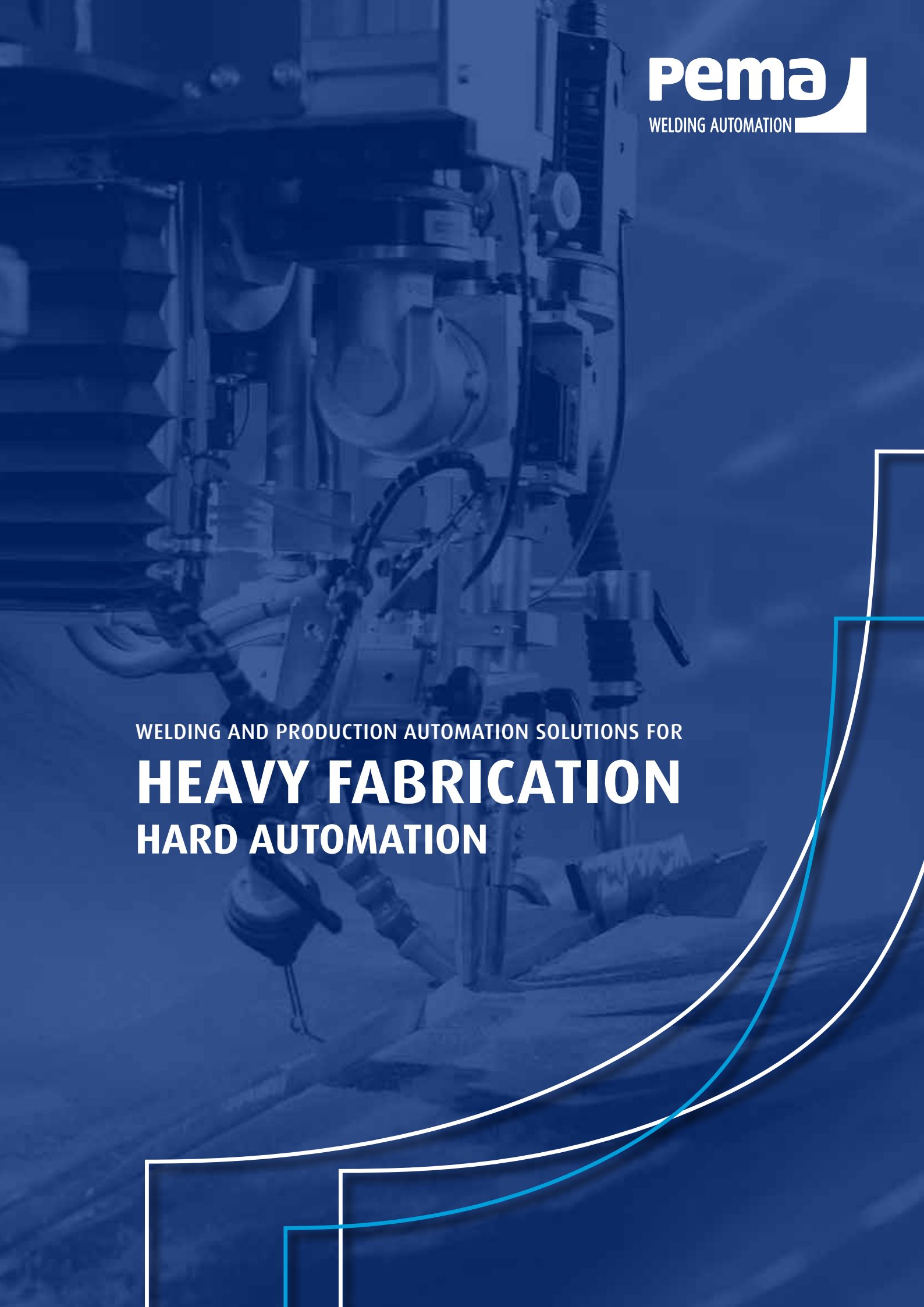


Pema
WELDING AUTOMATION

WELDING AND PRODUCTION AUTOMATION SOLUTIONS FOR

HEAVY FABRICATION
HARD AUTOMATION

PEMA WELDING AND PRODUCTION AUTOMATION FOR

HEAVY FABRICATION

MORE PRODUCTIVITY
FUTURE COMPETITIVENESS
FAST RETURN ON INVESTMENT

Efficient production and high quality are the keys to maintain competitive edge in the modern heavy fabrication industry. PEMA Hard Automation solutions are designed to meet these requirements.

