Mining dump truck BELAZ-7513
Payload capacity 130-136 tonnes

Designed for transportation of rocks in severe 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).

### Engine

<table>
<thead>
<tr>
<th>Model</th>
<th>CUMMINS QSX45-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel, four-cycle engine with V-type cylinders arrangement, electric control system, direct fuel injection, gas turbine charging and intermediate cooling of the charged air. The engine complies with toxic substances emission requirements of Tier 2.</td>
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<tr>
<td>Rated power</td>
<td></td>
</tr>
<tr>
<td>@ 1900 rpm, kW (hp)</td>
<td>1193 (1600)</td>
</tr>
<tr>
<td>Maximum torque</td>
<td></td>
</tr>
<tr>
<td>@ 1500 rpm, Nm</td>
<td>6836</td>
</tr>
<tr>
<td>Number of cylinders</td>
<td>12</td>
</tr>
<tr>
<td>Cylinders displacement, L</td>
<td>45</td>
</tr>
<tr>
<td>Cylinder diameter, mm</td>
<td>159</td>
</tr>
<tr>
<td>Piston stroke, mm</td>
<td>190</td>
</tr>
<tr>
<td>Specific fuel consumption, g/kW hr</td>
<td>209</td>
</tr>
<tr>
<td>Air cleaning is performed by three-stage filters with dry-type elements. Exhaust gases evacuation is being made through two exhaust manifolds and body structure. Lubrication system is of forced circulation type under pressure with &quot;wet&quot; crankcase oil pan design. Cooling system is of single-circuit fluid type with forced circulation. Starting preheating system is of fluid type. Starting system features pneumatic starter. Electric system voltage, V</td>
<td>24</td>
</tr>
</tbody>
</table>

### Suspension

Conventional suspension for front axle and driving axle comprises trailing arms with central hinges and transversal rods. 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: 290

### Steering

Hydrostatic.
Steerable front wheels.
Steerable wheels rotation angle, degrees | 42 |
Turning radius, m | 13 |
Overall turning diameter, m | 28 |
Meets the requirements of ISO 5010.

### Brakes

The braking system meets international safety requirements according to ISO 3450 and comprises service, parking, auxiliary and emergency brakes. Service brake:
Front wheels - disk brake with two gears per disk.
Rear wheels - disk brake with two gears per disk and automatic clearance adjustment. The disks are mounted on the shafts of traction electric motors. Parking brake - one constantly closed brake gear of rear wheels per disk. Spring actuation, hydraulic control.
Auxiliary brake - electrodynamic braking with traction electric motors with forced air cooling of brake resistors. Emergency brake - parking brake and intact circuit of service brake. Brake resistors - 17 EM 137 with power of 1200 kW.

### Transmission

AC/AC electric drive with traction alternator, two traction electric motors, motor-wheel reduction gears, microprocessor control system, adjustment and control devices.
Motor-wheel reduction gear is of double-row type with spur gears. Ratio | 30.36 |
Max traveling speed, km/h | 64 |

<table>
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<tr>
<th>Transmission</th>
<th>AC/AC type</th>
</tr>
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<tr>
<td>Traction alternator</td>
<td>5GTA22</td>
</tr>
<tr>
<td>Traction motor</td>
<td>5GEB31</td>
</tr>
</tbody>
</table>

### Hydraulic system

Combined hydraulic system for body hoist, steering and brake drive.
Oil pump is of axial-piston and variable-flow type. Body hoist cylinders are telescopic with three stages and one stage of double action.
- Body raising time, s | 20 |
- Body lowering time, s | 18 |
- Max pressure in hydraulic system, MPa | 18 |
- Max pump delivery @ 1900 rpm, dm³/min | 474 |
- Filtering degree, mc㎡ | 10 |
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 capacity, cub. m:
- struck: 45.5, 50.1, 55.0, 59.6, 103.8
- heaped: 71.2, 75.5, 80.0, 84, 134.8

Frame

Frame is a welded structure of high-strength low-alloyed steel with casting and welded elements in high load zones. Longitudinal box-section variable height side rails are interconnected by cross-members.

Tires

Pneumatic tubeless tires with quarry tread pattern.

<table>
<thead>
<tr>
<th>Designation</th>
<th>33.00-51; 33.00R51</th>
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<tbody>
<tr>
<td>Internal pressure, MPA</td>
<td>0.62; 0.7</td>
</tr>
<tr>
<td>Rim designation</td>
<td>24.00-51/5,0</td>
</tr>
</tbody>
</table>

Cab

Two-seat, two-door, with pneumatically cushioned adjustable operator seat, additional seat for probationer and adjustable steering column. Meets the requirements of ROPS safety system. 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. Noise level inside the cab 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).

Special equipment

Fire-fighting system (standard)
Starting preheater (standard)
Automatic lubrication system (option)
Fuel and loading control system (option)
Wiggins speed fueling system (option)
Telemetering tire inflation control system (option)
High-voltage line proximity alarm (option)
Air conditioner (option)
Air cleaning system COB-2M (option)
Fettling of the bottom body (option)

Weight

Maximum payload capacity of dump truck with:
- radial design tires 33.00R51, kg: 130000
- radial design tires 33.00R51, kg: 136000
- Operational weight, kg: 108600
- Gross weight of dump truck with:
  - bias design tires 33.00-51, kg: 238600
  - radial design tires 33.00R51, kg: 244600
- Weight distribution on axles, %:
  - unladen: 50.9, 33.0
  - loaded: 49.1, 67.0

Refill capacities, l

- Fuel tank: 1900
- Engine cooling system: 410
- Engine lubrication system: 195
- Oil tank: 490
- Motor-wheel reduction gears by BELAZ: 92 (46x2)

Traction and braking performance

Overall dimensions, mm*

*For standard set of equipment

OJSC "Belarussian Autoworks" (BELAZ)
40 let Oktyabrya str, 222160, Zhodino, Republic of Belarus
phone: +375 1775 3-26-23, 3-37-37, 3-27-82
fax: +375 1775 7-03-57
e-mail: office@belaz.minsk.by
www.belaz.minsk.by