Mine dump truck BELAZ-7547 of payload capacity 45 tonnes (50 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).

**Engine**

Model: YaMZ-240HM2
Four-cycle turbocharged direct diesel engine with V-type arrangement of cylinders.
Rated power @ 2100 rpm, kW (hp) 368 (500)
Maximum torque @ 1600 rpm, N·m 1815
Number of cylinders 12
Cylinders displacement, l 22.3
Cylinder diameter, mm 130
Piston stroke, mm 140
Specific fuel consumption at rated power, g/KW·hr 224
Air cleaning is performed by three-stage filter with dry-type elements.
Engine exhaust expulsion is performed through body.
Mixed-type lubrication system is designed with "wet" crankcase.
Fluid cooling system with forced circulation.
Oil cooling is performed by oil-to-water heat exchanger.
Pneumatic starter starting system.
Electric equipment system voltage, V 24

**Suspension**

Suspension is conventional for front and driving axles and equipped with longitudinal and transverse rods. Cylinders are pneumohydraulic (nitrogen and oil) with inbuilt hydraulic shock absorber.
Two cylinders are on the front axle and four cylinders are on the rear axle.
Cylinder piston stroke, mm
- Front 265
- Rear 265

**Steering**

Hydrostatic steering with steerable front wheels.
Steering angle, degree 35
Turning radius, m 10.2
Overall turning diameter, m 23
The steering meets ISO 5010 requirements.

**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 shoe-drum brake gears for front and rear wheels with pneumatic actuator separated for front and rear wheels.
*Parking brake system* is permanently closed shoe brake gear on final drive driving shaft with spring actuator and pneumatic control.
*Auxiliary brake system* is hydrodynamic retarder on gearbox driving shaft with electric control.
*Emergency brake system* uses parking brake and operable circuit of service brakes.

**Hydraulic drive**

Hydraulic system is combined for body dumping gear and steering.
The system is equipped with gear-type oil pumps, four-stage telescopic body lifting cylinders with one stage of double action.
Body lifting time, s 25
Body lowering time, s 20
Maximum pressure in hydraulic system, MPa 13.5
Maximum pump delivery @ 2100 rpm, dm³/min 260
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, rock-fenders and rock-ejectors.

- Body capacity, m³:
  - struck: heaped 2:1
  - 21.5
  - 27.4
  - 28.5
  - 35.9

**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.

- Ratios:
  - final drive: 3.417
  - hub drive: 6.0
  - driving axle total: 20.50

**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.

**Cab**

One-man cab is equipped with air-sprung adjustable driver seat and additional side seat. 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).

**Tires**

Air tires with quarry tread pattern.

- Tire designation: 21.00-35 HC 36 (E-4)
- Inflation pressure, MPa: 0.575
- Rim designation: 15.00-35/3.0

**Weight**

- Maximum payload capacity, kg: 45000
- Unladen weight, kg: 33100
- Gross weight, kg: 78100
- Dump truck weight distribution on axles, %:
  - unloaded: 45.0
  - rear: 55.0
  - laden: 33.0
  - front: 67.0

**Capacities, l**

- Fuel tank: 610
- Engine cooling system: 135
- Engine lubrication system: 54
- Hydromechanical transmission: 70
- Hydraulic system: 160
- Final drive: 24
- Hub drives: 24 (12x2)
- Suspension cylinders: 24 (4x6)

**Special equipment**

- Fire-fighting system with remote actuation (standard)
- Starting preheater (standard) **
- Centralized lubrication system (standard)
- High-voltageline attention device (standard)
- Conditioner (option)
- Auxiliary heater (option)
- Electric-heated mirrors (optional)

**Propulsion and Retarding**

- Propulsion performance
- Retarding performance

**Overall dimensions, mm**

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