Mine dump truck BELAZ-75315 of payload capacity 240 tonnes (265 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**: MTU DD 16V4000
- **Four-cycle turbocharged and intercooled direct diesel engine with V-type cylinders arrangement and electronic control system. The engine meets Tier1 toxic substances emission requirements.**
- **Gross power @ 1900 rpm, kW (hp)**: 1864 (2500)
- **Maximum Torque @ 1500 rpm, N.m**: 10150
- **Number of cylinders**: 16
- **Cylinders displacement, l**: 65
- **Cylinder diameter, mm**: 165
- **Piston stroke, mm**: 190
- **Specific fuel consumption, g/kW hr**: 198
- **Engine cleaning is performed by three-stage filter with dry-type elements. Engine exhaust expulsion is performed through mufflers. Circulating lubrication system is pressurized and designed with “wet” crankcase. Double-loop fluid cooling system with forced circulation. Oil cooling is performed by oil-to-water heat exchanger. Cooling system impeller is actuated by fluid coupling with automatic control. Cooling system activation and desactivation is performed by means of thermostat. Fluid preheating system. Pneumatic starter starting system.**
- **Air pressure in starting system, MPa**: 0.6-0.8
- **Electric equipment system voltage, V**: 24

**Suspension**

Suspension is conventional for front and driving axles and equipped with trailing arms, central joints and transverse rods. Cylinders are pneumohydraulic (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**: 320 - front, 290 - rear

**Steering**

Hydostatic 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 three 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 with two rear wheels brake gears per disk, spring actuator and hydraulic control.

**Auxiliary brake system** is electrodynamic braking by traction motors with forced air cooling of brake resistors.

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

**Brake resistors**
- **MMT260 Gridbox**: 3760

---

**Electric drive**

Siemens MMT260 AC-AC drive with traction alternator, two traction motors, motorized wheels planetary double-row reduction units, microprocessor-based control system and control devices, adjustment units.

- **Transmission ratio**: 28.38
- **Maximum dump truck travel speed, km/h**: 64

<table>
<thead>
<tr>
<th>Component</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traction alternator</td>
<td>YJ177A</td>
</tr>
<tr>
<td>Traction motor</td>
<td>1TB3026-0GB03</td>
</tr>
</tbody>
</table>
Welded bucket-type body with FOPS safety system, protective canopy, engine exhaust heating, device for mechanical fixing in raised position, rock-fenders and rock-ejectors. Body capacity, m³:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>struck</td>
<td>102,4</td>
</tr>
<tr>
<td>heaped</td>
<td>141,1</td>
</tr>
</tbody>
</table>

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

Hydraulic drive
Hydraulic system is combined for body dumping gear, steering and brakes actuator. The system is equipped with two-section variable-displacement axial-piston oil pump and three-stage telescopic body lifting cylinders with one stage of double action.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Body lifting time, s</td>
<td>22</td>
</tr>
<tr>
<td>Body lowering time, s</td>
<td>33</td>
</tr>
<tr>
<td>Maximum pressure in hydraulic system, MPa</td>
<td>18</td>
</tr>
<tr>
<td>Maximum pump delivery @ 1900 rpm, dm³/min</td>
<td>698</td>
</tr>
<tr>
<td>Filtration degree, μm</td>
<td>10</td>
</tr>
</tbody>
</table>

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).

Fuel tank
Fuel tank
Engine cooling system
Engine lubrication system
Hydraulic system
Reduction units of motorized wheels
Suspension cylinders:
- front
- rear

97,4 (48,7 x 2)

230 (115 x 2)

103,0 (51,5 x 2)

Weight
Maximum payload capacity, kg
Unladen weight, kg
Gross weight, kg
Dump truck weight distribution on axles, %:
- front
- rear

240000
161500
401500

45
45

33
67

Special equipment
Fire-fighting system (standard)
Starting preheater (standard)
Heating and conditioning unit (standard)
Automatic lubrication system (standard)
Loading and fuel control system (standard)
Telemetering tire-pressure monitoring system (standard)
High-voltage line approach warning device (standard)
Side and rear view vision video system (standard)
Body floor lining (optional)
Cab air purification system (optional)

Overall dimensions, mm*

Overall dimensions are specified for dump truck with standard options

Propulsion performance
Propulsion force on wheels, kg
Travel speed, km/h

Retarding performance
Total retarding force, kg
Travel speed, km/h

*Overall dimensions are specified for dump truck with standard options