



TIKHVIN  
FREIGHT CAR BUILDING  
PLANT

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## DROP-BOTTOM UNIVERSAL GONDOLA WITH UNLOADING GATES

A drop-bottom gondola is designed for transportation of freights which don't require to be protected against atmospheric precipitations, namely, bulked, not powdered, stacked and unitized cargoes along the 1520 mm gauge mainline railways.

Technical specifications	Car model 12-9761	Car model 12-9761-02	Car model 12-9853	Car model 12-9937
Payload capacity, t	69,5	69,5	75	75
Tare weight, maximum t	24,5	24,5	25	25
Service, yr	22	32	32	32
Body space, m <sup>3</sup>	88	88	88	92
Maximum estimated static load from the wheel set on rails, kN (tf)	230,5 (23,5)	230,5 (23,5)	230,5 (23,5)	245,25 (25)
Length over coupler pulling faces, mm	13920	13920	13920	13920
Wheel base, mm	8650	8650	8650	8650
Body internal dimensions, mm				
– length	12771	12771	12771	13025
– width	2922	2922	2922	2946
– height	2360	2360	2360	2398
Number of unloading gates	14	14	14	14
Overall dimensions (gabarit) as per GOST 9238-83				
– body	1-BM	1-BM	1-BM	1-T
– bogie	02-BM	02-BM	02-BM	02-BM
Bogie model	18-100	18-9810	18-9855	18-9855
Run to the first roundhouse service, thousand (s) km (years)	210	500 (6)	500 (6)	500 (6)

## DESIGN FEATURES

### 1 Car body

The body structure possesses the following unique features:

- The reinforced structure of the top cord reduces body damaging while loading/ unloading;
- The improved design of car lining provides the decrease of friction of the freight on walls and wear of the lining, increase of wear hardness and reduction of side wall damaging ;
- The improved design of the end wall provides the increase of body's strength characteristics.

### 2 Coupler

The coupler is equipped with a modern shock absorbing device of T–1 class, which decreases the level of axial forces applied to the car, and an improved uncoupling arrangement, which prevents falling of the coupler on a track when it breaks and the situation is abnormal.

### 3 Brake system

The braking system is fitted with advanced braking apparatuses which overhaul life is at least four years, fittings for threadless joints of brake lines, wear–resistant composite press material on the base of formaldehyde resins providing the run life at least 1 mln km.

The independent bogie braking system is used for the solid–bottom gondola of model 12–9853 and 12–9937, which provides more advantageous braking conditions, possesses higher efficiency and reliability in comparison with the traditional braking system.

### 4 Undercarriage

Application of bogies of models 18–9810 and 18–9855 (Barber S–2–R) improves the car dynamical characteristics, promotes safety during its operation, increases an overhaul run and decreases generally the life cycle cost.