Mining dump truck BELAZ-75583
Payload capacity 90 tonnes (99 short tons)

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 KTA 38-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 charged air.</td>
<td></td>
</tr>
<tr>
<td>Rated power @ 1900 rpm, kW (hp)</td>
<td>783 (1050)</td>
</tr>
<tr>
<td>Number of cylinders</td>
<td>12</td>
</tr>
<tr>
<td>Cylinders displacement</td>
<td>378</td>
</tr>
<tr>
<td>Cylinder diameter, mm</td>
<td>159</td>
</tr>
<tr>
<td>Piston stroke, mm</td>
<td>159</td>
</tr>
<tr>
<td>Air cleaning is performed by three-stage filter with dry-type elements. Exhaust gas expulsion is routed through dump truck body. Circulation pressurized lubrication system with “wet” sump. Single-loop fluid cooling system with forced circulation. Oil cooling is performed through water-to-oil heat exchanger. Fluid preheating system. Starting system is actuated by electric starter. Electric system voltage, V</td>
<td>24</td>
</tr>
</tbody>
</table>

### Transmission

AC electric drive with traction alternator, two traction electric motors, motor-in-wheel reduction gears, auxiliary electric machines, adjustment and control devices.

| Motor-in-wheel reduction gear ratio | 30.36 |
| Maximum travel speed, km/h | 60 |

| AC drive | KTE-90 |
| Traction alternator | GST 700-8 |
| Traction motor | TAD-9 |

### Steering

Hydrostatic steering with steerable front wheels.

| Steerable wheels turning angle, degrees | 38 |
| Turning radius, m | 11 |
| Overall turning diameter, m | 24 |
| Steering meets the requirements of ISO 5010. |

### Suspension

Conventional suspension for front and rear wheels. Cylinders are pneumohydraulic (nitrogen and oil).

<table>
<thead>
<tr>
<th>Cylinder piston stroke, mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>- front</td>
</tr>
<tr>
<td>- rear</td>
</tr>
</tbody>
</table>

### Hydraulic system

Combined hydraulic system for body dumping gear, steering and brake actuator.

| Bodylifting cylinders are telescopic and three-stage with one stage of double action. |
| Bodylifting time, s | 19 |
| Bodylowering time, s | 19 |
| Maximum pressure in hydraulic system, MPa | 16.5 |
| Maximum pump delivery @ 1900 rpm, dm³/min | 464 |
| Filtering degree, mcm | 10 |

### Tires

Pneumatic tubeless tires with quarry tread pattern.

| Designation | 27.00R49 or 31/90-49 |
| Inflation pressure, MPa | upon recommendation of tire producer |
| Rim designation | 19.50-49/4.0 |
Body
Bucket type welded body with rops and heating by engine exhaust gases. Body is equipped with device for mechanical fixing in raised position, with rock deflectors and rock ejectors.

Body capacity, m³:
- Struck
  - 37.7
  - 44.5
  - 75.0
- Heaped
  - 2:1
  - 53.3 (standard)
  - 60.0 (option)
  - 93.0 (option)

Frame
High-strength low-alloyed steel welded frame with cast elements in places of maximum loading. Box-section variable height side rails are interconnected by cross-members.

Brakes
Braking system meets international safety requirements of ISO 3450 and consists of service, parking, auxiliary and emergency brakes.

Service brakes:
- Front wheels - disk brake with two brake calipers per disk and automatic adjustment of gap in friction pair.
- Rear wheels - disk brake with two brake gears per disk and automatic adjustment of gap in friction pair.

Brake disks are mounted on shafts of traction electric motors.

Brake actuator is hydraulic and separate for front and rear wheels.

Parking brake - constantly closed brake gear of rear wheels.

Spring actuation, hydraulic control.

Auxiliary brake - electrodynamic braking by traction electric motors in alternator mode with forced cooling of brake resistors.

Emergency brake - parking brake and operable circuit of service brakes are used.

Brake resistors: Grid box 2x600 of power 1200 kW

CAB
Two-seat two-door cab with air-sprung adjustable seat for driver, additional seat for passenger and adjustable steering column. The cab meets requirements of ROPS safety system and requirements of EN 474-1 and STB EN 474-6 standards for in-cab noise, vibration, concentration of harmful substances and dust. In-cab noise level is not more than 80 dB(A).

Special equipment
Combined fire-fighting system with remote actuation (standard)

Starting preheater (standard)*

Centralized lubrication system (standard)

Heating and conditioning unit (standard)

Fuel and cooling system (standard)

Video observation system (standard)

Telemetering tire pressure control system (standard)

High-voltage line attention device (standard)

Fellling of body floor (option)

Overall dimensions, mm:

Weight
Maximum payload capacity, kg: 90000

Unladen weight, kg: 75000

Gross weight, kg: 165000

Refill capacities, l

- Fuel tank: 1105
- Engine cooling system: 380
- Engine lubrication system: 140
- Hydraulic system: 405
- Motor-in-wheel reduction gears: 92 (46x2)
- Suspension cylinders:
  - Front: 30.8 (15.4x2)
  - Rear: 58.6 (29.3x2)

Traction and braking performance

*Overall dimensions are specified for standard equipping of the dump truck
**Excepting dump trucks of tropicalized design

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