

City Electric Bus

12 meters version



Data Sheet

Overall Specification	Length (mm)	11990	Power motor Specification	Power motor model	TM5058
	Width (mm)	2550		Manufacture standard	ECE + CUTR standard for electric bus include all the spare parts
	Height (mm)	3480		Type of Power motor	3500Nm Double motor drive
	Wheel base (mm)	6000		Motor rated power/Speed/torque (kW/r/min)	Motor A: 80KW/1750rpm/750Nm Motor B: 100KW/3000rpm/1300Nm
	Tread F/R (mm)	2086/1860		Peak power of motor/Speed/Torque (kW/r/min)	Motor A: 120KW/3000rpm/2100Nm Motor B: 135KW/2600rpm/2100Nm
	Overhang F/R (mm)	1890/3310		Fuel Type	Pure Electric
	Approach/Departure (°)	7/7		Max. Speed (km/h)	≤70
	Passenger load/seat	120/10-29 ppl.		Max. Grade Ability (%)	≥20
	Chassis Manufacture	Monocoque		Min. Turning Diameter (m)	≤24
	Brake distance (m)	≤10		Curb Weight (kg)	11000
	Power drive system position	Electrical drive motor rear mounted			
	Max Total Mass (kg)	18000			

	<p>TM5058 double motor drive system made by 1400Nm and 2100Nm power motor</p> <p>Bus DC voltage 600Vdc</p> <p>Motor A: torque 1400Nm</p> <p>Continuous power / peak power: 80/120kW – Continuous torque/peak torque: 750/1400Nm</p> <p>Rated speed/maximum speed: 1750/3000rpm DC bus/battery voltage: 600 Vdc</p> <p>Cooling method: water-cooled (50% ethylene glycol solution) Cooling the battery when working.</p> <p>Extending the life of battery by ensuring it work in constant temperature from 10 to 50 degree.</p> <p>Motor B: torque 2100Nm</p> <p>Continuous power / peak power: 100/135kW – Continuous torque/peak torque: 1300/2100Nm</p> <p>Rated speed/maximum speed: 1750/3000rpm DC bus/battery voltage: 600 Vdc</p> <p>Cooling method: water-cooled (50% ethylene glycol solution)</p> <p>Double motor integration design</p> <p>Two motors are wide range efficient work at high speed & low torque and low speed & high torque reasonable distribute motor output torque by high-speed calculation of Electric motor control system.</p> <p>Compare with single motor drive, it greatly reducing system power consumption.</p> <p>Dual motor release large torque which easy to deal with climbing or continuous large slope.</p> <p>Strong external characteristics, broad and efficient area, plenty of recovery brake.</p> <p>In the high gradient, variable working conditions, it could work more faster and more energy efficient.</p> <p>Suitable for heavy-duty city bus</p>
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Motor controller	Double Controller Main Motor KTZ54X41SA X 2
Types of energy storage	Power Battery
Battery & electric capacity	<p>280KWH lithium iron phosphate roof/rear mounted, 4 Set install on roof, 4 set install on rear, rated voltage 550V, 8 hours slow charging battery from 15% SOC to 100% SOC.</p> <p>The size of the battery is</p> <ul style="list-style-type: none"> - 4C 1060*630*240mm, 4 Set top mounted. - 4D 880*6630*240mm. 4 Set rear mounted. <p>Lithium iron phosphate, ATL 1600, energy density GL 1300-1350Wh)</p>
Power steering system	Electric oil pump
Rear axle	gantry rear axle, disc brakes Two-stage strengthen main reduction with fine grinding teeth, disc brakes 22.5 inches
Front axle	7,5 Tone gantry rear axle, disc brakes 22.5 inches with ABS sensor
Gap adjustment arm	Disc brake with self-adjusting gap adjustment function
Frame assembly	Monocoque frame by welding made of special steel. Monocoque frame design must be in accordance with CAE analysis & meet the standard of safe and strength test under ECE and CUTR standard. By electrophoresis od whole body, the thickness of the coating is 25-30um to meet the ECE and CUTR standard for the vehicle use inn climate of Euro-Asia Area
Drive axle	Single, tubular, double universal joints
Suspension	Independent Air suspension (airbag front 2 / rear 4), with kneeling function (with ECAS assembly) mounted on front/rear axle

