



# XDE100E

## BATTERY ELECTRIC DUMP TRUCK

**91**  
Rated Payload  
t

**830**  
Battery Capacity  
kWh

**60**  
Dump Body SAE 2:1 Heaped  
m<sup>3</sup>



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For more complete information on XCMG products, dealer services and industry solutions, visit us on the web at [www.xcmgglobal.com](http://www.xcmgglobal.com)

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Ref.No.XCMG2603 English

DYBENE100E-A26

## 01

## PREMIUM SPECIFICATION WITH OUTSTANDING PERFORMANCE

XCMG currently offers more than 400 models of mining equipment, having established multiple product technology routes including BEV, HEV, and hydrogen energy, which cover the complete construction process of drilling, excavation, loading, hauling, leveling, dozing, watering, and crushing. This range encompasses series of drill rigs, mining excavators, loaders, dump trucks, bulldozers, motor graders, water trucks, crushing and screening equipment, as well as other auxiliary equipment, thereby meeting the diverse construction requirements of coal, metal, building materials, water conservancy, ports, and other sectors.

### Power Battery

The vehicle employs a power battery pack custom-developed by XCMG, which integrates three major advantages: high safety, fast charging technology, and extended service life. An innovative aerogel material has been incorporated between the cells, establishing a high-tech thermal insulation and flame-retardant barrier. This design not significantly enhances the thermal stability of the battery pack, but also endows it with exceptional insulation performance, ensuring efficient and safe operation under various climatic conditions. The battery system's cycle life reaches 4,500 cycles, which guarantees a significantly longer service life for the battery. The battery pack adopts an advanced CTB (Cell-to-Body) design, seamlessly integrating the battery with the vehicle body structure, thereby simplifying the module configuration while improving overall safety and stability.



### Electric Drive System

The XCMG-D100AC AC electric drive system is employed, which is safe and reliable, features a low failure rate, and incurs low maintenance costs. It enables constant power control and stepless speed regulation, achieving seamless switching between traction and braking conditions, thereby ensuring comfortable vehicle operation. The electric drive system exhibits low power loss, which guarantees maximum output efficiency. Compared with mechanical drive systems, the electric drive system features a simpler structure, requires less oil maintenance, and demands shorter repair and maintenance time. The traction motor adopts a permanent magnet synchronous electric machine, which offers high efficiency, mature technology, reliable durability, and a long service life.

The XDE100E electric retarder system provides a maximum braking power of 1,743 HP (1,300 kW) and a continuous braking power of 1,609 HP (1,200 kW), which is capable of meeting the braking requirements for continuous downhill operation under full load, thereby enhancing vehicle running safety and production efficiency.



