Mining dump truck BELAZ-75581
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).

<table>
<thead>
<tr>
<th>Engine</th>
<th>Steering</th>
<th>Suspension</th>
<th>Hydraulic system</th>
<th>Tires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Hydrostatic steering with steerable front wheels.</td>
<td>Conventional suspension for front and rear wheels. Cylinders are pneumatic (nitrogen and oil).</td>
<td>Combined hydraulic system for body dumping gear, steering and brake actuator.</td>
<td>Pneumatic tubeless tires with quarry tread pattern.</td>
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<tr>
<td>CUMMINS QS30-C</td>
<td>Steerable wheels turning angle, degrees 38</td>
<td>Cylinder piston stroke, mm</td>
<td>Body lifting cylinders are telescopic and three-stage with one stage of double action.</td>
<td>Designation 27.00R49 or 31/90-49</td>
</tr>
<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>Turning radius, m 11</td>
<td>Overall turning diameter, m 24</td>
<td>Body lifting time, s 19</td>
<td>Inflation pressure, MPa upon recommendation of tire producer</td>
</tr>
<tr>
<td>Rated power @ 2100 rpm, kW (hp) 783 (1050)</td>
<td>Steering meets the requirements of ISO 5010.</td>
<td></td>
<td>Body lowering time, s 19</td>
<td>Rim designation 19.50-49/4.0</td>
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<tr>
<td>Number of cylinders 12</td>
<td></td>
<td></td>
<td>Maximum pressure in hydraulic system, MPa 16.5</td>
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<tr>
<td>Cylinders displacement, l 30</td>
<td></td>
<td></td>
<td>Maximum pump delivery @ 2100 rpm, dm³/min 464</td>
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<tr>
<td>Cylinder diameter, mm 140</td>
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<td></td>
<td>Filtering degree, mcm 10</td>
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<tr>
<td>Piston stroke, mm 165.1</td>
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<tr>
<td>Specific fuel consumption, g/kW hr 202</td>
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<tr>
<td>Air cleaning is performed by three-stage filter by dry-type elements.</td>
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<td>Exhaust gas expulsion is routed through dump truck body.</td>
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<tr>
<td>Circulation pressurized lubrication system with &quot;wet&quot; sump.</td>
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<td>Single-loop fluid cooling system with forced circulation.</td>
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<td>Oil cooling is performed through water-to-oil heat exchanger.</td>
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<td>Fluid preheating system.</td>
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<td>Starting system is actuated by electric starter.</td>
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<tr>
<td>Electric system voltage, V 24</td>
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</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

<table>
<thead>
<tr>
<th>AC drive</th>
<th>KTE-90</th>
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<tbody>
<tr>
<td>Traction alternator</td>
<td>GST 700-8</td>
</tr>
<tr>
<td>Traction motor</td>
<td>TAD-9</td>
</tr>
</tbody>
</table>
Body
Bucket-type welded body with ropes and heating by engine exhaust gases. Body is equipped with device for mechanical fixing in raised position, with rock-deflectors and rock-jectors.

Body capacity, m³:
- struck: 37.7
- heaped: 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.

Auxiliary brake - hydraulic and separate for front and rear wheels.

Parking brake - constantly closed brake gears of rear wheels.

Special equipment
Two-seat two-door cab with air-sprung adjustable seat for driver, additional seat for passenger and adjustable steering column. 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).

Overall dimensions, mm:
- Overall length: 960 (37 3/4'')
- Overall width: 6500 (256'')
- Overall height: 3500 (138'')
- Wheelbase: 5900 (235'')

Traction and braking performance

Weight
- Maximum payload capacity, kg: 90000
- Unladen weight, kg: 36000
- Gross weight, kg: 164000

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)

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