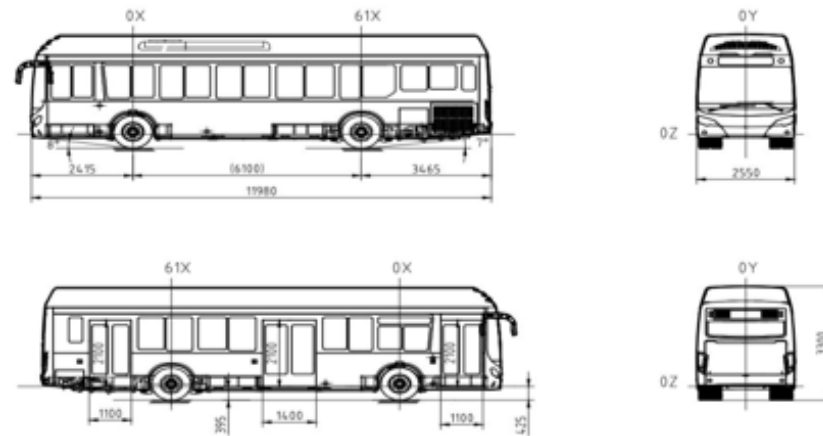
Steering System	Power steering, MAN type adjustable steering (combination switch with back and self-locking function), 4 *Φ480 (leather + imitation peach steering wheel)
Brake System	Dual-circuit gas brake system, front and rear disc wheel brakes, energy storage spring-type parking brake, the main pipe for the internal and external use galvanized seamless steel pipe (transition part of the Asia Pacific tube), ABS system, gas brake valve parts are used R switch-type direct-on-type master cylinder, rear valve, quick release valve, air dryers, switch-type manual control valve with muffler device, gas storage tank installed automatic electric heating drain valve. Brake chamber are installed test connector, the front of the vehicle to install the following connector (easy for dragging)
Cool System	ATS thermostat System
Accelerate System	Electric accelerator
Concentrated lubrication	ARTMB40 use for cold area (work max. in -40 degree)
Tire & Wheel	275/70R22.5 tubeless radial tire (load index: single 152, twins 148), 8,25/22,5 aluminium wheel, 1 spare tire.
Electric System	24V
Battery/Generator	2PC x 6-Q-195Ah Maintenance - free batteries /150A DC/DC
Structure of frame	Frame use monocoque structure and high strength steel. The design must pass CAE analysis, body cover uses 25-30um zinc coating metal as well as carbon fiber cover to meet the request of light, safe and anti-corrosion according to ECE/CUTR standard.
Door and pump	Front/Middle/Rear aluminium swing door

	Window	Close design of Body glass. Full adhesive front and rear Windshield, Glass-in-Glass type side window (glide glass window), 2pcs roof security window
	External Rear view mirrors	Rear view mirror, Rabbit ear type manual reversing mirror, 7-inch Visual reversing system including security camera.
	Interior Trimming	Luxury Bus interior, composite material air-duct, foaming front & rear top interior, through type LED ceiling light, perforated aluminium plastic top plate
	Floor	One step low floor, non-slip Quartz sand floor
	Seats	Passenger seats: semi-soft seats; driver's seat: with pneumatic cushioning, soft, adjust in 3 directions
	Air condition	Weather control Top mounted air conditioner (32000 kcal/h)
	Heating System	Water heating defroster, 6 pcs radiators, heater
	Handrail and Rings	Stainless Steel Handrail, Hand Ring, Handrail with soft cover
	CAN bus line	CAN bus instruments with 2 standard modules, 3 voltage-type pressure sensors
	Audio & Visual System	Automatic Bus stop reporting system, 6 pcs 5-inch loudspeaker
	Lighting	Combined head light, taillight, 4 pc independent LED top light, door light
	Safe Facility	2 pcs 4 kgs Carbon dioxide fire extinguishers, 5 pcs safe hammer, 5 pcs engine compartment automatic fire extinguishers, 2 set roof battery fire extinguishing system

