Mining dump truck BELAZ-75581
Payload capacity 90 tonnes (99 short tons)

Designed for transportation of rocks in severe technical conditions of deep mines, at open cast mining sites on technological roads under various climatic operating conditions (at ambient temperature range from -50 to +50 °C).

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<th>Engine</th>
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| Model | CUMMINS QS30-C  
| Diesel four-cycle engine with V-type cylinders arrangement, electric control system, direct fuel injection, gas turbine charging and intermediate cooling of charged air.  
| Rated power |  
| @ 2100 rpm, kW (hp) | 783 (1050)  
| Number of cylinders | 12  
| Cylinders displacement, l | 30  
| Cylinder diameter, mm | 140  
| Piston stroke, mm | 165.1  
| Specific fuel consumption, g/kW hr | 202  
| Air cleaning is performed by three-stage filter with dry-type elements.  
| Exhaust gas expulsion is routed through dump truck body.  
| Circulation pressurized lubrication system with "wet" sump.  
| Single-loop fluid cooling system with forced circulation.  
| Oil cooling is performed through water-to-oil heat exchanger.  
| Fluid preheating system.  
| Starting system is actuated by electric starter.  
| Electric system voltage, V | 24  
| Transmission |  
| AC electric drive with traction alternator, two traction electric motors, motor-in-wheel reduction gears, auxiliary electric machines, adjustment and control devices.  
| Motor-in-wheel reduction gear ratio | 30.36  
| Maximum travel speed, km/h | 60  

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<th>Steering</th>
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| Hydrostatic steering with steerable front wheels.  
| Steerable wheels turning angle, degrees | 38  
| Turning radius, m | 11  
| Overall turning diameter, m | 24  
| Steering meets the requirements of ISO 5010.  

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<th>Suspension</th>
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| Conventional suspension for front and rear wheels. Cylinders are pneumohydraulic (nitrogen and oil).  
| Cylinder piston stroke, mm |  
| - front | 260  
| - rear | 210  

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<th>Hydraulic system</th>
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| Combined hydraulic system for body dumping gear, steering and brake actuator.  
| Body lifting cylinders are telescopic and three-stage with one stage of double action.  
| Body lifting time, s | 19  
| Body lowering time, s | 19  
| Maximum pressure in hydraulic system, MPa | 16.5  
| Maximum pump delivery @ 2100 rpm, dm³/min | 464  
| Filtering degree, mcm | 10  

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<th>Tires</th>
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| Pneumatic tubeless tires with quarry tread pattern.  
| Designation | 27.00R49 or 31/90-49  
| Inflation pressure, MPa | upon recommendation of tire producer  
| Rim designation | 19.50-49/4.0
**Body**

Bucket-type welded body with ropes and heating by engine exhaust gases.

Body is equipped with device for mechanical fixing in raised position, with rock-deflectors and rock-ejectors.

Body capacity, $m^3$:
- struck: 37.7
- heaped: 53.3 (standard)
- heaped: 60.0 (option)
- heaped: 93.0 (option)

**Frame**

High-strength low-alloyed steel welded frame with cast elements in places of maximum loading. Box-section variable height side rails are interconnected by cross-members.

**Brakes**

*Braking system* meets international safety requirements of ISO 3450 and consists of service, parking, auxiliary and emergency brakes.

*Service brakes:*
- front wheels - disk brake with two brake calipers per disk and automatic adjustment of gap in friction pair.
- rear wheels - disk brake with two brake gears per disk and automatic adjustment of gap in friction pair.

*Brake discs are mounted on shafts of traction electric motors.*

*Brake actuator is hydraulic and separate for front and rear wheels.*

*Parking brake* — constantly closed brake gears of rear wheels.

*Spring actuation, hydraulic control.*

*Auxiliary brake* — electrodynamic braking by traction electric motors in alternator mode with forced cooling of brake resistors.

*Emergency brake* — parking brake and operable circuit of service brakes are used.

*Brake resistors* Grid box 2x600 of power 1200 kW

**Weight**

- Maximum payload capacity, kg: 90000
- Unladen weight, kg: 74000
- Gross weight, kg: 164000

Weight distribution on axles, %:
- front: 50.9
- rear: 49.1

**Refill capacities, l**

- Fuel tank: 1105
- Engine cooling system: 380
- Engine lubrication system: 140
- Hydraulic system: 405
- Motor-in-wheel reduction gears: 92 (46x2)

**Traction and braking performance**

**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-voltage line attention device (standard)

Fettling of body floor (option)

**Overall dimensions, mm**

- Width: 2560 (100")
- Length: 5900 (231")
- Height: 2000 (79")

*Overall dimensions are specified for standard equipping of the dump truck

**Excepting dump trucks of tropicalized design

OJSC "BELAZ" — Management Company of Holding "BELAZ-HOLDING"

40 let Oktyabrya str. 4, 222160, Zhodino, Minsk region, Republic of Belarus

phone: (+3751775) 1-26-62, 1-26-63, 1-27-37, fax: (+375 1775) 7-05-37

e-mail: office@belaz.minsk.by, marketing@belaz.minsk.by,

export@belaz.minsk.by

www.belaz.by