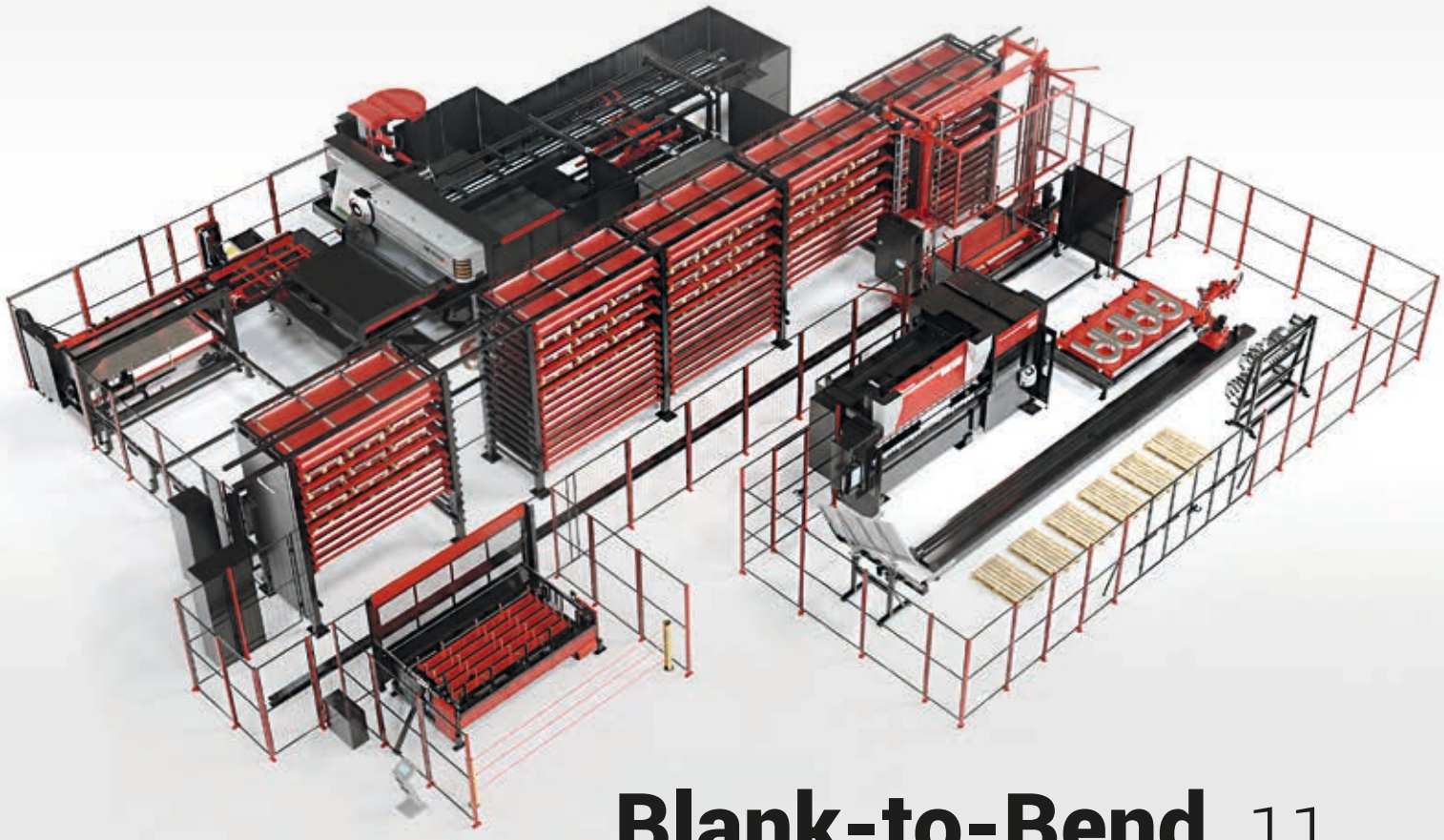
MARKER

The magazine for the sheet metal processing industry

Fall 2022



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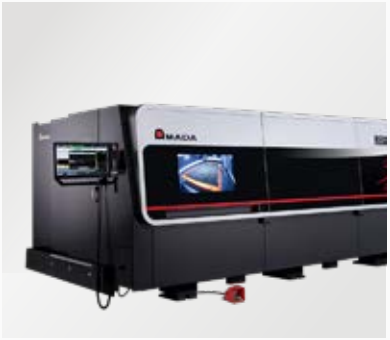
AMADA FLW-ENSIS6000 M5 3i

Now also available with 6 kW 5



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Dear readers,

The period we are living through is a challenging one. Amidst all the upheaval, sectors such as the automotive industry are on the path to more sustainable drive designs. The pandemic and the crisis in Ukraine have brought about a shortage of resources and supply chain bottlenecks. The sheet-metal processing industry must react, develop new approaches and find solutions. AMADA traditionally does this in close cooperation with its customers in order to supply them with technologies tailored to their needs and which allow them to differentiate themselves from the competition. AMADA also recognises the diverse and unique regional or local market needs and has a long standing hybrid product strategy. Core technologies and know-how from Japan combined with localisation of automation and software. AMADA continually invests in the European manufacturing plants to fulfill this strategy, the latest investment being for the manufacture of automation to meet current market demand to increase capacity by more than 60 percent at the end of 2023. The focus on Europe is leading to more agile decision-making at the regional level and is improving support for local market needs. We are remaining true to our philosophy of maintaining our proximity to our customers and growing with them. Find out for yourself what AMADA can offer to respond to your particular needs. Visit us at EuroBLECH, which will be held between 25 and 28 October in Hanover. I should like to extend my warmest invitation to you and look forward to some interesting discussions.

With my best wishes
Alan Parrott
CEO of AMADA GmbH

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Sustainability at AMADA

For the good of the planet

Protecting our environment is AMADA's top priority. Which is why the Group continuously develops ever more environmentally friendly technologies and makes sure that it manufactures these in an ecologically responsible way.

