parts Supplied and Electrification Platform of core components such as electric control system and electric drive system, which can provide efficient electrification solutions for various application scenarios to gurantee the great performance of the EV.

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6X4Introduction of Heavy Truck Oil Conversion to Electricity

Vehicle Basic Parameters and Performance Parameters

No.	Item	Basic Parameter
1	Length X Width X Height (mm)	
2	WheelBase (mm)	
3	Front Overhang/Rear Overhang (mm)	
4	Approach Angle/departure Angle (°)	
5	Curb Weight(Kg)	
6	Max.Weight (Kg)	400000kg
7	Max.Speed (Km/h)	≥80
8	Max Gradability	≥18%
9	0-50Km/h Speeding Time	≤30S

Chassis Configuration

System	Specification
Power System	Direct Dive /EMT
Drive shaft	Terminal Tooth flange
Middle rear axle	16T Drum with ABS Automatic arm adjustment
Font Axle	7.5T Drum with ABS Automatic arm adjustment
Balance axis	2918ADZ-130-C
Suspension system	Leaf Spring Front 9 Rear 12 Pieces
轮胎	12.00R20
Steel ring	8.5-20
Steering system	Electric Hydraulic ASSIST
Drive Wheel	480—ⅡType
Steering Column	Adjustable up and down
Steering machine	Circulating ball type
Tie rod	Integral maintenance free

Chassis Configuration

Power Steering Pump	3.0KW
Brake System	Double circuit pneumatic braking
Brake Pedel	Wirh feedback function
Accelorator Pedel	Electric Type
Electric Air Pump	3.0KW
Valve	Domestic
ABS	4S/4M
Pipe	PA
Cooling System	ATS
Water Pump	Magnetic brushless
Rubber Pipe	Epdm rubber
Bottom Frame & Attachement	Grooved beam (8+10)

Body Configuration

Cab Assembly	Heavy truck flat top electric flip
Body Frame	UType Cargo Case Middle Roof 5600*2350*1500
Drive Direction	Left Steering
Coating	Option

Electric Configuration

Battery	24V with Rack
A/C System	High pressure AC in cab
A/C Compressor	4KW Slide type
AUX Inverter	四合一
Auto Fire Extinguisher	Standard Equipped
PDU	Standard Equipped
Battery Module	618.24V/228Ah*3 (422.9KWh)
VCU	Standard Equipped
Remote controll terminal	Standard Equipped

Vehicle Matching Scheme and Product Advantages

Two power matching Solution for 6X4 Pure Electric Dump Truck:

I. Direct Drive System, adopt double permanent magnet synchronous motor direct drive system, drive motor directly connected to the Middle axle reducer through the drive shaft , transmission efficiency of up to 95%, drive system without gearbox, high system reliability, low cost, suitable for better road conditions. The hydraulic lifting system is powered by a single permanent magnet synchronous motor to achieve zero emission.

II. EMT system,adopt Permanent Magnet Synchronous Motor + Transmission, Drive system output torque, the vehicle climbing ability is strong, suitable for a variety of complex conditions. High requirements on transmission performance to ensure the stability and reliability of the power system. The hydraulic lifting system is provided by the power source of the transmission Power extractor, so as to achieve zero emission of the vehicle。

Vehicle Matching Scheme and Product Advantages

Control Strategy:

The high efficiency and energy saving control strategy can not only make the vehicle run stably and reliably, but also save electricity and increase driving range. Braking energy recovery rate is greater than or equal to 30% (speed is greater than or equal to 40km/h). The fault protection measures are reasonable and the redundancy is high. At present, the control strategy used by our company has been verified by more than 10,000 pure electric buses in the market, which has certain advantages compared with other manufacturers.

Vehicle Matching Scheme and Product Advantages

Compared with Traditional Diesel Vehicles:

- 6X4 pure electric dump truck,with quiet driving noise, no clutch transmission system, simple operation, labor saving, good comfort.
- The acceleration performance is better, which is determined by the characteristics of permanent magnet synchronous motor (low speed and high torque), and the acceleration performance of the whole vehicle is good when starting in place.
- Low daily maintenance cost, simple maintenance, fewer mechanical parts of the power system, less mechanical failure points, high transmission efficiency, driving motor does not need to change the lubricating oil regularly.
- Low operating cost, power consumption per hundred kilometers is not more than 150kw/h, the electricity price is not higher than 1 yuan /kw/h, the operating cost of 100 kilometers is no more than 150RMB, compared with the operating cost of diesel vehicles: 40 liters / 100 kilometers of fuel consumption *9RMB/liter =360RMB, which can save 200RMB per 100 kilometers.

