

ANYANG SANHUANGDING METAL MATERIALS CO.,LTD

SHD TANK



ANYANG SANHUANGDING METAL MATERIALS CO.,Ltd is the international high-tech enterprise integrating design, manufacture, installation and service, which has been working on diesel, petrol, kerosene, aviation fuel tank and gas service station auxiliary accessories from 2001.



WHO WE ARE

ANYANG SANHUANGDING METAL MATERIALS CO.,Ltd (hereinafter referred to as **SHD company**) is the international high-tech enterprise integrating design, manufacture, installation and service, which has been working on Diesel & Petrol tank and gas service station auxiliary accessories from 2001. SHD company is located in Anyang City, the Industrial gathering place in Henan Province, covering a total area of more than 60,000 square meters of standardized industrial plants.



WHAT DO WE DO

SHD company has strong technical research and development strength who has more than twenty years of manufacturing experience. There is a complete departmental system, with more than 1000 employees and more than 150 engineers. At present, the international sales department responsible for foreign trade has as many as 40 employees, who receive inquiries from customers all over the world 24 hours a day to help them find the right products and meet their needs.

SHD company is equipped with advanced and perfect production equipment: large hydraulic bending machine, girth welding, automatic submerged arc welding machine, automatic CNC cutting machine, CNC winding machine, automatic ultrasonic detector, X-ray detector, automatic high-temperature annealing furnace, vacuum unit equipment, shot blasting equipment, closed paint spraying room, hydraulic and pneumatic testing equipment, and third-party testing institutions. We have precise control over each production detail to ensure the quality of our products reach the qualified standard.

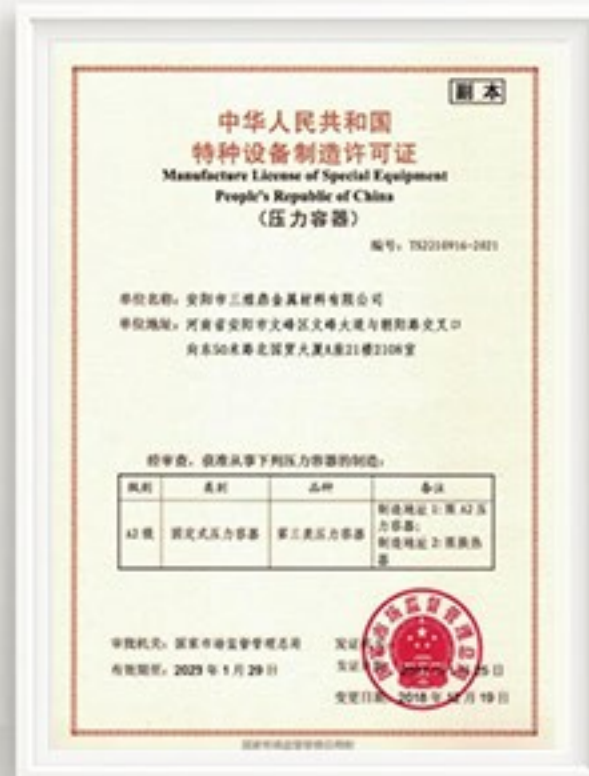
MAIN

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CERTIFICATIONS

The products of SHD company have passed ISO9001 international quality system certification, SO14001 environmental management system certification, C1 certification, CCS China Classification Society product certification, as well as the United States ASME authority certification, the European Union CE certification, with foreign trade export rights and dozens of scientific and technological patents.



LPG TANK

Product description:

Liquefied petroleum gas storage tank is a professional product for storing liquefied petroleum gas. It belongs to special equipment and three types of pressure vessels, Tank divide into above ground LPG tank and underground LPG tank , The raw material of the storage tank is Q345R, which needs to go through a series of processes such as cutting, welding, flaw detection, and water pressure and air pressure test. At the same time, the Technical Supervision Bureau will conduct an on-site inspection, issue a pressure vessel inspection certificate, and finally complete the product with painting, The service life of the tank provided by our company can reach 20 years. The perfect welding seam and detection technology can minimize the leakage of gas and prevent accidents in subsequent use.