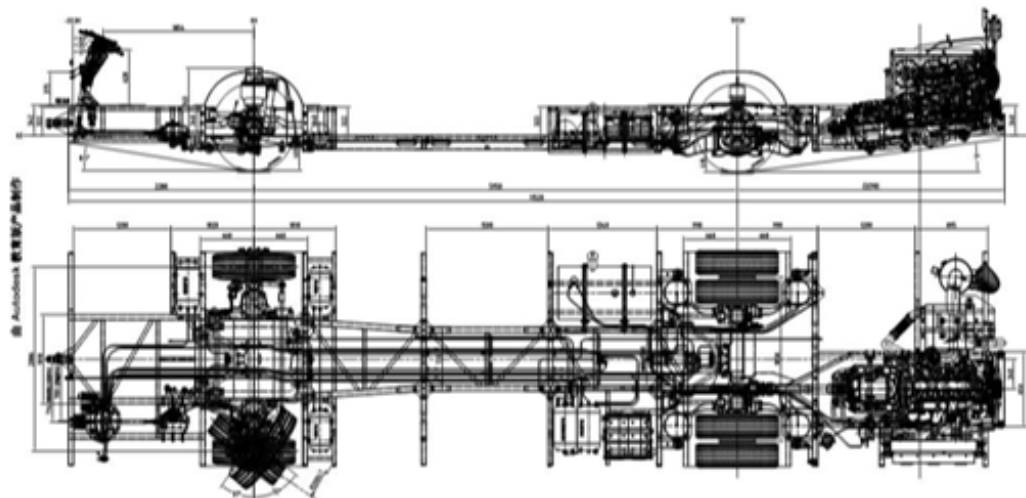
	Other	<ol style="list-style-type: none"> 1. GPS position & driving recorder with 4 cameras 2. Cloud monitoring system 3. New energy smoke alarm system 4. Temperature alarm system 5. Electronic clock 6. Push-button type electronic gear shifter 7. Tooling Box x 1pc 8. LED display board 9. Waring Triangle 10. Trash can
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Part I. Advantage of New Design:

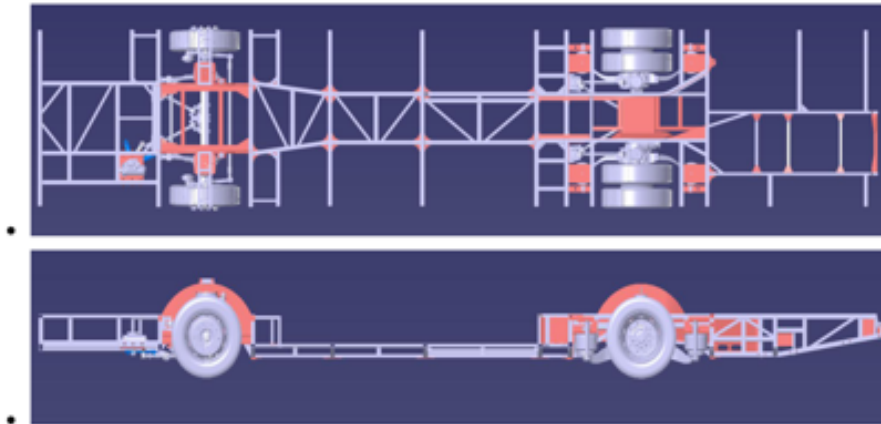
1. Design in accordance with latest ECE technical standard & Russia CUTR standard. Work temperature range from -5°C to 60°C



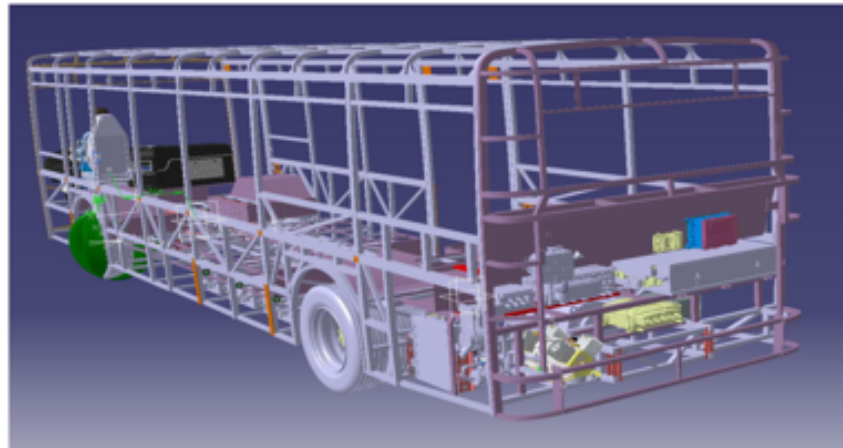
2. 2020 Version luxury 12-meter pure electric city bus apply monocoque frame and chassis which offer high strength, rigidity, reliability, anti-corrosion
Design in accordance with latest ECE technical standard work temperature range from -5°C to 60°C,
Three door, 100% lower floor



