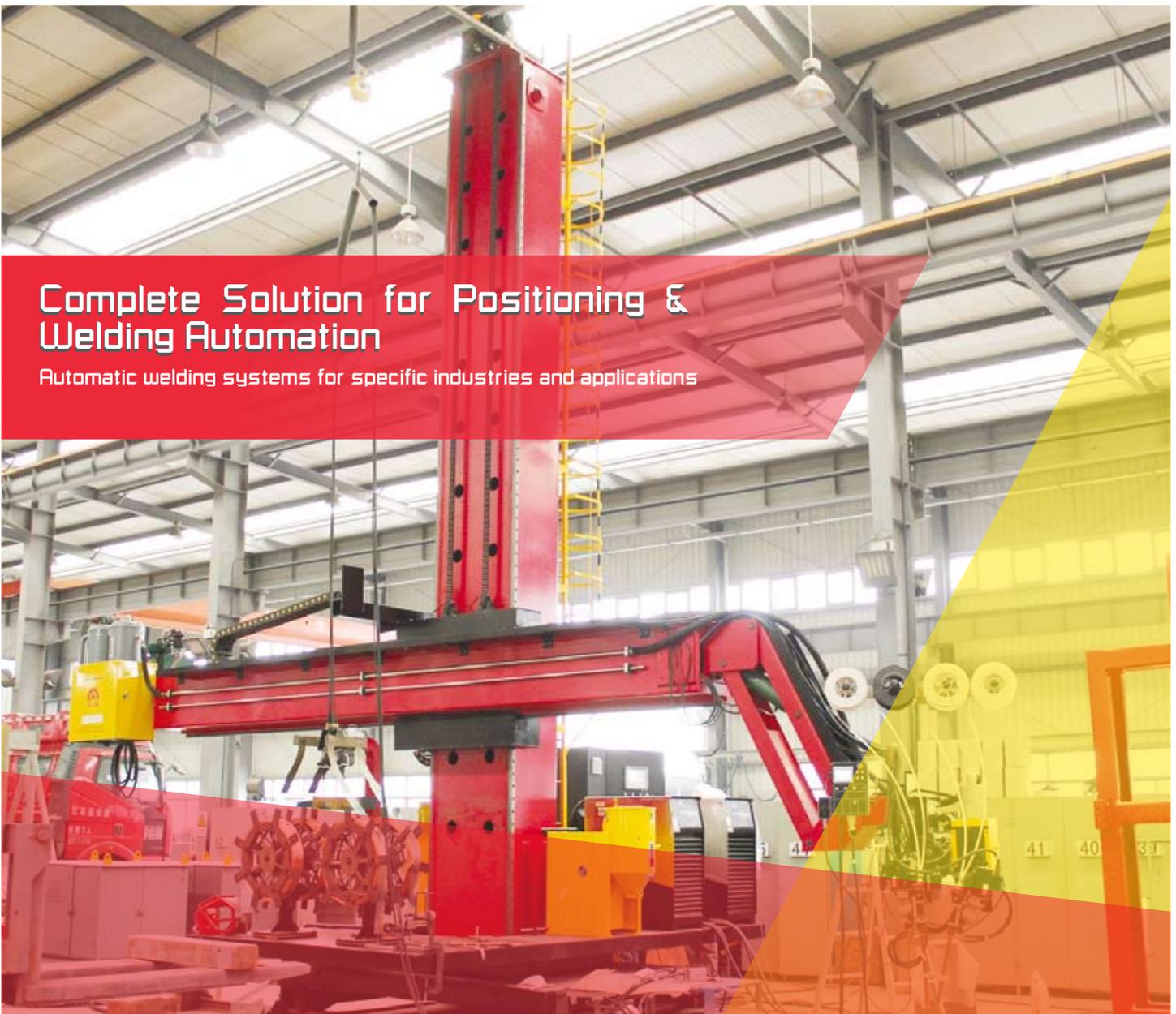


**TANK WELDING LLC.**  
**AUTOMATIC WELDING EQUIPMENT**  
Standard designs and custom built equipment  
Automatic Tank welders, Automatic Pipe Welder, ShipYard Welders, Shop  
welding, cutting an positioning equipment.  
[www.tankwelding.com](http://www.tankwelding.com)



## Complete Solution for Positioning & Welding Automation

Automatic welding systems for specific industries and applications

Some of the locations this line of automatic welding systems have been delivered around the world.

- Algeria
- Angola
- Australia
- Bahrain
- Brunei
- Brazil
- Bulgaria
- Canada
- Colombia
- China
- Chile
- Curacao
- Egypt
- Estonia
- Hungary
- Indonesia
- Iraq
- Israel
- Japan
- Korea
- Kuwait
- Lithuania
- Malaysia
- Mexico
- Morocco
- Mozambique
- Myanmar
- Namibia
- Netherland
- New Zealand
- Oman
- Pakistan
- Philippine
- Poland
- Portugal
- Puerto Rico
- Russia
- Saudi Arabia
- Singapore
- Slovakia
- Spain
- South Africa
- Sudan
- Taiwan
- Thailand
- Tunisia
- U.A.E
- U.K.
- U.S.A
- Vietnam
- Yemen

## Mission Statement

**We** aim to grow a successful business by providing reliable, high productivity and cost effective automatic solutions for various welding applications.

## Goal

**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.



## The Company

Through the consistent pursuit of ideas and dedication, we have steadily grown as an established automatic welding equipment manufacturer in different industries.



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

We are an ISO9001 certified company that runs SAP. Selected models of our equipment are being certified for CE compliance.



Our core business of this is to manufacture engineered components, assemblies and fully integrated systems for specific welding requirements. The engineering team possesses extensive skills and expertise in applying automatic welding in various fields such as:

- Site storage tank erections
- Pipe spools fabrications
- Heat exchanger header fabrications
- Thin wall tanks & cylinders productions
- Precision tubing
- Rolls & plates surfacing
- Pole productions
- Pulley fabrications
- Structural pipe mills



In the tradeoff between highly automated processes for high productivity plus superior quality and the cost-effective practicality of traditional methods, we strike the balance with simple automatic solutions that allow maximum flexibility.



SAW-multi wire (1G)    EGW (3G)    SAW (2G)    PAW (1G)    TIG (1G)

## Our Concept

Ever since the foundation of our company 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 can provide high-capacity, top-quality welding solutions in single or tandem MIG, single, Tandem or Tri-Arc SAW, PAW or TIG processes with hot or cold wire.

Integration of our Welding Control and devices such as **electromechanical or optical seam tracker** ensures high welding quality by continuously adapt to the variations of the task.

Besides our own efforts in research & development, we also incorporate the technology of others into our equipment to enhance its performance.



ARM processor control



PLC based control



Laser Seam Tracking

## Product Index

### SITE STORAGE TANK WELDING

BOOK A



- Girth Welders
- Vertical Welders
- Base Plate Welders
- Service Platforms
- Hydraulic Jacking Systems

### STANDARD POSITIONING



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- Positioners
- Turning Rolls
- Side Beams & Carriages
- Gantry Welders
- System Controls

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## STANDARD POSITIONING

- MANIPULATORS
- POSITIONERS
- TURNING ROLLS
- SIDE BEAM CARRIAGES

Our standard positioning equipment range forms the base on any welding system and includes anything that is used to hold and position the work piece for welding or to position and move the welding arc relative to the part being welded.

Our standard positioning equipment line provides all of the components that integrate to form the foundation of our turnkey welding solution packages for automatic

welding. Our comprehensive range includes jigs and equipment to both move and position the work piece and welding arc accurately with a high degree of productivity and repeatability.

Due to the precise level of control of the welding, assembly and fixturing process that our integrated systems provide, we can offer a fully customized solution for every requirement.



## STANDARD POSITIONING - MANIPULATORS

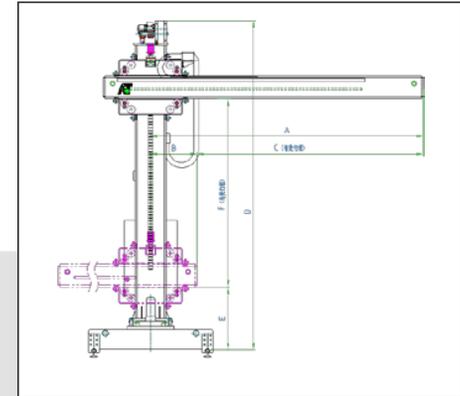
## MANIPULATORS

A manipulator consists of a base and vertical column. The column can be fixed or rotated  $\pm 180^\circ$  degrees around the vertical axis. A saddle travels up and down the vertical column, carries a boom that travels in and out along the horizontal. Welding head with different weld gears for TIG, PAW, MIG or SAW can be mounted on either ends of the boom and located to the desired position for welding.

For heavy duty or precision welding, it is singularly the most versatile piece of equipment directly associated with automatic welding. It is designed to duplicate the function of a man, as related to welding, but it can carry out these functions on distance and weight scales that man alone cannot approach. When mounted on a travel car, it also moves along the shop, performing a variety of welding functions at the various stops.

