

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	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. Starting system is actuated by electric starter.	
Electric equipment system voltage, V	24

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	
- 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 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.

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

