

ZOOMLION TECHNOLOGY WITH INGENUITY AND CARE



The world's leading full-process smart mining machinery manufacturing factory

Zoomlion Mining Machinery Company possesses globally leading intelligent production lines featuring smart, environment-friendly and internationalized technologies, covering high-end machinery for the full process of open-pit mining, including "drilling, digging, loading, hauling and crushing". Built with advanced processing and assembly techniques and rigorous quality control, each machine delivered embodies the highest level of quality.



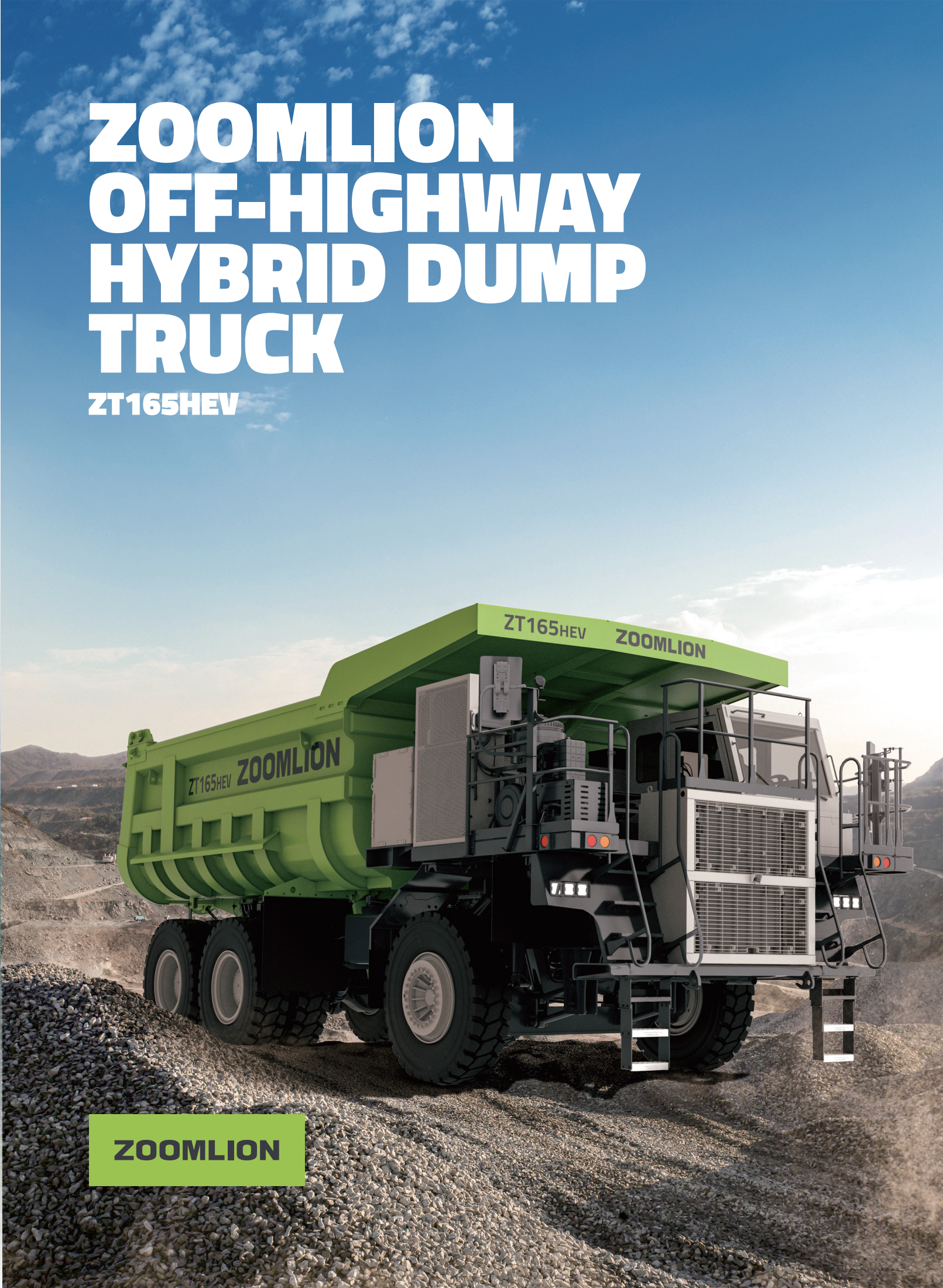
Zoomlion Heavy Industry Science & Technology Co.,Ltd.

