

MARKER

The magazine for the sheet metal processing industry

Fall 2023





AMADA VENTIS-3015AJe 6 kW

Productivity

not power



AMADA HRB-5020

Optimally designed press brake



THE AMADA BLANK-TO-BEND CONCEPT

Highly automated

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Dear readers.

You don't confront great challenges alone. You overcome them together with partners that you can rely on. Partners with solutions that help you flourish in the day-to-day competitive environment. AMADA strives to be just such a partner for the sheet metal processing industry. Whether in response to the relentless march of digitalization, ever more pressing raw materials shortages or the increasing importance of automation, AMADA supplies technologies and services that meet its customers' needs. True to our motto of "growing together with our customers", our aim is to achieve success at your side. The key to this is a continuous exchange of ideas and expertise - both in ongoing projects and beyond them. One example of this was the opening of the Japanese AMADA Global Innovation Center in February of this year. This is a facility that allows our customers to get to know our technologies and even to help shape them. However, we also contribute to this ongoing dialog with this magazine, in which we present our current innovations. You can discover these live at the Blechexpo, which will be held from 7th to 10th November in Stuttgart. I would like to invite you most warmly to this event. Visit us

there, make contact with us, set us a challenge so that we can be the partner you need on your path to

> With my best wishes Tatsuo Ishikawa, COO of AMADA **GmbH**



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Blechexpo 2023

Innovating for the future

Experience the latest capabilities in the sheet metal processing world live AMADA will be presenting its current technology highlights from 7th to 10th November at the 16th Blechexpo in Hall 3. Booth 3201-2.

aster, more efficient and more reliable - this fall, AMADA will once again demonstrate what customers can expect from top-class sheet metal processing at the world-renowned industry event, Blechexpo, which will be held in Stuttgart, the capital of the German state of Baden-Württemberg. Here, industry visitors to the AMADA booth in Hall 3 will be able to discover the latest innovations right before their eves.

This year's highlights will include, for example, the 6 kW VENTIS-3015AJe fiber-laser cutting machine, which ensures perfectly harmonized automation when used in combination with the modular, adaptable ASF II 3015 EU loading and unloading tower. True to the motto of "Productivity not laser power", the VENTIS

offers outstanding performance combined with low energy consumption. Sustainability is also showcased in the latest generation of EGB press brakes, represented at the event by the EGB-1303ATCe. This new series of fully-electric presses possesses a high-precision, oil-free drive. One particular feature of the EGB-1303ATCe is the new backgauge with three independently positionable gauge fingers and six independently controlled axes that make it possible to overcome the restrictions that previously limited the available gaging positions.

Blechexpo

For further information: https://blechexpo.amada.de

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BEST PRACTICE

The latest generation

AMADA HRB-5020:

Rabacsa Metalltechnik Kft., Szentgotthárd (HU): 60 percent productivity boost



AMADA Global Innovation Center

Unique insights

To help shape the future of the metal processing world together with its customers, AMADA opened the AMADA Global Innovation Center (AGIC) at its Japanese headquarters in Isehara at the start of the year.

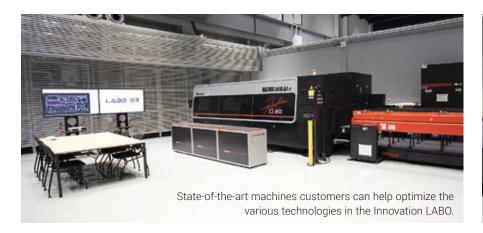
Growing together with our customers" – this principle permeates every aspect of life at AMADA. In the past, it was already possible for customers worldwide to get to know AMADA's technologies hands-on at the various Solution Centers. To allow it to continue to respond to the many demands confronting its users worldwide in the future, AMADA has fully rebuilt and extended the existing Solution Center at its headquarters in Isehara City. Covering an area of 33,000

square meters, the AMADA Global Innovation Center is one of the largest facilities of its type and is equipped with state-of-the-art functions.

Testing new technologies

For example, customers' manufacturing activities are analyzed in the Innovation LABO, a laboratory area that contributes to the development of future processing technologies. At the Innovation SITE, visitors can test over 90

models incorporating the latest technologies and thus not only see what is possible but also understand why it is possible. AMADA's expertise is on display in the Engineering FIELD, which is equipped with state-of-the-art visualization equipment and IT solutions. Other spaces dedicated to software and service, as well as meeting rooms, round off the comprehensive facilities available at AGIC. Here, customers can work together with AMADA to create the innovations of the future.