Key Components Equiped for the Vehicle (Two kinds)

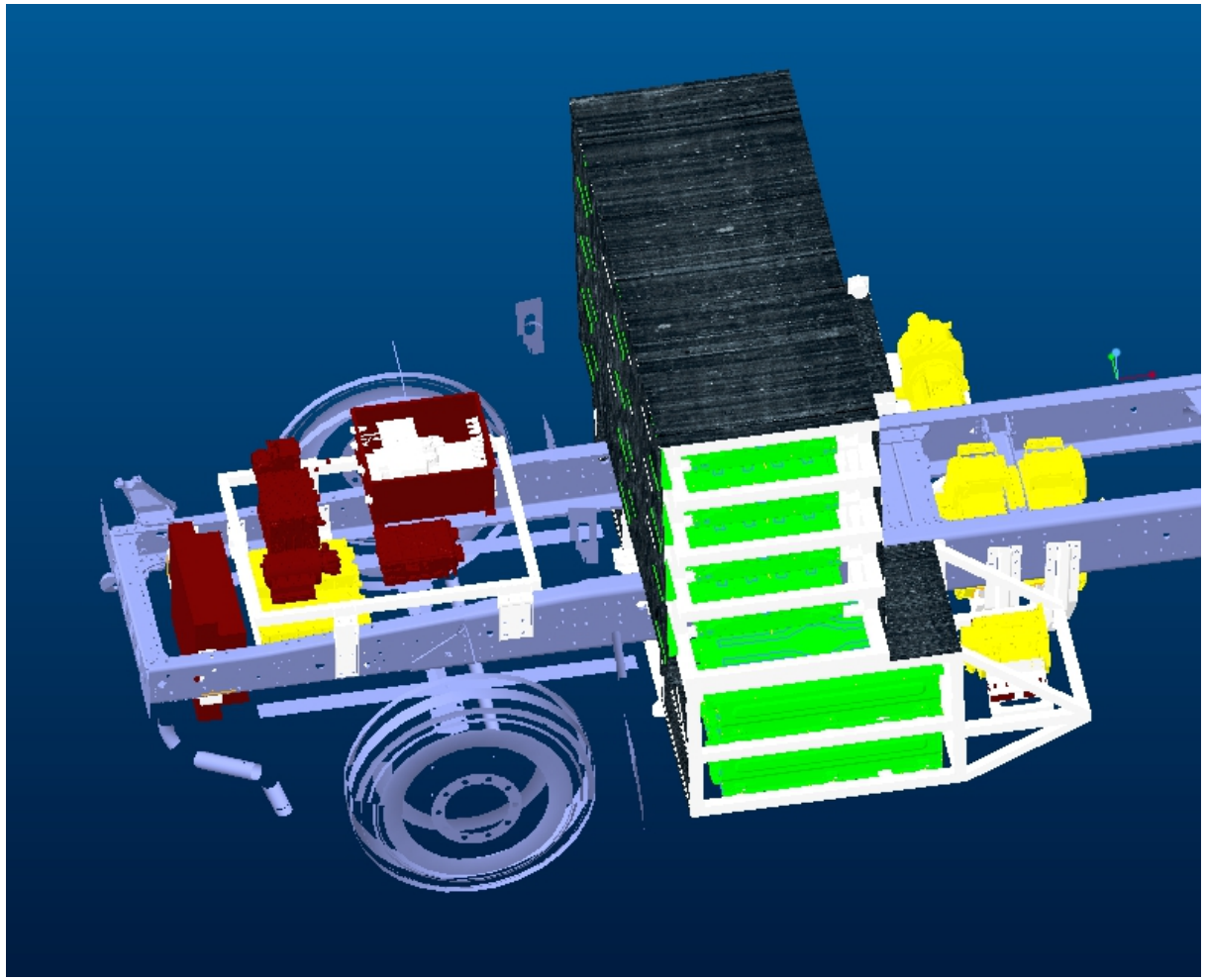
The difference between the two Solution is the Layout of Batteries:

The main electric parts are same, such as power steering pump, high voltage control cabinet, motor controller and other parts placed in the original engine compartment, electric pump, charging jack placed on the power battery fixed support, the connection line of the electrical parts is short, the line is reasonable, save material (high voltage line) cost.