Ensuring that future generations are able to enjoy a clean planet where they can live in dignity – this ambition is part of AMADA's customer-focused philosophy. During the development of its machines and technologies, AMADA places great emphasis on energy efficiency in order to ensure greater environmental sustainability. By evaluating the environmental responsibility of every aspect of its products and certifying these with the AMADA ECO PRODUCTS label, the AMADA Group produces an environmental assessment during every phase of product development. Key aspects on which it focuses are energy consumption during operation and the use of chemical substances. AMADA certification guarantees that customers benefit from high energy efficiency while simultaneously increasing productivity and reducing costs. That is why AMADA expresses its commitment to "eco-conscious manufacturing" by developing energy-optimized machines in order to reduce CO_2 emissions that contribute to global warming.. For example, the current fiber laser cutting machines are so energy-efficient that they use up to 80 percent less electricity than conventional models. Similarly, the electric punching machines and automation components have been designed to provide high productivity while consuming only low levels of energy. AMADA wants to make its contribution to a world without carbon emissions. That is why when manufacturing machines in-house, the Group is committed to continuously improving the production equipment and processes in order to reduce their carbon emissions. The use of renewable energies is actively integrated in the planning of all new operating facilities in order to protect the planet on which we all live. ●

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Finally, industry professionals will once again meet up live and face-to-face in October at EuroBLECH in Hanover. And AMADA GmbH with its fascinating innovations will also be there.

AMADA at EuroBLECH 2022

Innovations for more efficient manufacturing

At the industry's flagship trade fair EuroBLECH, which will be held from 25 to 28 October 2022 in Hanover, AMADA will present new solutions designed to enable it to continue to grow together with its market partners in the future.

After a gap of four years, industry professionals will once again be meeting to attend EuroBLECH at the Hanover Exhibition Site, where they can experience what the sheet-metal processing of the future will look like. AMADA will also be participating in the 26th edition of this international technology trade fair and will present its innovative solutions in Hall 12, Booth D06/F06. The focus will be placed on products and concepts that increase productivity while simultaneously boosting cost- and resource-efficiency. Live at the trade fair site, visitors to the AMADA exhibition site can, for example, experience fiber laser cutting systems with more powerful lasers which improve cutting quality and speeds and are also capable of autonomous manufacturing. They will also be able to see welding cells whose enhanced performance permits the machining of thicker materials. New energy-efficient press brake technologies permit improved manufacturing quality and ease-of-use. The new Blank-to-Bend concept illustrates how punching and cutting solutions can be combined to form a highly-automated system by means of a rack storage system equipped with press brakes. The AMADA My V-factory Industry 4.0 solutions, IoT Remote Support and a new line control solution demonstrate how users can manufacture more intelligently – and boost their productivity, reliability and cost-effectiveness. The pages that follow contain all the most important information about this year's trade-fair highlights. ●

For further information on the trade fair:
https://euroblech.amada-gmbh.com

AMADA at EuroBLECH 2022: **Hall 12, Booth D06/F06**

The Automatic Storage System with single-part sorting performs all materials handling operations.

Market innovation: the AMADA ASR 3015 PR

Automation particularly compact

The new AMADA ASR 3015 PR is the only solution on the market that combines fully-automatic loading and unloading with parts sorting in a single, particularly compact system. In combination with the AMADA EML-AJ, the system is therefore able to achieve productivity increases of up to 35 percent.

The 3-kW fiber laser developed by AMADA lies at the heart of the AMADA EML-AJ punch/fiber-laser combination machine. And the outstanding advantage of this is that, due to the improved absorption, it cuts significantly faster than a conventional CO_2 laser – and permits energy savings of up to 60 percent due to its enhanced efficiency. The AMADA EML-2515AJ is therefore perfect for the fast and simple production of single parts and for series with large numbers of parts variants. The wide range of thread-cutting, punching/stamping and forming tools makes it possible to manufacture complex parts in a single process. AMADA premiers ASR 3015 PR Automatic Storage System with single-part sorting for the AMADA EML-2515AJ.
"For the first time, the AMADA ASR 3015 PR permits the autonomous loading and unloading of raw material, parts sorting and the storage of the components and sheet skeletons on a single system," explains Axel Gottfried, Product Specialist Automation, AMADA GmbH. "With this configuration, the system is also the most compact automation solution available on the market."

End-to-end process

In practice, the Automatic Storage Unit (ASR) takes the required material from the corresponding storage location before it is then transported to the loading unit by the lifter. The loading unit takes up the material by means of a vacuum suction system, checks for the presence of double sheets and places the material down on an intermediate table. Here, the Part Remover (PR) passes it on to to the punch/fiber-laser combination machine. After all the machining operations have been completed, the ASR picks up the finished punched sheet and transfers it to the unloading pallet. It can alternatively also remove the components separately or a parts flap can be used. And while all this is going on, the system is already being prepared for the next cycle.

Uninterrupted efficiency

"This is a fully-automated, autonomous end-to-end solution which can increase the productivity of the overall system by 20 to 35 percent – with no variation in cycle times," explains Axel Gottfried. During operation, the lifter and the system work in separate safety zones. As a result, material provision or parts removal can run in parallel without interrupting the machine. Last but not least, the system is connected to the machine at the back. This not only makes it easier to handle material using a fork-lift truck but also keeps the front of the machine free and flexibly available for unscheduled manufacturing jobs.
In the standard configuration, the AMADA ASR 3015 PR is equipped with three pallets for raw material, two pallets for finished parts and two pallets for sheet skeletons, each with a load-bearing capacity of 3000 kg. The system, which is available with immediate effect, can also be configured in line with customer-specific requirements depending on the material flow. ●

Axel Gottfried, Product Specialist Automation AMADA GmbH

AMADA ENSIS-3015RI

A unique concept

With the new 6, 9 and 12-kW classes, it is now also possible to cut thicker materials quickly, flexibly and reliably on the AMADA ENSIS-3015RI fiber laser cutting systems. At the same time, the Laser Integration System (LIS) ensures a high level of autonomy during production.

