HARRIS MACHINE TOOLS, INC.

A Trusted Source for Manufacturing Solutions Since 1979

Professional Accredited Appraisers on Staff

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Quality Welding Positioning & Material Handling Equipment

STEADY-Weld

Harris Machine Tools (HMT) is the Global Distributor for Steady-Weld welding equipment. Steady-Weld offers a full line of high quality welding positioning equipment for shops and production operations of all sizes.

The Steady-Weld line of welding positioning and material handling equipment features heavy duty steel frames and housings, steel welded gear boxes on our turning rolls, quality motors, and a proprietary electrical and control system unequaled in the industry. This equipment is built for years of trouble-free service in even the harshest shop environments.

Welding Positioners

Adjustable Height (Manual/Motorized):
Capacity: 1 to 100 tons

Fixed Height:
Capacity: 1 to 100 tons

Floor Table:
Capacity: 20 to 1200 tons

Head/Tailstock:
Capacity: 10 to 50 tons

Drop Center:
Capacity: 30 to 300 tons

Tank Turning Rolls

Bolt Adjustable:
Size capacities: 6" to 315"
Weight capacities: 5 to 2000 tons

Self-Adjusting:
Size capacities: 3" to 275"
Weight capacities: 5 to 200 tons

Constant Centerline:
Size capacities: 8" to 98"
Weight capacities: 5 to 40 tons

Specialized Fit-up:
Size capacities: 12" to 138"
Weight capacities: 5 to 30 tons

Manipulators

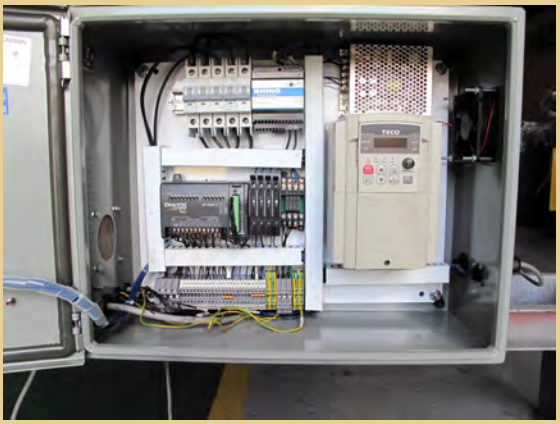
Standard Duty (S series):
Strokes from 6' x 6' to 16' x 16'
Boom end loads of up to 330 lbs.

Heavy Duty (H series):
Strokes from 10' x 10' to 23' x 23'
Boom end loads of up to 660 lbs.

Extra Heavy Duty (EH series):
Strokes from 13' x 13' to 33' x 33', and Larger!
Boom end loads of up to 1320 lbs. +

Proprietary Electrical & Control System

Robust Design - Quality Components - Ease of Maintenance



- Completely interchangeable electrical components, cables and remote pendants between positioners, turning rolls and small manipulators
- PLC programmed control functions
- Variable frequency drive inverters properly sized for all motors
- All UL listed electrical components
- Dust-resistant NEMA 4 electrical enclosures and remote pendants
- 24V dedicated power supply
- Electrical cabinet cooling fan on separate power supply
- Electrical cabinet cross ventilation opening with screen and dust filter
- Simple integration of manipulators with rolls or positioners for welding cell operations

Custom Designed Equipment & Systems for Welding & Fabrication Solutions

Complete Electrical & Mechanical Spare Parts Warehouse

Technical Advisors & Service Technicians on Call 24/7

If you do not see a size or style of equipment that meets your requirements, please call us! We can obtain, or design and build, any piece of equipment to meet your welding and fabrication challenges! **Call: (713) 462-5800 for your solutions!**

STEADY-Weld

ROBUST DESIGN
QUALITY CONSTRUCTION
SUPERIOR SERVICE

The Steady-Weld family of welding positioning and material handling equipment has evolved from the Vanguard Welding product lines, originally introduced in 2005. Significant improvements in the design, construction and functionality of the equipment has led us to re-introduce this new equipment as the Steady-Weld brand. Steady-Weld stands for high quality, reliable and functional welding positioning and material handling equipment, designed and built for ease of use and many years of reliable service.

Our commitment to quality and service:

- Robust equipment designs that are engineered to exceed rated loads and capacities for generous safety margins.
- Heavy steel plate construction for stability. Heavy duty gears and powerful motors for reliability and smooth operation.
- Steel welded gear boxes on our turning rolls for superior performance, smooth operation and reliability.
- Proprietary design for our NEMA 4 dust resistant electrical enclosures and control pendants. Electrical components between welding equipment lines are interchangeable for quick and easy troubleshooting and repair when necessary.
- PLC control functions allow for easy upgrades to equipment functionality without major electrical component replacements.
- Equipment manufacturing overseen by Steady-Weld Engineers and Quality Control personnel to ensure all design criteria and construction requirements are met.
- Completely stocked Parts Warehouse and Technical Service Center located in Houston, TX. Technical support available 24/7.
- Custom solutions for welding, fabrication, and manufacturing challenges.