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ZOOMLION OFF-HIGHWAY HYBRID DUMP TRUCK

ZT165HEV



The ZT165HEV off-highway dump truck is a flagship product of Zoomlion Heavy Industry Science and Technology Co., Ltd. The machine adopts Yuchai YCK16775-T300 high-power engine and a combination of IM motor and TM motor, Emissions meet Euro 5 standards; CE certified; FOPS/ROPS cab; equipped with a dual-cylinder multi-stage center-lift cargo box. The IM, TM motor and the engine can drive the machine simultaneously, delivering powerful driving dynamics. The machine features composite angle welded box-shaped section frame, front and rear hydro-pneumatic suspensions, full-hydraulic steering, U-shaped body and all-steel radial tires. The drive type is 6×4.

Engine Rated Power:
570 kW

IM Motor Rated/Peak Power:
140/310 kW

TM Motor Rated/Peak Power:
220/450 kW

Rated Payload:
100000 kg

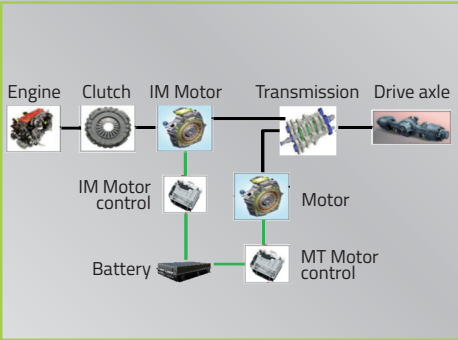
Curb Weight:
58300 kg

Body Capacity(standard):
61/73 m³



CONFIGURATION & EFFICIENCY

THE ENGINE DIRECT CONNECTION + DUAL MOTOR SYNCHRONOUS DRIVE TECHNICAL SOLUTION

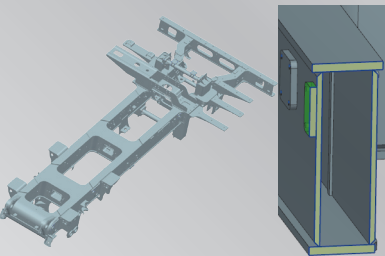


With the innovative approach of direct engine connection + dual-motor synchronous drive, the engine retains the traditional mechanical tandem power transfer, while innovatively introducing parallel direct drive system. This means that the engine and motor can not only drive independently but also perform high-efficiency hybrid driving together.

ADVANTAGES

- Continuous power output without interruption, featuring high safety and smooth performance.
- The maximum rated total power reaches **810 kW**, with a 15% improvement in power performance. This increases heavy-load uphill speed by over **50%**, and enables a maximum gradeability of over **36%**.

RELIABILITY AND SERVICE LIFE OF KEY STRUCTURAL PARTS IMPROVED



Adopting a "fully enclosed integrated large cross-section" high-strength welded frame made entirely of high-strength steel, combined with full-condition simulation and analysis, while also conducting a comprehensive analysis of the weak points of competitor models, this design has undergone over 10,000 hours of market validation to ensure high reliability.

ADVANTAGES

- Torque resistance ↑ **20%**
- Safety factor > **3.5**
- Service life > **7 years**

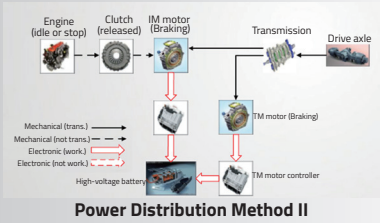
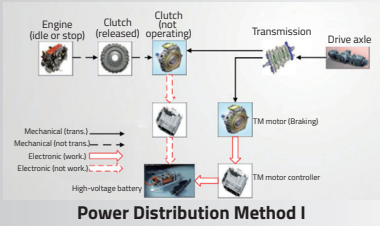


SELF-DEVELOPED ZM-I SUPER HYBRID ENERGY MANAGEMENT SYSTEM

The self-developed ZM-i Super Hybrid Energy Management System can automatically manage the drive mode and distribute braking torque based on the vehicle's driving status, achieving low-speed battery electric direct drive, downhill braking energy recovery, thus minimizing energy consumption.

