Mining dump truck BELAZ-7555A
with payload capacity of 55 tonnes

Designed for transportation of rock mass in complex 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: ЯМЗ-3845.10-11

- Diesel, four-cycle engine with in-line cylinders arrangement, direct fuel injection, gas turbine charging and intermediate cooling of the charged air.
- Rated power @ 2100 rpm, kW (hp): 537 (730)
- Maximum torque @ 1400 rpm, N·m: 2744
- Number of cylinders: 12
- Cylinders displacement, l: 25.86
- Cylinder diameter, mm: 140
- Piston stroke, mm: 140
- Specific fuel consumption at rated power, g/kW·hr: 216
- Air cooling is performed by three-stage filter with dry-type elements.
- Exhaust gases evacuation is being made through body structure.
- Lubrication system is of combined type with “wet” crankcase design.
- Cooling system is of fluid type with forced circulation, combined with hydromechanical transmission cooling system and multiple-disk oil-cooled brakes.
- Starting system features electric starter.
- Electric system voltage, V: 24

**Suspension**

Conventional suspension for front axle and driving axle comprises trailing arms with central hinges and transversal rods. Cylinders are pneumohydraulic (nitrogen and oil), two cylinders both on the front axle and on the rear axle.

- Cylinder piston stroke, mm:
  - front: 300
  - rear: 270

**Steering**

- Complies with ISO 5010 requirements.
- Steerable wheels rotation angle, degrees: 41
- Turning radius, m: 9
- Overall turning diameter, m: 20.5

**Braking system**

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

- **Service brake**: multiple-disk oil-cooled brakes for rear wheels, dry single-disk brakes for front brakes.
- Separate hydraulic drive for front and rear wheels.
- **Parking brake**: disk-type parking brake on the shaft of final drive. Spring actuation, hydraulic control.
- **Auxiliary brake**: multiple-disk oil-cooled brakes of rear wheels are used. Retardation is performed by service brakes (separate floor pedal with hydraulic drive).
- **Emergency brake**: parking brake and intact circuit of service brake are used.

**Hydraulic system**

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

- Oil pumps are of gear type.
- Body hoist cylinders are telescopic with two stages and one stage of double action.
- Body raising time, s: 11
- Body lowering time, s: 16
- Max pressure in hydraulic system, MPa: 17
- Max delivery of pumps @ 2100 rpm, dm³/min: 370
- Filtering degree, μm: 10
**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 volume, m³:

- struck: 22.7, 22.3, 28.0, 34.6
- heaped: 32.3, 35.3, 37.3, 46.1

**Frame**

Frame is a welded structure of high-strength low-alloyed steel. Longitudinal box-section variable height side rails are interconnected by cross-members. Castings are applied in highload zones.

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**Driving axle**

Mechanical, with single-reduction final drive with skew bevel gears, a differential with straight bevel gears and four satellites, planetary wheel drives with cylindrical spur gears.

Ratios:

- final drive: 2.733
- hub drive: 7.615
- driving axle total: 20.815

**Drive line**

Two open-type cardan shafts with joints on needle bearings connect hydromechanical transmission with engine and driving axle. Flexible coupling is mounted between the front propeller shaft and engine. The front propeller shaft is protected by safety guard.

**Cab**

Two-seat, two-door, with an additional seat for the passenger and pneumatically cushioned adjustable operator's seat. 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. Operator's workplace complies with ROPS safety system requirements. Noise level inside the cab is not more than 80 dB(A).

**Tires**

Pneumatic, tubeless, with quarry tread pattern.

Designation: 24.00-35 HC 42; 24.00R35

Internal pressure, MPa — in accordance with tire manufacturer instructions.

Rim designation: 17.00-35/3.5

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**Weight**

- Maximum payload capacity, kg: 55000
- Empty weight, kg: 42000
- Gross weight, kg: 97000

Weight distribution on axles, %:

- front axle: empty 51.0, loaded 33.0
- rear axle: empty 49.0, loaded 67.0

**Refill capacities, l**

- Fuel tank: 740
- Engine cooling system: 205
- Engine lubrication system: 65
- Hydromechanical transmission: 146
- Hydraulic system: 300
- Final drive: 108
- Suspension cylinders:
  - front: 15.6 (7.8x2)
  - rear: 32.4 (16.2x2)

**Special equipment**

- Fire-fighting system with remote control (standard)
- Engine liquid preheater (standard except for tropical modification of dump trucks)
- Video surveillance system (standard)
- Automatic centralized lubrication system (standard)
- Telemetering tire inflation control system (standard)
- Loading and fuel control system (standard)
- High-voltage line proximity alarm (standard)
- Heater and conditioner unit (standard)
- Auxiliary cab heater (standard)

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**Overall dimensions, mm**

[Diagram of the overall dimensions of the vehicle.]