The Steady-Weld Commitment

Steady-Weld will continually improve and innovate our welding and fabrication equipment and machines to meet the challenging technical demands and high customer expectations of the global manufacturing industry today, and in the future.

Our goal is to become the trusted supplier of high quality, reliable and cost effective welding positioning, material handling and metal fabrication equipment and innovative solutions to the companies and people involved in the manufacturing industries.

INDUSTRIES SERVED

Oil & Gas Exploration & Production

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Cameron
Dresser
Dril-Quip
Elliott Turbomachine
Exterran
Flowserve Corporation
FMC Technologies
GE Oil & Gas
Joy Mining
National Oilwell Varco
Newport News Shipbuilding
Schlumberger
Siemens - TurboCare
Smith International
U.S. Navy

COMING SOON FROM STEADY-WELD:

H-beam Welding Production Lines
Shipyard Plate Cutting & Processing Lines
Plate Rolls & Bending Machines
Ironworkers
Production Presses & Punch Presses
Press Brakes
Saws & Cutting Equipment

THE LEARNING CENTER

Selecting the right style of tank turning rolls for the right job!

Some times it is difficult to know which piece of equipment is right for the job at hand. Here we try to help you determine the right style of tank turning roll for your shop and welding requirements.

Bolt adjustable tank turning rolls

If all of your work pieces have the same, or similar, diameters, you need the bolt adjustable tank turning rolls. With these, you set the roller wheel spacing once - and your done! Your welding operations will be quicker with less set-up time and energy! With the rolls properly spaced, your work piece will rotate smoothly and safely, helping to improve the weld quality!

Self-adjusting tank turning rolls

If the diameter of your work pieces varies dramatically, your best solution is a set of self-adjusting rolls. With these, there is no more wasting time with resetting the roller spacing to fit the workpiece. If the workpiece diameter (and weight) is within the range of the turning rolls, just set the piece on the rolls and the rollers will automatically adjust to correctly hold the piece and rotate it smoothly! These are a great time saver for all shops!

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SPECIAL PROJECTS

Steady-Weld has taken on the challenge of designing, building, delivering and commissioning a number of high profile special projects for clients across the globe.

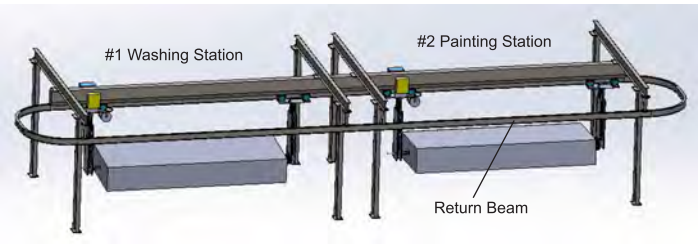
Our customers come to us not only looking for high quality machines and equipment, but technical expertise in helping them solve the welding, fabrication, manufacturing and production challenges they are facing with the opening of new facilities, as well as upgrading and improving existing operations with innovative technologies.

Some of our recent projects have included:

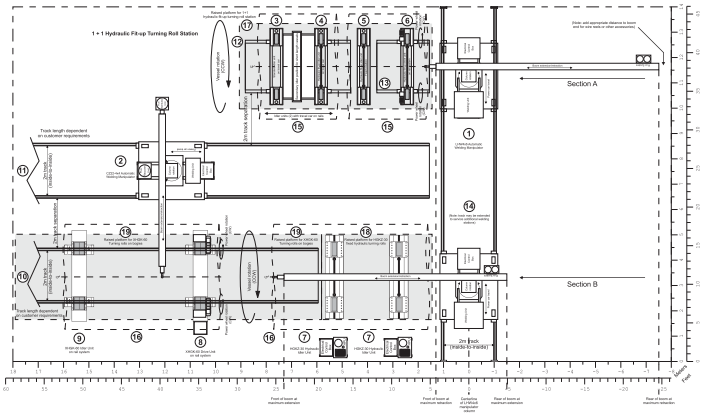
- Designing and delivering a complete factory system for automated processing of long galvanized steel poles.
- Designing a welding fit-up and growing line system for an international company building large diameter water pipelines in a developing nation. The system, as built, increased their productivity, without incurring a costly expansion of their existing facilities.
- Designing a unique system for washing and painting large tanks by lifting and rotating them while simultaneously moving them from one operation to the next on a closed loop monorail system.
- Designing a custom welding system capable of reliably and safely welding the circumferential components of a family of Annular BOPs (Blow Out Preventers) that vary in length and have different diameter flanges on each of the ends.