AMADA recently introduced the AMADA ENSIS-3015RI fiber laser cutting systems which are also optionally available with 6, 9 or 12 kW of laser power. The primary aim of this increase in power is to make it possible to adapt more flexibly to the different characteristics of the individual materials used in flatbed cutting and also to permit the fast, versatile and reliable cutting of thicker materials. To this end, all the systems with an output of 6 kW or more are also equipped with new, adaptive optics in front of the laser head. This permits the direct manipulation of the focal position and diameter and, in particular, makes it possible to adapt these parameters for greater sheet thicknesses.

Self-monitoring system

Another newly introduced feature of the AMADA ENSIS-3015RI fiber laser cutting systems is the Laser Integration System (LIS). This comprises components such as the i-Nozzle-Checker, the i-Cas-System, the i-Optics-Sensor and i-Process-Monitoring. Thanks to these features, the machine is practically able to monitor itself, making the entire manufacturing process even more autonomous. One further advantage lies in the fact that it is possible to switch from flatbed to tube or profile cutting in a matter of seconds. This ensures outstanding production flexibility and epitomizes the unique machine concept behind the AMADA ENSIS-3015RI fiber laser cutting systems. ●

AMADA FLW-ENSIS6000 M5 3i

Available with 6 kW

The AMADA FLW-ENSIS fiber-laser welding cells are available with immediate effect with a 6-kW laser – to achieve considerably increased penetration depths and particularly high welding speeds.

The three variants – M2, M3 and M5 – of the AMADA FLW-ENSIS 3i fiber-laser welding cells permit peerless high-end welding coupled with versatile automation. The heart of each system is the AMADA fiber laser, which is now available beside the 3 kW as a 6 kW version. "The 6-kW fiber laser increases the penetration depth in steel and stainless steel to 12 mm and in aluminum to 8 mm. This makes it possible to fully weld correspondingly thick materials without any need for time-consuming weld preparation," explains Jörn Lota, Product Specialist for FLW Laser Welding at AMADA.
Another advantage lies in the fact that the AMADA FLW-ENSIS 3i fiber laser also makes it possible to bridge over larger gap sizes than are usually possible using laser welding technology. This is possible thanks to the innovative AMADA ENSIS technology. Using this, the primary energy of the laser beam can be continuously moved in a "ring mode" from the center of the laser to the various diameters.
The unique laser-weaving technology, in which the integrated optics cause the circular, weaving movement of the laser beam, equip users with another important function for controlling the welding process. For particularly large gap sizes, the FLW is equipped with a swiveling in additional wire whose precise movement is controlled via a push-pull motor.
Last but not least, the AMADA FLW-ENSIS 3i fiber-laser welding cells can also be used for the unproblematic soldering of an extremely wide range of materials. ●

The 6-kW version of the AMADA FLW-ENSIS fiber laser is available for all three FLW models.

Jörn Lota, Product Specialist for FLW Laser Welding, AMADA GmbH

The AMADA VENTIS-3015AJe with its 6-kW laser module, AMADA LBC technology and Laser Integration System (LIS) offers outstanding cutting quality combined with largely autonomous production.

AMADA VENTIS-3015AJe

Smart laser cutting

The new AMADA VENTIS-3015AJe with its 6-kW fiber laser uses AMADA LBC technology and is able to cut a vast range of materials extremely quickly and accurately. At the same time, the Laser Integration System (LIS) permits largely autonomous production coupled with simplified machine operation.

One highlight of the new AMADA VENTIS-3015AJe with its single 6-kW laser module lies in the fact that the fiber laser cutting system is able to make use of AMADA LBC technology. Using this technology, the laser beam oscillating in different movement profiles around a defined cutting point. One completely new feature here is the LBC Flash Cut function. This permits the almost inertia-free movement of the laser beam without it being necessary to displace the entire laser carriage. As a result, the AMADA VENTIS-3015AJe is able to cut even small hole geometries extremely quickly and accurately. "With regard to its performance capabilities, the AMADA VENTIS-3015AJe with its 6 kW of laser power is very much the equal of traditional fiber laser machines in the 9-kW class, while it goes far beyond these in terms of cutting quality thanks to its smart laser system," explains Axel Willuhn, Product Manager for Punching and Laser Technology at AMADA.

A wide range of materials

The new 6-kW laser permits faster cutting and an outstanding cutting quality with absolutely precise cutting angles, in particular in the mid- to high-thickness material range. At the same time, the AMADA VENTIS-3015AJe is able to cut many different special materials for which traditional fiber lasers are not designed. These include Hardox steels as well as rust-resistant primer (coating) and sandblasted material. The increase in power has also boosted the system's performance in the machining of stainless steel and aluminum, permitting higher cutting speeds and enhanced cutting quality.

Continuous self-monitoring

Just like the new AMADA REGIUS-3015AJe, the AMADA VENTIS-3015AJe is equipped with the Laser Integration System (LIS). As a result, the system continuously monitors itself and automatically adapts all the parameters for the current cutting process. This permits a very high level of autonomous production. The AMADA VENTIS-3015AJe is controlled using the new AMADA AMNC 4ie controller. This boasts innovative features such as the Face ID which makes system operation particularly simple and intuitive, meaning that it is not essential to have highly qualified personnel on hand during operation.

More efficient production

At this year's EuroBLECH, AMADA will present the AMADA VENTIS-3015AJe as a stand-alone system. However, just like the 4-kW VENTIS-3015AJ – which will also be on display at the trade fair – it can also be equipped with all the AMADA automation modules, including parts sorting. In this way, all users can give another significant boost to their system runtimes because these options completely do away with the need for manual material changes. Depending on the customer's specific configuration, this permits autonomous production cycles lasting between a few hours and several days. ●

Thanks to its new 12-kW laser, the new AMADA REGIUS-3015AJe is able to achieve particularly high cutting speeds while also operating extremely autonomously.

AMADA REGIUS-3015AJe

Enhanced performance

Thanks to its new 12-kW laser, the new AMADA REGIUS-3015AJe is able to achieve particularly high cutting speeds. However, it also stands out for its new, greatly simplified mode of operation. Together with the smart LIS functions, the system offers outstanding productivity, autonomy and machine availability.

