Mine dump truck BELAZ-75307

displays a payload capacity of 220 tonnes.

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 60-C
- **Diesel four-cycle engine with V-type cylinders arrangement, electronic control system, direct fuel injection, gas-turbine charging and intercooling of charging air. The engine meets Tier1 toxic substances emission requirements.**
- **Gross power @ 1900 rpm, kW (hp)**: 1715(2300)
- **Maximum torque @ 1500 rpm, N.m**: 9053
- **Number of cylinders**: 16
- **Cylinders displacement, l**: 60.2
- **Cylinder diameter, mm**: 159
- **Piston stroke, mm**: 190
- **Specific fuel consumption at rated power, g/kW hr**: 208
- **Air cleaning is performed by three-stage filter with dry-type elements. Engine exhaust expulsion is performed through dump truck body.**
- **The engine is equipped with pressurized circulating lubrication system with “wet” crankcase sump, double-loop fluid cooling system with forced circulation and fluid preheating system. Oil cooling is performed by oil-to-water heat exchanger. Fuel cooling is performed by radiator. Cooling system impeller is actuated by fluid coupling with automatic control. Engagement and disengagement is performed by thermostat. Starting system is actuated by pneumatic starter.**
- **Air pressure in starting system, MPa**: 0.6-0.8
- **Electric equipment system voltage, V**: 24

### Transmission

Transmission is equipped with alternating current - alternating current drive KTE-2400 with traction alternator, two traction motors, motorized wheels planetary double-row reduction units, adjustment units, microprocessor-based control system and control devices.

- **Transmission ratio**: 27.5
- **Maximum dump truck travel speed, km/h**: 64

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traction alternator</td>
<td>SGT 1600-8</td>
</tr>
<tr>
<td>Traction motor</td>
<td>TAD-7</td>
</tr>
</tbody>
</table>

### Suspension

Suspension is conventional for front axle and driving axle and equipped with trailing arms, central joints and transversal rods. Cylinders are pneumohydraulic (nitrogen and oil) and equipped with inbuilt hydraulic shock absorber. Two cylinders are on the front axle and two cylinders are on the rear axle.

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder piston stroke, mm</td>
<td>320</td>
</tr>
<tr>
<td>- front</td>
<td>320</td>
</tr>
<tr>
<td>- rear</td>
<td>290</td>
</tr>
</tbody>
</table>

### Steering

Hydrostatic steering with steerable front wheels.

- **Steering angle, degree**: 39
- **Turning radius, m**: 15
- **Overall turning diameter, m**: 34
- The steering meets ISO 5010 requirements.

### Brakes

Dump truck brake system meets ISO 3450 international safety requirements and is equipped with service, parking, auxiliary and emergency brake systems.

- **Service brake system** consists of disk brakes with four brake gears per disk for front wheels and disk brakes with two brake gears per disk and automatic gap adjustment for rear wheels. The disks are mounted on traction motor shafts. Actuator is hydraulic and separate for front and rear wheels.

- **Parking brake system** is permanently closed system with two rear wheels brake gears per disk, spring actuator and hydraulic control.

- **Emergency brake system** uses parking brake and operable circuit of service brakes.

<table>
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<th>Component</th>
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<tbody>
<tr>
<td>Brake resistors</td>
<td>UVTR 2x600 - 2 units</td>
</tr>
<tr>
<td>Power, kW</td>
<td>2400</td>
</tr>
</tbody>
</table>
Body
Welded bucket-type body with engine exhaust heating is equipped with FOPS safety system, protective canopy, device for mechanical fixing in raised position, rock-fenders and rock-ejectors.
Body capacity, m³:
- struck: 102.4
- heaped: 141.1

Hydraulic system
Hydraulic system is combined for body dumping gear, steering and brakes actuator and equipped with two-section variable-displacement axial-piston oil pump and three-stage telescopic body lifting cylinders with one stage of double action.
- Body lifting time, s: 22
- Body lowering time, s: 33
- Maximum pressure in hydraulic system, MPa: 18
- Maximum pump delivery @ 1900 rpm, dm³/min: 698
- Filtration degree, mcm: 10

Cab
Two-man two-door cab is equipped with air-sprung adjustable driver seat, additional trainee seat and adjustable steering column.
The cab meets EN 474-1 and EN 474-6 requirements that specify permissible levels of in-cab noise, vibration, content of hazardous substances and dust. Driver's workplace meets ROPS safety requirements. In-cab noise level is not more than 80 dB(A).
Local vibration level is not more than 126 dB(A).
Overall vibration level is not more than 115 dB(A).

Tires
Radial or diagonal tubeless tires with quasi tread pattern:
- Tire designation: 40.00R57; 46/90-57
- Inflation pressure, MPa: 0.7; 0.605
- Rim designation: 29.00-57/6.0

Frame
High-strength low-alloy steel welded frame with application of cast elements at the maximum loading points is equipped with box-section variable-height side-members interconnected by cross-members.

Refill capacities, l
- Fuel tank: 2900
- Engine cooling system: 650
- Engine lubrication system: 240
- Hydraulic system: 790
- Reduction units of motorized wheels: 210(105×2)
- Suspension cylinders:
  - front: 97.4(48.7×2)
  - rear: 105.0 (51.5×2)

Weight
- Maximum payload capacity, kg: 220000
- Unladen weight, kg: 156100
- Gross weight, kg: 376100

Special equipment
- Fire-fighting system (standard)
- Starting preheater (standard)
- Heating and conditioning unit (standard)
- Automatic lubrication system (optional)
- System of loading and fuel control (optional)
- Telemetering tire-pressure monitoring system (optional)
- Body floor lining (optional)
- Attention device of approach to high-voltage line (optional)
- Engine exhaust expulsion through mufflers (optional)

Overall dimensions, mm

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>Lifting cylinder</td>
<td>8700 (28’7&quot;)</td>
</tr>
<tr>
<td>Lowering cylinder</td>
<td>7460 (24’7&quot;)</td>
</tr>
<tr>
<td>Overall length</td>
<td>13390 (43’11&quot;)</td>
</tr>
</tbody>
</table>

*Overall dimensions are specified for basic kitting-up of the dump truck

Towing and braking performance

- Towing performance
- Braking performance

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