Mine dump truck BELAZ-75139 of payload capacity 130-136 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 KTA 50-C

Four-cycle gas-turbocharged and intercooled direct diesel engine with V-type cylinders arrangement and electronic control system.

- Rated power @ 2100 rpm, kW (hp): 1194(1600)
- Maximum torque @ 1500 rpm, N.m: 6292
- Number of cylinders: 16
- Cylinders displacement, l: 50.3
- Cylinder diameter, mm: 159
- Piston stroke, mm: 190
- Specific fuel consumption at rated power, g/kW hr: 207
- Engine exhaust expulsion is performed through body. Circulating lubrication system is pressurized and designed with "wet" pump. 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

Transmission is equipped with alternating current - alternating current drive KTE-136 with traction alternator, two traction motors, motorized wheels double-row planetary reduction units with spur gears, adjustment units, microprocessor-based control system and control devices.

- Transmission ratio: 30.36
- Maximum dump truck travel speed, km/h: 48

<table>
<thead>
<tr>
<th>Traction alternator</th>
<th>GST-800</th>
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<tbody>
<tr>
<td>Traction motor</td>
<td>TAD-5</td>
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</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.

- Cylinder piston stroke, mm:
  - front: 320
  - rear: 290

### Steering

Hydrostatic steering with steerable front wheels.

- Steering angle, degree: 42
- Turning radius, m: 13
- Overall turning diameter, m: 28

The steering meets ISO 5010 requirements.

### Brakes

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

- **Service brake system** is disk brakes with two 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.
- **Packing brake system** is permanently closed system with one brake gear of rear wheels per disk, spring actuator and hydraulic control.
- **Auxiliary brake system** is electrodynamic braking by traction motors with forced air cooling of brake resistors (UVTR 2x600, power 1200 kW).
- **Emergency brake system** uses parking brake and operable circuit of wheel brakes.

### Hydraulic system

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

- Body lifting time, s: 20
- Body lowering time, s: 18
- Maximum pressure in hydraulic system, MPa: 18
- Maximum pump delivery @ 1900 rpm, dm³/min: 474
- Filtration degree, mcm: 10
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:
struck
heaped 2:1
45,5
71,2
50,1
75,5

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.

Tires
Tubeless air tires with quarry tread pattern.
Tire designation
33.00-51/33.00R51
Inflation pressure, MPa
0,62; 0,7
Rim designation
24.00-51/5,0

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).

Special equipment
Fire-fighting system (standard)
Heating and conditioning unit (standard)
Automatic lubrication system (optional)
System of loading and fuel control (optional)
Telemetering tire-pressure monitoring system (optional)
Air purification system (optional)
Body floor lining (optional)

Overall dimensions, mm*

Towing and braking performance
Towing performance
Braking performance

Weight
Maximum payload capacity of the dump truck equipped with:
- diagonal tires 33.00-51, kg
- radial tires 33.00R51, kg
Unladen weight, kg
108500
Gross weight of the dump truck equipped with:
- diagonal tires 33.00-51, kg
- radial tires 33.00R51, kg
Dump truck weight distribution on axles, %:

<table>
<thead>
<tr>
<th></th>
<th>unladen</th>
<th>laden</th>
</tr>
</thead>
<tbody>
<tr>
<td>front</td>
<td>50,9</td>
<td>33,0</td>
</tr>
<tr>
<td>rear</td>
<td>49,1</td>
<td>67,0</td>
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</tbody>
</table>

Fuel tank
1900
Engine cooling system
410
Engine lubrication system
195
Oil tank
490
Reduction units of motorized wheels
92 (46x2)
Suspension cylinders:
- front
33,8 (16,9x2)
- rear
57,4 (28,7x2)

Refill capacities, l

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

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