Nordweld

Innovative tank building system



Nordweld

We develop, design and produce an innovative system for onsite construction of welded steel tanks. We offer both sales and rental of tank construction equipment around the world. Our innovative technology is suitable for a wide range of tank types and materials.

Using the Nordweld Tank Building System reduces on-site costs and offers numerous benefits such as fewer production hours, improved working conditions, increased safety and better quality. We provide experienced supervisors who help and train our customers in the optimal use of our equipment.

+35 Years of experience in the tank building sector

50 % reduced costs compared to traditional methods

45 Meters in diameter (147.64 ft)

700 Tons of weight (1,543,236 lbs)

1 20 ft HC Container includes equipment to Ø14 m tank (45.93 ft)

The information contained in this advertising material is provided for informational purposes only. The product specification should be checked against the technical documentation provided by the manufacturer.



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General information

Nordweld

OUR TECHNOLOGY - DESIGNED BY A TANK BUILDER FOR TANK-BUILDERS

Nordweld Tank Building System has been awarded for the innovative technology for onsite tank fabrication. The system is flexible and modular, allowing it to be configured based on the tank's size, type, and material. Our equipment allows you to build tanks from coils, pre-rolled plates or flat materials. Our innovative system utilizes a top-down method, enabling all work to be conducted safely at ground level. All welding can be mechanized and performed using various processes, including Arc TIG, Plasma, TIG, MIG/MAG or SAW from a single point. Additionally, all non-destructive testing (NDT) can be conducted from one location at different levels. All components are stored and transported in 20 ft HC shipping containers equipped with specialized pull-out racks. The equipment features dedicated lifting points to ensure efficient and safe handling. When building from coil with our system, you can receive up to 10 mm (~3/8 in) in Stainless steel duplex materials, 14 mm (~9/16 in) in 304/316 and 16 mm (~5/8 in) in Carbon steel.

ADVANTAGES OF BUILDING TANKS DIRECTLY FROM COIL WITH THE ADVANCED SYSTEM

- Reduce onsite man-hours by approximately 50%
- Only 3–4 workers are required to build the shell
- One vertical weld per course = lower welding and NDT costs
- No prefabrication or transportation costs for pre-rolled material
- Lower crane cost - only to unload/load coil
- All work is performed at ground level – no scaffolding required
- Safer and less physically demanding work environment
- Suitable for tanks up to ~ 40 m (131.23 ft) in diameter when building from coil
- The entire tank rotates during the construction process
- All material is assembled from one location, can operate in narrow site conditions
- Fully mechanized welding using Plasma / Arc-TIG / TIG / MIG-MAG / SAW (CS)
- Significantly higher quality of the final product

Reduce the total tank construction cost with the Nordweld Advanced System



Features of our equipment

Our system utilizes top-down construction technology with electromechanical Lift Jacks that can be operated individually or simultaneously and monitored from a central control system. The entire tank is rotated using Tank Rotators, with the rotation process remotely controlled and the speed fully adjustable.

This enables roof segments, shell plates, stiffening rings, nozzles, and other components to be assembled from a single working location. All welding is mechanized and performed inside a weatherproof container welding station, ensuring consistent and efficient welding conditions.

The Nordweld system is also an ideal solution for construction sites with limited space, as the tank is assembled and rotated within a controlled and compact working area.

The Nordweld system is modular and offers different equipment configurations, with the main one being:

The Advanced System

With the Advanced System, the entire tank is supported and rotated on Wheel Trolleys mounted directly on the Lift Jacks. This setup requires a Vertical Bending Machine combined with a De-coiler and/or a Plate Track for flat materials.

During coil bending and material feeding, the horizontal joints are simultaneously aligned and tack-welded using the Tack Weld Stand. The joint gap is precisely adjusted using a Weld Gap Adjustment Jack. The Tack Weld Stand can also be used for fitting stiffening rings to the tank wall.

The Advanced System is particularly well suited for the construction of large stainless-steel tanks, where efficient material handling and controlled tank rotation are essential.

Internal Scaffolding is installed between the Lift Jacks at one or two levels, providing safe and efficient access to the tank wall during construction.
Nordweld offers various solutions of mechanized welding of the tank shell.
Our welding solutions are delivered fully assembled and ready to use in weatherproof 10 ft container welding stations.