## Features

- I and box beam column and boom construction yields the best values of structural properties
- Twin boxes saddle structure to minimize deflection
- Alloy steel wear resistant guide way
- Anti-fall device for safety
- Precise inverter drive control boom travel
- Integrated PLC control for sequencing
- All in one control pendant for easy operation
- 4WD power travel cars on floor mounted rails to provide steady linear movement

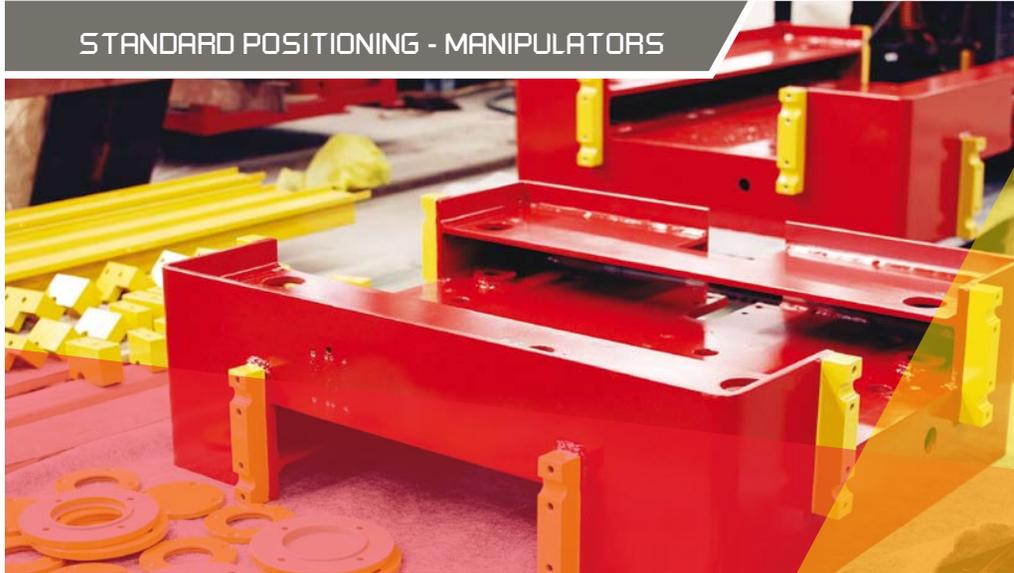


## SPECIFICATIONS

Model	CT 1010	CT2020	CT3030	CT4040	CT5050	CT6060	CT7070	
Precision (P)	YES	YES	YES					
Medium Duty (M)	YES	YES	YES	YES	YES			
Standard Duty (S)		YES	YES	YES	YES	YES	YES	
Heavy Duty (H)			YES	YES	YES	YES	YES	
Effective lift	1000 mm	2000 mm	3000 mm	4000 mm	5000 mm	6000 mm	7000 mm	
Effective reach	1000 mm	2000 mm	3000 mm	4000 mm	5000 mm	6000 mm	7000 mm	
Boom Construction	TWIN BOXES							
Boom Drive	POWERED AC DRIVE							
Boom Drive Type	RACK & PINION							
Boom Load Each End	Type P						75 kg	
	Type M						150 kg	
	Type S						250 kg	
	Type H						500 kg	
Boom Ways	Type P	LINEAR GUIDEWAY						
	Type M, S, H	SQUARE (Wear Resistance Alloy Steel)						
Column Construction	BOX							
Column Drive	POWERED AC DRIVE							
Column Lift Type	Type P	LEAD SCREW						
	Type M, S, H	ROLLER CHAIN						
Column Ways	Type P	LINEAR GUIDEWAY						
	Type M, S, H	SQUARE (Wear Resistance Alloy Steel)						
Anti-Fall Device	Type P	LEAD SCREW						
	Type M, S, H	RACK & PAWL						
Column rotation	Fixed type	Optional						
	Manual					$\pm 180^\circ$		
	Motor-driven	$\pm 180^\circ; 0.2 \text{ rpm}$				$\pm 180^\circ; 0.1 \text{ rpm}$		
Base	Stationary Base							
	Travel Car	4WD						



### STANDARD POSITIONING - MANIPULATORS



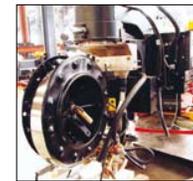
Box structure saddle designed to effectively support boom for accurate boom travel



CTM MEDIUM DUTY Manipulator being setup for MIG welding operation



Internal SAW head for part inside diameter as little as 400mm



Strip cladding nozzle option



6m x 7m HEAVY DUTY Manipulator built with walkway on boom and safety ladder



7m x 7m HEAVY DUTY Manipulator with precise on boom carriage and deep groove SAW head

CTS STANDARD DUTY Manipulator on 4WD power travel car for SAW production



Wear resistant chrome molly guide way specially welded on column and boom for long time accurate performance with minimum maintenance



Limit switches and anti-fall mechanism for safety



CTP PRECISION Manipulator to provide precise positioning of welding arc for TIG or PAW applications



Lead screw elevation for our CPT PRECISION Manipulator for accurate boom positioning

STANDARD POSITIONING - POSITIONERS

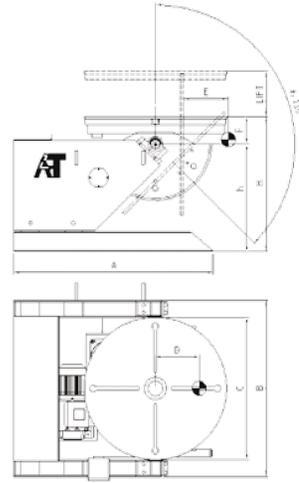
POSITIONERS

Our gear driven positioners are available in load capacities from 50kg to 100 metric tons. The variety of positioners include standard, 3 axis, geared elevation, turntables, headstocks-tailstocks and small bench model positioners.

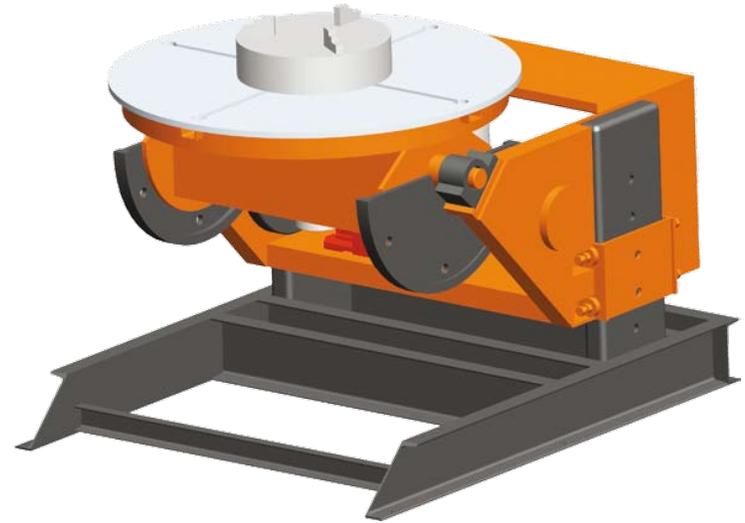
Positioner can significantly benefits welding is because work-pieces can always be set up to the best possible welding positions for higher productivity, quality and ergonomic working comfort.

Features

- Designed for well balance to prevent tipping over
- Dynamic braking for immediate stoppage
- Jam proof pendant switches for reliable control
- Rapid travel to minimize down time
- Variable speed AC inverter drive for accurate infinity control



All Time P Series Standard Tilting Positioner



SPECIFICATIONS

	P05	P1	P2	P5	P10	P15	P20	P25
Capacity (kg)	500	1000	2000	5000	10000	15000	20000	25000
D	150			300				
E	150			300				
Rotation torqueT2 (N.m)	750	1500	3000	15000	30000	45000	60000	75000
Tilt torque T1 (N.m)	1400	2800	7080	30000	59000	88500	118000	147500
Rotation speed (rpm)	0.06 - 1.8	0.06 - 1.8	0.04 - 1.2	0.02 - 0.6	0.02 - 0.6	0.02 - 0.6	0.01 - 0.3	0.01 - 0.3
Tilt speed (rpm)	0.72	0.93	0.66	0.45	0.2			
θ	90° Forward / 45° Backward							
C	1000		1200	1500	1800		2500	
F (mm)	130	140	204	290				

- D Eccentricity in mm
- E Center of Gravity in mm
- C Turntable Diameter in mm
- \* custom dimensions are available on request
- θ Tilt Angle

## STANDARD POSITIONING - POSITIONERS

### PM Series Benchtop Tilting Positioners

- From 50 - 200 kg capacity
- Feature DC controlled motors with adjustable rotation speed
- Different output speed is available
- Recommended for workshop applications



### PH Series Heavy Duty Tilting Positioners

- From 20 to 100 metric ton capacity
- 45° of reverse tilt and 90° of forward tilt from the horizontal position
- Powered by AC brake motor OR hydraulic unit
- Extra-large gears with self-locking reducer
- Twin tilt segment



### PTT Series Turn Table Positioners

- From 1 to 100 metric ton capacity
- Provides smooth rotation of heavy parts
- Slew ring bearings combines center column provides uniform load support



### PL Series L Positioners

- Up to 5 metric ton capacity
- Handling of large work-pieces with demanding geometries in all positions
- Stepless, motorized rotation, tilting and height adjustments



### PHS Series Head Stock Positioners

- Up to 40 metric ton capacity compounded with tailstock
- Rotating large frames and long structures for maximum flat position welding
- Powered by AC brake motor
- Full function remote control with jam proof switching
- Available with power elevation option

### PP Series Precision Positioners

- Up to 1T metric ton capacity
- Design for robotic and other applications with precise speed and positioning control requirements
- Manual or powered by servo drives
- PLC based standard control with optional robotic interface



## STANDARD POSITIONING - TURNING ROLLS

## TURNING ROLLS

Turning Rolls are used throughout all industries worldwide to ease the fabrication and assembly of cylinders, pipes, tanks and pressure vessels of all types and dimensions.

Turning Rolls improve the productivity and weld quality of either automatic or manual welding by increasing arc time, minimizing handling and need for crane usage. They allow operators complete control of rotation and welding speed to produce code quality welds consistently.

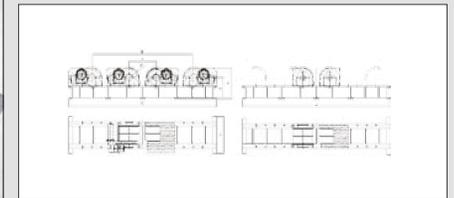
Our standard line of turning rolls offer capacities from 1 to 300 tons.