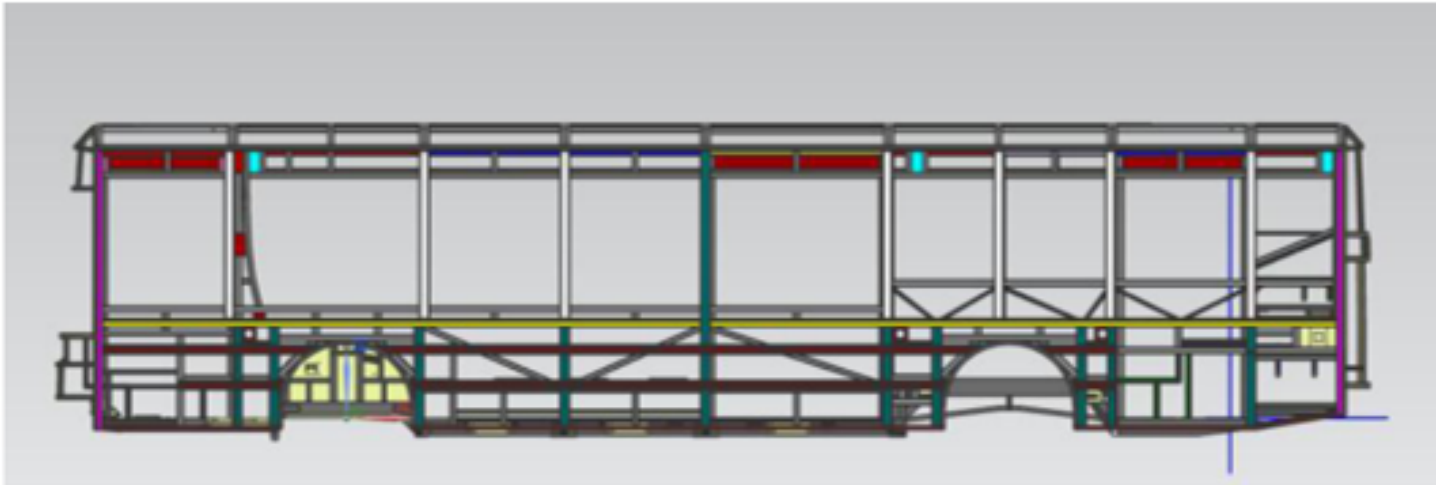
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- 2.1. Full load-bearing body chassis structure, front axle 7.5, rear axle 13 Tons, ECAS body control system is designed to realize side kneeling function and automatic body adjustment under all road conditions
- 2.2. The chassis is made of high-strength alloy steel and welded. All parts of the chassis are treated with electrophoresis, and the coating thickness protection time limit is not less than 15 years. Follow the ECE/TS16949 standard. The parts are applicable to the standard ECE R12



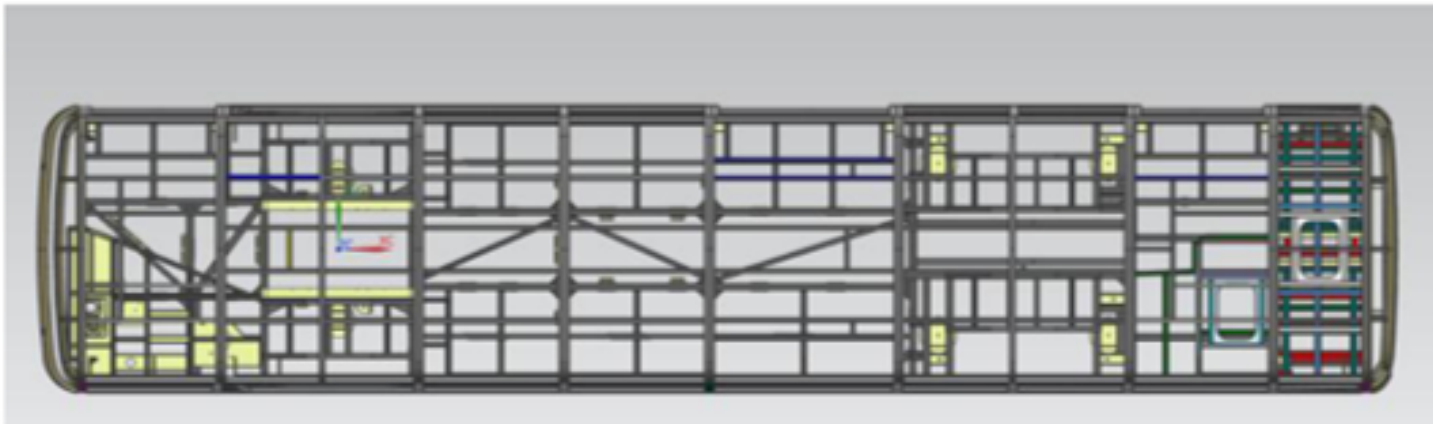
45-degree view of Monocoque frame & Chassis



