

MAIN FEATURES

▶ ENVIRONMENTAL ADAPTABILITY

- ▶ CRRC's tank cars can operate in temperatures ranging from -40 °C to +50 °C and are highly resistant to wind, sand, rain and snow, thus ensuring the safe transportation of cargo.

▶ TRANSPORT CAPACITY

- ▶ Our tank cars benefit from a large volume and loading capacity, which can be above 90t +.

▶ SAFETY AND RELIABILITY

- ▶ The carrying structure of the tank wagon is integral [I don't understand this.]. The wagon meets AAR, EN, UIC, TB and other related international standards.
- ▶ The braking system can be electronically controlled, so the longitudinal impact of the train during braking and releasing can be improved to the greatest extent. This improves the overall re-braking capacity of the train, thus ensuring the safe transportation of the vehicle and goods.
- ▶ Our tank wagons use a mature and stable-performance low-power bogie. In addition, new techniques such as secondary spring suspension, wheel set flexible location, load bearing saddle and side frame structure with no abrasion effect, flexible diagonal connecting device and

TMX unit braking system are used to improve transverse vibration performance and curve negotiation performance. The weight below springs is slight so that the interaction force between wheel tracks can be reduced, the abrasion between wheel tracks can be reduced, and the running speed limit and running quality of the vehicle can be improved.

▶ ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION

- ▶ Our wagons use a Y25Ls1-K welding bogie, primary Linuoer vibration reduction, axle box suspension, and wheel track low-power action; they feature bilateral brake shoe braking, the abrasion between wheels is even, and the brake shoe pressure is low; the welding framework is integral resulting in low environmental pollution.

- ▶ Components testing such as car body static strength, braking performance, noise and impact are carried out regularly, with results meeting design requirements and regulations of relevant international standards and laws.

▶ LIFECYCLE

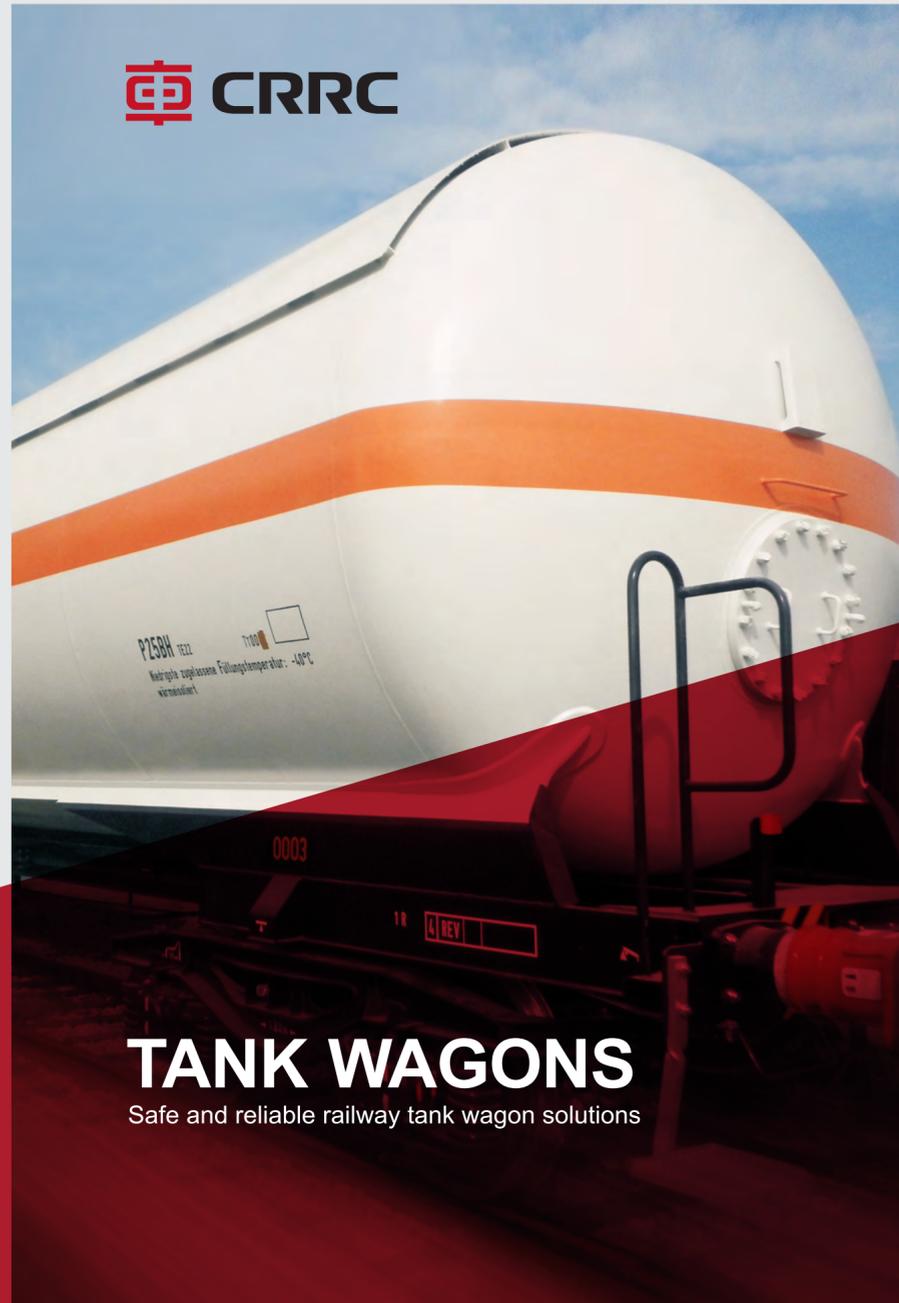
- ▶ The tank wagons have been designed for a lifespan of 25 years or 5 million kilometers.