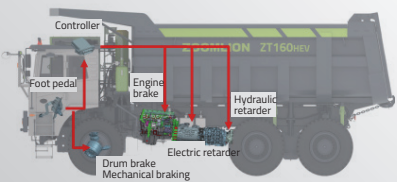
ADVANTAGES

- The runtime engine generates power, eliminating the need to stop for charging (charging station charging is also supported).
- Potential energy recovery in braking and downhill conditions
- Transportation efficiency ↑ **10%**, fuel consumption ↓ **20.93%**.



SINGLE-PEDAL COMBINED BRAKING CONTROL STRATEGY

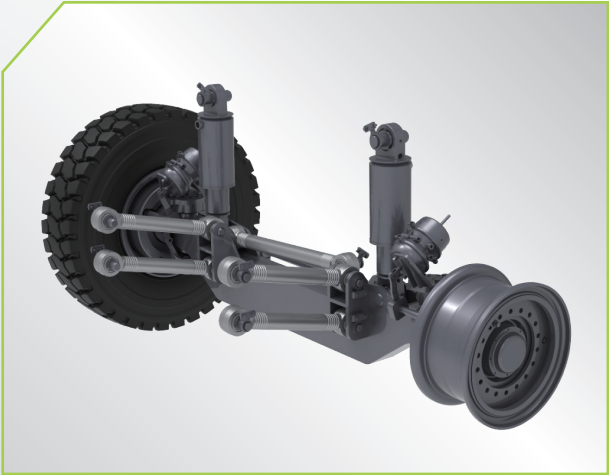
The single-pedal combined braking control strategy realizes the combination of "mechanical braking + engine braking + hydraulic retarder+ electric retarder". This enables more convenient operation, mitigated driving fatigue and reduced risks of misoperations.



ADVANTAGES

- Mechanical braking torque reaches **330,000 N.m**.
- Auxiliary braking of **1146 kW** (including engine braking 336kW + electric retarder 360 kW + hydraulic retarder 450 kW)
- With the total power exceeding **1 MW**, its braking capacity has reached the industry's highest level.

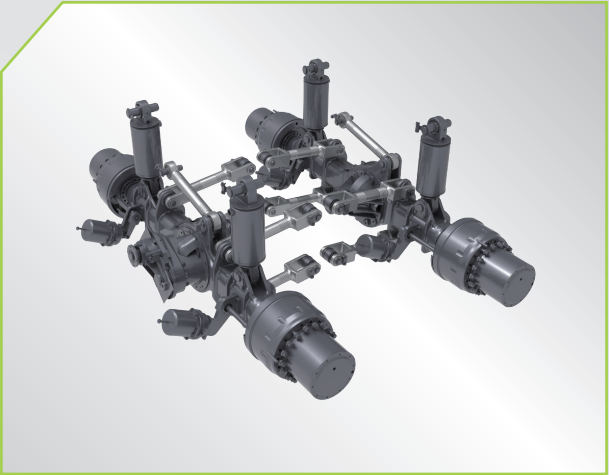
SAFE AND RELIABLE



The axle is made of high-quality cast steel parts, which are superior to competitors in material, have strong load-bearing capacity, long fatigue life, and durability.

The full hydro-pneumatic suspension enables variable spring stiffness, impact resistance to material loading and fewer faults, thus improving driving comfort and reliability.

The intermediate and rear suspensions adopt a gas-oil separated balance design, which reduces the impact of complex road surface on the machine.

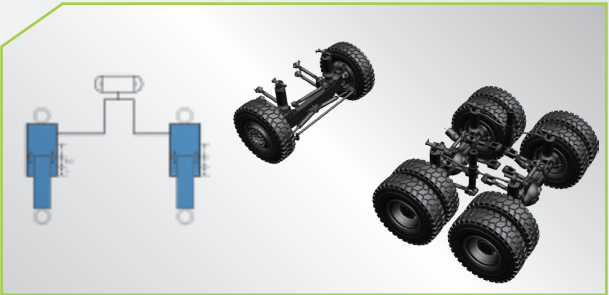


The U-shaped skeleton structure improves the anti-smashing and anti-cracking ability, with a strength increase of 15%.

The skeleton structure is light-weight, 10% lighter than traditional bodies.

The U-shaped curved surface is resistant to sticking and allows for faster unloading.

The U-shaped design of the body offers an expanded field of vision for observing tire movement during turns, enhancing safety.