No prior investment required - you can rent it

A complete system can be rented and delivered to the site, fully operational and ready for use

Working environment

All work from ground level, mechanized welding and fit up work performed from one location

Quality control

Mechanized welding with different welding processes improves overall quality

Developed by a tank builder

Innovative technology developed from 35 years of experience in the tank building industry

Logistical advantages

Roll all shell material on site allows for more flexibility, customization and efficient construction process

Non-Destructive Testing (NDT) from a single position

Reduce the time and cost associated, maximizes effectiveness and ensures comprehensive inspections



Nordweld

Advanced System

Bending Machine and De-coiler
Option to use flat material with the Plate Track



1. Unload the container.



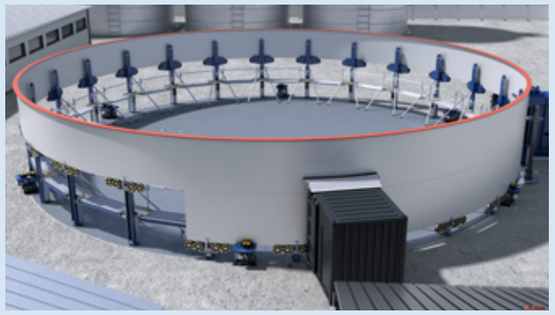
2. Complete the annular and bottom plates at the foundation. Install the equipment on the annular plate. Place the Vertical Bending Machine / De-coiler (or Plate Track) in position.



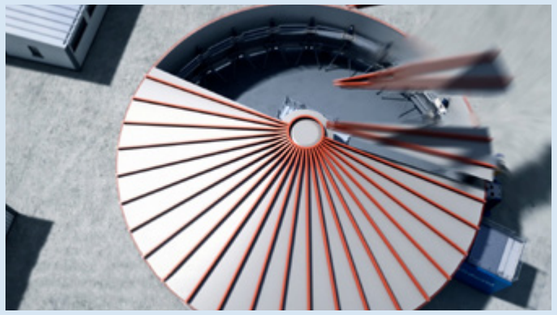
3. Feed in the first course.



4. Lift the 1st course including the top ring.



5. Feed in and tack weld the 2nd course, lower the Jacks one by one during the infeeding of the sheet.



6. Install the roof construction - it is possible to rotate the entire tank during the roof installation with a rotating Shoring Tower.



7. Assemble the 3rd course and so on until the tank reaches the final height. All NDT can be performed at ground level from one location.



8. Remove the equipment and place the tank at the bottom and dismantle the Lift Jacks.

Option - Plate Track:

- Using flat sheets in the Plate Track





- Mechanized welding in vertical / horizontal position with different methods





20 ft HC Container

TECHNICAL SUMMARY

The system is delivered in a 20 ft high-cube (HC) shipping container, with all equipment securely organized and stored in dedicated internal transport racks. This solution simplifies logistics and keeps transportation costs competitive, while ensuring that the system arrives safely and is ready for immediate use. For efficient and safe handling on site, the main transport rack can be easily pulled out of the container, allowing fast and convenient loading and unloading of the equipment.





Lift Jack 9T and Lift Jack 15T

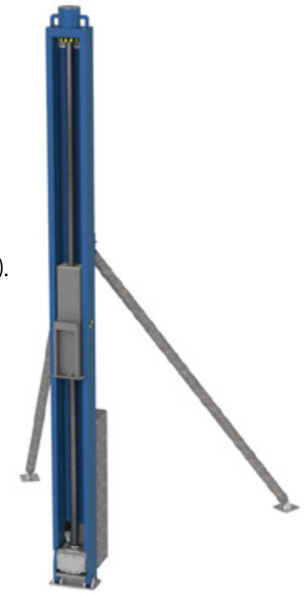
TECHNICAL SUMMARY

Electromechanical Lift Jacks used to lift the tanks with top-down method.

We have two types of Lift Jacks:

- 9T (19,845 lbs) capacity with 2100 mm (6.88 ft) lifting stroke
- 15T (33,069 lbs) capacity with 2600 mm (8.53ft) lifting stroke.

The Lift Jacks are CE marked and tested with 50% safety margin (dynamic load).



The unique characteristics of our Lift Jacks:

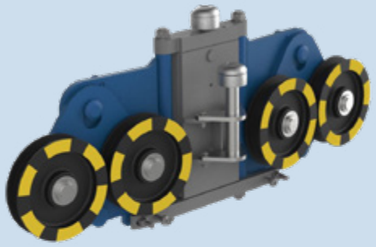
- Electrically operated - easy to maneuver both simultaneously and individually
- Uses a smooth, continuous lifting mechanism
- Limit switches in upper and lower position
- Main central with homing function, lifting height settings and a safety control system of the entire system
- Mechanical rotation indicator in the top for an easy overview that all Jacks are running
- No oil spills or leakage when compared to hydraulic systems
- Self-locking, which ensures the highest operating safety conditions
- Faster Operating Times – Approx. 16 minutes to raise or lower 2100 mm (LJ 9T)
- Faster Operating Times – Approx. 25 minutes to raise or lower 2600 mm (LJ 15T)
- Easy and quick assembly of the entire system
- Easy to dismantle from the tank - comes supplied with a dismantling device which enables the Jacks to be removed through the manhole after job completion.