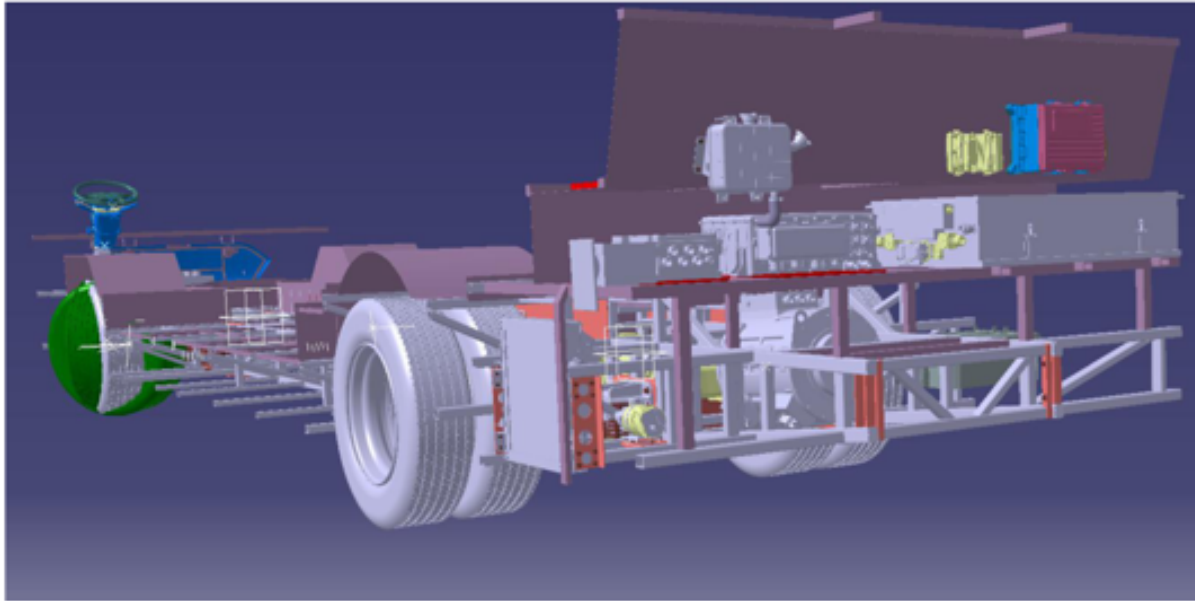
Right side view of frame of monoque frame



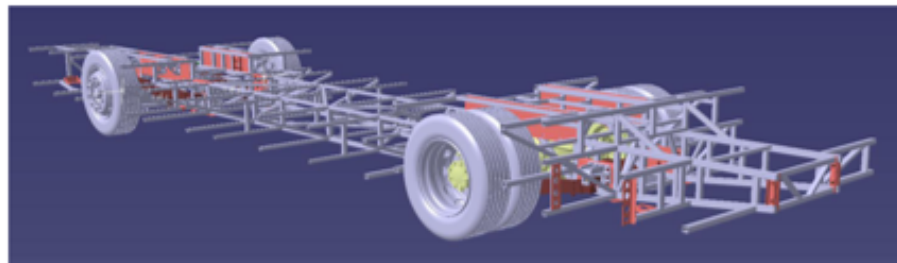
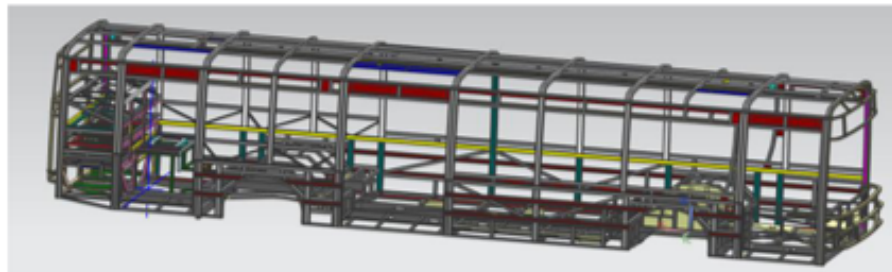
Top view of frame of monoque frame