The cutting-edge integrated dual-axle air suspension system solves the industry-wide problem of rear axle tire slippage. The machine body height, suspension stiffness, and damping characteristics are all adjustable for different road surfaces.

COMFORTABLE CONTROL



The offset two-seat mining cab offers excellent visibility. It is equipped with an LCD instrument cluster and on-board computer, providing real-time vehicle status display and convenient driving operation.



The system employs a dual-cylinder intermediate lifting system, which offers higher reliability compared to a single-cylinder front lifting system. The hydraulics adopts a large-flow hydraulic pump and a high-power valve group, with lifting time less than 30s and system temperature controlled below 78°C.



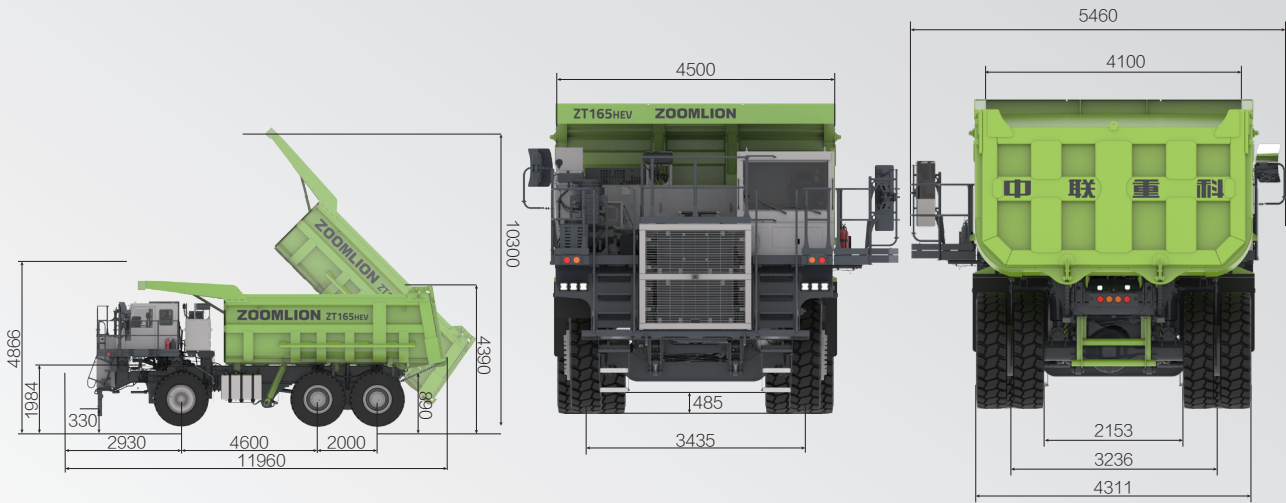
The LCD instrument cluster and on-board computer display the machine status in real time. The all-in-one multimedia system features radio, Bluetooth, GPS, reversing camera, and USB expansion functionality.



The standard emergency stop button allows for an immediate shutdown in emergencies, ensuring the safety of both personnel and equipment.

COMFORT & INTELLIGENCE

	Items	ZT165HEV
Basic Technical Data	Curb weight	58,300 kg
	Rated payload	100,000 kg
	Max speed	42 km/h
	Max gradeability	36 %
	Min turning radius	13 m
	Body capacity (Flat load)	61 m ³
	Body capacity (SAE 2:1)	73 m ³
	Tires	505/95R29 (Full steel wire meridian tubeless)
Engine	Engine model	YCK16775
	Engine displacement	15.939 L
	Max torque	3200/(1100-1400) (N.m/rpm)
	Rated power	570 Kw
	Power battery capacity	176 kWh
	Transmission (MT)	CHD36000
	Suspension system	Full hydro-pneumatic suspension



Transportation plan 1

Disassemble the body for transportation, and put the undercarriage at the front and the body at the rear. For details, see the table and attached image below. Flatbed truck dimension requirements: loading height less than or equal to 1 m, length greater than 17m.

Parameter	Weight/t	Width/m	Length/m	Height/m
ZT165HEV Chassis	42.9	4.5	11.9	4.1
ZT165HEV Body	15.4	4.5	10.6	2.85



The images of the transportation plan show similar vehicle models and are for reference only.