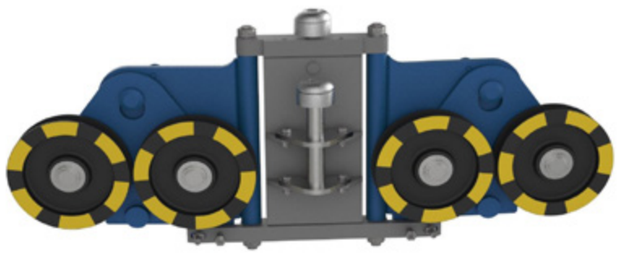
Wheel Trolley

TECHNICAL SUMMARY

The Wheel Trolley is installed on the Lift Jack. The entire tank rolls upon the Wheel Trolley. During the feeding process, the trolleys are lowered individually from their elevated position (shell height) to the lower position using a dedicated high--speed button on the Jacks.







A wagon that facilitates the easy dismantling and transport of the trolley around the tank. Alternatively, the Wheel Trolley can be disassembled using a telehandler or crane. We provide a lifting tool to ensure safe lifting and proper alignment of the Wheel Trolley during removal.



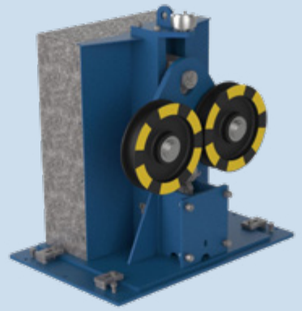




Weld Gap Adjusting Jack

TECHNICAL SUMMARY

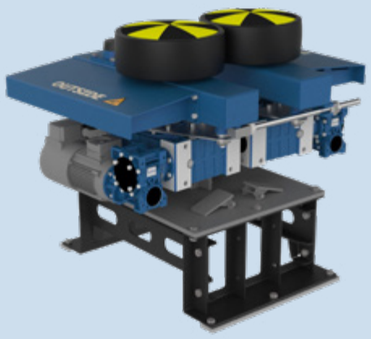
Adjust the weld gap during sheet feeding from the Bending Machine using the Weld Gap Adjusting Jack. This Jack, which features a 6 000 kg (13,228 lbs) lifting capacity and a 75 mm (2.95 in) lifting stroke, operates via a remote control. It is used in our Advanced System between the Bending Machine and the entry point.



Tank Rotator

TECHNICAL SUMMARY

The Nordweld Tank Rotator continuously rotates the tank during construction, allowing welding and work to be performed from a single working position. The adjustable rotation speed ensures smooth and controlled movement, while reducing manual handling and improving safety and efficiency. Combined with mechanized welding, the system enables faster, more consistent tank construction with less physical effort for the workforce.



Tack Weld Stand

TECHNICAL SUMMARY

The Tack Weld Stand aligns the horizontal joint during sheet in-feeding, ensuring accurate and consistent positioning. The process is simple, fast, and cost-effective. The Tack Weld Stand can also be used to press and secure stiffening rings tightly against the tank wall.







Shoring Tower

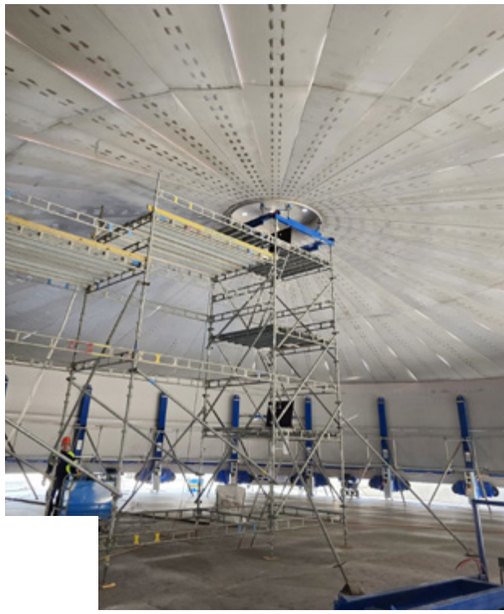
TECHNICAL SUMMARY

The Nordweld Shoring Tower provides temporary support for the tank roof center during installation. It features a reinforced support frame with integrated wheels at the top, allowing the roof center to rotate smoothly as the tank rotates.

This enables the entire roof to be assembled from a single working position, while the tank is continuously rotated. The roof remains securely supported throughout the installation, allowing assembly and welding to be performed from a fixed working position.

The system provides a simple, safe, and efficient solution for roof installation with the Nordweld Advanced System.





Internal Scaffolding

TECHNICAL SUMMARY

An internal scaffolding system can be assembled between the jacks to create working platforms inside the tank. This system can be configured in one or two levels and comes equipped with railings. The platforms are constructed from 2050 mm (80.71 in) standard steel planks, with lower-level railings made from 48 mm (1.89 in) aluminum pipes and clamps. The upper level includes railing units with a middle bar and kick plates to ensure compliance with safety regulations.

