Tank Welding LLC.

Is your complete source for Automatic Storage Tank Welding Machines. We specialize in custom built to order automatic vertical and horizontal tank welding machines for flat bottom + LNG tanks.

We have over 10 standard (AGW) Automatic Girth Welders (3 O’Clock Welder) designs. Single pass (EGW) Electrogas Welder & VUP vert welders & AVW multi pass Automatic Vert Welders, MPS frame, Automatic Vert Buggy, Tank Jacking systems and Sphere welders.

This line of equipment is built with USA made Lincoln or Miller welding systems and German SEW drive motors.

T: 541 480 2727 | E: luke@tankwelding.com | W: tankwelding.com
TANK WELDING LLC.
AUTOMATIC TANK WELDING EQUIPMENT
Standard designs and custom built equipment
Automatic Tank, Pipe, Ship Yard, Shop equipment
www.tankwelding.com

Complete Solution for Storage Tank Welding
ADVANCED & PRACTICAL AUTOMATIC WELDING SOLUTIONS
Automatic welding systems for specific industries and applications
We aim to grow a successful business by providing reliable, high productivity and cost effective automatic solutions for various welding applications. This is to be achieved with the combination of the latest available technology and practical, innovative design concepts developed from field experience.

Our goal is to be recognized by our customers as a responsible partner whom they can trust whenever they need a practical automatic welding solution to improve their productivity or meet specific requirements.

Mission Statement

We cooperate with some of the world’s finest manufacturers and combine the technical advantages to offer powerful welding solutions to customers.

We are ISO9001 certified with CE compliance on selected models of equipment.

The core of this equipment line has always been to engineer components, assemblies and fully integrated systems for specific welding requirements. The All Time engineering team possesses extensive skills and expertise in applying automatic welding in various fields, such as:

- Site storage tank erections
- Pipe spools fabrications
- Structural pipe mills
- Header fabrications
- Thin wall tanks & cylinders productions
- Precisions tubing
- Rolls & plates surfacing
- Pole productions
Our Concept

Since the foundation of this equipment we have kept searching for simple and cost effective ways to automate various applications. Our objective is to save valuable production time and improve quality without making the job complicated.

We feel the best answer is to utilize our experience with various welding processes and positioning equipment to develop welding systems with a modular design concept that can be configured to suit different needs.

We are able to provide high-capacity, top-quality welding solutions in MIG/MAG and Tandem MIG, single, Tandem and Tri-Arc SAW, plasma and TIG processes with hot or cold wire. Heavy duty SAW with automated Tandem or Triple arc SAW welding with Column and Boom are available for steel plate constructions or tubular parts, both longitudinal and circumferential welding are supported.

Integration to our welding control system and an electromechanical or laser line based optical seam tracking ensures high welding quality.

Besides our own efforts in research & development, we also embrace incorporating the technical ideas of others into our equipment.

In the tradeoff between highly automated processes able to deliver productivity plus superior quality and the cost-effective practicality of traditional methods, we strike the balance with simple automatic solutions that allow maximum flexibility.
All TIME Welding are welding automation specialists and we have considerable experience in the design, manufacture and supply of automatic tank welding systems worldwide. We design and manufacture specialist automatic welding solutions for all types of tank construction projects including cryogenic (LNG etc.), conventional bulk storage and industrial process tanks in all construction materials. We have been designing and manufacturing our specialist tank construction equipment for over twenty years and have successfully installed our systems on our client’s sites in over fifty two countries.

All TIME’s complete range of bulk storage tank automatic welding and erection equipment has been developed in conjunction with our in house engineering team, partners and our clients. We are proud of our ability to provide high quality custom engineering for every application. Our equipment will assist you at every stage of your tank construction or repair project providing maximum safety, productivity and quality. We welcome clients, both existing and prospective at all times at our facility to test and appraise our equipment and to discuss their specific project requirements.
The girth welder is an automatic welding machine that straddles the tank plate and is used to complete a tank’s circumferential weld joints. It's typically used in a single or double sided configuration. In the single sided configuration one operator is required and welding on one side of the joint occurs. In the double sided configuration two operators are required and welding occurs simultaneously on both sides of the weld joint.