## Features

- Polyurethane build on rollers with strong compressive strength and heat resistance to absorb shock and cushion seams during welding
- Hardened steel rollers are provided for specific elevated temperature and heavy load applications
- Over load discs on rollers option to prevent overloads led tires damage
- Adjustable rollers spacing for different part diameters
- Custom made worm gears feature steel case to absorb loads
- Precision frame with end members to prevent uneven floors to distort wheel alignment
- Standard interface to All Time equipment for sequencing



TR Series Standard Turning Rolls



## SPECIFICATIONS

	Load capacity Ton (1 driver 1 idler)	Loading capacity Ton (1 driver 2 idlers)	Wheel diameter mm	Wheel material	Surface speed mm/min	Workpiece diameter range mm
TR 3	3	4.5	305	Polyurethane	70-1500	150 - 4000
TR 5	5	7.5	305	Polyurethane	70-1500	150 - 4000
TR 10	10	15	305	Polyurethane	70-1500	150 - 4000
TR 20	20	30	305	Polyurethane	70-1500	150 - 4000
TR 30	30	45	500	Polyurethane / Steel	70-1500	250 - 5400
TR 40	40	60	500	Polyurethane / Steel	70-1500	250 - 5400
TR 60	60	80	500	Polyurethane / Steel	70-1500	250 - 5400
TR 80	80	120	500	Polyurethane / Steel	70-1500	250 - 5400
TR 100	100	150	500	Polyurethane / Steel	70-1500	250 - 5400
TR 120	120	180	500	Polyurethane / Steel	70-1500	250 - 5400
TR 160	160	240	500	Polyurethane / Steel	70-1500	250 - 5400
TR 200	200	300	500	Polyurethane / Steel	70-1500	250 - 5400
TR 300	300	450	700	Steel wheel	70-1500	600 - 6000



## STANDARD POSITIONING - TURNING ROLLS

### TRB Series Benchtop Turning Rolls

- Capacities from 1000kg - 5000kg
- Designed for manual or semi-automatic welding of medium or small sized pipes
- DC or inverter-controlled AC motor drives enables steeples speed control
- Foot switch for remote control to start and stop rotation
- Integrated rotation, stop and reverse rotation switches, and steeples speed control



### TRH Series Fit Up Turning Rolls

- Capacities from 10T to 180T
- Adjust the wheels center distance and height by using hydraulic cylinders for the fit up of the cylindrical parts
- Cylinder adjustments are governed by close loop system via sensors and PLC
- Powered by twin AC inverter drives with infinity speed control

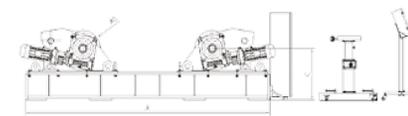


### TRC Series Lead Screw Turning Rolls

- Capacities from 3T - 300T
- Roller center distance is adjusted through lead screw to keep work centerline constant during adjustment
- Powered by twin AC inverter drives with infinity speed control
- Adopts self-locking worm gears



## ANTI-DRIFT SOLUTIONS



### ANTI DRIFT SYSTEM

Designed to maintain automatically the axial position of heavy cylindrical parts rotating on turning rolls, within a very narrow range of tolerance without anything done by the operator. It works in conjunction with All Time's hydraulic fit up rollers and provides fabricators the following benefits:

- Repeatability in position of the beads during circumferential welding or cladding
- Safety of operation since interference between nozzles or holes existing on the part and turning rolls can be avoided



Actuator

### ANTI DRIFT ROLLER

For relatively lighter parts, it would be more economical for fabricators to opt for mechanical roller for anti-drifting.



Control module



Mechanical anti-drift roller

### TRS Series Self Aligned Turning Rolls

- Capacities from 10T - 300T
- Comes with 4 self-aligning wheels automatically move into position to provide best support for different part diameters
- Powered by twin AC inverter drives with infinity speed control
- Adopts self-locking worm gears with gear trains to activate self-aligning wheels



## STANDARD POSITIONING - SIDE BEAMS & CARRIAGES / GANTRIES

### SIDE BEAMS & CARRIAGES

Side Beams and Travel Carriages are built for precision welding in which high degree of accuracy for linear welding is necessary.



#### Features

- Wide range of tracks is available for carrying weights up to 600kg
- Weld length capacity up to 10m
- Fixed position, manual or power adjustable posts to assure the exact height selection for the job
- A wide range of accessories options such as manual or motorized slides, torch height trackers, torch mounting groups, wire feeder's mountings, positioner encoders, speed indicators
- Heavy duty side beam system with cantilever booms for tapered or irregular beam welding applications

### WELDING GANTRIES

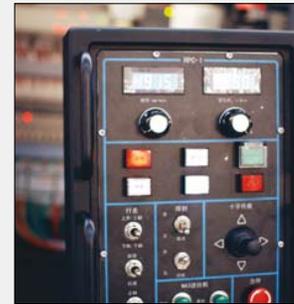
Welding Gantry is a steel structure that rides on two rails with power drive on one or both sides through a wheel and rail friction drive. The system is designed for making longitudinal welds on parts that are placed underneath the gantry and between the gantry travel rails.

It can be configured for longitudinal welds with various weld joint configuration.



#### Features

- Carries up to 10T of welding apparatus such as multiple heavy-duty weld heads and a large quantity of consumables in drums
- Weld length capacity is only limited by the length of the rails
- Fixed position, manual or power adjustable posts to assure the exact height selection for the job
- A wide range of accessories options such as manual or motorized slides, torch height trackers, torch mounting groups, wire feeder's mountings, positioner encoders, speed indicators



### SYSTEM CONTROL

For positioning and automatic welding, there is an increasing demand for greater positioning, travel and welding process control due to the need to improve quality and consistency of production. Accordingly, All Time offers a range of individual controls or a combination of controls that are compatible with our welding positioners, which allow operators to have all automated equipment control functions at their fingertip.

Selection of the right control system depends on many variables such as budget, size, complexity and future expansion, All Time's engineering team assist clients in making the correct decision for a project based on the requirements.



#### Relay System Control

Consists of relays controlling discrete functions and independent loop controllers controlling analog functions.

#### PLCs

Typically paired with a human-machine interface (HMI) for visualization and alarming, it handles a very high speed I/O, sequencing, PID control, digital and analog I/O.

#### IPCs

Runs on PC platforms with advantage to run the HMI application on the same machine as the automation program and reduce cost.

### LINCOLN DIGITAL COMMUNICATION READY

Our system controls are designed to integrate with Lincoln Welding Systems featuring digital communications via **DeviceNet** and **Arclink** specifically designed for the arc welding environment.



## PIPE FABRICATION WELDING

- CLAMPING PIPE WELDERS
- PRESS ROLLER PIPE WELDERS
- PIPE FLANGE WELDERS
- PIPE FABRICATION LINES

In recent years, many pipe spool fabricators are re-evaluating their work flow and plant layout to improve productivity, trying to increase the percentage of joint to be welded in shop to utilize the quality and productivity advantage brought by in-position mechanized welding. Such approach by rotating the work piece typically requires a range of positioning equipment such as turning rolls, head & tail stock, manipulators, with specially designed tools in case work pieces with asymmetrical configurations (elbows, flanges) are required to be welded.

**PW Pipe Welder** is a fully automated work cell developed specially for industrial pipe prefabrication, it enables sub-assemblies to be prepared and welded from basic components (pipes, flanges, elbows, etc...) in the workshop for a variety of industrial sectors:

- Refineries and power plants
- Shipbuilding and offshore platforms
- Chemical and food processing plants
- Gas expansion and distribution stations

PW integrates tracking system, control, manipulator, positioner to adopt 1 or more arc welding processes (TIG, PAW, MIG, SAW...) in a completely dedicated package that produces high quality full penetration welds up to 5 times faster than manual welding.

PIPE FABRICATION WELDING - CLAMPING PIPE WELDERS

CLAMPING PIPE WELDERS

PWC Automatic Pipe Welder with gear positioner for pipe clamping and rotation.

The system is typically made up of a manipulator on motorized carriage, a set of welding equipment, idlers on carriages and a system control with pendant highlighted by a precision positioner for rotation as well as tilting in some cases.

Pipe welder consists of a gear positioner that controls the ability to control the rotation with the precision required to achieve accurate travel speeds during the welding process, regardless of pipe diameter. Gear box of the positioner produces the required ratio and self-locking function to maintain the weight in case of stoppage or failure. Such features are critical for high precision welding processes such as TIG, PAW and full penetration root pass welding.

The gear box and motor assembly is located inside the welded structure with panel access for easy maintenance and service.

A 3 Jaws self-centering chuck uses hardened tips to ensure good grip on the pipe or fittings with various diameter capacities. Center of the chuck is aligned with the base track system and the idler for ease of setup and proper welding position.