A foldable temporary stairs gives access to the second level.



Vertical Plate Bending Machine

TECHNICAL SUMMARY

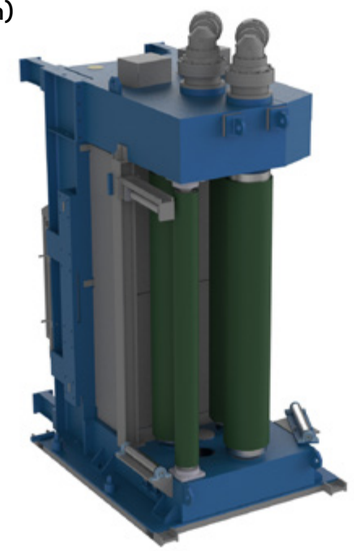
Vertical Plate Bending Machine
The Vertical Plate Bending Machine is designed for bending plate or directly from coils. The standard machine is equipped with three rolls but can be configured with up to seven rolls, depending on the application. It can also be customized to accommodate different plate heights and material thicknesses.

The equipment is designed for no contamination of material, the bending rolls are covered with urethane and the support rolls in hardened Stainless steel. The bending machine can be connected directly to the De-coiler, allowing material to be processed continuously from the coil.

Both the Vertical Bending Machine and the De-coiler are operated by remote control, providing safe, efficient, and precise operation. The Vertical Bending Machine is delivered in a 20 ft HC Hard Top Container including required support beams for installation on-site.

Vertical Plate Bending Machine SHIRV 2000×16mm (78.74×0.63 in)

- capacity radius: 12000 mm (472.44 in)
- max thickness: 16 mm (0.63 in) Stainless Steel 304/316
- max thickness: 12 mm (0.47 in) Duplex
- max thickness: 23 mm (0.91 in) Carbon Steel S355
- max plate height: 2000 mm (78.74 in)





IMCAR offers different mechanical solutions for brushing and grinding the circumference

For further info: www.imcar.it

De-coiler

TECHNICAL SUMMARY

De-Coiler Machine
The IMCAR De-coiler is designed for high-capacity processing of steel coils, providing controlled and continuous material feeding directly to the Vertical Bending Machine. Its heavy-duty three-arm design enables efficient handling of heavy and thick coils while maintaining smooth and reliable operation. One of the three arms is motorized to keep the coil securely closed and controlled during operation.

The machine is equipped with a reinforced hydraulic table and a newly developed feeding solution for introducing thicker material into the bending machine.

Support wheels are integrated into the De-coiler frame, allowing flat material to be supported when the coil length is insufficient to complete the entire tank circumference. This solution makes it possible to continue the installation using additional material without changing the setup.
The De-coiler is operated by remote control for safe and convenient operation.
The complete De-coiler is delivered in a 20 ft HC Hard Top container, including the required support beams for on-site assembly.

De-coiler

- max height: 2000 mm (78.74 in)
- max coil weight 25 T (55,115.57 lb)
- max thickness: Duplex Steel 11 mm (0.43 in)
- max thickness: 304/316 Steel 14 mm (0.55 in)
- max thickness: Carbon Steel 16 mm (0.63 in)