LPG ABOVE GROUND TANK

NO.	Capacity	Main material	Material Thickness	Size	Weight
1	2.5MT	Q345R	8/10mm	1400mm*3535mm	1780KG
2	5MT	Q345R	10/10mm	1600mm*5295mm	2765KG
3	10MT	Q345R	12/12mm	2000mm*6747mm	5060KG
4	15MT	Q345R	12/14mm	2200mm*8314mm	6790KG
5	20MT	Q345R	14/14mm	2400mm*9304mm	9055KG
6	30MT	Q345R	14/16mm	2600mm*11796mm	12340KG
7	40MT	Q345R	16/18mm	3000mm*11878mm	16895KG
8	50MT	Q345R	16/18mm	3000mm*14708mm	20015KG
9	60MT	Q345R	16/20mm	3600mm*15402mm	31390KG
10	100MT	Q345R	20/20mm	3800mm*18332mm	38990KG

LPG UNDERGROUND STORAGE TANK

LPG underground storage tanks (here in after referred to as storage tanks) are the main equipment of LPG storage and distribution stations and filling stations. This product is suitable for customers who have limited site area but need to build a website. The underground design can halve the distance between the storage tank and the building, greatly utilize the land area, and save land costs for customers. At the same time, the overall appearance and coordination after installation is conducive to the layout and adjustment of the gas station on the ground.



Number	Capacity	Main material	Material Thickness	Size	Weight
1	2.5MT	Q345R	10mm	1400mm*3510mm	2380KG
2	5MT	Q345R	10mm	1600mm*5270mm	3360KG
3	10MT	Q345R	12mm	2000mm*6724mm	5650KG
4	15MT	Q345R	12mm/14mm	2200mm*7815mm	7765KG
5	20MT	Q345R	14mm	2600mm*7998mm	9490KG
6	25MT	Q345R	14mm	2800mm*8622mm	11920KG
7	30MT	Q345R	14mm/16mm	2800mm*10252mm	13735KG
8	50MT	Q345R	16mm	3000mm*14686mm	20640KG

LPG SKID PLANT DESCRIPTION

Basic composition: LPG storage tank, skid, filling pump, unloading pump, gas dispenser, valve, explosion-proof control cabinet, level gauge, pipeline, thermometer. Optional accessories: flow meter, filter, leak detection, emergency shut-off valve, spray system, shelf. LPG skid plant is one of the most popular products and Also a highly customized product in the LPG series products of SHD TANK in international market.

1. No need to install. Play and plug .
2. Integrated gas station, minimize costs
3. Occupies little space & Easy to move
4. Simple operation and easy maintenance
5. Support to change the voltage, increase the circuit diagram and other personalized operations



Capacity	Working pressure	Raw material	Weight	Size of skid plant	Container
5000L	1.77mpa	Q345R	3080	2000*2200*5800	20feet
10,000L	1.77mpa	Q345R	4065	2300*2200*7500	40feet
15,000L	1.77mpa	Q345R	5630	2500*2200*8000	40feet
20,000L	1.77mpa	Q345R	6460	2550*2200*9000	40feet
25,000L	1.77mpa	Q345R	7480	2550*2200*10300	40feet
30,000L	1.77mpa	Q345R	8535	2550*2200*11500	40feet

CRYOGENIC

Product description:

Medium: LOx LAr LN2

The cryogenic LOx LAr LN2 double-layer storage tank produced by our company. The inner tank is made of stainless steel S30408 stainless steel, the shell is made of Q245R alloy steel. the inter layer is filled with expanded pear lite(also known as pear lite), and the capacity is 5-200m³. There are vertical and horizontal types. Their insulation method is vacuum powder insulation. There are 2 types working pressure for customer to choose, 0.8Mpa and 1.6Mpa. The design temperature of the tank is from -196 to 50°C. which can be used in different countries. 1-3 cubic tanks need to be customized



Safety technical performance

In order to ensure the safe operation of the tank, we adopt the combined safety system. Two groups of safety valves are installed on the tank to work at the same time. During the regular calibration, we can close the safety valve on one side, while the other group of safety valves can work normally, so that the tank can be calibrated without delaying the operation of the tank.