Features

- Ergonomic design for the operator
- Motorized welding carriage along the track system
- Self-centering 3 Jaw chucks up to 42" pipe diameter
- Hydraulic adjustable idler rolls for ease of height setup
- Track system for quick and easy installation
- Optional loading / unloading equipment to improve logistic
- User friendly interface
- Programmable control to create and edit welding procedures
- Servo drive options for feedback computer control
- Options for multiple welding processes



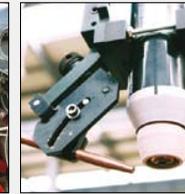
automatic pipe welding processes



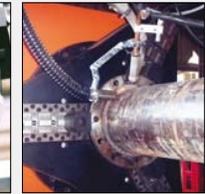
Pulse MIG / STT



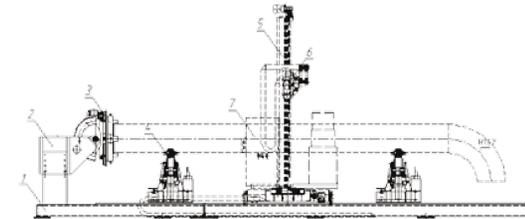
TIG



PAW



SAW



1. Track System
2. Headstock positioner
3. 3 Jaw Chuck
4. Hydraulic idler roll
5. Manipulator
6. Weld head assembly
7. System control



Economical Tri Processes Weld head assembly



ID/DD Pipe Welder for large diameter heavy pipes



Auto pipe center aligning idlers

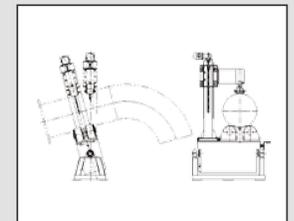
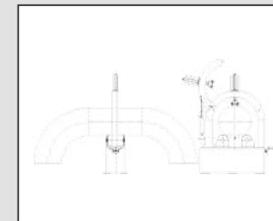
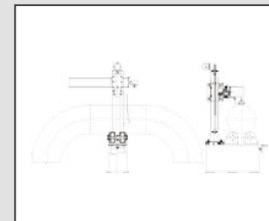
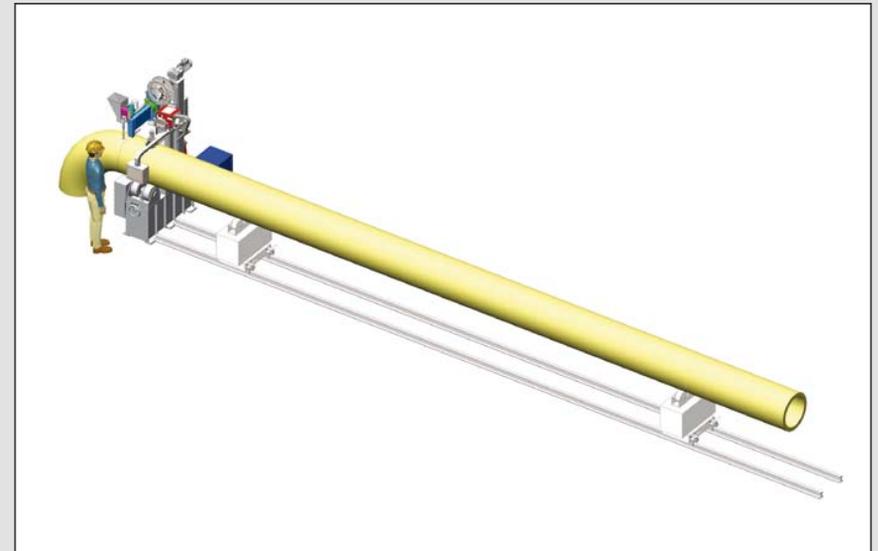
PIPE FABRICATION WELDING -  
PRESS ROLLER PIPE WELDERS

PRESS ROLLER PIPE WELDERS

PPAW Press Roller Pipe Welder is used for clamping, rotating, and tilting of pipes spools or assemblies with eccentric loads that traditionally would be difficult to rotate without counter weights.

Features

- Used for pipe spools with elbows, Tee pieces, or other eccentric loads
- Quick precise centering and clamping without chuck or jigs to save time
- Pipe can be clamped at its center of gravity
- Various configurations with clamping and driving of a main spindle
- Servo drive options for feedback computer control
- Options for multiple welding processes



SPECIFICATIONS

Model	PPAW12	PPAW24	PPAW36
Pipe diameter range	φ50 - φ305 mm	φ200 - φ610 mm	φ250 - φ915 mm
Roller linear speed range	70 - 1500 mm/min	70 - 1500 mm/min	70 - 1500 mm/min
Maximum load	500 kg	1000 kg	2000 kg
Drive motor power	AC0.25 kw	AC0.37 kw	AC0.75 kw
Column rotation mode	Fixed	Manual	
Column rotation range	0°	±90°	
Cross arm lifting speed	-	500 mm/min	
Lifting motor power	-	0.37 kw	0.55 kw
Work clamping method	Thread / Hydraulic	Thread / Hydraulic	

PIPE FABRICATION WELDING - PIPE FLANGE WELDERS

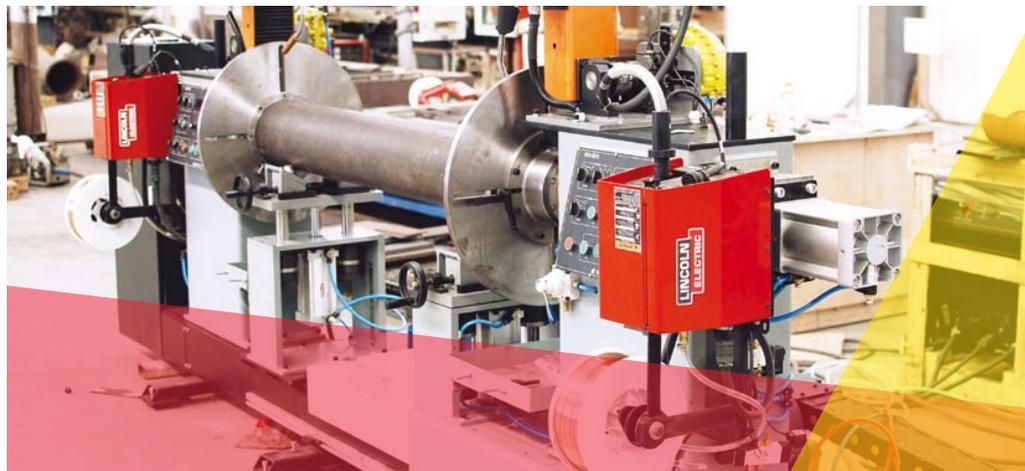
PIPE FLANGE WELDERS

PFW Pipe Flange Welder is designed to weld flanges and other pipe components to pipe ends.

It is a cost-effective welding solution that is especially beneficial for volume production that demands repeatable code quality welds with minimum weld cycle time.

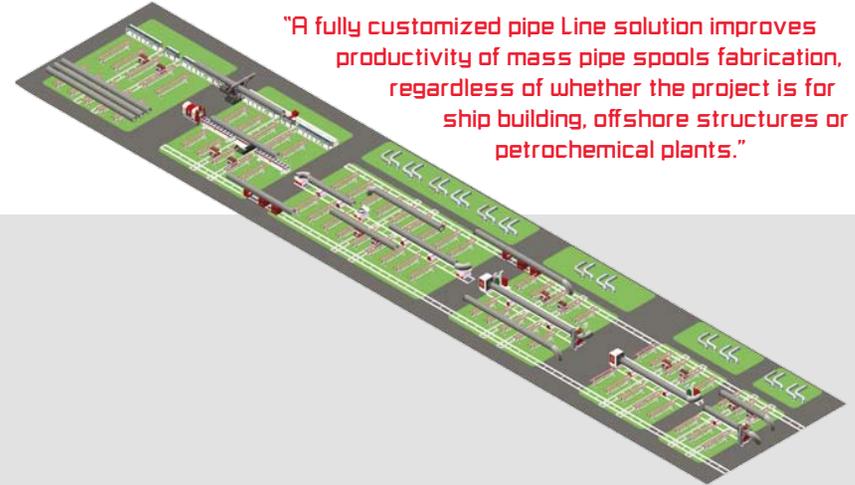
Features

- Precise rotation speed control protected against high frequency interference with speed holding accuracies of up to 1%
- Pneumatic torch positioning to minimize time to reposition welding arc after loading and unloading
- Pneumatic Clamping provides motion and pressure to maintain tight fit of flanges or other assembled parts
- Machined face plates or custom engineered tools to hold and center flanges / parts to pipe ends accurately and effectively
- Movable tailstock for ease of unloading parts
- Integral mounting leveling pads
- Optional in-feed and out-feed conveyor systems to minimize equipment down time for mass production



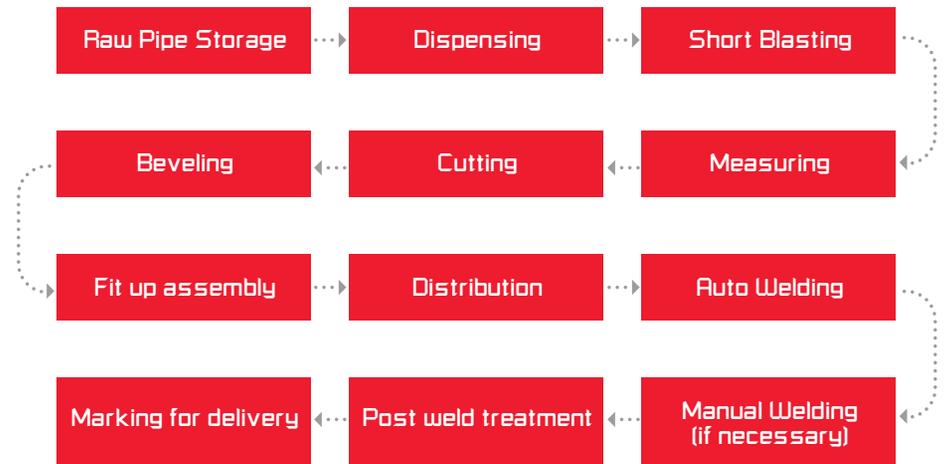
PIPE FABRICATION WELDING - LINE PRODUCTION

"A fully customized pipe Line solution improves productivity of mass pipe spools fabrication, regardless of whether the project is for ship building, offshore structures or petrochemical plants."



To remain competitive in the global market, it is critical to fabricate cost-efficiently without compromising on quality. This means reducing fabrication cost and time by **maximizing the capacity of the equipment via modern design and management software, refining**

**the workflow and selecting the most effective machine for the task.** We collaborate with numerous market leaders in the field to offer project planning and implementation for automatic pipe shop turnkey projects.





