

# LNG TANK CAR SR-603

BULK TRANSPORT UNIT

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## LNG Delivery System

The model SR-603 LNG tank car is a DOT-113C120W tank car optimized for carrying maximum payloads of LNG. It is also suitable for transporting liquid ethylene. It complies with all Association of American Railroads (AAR) and US Department of Transportation (US DOT) regulations.

The model SR-603 is a stub sill tank car – the sills are integral to the outer tank, and the outer tank carries the significant rail loads from one end of the car to the other, as well as supporting the weight of the product and the inner tank. The inner tank is made of durable T-304 stainless steel, while the outer tank is made of fine grain carbon steel. The inner tank is typically rated at 75 psig. Chart has a plan to offer 90 psig inner vessels for improved strength and hold time with no payload loss. The model SR-603 has withstood the test of time and miles on North America's railroads in liquid ethylene service.

Chart's model SR-602 is volume optimized for LNG amid the constraints of railroad clearance (Plate 'C'), Gross Rail Load (GRL) and the Federal Railroad Administration's (FRA) 34,500 gallon limit for flammable products. LNG capacity is ~30,680 gallons or up to 142,500 lbs of LNG. (The composition, and thus the density, of LNG can vary 5 – 10%).

The control piping and instruments are located in spacious cabinets on each side of the car at the center. The functional piping is duplicated on each side; the safety devices are split – rupture discs on one side; safety relief valves on the other side. Cabinets, piping, valves and instruments are virtually all stainless steel for added durability. Valves have fire resistant packing. All routine operation and maintenance for the control piping and instrumentation is accessible from ground level. The model SR-603 has a high capacity pressure building coil made with stainless steel piping and aluminum fins for optimal durability and heat capacity.



*Innovation. Experience. Performance.®*

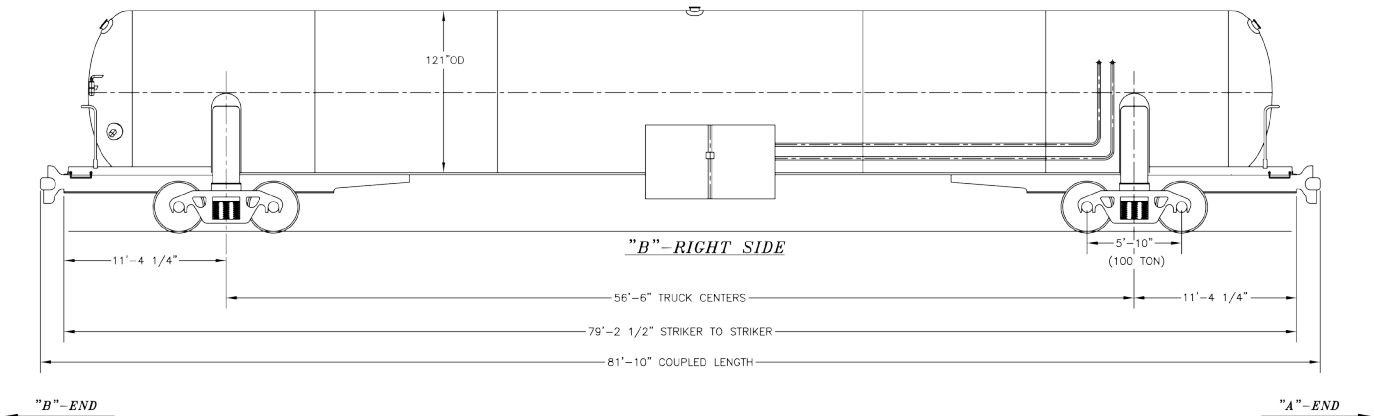
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### SPECIFICATIONS

LNG Capacity (at 0 psig)	142,500 lbs / 64,637 kg / 30,680 gal
Maximum Allowable Working Pressure	90 psig / 6.2 bar
Length (overall)	81 ft 10 in / 24.9 m
Width (overall)	10 ft 8 in / 3.3 m
Height (overall)	15 ft 6 in / 4.7 m
Weight (tare)	125,000 lbs / 56,700 kg
Design Codes	US DOT/FRA DOT-113C120W*

\* US DOT Exemption Required to Transport Methane/LNG



### SCOPE OF SUPPLY

Chart complies with all US DOT requirements in the design and construction of its SR-603 LNG tank cars. We are certified as a Class 'A' facility by the Association of American Railroads (AAR) to manufacture, repair, alter, convert or qualify tank cars. We are also certified by the AAR's QA committee. Chart is registered with the DOT. DOT requirements for transporting LNG are found in Title 49 of the Code of Federal Regulations (49 CFR), part 172.101, Table of Hazardous Materials and Special Provisions; part 173.319, Cryogenic Liquids in Tank Cars; and part 179.400, Specification for Cryogenic Liquid Tank Car Tanks.

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