45-degree side view of chassis

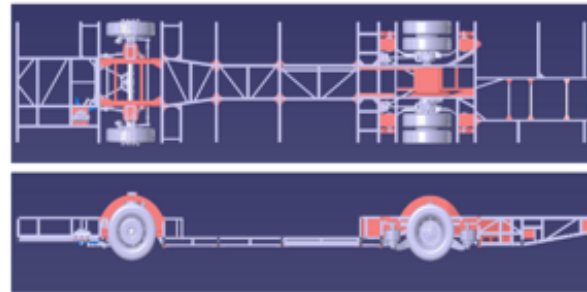


3. Optimum design of new generation ECE Approved monocoque frame and chassis match with dedicate Axle, independent suspension and Gasbag vibration reducing, which achieve 100% low floor in whole bus and allow offer passenger bigger and more comfortable space



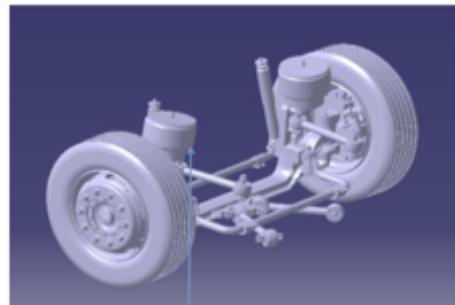
Our 2018 model City electronic city Bus use monocoque body / chassis which have high strength, high stiffness, high reliability.

- 0.7G Brake work condition
- 0.4G Turning condition
- Static bending condition
- Static torsion condition
- ECE-R66 rollover

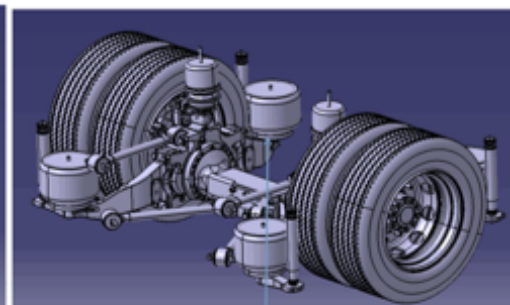


100% low floor & dedicate Axle offer the bigger space for passenger

4. Auto body-adjustment technology achieve by air vibration reducing & delicate Axle
7.5 Tons Front axle with independent suspension | 13 Tons rear axle with independent suspension



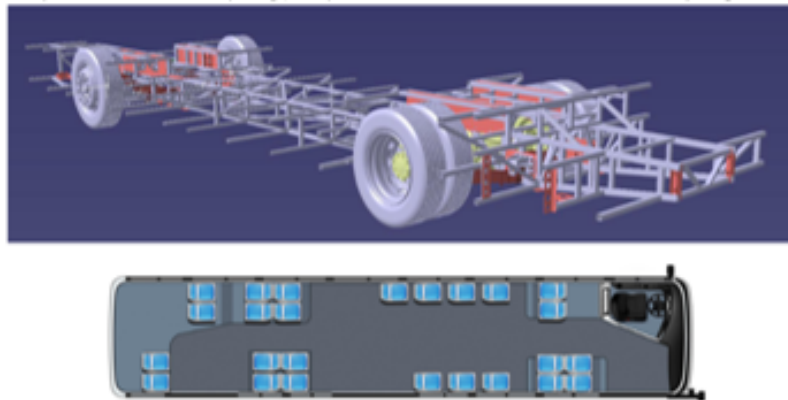
2pcs independent suspension
with air big in front axle



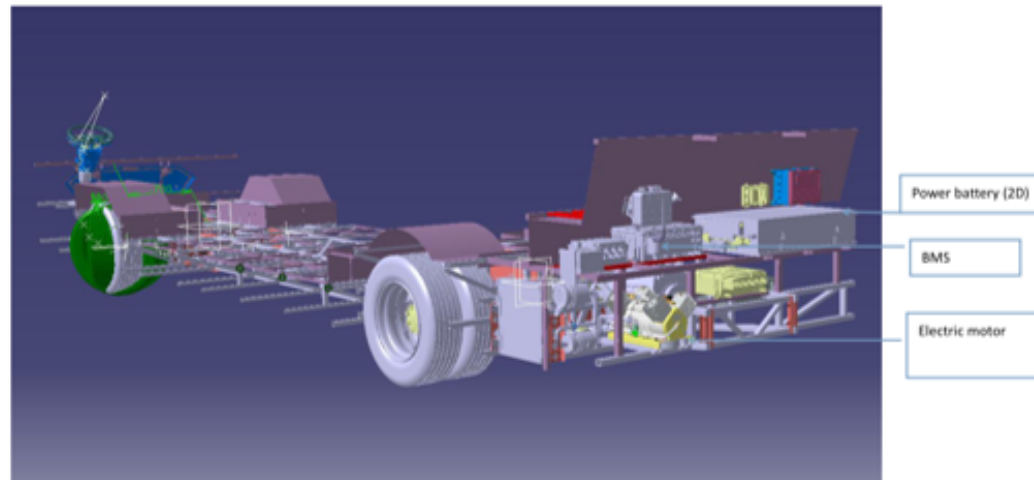
4pcs independent suspension
with air big in rear axle