- Storage tank pressure level measurement system:

In order to know the liquid in the storage tank at any time, we have installed pressure gauges on the storage tank to understand the pressure in the storage tank, so as to facilitate customers to fill and discharge liquid.

- Thermal insulation performance:

In order to achieve the best thermal insulation effect, we use the hot pearlite as the filling material to fill the inter-layer of the inner and outer tanks, and vacuum the inter-layer to achieve the thermal insulation effect.

Item	Medium	Inner tank (Diameter*Length thickness)	Shell tank (Diameter*Length thickness)	External (Diameter*Length thickness)	Net weight (Kg)
5m3/0.8MPa	LN2/LO2/ LAr	DN1400*2910*6/6	DN1900*3470*8/8	Φ1916*5172	3930
5m3/1.6MPa	LN2/LO2/ LAr	DN1400*2910*8/10	DN1900*3470*8/8	Φ1916*5172	4380
10m3/0.8MPa	LN2/LO2/ LAr	DN1800*3490*6/8	DN2300*4100*8/8	Φ2316*5981	5480
10m3/1.6MPa	LN2/LO2/ LAr	DN1800*3490*10/12	DN2300*4100*8/8	Φ2316*5981	6600
15m3/0.8MPa	LN2/LO2/ LAr	DN1800*5560*6/8	DN2300*6170*8/8	Φ2316*8035	7900
15m3/1.6MPa	LN2/LO2/ LAr	DN1800*5560*10/12	DN2300*6170*8/8	Φ2316*8035	9200
20m3/0.8MPa	LN2/LO2/ LAr	DN2200*4730*7/8	DN2700*5380*8/8	Φ2716*7377	9250
20m3/1.6MPa	LN2/LO2/ LAr	DN2100*5300*12/14	DN2700*5380*8/8	Φ2616*7977	11000
30m3/0.8MPa	LN2/LO2/ LAr	DN2400*6100*8/10	DN2900*6810*8/10	Φ2920*8904	12600
30m3/1.6MPa	LN2/LO2/ LAr	DN2200*7490*12/14	DN2700*8230*8/8	Φ2716*10230	15100
40m3/0.8MPa	LN2/LO2/ LAr	DN2400*8450*8/10	DN2900*9230*8/10	Φ2920*11290	16000
50m3/0.8MPa	LN2/LO2/ LAr	DN2700*8220*9/10	DN3200*9070*8/10	Φ3220*11304	18700
50m3/1.6MPa	LN2/LO2/ LAr	DN2700*8220*16/18	DN3200*9070*10/12	Φ3220*11304	25600
80m3/0.8MPa	LN2/LO2/ LAr	DN2900*11710*9/10/12	DN3400*12610*10/12	Φ3420*14922	31200
100m3/0.8MPa	LN2/LO2/ LAr	DN2900*14890*9/10/12	DN3400*15790*10/12	Φ3420*18102	37200
100m3/1.6MPa	LN2/LO2/ LAr	DN3000*14320*16/18/20	DN3500*15000*10/12	Φ3520*17276	46300
150m3/0.8MPa	LN2/LO2/ LAr	DN3200*18490*10/12/14	DN3700*19710*10/12/14	Φ3724*22128	53200
200m3/0.8MPa	LN2/LO2/ LAr	DN3500*20635*12/14/16	DN4000*21615*12/14/16	Φ4024*24085	69400

Medium: LNG

The LNG double-layer storage tank produced by our company. The inner tank is made of stainless steel S30408 stainless steel, the shell is made of Q245R alloy steel. the inter layer is filled with expanded pear lite(also known as pear lite), and the capacity is 5-200m³. There are vertical and horizontal types. Their insulation method is vacuum powder insulation. the pressure of the tank is 0.8Mpa. The design temperature of the tank is - 196℃ - 50℃, which can be used in different countries. 1-3 cubic tanks need to be customized



- Double-layer vacuum powder insulation is adopted, and the thermal conductivity is low
- The negative pressure method is used to fill the pearl sand, so that the pearl sand in the vacuum inter-layer is tight and uniform
- The inner liner of the LNG storage tank adopts nuclear mass spectrometry for leak detection to ensure air tightness and vacuum degree
- Vacuum detection system: Special vacuum detection, vacuum tube and vacuum valve are arranged at the bottom of the storage tank, which can detect the inter layer vacuum degree regularly or at any time with vacuum meter to ensure the safe operation of the storage tank.

