

Mine dump truck BELAZ-75312 of payload capacity 240 tonnes (265 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	MTU DD 16V4000
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. The engine complies with toxic substances emission requirements of Tier1.	
Total power @ 1900 rpm, kW (hp)	1864 (2500)
Maximum torque @ 1500 rpm, N.m	10150
Number of cylinders	16
Cylinders displacement, l	65
Cylinder diameter, mm	165
Piston stroke, mm	190
Specific fuel consumption, g/kW hr	198
Air cleaning is performed by three-stage filter with dry-type elements. Exhaust gases evacuation is being made through mufflers. Lubrication system is of forced circulation type under pressure with "wet" crankcase design. Cooling system is of double-circuit fluid type with forced circulation. Oil cooling - through water-to-oil heat exchanger. Starting preheating system is of fluid type. Starting system features pneumatic starter. Cooling system impeller drive - hydraulic clutch with automatic control. Switching on and off is carried out by thermostat.	
Starting system air pressure, MPa	0,6-0,8
Electric system voltage, V	24

Electric drive

AC/AC electric drive KTЭ-240 by Electrosila Company with traction alternator, two traction electric motors, control cabinet and dynamic braking module, adjustment and control devices. Double-row motor-wheel reduction gear is of planetary type.	
Ratio	28,38
Max traveling speed, km/h	64

Traction alternator	СГТ 1600-8
Traction electric motor	ТАД-7

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	320
- rear	290

Steering

Hydrostatic.

Steerable front wheels.

Steerable wheels rotation angle, degrees

Turning radius, m	15
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Overall turning diameter, m	34
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Meets the requirements of ISO 5010.

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 four 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.

Separate hydraulic drive for front and rear wheels. Parking brake - two constantly closed brake gears 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 are used.

Brake resistors
Power, kW

YBTP 2x600 – 2 pcs
2400

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, cub. m:
 struck heaped 2:1
 102,4 141,1

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.



Hydraulic drive

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

Oil pump: double-section axial-piston and variable-flow type.

Body hoist cylinders are telescopic with three stages and one stage of double action.

Body raising time, s	22
Body lowering time, s	33
Max pressure in hydraulic system, MPa	18
Max pump delivery @ 1900 rpm, dm ³ /min	698
Filtering degree, mcm	10

Cab

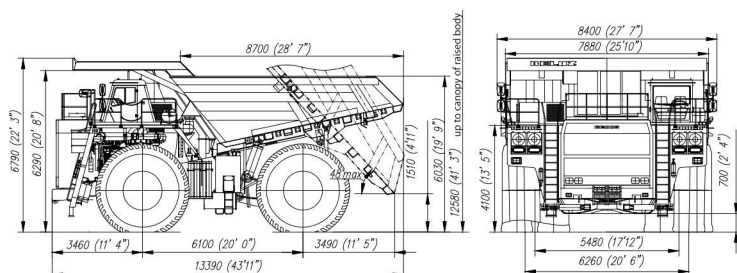
Two-seat, two-door, with pneumatically cushioned adjustable operator seat, additional seat for probationer and adjustable steering column. The cab meets the requirements of EN 474-1 and EN 474-6 for permissible limits of internal sound levels, vibration, concentration of poisonous substances and dust.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

Local vibration level is not more than 126 dB(A). Overall vibration level is not more than 115 dB(A).

Special equipment

- Fire-fighting system
- Starting preheater
- Air conditioner
- Automatic lubrication system
- Fuel and loading control system
- Telemetering tire inflation control system
- High-voltage line proximity alarm
- Fettling of the bottom body

Overall dimensions, mm*



*Overall dimensions are specified for dump truck with standard options

Capacities, l

Fuel tank	2900
Engine cooling system	600
Engine lubrication system	265
Hydraulic system	790
Motor-wheel reduction gears	230 (115x2)
Suspension cylinders:	
- front	97,4 (48,7x2)
- rear	103,0 (51,5x2)

Weight

Maximum payload capacity, kg	240000
Unladen weight, kg	161500
Gross weight, kg	401500
Weight distribution on axles, %:	
- front	unladen loaded
- rear	45 33
	55 67

Tires

Radial pneumatic tubeless tires with quarry tread pattern.
 Designation 40.00R57,46/90R57
 Internal pressure, MPa 0,75; 0,7
 Rim designation 32.00-57/6,0

Propulsion and Retarding