Based on 100% low floor design with independent suspension on axle and automatic Kneeling function, it offers more stable a comfortable experience for passenger and easier for on & off the Bus.

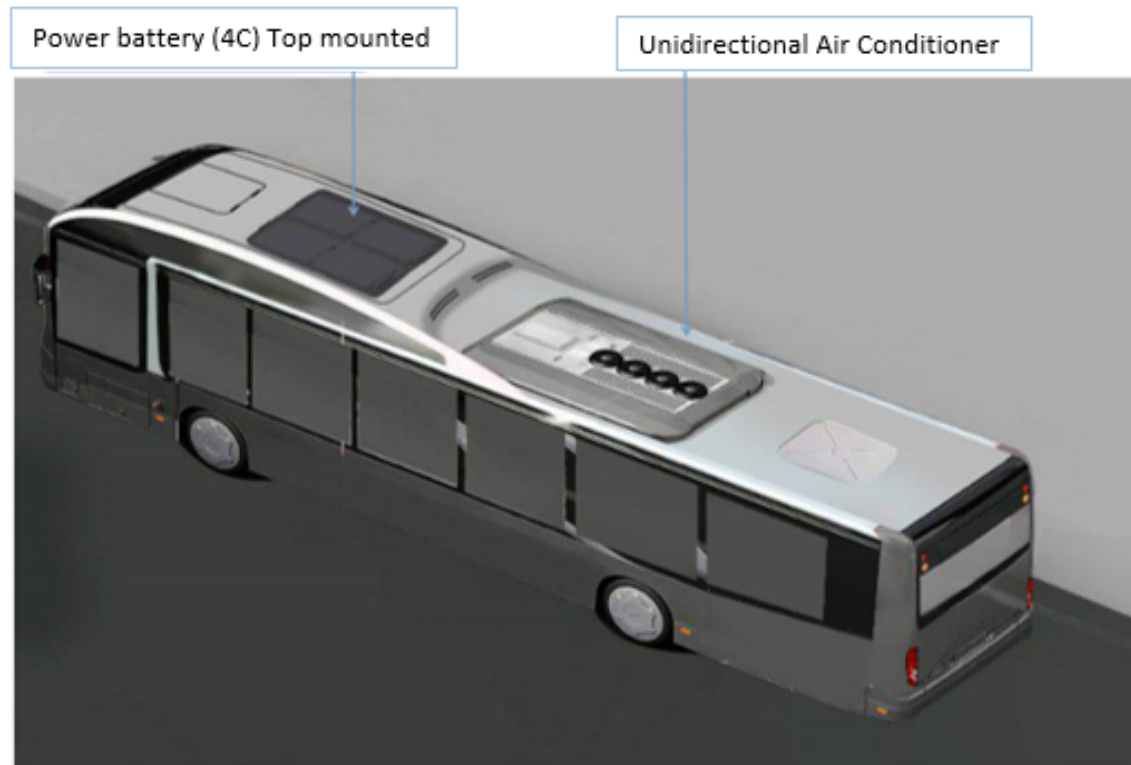
- Compare with traditional Non-Monocoque design, our step clearance is smaller than 350mm which offer easier entrance for passenger



- Electric motor, BMS and 2D battery rear mounted, 4C battery top mounted to expand the inner space of Bus.



