

Water sprinkling vehicle BELAZ-76470 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 under various climatic operating conditions.



Engine

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| Model | YaMZ-240HM2 |
| Four-cycle turbocharged direct diesel engine with V-type arrangement of cylinders. | |
| Rated power @ 2100 rpm, kW (hp) | 368(500) |
| Maximum torque @ 1600 rpm, N.m | 1815 |
| Number of cylinders | 12 |
| Cylinders displacement, l | 22,3 |
| Cylinder diameter, mm | 130 |
| Piston stroke, mm | 140 |
| Specific fuel consumption at rated power, g/kW hr | 224 |
| 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. | |
| Pneumatic starter starting system. | |
| Electric equipment system voltage, V | 24 |

Hydromechanical transmission

Hydromechanical transmission 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 | forward | reverse |
| 1 | 3,84 | 6,07 |
| 2 | 2,27 | 1,67 |
| 3 | 1,50 | |
| 4 | 1,055 | |
| 5 | 0,625 | |

Suspension

Suspension is conventional for front and driving axles and equipped with longitudinal and transverse rods. Cylinders are pneumohydraulic (nitrogen and oil) with inbuilt hydraulic shock absorber. Two cylinders are on the front axle and four cylinders are on the rear axle.

| | |
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| Cylinder piston stroke, mm | |
| - front | 265 |
| - rear | 265 |

Steering

Hydrostatic steering with steerable front wheels.

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| 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 requirements and is equipped with service, parking, auxiliary and emergency brake systems.

Service brake system consists of shoe-drum brake gears for front and rear wheels and 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 drive

Hydraulic system is equipped with gear-type oil pumps.

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| 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.

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|-------------------------|----------------------|
| 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 and divided into eight compartments. The tank has two hatches, inside passage for exhaust expulsion, ladder from behind for water tank filling and state control. Filling of the tank is performed through upper hatch by means of hydrant.

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 |

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

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).

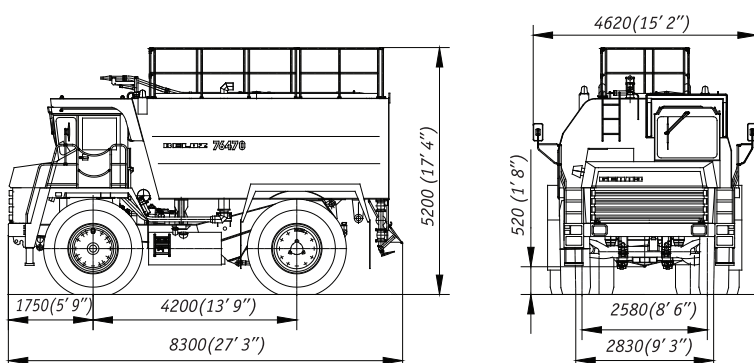
Local vibration level is not more than 126 dB(A).

Overall vibration level is not more than 115 dB(A).

Special equipment

- Fire-fighting system (standard)
- Starting preheater (optional)
- Electric-heated mirrors (optional)
- Air conditioner (optional)
- Centralized lubrication system (optional)

Overall dimensions, mm*



*Overall dimensions are specified for basic kitting-up of the vehicle

Weight

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

Capacities, l

| | |
|------------------------------|-----------|
| Water tank | 32000 |
| Fuel tank | 610 |
| Engine cooling system | 135 |
| Engine lubrication system | 54 |
| Hydromechanical transmission | 70 |
| Hydraulic system | 160 |
| Final drive | 37 |
| Hub drives | 24 (12x2) |
| Suspension cylinders | 24 (4x6) |

Water sprinkling system

| | |
|--|-------------|
| Single-stage centrifugal pump | K100-65-250 |
| 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. | |

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.

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| Width of water sprinkling zone, m | 24,5 |
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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:

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|----------------------------|----|
| 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.

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|-----------------|----|
| Number of drums | 1 |
| Hose length, m | 10 |