Mine dump truck BELAZ-75571
of payload capacity 90 tonnes (99 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).

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**Engine**

Model
CUMMINS QST30-C

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.

Rated power @ 2100 rpm, kW (hp) 783 (1065)
Maximum torque @ 1300 rpm, N.m 4630

Number of cylinders 12
Cylinders displacement, l 30
Cylinder diameter, mm 140
Piston stroke, mm 165.5

Specific fuel consumption at rated power, g/kW-hr 204

Air cleaning is performed by three-stage filter with dry-type elements.

Engine exhaust expulsion is performed through body.

Circulating lubrication system is pressurized and designed with "wet" sump. Single-loop fluid cooling system with forced circulation.

Oil cooling is performed by oil-to-water heat exchanger.

Fluid preheating system.

Pneumatic starter starting system.

Electric equipment system voltage, V 24

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**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
- front 260
- rear 210

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**Steering**

Hydrostatic steering with steerable front wheels.

Steering angle, degree 38
Turning radius, m 11
Overall turning diameter, m 24

The steering meets ISO 5010 requirements.

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**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 front wheels dry-type disk brakes and rear wheels multiple-disk oil-cooled brakes. Actuator is hydraulic and separate for front and rear wheels.

**Parking brake system** is disk brake gear on final drive driving shaft with spring actuator and hydraulic control.

**Auxiliary brake system** uses rear wheels multiple-disk oil-cooled brakes with hydraulic actuator. Braking by service brakes with the view of deceleration is effected by separate foot pedal.

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

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**Hydraulic drive**

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

Body lifting time, s 20
Body lowering time, s 19
Maximum pressure in hydraulic system, MPa 16.5
Maximum pump delivery @ 2100 rpm, dm²/min 464
Filtration degree, mcm 10

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**Hydromechanical transmission**

Planetary gearbox with torque converter, pump drive, automatic control system. The cooling system is operated through heat exchangers.

Maximum dump truck travel speed, km/h 55

Gearbox ratios:
- gears
  - forward
  - reverse

1 4.75 4.03
2 3.45
3 2.58
4 1.87
5 1.38
6 1.00
**Body**

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:
- Struck: 37.7, 44.5, 75.0
- Heaped: 53.3 (standard), 60.0 (optional), 93.3 (optional)

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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>Front</th>
<th>Hub</th>
<th>Driving axle total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final drive</td>
<td>2.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hub drive</td>
<td>7.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driving axle total</td>
<td>19.05</td>
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<td></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 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).

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**Tires**

Radial or diagonal tubeless air tires with quarry tread pattern.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Inflation, MPa</th>
<th>Rim Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.00R49</td>
<td>0.6/0.65</td>
<td>19.50/49/6.0</td>
</tr>
</tbody>
</table>

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**Overall dimensions, mm**

*Overall dimensions are specified for dump truck with standard options
**Excepting dump trucks of tropicalized design*