

Mining dump truck BELAZ-7513 with payload capacity of 130-136 tonnes

Designed for transportation of rock mass in complex technical conditions of deep mines,
at open cast mining sites on technological roads under various climatic operating
conditions (at ambient temperature range from -50 to +50 °C).



Model CUMMINS QSK 45-C
Diesel, four-cycle engine with V-type cylinders arrangement, direct fuel injection, gas turbine charging and intermediate cooling of the charged air. Electronic control system. The engine complies with toxic substances emission requirements of Tier 2.
Rated power @ 1900 rpm, kW (hp) 1194 (1600)
Maximum torque @ 1300 rpm, N*m 6836
Number of cylinders 12
Cylinders displacement, l 45
Cylinder diameter, mm 159
Piston stroke, mm 190
Specific fuel consumption at rated power, g/kW*hr 209
Air cleaning is performed by three-stage filter with dry-type elements.
Exhaust gases evacuation is being made through body structure.
Lubrication system is of forced circulation type under pressure with "wet" crankcase oil pan design.
Cooling system is of single-circuit fluid type with forced circulation.
Oil cooling – through water-to-oil heat exchanger.
Starting preheating system is of fluid type.
Starting system features pneumatic starter.
Electric system voltage, V 24

Transmission

AC electric drive with traction alternator, two traction electric motors, motor-wheel reduction gear units, microprocessor control system, adjustment and control devices.
Max speed, km/h 64
Motor-wheel reduction gear unit ratio:
produced by General Electric 28.80
produced by BELAZ 30.36

Traction alternator	5GTA22W
Traction electric motor	5GEB31A, 5GEB23E

Engine

Conventional suspension for front and rear wheels, cylinders are pneumohydraulic (nitrogen and oil) with in-built hydraulic damper, two cylinders both on the front axle and on the rear axle.
Cylinder piston stroke, mm
- front 320
- rear 190

Suspension

Steering

Hydrostatic
Steerable front wheels.
Steerable wheels rotation angle, degrees 42
Turning radius, m 13
Overall turning diameter, m 28
Complies with ISO 5010 requirements.

Hydraulic system

Combined hydraulic system for body hoist, steering and brake system.
Body hoist cylinders are telescopic with three stages and one stage of double action.
Oil pump is of axial-piston variable-flow type.
Body raising time, s 20
Body lowering time, s 18
Max pressure in hydraulic system, MPa 18
Max delivery of pumps @ 1900 rpm, dm³/min 474
Filtering degree, μm 10

Cab

Two-seat, two-door, with an additional seat for the passenger and pneumatically cushioned adjustable operator's seat. The cab meets the requirements of EN 474-1 and EN 474-6 for permissible limits of internal sound levels, vibration, concentration of poisonous substances and dust. Operator's workplace complies with ROPS safety system requirements. Noise level inside the cab is not more than 80 dB(A).

Body

Bucket type body is a welded structure with FOPS, has a protective canopy and is heated by exhaust gases. It is equipped with a device for mechanical locking in raised position as well as with rock-deflectors and rock-ejectors.

Body volume, m³:

struck	heaped 2:1
45.5	71.2
50.1	75.5
59.6	84.0
103.8	134.8

BELAZ 7513



Frame

Frame is a welded structure of high-strength low-alloyed steel. Longitudinal box-section variable height side rails are interconnected by cross-members. Castings are applied in highload zones.

Braking system

The braking system meets international safety requirements according to ISO 3450 and comprises service, parking, auxiliary and emergency brakes.

Service brake:

Front wheels – dry disk brakes with automatic clearance adjustment.

Rear wheels – dry disk brakes with automatic clearance adjustment. The disks are mounted on the shafts of traction electric motors.

Parking brake:

Constantly closed brake gears for rear wheels. Spring actuation, hydraulic control.

Auxiliary brake:

Electrodynamic braking with traction electric motors in alternator mode with forced air cooling of brake resistors.

Emergency brake:

Parking brake and intact circuit of service brake are used.

Brake resistors

17EM137

Power dissipation, kW

1865

Special equipment

Fire-fighting system with remote control (standard)

Engineliquid preheater (standard, except for tropical modification of dump trucks)

Video surveillance system (standard)

Automatic centralizedlubrication system (standard)

Telemetering tire inflation control system (standard)

Loading and fuel control system (standard)

High-voltage line proximity alarm (standard)

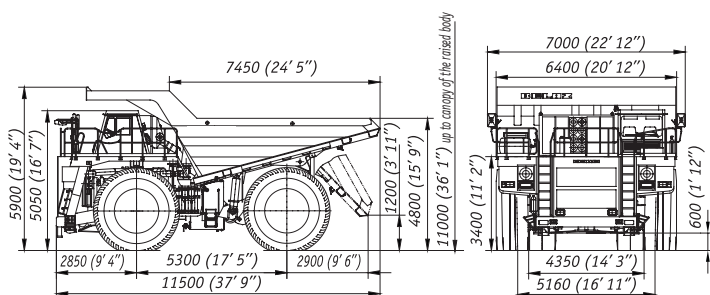
Heater and conditioner unit (standard)

Fettling of the bottom body (option)

Combined fire-fighting system with automatic control and subsystem in the rear axle (option)

Rock deflectors (option)

Overall dimensions, mm



Weight

Maximum payload capacity of dump truck

130000

equipped with tires 33.00-51, kg

136000

equipped with tires 33.00R51, kg

109500

Empty weight, kg

239500-245500

Weight distribution on axles, %:

	empty	loaded
front axle	50.9	33.0
rear axle	49.1	67.0

Refill capacities, l

Fuel tank

1900

Engine cooling system

430

Enginelubrication system

195

Hydraulic system

510

Motor-wheel reduction gear units

92 (46x2)

Suspension cylinders:

front

63.2 (31.6x2)

rear

58.2 (29.1x2)

Tires

Pneumatic, tubeless, with quarry tread pattern.

Designation

33.00R51; 33.00-51; 36/90-51

Internal pressure, MPa — in accordance with tire manufacturer instructions.

Rim designation

24.50-51/5.0

Traction and braking performance

