



Matera

BELAZ

Mining dump truck BELAZ-75182 with payload capacity of 180 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	CUMMINS QSK 50-C
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 Tier2.	
Rated power @ 1900 rpm, kW (hp)	1491 (2000)
Maximum torque @ 1500 rpm, N*m	7865
Number of cylinders	16
Cylinders displacement, l	50.3
Cylinder diameter, mm	159
Piston stroke, mm	159
Specific fuel consumption at rated power, g/kW*hr	199
Air cleaning is performed by three-stage filter with dry-type elements.	
Exhaust gases evacuation is being made through 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.	
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 traction alternator, 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	38.67

Traction alternator	5GTA22
Traction electric motor	5GEB31

Suspension

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	220
- rear	190

Steering

Hydrostatic	
Steerable front wheels.	
Steerable wheels rotation angle, degrees	42
Turning radius, m	14.5
Overall turning diameter, m	30
Complies with ISO 5010 requirements.	

Hydraulic system

Combined hydraulic system for body hoist, steering and brake system.	
Body hoist cylinders are telescopic with three stages and one stage of double action.	
Oil pump is of double-section axial-piston and variable-flow type.	
Body raising time, s	20
Body lowering time, s	22
Max pressure in hydraulic system, MPa	18
Max delivery of pumps @ 1900 rpm, dm ³ /min	698
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
78.5

heaped 2:1
108.5

BELAZ

75182



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.

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:

Constantly closed brake gears for rear wheels. 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 and intact circuit of service brake are used.

Brake resistors

Gridbox 4x600

Power dissipation, kW

2400

Special equipment

Fire-fighting system with remote control (standard)

Diagnostics system for the combined hydraulic system (standard)

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)

Fuel and oil tanks with Wiggins valves (standard)

Centralized refueling station with Wiggins valves (standard)

Additional fire-extinguisher (standard)

Weight

Maximum payload capacity of the dump truck, kg

180000

Empty weight, kg

140000

Gross weight, kg

320000

Weight distribution on axles, %:

empty

loaded

front axle

50.9

33.0

rear axle

49.1

67.0

Refill capacities, l

Fuel tank

2300

Engine cooling system

500

Engine lubrication system

170

Hydraulic system

780

Motor-wheel reduction gear units

210 (105x2)

Suspension cylinders:

front

58.2 (29.1x2)

rear

102.0 (51.0x2)

Tires

Pneumatic, tubeless, with quarry tread pattern.

Designation

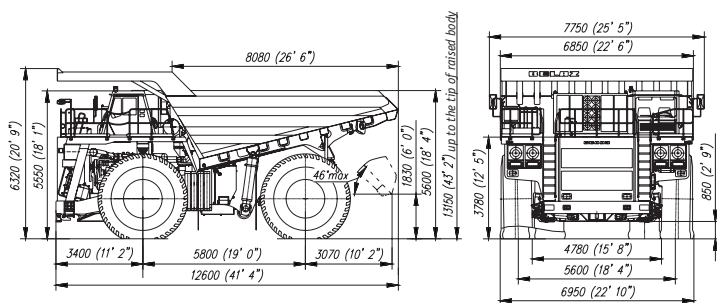
37.00R57; 42/90R57

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

Rim designation

27.00-57/6.0

Overall dimensions, mm



Traction and braking performance

