Mining dump truck BELAZ-75180
Payload capacity 180 tonnes (198 short tons)

It's designed for transportation of rock mass in difficult mining and technical conditions of deep mines, at mineral deposit open pits on technological roads under various climatic operating conditions (at ambient temperature from -50 to +50 °C).

### Engine
- **Model**: CUMMINS QSX 50-C
- Four-cycle turbocharged and intercooled direct diesel engine with V-type cylinders arrangement.
- **Rated power**: @ 1900 rpm, kW (hp) 1491(2000)
- **Maximum torque**: @ 1500 rpm, N.m 7865
- **Number of cylinders**: 16
- **Cylinders displacement, l**: 50.3
- **Cylinder diameter, mm**: 159
- **Piston stroke, mm**: 199
- **Specific fuel consumption, g/kW hr**: 199
- Air cleaning is performed by three-stage filters with dry-type elements.
- Exhaust gas expulsion is routed through dump truck body.
- Circulating and pressurized lubrication system with "wet" crankcase.
- Single-loop fluid cooling system with forced circulation.
- Fluid preheating system.
- Starting system is actuated by pneumatic starter.
- **Electric equipment system voltage, V**: 24

### Transmission
- AC electric drive KTE-160 with traction alternator, two traction motors, motor-in-wheel differential-type double-row planetary reduction gears, adjustment and control devices.
- **Gear ratio**: 38.67
- **Maximum travel speed, km/h**: 60

<table>
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<tr>
<th>Component</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Traction alternator</td>
<td>GST 1600-8</td>
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<tr>
<td>Traction motor</td>
<td>TAD-5</td>
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</table>

### Steering
- **Hydrostatic steering with steerable front wheels.**
- **Steering angle, degree**: 42
- **Turning radius, m**: 14.5
- **Overall turning diameter, m**: 30
- The steering meets ISO 5010 requirements.

### Brakes
- **Braking system** meets ISO 3450 international safety requirements and consists of service, parking, auxiliary and emergency brake systems.

#### Service brake system:
- Front wheels - disk brakes with two brake gears per disk.
- Rear wheels - disk brakes with two brake gears per disk and automatic gap adjustment. Brake disks are mounted on shafts of traction motors.

#### Auxiliary brake system:
- Electrodynamic braking by traction motors with forced air cooling of brake resistors.

#### Emergency brake system:
- Parking brake and operable circuit of wheel brakes are used.
- **Brake resistors**: Gridbox 2x600 - 2 units, power 2400 kW

### Hydraulic system
- Hydraulic system is combined for body dumping gear, steering and brake actuator, two-section variable-displacement oil pump.
- Two-stage telescopic body lift cylinders with one stage of double action.
- **Body lifting time, s**: 20
- **Body lowering time, s**: 22
- **Maximum pressure in hydraulic system, MPa**: 18
- **Maximum pump delivery @ 1900 rpm, dm³/min**: 698
- **Filtration degree, mcm**: 10

### Suspension
- Conventional suspension for front axle and driving axle with trailing arms, central joints and transverse rods. Cylinders are pneumatic (nitrogen and oil) with inbuilt hydraulic shock absorber. Two cylinders are on the front axle and two cylinders are on the rear axle.
- **Cylinder piston stroke, mm**
  - front: 220
  - rear: 290
**Body**

Bucket-type welded body with FOPS safety system, ropes and heating by engine exhaust gases. The body is equipped with device for mechanical fixing in raised position and rock-ejectors.

- **Body capacity, m³:**
  - struck: 78.5
  - heaped: 108.5

**Frame**

High-strength low-alloyed steel welded frame with cast elements in places of maximum loading. Box-section variable height side rails are interconnected by cross-members.

**Tires**

Pneumatic tubeless tires with quarry tread pattern.

- **Designation:** 42/90R57; 37.00R57
- **Inflation pressure, MPa:** upon recommendation of tire producer
- **Rim designation:** 27.00-57/6.0

**Cab**

Two-man two-door cab with air-sprung adjustable seat for driver, auxiliary seat for trainable and adjustable steering column.

- The cab meets requirements of EN 474-1 and EN 474-6 standards for in-cab noise, vibration, content of harmful substances and dust.
- Driver's workplace meets ROPS safety requirements.
- In-cab noise level is not more than 80 dB(A).

**Special equipment**

Combined fire-fighting system with remote actuation and subsystem in back axle (standard)

- Starting preheater (standard)**
- Heating and conditioning unit (standard)
- Centralized lubrication system (standard)
- Fuel and loading control system (standard)
- Telemetering tire pressure control system (standard)
- Video observation system (standard)
- High-voltage line attention device (standard)
- Felling of body floor (optional)
- Combined fire-fighting system with automatic control and subsystem in back axle (optional)

**Weight**

Maximum payload capacity, kg
- unloaded: 180000
- loaded: 320000

Unladen weight, kg
- 140000

Gross weight, kg
- 320000

Dump truck weight distribution on axles, %:
- front: 50.9
- rear: 49.1

**Refill capacities, l**

- Fuel tank: 2300
- Engine cooling system: 500
- Engine lubrication system: 170
- Hydraulic system: 780
- Motor-in-wheal reduction gears: 210 (105x2)
- Suspension cylinders:
  - front: 33 (16.5x2)
  - rear: 56 (28x2)

**Traction and braking performance**

Overall dimensions, mm***

*The given technical data can be changed without preliminary notice
**Excepting dump trucks with tropicalized design
***Overall dimensions are specified for standard equipping of the dump trucks