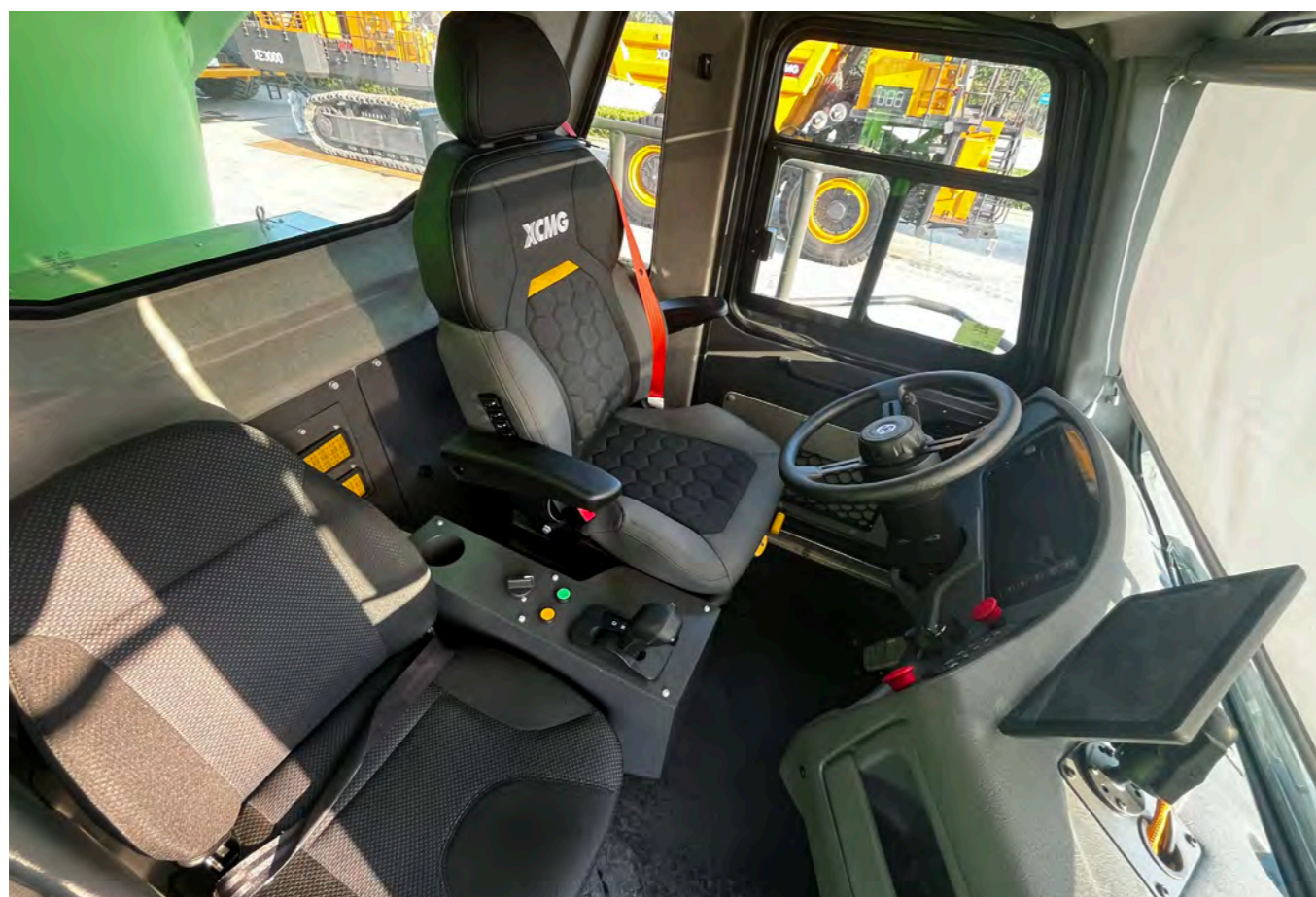
# 02 SAFETY AND COMFORT

## Ergonomically Designed Cab

The cab design provides a comfortable and safe operating environment that meets the mining demands of today. The cab features a ROPS/FOPS structural design that complies with the requirements of the ISO 3471 and ISO 3449 standards. The interior layout, designed in accordance with ergonomic principles, features a rational component arrangement, an exceptionally spacious internal volume, and an integrated touch-control display screen. Cold and warm air conditioning design is adopted to meet the application requirements of the vast majority of mining areas. Double-layer laminated glass, a double-sealed car door structure, and a pressurization system are employed to achieve multi-directional and multi-angle control of cab airtightness and noise levels.

## User-Friendly Display Interface

The XDE100E instrument panel, which is comfortable to operate and view, incorporates a CAN bus LCD combination instrument, display screen, and function switches. This arrangement allows the driver to conveniently monitor vehicle status parameters and fault information at any time during operation. The integrated instrument combines display of status information and fault information for the battery power system, hydraulic system, drive system, and weighing system, while also providing equipment information display, as well as function and permission settings.



## Comfortable and Durable Suspension System

The suspension system utilizes four oil/gas ratio-variable oil/nitrogen hydraulic cylinders, which mitigate impacts from transport roads and loading operations, thereby providing the operator with a smooth and comfortable ride experience while extending the service life of the frame. The front suspension adopts a variable-stiffness independent suspension, which is symmetrical on the left and right sides, thereby ensuring reliable wheel alignment and stable, comfortable driving. The rear suspension employs a longitudinal triangular swing-arm, which permits oscillation of the rear axle housing and effectively absorbs bending and torsional stresses generated by harsh road surfaces.