Among other benefits, Pemamek's automated production solutions bring definite cost-effectiveness and capacity boost to any heavy structure manufacturing. Despite of your desired automation level, each PEMA solution can be integrated into user-friendly PEMA WeldControl 100 & 500 one-panel management systems. The innovative user interfaces guarantee fast and simple programming and process monitoring.

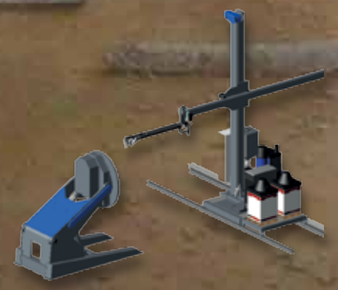
Our wide solution offering ranges from a single equipment to complete full-scale production lines. When combined with Pemamek's profound welding expertise and technological intelligence, PEMA solutions give you the right tools to reach your maximum performance.

At Pemamek our core philosophy is to build long-lasting partnerships. Usually the collaboration starts from a smaller delivery and builds up into larger deliveries over the years.

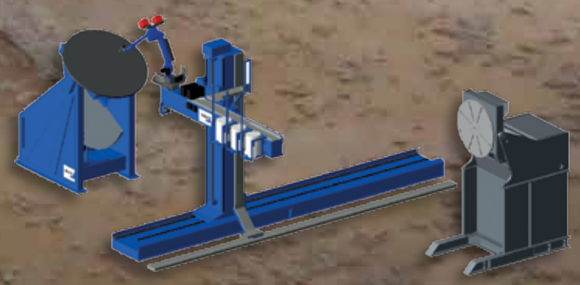
PEMA MACHINERY SUPPORTS YOUR BUSINESS GROWTH.

PEMA POSITIONER 2009

PEMA ROLLERBEDS 2012



PEMA COLUMN & BOOM WELDING STATION 2014



PEMA ROBOT STATION 2015

COMPLETE SOLUTIONS

FOR HEAVY FABRICATION

PEMA welding automation solutions are specifically designed for various heavy fabrication industries. All our solutions can be started with a single equipment and expanded to whole production lines.

COLUMN & BOOMS

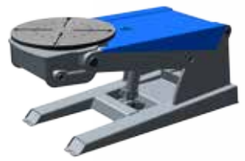
PEMA Column & Booms meet the standards of a high-quality production. When equipped with welding modules and accessories, even the most demanding hard automation solutions can be accomplished. PEMA C&B is available with several dimensions and all common welding processes.

ROLLERBEDS

PEMA rollerbeds are the basic tool in every workshop. Efficient rollerbeds are crucial in minimizing the setup and handling times when working with revolving objects, such as containers, tubes and pipes during welding, painting or assembly. The workpiece can always be placed quickly and accurately in the most advantageous working position. Available in several dimensions.

POSITIONERS

Using positioners in welding is an effective way to increase working flexibility, productivity and quality and to improve the motivation of the workforce. The main advantage is that workpieces can always be set up with the best possible down-hand welding positions. With positioners, welding productivity can be increased by up to 70%.



AUTOMATION SOLUTIONS

PEMA welding automation solutions and customized machine combinations are adjusted according your workshop needs from a large variety of modular concepts. Tested and proven manufacturing methods and premium automated welding processes are fully integrated into our specific solutions.

Pema WELDING AUTOMATION

COLUMN & BOOMS

HARD AUTOMATION

PEMA Column & Booms are designed for high performance and meet the demanding standards of high quality production. The powerful efficiency is based on the innovative integration with PEMA handling equipment, which all together are controlled by PEMA WeldControl 100 management tool.

MD SERIES

Medium duty series Column & Booms are flexible solutions with easy setup for different tasks of a welding shop.