System	Features		ZT165HEV
Power system	Engine		Yuchai 15.939L
	Engine emission		EURO 5
	Power (kW/rpm)		570/1900 kW/rpm
	Three-stage diesel filter		●
	Air filter		Backblowing air filter
	Body exhaust heating		●
	Fuel tank (Select one)	Dual-chamber	900L dual-chamber fuel tank
		Single-chamber	900L single-chamber fuel tank
	Muffler		●
Electrical system	Backup alarm		●
	Emergency stop button		●
	24V Power port		●
	Monitoring+entertainment (Select one)	Entertainment	●Multimedia screen
		Rearview camera	○Reversing video camera + multimedia screen
		Cameras (Front, rear, left and right)	○Four channel monitoring+multimedia screen
	Rooding lighting		●
	Rotating beacon on the cab top		●
	Backup lighting (Left, right and rear)		●
	Fog lights (Front and rear)		●
	GPS		●
	Battery		180Ah*2
Hydraulics	Lift cylinder (dual-cylinder intermediate lifting)		●
	Full hydraulic steering		●
	Emergency steering system		●
	Emergency lifting system		●

● Standard
○ Optional

Category	Features		ZT165HEV
Drive train	Transmission+Clutch (select one)	Automatic transmission (AMT)+clutch	Lvkon CHD36000 (AMT) gearbox
		Axle	ZOOMLION 41t+60t+60t
	Tire (Select one)		●Front and rear: 505/95R29-302MAX
			○Front and rear: 505/95R29-Heat-resistant
			○Front and rear:505/95R29-Hard ore
	Lubrication-free drive shaft		●
Braking system	Service brake		●Front and rear independent dual-circuit air control
	Parking brake		●Drum brake
	Hydraulic retarder		●
	Engine brake		●
	AI-integrated brake		●
Body assembly	Body (select one)	Tailgate-short overhung	●Struck 61 m³, Heaped 73 m³
		Tailgate-long overhung	○Struck 61 m³, Heaped 73 m³
		No tailgate-short overhung	○Struck 50 m³, Heaped 60 m³
		No tailgate-long overhung	○Struck 50 m³, Heaped 60 m³
		Tire guard	○
Eic system	IM motor		●
	Peak power kW/rpm		310/2100 kW/rpm
	TM motor		●
	Peak power kW/rpm		450/2800 kW/rpm
	Power battery		176 kWh

● Standard
○ Optional

Category	Features		ZT165HEV
Cab	Offset two-seat mining cab		●
	FOPS & ROPS		●
	0.5kg fire extinguisher		●
	Air suspension seat		●
	Air conditioner (cool & warm)		●
	Emergency hammer		●
	12.3-inch LCD instrument		●
	Glass defrosting		●
	Three-point seat belt		●
	Passenger seat		●
	Rock ejector		●
	Covering Parts	10kg fire extinguisher	
Engine right fender assembly		●	
Engine left fender assembly		●	
Wheel chock		Iron	●
		Rubber	○
Suspension System	Front suspension		● Hydro-pneumatic suspension
	Rear suspension		● Hydro-pneumatic suspension
Others	Attached tools (one set for five vehicles)		●
General Optional Configuration	Automatic fire extinguishing system		○
	Driver fatigue detection system		○
	Customized painting		○
	High voltage proximity alarm		○

● Standard
○ Optional

Category	Features		ZT165HEV
General Optional Configuration	Guardrails	Fuel tank guardrail assembly	○
		Front bumper beam assembly	○
		Battery guardrail assembly	○
	Cab oxygen generator		○
	Centralized lubrication system		●
	Intelligent weighing system		●
	One spare tire (including rim)		○
	Radio station		○
	First-aid kit		○
	Cold areas optional package (Ambient temper ature ≥-20℃)	Cold start system	Highland version
Plain version			○
Low-temperature hydraulic oil		○	
Electric fuel heater module		○	
Extreme cold areas optional package (Ambient temper ature ≥-40℃)	Cold start system	Highland version	○
		Plain version	○
	Electric fuel heater module		○
	Cab heating		○
	Low-temperature battery		○
	Ultra-low temperature hydraulic oil		○
	Low-temperature hydraulic rubber hose		○
High-temperature areas optional package (Ambient temper ature ≥40℃)	Heat-resistant tire		○
	68 Hydraulic oil		○
	85w-140 Gear oil		○
高原配置包 Highland package	Expansion tank pressure cap		○
	High-altitude engine		○
	High-altitude fuel pump		○
沙漠/泥泞套件 Desert/Mud package	OTT track		○

● Standard
○ Optional