## Multi-Directionally Adjustable Seat

Driver operating comfort constitutes a key factor in safe and efficient production. The XDE100E features a luxurious air-suspension seat, which effectively absorbs vehicle vibrations and alleviates driver fatigue. The seat offers multi-directional adjustment and, when used in conjunction with the telescopic and tilt steering column, satisfies the driving posture adjustment needs of different drivers, thereby improving driver comfort. The seat is equipped with armrests, a safety belt, a headrest, and other accessories.

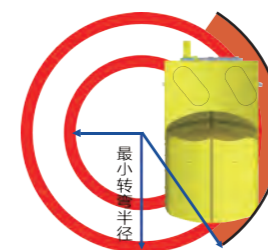


## Reliable and Safe Braking Control

The mature and reliable braking system ensures safe and efficient vehicle operation, which enhances driver confidence and allows greater focus on production hauling tasks. The XDE100E incorporates service braking, load braking, parking braking, and emergency braking functions. Combined with the electric retarder function of the electric drive system, it achieves hybrid braking control for the vehicle, thereby delivering outstanding braking performance across all operating speeds. Front and rear wheels are equipped with high-performance caliper disc hydraulic brakes. The braking system is fitted with a braking accumulator and complies with the requirements of ISO 3450 standard.

## Highly Maneuverable Steering Characteristics

The XDE100E adopts a disconnected trapezoidal steering mechanism, which is actuated by double-acting hydraulic steering cylinders to provide power steering. It is equipped with a steering accumulator that provides emergency steering control, and the steering accumulator complies with ISO 5010 standard. The turning radius is 12 meters, and this high level of maneuverability ensures safe and efficient vehicle operation on winding mine roads.



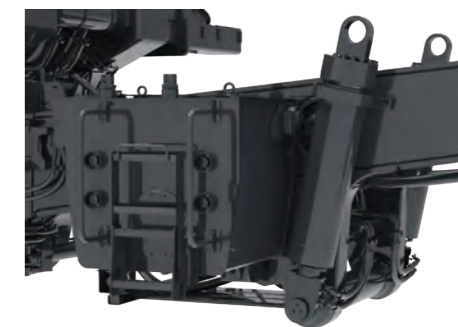
## 03

**RUGGED, EFFICIENT,  
AND LONG-LASTING****Structurally Reinforced Frame Design**

The XDE100E frame utilizes advanced computer-aided design, finite element analysis methods, and full-condition dynamic testing verification, ensuring high load-bearing structural strength and reliability of the frame. The frame is manufactured from high-strength premium alloy steel plates with a box-section design, which exhibits excellent fatigue resistance, low-temperature impact toughness, and weldability. Castings are employed in multiple key high-stress areas, thereby extending the frame's service life.

**Simple and Reliable Hydraulic System**

The hydraulic system features a concise and reliable design, which controls steering, braking, and hoisting functions using a minimal number of modules. A modular design approach is adopted, whereby the hydraulic pump and hoist valve module are integrated and mounted on the same bracket, facilitating rapid repair and replacement. Multi-stage hydraulic oil filter elements are employed, which provide high filtration accuracy, large contaminant-holding capacity, and extended maintenance intervals.

**Robust and Reliable Dump Body Design**

The XDE100E dump body is manufactured from high-strength, low-alloy, wear-resistant steel plates. Both the hoist cylinder rollover seat area and the frame hinge support area adopt strengthened and optimized structural designs, reinforcing local stress areas and improving fatigue life. CAE software is utilized to perform simulation analysis of the overall structural strength of the dump body. Structural optimization and validation are conducted based on the simulation results, thereby ensuring the strength and rigidity of the dump body while enhancing its reliability and durability.



# UNLIMITED INNOVATION

# 04

## CONVENIENT MAINTENANCE

### Accessible Service Passages

The XDE100E design fully considers serviceability, facilitating rapid and convenient maintenance. Maintenance ladders are provided on both sides of the front longitudinal beams, thereby enabling convenient inspection and maintenance of the power battery. The front section of the vehicle bumper is equipped with rear axle housing inspection light switches and ladder light switches, allowing maintenance personnel to operate from ground level.

### Modular Design for Easy Disassembly

The XDE100E vehicle adopts a modular design, facilitating disassembly, installation, transportation, and maintenance. In particular, the frame and rear axle utilize mounted-type joint bearing seats, which simplify disassembly and assembly, reduce downtime for repairs, and improve vehicle availability.

