

Mining dump truck BELAZ-75710 with payload capacity of 450 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).



Model	MTU DD 16V4000
Two diesel, four-cycle engine with V-type cylinders arrangement, direct fuel injection, electric control system, gas turbine charging and intermediate cooling of the charged air. The engine complies with toxic substances emission requirements of Tier1.	
Rated power @ 1900 rpm, kW (hp)	1715 (2300)
Maximum torque @ 1500 rpm, N*m	9313
Number of cylinders	16
Cylinders displacement, l	65
Cylinder diameter, mm	165
Piston stroke, mm	190
Specific fuel consumption at rated power, g/kW*hr	198
Air cleaning is performed by three-stage filter with dry-type elements.	
Exhaust gases evacuation is being made through body structure and mufflers.	
Lubrication system is of forced circulation type under pressure with "wet" crankcase oil pan design.	
Cooling system is of double-circuit fluid type with forced circulation. Cooling system impeller drive – hydraulic clutch with automatic control.	
Oil cooling – through water-to-oil heat exchanger.	
Starting preheating system is of fluid type.	
Starting system features pneumatic starter.	
Electric system voltage, V	24

Transmission

AC electric drive with two traction alternators, two traction electric motors, motor-wheel reduction gear units, microprocessor control system, adjustment and control devices.	
Double-row planetary motor-wheel reduction gear unit is of differential type.	
Max speed, km/h	60
Motor-wheel reduction gear unit ratio	29.20

Traction alternator	YJ177A
Traction electric motor	1TB3026-0GB03

Engine

Conventional suspension for front and rear wheels, 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	200
- rear	170

Suspension

Hydrostatic.	
Steerable front wheels.	
Steerable wheels rotation angle, degrees	39
Turning radius, m	19.8
Overall turning diameter, m	45
Complies with ISO 5010 requirements.	

Steering

Hydraulic system

Combined hydraulic system for body hoist, steering and brake system.	
Oil pump – axial-piston two-section variable-flow pump with pressure regulator.	
Body hoist cylinders are telescopic with two stages and one stage of double action.	
Body raising time, s	26
Body lowering time, s	20
Max pressure in hydraulic system, MPa	26
Filtering degree, µm	10

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).

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
164.9

heaped 2:1
268.3

BELAZ 75710



Braking system

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

Service brake:

Front wheels – dry disk brakes with automatic clearance adjustment.

Rear wheels – dry disk brakes with automatic clearance adjustment. The disks are mounted on the shafts of traction electric motors.

Parking brake:

Two brake gears on the external brake disk of the traction motor. Spring actuation, hydraulic control.

Auxiliary brake:

Electrodynamic braking with traction electric motors in alternator mode with forced air cooling of brake resistors.

Emergency brake:

Parking brake, intact circuit of service brake and retarder are used.

Brake resistors

MMT500 Gridbox

Power dissipation, kW

4800

Special equipment

Enhanced combined fire-fighting system with automatic actuation (standard)

Engine liquid preheater (standard, except for tropical modification of dump trucks)

Active video surveillance system (standard)

Refueling center (standard)

Heating system for the electric drive control cabinet (standard)

Telemetering tire inflation control system (standard)

Loading and fuel control system (standard)

High-voltage line proximity alarm (option)

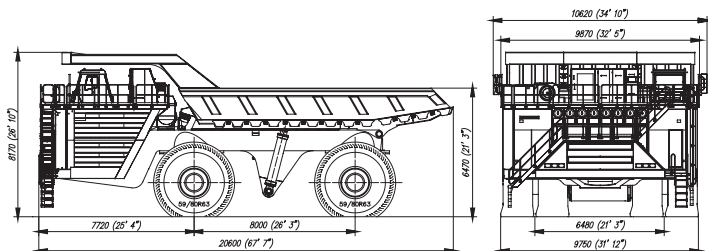
Fettling of the bottom body (standard)

Heater and conditioner unit (standard)

Wiggins fast fueling system (standard)

Diagnostics system (standard)

Overall dimensions, mm



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.

Weight

Maximum payload capacity of the dump truck, kg

450000

Empty weight, kg

360000

Gross weight, kg

810000

Weight distribution on axles, %:

	empty	loaded
front axle	60	50
rear axle	40	50

Refill capacities, l

Fuel tank

2x2800

Engine cooling system

2x690

Engine lubrication system

2x225

Hydraulic system

2800

Motor-wheel reduction gear units

600 (150x4)

Suspension cylinders:

front	127.6 (63.8x2)
rear	127.6 (63.8x2)

Tires

Pneumatic, tubeless, with quarry tread pattern.

Designation

59/80R63

Internal pressure, MPa

0,7

Rim designation

44.00-63/5.0

Traction and braking performance