Sizes: from 3x3 to 5x5 m

HD SERIES

Higher load carrying capacity offers more options than MD series. HD series machines offer the highest welding efficiency in the market.

Sizes: from 4x4 to 8x6 m

EHD SERIES

EHD series provides outmost load carrying capacity and an ultimate reach for the biggest workpieces with the same standard of welding efficiency as heavy duty series.

Sizes: from 7x7 to 10x10 m

PEMA COLUMN & BOOM FACTS

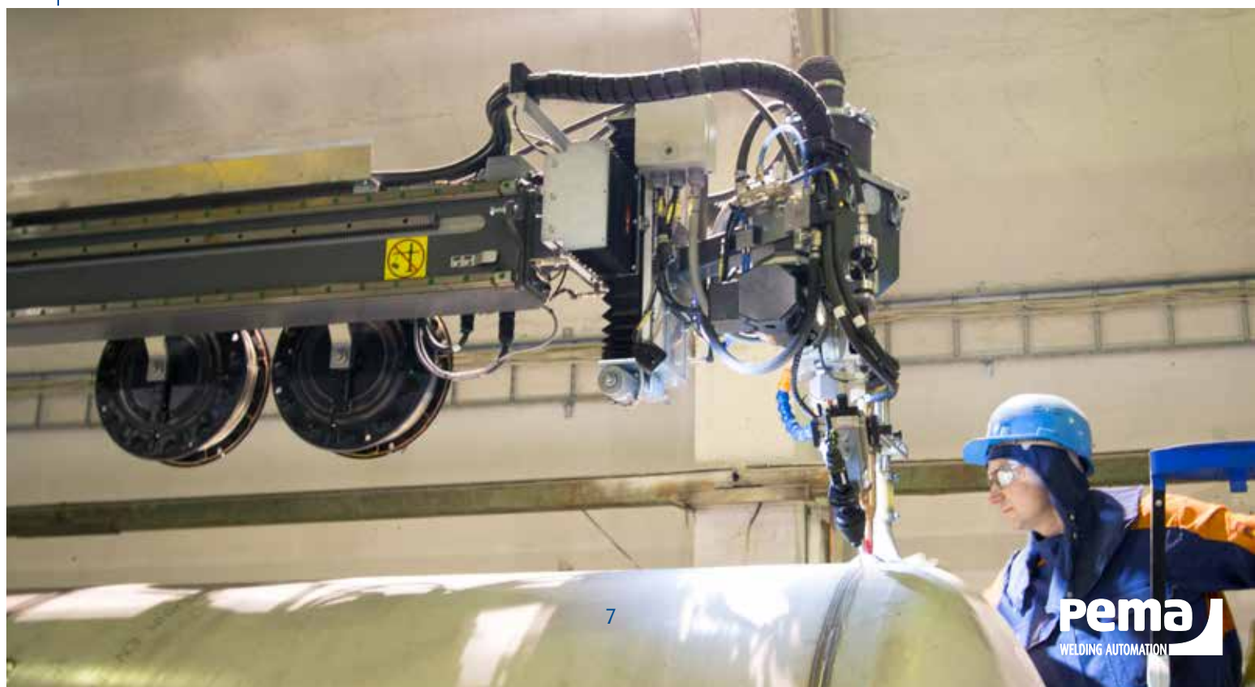
- Ideal for hard automation welding solutions
- Flexible, modular construction
- Wide selection of accessories
- Advanced and modern user interface
- Three product families, tens of reach combinations up to 10x10 meters
- Full integration with all PEMA material handling equipment
- Possible processess to Column & Booms:
  - TIG
  - GMAW
  - SAW (single, twin, tandem and multi-arc)
  - Cladding with wire or strip
  - Telescopic arms can be selected onrequest

PEMA COLUMN & BOOM EFFICIENTLY IN SYNCHRONY WITH PEMA ROLLERBEDS

An essential part of efficiency and safety in heavy welding jobs is that your material handling, welding manipulator and welding power sources works hand-in-hand. Pema integrates fully all of these machines under the same user-friendly controller PEMA WeldControl 100.