### Rational Maintenance Locations

Maintenance points for all system functional areas are easily accessible and equipped with lighting, thereby making maintenance more convenient.



# FUNCTION

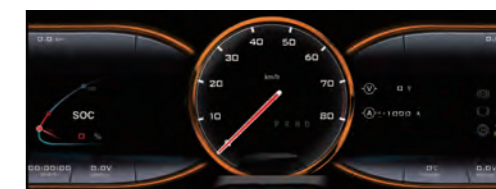
### Fully Automatic Centralized Lubrication System

The XDE100E is equipped with a fully automatic centralized lubrication system that fully lubricates 22 key articulated points of the vehicle's moving parts, thereby saving vehicle maintenance time, improving vehicle maintenance quality, and reducing the intensity of vehicle maintenance work. The automatic lubrication system features pressure detection, alarm functions, and programmable control of lubrication intervals.



### LCD Display Screen

The cab instrument display is used for installation, maintenance, and troubleshooting. On the homepage of the display screen, key driving information such as vehicle speed, power battery voltage, and power battery current is displayed, enabling the driver to conveniently monitor the overall vehicle status. Basic troubleshooting no longer requires accessing the control cabinet.





*Promise To You*

**COMMITMENT TO YOU**

One Customer, One Manager; One Delivery, One Project  
One Project, One Operation and Maintenance; One Service,  
One Operation

# XDE100E

## BEV Dump Truck

### Technical Parameters

#### Weight Parameters

Gross Vehicle Weight	166,000 kg
Rated Payload	91,000 kg
Unladen Vehicle Weight	75,000 kg

#### Battery Technical Parameters

Battery Type	LFP
Battery Life	4500 cycles
Battery Capacity	830kwh
System Voltage	857VDC
Charging Protocol	National Standard/MCS
Charging Rate	1C

#### Electric Drive System

AC Electric Drive System	XCMG D100AC
Drive Configuration	AC-DC-AC
AC Electric Wheel	XCMG-M360M
Hub Reducer Transmission Ratio	27.299:1
Maximum Travel Speed	62km/h
Maximum Gradeability	21%

#### Tires and Rims

Tubeless Radial Tires, Standard Tires	27.00R49
Five-Piece Rim	19.5/4.0
Rim Rated Cold Inflation Pressure	750 kPa, 109 psi
Total Tire Weight	9,582 kg

\*Tires shall meet application requirements including TKPH/tmph, tread, compound, inflation pressure, ply rating, etc.

#### Cab

ROPS/FOPS cab compliant with ISO 3471 and ISO 3449 (Level II) rollover and falling object protection standards, featuring a spacious interior and excellent visibility. Various display instruments, alarms, lighting systems, control switches, radio, etc., are fully equipped. The driver seat is an adjustable air-suspension, vibration-damping, high-back seat, equipped with a passenger-side seat. Equipped with an on-board computer, a tilt/telescopic steering wheel, electric windshield wiper and a washer, tinted glass, and cold/warm air conditioning. Vehicle operating data and fault alarm information are displayed on an LCD display in conjunction with controllable instruments.

#### Suspension

Variable oil/nitrogen suspension cylinders with integral rebound control	/
Maximum front suspension stroke	320 mm
Maximum rear suspension stroke	200 mm
Maximum rear axle oscillation angle	±7°

#### Frame

The frame consists of a pair of longitudinal beams and five cross beams, which together form a closed structure. Both longitudinal and cross beams feature box-section structures, which effectively eliminate stress concentrations caused by bending and cracking. The frame is manufactured from premium low-alloy high-strength steel, with castings employed in high-stress areas to enhance frame strength. Critical welding lines undergo 100% ultrasonic inspection and 100% magnetic particle inspection.

Drive axle mounting	Connected by pins and spherical plain bearings
Drive axle positioning	Connected by transverse stabilizer rods

#### Dump Body

High-strength floor and side plates with a strength exceeding 1000 MPa are selected, ensuring a robust structure. Optional high-hardness wear-resistant liners are available, which significantly extend the service life of the dump body. The floor of the dump body adopts a single-slope design, facilitating clean discharge. Safety rope supports are provided. An optional heated dump body is available. The fully welded high-strength steel dump body features a robust structure, high-hardness wear-resistant liners, and an extended service life. Specifications include a canopy plate, dump body cushion pads, and safety ropes. Optional extended canopy plate, rearview mirror protection module, tire protection module, and dump body heating are available.