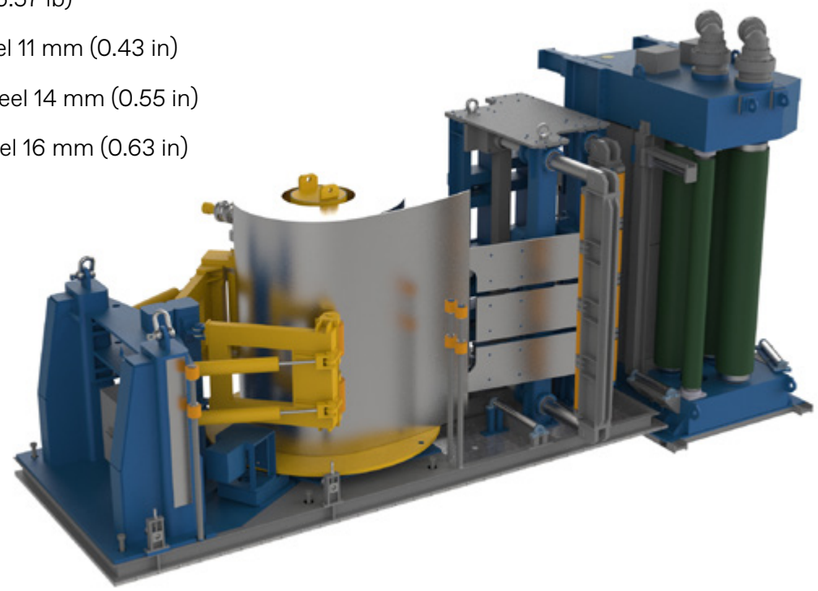


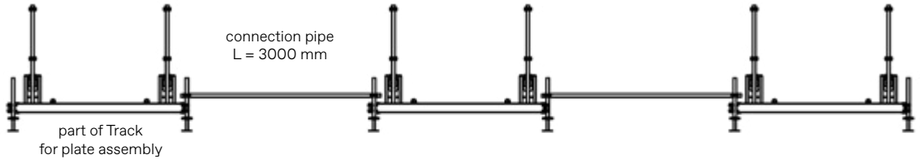
Plate Track

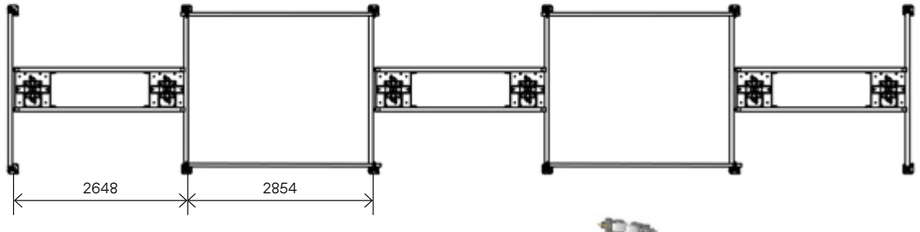
TECHNICAL SUMMARY

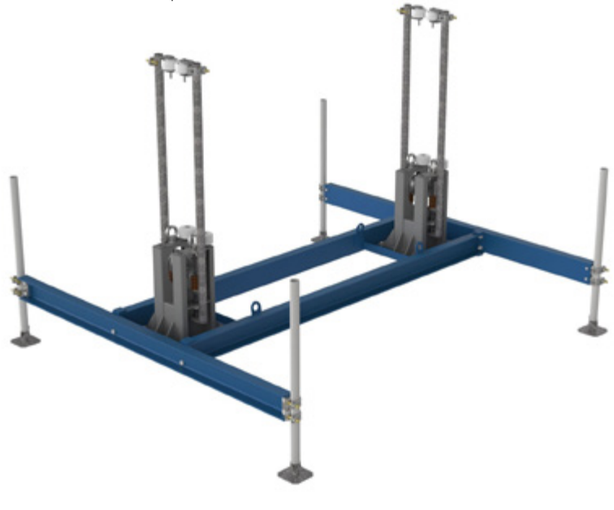
Used in conjunction with a Vertical Bending Machine, place flat material onto the Plate Track and weld the vertical seams inside the Plate Track welding container. Next, roll the long sheet and feed it into the jacking system.

Advantages:

- Used when thicker material cannot be delivered in coil
- Roll the material onsite
- Weld and prepare the sheet meanwhile the circumference on the tank is welded
- Better shape of the tank wall compared to built from pre-rolled material







Welding Station for Plate Track

TECHNICAL SUMMARY

The welding container is equipped with a hydraulic clamping system that accurately aligns and securely holds the plates during welding, minimizing distortion and ensuring a consistent weld joint. Mechanized welding is performed from both sides of the plate using welding tractors equipped with oscillation units. The controlled clamping force and mechanized welding process provide stable and uniform welding conditions along the entire joint, ensuring high-quality, consistent, and repeatable results.



The unique characteristics

- 10ft HC Customized container with 2 entrance doors
- Electrical central 32A
- Internal lighting
- Hydraulic plate clamping device
- 2 × Welding carriage with an oscillation unit
- 2 × C/W Foam transportation case
- 2 x deep section track – inside/outside
- Plate height for max 2000 mm (78.74 in) plates
- Ventilation fan



Welding station for welding the tank - Fronius

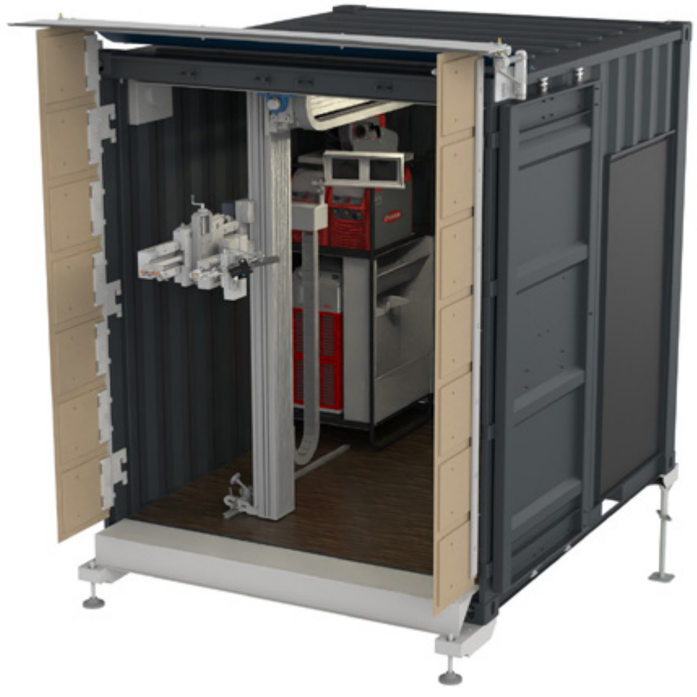
TECHNICAL SUMMARY

The welding container is designed for high-quality circumferential and vertical welding of cylindrical tanks. All essential welding equipment - including the power source, welding torch and guiding system, control unit, and supporting accessories - is fully integrated within the container.