PEMA COLUMN & BOOMS FOR HIGH PERFORMANCE

PEMA C&B can be equipped with welding accessories and processes in the way that customer's production requires.

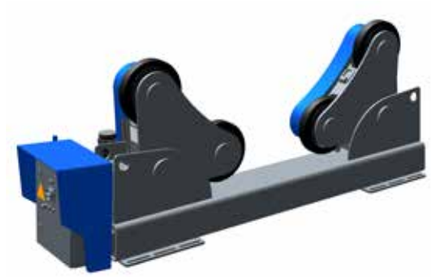


Pema WELDING AUTOMATION

ROLLERBEDS

HARD AUTOMATION

Versatile PEMA rollerbeds provide assistance for the handling of containers, tubes, pipes and other revolving objects during welding, painting or assembly.



A-SERIES

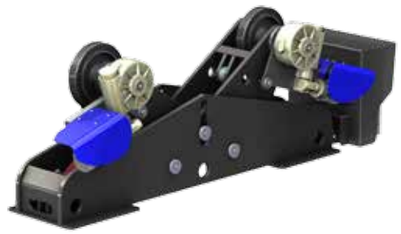
A-series stands for self-aligning rollerbeds. Rollerbeds are automatically adjusted for different diameters.

Capacity: 12-1500 tons

N-SERIES

N-series ensures lowest possible structure to rotate your workpiece. It is extremely versatile due its wide range of adjustability.

Capacity: 5–1600 tons



X-SERIES

X-series rollerbeds are ideal for pipe shops and tube manufacturing.

Capacity: 5–16 tons

SELF-ALIGNING A-SERIE ROLLERBEDS

A-models has double amount of wheels supporting workpiece and are more gentle and smooth to rotate workpiece. In case of thin material and big diameters, also roundness is obtained better when supported with 4-points instead of two.

ACCESSORIES AND OPTIONS

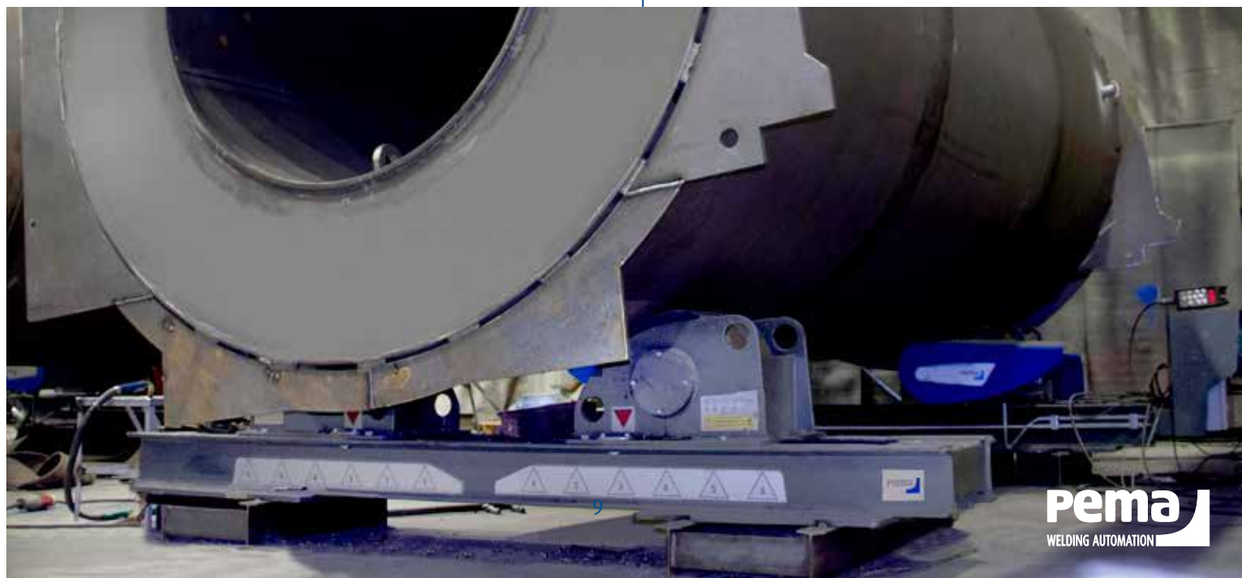
All PEMA rollerbeds can be equipped with accessories, such as rail cars and fit-up units. Also wireless control and anti-creep functions are available as an option.

