

# Mine dump truck BELAZ-75600 of payload capacity 320 tonnes

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	CUMMINS QSK78-C
Four-cycle gas-turbocharged and intercooled direct diesel engine with V-type cylinders arrangement and electronic control system. The engine meets Tier2 toxic substances emission requirements.	
Gross power @ 1900 rpm, kW (hp)	2610(3500)
Maximum torque @ 1500 rpm, N.m	13771
Number of cylinders	18
Cylinders displacement, l	77,6
Cylinder diameter, mm	170
Piston stroke, mm	190
Specific fuel consumption, g/kW hr	201
Air cleaning is performed by three-stage filter with dry-type elements.	
Engine exhaust expulsion is performed through body and mufflers.	
Circulating lubrication system is pressurized and designed with "wet" crankcase. Double-loop fluid cooling system with forced circulation.	
Oil cooling is performed by oil-to-water heat exchanger.	
Cooling system impeller is actuated by electrohydraulic friction coupling with automatic control. Fluid preheating system.	
Starting system is actuated by pneumatic starter.	
Air pressure in starting system, MPa	0,8-1,0
Electric equipment system voltage, V	24

## Transmission

Transmission is equipped with alternating current - alternating current drive with traction alternator, two traction motors, motorized wheels planetary double-row reduction units, microprocessor-based control system and control devices, adjustment units.	
Transmission ratio	39,32
Maximum dump truck travel speed, km/h	64

Traction alternator	„Kato“
Traction motor	„Siemens“

## Suspension

Suspension is conventional for front axle and driving axle and equipped with trailing arms, central joints and transversal rods. Cylinders are pneumohydraulic (nitrogen and oil) and equipped with inbuilt hydraulic shock absorber. Two cylinders are on the front axle and two cylinders are on the rear axle.	
Cylinder piston stroke, mm	
- front	200
- rear	170

## Steering

Hydrostatic steering with steerable front wheels.	
Steering angle, degree	37
Turning radius, m	17,2
Overall turning diameter, m	38
The steering meets ISO 5010 requirements.	

## Brakes

Dump truck brake system meets ISO 3450 international safety regulations and requirements. The system is equipped with service, parking, auxiliary and emergency brake systems.

**Service brake system** is disk brakes with four brake gears per disk for front wheels and twin-disk brakes with one brake gear per disk and automatic gap adjustment for rear wheels. The disks are mounted on traction motor shafts, actuator is hydraulic and separate for front and rear wheels.

**Parking brake system** is permanently closed system with two brake gears per side, spring actuator and hydraulic control.

**Auxiliary brake system** is electrodynamic braking by traction motors in generator mode with forced air cooling of brake resistors.

**Emergency brake system** uses parking brake and operable circuit of service brake system.

Brake resistors	„Siemens“
Power, kW	3760

**Body**

Welded bucket-type body with FOPS safety system, protective canopy, engine exhaust heating, device for mechanical fixing in raised position and rock-ejectors.

Body capacity, m<sup>3</sup>:

struck	heaped 2:1
139	199



**Frame**

Frame is welded of high-strength low-alloy steel with application of cast elements at the maximum loading points and equipped with box-section variable-height side-members interconnected by cross-members.

**Hydraulic system**

Hydraulic system is combined for body dumping gear, steering and brakes actuator. The system is equipped with two-section variable-displacement axial-piston oil pump and two-stage telescopic body lifting cylinders with one stage of double action.

Body lifting time, s	31
Body lowering time, s	20
Maximum pressure in hydraulic system, MPa	21
Maximum pump delivery @ 1900 rpm, dm <sup>3</sup> /min	948
Filtration degree, mcm	10

**Cab**

Two-man two-door cab is equipped with air-sprung adjustable driver seat, additional passenger seat and adjustable steering column. 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**

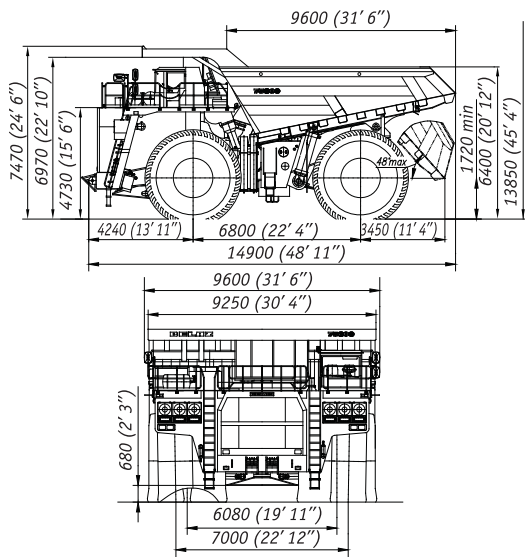
Radial tubeless air tires with quarry tread pattern.

Tire designation 56/80R63; 59/80R63

Inflation pressure, MPa 0,6

Rim designation 41.00-63/5.0; 44.00-63/5.0

**Overall dimensions, mm\***



\*Overall dimensions are specified for basic kitting-up of the dump truck

**Refill capacities, l**

Fuel tank	4360
Engine cooling system	890
Engine lubrication system	300
Hydraulic system	1410
Reduction units of motorized wheels	300(150x2)
Suspension cylinders:	
- front	123,2(61,6x2)
- rear	125,8 (62,9x2)

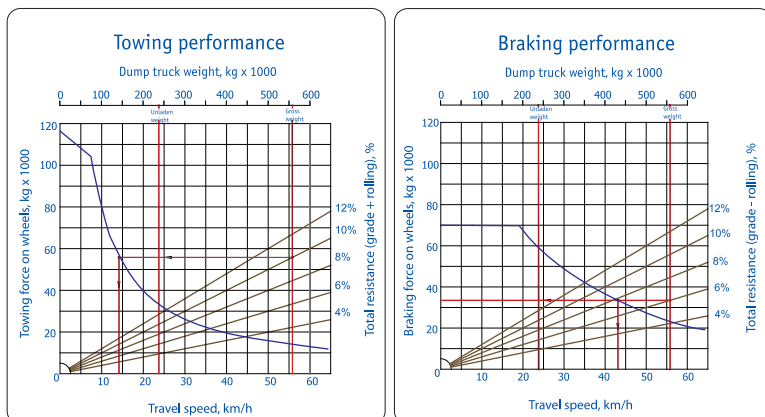
**Weight**

Maximum payload capacity, kg	320000	
Unladen weight, kg	240000	
Gross weight, kg	560000	
Dump truck weight distribution on axles, %:		
	unladen	laden
- front	49	33
- rear	51	67

**Special equipment**

- Automatic fire-fighting system (standard)
- Starting preheater (standard)
- Heating and conditioning unit (standard)
- Automatic lubrication system (standard)
- System of loading and fuel control (standard)
- Telemetering tire-pressure monitoring system (standard)
- Video-observation system (standard)
- Body floor lining (standard)
- Attention device of approach to high-voltage line (optional)

**Towing and braking performance**



OJSC "Belarusian Autoworks" (BELAZ)  
 40 let Oktyabrya str. 4, 222160, Zhodino, Republic of Belarus  
 phone: +375 1775 3-60-67, 3-37-37, 3-27-82  
 fax: +375 1775 7-01-37  
 e-mail: office@belaz.minsk.by  
 www.belaz.by