Mine dump truck BELAZ-7555B of payload capacity 55 tonnes (61 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 KTIA 19-C
- **Four-cycle turbocharged and intercooled direct diesel engine with in-line cylinders arrangement.**
- **Rated power @ 2100 rpm, kW (hp)**: 522 (710)
- **Maximum torque @ 1400 rpm, Nm**: 2731
- **Number of cylinders**: 6
- **Cylinders displacement, l**: 18.9
- **Cylinder diameter, mm**: 159
- **Piston stroke, mm**: 159
- **Specific fuel consumption at rated power, g/kW hr**: 2.09
- **Air cleaning is performed by three-stage filter with dry-type elements.**
- **Engine exhaust expulsion is performed through body.**
- **Mixed-type lubrication system is designed with "wet" crankcase.**
- **Fluid cooling system with forced circulation is integrated with cooling system of hydromechanical transmission.**
- **Hydromechanical transmission oil cooling is performed by oil-to-water heat exchanger.**
- **Electric starter starting system.**
- **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. The steering meets ISO 5010 requirements.

<table>
<thead>
<tr>
<th>Gearbox Ratios</th>
<th>Forward</th>
<th>Reverse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.070</td>
<td>4.530</td>
</tr>
<tr>
<td>2</td>
<td>2.869</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.045</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.437</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1.011</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0.722</td>
<td></td>
</tr>
</tbody>
</table>

**Hydraulic drive**

Hydraulic system is combined for body dumping gear, steering and brakes actuator. The system is equipped with gear-type oil pumps and two-stage telescopic body lifting cylinders with one stage of double action.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body lifting time, s</td>
<td>15</td>
</tr>
<tr>
<td>Body lowering time, s</td>
<td>14</td>
</tr>
<tr>
<td>Maximum pressure in hydraulic system, MPa</td>
<td>17</td>
</tr>
<tr>
<td>Maximum pump delivery @ 2100 rpm, dm³/min</td>
<td>342</td>
</tr>
<tr>
<td>Filtration degree, mcm</td>
<td>10</td>
</tr>
</tbody>
</table>
**Body**

Welded bucket-type body with FOPS safety system, protective canopy, engine exhaust heating, device for mechanical fixing in raised position and rock-ejectors.

Body capacity, m³:
- heaped: 22.7
- laden: 33.3
- 22.7 (optional)
- 35.3 (optional)
- 28
- 373 (optional)

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**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.

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**Driving axle**

Mechanical driving axle is equipped with single-stage bevel final drive, bevel differential with four pinions and planetary hub drives with spur pinions.

<table>
<thead>
<tr>
<th>Ratios:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>final drive</td>
<td>2.73</td>
</tr>
<tr>
<td>hub drive</td>
<td>7.62</td>
</tr>
<tr>
<td>driving axle total</td>
<td>20.8</td>
</tr>
</tbody>
</table>

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**Driveline**

Driveline consists of two open-type cardan shafts with joints on needle bearings that join hydromechanical transmission to engine and driving axle. Flexible coupling is mounted between front cardan shaft and engine. Front cardan shaft is equipped with protective guard.

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**Cab**

Two-man two-door cab is equipped with air-sprung adjustable driver seat, additional passenger 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).

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**Weight**

- Maximum payload capacity, kg: 55000
- Unladen weight, kg: 40500
- Gross weight, kg: 95000
- Dump truck weight distribution on axles, %:
  - front: 51.0
  - rear: 49.0

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**Capacities, l**

- Fuel tank: 740
- Engine cooling system: 210
- Engine lubrication system: 47
- Hydromechanical transmission: 90
- Hydraulic system: 300
- Rear axle: 108

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**Special equipment**

- Combined fire-fighting system with remote actuation (standard)
- Starting preheater (standard)**
- Centralized lubrication system (standard)
- Heating and conditioning unit (standard)
- Fuel and loading control system (standard)
- Video observation system (standard)
- Telemetering tire pressure control system (standard)
- High-voltageline attention device (standard)
- Fettling of body floor (option)

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**Tires**

- Tubeless air tires with quarry tread pattern.
- Tire designation: 24.00-35 HC42/24.00R35
- Inflation pressure, MPa: 0.55/0.65
- Rim designation: 17.00-35/3.5

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**Overall dimensions, mm**

- Overall dimensions are specified for basic kitting-up of the dump truck
- **Excepting dump trucks of tropicalized design**

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**Propulsion and Retarding**

[Graphs showing propulsion and retarding performance]