**Girth Welder Features**

- Fully integrated with LINCOLN electric submerged arc welding systems as standard (other welding systems on client’s request)
- Twin SEW motors drive system for reliable and steady weld travel
- Inverter control for accurate speed adjustment
- Fully adjustable weld head/flux belt assembly
- Precision machined slides ensure correct weld placement
- Laser pointer to ensure correct tracking of the weld head in the circumferential seam
- Powerful, reliable and efficient blower type vacuum flux recovery system
- Flux heater option to keep flux away from moisture.
- Sequence control in “Auto mode” to allow one button startup
- Integrated control with cooling for reliable operation in high temperature environment
- Ergonomically positioned for the operator
### Universal Automatic Girth Welders

<table>
<thead>
<tr>
<th>MODEL</th>
<th>AGW1/U, AGWII/U</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Features</strong></td>
<td></td>
</tr>
<tr>
<td>The most versatile and widely used All Time girth welders for erecting different tanks</td>
<td>Can be configured for single sided or double sided welding</td>
</tr>
<tr>
<td>Modular design frame structure enables girth welder to weld traditional bottom up erected tanks and top down erected tanks</td>
<td>Ergonomically designed for maximum operation comfort that yields higher productivity</td>
</tr>
</tbody>
</table>

- AGW1/U configured for bottom up tank SAW
- AGW1/U configured for top down tank SAW on rail
- 2 x AGW1/U configured as 1 x AGW2/U for DOUBLE SIDED bottom up tank SAW

### Automatic Girth Welders for Dual Shells Cryogenic Tanks

<table>
<thead>
<tr>
<th>MODEL</th>
<th>GW1/LNG, AGWII/LNG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Features</strong></td>
<td></td>
</tr>
<tr>
<td>For low temperature storage tank and bulk storage tank construction</td>
<td>Removable handrails on top platform provides versatility on top shell operation</td>
</tr>
<tr>
<td>Suitable for double walled tanks with narrow inner/outer shell spacing</td>
<td>Real time monitoring and logging of weld data via Arclink when used in conjunction with the LINCOLN Powerwave ACDC System</td>
</tr>
<tr>
<td>Can accommodate plate widths of up to 7.5m (Based on client requirement's AGW LNG can be custom engineered to accommodate 8m plates)</td>
<td>AGW2-LNG with Lincoln Power wave ACDC Welding System</td>
</tr>
<tr>
<td>Adjustable frame depth allows girth welders to travel over pre-welded stiffeners on shell</td>
<td>AGW2-LNG with engine welder trailer</td>
</tr>
</tbody>
</table>

- AGW2-LNG with Lincoln Power wave ACDC Welding System
- AGW2-LNG with engine welder trailer
SITE STORAGE TANK WELDING - HORIZONTAL WELDING

Light Weight Automatic Girth Welders

**MODEL** AGWI/Mini, AGWII/Mini, AGWI/Mini-2, AGWII/Mini-2

- For low capacity thin wall storage tank construction
- Light weight frame structure design
- Available with single or double sided welding, operator carrying or non-operator carrying versions

Automatic Girth Welders on Shell Mounted Rails

**MODEL** AGWI/P, AGWII/P2, AGWI/PL

- Compact girth welder that runs on rails installed on shells for flexibility
- Eliminates limitation on plate width for conventional girth welders
- Suitable for general heavy wall horizontal welding for tanks (repairs and construction), vertical cylindrical structures (piles, offshore jackets, chimneys etc.) and vertical panels
- Economical but sufficiently robust for heavy duty welding operation
- Specific models welding on inclined surface (eg. tank roof, inclined piles, sphere tanks)

For low capacity thin wall storage tank construction
Light weight frame structure design
Available with single or double sided welding, operator carrying or non-operator carrying versions

AGWI/P2 operating on inclined pile structure
AGWI/P for small diameter welding
SITE STORAGE TANK WELDING - HORIZONTAL WELDING

Custom Made Automatic Girth Welders & Options

- **AGW (3 O’Clock)** Automatic Girth Welder with expandable base built for welding the base of a blast furnace

- **AGW** built with elevated welding head assembly to weld multiple stiffeners on the same vertical structure at different elevations

Optional AGW Features

- Buff Equipment for joint clearing prior welding
- Flux tank heater with control to eliminate moisture on flux
- Twin Wire kit for high speed Horizontal SAW
- Mobile engine welder trailer