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Address: No.16 West 4th-Ring Mid Road, Haidian District, Beijing
 Zip Code: 100036
 English-Tel: +86 10 51897295
 Deutsch-Tel: +86 10 51897284
 Русский-Tel: +86 10 51897300
 E-mail: gjjy@crrcgc.cc
 Fax: +86 10 52608280
 http://www.crrcgc.cc/



TANK WAGONS

Safe and reliable railway tank wagon solutions



OVERVIEW

According to their structure, railway tank wagons can be divided into tank wagons with an air dome and those without an air dome; tank wagons with an underframe and those without an underframe; and top unloading or bottom unloading wagons. Depending on their use, they can also be divided into light oil tank wagons, viscous oil tank wagons, acid-base tank wagons, liquefied gas tank wagons and powder cargo tank wagons, etc. The volume capacity of our oil tank wagons ranges from 60m³ to 100m³. The volume capacity of our liquefied gas tank wagon is 120m³.





ACID-BASE TANK WAGON

Acid-base tank wagon	CGS74
Loading capacity/t	74
Tare weight/t	≤26
Axle load	25
Total volume/m ³	41
Effective volume/m ³	40.2
Working pressure/Mpa	0.52
Maximum operating speed/km/h	120
Track gauge /mm	1,435
Vehicle length/mm	11,940
Vehicle width/mm	3,098

▶ **VEHICLE TYPE FEATURES**

The CGS74 acid-base tank wagon is suitable for running on the standard-track line of Saudi Arabia and loading and transporting concentrated sulfuric acid. The loading and unloading way is "Top loading and unloading". The acid-base tank wagon is mainly composed of the underframe, tank body, bogie, braking device, coupler buffering device, etc. The underframe and tank body are of full steel welding structures, the tank body is connected with the underframe through a clamp tape, the ZZK1 low-power bogie is installed and utilized, and the overlapped ECP braking system, the VSW type manual brake, the SF type coupler and the friction type buffer shall be adopted.