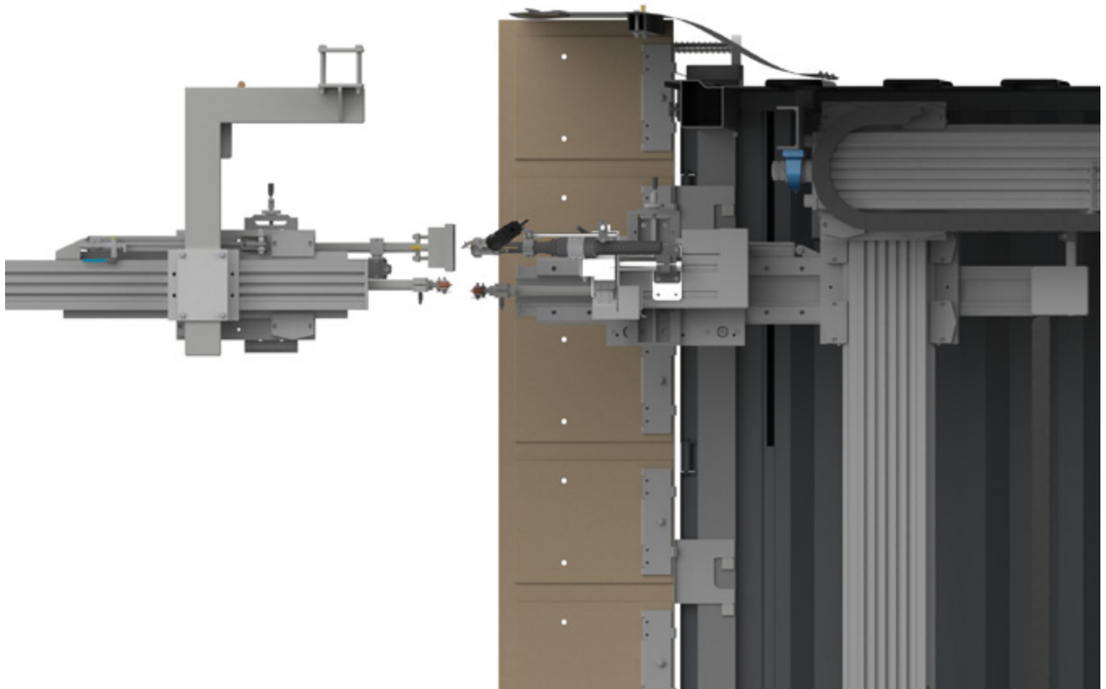
The enclosed and weather-protected working environment helps to maintain stable and consistent welding quality.

The compact and mobile design enables quick deployment and easy relocation on site. The system is delivered ready for operation, ensuring fast setup, efficient workflow, and reliable, repeatable welding performance.

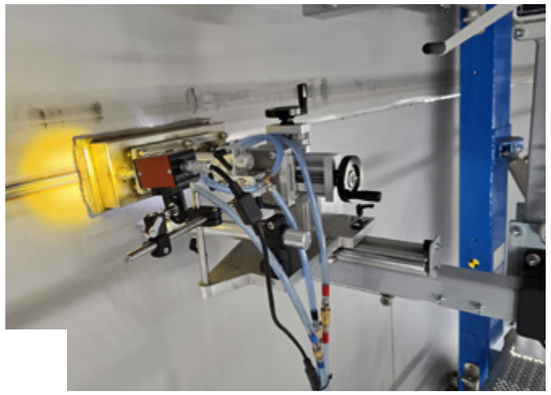




- 10 ft HC container including weather protection sealing
- 63 A Electrical central, light
- 2 x Fronius I-Wave 500A
- 1 x water cooling unit
- 1 x Wire feeder
- Fronius quick detachable torch system for:
  - Arc TIG process
  - Plasma process
  - TIG process
- Dynamic wire
- AVC
- Water cooled purge gas system
- Camera system and monitors
- HMI to operate the complete unit
- Ability to weld the 2G from both sides
- Ability to weld 3G from the outside, with a Nordweld fit-up solution for the vertical
- Ventilation fan