SITE STORAGE TANK WELDING - HORIZONTAL PLASMA ARC GOUGING & GRINDING

Full Cabin Operator Carrying Automatic Plasma Arc Gouger (APG)

- To back gouge welds on stainless steel and nickel steel storage tanks to minimize excessive grinding
- Incorporates plasma arc gouging system components (Power Source, automatic gouging torch, ALC, gas console)
- Motorized Full cabin effectively house operators and gouging gears and provides accurate automatic travel along horizontal joint
- LNG models for double walled tanks with narrow inner/outer shell spacing

Full Cabin Operator Carrying Automatic Belt Grinder (ABG)

- To grind off weld buildup on horizontal joint for a flush finish on shell wall
- Incorporates heavy duty belt grinding unit
- Motorized Full cabin effectively house operators and grinding unit and provides accurate automatic travel along horizontal joint
- LNG models for double walled tanks with narrow inner/outer shell spacing
SITE STORAGE TANK WELDING - BASE PLATE WELDING

Automatic Welding Tractor

MODEL / LT-7

- A self-propelled mechanized wire feeder, which is designed for high deposition, high productivity welding in the down hand position
- Compact design and size also make it suitable for applications where space is restricted and it is well suited to operating in narrow gaps and tight spaces. Its most common applications are in the ship building, tank construction, bridge deck installation, beam, truss and column fabrication. Industries
- The use of our LT-7 magnetic attachment allows application of the LT7 on both internal and external tank floor to shell welds

SITE STORAGE TANK WELDING - VERTICAL WELDING ARC GOUGING & GRINDING

Vertical Welder

The EGW Single Pass Vertical Welder is a high productivity automatic vertical welding machine which uses real time closed-loop monitoring of the welding arc to accurately locate, control and adjust the welding head in the weld joint via arc current feedback and automatic carriage travel. This is used to complete single pass welds in material from 9 to 36mm thick but can also be used to complete thicker plate welds of up to 70mm when welding on both sides of the joint. This machine is used for vertical plate welding in the storage tank and many other applications.

EGW (Electro Gas Welder) Features

- Adopts EGW (Electro Gas Welding) process for high speed carbon steel vertical welding with FCAW (Flux Cored Arc Welding) Process option for alloy steel vertical welding
- Lightweight travel carriage, self-propelled, weatherproof, fully contained operators cabin which allows safe access to the weld joint and easy set up and install
- Lightweight Aluminum track, quick mount electro magnets, easy assembly and disassembly
- Real time monitoring of arc and automatic control of weld pool level, welding gun position and automatic adjustment of electrical stick out
- Sequence control in "Auto mode" to allow one button startup
- Onboard- self-contained continuous water cooling system
- Fully integrated with LINCOLN electric welding systems as standard (other welding systems on client’s request)
- SEW drive system for reliable and steady travel
**SITE STORAGE TANK WELDING - VERTICAL WELDING**

## Vertical Welding Carriages

Single Pass EGW Carriage with Arc Current Control for automatic stick-out adjustment

### Vertical Welding Cabins

- Single Sided Cabin for on shell travel
- Double Sided Cabin for on shell travel
- Double Sided Cabin for ground rail travel

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### Automatic Vertical Welder Selection Guide