POLYURETHANE ROLLERS

PEMA rollerbeds can be equipped with top-class polyurethane rollers uncompromisingly developed for heavy use. Because of their narrow roller construction, PEMA rollerbeds are exceptionally versatile tools ideal for use with, for example, rolling work-pieces with openings and reinforcements. PU-roller to the loads 5-1000 tons.

PEMA ROLLERBED FACTS

- Essential tool for the welding of cylindrical workpieces
- Extremely heavy duty design ensures durability over years of use
- Polyurethane rollers which Pema has developed specially for rollerbed use offer the best durability and loading capacity
- Complete integrability with Pema's Column & Booms
- Rail carriage options
- Workpiece fit-up options
- Wireless controls options
- Anti-creep options
- Special rollerbeds for shot blasting and painting

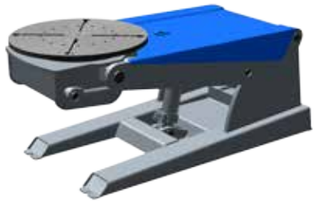


Pema
WELDING AUTOMATION

POSITIONERS

HARD AUTOMATION

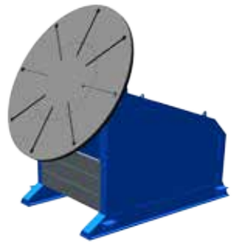
In welding, positioners are an essential aid when the goal is to increase working flexibility, productivity and quality. Additionally, using positioner increases working ergonomics dramatically as the workpieces can always be set up with the best possible down-hand welding positions. This way, welding productivity can be raised by as much as 70 percent.



SKYMASTER SERIES

A basic range for handling cylindrical workpieces.

Capacities: 250 kg–75 tons



MEGAMASTER SERIES

Extra-large and heavy workpieces.

Capacities: 25-250 tons

SKYHOOK SERIES

Heavy workpieces with demanding product geometry

Capacities: 750 kg–15 tons

HEADSTOCK-TAILSTOCK SERIES

Handling of elongated objects.

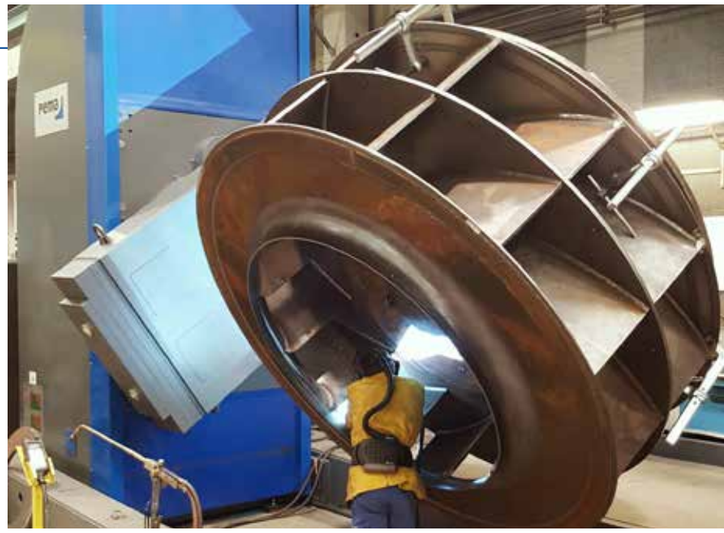
Capacities: 3.5-40 tons

PEMA POSITIONER FACTS

- Fast welding in down-hand positions
- Optimum welding parameters
- Quality improvement – less finishing and repairing
- Accuracy, safety and ergonomics
- Four product families
- Loading capacity up to 250 tons
- Integrability with Pema's Column & Booms
- Positioners are designed for welding task and for example grounding and pre-heating can be arranged trough the positioner
- Pema delivers also sophisticated solutions for special purposes like dish end cladding and welding

PEMA SKYMASTER

PEMA APS Skymaster positioners are the best solution for lifting, rotating and tilting heavy workpieces with a complex geometry. The height, angle and rotating speed of the work-piece are fully adjustable, and therefore an ideal ergonomic working position can always be guaranteed.



