



Tank semi-trailer for transportation of liquid carbon dioxide TsZhU-10.

Tank semi-trailer TsZhU-10 is designed for transportation of liquid low-temperature carbon dioxide from the manufacturer or storehouse to the place of consumption.

Structure represents a tank semi-trailer on chassis STEELBEAR (OJSC "VOMZ").

Tank semi-trailer TsZhU-10 provides:

- Liquid carbon dioxide filling and discharge
- Storage and transportation of liquid carbon dioxide without product losses within 5 days
- Visual control of weight and operating pressure of the product during filling, storage, and discharge.

Internal vessel of reservoir is made of low alloy carbon steel 09G2S.

Insulation of reservoir is made of high-quality two-component rigid polyurethane foam with excellent heat-insulating and hygroscopic properties. It does not pass moisture to the vessel surface and protects reservoir against corrosion, and provides long-term storage of carbon dioxide with daily average pressure buildup of not more than 0.8 MPa at daily average ambient temperature of + 30 °C.

External protective shell of reservoir is made of sheet stainless steel (AISI 430).

Magnetic displacer level transmitter is used for measurement of level, volume, and weight of liquid carbon dioxide in reservoir (standard execution). Other systems of CO₂ measurement – indicating or digital differential manometer-level gauge – are provided as well.

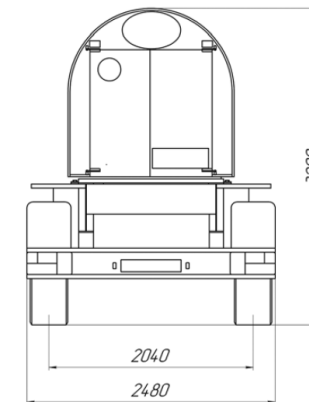
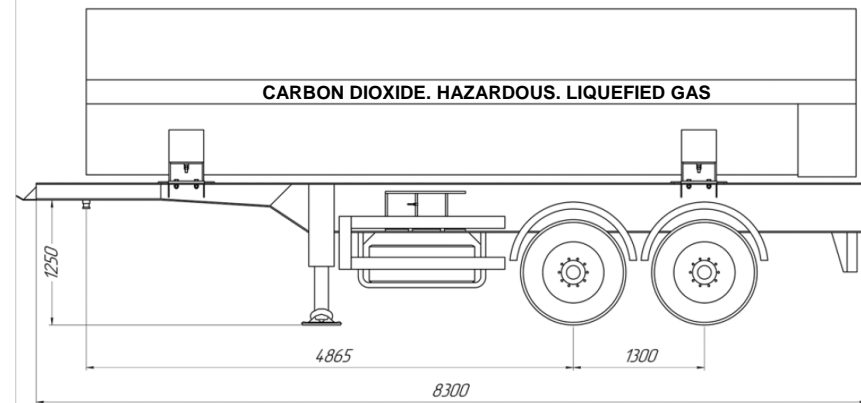
Safety system of reservoirs includes two safety valves and two safety diaphragms mounted on switching valves allowing their checking and repair without reservoir shutdown and emptying. Carbon dioxide filling and discharge are performed using ball cocks. All fittings are made of special low alloy carbon steel 09G2S.

At the Customer's option, the tank semi-trailer may be equipped with:

- pump for liquid carbon dioxide overflow with capacity of 10 t/h.
- cooler. Completed with it, tank semi-trailer forms a system for long-term storage of gas.

Service life of reservoir is 15 years. It is possible to manufacture customized reservoirs with service life of 20 and 25 years.

Guaranteed service life is 2 years.



Tank semi-trailer TsZhU – 10.0 - PS18P. Dimensional drawing.

Technical characteristics of TsZhU-10.

1.	Tank semi-trailer for liquid carbon dioxide	Model TsZhU-10.0-2.0	
2.	Name of product to be transported	Low-temperature liquid carbon dioxide, non-inflammable, inexplusive, non-toxical as per GOST 8050-85	
3.	Climatic version	U1	
4.	Specified service life, years	15	
5.	Heat insulation	Polyurethane foam - polyprene 17N or analogue.	
6.	Nominal volume, m ³ , not more than	10.0	
7.	Maximum operating pressure in tank, MPa (kgf/cm ²)	2.0 (20.0)	
8.	Weight of liquid carbon dioxide, kg, not more than	10 000	
9.	Total weight of transport means, kg, not more than	18 000	
10.	Distribution of total weight through bolster, kg	6 000	
11.	Distribution of total weight through carriage of semi-trailer, kg	12 000	
12.	Overall dimensions of tank semi-trailer without truck, mm, not more than:		
	Length	9 500	
	Width	2 500	
	Height	3 320	
13.	Chassis – semi-trailer	PS-18P Standart (Steelbear)	
14.	Height of fifth wheel, mm	1 250	
15.	Axes	2-axis unit BPW ECO AIR COMPACT (Germany), drum brake, allowable load per each axis is 9000 kg.	2-axis unit GRANNING (Ireland), drum brake, forced version, allowable load per each axis is 11000 kg.
16.	Suspension	Pneumatic BPW (Germany) without possibility of lifting and lowering	Pneumatic WEWELER (Germany) without possibility of lifting and lowering
17.	Wheels assembly, pcs.	5 (including one spare wheel)	

18.	Tyres	Continental HTR 160K, Dimension 385/65R22.5
19.	Steel discs	22.5x11.75
20.	Braking system	Pneumatic electronic BPW EBS 2S/2M (Germany), with system of roll-over protection (RSS), ABS sensors on one axis, diaphragm brake chambers, semi-automatic parking brake system with spring brakes.
21.	TsZhU shell	Stainless steel
22.	Preservation inside vessel (tank)	No
23.	Track width, mm	2 040
24.	Road clearance, mm	330
25.	Implement combining	2-axis, 3-axis truck on spring or pneumatic suspension as per ISO 1726
26.	Maximum allowable negative temperature of wall under the pressure, °C	Minus 43.2
27.	Daily rise of gage pressure, MPa (kgf/cm ²)	0.15 (1.5)