## LONGITUDINAL SEAM WELDING

- STANDARD SEAM WELDERS
- FLAT SHEET SEAM WELDERS
- COMBINATION SEAM WELDERS
- ELEVATED SEAM WELDERS
- BEAM SEAM WELDERS

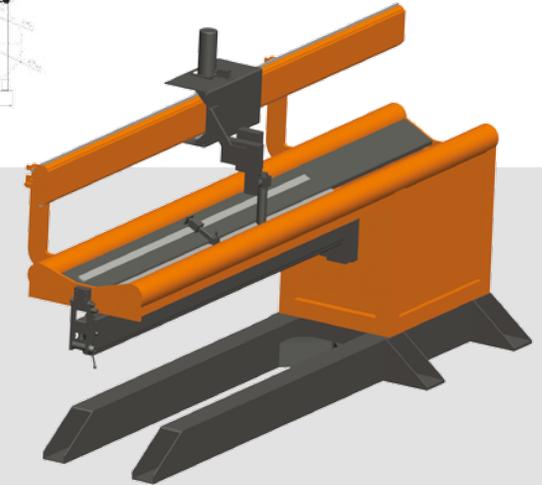
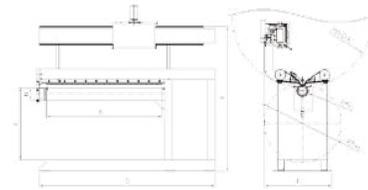
Longitudinal seam welder is commonly used to weld thin gauge tubes, cylinders, cones, flat sheets and open-ended boxes with wall thickness from 0.5 mm when seam quality is critical. It is designed for straight line welding applications that demand 100% penetration and minimal distortion.

It's suitable for all metals from carbon steel, stainless steel, various alloy steels and aluminum. The solution utilizes the custom clamping tools to dissipate heat from the weld zone and optimize weld quality.

Longitudinal seam welders are manufactured in various designs, there are combination, elevation, flat sheet and heavy-duty beam models.

LONGITUDINAL SEAM WELDING - STANDARD SEAM WELDERS

STANDARD SEAM WELDERS



Our standard seamers are designed for straight line welding of 0.1 – 10 mm materials up to 6m long. It clamps the metal to be welded firmly in alignment to provide uniform chill to the weld and moves the weld head accurately along the seam. This produces a butt weld free to melt-outs, burn backs, extreme shrinkage or distortion.

Features

- Hardened guideway side beam accurate from end to end within 0.3mm
- AC inverter drive or servo drive carriage with chose of speed range, speed accurate and positioning accuracy
- Sheet edge alignment device. Adjustable over span of machine
- Air hoses to develop necessary force to hold sheet metal in place
- Hold down fingers. Aluminum segmented with dual edge copper tips
- Backup bar insert grooved for specific purpose
- Control system for multi passes programmable control

SPECIFICATIONS

Model	Work wall thickness	Carriage travel	Movement precision
LWS-standard	0.3 - 10 mm	Gear driven	±0.3 mm
LWP-precision	0.1 - 10 mm	Lead screw	±0.1 mm
LWH-heavy duty	0.3 - 20 mm	Gear driven	±0.4 mm

Model	"A" Welding length mm	"B" <sup>1</sup> Minimum work piece diameter mm	"C" <sup>2</sup> Maximum work piece diameter mm	"D" Machine total length mm	MIN.DIA <sup>1</sup> Minimum internal welding diameter mm	"E" Machine total width mm	"F" Machine height mm
_800	800	80	800	2285	2000	930	1800
_1200	1200	108	800	2685	2000	930	1800
_1500	1500	133	800	2985	2000	930	1800
_2000	2000	175	800	3485	2000	930	1800
_2500	2500	184	800	3985	2000	930	1800
_3000	3000	241	800	4485	2410	980	1870
_3500	3500	300	800	5036	3100	980	1870
_4000	4000	387	800	5536	3870	980	1920
_6000	6000	616	800	7536	6160	980	1920

<sup>1</sup> Minimum work piece diameter might be smaller

<sup>2</sup> Work piece diameter capacity can be increased according to customer demand; to facilitate the operation, select or equip manual operation table



## LONGITUDINAL SEAM WELDING - FLAT SHEET SEAM WELDERS

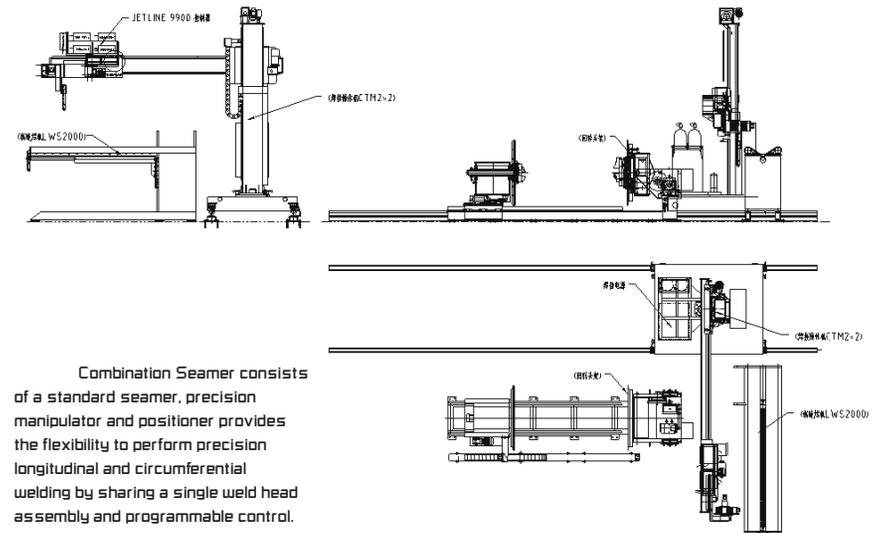


Large flat sheet materials are longitudinal welded with seamer without the overhang that is required for unloading welded cylinders and boxes.

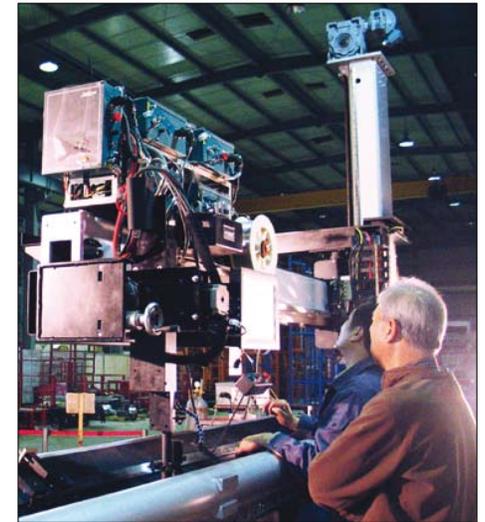


Better production efficiency is achieved when welding flat sheets through the use of roller transfer loading and unloading conveyor.

## LONGITUDINAL SEAM WELDING - COMBINATION SEAM WELDERS



Combination Seamer consists of a standard seamer, precision manipulator and positioner provides the flexibility to perform precision longitudinal and circumferential welding by sharing a single weld head assembly and programmable control.



## LONGITUDINAL SEAM WELDING - ELEVATED SEAM WELDERS

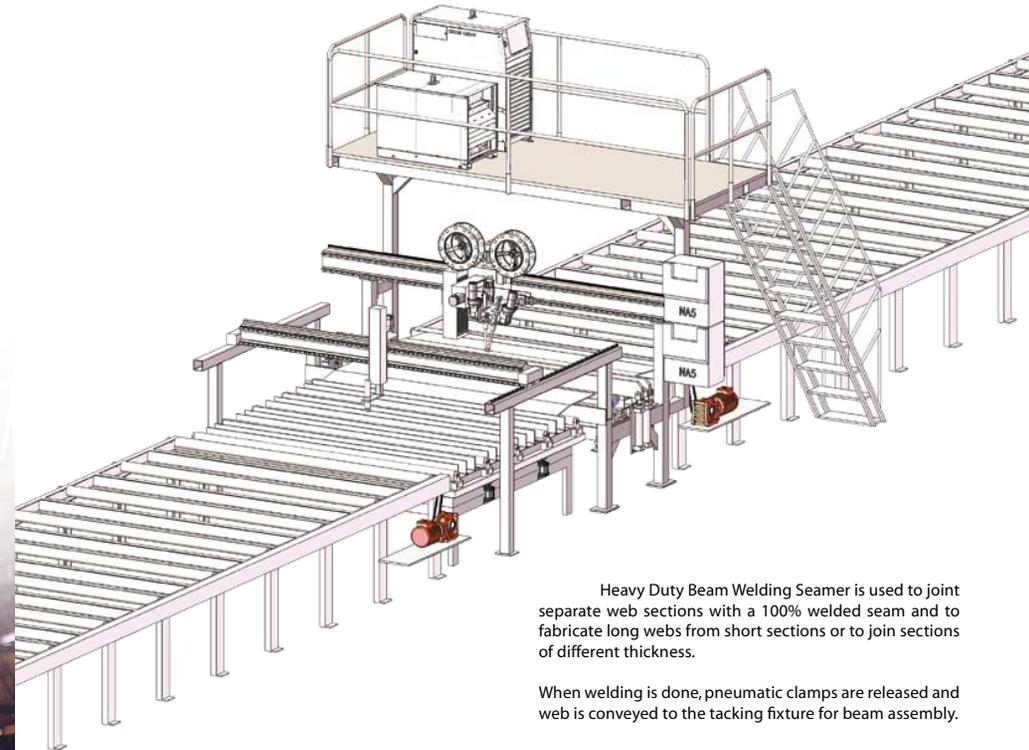


Elevated Seamers weld the part externally. The whole table top and mandrel assembly is hydraulically lifted and lowered to accommodate different part diameters.

It is commonly used for stainless steel for dairy tanks and other food products, as well as chemical and similar vessels.



## LONGITUDINAL SEAM WELDING - BEAM SEAM WELDERS



Heavy Duty Beam Welding Seamer is used to joint separate web sections with a 100% welded seam and to fabricate long webs from short sections or to join sections of different thickness.

When welding is done, pneumatic clamps are released and web is conveyed to the tacking fixture for beam assembly.