Floor	Thickness20 mm
Front plate	Thickness12 mm
Side plate	Thickness12 mm
Canopy plate	Thickness6 mm
Struck	42 m <sup>3</sup>
Heaped (SAE 2:1)	60 m <sup>3</sup>

\*Customizable according to customer requirements

#### Braking System

The braking system complies with ISO 3450-2011 standard requirements.

Service brake	Caliper disc brake	
Maximum braking pressure	Front axle	15 MPa
	Rear axle	10 MPa
Brake disc diameter	Front axle	980 mm
	Rear axle	550 mm

Auxiliary braking system When hydraulic system pressure falls below the specified value, automatic pressurization is provided by the accumulator

Loading brake	Switch activated, rear wheel service brake applied
Parking brake	Spring applied, hydraulically released
Electric retarder	MAX1300 kW

#### Hydraulic System

Steering	The variable displacement piston pump supplies steering oil source. The full hydraulic steering system features low steering wheel effort, rapid response, high precision, and smooth steering. The accumulator provides an emergency steering oil source.	
Minimum turning diameter	24 m	
Filters	Suction filter, 250 μm	
	Return filter, 12 μm	
	Hoist and steering high-pressure filter, 7 μm	
Hoist	Two 2-stage, double-acting, external cylinders with built-in cushion valves	
Hoist time	15 s	
Lowering time	12 s	
Hoist and brake pump	Series gear pump, flow 579 L/min @ 1800 rpm	
	Maximum working pressure: 19 MPa	
Steering and brake pump	Variable displacement piston pump, flow 81 L/min @ 1800 rpm	
	Maximum working pressure: 19 MPa	
System relief pressure	Hoist system	19 MPa
	Steering system	22 MPa

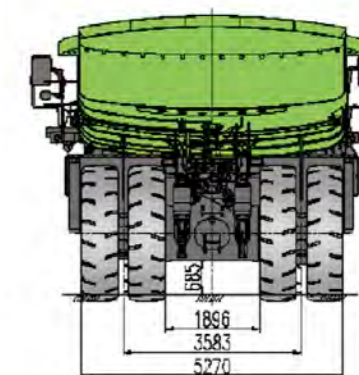
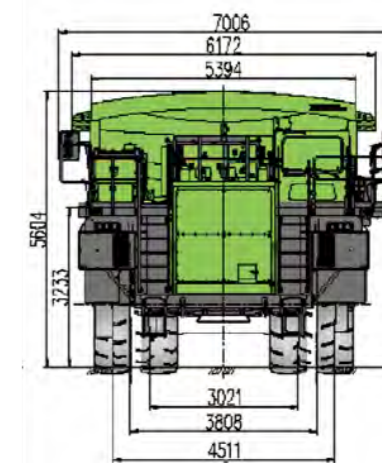
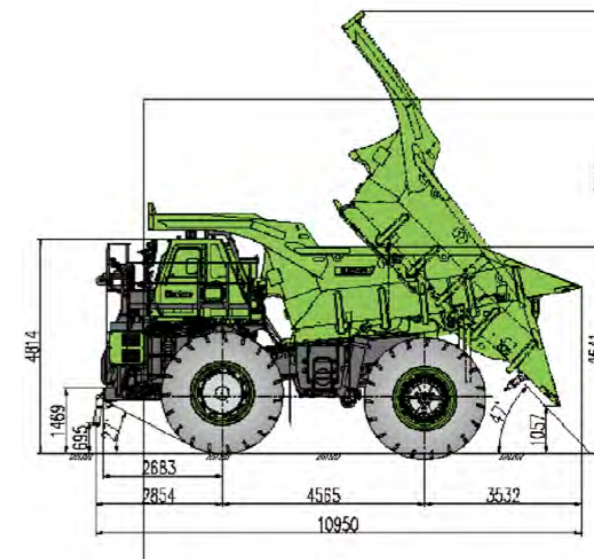
#### Electrical System

2 × 1000 CCA, 12 V maintenance-free batteries connected in series, mounted on the deck, equipped with an isolation switch.