Item	Medium	Inner tank Dimension (Diameter*Length thickness mm)	Shell tank Dimension (Diameter*Length thickness mm)	External Dimension (Diameter*Length thickness mm)	Net weight (Kg)
5m3/0.8MPa	LNG	DN1400*2740*6/6	DN1900*3360*8/8	Φ1916*5040	3800
10m3/0.8MPa	LNG	DN1800*3490*6/6	DN2300*3900*8/8	Φ2316*5788	5500
15m3/0.8MPa	LNG	DN1800*5250*6/6	DN2300*5860*8/8	Φ2316*7725	7500
20m3/0.8MPa	LNG	DN1900*6380*6/8	DN2400*7000*8/8	Φ2416*8902	8700
30m3/0.8MPa	LNG	DN2400*5760*7/8	DN2900*6500*8/8	Φ2916*8594	11600
50m3/0.8MPa	LNG	DN2600*8480*8/9	DN3100*9300*8/10	Φ3116*11392	17900
60m3/0.8MPa	LNG	DN2500*11310*8/9	DN3000*12210*8/10	Φ3016*14365	21400
100m3/0.8MPa	LNG	DN2900*14100*9/10	DN3400*15020*10/10/1 2	Φ3420*17666	34800
150m3/0.8MPa	LNG	DN3200*17510*10/12	DN3700*18730*10/12/1 4	Φ3720*21128	50900
200m3/0.8MPa	LNG	DN3500*19545*12/12	DN4000*20245*12/14	Φ4024*22855	62300

Medium: Liquid carbon dioxide

The LCO₂ double-layer storage tank produced by our company, The inner tank is made of 16MnDR material, the shell is made of Q245R alloy steel, the capacity is 5-200m³. There are vertical and horizontal types.

Their insulation method is vacuum powder insulation. The pressure of the tank is 2.16MPa. The design temperature of the tank is - 40°C - 50°C, which can be used in different countries. 1-3 cubic tanks need to be customized



Safety technical performance

- The tank adopts "combination and safety system valve" to use two groups of safety valves to work at the same time. One side can be closed and the other side can continue to work when the safety valve is regularly checked to ensure the safe operation of the tank.

- Storage tank pressure level measurement system:

Pressure gauge, differential pressure type level gauge and level comparison table are arranged on the upper part of the container in the storage tank, so that the storage amount and pressure change of the container can be grasped at any time, which is convenient for the operation of filling and draining liquid.

- Vacuum detection system:

Special vacuum detection, vacuum tube and vacuum valve are arranged at the bottom of the storage tank, which can detect the inter layer vacuum degree regularly or at any time with vacuum meter to ensure the safe operation of the storage tank.

Item	Medium	Inner tank Dimension (Diameter*Length thickness mm)	Shell tank Dimension (Diameter*Length thickness mm)	External Dimension (Diameter*Length thickness mm)	Net weight (Kg)
5m ³ /2.16	LCO ₂	DN1400*2910*12/12	DN1900*3470*8/8	Φ1916*5254	4800
10m ³ /2.16	LCO ₂	DN1800*3490*14/14	DN2300*4060*8/8	Φ2316*5951	7200
15m ³ /2.16	LCO ₂	DN1900*4890*14/16	DN2400*5500*8/8	Φ2416*7402	9900
20m ³ /2.16	LCO ₂	DN2100*5300*16/16	DN2600*5950*8/8	Φ2616*7929	12400
30m ³ /2.16	LCO ₂	DN2400*6100*18/20	DN2900*6780*8/10	Φ2916*8909	17300
40m ³ /2.16	LCO ₂	DN2500*7670*18/20	DN3000*8390*8/10	Φ3016*10540	21900
50m ³ /2.16	LCO ₂	DN2500*9820*18/20	DN3000*10220*8/10	Φ3016*12709	26100
60m ³ /2.16	LCO ₂	DN2500*12000*18/20/22	DN3000*12710*8/10	Φ3016*15200	30500
80m ³ /2.16	LCO ₂	DN3000*10850*22/24	DN3500*11700*10/12	Φ3520*16919	51600
100m ³ /2.16	LCO ₂	DN3000*13820*22/24/26	DN3500*14600*10/12	Φ3520*16919	51600
150m ³ /2.16	LCO ₂	DN3700*19500*22/24/26	DN3700*19500*12/12	Φ3724*22080	75600