The new AMADA REGIUS-3015AJe opens up new dimensions in terms of productivity and machine availability. The particularly high performance it offers is due to innovative features such as the Laser Integration System (LIS). This is a smart system that permits the continuous self-monitoring of the laser cutting system, allowing it to adapt all the system and process parameters automatically to the current cutting process. The stand-out components are i-Process-Monitoring for monitoring the beam and cutting conditions, the i-Optics-Sensor for detecting the protective glass of the cutting optics or the i-Nozzle-Checker with its camera for beam analysis and the automatic adjustment of the nozzle center. The system is also equipped with an improved i-Camera for measuring the sheet position and recording residual sheet values. The LIS system not only makes a vital contribution to the system's performance in terms of speed, accuracy, cutting quality and availability but also makes operation particularly secure and reliable.

For all operators

The AMADA REGIUS-3015AJe with its 12 kW of laser power and three-axis linear drive is operated using the latest generation of AMADA AMNC 4ie-type controllers. This ensures that system operation is particularly simple and intuitive. One example of this is the new Face ID recognition. Thanks to this feature, the system automatically recognizes the current operator, autonomously adapts to the relevant profile and sets the corresponding basic parameters. This means: To run a job, the system starts up by itself, performs a self-check and automatically adjusts itself as required. Consequently, every aspect of operation requires considerably less knowledge on the part of the personnel, who therefore do not need to be so highly qualified. "As a high-end and high-speed machine, the new AMADA REGIUS-3015AJe can be used by practically any operator and always offers them the same high performance," explains Axel Willuhn, Product Manager for Punching and Laser Technology at AMADA. "As a result, the production process and manufacturing results are far less dependent on the operator's knowledge and experience than in the past." This means that the AMADA REGIUS-3015AJe is also the perfect response to the current lack of qualified workers.

Enormous potential

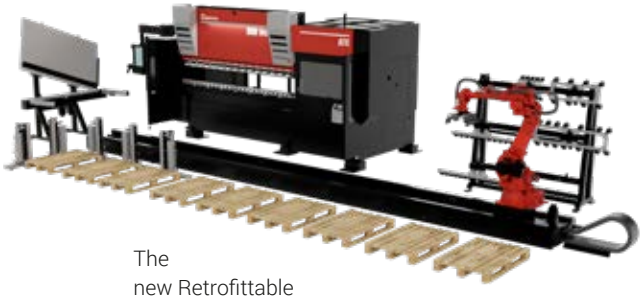
At the same time, the new 12-kW laser capacity ensures particularly high cutting speeds. This not only opens the way to considerable savings in terms of energy and resource consumption but also reduces payroll costs because, in some cases, it is not necessary to work a second or third shift. This system, which is compatible with all the AMADA automation modules, is available with immediate effect. ●

Axel Willuhn, Product Manager for Punching and Laser Technology, AMADA GmbH

AMADA HRB-1003ATC + RBR

Fully-automated solution

The new Retrofittable Bending Robot (RBR) transforms the AMADA HRB-1003ATC into a fully-automated bending solution. The associated bending program, including all the tool and gripper changes, can be created completely offline.



The new Retrofittable Bending Robot (RBR) transforms the AMADA HRB-1003ATC press brake into a fully-automated solution.

The AMADA HRB-1003ATC press brake with automatic tool changer (ATC) is ideally suited for the manufacture of small batch sizes using AFH-ATC tools. AMADA has now extended the system, which can also be equipped manually with existing tools, to include the new Retrofittable Bending Robot (RBR). This is a 6-axis robot with automatic gripper changer which travels along a linear 10-meter track in front of the system. It takes up the parts on the loading side, travels past the sheet thickness sensor on its way to the machine and then performs all the bending operations. It then stacks the components on the unloading side before the cycle is automatically repeated. The maximum part dimensions are 2x1 m, the maximum sheet thickness is 6 millimeters and the gross transportable weight is 50 kg.

Zero waste

"The RBR transforms the AMADA HRB-1003ATC into a fully-automated solution, in particular because the entire bending program, including all the robot movements and associated gripper operations, can be created conveniently offline," explains Tankred Kandera, Product Manager for Bending Technology at AMADA. "Errors are eliminated during setup and in the bending program and the number of anomalies is now practically zero." The solution, which supports customer-specific configurations, will be available in 2023. ●

The new HRB-1003A.C.

Fully-equipped press brake

One highlight on display at EuroBLECH 2022 is the newly developed AMADA HRB-1003 press brake. It provides innovative features that permit even more manufacturing quality, safety and ease of operation.

The Auto-Crowning system (A.C.), which ensures the linearity even of long components, is one of the many features of the new AMADA HRB-1003 A.C.

AMADA is presenting the newly developed AMADA HRB-1003 press brake for the first time as a single machine at EuroBLECH 2022. One new feature of this system is the enlarged opening, which now measures 520 mm and is able to accept even particularly long tools. The frame gap of the machine has also been increased to 450 mm. The Auto Crowning (A.C.) system represents a completely new addition. This automatically compensates for the sagging of the upper press beam and consequently ensures linearity even for long bent parts. The optional automatic mobile foot pedal, which makes the machine extremely convenient to use, is also on display.

Focus on fingers

The new FAST-Finger technology is also installed in the system. This integrated safety feature automatically unlocks the finger in the event of a positional conflict and allows it to escape backwards. Both backgage fingers are also equipped with the Delta-X option for the reliable gaging of asymmetrical parts. The so-called W-Shape finger is also available for the system. Thanks to its clamping function, this improves the positioning accuracy of the part to be bent on the machine. Last but not least, the system can also be operated in the AMNC 3i controller's Lite mode. The AMADA HRB-1003 is available with immediate effect together with all the features described above. ●

AMADA EGB-1303ATCe

A new dimension in bending

The latest generation of servo-controlled press brakes, the AMADA EGB-1303ATCe boasts a high-performance electric drive in combination with the automatic tool changer (ATC) and simplified operation – for particularly high-speed, top-quality bending.