AMADA VENTIS-3015AJe 6 kW

Productivity not power

With its 6 kW fiber laser, the AMADA VENTIS-3015AJe offers all users who work in the world of laser cutting a whole range of new capabilities in terms of the variety of materials that can be cutted, cutting quality and production speed. When used in combination with automation modules such as the AMADA ASF II 3015 EU tower storage system, it provides far greater productivity than systems equipped with more powerful lasers.

ne highlight of this year's Blechexpo in Stuttgart will be the AMADA VENTIS-3015AJe with its single 6 kW laser module. As one of the new generation of fiber laser cutting machines, it is the successor to the 4 kW version and offers even better performance thanks to the higher laser power and optimum beam quality. "The AMADA VENTIS-3015AJe, which is equipped with a 6 kW fiber laser, is the result of the 'productivity not power' philosophy and enables significantly higher throughputs than systems with more powerful lasers, in particular when it is used together with the corresponding automation solutions," stresses Axel Willuhn, Product Manager for Punching and Laser Technology at AMADA. "It achieves exceptionally high cutting speeds and quality, while also making it possible

to process particularly thick materials."

Uniquely intelligent

The AMADA VENTIS-3015AJe 6 kW is characterized by its intelligent laser system. Among other things, this makes use of AMADA's LBC technology, in which the laser beam moves from side to side in different trajectories around a defined cutting point. This brings about concrete advantages during cutting, such as the ability to widen the cutting gap. Even thick materials are optimally fused by the side-to-side movement, meaning that they can be ejected downwards with cleanly cut edges and free from any burr. Thanks to the AMADA LBC FastCut function. the LBC also makes it possible to cut even small hole geometries extremely quickly and accurately

without it being necessary to move the entire laser bridge.

Reliable and energy-efficient

The intelligent system achieves its full productivity when used in combination with automation modules. These include, for example, the tower storage system AMADA ASF 3015 EU II, which will also be on display at the trade fair. It supplies the required raw material, returns cut material to storage, and stands out thanks to its extremely short transfer times. When used in this configuration, the AMADA VENTIS-3015AJe 6 kW once again far surpasses other systems with significantly higher laser power. Its relatively low energy penetration ensures reliable, lowwear production, while also naturally permitting greatly reduced energy consumption.



Autonomous operation

In practical applications, the automated system is perfectly capable of working almost autonomously for periods of several days. In such scenarios, operation is ensured by the Laser Integration System (LIS). As a result, the system continuously monitors itself and automatically adapts all the parameters for the

current cutting process. And the LIS Option Pack with fully-automatic nozzle centering and the iCAS function for remnant sheet measurements boosts process reliability even further. The AMADA VENTIS-3015AJe 6 kW is controlled via the new outstandingly user-friendly AMADA VPSS controller. •



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

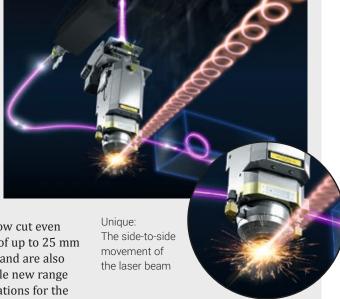
Metallforum Metallbau GmbH, Ahrbergen

"The best laser"

The company Metallforum Metallbau GmbH, which is located in Ahrbergen, Germany, produces over 1,000 sheet metal components, most of which are manufactured in short runs. Alongside Europe's first 9 kW AMADA ENSIS-3015 Rotary Index, the company is now also working with the first 6 kW AMADA VENTIS-3015AJe. "I've been a great fan of the VENTIS beam quality for a long time. For me, it's the best laser on the market and the beam modulation and versatility of the machine give me a lot more options than are available with systems equipped with more powerful lasers. For example, the LBC Flash Cut function offers massive advantages during the ultra-high-speed cutting of holes of up to 2.5 mm," explains Managing Director, Jens Löchel.

The AMADA VENTIS-3015AJe 6 kW allows users to process an even greater range of materials than was possible using the 4 kW version: "With the 6 kW

version, we can now cut even thicker materials of up to 25 mm without difficulty and are also opening up a whole new range of possible applications for the cutting of nonferrous metals. We particularly appreciate the AMADA assistance systems such as iCAS, the nozzle changer and automatic nozzle centering. These features vastly simplify our everyday production operations, just like the new AMADA VPSS controller, which is very convenient and easy-to-use."