MICROBULK

Micro bulk tank is a pressure vessel to storage some liquid things such as LO₂, LAr, LN₂, LC0₂ and LNG. The maximum working pressures available are 0.86~3.1Mpa; the regular capacities are 1000L, 2000L, 3000L, 5000L etc. We also could manufacture the goods according the ASME standard or GB standard according customers' requirements. Micro-bulk is a centralized gas supply through pipes to the end-use point, with the advantages of a portable storage tank, and no need to replace the cylinder, the equipment does not need to stop work when changing the gas cylinder, and saves floor space. The digital level gauge can accurately read the tank liquid Bit, customers can choose telemetry technology, which can monitor gas balance remotely. On-site gas filling, there is no gas loss. The storage tank is located at the customer's site to avoid misoperation of the storage tank and ensure that the gas quality remains stable

- Industry-leading 5-year vacuum warranty. Leak tested at 1.1 times the MAWP.
- Metal pedestal provides better access to anchor bolts for quicker installation.
- Metal pedestal design also convenient to transport and easy to loading and unloading .
- Long-life Hentzen urethane paint system with optional zinc-rich primer..



LIQUID FEUL STORAGE TANK

UNDERGROUND SF FUEL TANK

1. Unlike underground single-walled tanks made only of steel, this double-walled tank will not leak. In fact, single-walled tanks don't even have a sensor to detect when a leak occurs. The SF double-walled tank has a two-layer structure consisting of a steel interior and an FRP exterior. In addition, it also includes a leak sensor called a leak monitor. Depending on the amount of leakage, losses caused by oil tank leakage can amount to millions to billions of yen. This far exceeds the cost of simply converting to SF double-walled tanks.

2. The thermal insulation performance of the outer layer of SF double-wall tank is 500 times that of asphalt covering single-wall tank.

3. Due to its durability, FRP is chemically resistant, which is an indispensable part of gas stations. There are many ways to form the FRP layer of the SF double-wall water tank: hand lay-up, spraying, and die. SANHUNGDING METAL MATERIAL CO.,LTD uses spray method to manufacture its SF double-wall tank





SF Tank Volume (m3)	Diameter	Tank length	Tank Height	Thickness	Tank Weight
5	1200 mm	4500 mm	1500 mm	6/6 mm	1000 KG
10	1800 mm	4000 mm	2100 mm	6/8 mm	1600 KG
15	2000 mm	4800 mm	2300 mm	6/8 mm	2500 KG
20	2200 mm	5300 mm	2500 mm	6/8 mm	2680 KG
20	2200 mm	5300 mm	2500 mm	8/8 mm	3280 KG
25	2200 mm	6700 mm	2500 mm	6/8 mm	2400 KG
25	2200 mm	6700 mm	2500 mm	8/8 mm	2900 KG
30	2200 mm	8000 mm	2500 mm	6/8 mm	3320 KG
30	2200 mm	8000 mm	2500 mm	8/8 mm	4220 KG
40	2200 mm	10530 mm	2500 mm	6/8 mm	4500 KG
40	2200 mm	10530 mm	2500 mm	8/8 mm	5210 KG
50	2800 mm	82000 mm	3100 mm	6/8 mm	5100 KG
50	2800 mm	82000 mm	3100 mm	8/8 mm	5960 KG
60	2800 mm	98000 mm	3100 mm	6/8 mm	6400 KG
60	2800 mm	98000 mm	3100 mm	8/8 mm	7200 KG