With the AMADA EGB-1303ATCe, AMADA is, for the first time, presenting a purely electrically driven press brake with 130 tonnes of press force and beam length of 3 meters at EuroBLECH 2022. The system no longer needs any hydraulic oil, is energy-efficient in operation and simple to set up and maintain. The new Auto-Crowning (A.C.) system with its two independently functioning axes which precisely compensate for the sagging of the press beam is also electrically driven. Other highlights: Compared to the conventional 1003 variant, the capacity of the ATC has been increased by 30 percent and, at the same time, the overall system takes up 23 percent less space.

Reduced throughput times

Completely new additions are the three-finger backgage for easier component positioning and the further developed BI-S II angle measurement system which is now maximum one thirds faster. In combination with the A.C. system, this results in particularly short throughput times. The AMADA EGB-1303ATCe is operated via the new, customizable AMADA AMNC 4ie controller in Full or Lite mode. This can be used without difficulty even by inexperienced operators. The additional control tablet, which can also be used on the move, makes operation even more convenient. ●

AMADA EGB-6013ARce

Complete electrical cell

The new AMADA EGB-6013ARce is a fully-automatic electric bending cell. It offers 35 percent more tool capacity and reduces cycle times by up to 36 percent.

The AMADA EGB-6013ARce represents the latest generation of fully-automatic bending cells and boasts countless innovations. Thus the system possesses a new servo-drive, while the 3-axis backgage (X and Y alignment) now also permits the Z-axis correction of the component position. At the same time, the capacity of the automatic tool changer (ATC) has also been increased by 35 percent. The ATC now also permits the use of Hemming and Z-tools. A new station also makes it possible to rotate the punch through 180 degrees. The number of robot grippers has now also been increased to eight. Particularly beneficial in practice: The entire sequence of robot movements can be programmed extremely quickly and automatically using the AMADA software. The sequences of movements are always optimally calculated, meaning that cycle times are reduced by up to 36 percent. The loading station has also been reconfigured and is now equipped with three particularly large loading tables, corresponding to a 50 percent increase in capacity. With two material stacks per table, autonomous manufacturing is now possible for particularly long periods. Last but not least, a tablet for mobile use is also available in addition to the AMADA AMNC 4ie controller and provides information and live images of the cell. ●

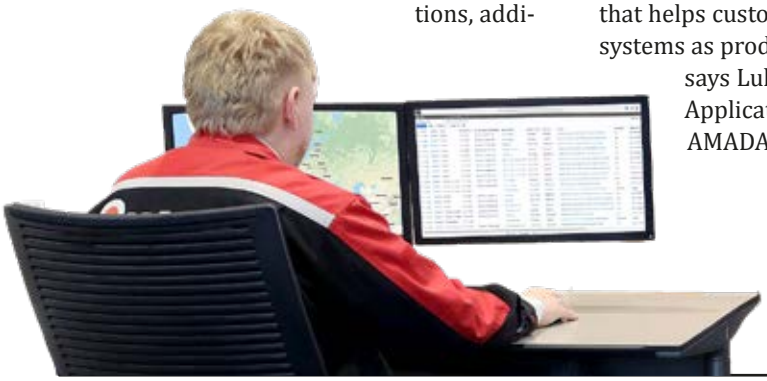
Tankred Kandera, Product Manager for Bending Technology, AMADA GmbH

AMADA My V-factory & IoT Support

Smarter production

The combination of AMADA My V-factory and IoT Support allows users to benefit from fully-networked production in accordance with the Industry 4.0 principle – for greater efficiency and reliability in their manufacturing operations.

AMADA My V-factory plays a key role in enabling digitalized, fully-networked production in accordance with the Industry 4.0 principle. This is a Cloud-based system that displays vital production and machine indicators such as machine output or downtimes. In the field of bending applications, additional data such as the program mode and the employed tools is also displayed and consumption values are available for AMADA laser- and punch-laser-systems. All users can therefore monitor all their production activities live and react quickly to remedy any problems if necessary. "It is a smart assistance system that helps customers operate their systems as productively as possible," says Lukas Pollok, Software Application Engineer at AMADA GmbH.



Proactive machine service thanks to IoT support.

Help directly on hand

In addition to My V-factory, AMADA also offers an AMADA IoT Support option. With this, AMADA has a permanent view of the customer's machine, can provide support during data analysis and contact the user proactively in the event of any anomalies. By remotely switching to the system, AMADA's experts are able to help directly – without the costs and time involved in on-site technical call-outs. Consequently, AMADA My V-factory and AMADA IoT Support represent contemporary, forward-looking solutions that allow all users to benefit from more efficient production and more reliable manufacturing operations. ●

Line control

Integrated warehouse management

A new line control solution is making it possible to manage the entire AMADA CS rack storage system via the machine controller, including the database connection and AMADA IoT Support.

AMADA is currently developing a new system solution with a simplified user interface for laser cutting systems equipped with MPF automation and an interface to an AMADA CS storage system. This connects the AMADA AMNC 3i FMS machine controller and the CS storage system's AMADA V-factory IS controller. "In this configuration, the AMADA CS rack storage system can be controlled, inspected and managed directly via the machine controller," explains Lukas Pollok, Software Application Engineer at AMADA GmbH. "It is a fully integrated solution that is simple and intuitive to operate."

Lukas Pollok, Software Application Engineer at AMADA GmbH.