Jens Löchel, Managing Director of Metallforum Metallbau GmbH



AMADA EGB-1303ATCe

A new level of electrical excellence

At Blechexpo 2023, AMADA will be presenting its latest outstanding innovation in the field of electrically-driven press brakes in the form of the AMADA EGB-1303ATCe. Thanks to a host of new features and functions, the machine operates particularly quickly and reliably, opens up a new range of applications and excels through its simple handling and operation.

he AMADA EGB-1303ATCe represents the most recent generation of electrical, servo-controlled press brakes. On the one hand, the system's servo-electric drive permits extremely high approach and opening speeds, while simultaneously generating the high torque required to achieve the 130 tonnes of press force. At the same time, it also ensures the machine's exceptionally high positioning and repeat accuracy. In addition, the compact motor permits simplified machine construction and improved maintenance possibilities. Another advantage lies in the fact that the servo-drive does not need any hydraulic oil and has only low CO₂ emissions.

Fast, reliable and precise

The automatic tool changer (ATC) has also been redesigned. Its capacity has been increased by 30 percent. At the same time, the new ATC also takes up significantly less space

than the previous model. The die size has now also been increased to V50. This makes it possible to process thicker sheets and thus, more generally, a wider range of parts. Another highlight: The AMADA EGB-1303ATCe has an innovative backgauge with three gauge fingers which can be controlled independently of one another. This simplifies component positioning even when processing highly-complex external contours. Further important benefits are provided by the AMADA BI-S II angle measurement system, which can now complete the measuring process in half the cycle time required by the previous model. This now takes just three seconds, equating to considerable time savings during production. The integrated automatic crowning system also contributes to the particularly high component quality. With its two independently controlled servo-electric drives, it is able to compensate precisely for the sagging of the press beam.

Customized ease of operation

The AMADA EGB-1303ATCe is controlled using the new AMADA AMNC controller. As a result, system operation can be customized in either Full or Lite mode using the simplified user interface. It can therefore be used without difficulty even by inexperienced operators. The controller's enlarged display, the additional mobile control tablet and the live camera image, which uses AR technology to combine the real image with the drawing of the workpiece and the correct stop position, all help improve ergonomics and operator comfort. What is more, the created bending angles are automatically displayed after the bending process, meaning that no time-consuming manual post-bending measurements are required. The AMADA EGB-1303ATCe will be available as of 2024.



Optimally designed press brake

With the innovative LITE mode, the Auto-Crowning (A.C.) system, optimized dimensions and no end of other optional features, the AMADA HRB series of press brakes ensures state-of-the-art ergonomics coupled with optimum production efficiency.

MADA will also be exhibiting Aits AMADA HRB-5020 press brake at this year's Blechexpo in Stuttgart. This is the most recent development in the field of hydraulically-driven press brakes and, together with a number of larger models, constitutes the new generation of machines that are taking over from the proven AMADA HFE3i series. Just like all the new AMADA press brakes, particular emphasis was placed on user-friendliness and an ergonomic design during the development of this system. For example, the associated AMNC 3i controller includes an innovative multi-touchscreen user interface. The system can be operated in FULL or LITE mode. The latter mode was specially designed for inexperienced users and has been pared down to the most essential functions. "This LITE mode has been enthusiastically received in practical use," reports Tankred Kandera, Product Manager for Bending Technology at AMADA. "It has been shown that very many

operators only need a few selected functions for their work."

Constant bending angles, extended dimensions

At the same time, the AMADA HRB-5020 also showcases the latest technical functionalities and features that AMADA is now offering for its press brakes. One example is the so-called Auto-Crowning (A.C.) system that is optionally available for the system. This compensates for the sagging of the upper press beam and consequently ensures constant bending angles even for long bended parts. The AMADA HRB-5020's optimized dimensions and measurements also bring about significant advantages in practical operation. For example, the openings have now been extended to 520 mm in order to accommodate even large tools. The cylinder stroke has also been extended to 250 mm and the frame gap at the side frame is now 450 mm. Last but not least, the AMADA HRB-5020 can also be

