BELAZ

BELAZ-7555D mining dump truck
with payload capacity of 55 tonnes

It's designed for transportation of rock in difficult mining conditions of deep mines,
in open pit mining of mineral deposits on roads under various climatic operating conditions
(at ambient temperature from -50 to +50 °C).

Engine

Rated power @ 2100 rpm, kW (hp)	522(709)
Maximum torque @ 1400 rpm, N.m	2731
Number of cylinders	6
Cylinders displacement, l	18,9
Cylinder diameter, mm	159
Piston stroke, mm	159
Specific fuel consumption	
at rated power, g/kW hr	209

Air cleaning is performed by three-stage filter with dry-type elements.
Engine exhaust expulsion is performed through body.
Mixed-type lubrication system is designed with "wet" crankcase.
Fluid cooling system with forced circulation is integrated with cooling system of hydromechanical transmission. Hydromechanical transmission oil cooling is performed by oil-to-water heat exchanger.
Electric starter starting system.

Electric equipment system voltage, V	24

Hydromechanical transmission

Hydromechanical transmission with complex one-stage four-wheeled torque converter with automatic locking, four-shaft gearbox with friction clutches and electrohydraulic actuator of gear change control, hydrodynamic blade-type retarder, automatic control and protection system which provides command gear change.

Maximum dump truck travel speed, km/h	55

Hydromechanical transmission 6+1 gearbox ratios:

gears	forward	reverse
1	4,070	4,530
2	2,865	
3	2,045	
4	1,437	
5	1,011	
6	0,722	

Suspension

Suspension is conventional for front and driving axles and equipped with trailing arms, central joints and transverse rods.
Cylinders are pneumohydraulic (nitrogen and oil) 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	300
- rear	270

Steering

Hydrostatic steering with steerable front wheels.

Steering angle, degree	41
Turning radius, m	9
Overall turning diameter, m	20,5

The steering meets ISO 5010 requirements.

Brakes

Dump truck brake system meets ISO 3450 international safety requirements and is equipped with service, parking, auxiliary and emergency brake systems.
Service brake system consists of front wheels dry-type disk brakes and rear wheels multiple-disk oil-cooled brakes. Actuator is hydraulic and separate for front and rear wheels.
Parking brake system is permanently closed shoe brake gear on final drive driving shaft with spring actuator and hydraulic control.
Auxiliary brake system uses rear wheels multiple-disk oil-cooled brakes with hydraulic actuator. Braking by service brakes with the view of deceleration is effected by separate foot pedal.
Emergency brake system uses parking brake and operable circuit of service brakes.

Hydraulic drive

Hydraulic system is combined for body dumping gear, steering and brakes actuator. The system is equipped with gear-type oil pumps and two-stage telescopic body lifting cylinders with one stage of double action.

Body lifting time, s	15
Body lowering time, s	14
Maximum pressure in hydraulic system, MPa	17
Maximum pump delivery @ 2100 rpm, dm³/min	342
Filtration degree, mcm	10

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^3:

struck	heaped 2:1
50	57,9

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.

Driving axle

Mechanical driving axle is equipped with single-stage bevel final drive, bevel differential with four pinions and planetary hub drives with spur pinions.

Ratios:

final drive	2,73
hub drive	7,62
driving axle total	20,8

Driveline

Driveline consists of two open-type cardan shafts with joints on needle bearings that join hydromechanical transmission to engine and driving axle. Flexible coupling is mounted between front cardan shaft and engine. Front cardan shaft is equipped with protective guard.

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.
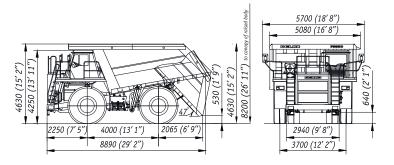In-cab noise level is not more than 80 dB(A).
Local vibration level is not more than 126 dB(A).
Overall vibration level is not more than 115 dB(A).

Tires

Tubeless air tires with quarry tread pattern.

Tire designation	24.00-35 HC42/24.00R35 E4
Inflation pressure, MPa	0,55/0,65
Rim designation	17.00-35/3.5

Overall dimensions, mm*

*Overall dimensions are specified for dump truck with standard options
**Excepting dump trucks of tropicalized design

Weight

Maximum payload capacity, kg	55000
Unladen weight, kg	40700
Gross weight, kg	95700

Dump truck weight distribution on axles, %:

	unladen	laden
front	51,0	33,0
rear	49,0	67,0

Capacities, l

Fuel tank	740
Engine cooling system	210
Engine lubrication system	49
Hydromechanical transmission	104
Hydraulic system	300
Rear axle	108

Special equipment

Combined fire-fighting system with remote actuation (standard)
Starting preheater (standard)**
Centralized lubrication system (standard)
Heating and conditioning unit (standard)
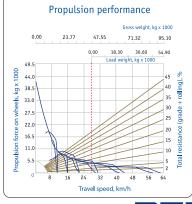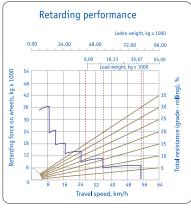Fuel and loading control system (standard)
Video observation system (standard)
Telemetering tire pressure control system (standard)
High-voltageline attention device (standard)
Fettling of body floor (option)

Propulsion and Retarding