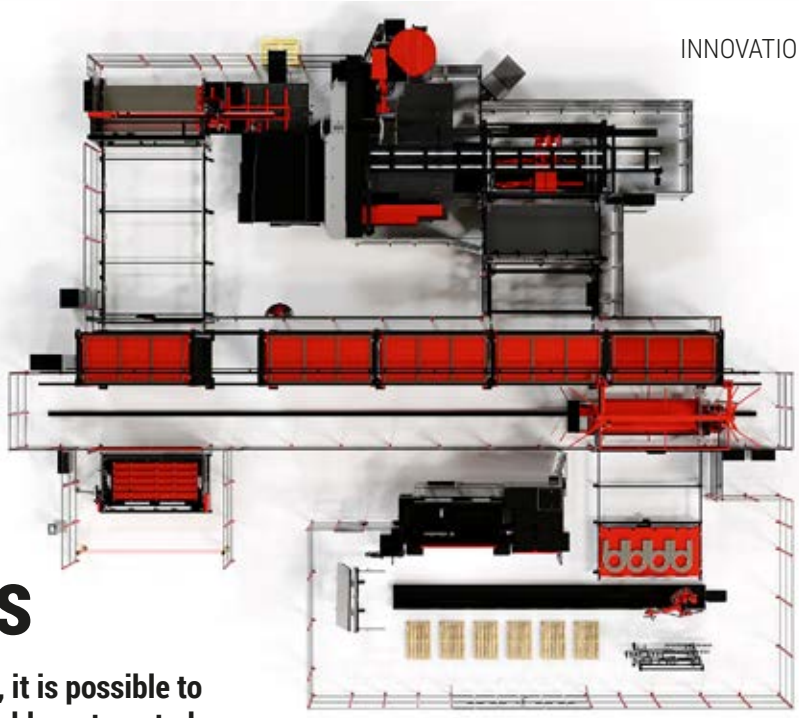
Fully networked

The AMADA AMNC 3i FMS machine controller and the AMADA V-factory IS, which is used to control the rack storage system, can also be integrated in the AMADA VPSS 3i software and therefore the central vsdd database. This means: All externally programmed material information and pallet plans can be combined to produce standardized material master data which can be used directly in the storage system.

To permit data exchange with external systems, it is also possible to take account of various file formats such as the CSV or XML file types. In the future, the entire solution will be supported by AMADA IoT Support and extended to include other AMADA production systems. ●

A clear view of the storage facility: With the new line control solution from AMADA.

Axel Willuhn, Product Manager for Punching and Laser Technology, AMADA GmbH



The AMADA Blank-to-Bend concept combines laser cutting with bending via a central storage system.

The Blank-to-Bend concept

Two steps – a single process

With AMADA's new Blank-to-Bend concept, it is possible to perform cutting and bending in a single, highly-automated, end-to-end process. The element that binds these operations together is the AMADA CSII rack storage system.

AMADA has always supplied a wide range of outstanding systems for cutting blanks and bending them. With the new Blank-to-Bend concept, AMADA is now linking together the production of the cut blank with the automatic bending process. At the heart of the concept lies the AMADA CSII rack storage system. From here, the raw material enters an AMADA punching machine or AMADA punch-laser combination machine which produces the cut blank. The storage system then feeds the materials to a bending cell equipped with robot and tool changer via a reliable, high-speed parts sorting solution with high positional accuracy. This then performs the fully automated final-bending operations to produce the finished component. An example of the Blank-to-Bend concept is provided by an AMADA EML-AJ punch-fiber laser combination machine, an AMADA CSII storage system and an AMADA HRB-ATC press brake on the other side of the rack.

The Blank-to-Bend concept is based on a highly-automated end-to-end system.

Cumulative capacities

"The great advantage of the Blank-to-Bend-concept lies in the fact that all the cutting and bending operations, including materials handling, can be performed in a single highly-automated end-to-end system," explains Axel Willuhn, Product Manager for Punching and Laser Technology at AMADA. "The Blank-to-Bend concept combines the high production capacity of each individual AMADA system to ensure the greatest possible productivity and efficiency." The high staffing levels that were required in the past are no longer necessary and the risk of errors and damaged parts is reduced to an absolute minimum.

Low investment outlay

Compared to the cost of the machines, the financial outlay involved in implementing the Blank-to-Bend concept is very small. When implemented in an existing production environment, the costs amount to less than ten percent of the overall system investment. And for customers who are setting up a completely new system, the implementation of the Blank-to-Bend concept represents no more than two percent of the total costs. The key areas of focus during implementation are the configuration of the storage system and the implementation of the software which ensures the end-to-end connection between the systems.

Customer-specific design

The Blank-to-Bend concept is of particular interest to AMADA customers that already possess an AMADA CSII storage system and/or an AMADA punch or punch-laser combination machine and are now planning to extend their processes to include bending. During implementation, all the customer-specific pre-requisites and requirements are analyzed in detail and taken into account during the design of the Blank-to-Bend solution. AMADA has already worked on similar projects with its customers in the past and these have formed the basis for the development of the new, standardized Blank-to-Bend concept. ●

Skandia uses automation solutions from AMADA to achieve low staffing levels and efficient production.

Skandia Elevator, Vara (SE)

Efficiency from a single supplier

Skandia Elevator in Sweden is the first user company in Europe to run its production operations using the AMADA Blank-to-Bend concept – with two AMADA CS compact storage systems interfaced with three AMADA EM punching machines. This has allowed the market leader to more than triple its sales. And with two new AMADA HG press brakes also integrated in the process, the company is making itself even more competitive.

Skandia Elevator AB, which is headquartered in the Swedish city of Vara, is Europe's leading manufacturer of conveyor systems for the cereal industry and offers the greatest range of conveyors and elevators on the market. The company's grain loading and unloading systems are designed as modular solutions manufactured from galvanized steel and can transport between 30 and 600 tonnes of grain per hour. Every year, the company manufactures more than 2,000 systems which are sold in 28 countries. Skandia Elevator was founded in 1914 by the grandfather of the present owners, Joakim and Jonas Larsson. A milestone in the success story of the family-owned company was achieved in 1975 with the introduction of the export business model, which now accounts for 80 percent of sales. Another outstanding strength lies in Skandia Elevator's comprehensive service offering. One example of this is the annual product training courses held directly at Skandia's premises in Vara. "Made in Sweden is an important factor giving stability to our well-known brand. In addition, we offer very high product quality, allowing us to achieve a 10 to 15 percent boost in sales prices. At the same time, operating in Sweden means that we have to optimize the machine uptimes in order to remain competitive," explains Jonas Larsson, Vice President of Skandia Elevator.