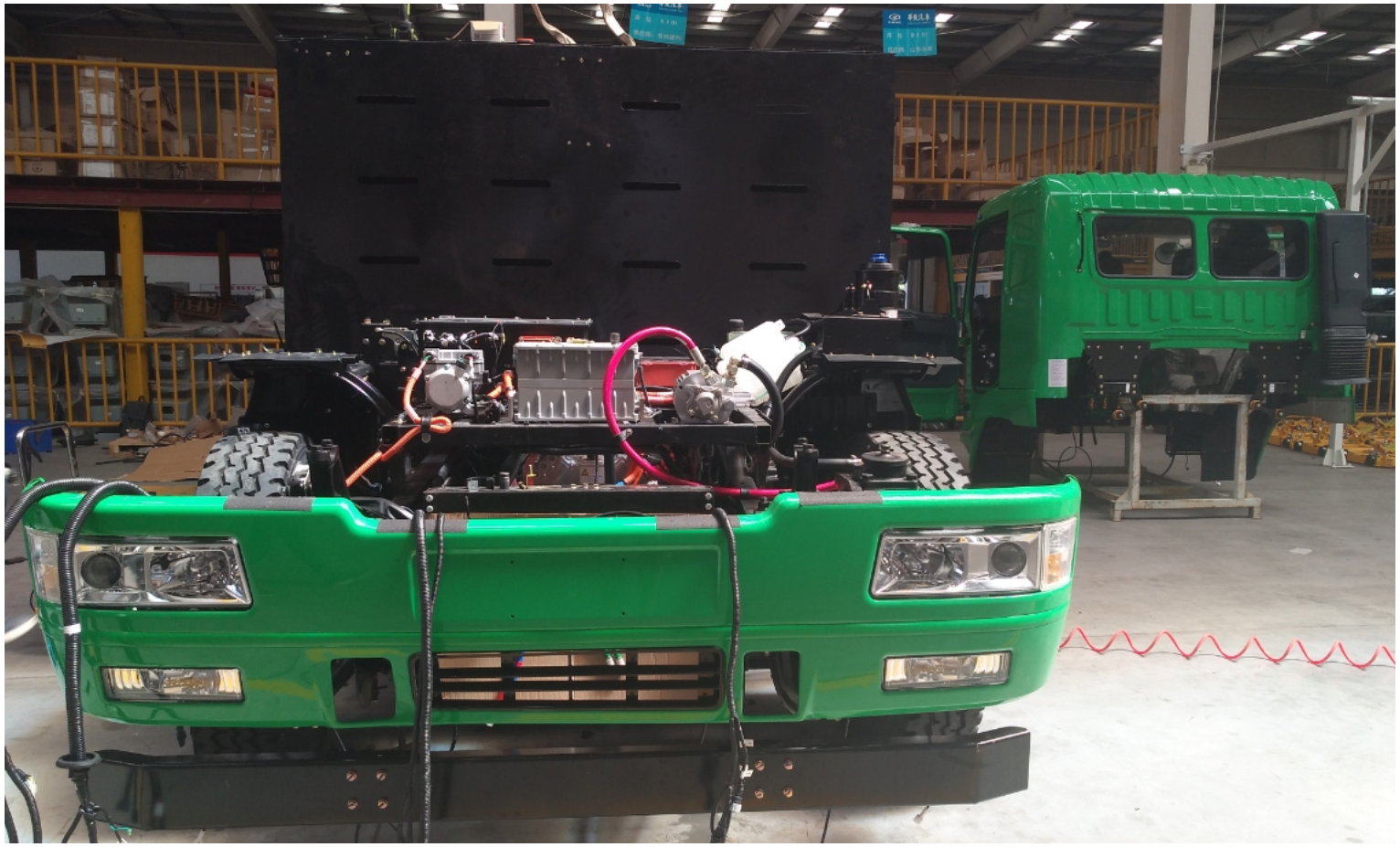
Solution 1: The power battery is arranged at the rear of the cab and on both sides of the frame. This space can accommodate 8~12 boxes of standard battery packs, and the electricity can reach 282~420kw/ h, it is more suitable for the original gas vehicle.

Solution 2: The power battery is placed on both sides of the frame. If the wheelbase is large, this space can accommodate 8~12 boxes of standard battery packs, and the battery capacity can also reach 282~420kw/h, the vehicle weight balance effect is the best, improve the vehicle maneovering stability.

Solution 1:The Vehicle Electric Parts Layout Diagram



Solution 1:Retrofitting on Site



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Solution 2:Retrofitting on Site

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