Welding station for welding the tank - ESAB

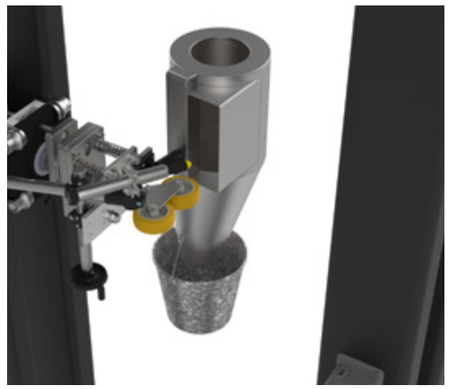
TECHNICAL SUMMARY

The Submerged Arc Welding container is designed for high-quality circumferential welding of Carbon steel tanks. All essential welding equipment - including the SAW power source, welding head, flux delivery and recovery system, control unit, and supporting accessories - is integrated within the container.

The enclosed and weather-protected working environment shields the welding operation helping to maintain stable and consistent welding quality.

The compact and mobile design enables quick deployment and easy relocation on site. The system is delivered ready for operation, ensuring fast setup, efficient workflow, and reliable, repeatable SAW welding performance.







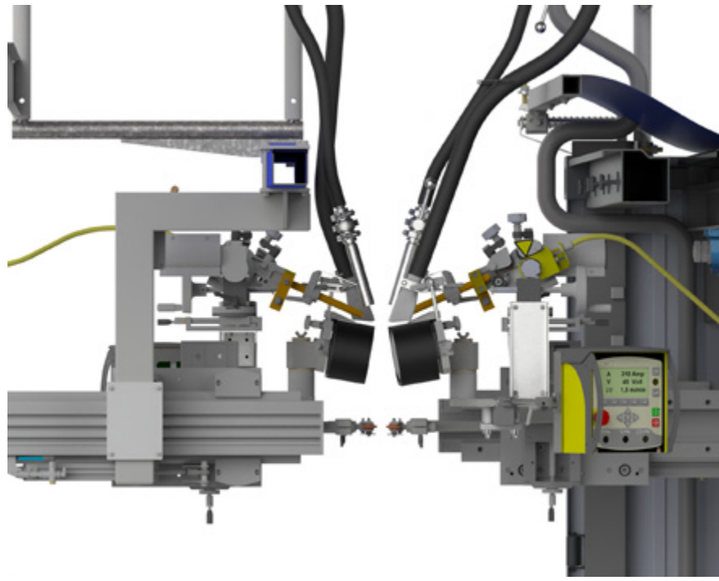
Beveling Carriage for Carbon Steel

- A compact magnetic beveling carriage designed to travel horizontally along the edge of the uplifted plate during the in-feeding process. The carriage provides controlled and consistent movement for mechanized plasma beveling, ensuring an accurate and uniform joint preparation.

External Plasma Gauging System

- For thicker carbon steel materials, joint preparation and gauging can be performed from outside the tank while the tank is being rotated. This allows the joint alignment and bevel geometry to be continuously checked and adjusted, ensuring a proper and consistent weld joint throughout the circumference.

- 10 ft HC container including weather protection sealing
- 63 A Electrical central, light
- 2 x ESAB LAF 631
- A2 Welding head
- PEK 10 Controller
- 2 x Flux conveyor
- 2 x Heated Flux hopper and vacuum units
- Ventilation fan



Nordweld

Examples of

Chosen realisations

Brazil, 2018



Belgium, 2024



Italy, 2025



France, 2024



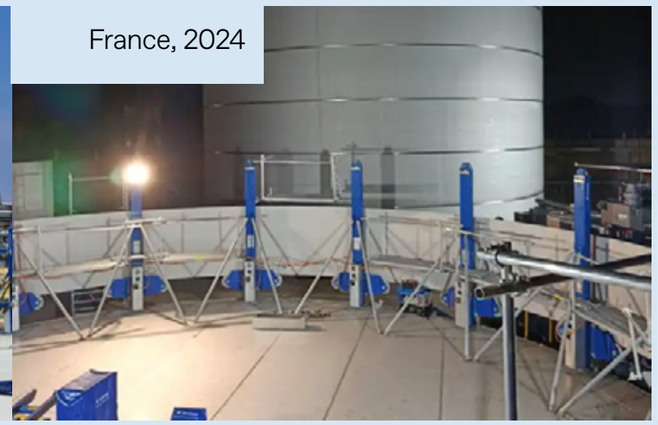
Mexico, 2019



Germany, 2021



France, 2024



Uruguay, 2022



Sweden, 2025



Sweden, 2025



Sweden, 2025





France, 2024



Standard System with Roller Beds

Can also be combined with the Bending Machine, De-coiler, and/or Plate Track.