Competitive edge thanks to AMADA

The close relations between Skandia Elevator and AMADA have also played an important role in cementing the company's market leadership in Europe. This relationship goes back more than 30 years to 1989, when the company purchased its first AMADA ARIES punching machine. The second AMADA machine arrived at the company in 2001 in the form of an AMADA VIPROS punching machine with automation. This machine gave the company a competitive advantage thanks to its forming capabilities. In 2007, Jonas and Joakim Larsson visited AMADA's headquarters in Japan. On returning from this trip, they invested in their first AMADA CS compact storage system, which was connected to an AMADA EM punching machine. As Jonas Larsson explains: "This investment had actually been planned to provide future capacity. However, due to the high demand, it very soon came online. The AMADA EM CS solution allowed us to increase sales by 98 percent within a year. This was the result not only of our expansion

into Eastern Europe but also of the increase in biofuel production in the USA, which had an impact on global markets. At that time, grain was the new gold."

Minimized production times

To increase its competitiveness still further, Skandia Elevator introduced Lean Production in 2006. The period also saw a trend towards smaller manufacturing runs. These factors persuaded the company to switch over to machines equipped with automatic tool change functions. In 2012, Skandia acquired a second AMADA CS compact storage line with a capacity of 741 tonnes and two EM punching machines with automatic tool changer. "The tool change function was very important in permitting unstaffed changes between different material thicknesses," emphasizes Larsson. Since the installation of the first AMADA CS compact storage line and after a total of more than 50,000 hours of operation, Skandia Elevator's sales have more than tripled. The reason for this lies in the company's increased manufacturing efficiency: "Ten years ago, our typical batch size was 250 units, now it's only about 45. It was automation that gave us the flexibility we needed. Whereas production took 24 hours in the past, now only one hour is required," explains Larsson.

Bending operations also benefit

Skandia Elevator's most recent investments consist of two AMADA press brakes: the HG and HG-ATC. These are also connected to the AMADA CS storage system and round off the manufacturing environment with the custom-configured AMADA Blank-to-Bend concept. The machines, which are programmed using AMADA's offline bending software, are so efficient that it was possible to do without a second shift for a period of five weeks. What is more, thanks to this solution, whereas 4 operators were responsible for 2 machines in the past, 2 operators are now able to run 3 machines. Other benefits: "Thanks to the automatic functionality of the programming software, we have been able to cut programming times by 75 percent. What's more, if we have 3D parts data available to us, then the machining times are only half of those involved when working with 2D data," reports Jonas Larsson. The use of the automatic tool changer (ATC) has reduced tooling times to 20 minutes per batch across all bending operations, including all material handling activities. The inline angle measurement system has also contributed to the company's lean approach and has rendered the production of two or three test parts for quality assurance purposes unnecessary. Last but not least, the ease of use of the AMADA AMNC 3i machine controller ensured that it was very warmly received by the personnel. For example, one operator, who only recently joined the company, was able to work with the AMADA HG-ATC inside of 15 minutes.

Jonas and Joakim Larsson (left to right), the owners of Skandia Elevator, have successfully optimized their production processes.

The right solution

"Our philosophy when making capital investments is to think of future capacity requirements, not about the present. The solution must permit continuous improvements and enhance the working environment," is how Jonas Larsson sums things up. "We trust AMADA to provide the right solution to meet our needs." ●

Skandia Elevator has made itself more competitive through the Blank-to-Bend concept from AMADA: Three AMADA EM punching machines and two HG brake presses have been interfaced with two AMADA CS compact storage systems.

AMADA GmbH's head office in Haan in North Rhine-Westphalia.

Celebrating 50 years of AMADA GmbH

Always thinking about the customer's needs

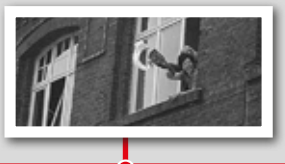
The right solution at the right time – this is only possible through technological expertise, far-sightedness and innovative strength, partnership-based communication and sustainable market strategies. For 50 years, AMADA GmbH has been showing how a company can grow successfully with its customers both in Germany and throughout Europe.

Germany is currently the largest European market for sheet-metal processing solutions," says Alan Parrott, CEO of AMADA GmbH, confirming the AMADA Group's far-sighted approach. Because when the Group started to expand into international markets in 1972, it decided on Germany, in addition to the USA and Great Britain, as one of its three main locations outside of Japan. As had already been the case with numerous other companies from the Land of the Rising Sun, the choice fell on Düsseldorf. This is where AMADA GmbH started marketing and servicing band-sawing machines in Germany and Europe, before extending its sales program to include sheet-metal processing machines in 1978. This step marked the start of the company's success story. Since 2009, AMADA GmbH has occupied its own 46,000 square meter site in Haan-Gruiten, which comprises the office spaces, the AMADA School and a Parts Center. Most importantly, one of the three Solution Centers worldwide is also located here. By opening this comprehensively equipped demonstration center, the Group once again underscored the importance to it of having a significant presence in Germany.

Uninterrupted communication

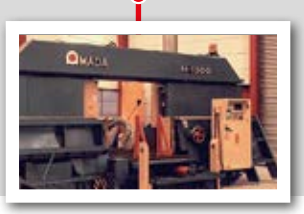
"Create Solutions For Your Success" – remaining true to this philosophy, we enable customers to test out the production of their own parts in close cooperation with AMADA in the Solution Center in Haan as well as in the Technical Center, which was opened in Landshut in 2013. This is a long-standing tradition at AMADA: As long ago as 1978, the company opened its first showroom in Japan in the form of the "Amada Machinetool Plaza". Alan Parrott explains: "Our philosophy is to grow together with our customers. That is why we listen to what our market partners have to say and develop innovations that evolve into manufacturing solutions that respond to their specific needs. And that's not going to change in the future." AMADA GmbH maintains this continuous communication with its customers at regular in-house exhibitions at its sites in Haan, Landshut and Reutlingen, as well as at industry trade fairs such as EuroBLECH (25–28 October 2022 in Hanover), where it presents its wide range of products and services.

