

## Recovery tractor BELAZ-74470

It's effective at towing of disabled mine dump trucks weighing up to 42000 kg under various road and climatic operating conditions (at ambient temperature from -50 to +50 °C).



### Engine

|  |             |
|--|-------------|
| 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, g/kW hr   | 224         |
| Air cleaning is performed by three-stage filter with dry-type elements.            |             |
| Engine exhaust expulsion is performed through mufflers.                            |             |
| Mixed-type lubrication system is designed with "wet" crankcase.                    |             |
| Fluid cooling system with forced circulation.                                      |             |
| Fluid preheating system.   |             |
| 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 automatic locking, four-shaft gearbox with friction clutches and electro-hydraulic actuator of gear change control.

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.

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

Recovery tractor 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 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 drive

Hydraulic system is combined for dumping mechanism, steering and operating equipment. The system is equipped with gear-type oil pumps.

|  |      |
|--|------|
| Maximum pressure in hydraulic system, MPa              | 13,5 |
| Maximum pump delivery @ 2100 rpm, dm <sup>3</sup> /min | 260  |
| Filtration degree, mcm                                 | 10   |

## Front axle

Non-driving steerable tubular-section front axle.  
Camber angle of front wheels, degree

1

## 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 | 20,5  |

## 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 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. 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 and FOPS safety requirements.

In-cab noise level is not more than 80 dB(A).

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

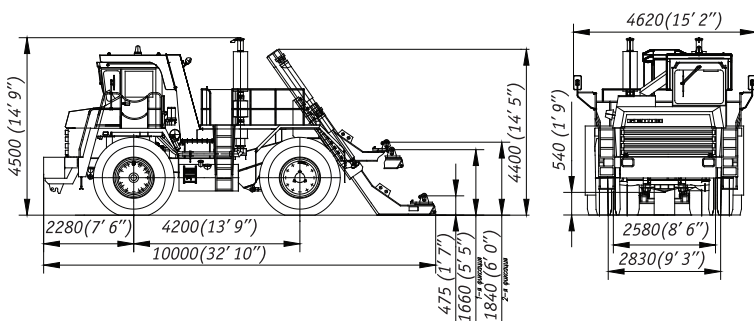
Overall vibration level is not more than 115 dB(A).

## Tires

Air tires with quarry tread pattern.

|                         |              |
|-------------------------|--------------|
| Tire designation        | 21.00-35     |
| Inflation pressure, MPa | 0,56         |
| Rim designation         | 15.00-35/3.0 |

## Overall dimensions, mm\*



\*Overall dimensions are specified for basic kitting-up of the recovery tractor

## Weight

|  |       |
|--|-------|
| Maximum force to hitch mechanism, kg     | 21000 |
| Unladen weight, kg                       | 34840 |
| Unladen weight distribution on axles, %: |       |
| - front axle                             | 55,0  |
| - rear axle                              | 45,0  |

## Refill capacities, l

|                              |           |
|------------------------------|-----------|
| Fuel tank                    | 610       |
| Engine cooling system        | 135       |
| Engine lubrication system    | 65        |
| Hydromechanical transmission | 70        |
| Hydraulic system             | 160       |
| Final drive                  | 24        |
| Hub drives                   | 24 (12x2) |
| Suspension cylinders         | 24 (4x6)  |

\* There is a possibility of 55 tonnes payload capacity BELAZ dump truck towing at its rear end

## Special equipment

- Fire-fighting system (standard)
- Hydraulic socket for unloading of towed dump truck (standard)
- Hydraulic socket for unbraking of towed dump truck (standard)
- Engine starting preheater (optional)
- Centralized lubrication system (optional)
- Auxiliary heater (optional)

# BELAZ

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