PEMA SKYHOOK

PEMA SPS Skyhook positioners are build for demanding tasks with heavy work-pieces with even the most complex product geometry. With a Skyhook, workpieces are easily set up in a wide variety of positions.

PEMA HEADSTOCK-TAILSTOCK

PEMA HPS Headstock and PEMA TPS Tailstock positioners are specially designed for long, revolving workpieces. A typical application includes manufacturing of cylindrical workpieces.

Pema WELDING AUTOMATION

PEMA AUTOMATION SOLUTIONS

HARD AUTOMATION

PEMA welding automation solutions and customized machine combinations are adjusted according your workshop needs from a large variety of modular concepts. Tested and proven manufacturing methods and premium automated welding processes are fully integrated into our specific solutions.

The combination of Pemamek's advanced PEMA WeldControl management systems, technological intellectuality and welding process know-how enables us to provide you with a powerful solution to radically improve your production performance. Our modular product range gives a solid basis to flexible customer oriented concept design, from a small-scale welding cell to a massive production line.

SUPPORT FOR YOUR PROCESS

Pema has gathered deep understanding of different processes used in heavy fabrication. Providing this experience with high-quality equipment supports you in design and start-up face to success in your investment.

PEMA WELDING AUTOMATION FACTS

- Solutions for heavy fabrication production
- Complete deliveries including material handling and conveying systems
- Forms complete welding automation cells with PEMA roller beds and positioners
- User-friendly and advanced PEMA WeldControl solutions
- Profitability for small-scale production
- Commissioning, training and modernization services
- Variety of engineering services to plan successful customized solutions

PEMA ASSEMBLY STATION

The new-generation PEMA TW series assembly stations based on self-aligning PEMA rollerbeds significantly improve the efficiency and quality of the production of heavy tubular structures, like pressure vessels and tanks. The assembly station consists of powerful hydraulic fit-up tools to join shells together in prior of circular welding. Together with a PEMA column & boom, automated welding of workpieces can be carried out reliably and to highest standards of productivity and welding quality.

WELDING SOLUTIONS FOR PRODUCTION OF SPECIAL PIPES AND PIPE COMPONENTS

Pema delivers special welding and handling machinery to this area of industry. Solutions like compact welding heads, multi-arc side welding portals, special integrated roller bed and C&Boom stations are examples.

WELDING SOLUTIONS FOR PRESSURE VESSELS AND DISH END PRODUCTION

Intelligent control systems together with heavy duty Column & Boom and positioners or rollerbeds offer the best welding quality and productivity for demanding and heavy workshop production.

ASSEMBLY STATION AND COLUMN & BOOM

Productivity and versatility are raised to the next level when Pema Assembly station is integrated with Pema Column & Boom equipped with MAG and SAW welding processes. Submerged arc welding process on the other end of the boom and MAG on the other.

Pema WELDING AUTOMATION

WELDING SOLUTION
PEMA WELDCONTROL 100 & 500

HARD AUTOMATION

PEMA WeldControl managing systems free you from the complexity of different controllers by providing a simple, one-panel control system. WeldControl has three levels of operation and provides the right controls for every user – from operator, welding engineer and service up to a real management tool. PEMA control devices and graphical user interfaces are used in all PEMA automated welding applications.

PEMA WeldControl tools are efficient user interfaces to control integrated machine movements and welding process. You can integrate all power systems to a one single touch-screen. All basic functions can be ready programmed at the start-up, which limits the risk of a human error.

It facilitates integration of your production systems and is easy to learn, guaranteeing extended performance with all technologies. Regardless of your level of automation, integration is possible with variety of PEMA machinery.

With WeldControl 100 and 500 you will receive a true management tool. Production monitoring for engineering departments and data collection provide valuable information about production efficiency and development. Tools, such as weld tracking, makes a distinct impact on quality control.

