Mining dump truck BELAZ-75580
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

**Model**
CUMMINS QT30-C

**Diesel, four-cycle engine with V-type cylinders arrangement, electric control system, direct fuel injection, gas turbine charging and intermediate cooling of the charged air.**

**Rated power**
- @ 1900 rpm, kW (hp): 783 (1050)

**Number of cylinders**: 12

**Cylinders displacement, l**: 30

**Cylinder diameter, mm**: 140

**Piston stroke, mm**: 165, 1

**Specific fuel consumption, g/kW hr**: 202

Air cleaning is performed by three-stage filters with dry-type elements. Exhaust gases evacuation is being made through two exhaust manifolds and body structure.

Lubrication system is of forced circulation type under pressure with "wet" crankcase oil pan design.

Cooling system is of single-circuit fluid type with forced circulation. Starting preheating system is of fluid type.

Starting system features electric starter.

**Electric system voltage, V**: 24

### Transmission

AC/AC electric drive with traction alternator, two traction electric motors, motor-wheel reduction gears, microprocessor control system, adjustment and control devices.

Motor-wheel reduction gear is of double-row type with spur gears.

**Ratio**: 30.36

**Max traveling speed, km/h**: 60

<table>
<thead>
<tr>
<th>Transmission</th>
<th>AC/AC type</th>
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<tbody>
<tr>
<td>Traction alternator</td>
<td>SGT-750</td>
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<tr>
<td>Traction motor</td>
<td>TAD-350-6</td>
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</table>

### Steering

- **Hydrostatic.**
- **Steerable front wheels.**

**Steerable wheels rotation angle, degrees**: 38

**Turning radius, m**: 11

**Overall turning diameter, m**: 24

Meets the requirements of ISO 5010.

### Suspension

Conventional suspension for front axle and driving axle comprises trailing arms with central hinges and transversal rods. Cylinders are pneumohydraulic (nitrogen and oil) with in-built hydraulic damper, two cylinders both on the front axle and on the rear axle. Cylinder piston stroke, mm:

- front: 260
- rear: 210

### Hydraulic system

Combined hydraulic system for body hoist, steering and brake drive.

Oil pump is of axial-piston and variable-flow type. Body hoist cylinders are telescopic with three stages and one stage of double action.

**Body raising time, s**: 19

**Body lowering time, s**: 19

**Max pressure in hydraulic system, MPa**: 16.5

**Max pump delivery @ 1900 rpm, dm³/min**: 464

### Tires

Pneumatic tubeless tires with quarry tread pattern.

- **Designation**: 27.00R49; 31/90-49
- **Internal pressure, MPa**: upon recommendations of tire producer
- **Rim designation**: 19.50-49/4.0
**Body**

Bucket type body is a welded structure with FOPS, has a protective canopy and is heated by exhaust gases. It is equipped with a device for mechanical locking in raised position as well as with rock-deflectors and rock-ejectors.

- Body capacity, cum. m:
  - struck / heaped: 2:1
  - 37.7 / 53.3; 44.5 / 60.0; 75.0 / 93.0

**Frame**

Frame is a welded structure of high-strength low-alloyed steel with casting and welded elements in high load zones. Longitudinal box-section, variable height side rails are interconnected by cross-members.

**Brakes**

The braking system meets international safety requirements according to ISO 3450 and comprises service, parking, auxiliary and emergency brakes.

- Service brake:
- Front wheels - disk brake with two gears per disk.
- Rear wheels - disk brake with two gears per disk and automatic clearance adjustment. The disks are mounted on the shafts of traction electric motors.
- Parking brake — one constantly closed brake gear of rear wheels per disk.
- Spring actuation, hydraulic control.
- Auxiliary brake — electrodynamic braking with traction electric motors with forced air cooling of brake resistors.
- Emergency brake — parking brake and intact circuit of service brake.
- Brake resistors — grid box 2x600 with power of 1200 kW.

**Cabin**

Two-seat, two-door, with pneumatically cushioned adjustable operator seat, additional seat for probationer and adjustable steering column. Meets the requirements of ROPS safety system. The cab meets the requirements of EN 474-1 and EN 474-6 for permissible limits of internal sound levels, vibration, concentration of poisonous substances and dust. Noise level inside the cab is not more than 80 dB(A).

Normal 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)
- Starting preheater (standard)
- Automatic lubrication system (option)
- Fuel and loading control system (option)
- Wiggins speed fueling system (option)
- Telemetering tire inflation control system (option)
- High-voltage line proximity alarm (option)
- Air conditioner (option)
- Fettling of the bottom body (option)

**Weight**

- Maximum payload capacity of dump truck with:
  - 90000
  - 74000
  - 164000

**Refill capacities, l**

- Fuel tank: 1105
- Engine cooling system: 380
- Engine lubrication system: 160
- Oil tank: 405
- Motor-wheel reduction: 92 (46x2)
- Suspension cylinders:
  - -front: 30.8 (15,4x2)
  - -rear: 58.6 (29,3x2)

**Traction and braking performance**

[Graph showing traction and braking performance

**Belaz**

Belaz, a leading manufacturer of heavy-duty dump trucks, is renowned for its robust and reliable vehicles. The Belaz 75580 model exemplifies this tradition, equipped with advanced technology and designed to handle heavy-duty operations with ease. From its powerful engine to its durable frame, the Belaz 75580 is a testament to Belaz's commitment to excellence in heavy-duty construction equipment. The Belaz 75580 is equipped with a range of special equipment, including a fire-fighting system, starting preheater, and automatic lubrication system, among others. This enables it to meet the stringent safety requirements of ROPS, ensuring a comfortable and safe operating environment for the driver. With a maximum payload capacity of 90,000 kg, the Belaz 75580 is a versatile vehicle capable of tackling a wide range of heavy-duty tasks. Whether it's in mining, construction, or any other heavy-duty application, the Belaz 75580 is designed to perform with reliability and efficiency.