

Mining dump truck BELAZ-75440

Payload capacity 32 tonnes (35 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	QSX15-C435
Four-cycle turbocharged and intercooled direct diesel engine with in-line cylinders arrangement, electronic control system.	
Rated power @ 2100 rpm, kW (hp)	324
Maximum torque @ 1400 rpm, N.m	1992
Number of cylinders	6
Cylinders displacement, l	15
Cylinder diameter, mm	137
Piston stroke, mm	170
Specific fuel consumption, g/kW hr	215
Air cleaning is performed by three-stage filter with dry-type elements.	
Exhaust gas expulsion is routed through dump truck body.	
Mixed lubrication system with "wet" crankcase.	
Fluid cooling system with forced circulation.	
Oil cooling is performed through oil-to-water heat exchanger.	
Fluid preheating system.	
Starting system is actuated by electric starter.	
Cooling system impeller drive is hydraulic clutch with automatic control.	
Electric equipment system voltage, V	24

Transmission

Hydromechanical transmission with complex one-stage four-wheeled torque converter with automatic locking, four-shaft gearbox with multiplate friction clutches and electrohydraulic actuator of gear change control. Automatic/command gear change.

Maximum travel speed, km/h 65

Hydromechanical transmission 5+2 ratios:

gears	forward	reverse
1	3.84	6.07
2	2.27	1.67
3	1.5	
4	1.055	
5	0.625	

Hydraulic system

Hydraulic system is combined for body dumping gear, steering and brake actuator. Gear-type pump oil pumps. Three-stage telescopic body lifting cylinders with one stage of double action.

Body lifting time, s	12
Body lowering time, s	14
Maximum pressure in hydraulic system, MPa	17
Maximum pump delivery @ 2100 rpm, dm ³ /min	277
Filtration degree, mcm	10

Suspension

Suspension is conventional for front axle and driving axle and equipped with trailing arms, central joints and transverse rods. Cylinders are pneumohydraulic (nitrogen and oil). Two cylinders are on the front axle and two cylinders are on the driving axle.

Cylinder piston stroke, mm

- front	300
- rear	270

Steering

Hydrostatic steering with steerable front wheels.

Steering angle, degree	35
Turning radius, m	8.4
Overall turning diameter, m	19.9

The steering meets ISO 5010 requirements.

Brakes

Braking system meets ISO 3450 international safety requirements and consists of service, parking, auxiliary and retardation brake systems.

Service brake system:
Front wheels - disk brakes with two brake gears per disk.
Rear wheels - multiple-disk oil-cooled brakes.
Brake actuator is hydraulic and separate for front and rear wheels.

Parking brake system: disk parking brake on driving shaft of final drive.
Spring actuation and hydraulic control.

Emergency brake system: operable circuit of service brakes is used.

Retardation system: multiple-disk oil-cooled brake gears of rear wheels.
Hydraulic actuation.

Driving axle

Driving axle is mechanical axle with single-stage bevel final drive, bevel differential, planetary hub drives with spur pinions.

Ratios:

final drive	3.067
hub drive	5.1
driving axle total	15.64

Driveline

Two open-type cardan shafts with joints on needle bearings join hydromechanical transmission to engine and driving axle. Flexible coupling is mounted between front cardan and engine.

Body

Bucket-type welded body with FOPS safety system, rops, engine exhaust heating, device for mechanical fixing in raised position, rock-ejectors.

Body capacity, m³:

struck	heaped 2:1
14.5	19.2

Frame

High-strength low-alloyed steel welded frame with cast elements in places of maximum loading. Box-section variable height side rails are interconnected by cross-members.



Cab

Two-man two-door cab with air-sprung seat for driver, auxiliary seat for passenger, ROPS safety system and adjustable steering column. The cab meets requirements of standards for in-cab noise, vibration, content of harmful substances and dust.

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).

Weight

Maximum payload capacity, kg	32000	
Unladen weight, kg	23500	
Gross weight, kg	55500	
Dump truck weight distribution on axles, %:		
unloaded	loaded	
front	55.0	33.0
rear	45.0	67.0

Tires

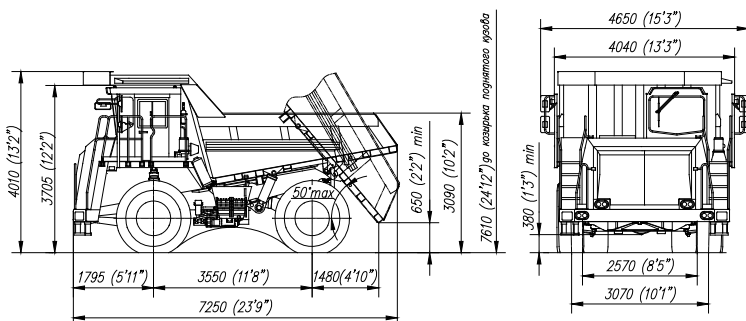
Pneumatic tubeless tires with quarry tread pattern.

Designation	18.00R25
Inflation pressure, MPa	upon recommendation of tire producer
Rim designation	13.00-25/2.5

Refill capacities, l

Fuel tank	490
Engine cooling system	90
Engine lubrication system	47
Hydromechanical transmission	105
Hydraulic system	160
Final drive, hub drives	92
Suspension cylinders:	
- front	9.6 (4.8x2)
- rear	14.6 (7.3x2)

Overall dimensions, mm*

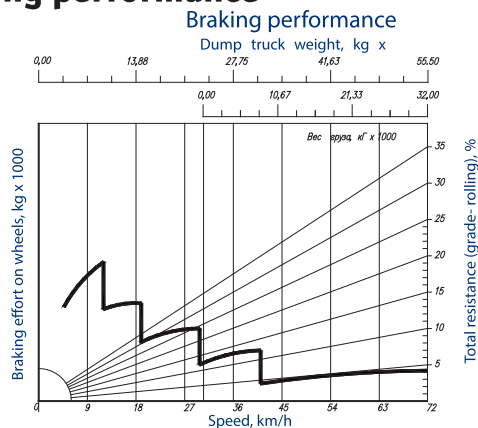
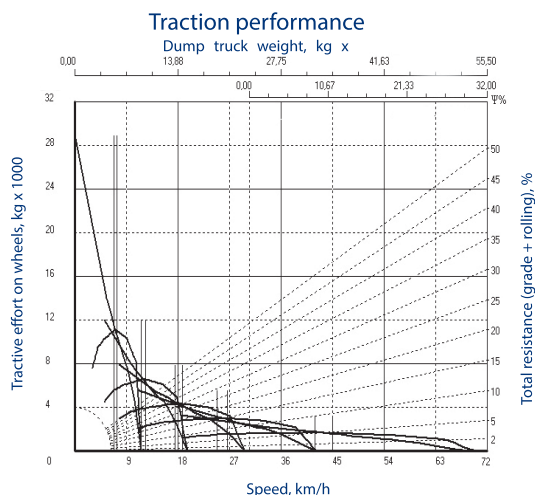


*Overall dimensions are specified for standard equipping of the dump

Special equipment

- Combined fire-fighting system with remote actuation (standard)
- Starting preheater (standard)
- Centralized lubrication system (standard)
- Fuel and loading control system (standard)
- Telemetering tire pressure control system (standard)
- Video observation system (standard)
- High-voltage line attention device (standard)

Traction and braking performance



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