<table>
<thead>
<tr>
<th>Model</th>
<th>Machine Frame</th>
<th>Bottom-Up Tank Welding</th>
<th>Top-Down Tank Welding</th>
<th>Double Shell Tank Welding</th>
<th>Inclined Shell Welding</th>
<th>Operator Carrying</th>
<th>Travel Mechanism</th>
<th>Tank Diameter</th>
<th>Shell Width</th>
<th>Machine Weight (RT)</th>
<th>Drive</th>
<th>Welding Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGW1</td>
<td>2 Sided</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>On Shell</td>
<td>Min. 4.0m</td>
<td>1.8 – 3.0m</td>
<td>100kg</td>
<td>DC / AC motor</td>
<td>EGW / FCAW</td>
</tr>
<tr>
<td>EGW1/D</td>
<td>1 Sided</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>On Rail</td>
<td>Min. 4.0m</td>
<td>1.8 – 3.0m</td>
<td>100kg</td>
<td>DC / AC motor</td>
<td>EGW / FCAW</td>
</tr>
<tr>
<td>EGW1/U</td>
<td>1 Sided</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>On Shell/ on Rail</td>
<td>Min. 4.0m</td>
<td>1.8 – 3.0m</td>
<td>100kg</td>
<td>DC / AC motor</td>
<td>EGW / FCAW</td>
</tr>
<tr>
<td>EGW1/P</td>
<td>1 Sided</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>On Shell/ on Rail</td>
<td>Min. 3.0m</td>
<td>1.8 – 3.0m</td>
<td>100kg</td>
<td>DC / AC motor</td>
<td>EGW / FCAW</td>
</tr>
<tr>
<td>AW1</td>
<td>1 Sided</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>Yes</td>
<td>On Shell</td>
<td>Min. 4.0m</td>
<td>1.8 – 3.0m</td>
<td>100kg</td>
<td>DC / AC motor</td>
<td>SAW / FCAW</td>
</tr>
<tr>
<td>AW2</td>
<td>2 Sided</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>No</td>
<td>On Shell</td>
<td>Min. 3.0m</td>
<td>2 – 4 M</td>
<td>700 - 950 mm</td>
<td>DC / AC motor</td>
<td>FCAW</td>
</tr>
<tr>
<td>AW2-LNG</td>
<td>2 Sided</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>No</td>
<td>No</td>
<td>On Shell</td>
<td>2 – 4 M</td>
<td>700 - 950 mm</td>
<td>DC / AC motor</td>
<td>FCAW</td>
</tr>
<tr>
<td>AVW1</td>
<td>1 Sided</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>No</td>
<td>Yes</td>
<td>On Shell</td>
<td>Min. 3.0m</td>
<td>100 – 150 mm</td>
<td>DC / AC motor</td>
<td>SAW / FCAW</td>
</tr>
<tr>
<td>AVW2</td>
<td>1 Sided</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>No</td>
<td>No</td>
<td>On Shell</td>
<td>Min. 3.0m</td>
<td>100 – 150 mm</td>
<td>DC / AC motor</td>
<td>FCAW</td>
</tr>
</tbody>
</table>

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**Notes:**

- **EGW1/D**: Suitable for vertical tank welding.
- **EGW1/U**: Configured for bottom up tank SAW.
- **AW1**: Designed for single-sided operations.
- **AW2**: Capable of double-sided welding.
- **AVW1**: Meant for vertical SAW applications.
- **AVW2**: Designed for manual operation.

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**Insert Diagram:**

- Diagram of a vertical welding system with labels for various components such as water cooling, welding cable, and sensor points.

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**Insert Diagram:**

- Diagram illustrating the controls and connections for the vertical welding process, highlighting safety features and operational mechanisms.
SITE STORAGE TANK WELDING - VERTICAL WELDING

Full Cabin Operator Carrying Single Pass Electro Gas Vertical Welders

- EGW carriage and control for high deposition automatic single pass vertical welding
- Full aluminum panel wind shielding cabin efficiently bring operators and welding gears to vertical joints and provide indoor conditions for high quality welding
- 3 different standard configurations for site erected Bottom Up and Top Down erected storage tanks or heavy wall cylindrical structures (e.g., towers, blast furnace)
- Most complete and productive vertical welding solution for site jobs that require a lot of welding

Non Operator Carrying Single Pass Electro Gas Vertical Welders

- Compact non operator carrying vertical welder that runs on shells for max flexibility
- Eliminates limitation on plate width for conventional vertical welders
- Suitable for general heavy-wall vertical welding for tanks (repairs and construction), vertical cylindrical structures (piles, offshore jackets, chimneys etc) and vertical panels
- Economical but sufficiently robust for heavy duty welding operation
- Specific models welding on inclined surface (e.g., tank roof, inclined piles)

MODEL / EGWII, EGWI/D, EGW1/U

MODEL / EGWI/P

EGWII rides on shell for traditional bottom up tank erection

EGWII/D travels on based mounted rail for top down tank erection

EGW carriage to be used with standard EGW gondola for ship panel vertical welding

TANK WELDING LLC.
**Galvanized Service Cage**

- For low temperature storage tank and bulk storage tank construction
- Integrate with Standard BUGO welding carriage for mechanized FCAW
- Full aluminum panel wind shielding cabin efficiently bring operators and welding gears to vertical joints along tank shells and provide indoor conditions for high quality welding
- Cabin available in single or double sided
- LNG models for double walled tanks with narrow inner/outer shell spacing