## HEADER WELDING SOLUTION FOR AIR COOLED HEAT EXCHANGERS

- INTERNAL HEADER BEAM WELDERS
- EXTERNAL HEADER BEAM WELDERS
- HEADER END PLATES WELDERS
- HEADER NOZZLE & FLANGE WELDERS
- ALUMINUM BEAM WELDERS

Our solution for heat exchanger header welding focuses on the design and manufacture, of automatic welding equipment that provides high weld quality and productivity. With years of experience of experience accumulated via our study and trials of many different applications, we're highly regarded in the industry as being at the forefront of the design and manufacture of this technology.

Our header welder series can assist you to address the challenges associated with high volume production of code quality welds for headers whilst maximizing efficiency.

## HEAT EXCHANGER HEADER WELDING - INTERNAL WELDERS

### HEADER INTERNAL WELDER

Designed for the internal welding of header using the SAW process. It consists of an extended nozzle structure and a special weld head which is capable of operating inside the header. The internal weld is required for certain classifications of heat exchanger.

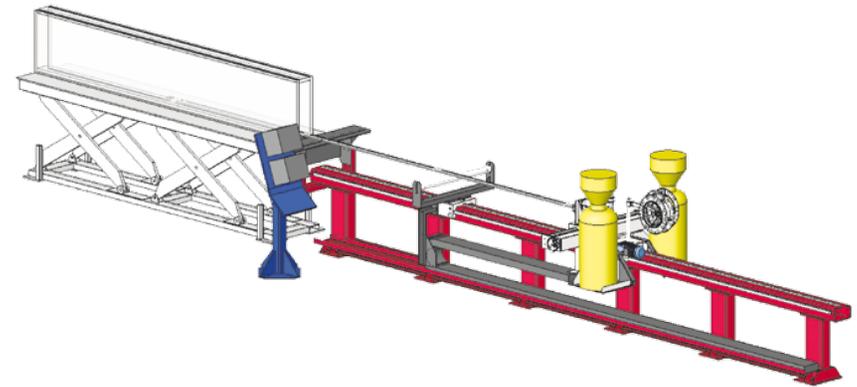
The system has an effective linear stroke up to 6m and able to access to a highly confined space as little as 100 x 50mm.

The extended nozzle structure is carried by a precision carriage driven on machined track via a rack and pinion drive. The front end of the nozzle is supported by a guiding block that travels inside of the header; the mid-section of the nozzle is supported by a roller mechanism.



### Features

- Standard with LINCOLN welding system
- AC inverter motor drive ensures infinite control in welding gun moving speed within a specific speed range
- Special engineered extended nozzle assembly to access deep inside the header in constrained space
- Twin nozzle design to weld two joins simultaneously
- Adjustable space between nozzles for different part widths
- Pressure feed flux feeding system for effective flux coverage for code quality welds
- Hydraulic self-leveled work platform to effectively level and adjust parts of various heights
- Integrated control and hand-held pendant for user friendly operation



### SPECIFICATIONS

Part materials	Carbon steel, stainless steel
Effective weld length	Max. 6 m
Weld speed	0.2 - 2.5 m/min
Part width	100 - 800 mm
Maximum load capacity	2.5t
Platform lift	800 mm
Flux recovery system capacity	80 kg



## HEAT EXCHANGER HEADER WELDING - EXTERNAL WELDERS

## HEADER EXTERNAL WELDER



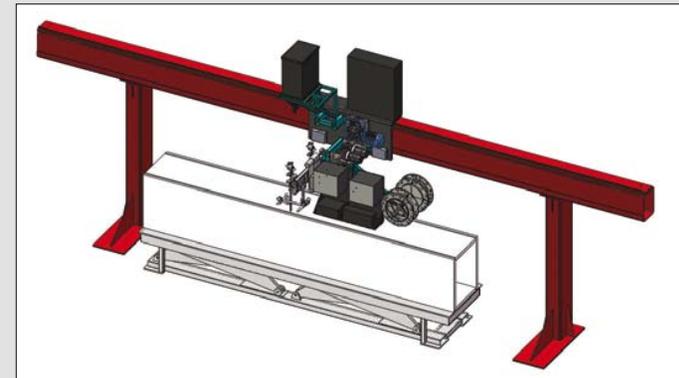
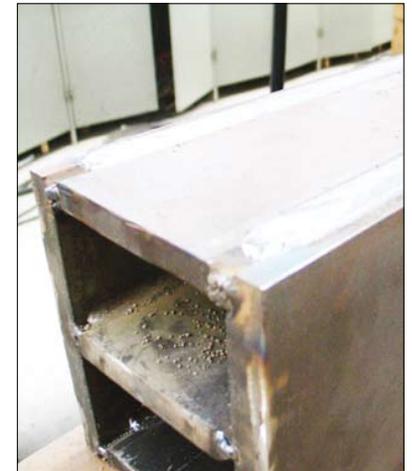
External Welder for Headers welds two longitudinal weld seams of the Header form outside with SAW simultaneously. Tracking systems is being integrated to ensure correct arc positioning to the weld joints.

The system is made up of machined side beam track, rack & pinion travel carriage, weld head assembly, seam tracker, gravity feed flux recovery system, hydraulic lifting platform, welding power source and control unit.



## Features

- Standard with LINCOLN welding system
- Side beam & carriage system for smooth and accurate weld travel
- Extra-large mounting face on carriage for the installation of tracking and welding equipment
- Optical and tactile tracking is available for to simultaneously track both weld joints on parts accurately
- Adjustable space between nozzles for different part widths
- Pressure feed flux feeding system for effective flux coverage for code quality welds
- Hydraulic self-leveled work platform to effectively level and adjust parts of various heights
- Integrated control and hand-held pendant for user friendly operation



## SPECIFICATIONS

Part materials	Carbon steel, stainless steel
Effective weld length	Max. 6 m
Weld speed	0.15 - 1.2 m/min
Part width	100 - 800 mm
Maximum load capacity	2.5t
Platform lift	800 mm
Flux recovery system capacity	80 kg

HEAT EXCHANGER HEADER WELDING - END PLATE WELDERS

END PLATE WELDER

End Plate Welder for Header combines precision motion control by CNC with the benefit of high productivity and quality of SAW process to provide a unique solution to weld the end plates of the header efficiently with unmatched consistency.



SPECIFICATIONS

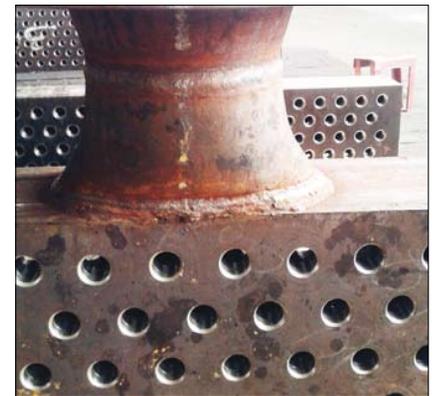
Part materials	Carbon steel, stainless steel
Min. plate size	40 x 40 mm
Max. plate size	80 x 1400 mm
Max. (X) axis travel	3000 mm
Max. (Y) axis travel	800 mm
Flux recovery system capacity	80 kg



HEAT EXCHANGER HEADER WELDING - NOZZLE & FLANGE WELDERS



The Nozzle welding head Option for the All Time End Plate Welder provides the programmable rotation motion for contour and circle welding that is required to weld nozzles to the heat exchanger header.



Nozzle Flange welder provides the answer to effectively weld flanges to the nozzles via SAW from the nozzle ID and OD for code quality welds required for header production.



## HEAT EXCHANGER WELDING - ALUMINIUM BEAM WELDERS

### ALUMINUM BEAM WELDERS

Specifically designed for straight line welding for aluminum alloy beams for heat exchangers. Advance welding processes such as Tandem MIG is being optimized to increase productivity and improve weld quality.

The system is made up of the combination of All Time's precise side beam carriage with a head and stock gear positioner, which rotates a custom engineered jig that clamps the beam to be welded firmly in alignment.

#### Features

- Head & tail stock with precision center alignment to ensure accurate positioning
- Custom engineered jig for quick part clamping and unloading
- Integrated optical or tactile tracking system for accurate joint tracking at high speed travel
- Touch screen PLC based control with HMI for easy operation
- Ergonomic design with fume extraction system for health and safety consideration
- Compatible with Lincoln and Fronius tandem MIG system



Key components – Side beam carriage, weld head, head & tailstock positioner, jig



Tandem MIG weld head assembly



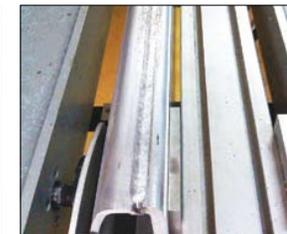
Aluminum beam clamped on jig prior welding

### SPECIFICATIONS

Part material	Aluminum
Effective weld length	2800 mm
Weld traveling speed	70 – 2000 mm/min
Max. part weight	300 kg



Welded beam



Welded beam on the jig



Welded beam unloaded



## HARD FACING

- ROLLER / WHEEL SURFACING EQUIPMENT
- ARC SPRAY SURFACING EQUIPMENT
- PLATE SURFACING EQUIPMENT

We are highly focused on building quality components with application orientated designs to provide equipment solutions for hard facing. These applications often test the reliability of automatic welders to the limits.

Our team of engineers and welding specialists work closely with our clients from the initial stages to develop a solid understanding of specific weld surfacing chemistry deposit requirements. By applying a combination of equipment manufacturing experience and welding know how, we strive to meet our client's hard facing needs and exceed their performance expectation.

## HARD FACING - ROLLER / WHEEL SURFACING EQUIPMENT

### ROLLER / WHEEL SURFACING EQUIPMENT

Roll / wheel surfacing equipment adopts single or multi-head automatic welding / arc spray system to perform circumferential surfacing of rolls and wheels.