AMADA in Germany



1972
Founding of AMADA GmbH with head office in Düsseldorf for marketing and servicing band-sawing machines in Germany and Europe

1978
Expansion of the sales program to include sheet-metal processing machines



1979
Acquisition of the first company building in Haan

2009
Acquisition of new premises on a 46,000 square meter site in Haan-Gruiten, including office spaces, the AMADA School, Parts Center and Solution Center

State-of-the-art machine solutions in the Solution Center.

AMADA has been selling laser cutting systems on the German market since 1984.

Solutions to meet new requirements

"With its product portfolio, AMADA always concentrates on technologies that help its customers to achieve positive market differentiation and create unique selling points in an increasingly competitive market environment," explains Alan Parrott. To do this, it is necessary to identify changes in the market early and innovate to help shape these. One example: The mid-1990s saw the start of an accelerating transfer of mass production operations to China. As a result, small batch sizes and short lead times became ever more important for the industry domestically. AMADA identified the opportunities opened up by digitalization and, with VPSS (Virtual Prototyping Simulation System) and networking applications, developed solutions that corresponds to today's buzzwords "Digital Twin" and "Industry 4.0". In addition, when it comes to automation, AMADA has also established itself as one of the leading suppliers of full-range solutions for sheet-metal processing and is currently expanding this field of activity in Europe (see boxed text).

Helping to shape trends

A shortage of skilled workers, climate change and resource bottlenecks due to war or the pandemic are currently confronting the industry with major challenges. Issues such as the European Green Deal, the charging infrastructure for electric vehicles, hydrogen drives, renewable energies and the digital transformation are currently determining the trends in the manufacturing industry. With a new generation of experienced employees, AMADA is ideally equipped to help shape these trends and ensure the long-term success of its customers through sustainable growth. Thus, in 2021, the workforce of approximately 1,600 employees in Europe achieved annual business of 450 million euros. With a total of almost 200 employees, AMADA GmbH services not only Germany but also the sales areas in the Netherlands and Austria and generally achieves more than 30 percent of European sales. Thanks to AMADA GmbH, the Group is also able to react to local requirements in Europe. Alan Parrott has no doubts: "That is why we shall continue to grow together with our customers in the future." ●

AMADA Automation Europe

Automation is of great importance for making local production in Europe competitive. AMADA Automation Europe (AAE) is fully aware of this and intends to continue extending its capacities for the production of automation solutions in Finland up until customer-specific solutions that are based on core technologies from Japan but are developed and manufactured in Europe. Deglobalization counteracts the adverse effects of supply bottlenecks, saves transport costs and helps reduce the strain on the environment. To make production even more sustainable, solar collectors on the roof of the production hall supplement the conventional power supply. The use of biogenic energy sources and heat-recovery systems also saves energy. Alan Parrott, CEO AMADA Europe: "Our business activities must promote the balance between social, economic and ecological sustainability."

2013
Opening of the Technical Center in Landshut

2020
Opening of a branch in Reutlingen

2022
50 years of AMADA GmbH in Germany

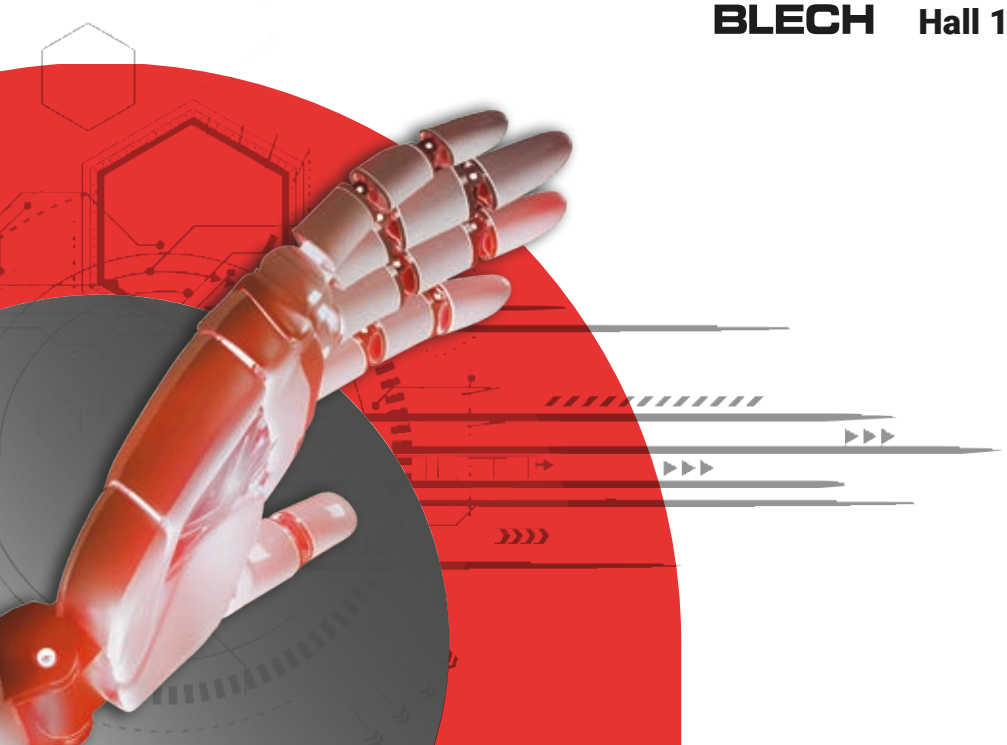
Innovation, Challenges and Eco-Conscious Manufacturing

«Growing Together with Our Customers» is the starting point for all our business activities. AMADA support customers the world over in their sheet metal fabrication manufacturing operations. Through forward-thinking, innovative manufacturing and IoT services, we continue to grow and strive to make a greater contribution to our customers' success.

We are committed to expanding the development of AMADA eco-products to realise a carbon neutral society.

EUROBLECH

Join us at Euroblech 2022
Hall 12, booth D06/ F06



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