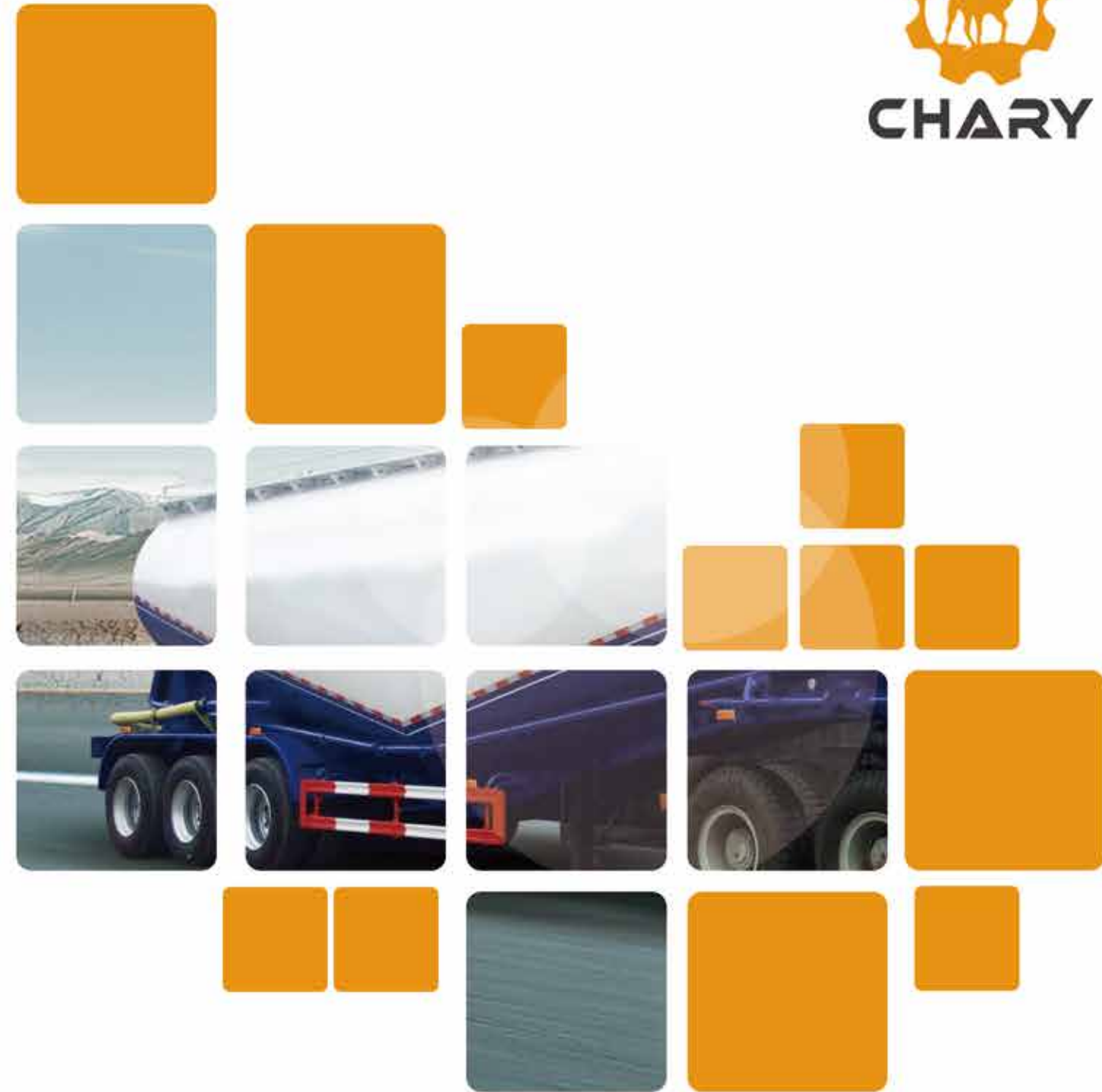


*Driving new value Moving the world*



# PRODUCT MANUAL



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## ► Company Profile

Camels are the only means of transportation in the vast desert. Its enduring endurance and spirit of never giving up have deeply influenced the people of Chary. Qingdao Chary Machinery Co., Ltd is located in the beautiful coastal city of Qingdao. Since its establishment in 2015, The company has always been adhering to the working philosophy of " taking quality as life and integrity as the cornerstone ". The company covers an area of 36, 000m<sup>3</sup>, has 515 employees, 16 senior technicians, and an annual production capacity of 4, 800 units.

The CHARY brand semi-trailers mainly include low bed semi-trailers, tipper semi-trailers, 20/40ft container semi-trailers, skeleton semi-trailers, fence semi-trailers, tanker semi-trailers, etc. International brand components and parts can be selected according to customer requirements, such as BPW/FUWA axle, WABCO relay valve and ABS, JOST/SAF outrigger, JOST traction pin, etc. Our company is the first-level export distributor of FAW jiefang, and also an excellent export distributor of Sinotruck, Shacman, Beiben, and a cooperative unit of dump truck commission reform. the annual export volume reaches 10 million US dollars. The company's main markets are in Algeria, Ethiopia, Somalia, Tanzania, Mozambique, Zambia, Malawi, Ghana, Mali, Congo, Senegal, Indonesia, Singapore, Philippines, Peru and more than 50 countries and regions.