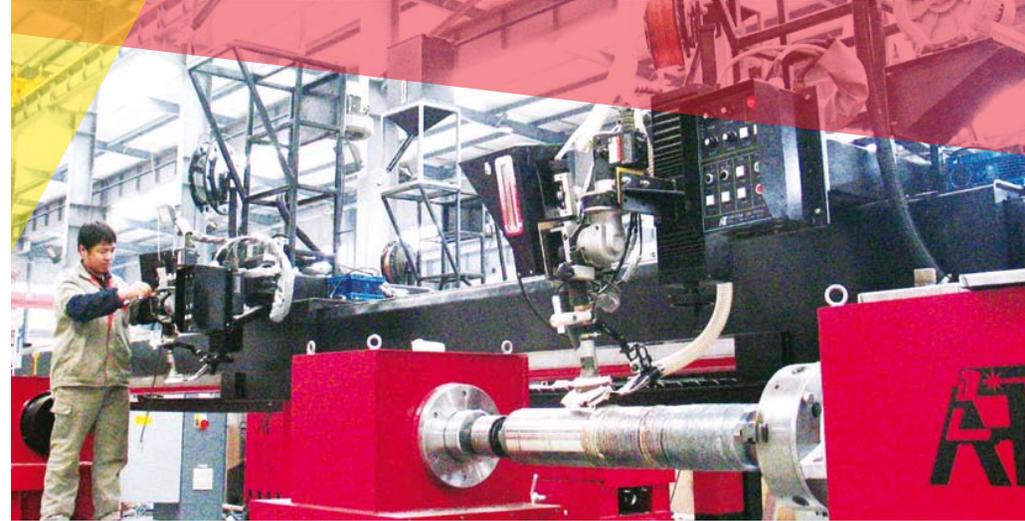
It can be used with new rolls or for the repair of worn rolls, including but not limited to steel mill rolls, printing rolls, paper making rolls and idler wheels.

Rolls are supported between a powered headstock and freely rotating tailstock. The tailstock position is adjustable to accommodate rolls of different lengths.

The equipment can be made up of single or multiple bays to process one or more rolls and wheels at a time via an integrated central control.

#### Features

- Head & tail stock with precision center alignment to ensure accurate positioning
- Integrated tracking system to ensure constant ESO for uniform weld beads
- Touch screen PLC based control with HMI for easy operation
- Ergonomic design with fume extraction system for health and safety consideration
- Water cool systems for selected components to make the equipment last under continuous high heat operation
- Optional pneumatic brushes on lower track system to clean the weld as it proceeds



Dual Bay Steel Roller Surfacing Station (SAW)



Roll Surfacing by SAW



Roll Machining

### SPECIFICATIONS

Surfacing process	Submerged arc welding
Part diameter	Max. 1000 mm
Clamping diameter	φ150 - φ500 mm
Load capacity of head and tail stock	Max. 3000 kg
Rotation speed	0.07 - 2.1 rpm
Travel speed of welding carriage	2 - 2000 mm/min
Part length	Total length of two work pieces ≤ 5000 mm



HARD FACING - ARC SPRAY SURFACING EQUIPMENT



Arc Spray Precision Surfacing Station



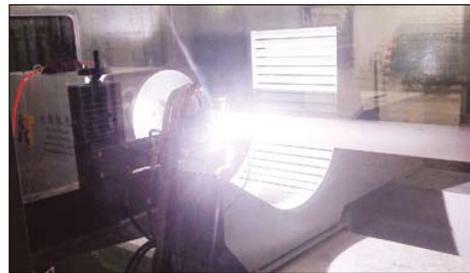
Thermal Spray Equipment

SPECIFICATIONS

Surfacing process	Thermal Arc Spray
Part diameter	Max. 1000 mm
Clamping diameter range	φ150 - φ500 mm
Load capacity of head and tail stock	Max. 3000 kg
Rotation speed	0.07 - 2.1 rpm
Travel speed of welding carriage	2 - 2000 mm/min
Part length	Total length of two work pieces ≤ 5000 mm

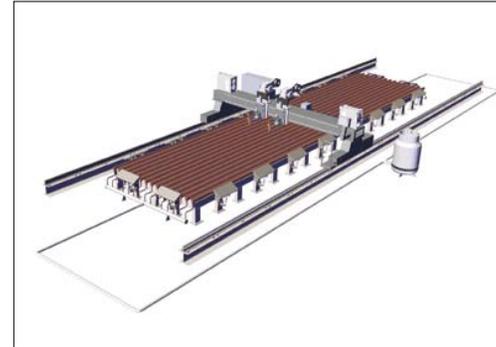


Surfacing Robot integration



Roller surfacing

HARD FACING - PLATE SURFACING EQUIPMENT



FCAW Plate Surfacing Station



Hydraulic clamping for distortion control

SPECIFICATIONS

Surfacing process	Flux cored arc welding (Open Arc)
Plate length	1500 mm - 3500 mm
Plate width	1500 mm - 3500 mm
Plate thickness	3 - 25 mm
Number of overlays	Max. 6
Single layer thickness	3 - 15 mm
Multi-layers thickness	Max. 30 mm

FCAW surfacing with water injection cooling





## CUSTOM ENGINEERING

- LAMP POST WELDER
- ELBOW LONGITUDINAL WELDER
- SHAPE BEAM WELDING GANTRY
- NOZZLE WELDING GANTRY
- PULLEY WELDERS
- ROBOTIC WELDING LATHE
- CHAIN PROFILE WELDER
- NARROW GAP WELDER

## YOUR REQUIREMENTS DEFINE OUR SOLUTIONS

Our portfolio includes all automatic arc welding system designs for all applications, starting with simple component and ending with complex process engineering.

Our custom engineering systems are designed and customized to specific application needs for various industries. Our systems improve productivity, efficiency and repeatability with consistent welds.

The custom engineered systems we design and manufacture are the result of years of experience working with international clients in over 60 different countries, in different productions, industries and conditions.

We'll custom design and engineer a system for you that will improve your production efficiency in line with your specific equipment and budgetary requirements.

## CUSTOM ENGINEERING - LAMP POST WELDER

### LAMP POST WELDER

Lamp Post Welder is designed for welding the longitudinal seams of straight and tapered, open seam tubes in accordance to fabricators product specifications.

Edge turned tubes are being fed longitudinally into the forming machine, when the production cycle starts, the upper pressure rollers move to the top side of the mast until they reach the position corresponding to the diameter. Subsequently, lateral rollers are moved in until the gap between the two edges of the tube are closed.

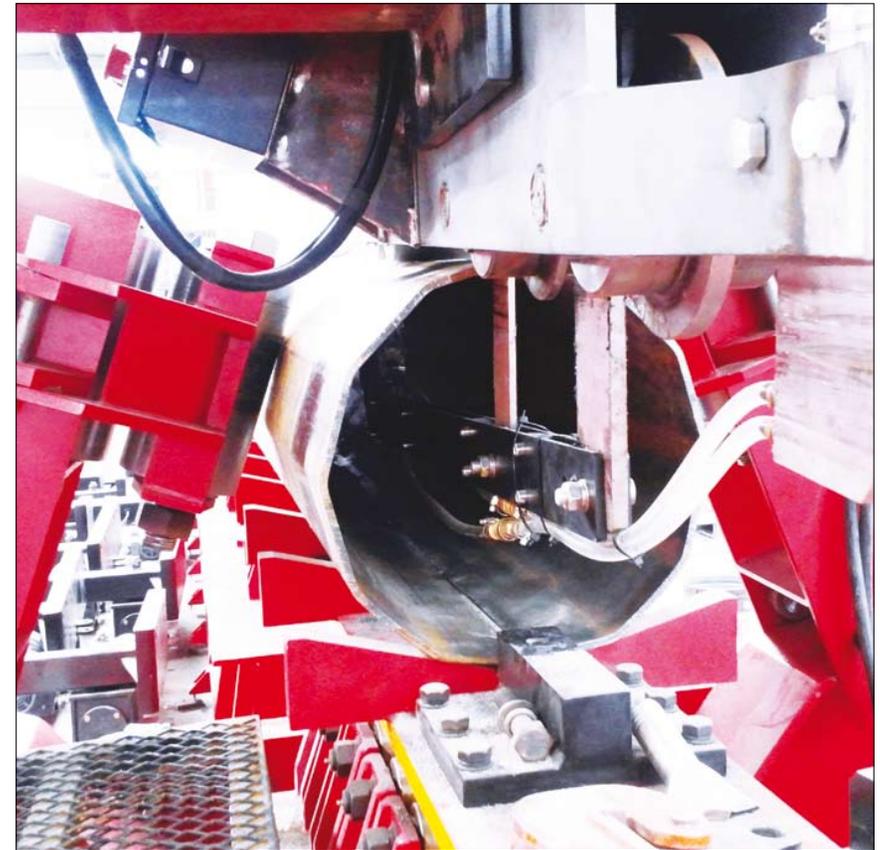
Powered longitudinal conveyers are then used to push the tube under the weld head at welding speed for the welding cycle.

The upper pressure rollers automatically move down vertically according to the taper. The lateral pressure rollers are moved in continuously by actuating the valve until the gap is closed.

The welding process is switched off at the end of the tube and the mast is pulled out of the forming machine.

### Features

- Adopts single wire, tandem, tandem twin SAW process with traditional or Lincoln Powerwave ACDC SAW technology
- Stationary weld head with moving part for consistent weld quality of poles with extended length
- Side pressure system effectively prevents the work piece from deformation
- Tracking mechanism enables the top pinch roller to continuously press the welding seam for straight or tapered poles welding
- Turning mechanism automatically flips to next welding seam after finishing first
- The rear water-cooled slider for fully penetrated weld with outside welding
- Integrated control for parameters setting



Rear water cool slider for fully penetrated welds



### SPECIFICATIONS

Model	CTW500	CTW1500
Weld length	6.5 m - 12 m	6.5 m - 12 m
Diameter range	φ50 - φ500	φ500 - φ1500
Work piece thickness	2 - 10 mm	6 mm - 16 mm
Welding speed	100 mm - 2000 mm	75 mm - 1500 mm
Max. travel speed	3000 mm/min	
Joint fit up method	Hydraulic	
Hydraulic system work pressure	0-16 Mpa adjustable	

CUSTOM ENGINEERING - LONGITUDINAL ELBOW WELDER

LONGITUDINAL ELBOW WELDER

Longitudinal Elbow Welder is designed for welding the longitudinal seams of heavy wall elbows that are formed in halves.