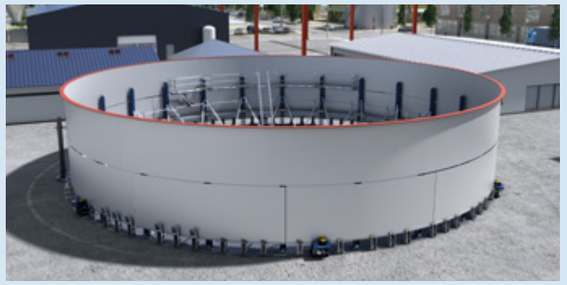
1. Unload the container.



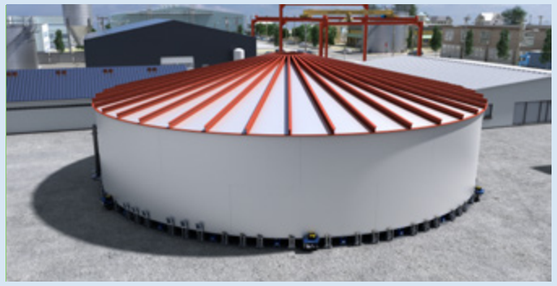
2. Place the annular and bottom plates at the foundation.



3. Place the equipment at the annular plates and assemble the Lift Jacks.



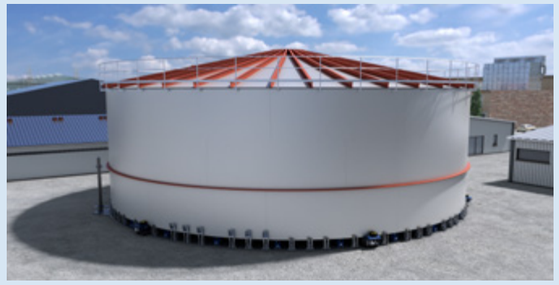
4. Assemble the 1st course including the top ring. Lift the 1st course, assemble and weld the 2nd course.



5. Assemble the roof construction.



6. Lift the entire tank.



7. Assemble the 3rd course and so on until the tank reaches the final height.

The Roller beds assembled on the bottom. The tank is rolling upon the roller beds and pre-rolled plates can be used. This is an all-around system, suitable for various types of tanks. This configuration can manage thicker and heavier tanks. After the bending and feeding of the coil and sheets, alignment and tack-welding of the horizontal joints are performed using the Tack Weld Stand while rotating the tank with the Tank Rotators. Temporary welded shell attached lifting beams are required.

Roller Bed



TECHNICAL SUMMARY

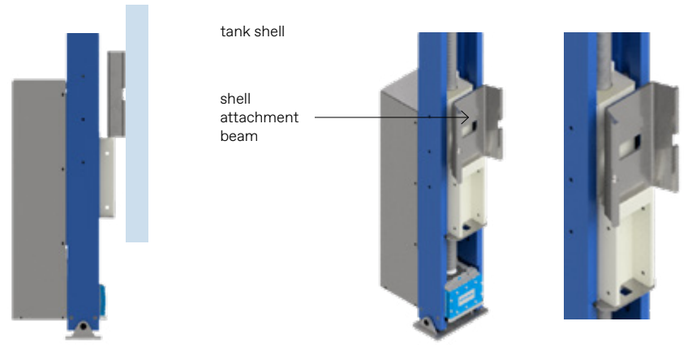
The Roller Beds are positioned around the perimeter of the tank bottom. A flat bar ring is placed on the wheels of the roller beds to distribute the load of the entire tank. As the tank rolls, it moves along with the support ring. Additionally, a special scaffolding pipe can be attached to the Roller Beds, allowing for the installation of scaffolding consoles to create exterior or interior working platforms. We offer:

- Roller Bed Standard - max. load: 4T (8,818.49 lb)
- Roller Bed Heavy Duty - max. load: 6T (13,227.74 lb)

Shell Attachment Beam

TECHNICAL SUMMARY

The Shell Attachment Beam is placed on the carriage of the Lift Jack and then welded to the shell according to the welding specifications outlined in our operating manual (typically 25-100 mm (0.98–3.94 in) on each side, depending on the lifting weight).
In the Standard System, beams are used in each course to lift or lower the tank. After the lifting operation, the beams are removed from the shell. Each beam features openings on both long sides to accommodate heavy-duty wedges, facilitating easy removal from the shell.



Reduce the total tank construction cost with The Nordweld Standard System



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About our Group

Nordweld is part of the TLC Group. It is a Swedish-Polish Group specialising in the design and production of solutions for the industrial and construction sectors. It is committed to green solutions and sustainability in its operations. The Group's product range includes steel walkway systems for the industry, temporary construction site protections and an innovative system for the construction of large-size tanks.

TLC started in 2005 as a small company and today it is a Group of companies with projects all over the world. The thousands of realisations that have been completed on various continents confirm the Group's position of a trusted business partner. TLC's key clients include leading companies in the industrial and construction sectors.