Electronic motor, BMS (controller for battery and electric motor), electronic battery (2D) layout in rear view



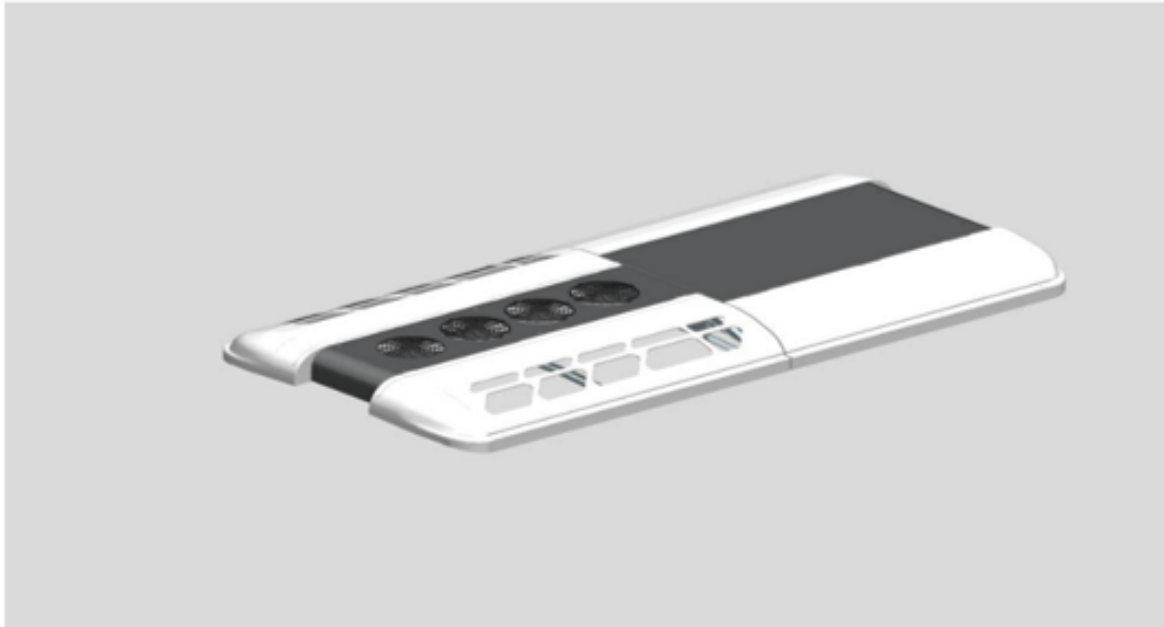
7. Use Aluminium alloy & Carbon fiber cover to reduce the weight of whole Bus



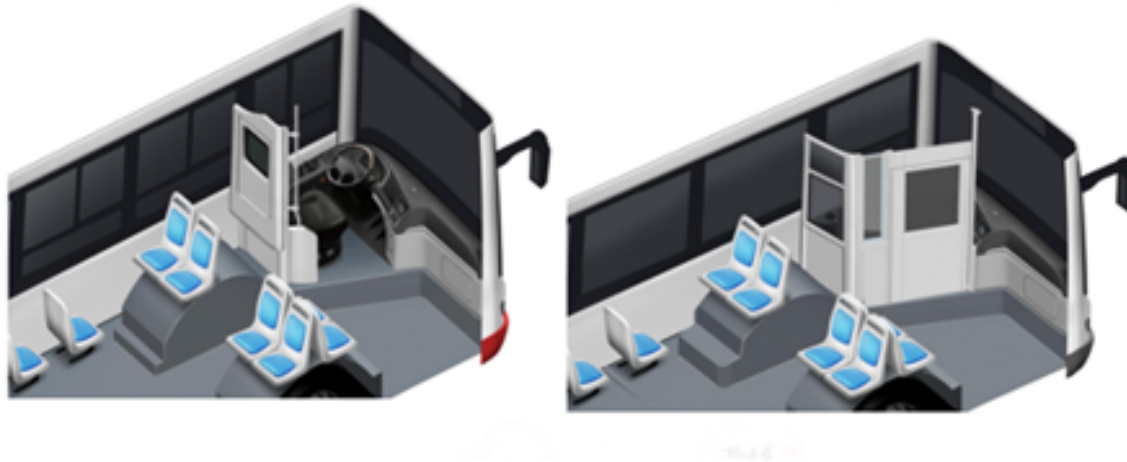
8. Equip Hi power heating system & air conditioner base on UAE climate condition which offer comfortable public environment in winter and summer 32,000Kcal air condition is Undirectional refrigeration drive by battery in summer. The heating system is fuel combustion machine work in winter. Both combine working Air Conditioner and Heating system is automatic change in according to UAE Climatic characteristics and CE standard. The working temperature of bus is ranging from -5 to 60 degree and keep the inner bus temperature around 20 degree



9. High-Power Air conditioner dedicate design for electric bus



10. Large Cabin with half-closed and full closed design for customer to choose which offer the safe and comfortable space for driver.



11. LED lighting system with ECE certificate. Daytime Running light with Lens function





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