**Automatic Girth Welders for Dual Shells Cryogenic Tanks**

- For low temperature storage tank and bulk storage tank construction
- Suitable for double walled tanks with narrow inner/outer shell spacing
- Can accommodate plate widths of up to 7.5m (Based on client requirement’s AGW LNG can be custom engineered to accommodate 8m plates)
- Adjustable frame depth allows girth welders to travel over pre-welded stiffeners on shell
- Removable handrails on top platform provides versatility on top shell operation
- Real time monitoring and logging of weld data via Arclink when used in conjunction with the LINCOLN Powerwave ACDC System
- AGW2-LNG with Lincoln Power wave ACDC Welding System
- AGW2-LNG with engine welder trailer

**Modal AVW1, AVW2, AVW1/LNG, AVWII/LNG**

- Operator elevator inside cabin
- BUGO Carriage with Oscillator for FCAW
- Laser Seam Tracking

**Modal SP1, SPII**

- Foldable for easy transportation
- 5 x full folded SPII fits in one 20’ container
- Adjustable for different shell widths via locking pin
- Manual chain drive
- Foldable step frame for various work height
We’ve designed a hydraulic jacking system with the flexibility to lift storage tanks of different capacities and weights that are compatible to various manual or automatic welding methods adopted by tank contractors across the globe. We can handle the largest tank projects and we can do it safety with maximum saving of time.

Our jacks are mounted securely on the floor and using the massive cylinder as a beam, will support the structure even in higher wind loads.

Each All Time HLD jacking module has its own hydraulic pump and reservoir. They are linked to a central control that commands all aspects of the jacking operation.

Each standard HLD jacking module with 2 cylinders can lift 50,000 kg, which allows fewer jacks to raise a tank, it is designed with a large clearance from the tank shell that gives the workers extra room to quickly insert plates.

In operation, the cylinders are attached to the wall, the control loads the jack manually, or automatically via the addition of a PLC unit, then lift the structure holding tolerance within 2mm.
**SITE STORAGE TANK WELDING - HYDRAULIC JACKING**

**SITE STORAGE TANK WELDING - SERVICE SUPPORT**

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**Model**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective lifting stroke</td>
<td>Max. 2700mm</td>
</tr>
<tr>
<td>Lifting force per cylinder</td>
<td>Max. 250 KN</td>
</tr>
<tr>
<td>Lift pressure per cylinder</td>
<td>Max. 25 MPa</td>
</tr>
<tr>
<td>Lift speed</td>
<td>200 mm/min</td>
</tr>
<tr>
<td>Pump Flow rate</td>
<td>5m³/r</td>
</tr>
<tr>
<td>Operating distance (hydraulic pump to cylinder)</td>
<td>&lt; 5m</td>
</tr>
<tr>
<td>Operation temperature</td>
<td>-20 to 80°C *with correct selection of oil</td>
</tr>
<tr>
<td>Standard Hydraulic pump input voltage</td>
<td>380VAC/3ph/50Hz</td>
</tr>
<tr>
<td>Weight of hydraulic cylinder</td>
<td>500kg</td>
</tr>
<tr>
<td>Weight of hydraulic pump</td>
<td>80kg</td>
</tr>
<tr>
<td>Total weight of standard jacking module</td>
<td>880kg</td>
</tr>
</tbody>
</table>

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**Our philosophy is to help you gain the maximum productivity from your investment in our equipment by building a strong partnership with you and by providing you with excellent customer support.**

To achieve this we’ve established a team of experienced site technicians to travel domestically & overseas to provide on-site installation, commissioning and training. Backup instructions at our demonstration facility are also an option.

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**Using in conjunction with AGW-1/U for OD SAW**

**Cylinders fully retracted for AGW-1/U ID SAW**

**Cylinders fully retracted for AGW-1/P ID SAW**

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**Our philosophy**

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**Partnership**

**Factory training**

**Procedure development**

**Worldwide on-site**
TANK WELDING LLC.
AUTOMATIC TANK WELDING EQUIPMENT
Standard designs and custom built equipment
Automatic Tank, Pipe, Shop Yard, Shop equipment
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