FF FUEL TANK

- The inner and outer layers of the FF double-layer oil tank are made of reinforced glass fiber, and the interlayer space is also equipped with a communicating leak detector, which guarantees more safety.
- Corrosion Resistance – External corrosion protection will always be a concern, but, with the widespread use of ethanol-blended gasoline (E10, E15, E85), biodiesel fuels and ultra-low sulfur diesel (ULSD), the focus has shifted to internal corrosion protection. These new biofuels are creating increasing incidents of aggressive microbial-induced corrosion (MIC) of metal components in fueling systems. Fiberglass tanks are not vulnerable to internal corrosion caused by MIC. The double-layer tank will not be rusted, the maintenance cycle is long, and the service life can reach 50-60 years.
- The remote monitoring system of FF double-layer oil tank can guarantee daily and regular inspection work, digital control is more convenient. The oil tank has excellent anti-corrosion performance, light weight, and easy installation
- High performance , In Australia and North American after exploring different fuel tank product performance, Station owners overwhelmingly choose fiberglass fuel tan

Tank Volume	10m ³	20 m ³	30 m ³	40 m ³	50m ³
Filling factor	0.9	0.9	0.9	0.9	0.9
Inner diameter (mm)	2000	20000	2000	2600	2600
Inner wall thickness (mm)	≥5	≥6	≥6	≥6	≥6
Through gap layer thickness (mm)	3.5	3.5	3.5	3.5	3.5
Wall thickness of outer tank (mm)	≥7	≥7	≥7	≥7	≥7
Number of manholes	2	2	2	2	2
Nominal diameter of manhole (mm)	600	600	600	600	600
Length (mm)	~4032	~7510	~10894	~8778	~10662

ABOVE GROUND FUEL TANK

- The above-ground oil tank is not corroded by the soil
- Life span 4-5 years
- Less civil work, easy to maintain and easy to check
- Less investment
- The safety factor is relatively low and the floor space is large

Above-ground Tank Volume (m3)	Diameter	Tank length	Tank Height	Thickness	Tank Weight
5	1600mm	2600 mm	1900 mm	6/6 mm	1077 KG
8	1700 mm	3500 mm	2000 mm	6/6 mm	1498 KG
10	1800 mm	4062 mm	2100 mm	6/6 mm	1793 KG
15	1800 mm	6022 mm	2100 mm	6/6 mm	2300 KG
20	2200 mm	5680mm	2500 mm	6/6 mm	2975 KG
25	2200 mm	7106 mm	2500 mm	6/6mm	2850 KG
30	2200 mm	7950 mm	2500 mm	6/6 mm	3621 KG
30	2200 mm	7950 mm	2500 mm	8/8 mm	4523 KG
40	2200 mm	10800 mm	2500 mm	8/8 mm	5512 KG
40	2200 mm	10800 mm	2500 mm	10/8 mm	5770 KG
50	2800 mm	82000 mm	3100 mm	8/8 mm	6260 KG
50	2800 mm	82000 mm	3100 mm	10/8 mm	6555 KG
100	2800 mm	98000 mm	3100 mm	8/8 mm	9168 KG
100	2800 mm	98000 mm	3100 mm	10/10 mm	11461 KG

COMPARISON OF ABOVE GROUND FUEL TANK / UNDERGROUND SF FUEL TANK / FF FUEL TANK

Tank type	Single layer above ground	SF tank	FF tank
Material	Q235B	Q235B +FRP	FRP+FRP
Anti-corrosion performance	Non-corrosive	High anti-corrosion performance	Very high anti-corrosion performance
Seismic rating	generally	good	good
strength	medium	good	good
Antistatic	Not antistatic	Antistatic	Antistatic
Leak detection	unavailable	Available	Available
Service life	5 years	30 years	50 years
Install	Simple	Simple	Simple
Monitor	No remote monitoring	Can be remotely monitored	Can be remotely monitored
Oil leaks into the soil	May	NO	NO



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