## ► Container Semi-Trailer



Skeleton Trailer



- ◆ Container type semi trailer is mainly used in ships, ports and routes, roads, transfer station, bridges, tunnels, multimodal transport logistics system, include 20 feet, 40 feet and 45 feet container semi trailer.
- ◆ Advanced technology: Major parts and components of the trailer are processed by advanced equipments. Longitudinal beams are finished by automatic tracking submerged arc welding machine; all the sub-assemblies are shot-blasted to improve paint adhesiveness and are painted before assembling.
- ◆ Chassis: To ensure optimal structure for cargo handling and larger payload, the chassis is manufactured as a space frame structure of high-strength steel, 16 Mn steel welded longitudinal beam and integrated cross member.



Flat Trailer





## ► Low bed Semi-Traile



- ◆ Low bed semi trailer has flat type, concave beam type and tire exposed type. Its frame is ladder type, the section of longitudinal beam is I-section, has high rigidity and high strength characteristics.
- ◆ Work platform 3 to 10 meters, 8-17 meters in total.
- ◆ Tool box: Large capacity water-proof detachable tool.
- ◆ Hot-rolled structural steel welded Mn steel longitudinal beam and cross members are assembled and welded for chassis assembly. The finished chassis offers bending and deforming resistance with proper with proper rigidity and strength.
- ◆ Tested and proven structure of cargo box is constructed with profiled steel frame, corrugated plate and mould pressed steel stake.
- ◆ Reliable dual circuit air brake with quick release valve and quick response of wheel cylinder ensures safe on-road operation.



## Tipper/Dump Semi-Trailer ◀



- ◆ The Dumper can be classified by lifting way, one is rear dump, another is side dump.
- ◆ Choosing 2-axles or 3-axles according to the loading request of customer.
- ◆ Dump body material: Q235, Q345, Q610 or wear-resisting steel for the dump body.
- ◆ Type of dump body is from 7M to 12M, providing related design according to the requirement of customer.
- ◆ Choosing domestic or famous foreign brand for the main parts of hydraulic system.
- ◆ Optimization design according to the transport goods of customer.





## ► Bulk Cement Powder Semi-Trailer



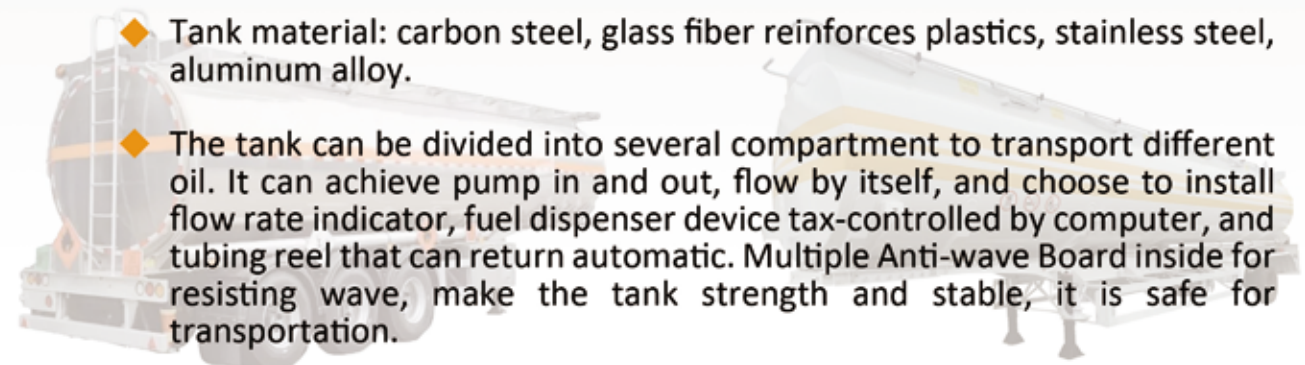
- ◆ The tank body is designed by means of three-dimensional aid design method with the characteristics of reasonable structure, large effective capacity and reduced transportation cost.
- ◆ The sub frame and walking mechanism in semi trailer are made by high strength GB steel, and they are welded by a special welding machine, which can make the self-weight, and ensure its abilities of anti-distort, anti-seismic and anti-jolt, and meet different loading requirements on different roads.
- ◆ The bulk powder goods semi trailer has been awarded two national patents, it uses the latest fluidization structure with the characteristics of large capacity, low center of gravity, few remnants, simplified structure, quick discharging, etc, easy to operated and maintain.



## Oil Tank Semi-Trailer ◀



- ◆ Transporting diesel, gasoline, heavy oil, coal tar, vegetable oil, edible oil, asphalt etc.
- ◆ Tank body material: superior quality carbon steel meeting international standard.
- ◆ Tank shape: square round, oval. 3-D designed by computer, reasonable and durable structure, low failure rate, reduce the cost of maintenance.
- ◆ Tank is welded by special welder with once welding, finishing two sides, welding line is smoothness, homogeneous, beauty, strong, without oil leakage.
- ◆ Tank material: carbon steel, glass fiber reinforces plastics, stainless steel, aluminum alloy.
- ◆ The tank can be divided into several compartment to transport different oil. It can achieve pump in and out, flow by itself, and choose to install flow rate indicator, fuel dispenser device tax-controlled by computer, and tubing reel that can return automatic. Multiple Anti-wave Board inside for resisting wave, make the tank strength and stable, it is safe for transportation.