Lighting Equipment 24V

#### Service Refill Capacities

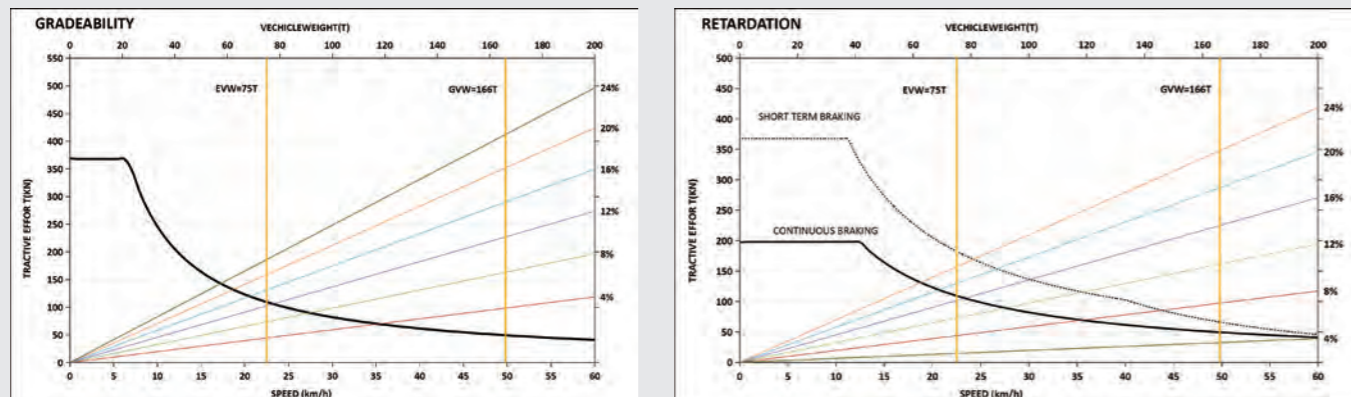
Hydraulic reservoir	450 L
Front suspension (each)	30 L
Rear suspension (each)	20 L
Cooling system	170 L
Front wheel (each)	10 L
Electric wheel (each)	38 L



Standard dump body, flat loading, 42 m<sup>3</sup>  
SAE 2:1 heaped, 60 m<sup>3</sup>

\*Actual loading height may vary depending on tire type and inflation pressure.

## Performance curves



### Empty Vehicle Weight (EVW)

Front axle distribution (50%)	37,500 kg	82,673.35 lb
Rear axle distribution (50%)	37,500 kg	82,673.35 lb
Empty Vehicle Weight	75,000 kg	165,346.7 lb

### Payload

Rated payload	91,000 kg	200,620.7 lb
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\*Rated payload includes all optional attachments.

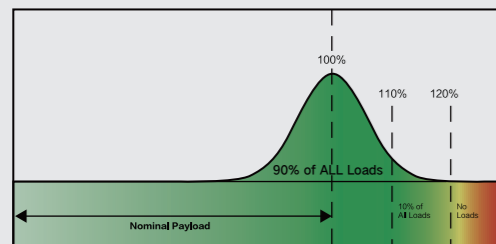
### Gross Vehicle Weight (GVW)

Front axle distribution (33%)	54,780 kg	120,769.2 lb
Rear axle distribution (67%)	111,220 kg	245,198.1 lb
Gross vehicle weight	166,000 kg	365,967.4 lb

## USE OF EQUIPMENT AND PRECAUTIONS

### XCMG mining truck loading specifications

The loading specification defines guidelines and limitations for loading XCMG mining trucks.



- Gross Vehicle Weight (GVW) includes chassis, dump body, tires, attachments, lubricants, operator, payload, and any excess material accumulation.
- Empty Vehicle Weight (EVW) includes the standard chassis, standard dump body, tires, attachments, lubricants, and operator.
- Rated payload equals Gross Vehicle Weight (GVW) minus Empty Vehicle Weight (EVW).
- The average of all payloads over any 30-day period shall not exceed the rated payload.
- Actual payload  $\leq$  110% of rated payload, accounting for not less than 90%.
- 110% of rated payload  $\leq$  actual payload  $\leq$  120% of rated payload, accounting for not more than 10%.
- Under no circumstances shall a single actual payload exceed 120% of the rated payload.
- \* Rated payload includes all options.