Pole Processing Facility

Tank Painting Facility

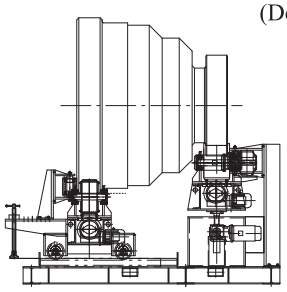


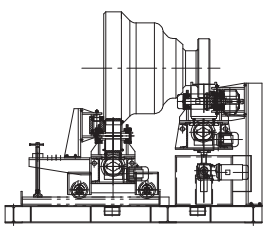
Water Pipe Welding System & Growing Line



Annular BOP Welding System

(Design Stage)





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Helpful Hints and Formulas

The following contains some helpful hints and formulas that come in handy when selecting a new set of turning rolls. The information presented here is for reference only, it is not designed to replace or contradict any safety or operational information in the manufacturer's Operation Manual. The owners and operators of specific welding equipment should read and understand the equipment's Operation Manual from the manufacturer for all safety and operational procedures.

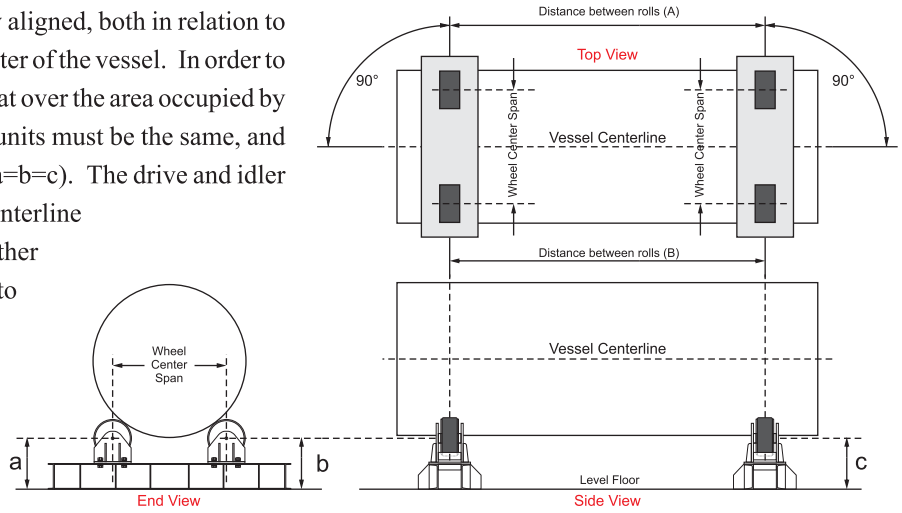
When selecting a new set of turning rolls, you need to know the following information to make sure the rolls you buy are capable of handling the jobs you expect to perform. It is always better to buy a set of rolls that are fully capable of handling your range of work piece diameters and weights, with extra capability as a margin of safety.

Q	A
What is the weight of your largest work piece?	The turning rolls must be capable of handling this weight, plus the weight of any components to be welded to the main work piece.
What are the smallest and largest diameters you expect to turn? Do these diameters vary greatly from job to job on a daily basis?	The rolls must be capable of turning both the smallest diameter and largest diameter work pieces. The style of turning rolls can be chosen based on the diameter variation, to minimize set-up time and effort.
Do your work pieces or job parameters require any special features or functions?	Turning rolls can be ordered with special features such as stainless steel roller wheels, castors or rail wheels on the bed frames, etc.

Turning Roll Alignment

It is important that the turning rolls are properly aligned to achieve the best results while turning and welding the work piece. In this example, the set of turning rolls (drive unit and idler unit), are perfectly aligned, both in relation to each other and in relation to the centerline and diameter of the vessel. In order to achieve this alignment, the floor must be level and flat over the area occupied by the turning rolls. The height of the drive and idler units must be the same, and the wheel diameters and heights must be the same (a=b=c). The drive and idler units must be aligned so that they are square to the centerline of the vessel (90°), and perfectly parallel to each other (A=B). The wheels of the units must also be square to each other and their centerlines must also line up.

In this example, the vessel will turn true with no endcreep or other mis-alignment problems.



Helpful Conversions

Multiply	*by*	*To Convert To*
Inches	25.4	Millimeters
Inches	2.54	Centimeters
Feet	0.3048	Meters
Millimeters	0.03937	Inches
Meters	39.37	Inches
Meters	3.2808	Feet
Centimeters	0.3937	Inches
Centimeters	0.0328	Feet

Multiply	*by*	*To Convert To*
Kilowatts	1.34	HP (horse power)
Kilograms	2.2	Pounds
Liters	0.2642	Gallons
Nm (torque)	8.851	lb.-in. (torque)
Nm (torque)	0.738	lb.-ft. (torque
N (force)	0.225	Pound-Force
Bar (pressure)	14.5	PSI (pressure)

Notes:

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