## ► Cargo Semi-Trailer



Van Semi Trailer



Refrigerated Semi-Trailer



Curtain Semi Trailer



Fence Type Semi Trailer



Flat Bed Semi Trailer

- ◆ Fence type semi trailer carry cargo area adopt the fence structure design, It is mainly used for transported agricultural products and other light bubble goods.
- ◆ Flat bed semi trailer with side wall, widely use, is mainly suitable for transportation of the medium and heavy duty goods and bulk cargo, is the best choice for medium and long distance transport.
- ◆ Van semi trailer is mainly used for transporting goods hermetically, special van truck also can be used for transporting dangerous chemicals.
- ◆ Curtail semi trailer, the side curtain semi trailer is easy to loading and unloading of cargo, the vehicle is lightweight, good at waterproof performance, is free from the bother of bundle tarpaulin. and the trailer is using the skeleton and vice separation design. The cargo box is removable, the cargo box can be changed according to the different needs of customers, It is the best choice of transport bulk food, beverages, beer, etc.
- ◆ Refrigerated Semi-Trailer, adopting two major refrigeration brands, Thermo King and Carrier, to provide assurance for maintaining the temperature inside the box. The reasonable truss design, aluminum metal skin, and riveting structure of the box body ensure excellent tensile and torsional mechanical properties through effective force transmission paths.



## ► Wrecker Semi-Trailer



- ◆ 1. Wrecker semi trailer is evolved according to the Australian market, can be used to transport containers, engineering machinery and failed vehicle. Due to its versatile features, it can be promoted in different regional markets under the regulations allow.
- ◆ 2. The platform can lift, move and form a small angle to ground, easy for moving the vehicle to the platform, it can also be used on dragging the immobile.
- ◆ 3. 12 container locks and two Heightening container locks are installed on the vehicle frame, to implement the transportation of a 40 feet container or two 20 feet containers transport in the middle. The longitudinal beam is stretchable, make the transportation of 45 feet and 48 feet container possible.



## Full Trailer ◀



- ◆ 1. Flat bed full trailer is also called full trailer, flat trailer, trailer, generally use the pneumatic tyre, the flat bed height is low, loading capacity is large. It is safe, simple and durable. Itself has no power, it is necessary to be towed by tractor or forklift.
- ◆ 2. Widely used in airports, ports, railway stations, factories of goods transfer. Reduce consumption of forklift and manpower costs.
- ◆ 3. Full trailer types into fence type, flat type, van type, container type, etc.





## ▶ Auto-transported Semi-Trailer



Auto-transport semi-trailer can be made into different lengths according to customer needs, with welded I-beams on the frame. The entire body adopts fully automatic submerged arc welding and carbon dioxide gas shielded welding. After welding, shot peening treatment is carried out to eliminate welding stress and improve the adhesion of the paint surface, ensuring stable quality and beautiful appearance. The upper frame can be divided into two to three pieces, and the height can be adjusted using a chain hoist and oil cylinder. The closed front panel is made of stamped small corrugated board skin, while the side panel is made of wavelet pattern board or stamped corrugated board skin. The top is equipped with a canopy rod and canopy cloth. The whole vehicle is equipped with a toolbox, spare tire rack, and a drip brake system to improve the safety of vehicle transportation.



## Chemical Semi-Trailer ◀



- ◆ 1. Tank is using the computer 3-D aided design. Structure is reasonable and durable, not easy to damage, reduce use cost and maintenance cost.
- ◆ 2. Tank welding using a special welding machine, is smooth, beautiful, strong and no leaking.
- ◆ 3. Girder use high strength material to ensure its ability of anti-distortion, anti-vibration and resist bumpy, meet the requirements of different pavement on different road conditions. The vehicle weight is light.
- ◆ 4. According to use of tank, material is available to carbon steel, fiber reinforce plastic, stainless steel, etc.
- ◆ 5. The tank chamber is separated into several sections, to adapt to packaging of fuel oil and chemical dangerous goods, etc.





## ▶ Timber Transported Truck



Timber transported semi-trailer can be towed by traction vehicles such as FAW、SINOTRUK、SHACMAN、BEIBEN and FOTON, with iron frame protection measures for the traction head. Mainly used for transporting thick and long timber on rugged road sections, and can also be transported using flat semi-trailers with vertical iron columns for transporting small timber.



## Container Side Lifter Semi-Trailer ◀



A side lifter is a specialised vehicle or semi-trailer used to hoist and transport ISO standard intermodal containers over longer distances. A sidelifter lifting a container on site.

Container Side Lifter Semi-Trailer is mainly used for loading and unloading containers of 20GP and 40GP from the side, thus facilitating container loading and transportation at the port. The crane can adjust the length size to