#### Notes:

1. The illustrations and information in this brochure reflect the technical features and specification standards of certain models at the time. Current information and data are derived from testing under standard usage condition. The above data and information are for reference only. Please refer to the actual product.
2. This brochure is for reference only and has no contractual validity. For detailed information, please contact the local XCMG mining machinery dealer.
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### Standard Specification

Automatic lubrication system, level indicator  
Reverse alarm  
Storage battery – 2 units, 1000 CCA  
Dump body limit device  
Dump body safety ropes  
Front brake: caliper disc brake  
Rear brake: caliper disc brake  
Electrical control cabinet  
Hydraulic high-pressure filter  
Mirrors:  
– Left side: flat mirror, with heating  
– Right side: convex mirror, with heating  
Mudguards  
Muffler – mounted on deck  
Power supply, 24 V and 12 V DC  
Quick connectors (hoist and diagnostic)  
Removable powertrain (power battery)  
Electric retarder

### Operating Environment and Controls

Full hydraulic service brake  
Power switch  
Brake and traction interlock  
24 V circuit breaker  
Access ladder  
Dynamic deceleration  
Hoist traction interlock device  
Horn (electric – front)  
Integral ROPS/FOPS (Level II) cab  
Parking brake with warning light and speed-based application protection  
Power steering system with automatic auxiliary steering  
Deck guardrails  
Drive shaft protective cover  
Safety belt: standard three-point type  
Anti-slip walkway  
Power battery maintenance platform, left/right

### Lighting Equipment

Reverse lights – rear-mounted (2) LED  
Reverse lights – left and right – deck-mounted (2) LED  
Turn/position lights (8) LED  
Dynamic retarder lights, rear (2) LED  
Axle inspection light (1) LED  
Fog lights (2) LED  
Headlights (4) LED  
Stair and platform lights (4) LED  
Brake lights, rear (2) LED

### Standard Deluxe Cab

AC drive interface display screen  
Air conditioning R-134A  
AM/FM radio with USB and MP3 support  
Dome light  
Multi-function driver display panel  
– Lighting status  
– Power battery voltage, power battery current, and battery SOC gauge  
– Mileage, vehicle speed, and payload count  
– Ambient temperature and time  
– System voltage  
– Power battery fault alarm  
– System voltage low  
– Power battery coolant level low alarm  
– Gear position indicator  
– Excitation indicator  
– Parking brake indicator, service brake indicator, electric brake indicator, loading brake indicator  
Floor mat (double-layer baffle)  
Battery high temperature alarm  
Instruments (with backlighting)

### Standard Deluxe Cab

Headlight switch  
Heater and defroster (heavy-duty)  
Heater switch  
High beam selector and indicator  
Horn (center of the steering wheel)  
Weighing system display  
Driver seat, adjustable, with air suspension, lumbar support, and armrests  
Panel lighting (adjustable)  
Passenger seat  
Positive pressure cab  
Electric retarder brake pedal  
Hydraulic brake pedal  
Sun visor (adjustable)  
Telescopic and tilt adjustable steering column  
Voltmeter (for storage battery output)  
Windshield  
Windshield wiper (dual) and washer (electric)

### Optional Equipment

Note: Optional equipment may alter the operating weight.  
Amber signal light  
Standard dump body or customized dump body  
Dump body wear plate  
Tires  
AGCCS system  
Tire temperature and pressure monitoring system  
Rock ejector rod / rock ejector chain  
Low-temperature suspension system: front and rear  
Mudguard – hydraulic reservoir  
XCMG-360 panoramic camera system  
Weighing display screen – on both the right and left sides  
Suspension charging kit  
Tool box  
Tinted cab glass  
Hill-start assist  
Oversized tail signal lights for dump body  
Front edge protective plate of the dump body (ladder protection)  
One-key weighing data export  
Low-position fog lights  
Premium seat (Isringhausen seat)  
Rear axle door safety guard  
Brake test function  
Lockable power isolation switch  
Automatic fire suppression system  
4 fire extinguishers and emergency stop switches  
HEPA pressurization filtration  
Power backup socket  
Canvas seat cover  
Wheel chocks  
Two-way radio  
Safety markings