

Water sprinkling vehicle BELAZ-76473 of payload capacity 32 tonnes (35 short tons)

It's effective at execution of watering and sprinkling operations on the roads of mineral deposit open pits.



Engine

Model	CUMMINS KTA 19-C
Four-cycle turbocharged and intercooled direct diesel engine with in-line cylinders arrangement.	
Rated power @ 2100 rpm, kW (hp)	448(600)
Maximum torque @ 1400 rpm, N.m	2237
Number of cylinders	6
Cylinders displacement, l	18,9
Cylinder diameter, mm	159
Piston stroke, mm	159
Air cleaning is performed by three-stage filter with dry-type elements.	
Engine exhaust expulsion is performed through water tank.	
Mixed-type lubrication system is designed with "wet" crankcase.	
Fluid cooling system with forced circulation is integrated with hydromechanical transmission cooling system.	
Oil cooling is performed by oil-to-water heat exchangers.	
Fluid preheating system.	
Starting system is actuated by electric starter.	
Electric equipment system voltage, V	24

Transmission

Hydromechanical transmission is equipped with three-shaft matching reduction gear, complex one-stage four-wheeled torque converter with hydraulic clutch mode and automatic locking, four-shaft gearbox with friction clutches and electrohydraulic actuator of gear change control, hydrodynamic blade-type retarder.

Ratio of matching reduction gear	1,0
Ratios of gearbox:	
gears	
1	forward 3,84 reverse 6,07
2	2,27 1,67
3	1,50
4	1,055
5	0,625

Suspension

Suspension is conventional for front axle and driving axle and equipped with longitudinal and transversal rods. Cylinders are pneumohydraulic (nitrogen and oil) and equipped with inbuilt hydraulic shock absorber. Two cylinders are on the front axle and four cylinders are on the rear axle.	
Cylinder piston stroke, mm	
- front	265
- rear	265

Steering

Hydrostatic steering with steerable front wheels.	
Steering angle, degree	35
Turning radius, m	10,2
Overall turning diameter, m	23
The steering meets ISO 5010 requirements.	

Brakes

Water sprinkling vehicle 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 shoe-drum brake gears for front and rear wheels with pneumatic 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 pneumatic control.	
Auxiliary brake system is hydrodynamic retarder on gearbox driving shaft with electric control.	
Emergency brake system uses parking brake and operable circuit of service brakes.	

Hydraulic system

Hydraulic system is equipped with gear-type oil pumps.	
Maximum pressure in hydraulic system, MPa	13,5
Maximum pump delivery @ 2100 rpm, dm ³ /min	260
Filtration degree, mcm	10

Tires

Air tires with quarry tread pattern.	
Tire designation	21.00-35 HC 36 (E-4)
Inflation pressure, MPa	0,575
Rim designation	15.00-35/3.0

Water tank

Water tank is welded of high-strength low-alloy steel. The tank is divided into eight compartments and equipped with two hatches, passage inside the tank for exhaust expulsion, ladder from behind for water tank filling and control of the tank state. Filling of the tank is performed through upper hatch from water post.

Frame

High-strength low-alloy steel welded frame is 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 3,417
hub drive 6,0
driving axle total 20,50

Weight

Maximum payload capacity, kg	32000
Unladen weight, kg	33000
Gross weight, kg	65000
Vehicle weight distribution on axles, %:	
unladen	laden
front 45,0	33,0
rear 55,0	67,0

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.

Refill capacities, l

Water tank	32000
Fuel tank	610
Engine cooling system	135
Engine lubrication system	54
Hydromechanical transmission	70
Hydraulic system	160
Final drive	24
Hub drives	24 (12x2)
Suspension cylinders	24 (4x6)

Cab

One-man cab is equipped with air-sprung adjustable driver seat and additional side seat. Driver's workplace meets ROPS and FOPS safety requirements. 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.
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).

Water sprinkling system

Single-stage centrifugal pump	K100-62-250
Drive power, kW	32
Rotational speed, min ⁻¹	2900
Maximum pump delivery, m ³ /min	1,7
Pump thrust, mm of water column	80
Pump drive is hydrostatic.	

Special equipment

Combined fire-fighting system with remote actuation (standard)
Starting preheater (standard)*
Centralized lubrication system (standard)
Conditional (option)

Side spraying system
Two fan-shaped sprayers are equipped with actuation valves individually controlled from the cab.

Rear spraying system
Four fan-shaped sprayers are equipped with actuation valves individually controlled from the cab.

Width of water sprinkling zone, m 24,5

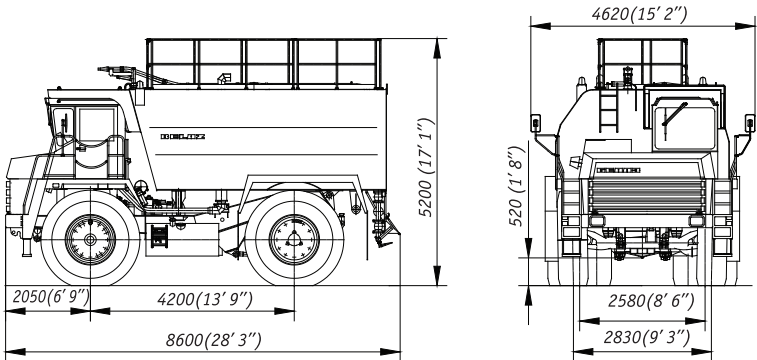
Hydraulic gun
Gun carriage is mounted at the front top of the water tank and equipped with actuation valve controlled from the cab and mechanism of slewing in vertical and horizontal axis.

Angle of gun carriage slewing, degree:
Upward 50
Downward 10
In horizontal axis, radius 35
Water jet range, m 60

Drum with fire-hose barrel
Drum is mounted at the rear end of the water tank and equipped with rubberized hose and fire-hose barrel.

Number of drums 1
Hose length, m 10

Overall dimensions, mm**



*Excepting dump trucks of tropicalized design
**Overall dimensions are specified for basic kitting-up of the vehicle

BELAZ

OJSC "BELAZ" — Management Company of Holding "BELAZ-HOLDING"
40 let Oktyabrya str. 4, 222160, Zhodino, Minsk region, Republic of Belarus
phone: +375 1775 3-27-82, 3-26-23, 3-37-37, fax: +375 1775 7-01-37
e-mail: office@belaz.minsk.by, marketing@belaz.minsk.by,
export@belaz.minsk.by
www.belaz.by