POWDER CARGO TANK WAGON

Powder cargo tank wagon	U80 cement tank wagon
Loading capacity/t	80
Tare weight/t	26.4
Axle load/t	27
Loading volume/m ³	67.5
Tank body working pressure/Mpa	0.35
Construction speed/km/h	120
Minimum radius for curve negotiation /m	145
Track gauge /mm	1,435
Vehicle length/mm	12,996
Vehicle width/mm	3,168

▶ **VEHICLE TYPE FEATURES**

The structure has no center sill or cone funnel, the dead weight of the vehicle can be reduced, and the residual volume of powder can be lowered. A lower swinging device and an axle box flexible locating device shall be adopted for the swinging bogie.

KEY TECHNICAL PARAMETERS

LIGHT OIL TANK WAGON

Light oil tank wagon	GC70
Loading capacity/t	70
Tare weight /t	≤23.6
Total volume/m ³	80.3
Effective volume/m ³	78.7
Construction speed/km/h	120
Minimum radius for curve negotiation /m	145
Track gauge /mm	1,435
Length/mm	12,216
Width/mm	3,320

▶ **VEHICLE TYPE FEATURES**

The volume is large, the loading capacity is big, a slope bottom structure shall be adopted for the tank body when load of 70t is loaded, and the net unloading rate is high. The auxiliary open type manhole is adopted, and the breathing type safety valve is improved. The structure with no center sill is adopted, and the loading and unloading way is "Top loading and unloading". No vestibule shall be arranged at the car end.

VISCOUS OIL TANK WAGON

Viscous oil tank wagon	GN70
Loading capacity/t	70
Tare weight/t	≤23.8
Total volume/m ³	78.1
Effective volume/m ³	73.7
Construction speed/km/h	120
Minimum radius for curve negotiation /m	145
Track gauge /mm	1,435
Vehicle length/mm	12,216
Vehicle width/mm	3,320

▶ **VEHICLE TYPE FEATURES**

Its structure has no center sill, and the loading and unloading of goods is "Top loading and unloading". The viscous oil tank wagon is mainly composed of tank body assembly, traction bolster assembly, coupler buffering device, braking device, bogie, safety accessories, etc. No passway shall be arranged at the car end.



LIQUEFIED GAS TANK WAGON

	Liquefied petroleum gas tank wagon	Liquid ammonia tank wagon
Track gauge /mm	1,435	1,435
Loading capacity/t	53.9	53.6
Tare weight/t	36.1	36.4
Axle load/t	22.5	22.5
Maximum operating speed (empty car)/km/h	120	120
Maximum operating speed (loaded car)/km/h	100	100
Total volume of the tank body/m ³	120	104
Design pressure/Mpa	2.5	2.6

▶ **VEHICLE TYPE FEATURES**

The Zags type tank wagon is designed and developed according to the European standard, and uses a braking device, coupler buffering device, loading and unloading system, Y25Ls1-K type welding bogie, and other components which meet the EN/UIS standards. The tank wagon is suitable for loading and transporting dozens of products such as liquefied petroleum gas and liquid ammonia.

MAIN FEATURES

(1) The TSI (Technical Specification for Interoperability of Trans-European Railway System), TPED (Transportable Pressure Equipment Directive) and RID (Regulations Concerning the International Carriage of Dangerous Goods by Rail) are passed, corresponding certificates are obtained, and qualification for exporting liquefied gas tank wagons to 28 countries of the European Union and 45 RID rule signatory countries is obtained.

(2) A bottom loading and unloading system with a rapid reaction function which can be closed internally is adopted. Liquid and gas loading and unloading can be achieved, the structure is simple, safe and reliable.

APPLICATIONS OF OUR TANK WAGONS ON THE INTERNATIONAL MARKET

- ▶ 22 CGS74 acid-base tank wagons have been exported to Saudi Arabia, and are currently operating with complete reliability.
- ▶ 40 (20 for each type) liquid ammonia tank wagons and Zags type liquefied petroleum gas tank wagons based on European standards have been produced. The technology meets that of comparable advanced international products, allowing Chinese railway freight cars to be exported to the European Union for the first time. Our wagons can be used on railway networks in countries including France, Germany, Italy, Belgium and Switzerland. Reliability is outstanding and has allowed us to garner a good reputation from users and clients.