Traditionally, the two halves of the formed heavy wall elbows are being welded manually out of position with very low productivity and very high defective rate. The All Time Longitudinal Elbow Welder that is made up by the combination of a heavy-duty gear positioner, a special fit up jig, a manipulator and a custom modified ID / OD welding arm overcomes the challenge by providing an effective solution to weld in position with the high deposition automatic SAW process inside and out of the elbows.

Tack welded heavy wall elbows can either be loaded in horizontal or vertical position to the jig on the positioner table, with SAW to be carried inside and out of the elbow at the 12 and 6 o'clock position. Weld travel is controlled by the rotation drive of the gear positioner to ensure continuous welding with high welding speed accuracy, which is crucial in delivering code quality welds strictly according to the designated welding procedures.

For high volume production that cannot effort any down time, All Time is able to offer different configurations of systems components to maximize the arc on time for automatic welding.

Features

- SAW process for high deposition rate and strong weld penetration
- Compact ID welding head with monitoring system for elbow inside welding to achieve full weld penetration for code quality welds
- Custom engineered elbow loading fixture for quick part loading and limit torch setup to just once for different elbows
- Twin stations layout to separate welding and loading to maximize arc on time
- Integrated control unit for multiple stations for effective operation by a single operator



Internal Diameter Weld Head for INSIDE SAW

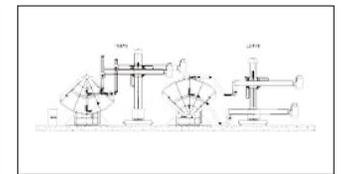
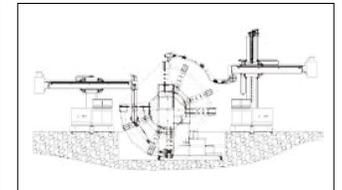


Integrated operator console

SPECIFICATIONS

Elbow diameter	φ406 - φ1422 mm
Wall thickness	40 - 80 mm
Elbow centerline radius	600 - 2100 mm
Elbow angle	90°

PRODUCTION SETUP



## CUSTOM ENGINEERING - SHAPE BEAM WELDING GANTRY

## SHAPE BEAM WELDING GANTRY

Designed to weld complex steel structures of irregular shapes with the "Teach Pendant Programming" function to define welding paths. A PLC based programming control to set welding parameters such as welding current, voltage, travel speed, oscillation speed, oscillation width and dwell time effectively. The system consists of two precision side beams and carriages, each carries a multi-axis weld head to perform the required welding tasks under the command of the programming control. When welding completes, all weld data can be stored as record for quality assurance purpose.



## SPECIFICATIONS

Welding process	GMAW / FCAW
Beam length	Max. 5000 mm
Gantry travel	Max. 9000 mm
Welding carriage travel speed	400 - 10000 mm/min
Gantry longitudinal travel	Max. 9000 mm
Gantry travel speed	50 - 3000 mm/min
No. of welding carriages	Max. 2 (front & back)



2 power supplies for independent weld head assemblies on each side (front & back) with a central control with touch screen control



Multiple gantries effectively moving to different shape beams along the rails

## CUSTOM ENGINEERING - NOZZLE WELDING GANTRY

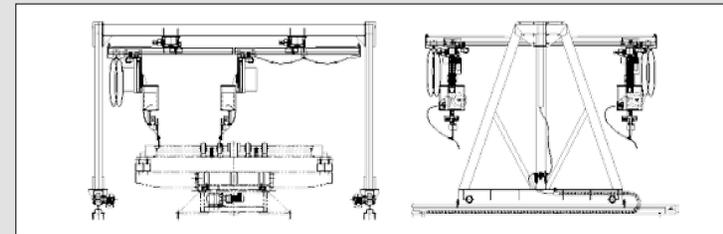
## NOZZLE WELDING GANTRY

Nozzle Welding Gantry is designed for productions that require welding many nozzles on one or multiple structures efficiently with code quality welds.

This gantry system consists of 4 circle welders being mounted on a carriage & slide system at the top that can automatically and effectively locate the welding guns to any of the nozzle on a specific part or structure with minimum down time. The motorized gantry travels longitudinally to locate the circle welders to anywhere along the rail.



All Time Nozzle Welding Gantry



## SPECIFICATIONS

Welding process	GMAW / FCAW
Nozzle dia.	100 - 1200 mm
Part dia.	Max. 3500 mm
Weld head travel speed	2700 mm/min
Gantry travel speed	50 - 3000 mm/min
No. of nozzle welders	4



Nozzle Welder

## CUSTOM ENGINEERING - PULLEY WELDERS



OD/ID Fillet Welder for heavy pulleys

## TACKING AND WELDING SOLUTIONS FOR PULLEYS

### LIGHT PULLEY ASSEMBLY STATION

A single station to load and tack weld discs inside multiple pulleys with various lengths and diameters < 700mm in vertical position accurately and efficiently. Preheating can also be carried out at the same station if required.

### HEAVY WALL DISC ASSEMBLY STATION

Allows heavy wall discs to be loaded and tack welded inside the pulley shell ID in vertical position accurately and efficiently. The station can handle heavy pulleys up to 2,000 mm in diameter and weights up to 35 tons.

### OUTSIDE FILLET WELDER FOR LIGHT PULLEYS

Tilt assembled pulleys and perform automatic MIG fillet welds at the outside of both ends in down hand position for the best weld quality and productivity.

### OD/ID FILLET WELDER FOR HEAVY PULLEYS

Tilt assembled heavy pulleys and perform automatic MIG and SAW fillet welds at the inside and outside at both ends in down hand position. Waveform control SAW can be provided as the option for outside fillet welds to enhance penetration at the root pass and maximize disposition at the fill passes for advantages in both quality and welding speed.

### OD BUTT + ID FILLET WELDER FOR HEAVY PULLEYS

For heavy pulleys designed with end discs to be welded with butt joints. Two SAW head assemblies on carriages travel along a side beam are provided to weld two circumferential joints of pulleys in various lengths simultaneously.



OD butt + ID fillet welder for heavy pulleys



Outside Fillet Welder for light pulleys



Disc assembly station



CUSTOM ENGINEERING - ROBOTIC WELDING LATHE



PRECISION ROBOTIC WELDING LATHE

Precision Robotic welding lathe is made up of a head stock positioner, machine lathe bed, multi axis robotic welding head and tail stock. It is a versatile welding equipment specially designed for precision automatic welding, with extremely high positioning accuracy and repeatability.



Precision part holder

Features

- Precision manufacture
- High accuracy rotation
- TIG / PAW welding processes
- PLC base weld process and motion programmable control
- Up to 5-axis motorized travel
- CCD camera for monitoring
- Close loop feedback system for precision travel & positioning
- Optional synchronized head and tailstock drives
- Precision oscillator and other accessories
- Pneumatic initial height adjuster for quick torch positioning



Camera monitoring



Production welding

CUSTOM ENGINEERING - CHIAN PROFILE WELDER

CHAIN PROFILE WELDER

Chain Profile Welder is a custom engineered twin bays welding station for welding heavy duty steel chain section with MIG automatically.

The system was developed from our standard circumferential welder with spindles at both ends of the part for precise rotation. The heart of the system is the PLC based motion control that allows the welding profiles to be pre-programmed, combining the function of servo control rotation and motorized torch slides, it makes automatic circumferential welding of non-round section a high-speed production job with consistency.



SPECIFICATIONS

Welding process	GMAW
Max loading capacity	10 kg
Rotation speed	0.4 - 10 rpm
Tailstock pneumatic clamping stroke	800 mm
Welding cell per unit	2
Welding torches	4



Twin torch setup



Welded chain section



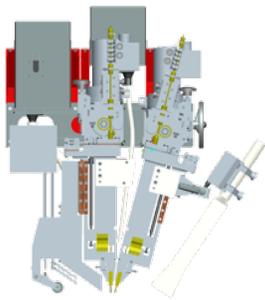
CUSTOM ENGINEERING - NARROW GAP WELDING



Narrow Gap Welder uses single or twin wires SAW process to weld heavy wall parts with very narrow joint width to minimize weld volume, materials, energy and heat input for high quality and productive welding.

SPECIFICATIONS

Welding process	SAW (Single / Tandem)
Torch thickness	≤ 16 mm
Adjustable torch angle	≤ 10°
Welding depth	Max. 350 mm
Tracking system	Optical / Electromechanical



PARTNERSHIP AND SERVICE SUPPORT



Our philosophy is to help our customers to gain the maximum productivity from their investment in our equipment by building a strong partnership with excellent service support.

You may also consider accessing our expertise by contracting us as engineering consultants for the planning of individual installations or the development of specific components.

To achieve this, we've established a team of experienced site technicians to travel internationally to provide on-site installation, commissioning and training.



Partnership



Factory training



Procedure development



Worldwide on-site installation & startup

**TANK WELDING LLC.  
AUTOMATIC WELDING EQUIPMENT**  
Standard designs and custom built equipment  
Automatic Tank, Pipe, Ship Yard, Shop welding and cutting equipment.  
[www.tankwelding.com](http://www.tankwelding.com)



**Tank Welding LLC.**  
Is your complete source for Automatic Welding Machines.  
We specialize in custom built to order automatic welding machines for Pipe & Fabrication Shop applications. This line of equipment is built with your choice of USA made Lincoln or Miller welding systems. Our AGW travel is powered by top of the line twin German engineered inverter controlled SEW drive motors.

**TANK WELDING LLC.  
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