

# Mine dump truck BELAZ-7555D of payload capacity 55 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 KTTA 19-C** Four-cycle gas-turbocharged and intercooled direct diesel engine with in-line cylinders arrangement. 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 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. Starting system is actuated by electric starter. Electric equipment system voltage, V

### **Transmission**

Hydromechanical transmission is equipped 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 that 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 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

- rear	270
- ITOTIL	300

### 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 regulations and requirements. The system is equipped with service, parking, auxiliary and emergency brake systems.

Service brake system is dry-type single-disk brake gears for front and rear wheels with hydraulic actuator separated 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 is hydrodynamic retarder on gearbox driving shaft with accelerated actuation time and electrohydraulic control.

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

### **Hydraulic system**

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.

Rody lifting time s

Body lifting time, s	15
Body lowering time, s	14
Maximum pressure in hydraulic system, MPa	17
Maximum pump delivery @ 2100 rpm, dm <sup>3</sup> /min	342
Filtration degree, mcm	10



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 50 57,9



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.



front

rear

### 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 20,8 driving axle total

### 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 quard.

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).

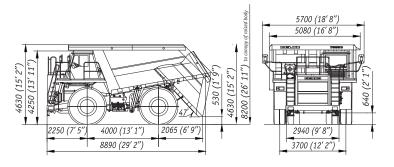
Local vibration level is not more than 126 dB(A).

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 17.00-35/3.5 Rim designation

# Overall dimensions, mm\*



<sup>\*</sup>Overall dimensions are specified for basic kitting-up of the dump truck

### Weight 55000 Maximum payload capacity, kg Unladen weight, kg 40700 Gross weight, kg 95700 Dump truck weight distribution on axles, %: unladen laden

### Refill capacities, l Fuel tank Engine cooling system 210 Engine lubrication system

### 49 Hydromechanical transmission 104 Hydraulic system 300 Rear axle 108

# Special equipment

33,0

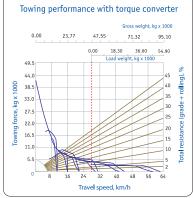
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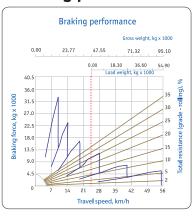
Fire-fighting system (standard) Heating and conditioning unit (standard) Preheating system (optional) Auxiliary heater for cab (optional) Centralized lubrication system (optional) System of loading and fuel control (optional) Telemetering tire-pressure monitoring system (optional) Diagnostic system (optional)

51,0

Multiple-disk oil-cooled brakes for rear wheels and dry-type disk brakes for front wheels. Actuator is hydraulic and separate for front and rear wheels. (optional)

## Towing and braking performance





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