Renewed PEMA control devices and graphical user interfaces are used in all PEMA welding applications. The innovative touchscreen control panels help users to make the most out of the automatic welding features, such as C&B, and boost the efficiency of both the welding processes and workpiece handling.

PEMA WELDCONTROL 100

Flexible multitool for welding automation works

- Production Monitoring for Increased Efficiency
- Integrated WPS Bank Weld
- Work Tracking for Higher Quality
- All Controls in One Place
  - C&B
  - Welding
  - Roller bed/positioner
  - Seam tracking

PEMA WELDCONTROL 500

Powerfull controller for multi-pass welding

- The most advanced control system
- Manages the welding parameters and movements of the column & boom and workpiece positioning equipment using the same user interface.
- Enables diverse data gathering and the graphical and numerical display of the information.
- Allows connections to accessories (camera, laser seam tracking etc.)
- A number of additional features

Pema WELDING AUTOMATION

MORE PRODUCTIVITY. FUTURE COMPETITIVENESS.

HARD AUTOMATION

FROM PRE-DESIGN TO LIFE-CYCLE MANAGEMENT

At Pemamek, our key philosophy is to provide carefree investments for our customers. That is why each PEMA solution can be delivered as a turnkey including everything from pre-design to life-cycle management.

TURNKEY SOLUTION

USER FRIENDLINESS

PRODUCTIVITY

QUALITY

IN-HOUSE INTELLIGENCE

Take your production into the modern age by acquiring innovative welding processes and increasing the level of technology. All automated PEMA solutions are designed by Pemamek's trained professionals and use advanced PEMA WeldControl management systems.

MATERIAL HANDLING

Powerful and stable material handling is the key to efficient manufacturing. Integrate automated PEMA handling equipment solution into a larger production line or use them in perfect synchrony with automated PEMA welding solutions.

QUALITY MANAGEMENT

Consistent quality is an integral portion of providing the best end-product to your customers. We have developed PEMA WeldControl management system which, in addition to production monitoring and process control, provides valuable information from the weld work. PEMA WeldControl provides analytical details about the quality, such as weld specific stream power and average values of the process.

PROCESS & PRODUCTION SUPPORT SERVICES

Thanks to our strong experience in the industry, we are able to help you to choose the most suitable welding process according to your production requirements. Our main goal is always to maximize your productivity as well as ensure fast ramp-up period at all times.

WORLD-CLASS WELDING AUTOMATION

Reliable and high performance machinery has direct positive effects on weld quality. Pemamek has extended its expertise to quality adding solutions, such as integrated edge preparation, in order to supply extensive world leading welding automation for its customers.

pema
WELDING AUTOMATION

LET'S MAKE MORE – TOGETHER

HARD AUTOMATION

Gävle Tryckkärl och Vatten AB
Sweden

"The new welding C&B means that GTV AB will be very competitive in the production of large industrial vessels and tanks.

Mr. Kent Rosenqvist
Managing Director

APL Production AS
Estonia

The project turned out to be a success story; factory testing, commissioning, assembly and training were carried out in professional and efficient way within agreed delivery times. The objectives that were set in the beginning of the project were completely achieved.

Mr. Dmitri Kljutšnikov
CEO

"We have a very long co-operation with PEMAMEK Oy and PEMA machinery is improving our welding productivity significantly.

Mr. Ilja Pavelkovits
Infrastructure Manager

Fortaco Estonia Oü,
Estonia

"We have repeating orders with PEMA as they can offer a wide selection of handling equipment and also modern robot technology with flexible programming.

Mr. Ivo Kupka
Production Manager

Ventilatorenfabrik Oelde GmbH,
Germany

pema
WELDING AUTOMATION

Stand out from competitors with

PEMA SOLUTIONS

Pemamek is a global leader in welding and production automation. Specialized in designing and manufacturing automated welding and production systems, as well as work-piece handling equipment, our competence has been recognized worldwide.

Your industry, PEMA's solution.

- SHIPBUILDING
- INDUSTRIAL BOILERS
- WIND POWER
- HEAVY FABRICATION
- OIL&GAS AND PROCESS

45
Years of experience

50
Countries with PEMA deliveries

15,000
Number of customer solutions

WWW.PEMAMEK.COM