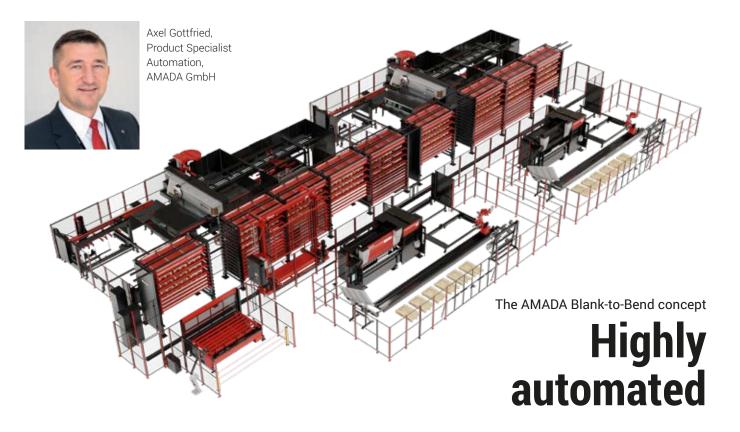
equipped with numerous options that impressively further enhance ease of operation and manufacturing efficiency.

A range of features for even greater efficiency

Other features include, for example, the AMADA SF 75 sheet follower. With a capacity of 75 kg per arm, it greatly assists operators during the processing of large and/or heavy parts. The automatic sliding foot pedal, which is now newly available for the AMADA HRB series, also simplifies operation. And last but not least, the optional equipment available for the press brake also includes the active angle measurement system. Like all the systems in the AMADA HRB series, the AMADA HRB-5020 also excels through its low energy costs and unsurpassed process stability. However, for anyone who wants to manufacture even more efficiently: The AMADA HRB press brakes can also be automated by retrofitting them with a robot system. •



Tankred Kandera, Product Manager for Bending Technology, AMADA GmbH



The AMADA Blank-to-Bend (B2B) concept makes use of an AMADA compact storage system to directly link cutting and bending operations – for fully-automated, lightly-manned 24/7 production. This end-to-end process workflow has met with great enthusiasm in practical applications.

ast year, AMADA presented the Blank-to-Bend concept (B2B) for the first time. It is a unique solution consisting of a single highly-automated, end-to-end process that connects an AMADA punching and cutting system (blank) to an AMADA bending machine (bend) via an AMADA CS II compact storage system. The connecting link in this solution is the AMADA CS II system, which not only manages and transports the material but also acts as a buffer store. It supplies the raw material to an AMADA punching machine or an AMADA punchlaser combination machine, which produces the blanking part. These parts are then transported to a robot-assisted bending cell with tool changer which then performs the bending operation. After this, the finished parts are removed from the system for further operating steps, such as assembly, coating, welding, etc.

Perfect material flow

"The B2B concept combines the areas of cutting, automation and bending within one highly-efficient overall solution. It permits fully-automated production 24/7 with only low staffing levels," explains Axel Gottfried, Product Specialist Automation, AMADA GmbH. The system has many practical advantages. For example, like all AMADA stand-alone solutions, it boasts a particularly compact design and a small footprint. At the same time, it has a modular structure and can be retrofitted or extended whenever required. Most importantly, however, it minimizes manual handling activities. This eliminates the otherwise high staffing requirements and the risk of errors and damage is practically zero.

Successful practical studies

"The AMADA B2B concept is an interesting option for all custom-

ers that are already equipped with AMADA technology, whether in the form of an AMADA punch-laser combination machine, an AMADA press brake or an AMADA CS II compact storage system," explains Gottfried. "It combines these systems to provide a completely new level of productivity and efficiency. The new investment required amounts to just about nine percent of the amount already invested." It is no wonder, therefore, that the AMADA B2B concept has been enthusiastically received in practice: "So far, we have received very many inquiries regarding the AMADA Blank-to-Bend concept and have already drawn up numerous layouts and feasibility analyses for customers throughout Europe," reports Gottfried. A particularly warm reception has been reserved for the continuous, lightly-manned production sequences made possible by the AMADA Blankto-Bend concept, which is currently in the final development phase. •

AMADA VPSS

The latest generation

With its automated processes, innovative functions and Al-assisted features, the new AMADA VPSS CAD CAM software solution is making production even simpler, more reliable and more efficient.

The AMADA VPSS software is available with immediate effect and constitutes the most recent version of the Virtual Prototype Simulation System. It offers not only even greater ease of operation, but also a whole range of new functions. These include the Tube Solution Pack, which has now been integrated to permit tube and profile machining, together with the automatic creation of parts and nesting plans and the generation of NC codes. This means that all AMADA technologies are now brought together in the VPSS software.

Fully-automatic programming

For the first time, AMADA VPSS now also incorporates the fully-automatic, enormously time-saving import of 3D files, including the automatic creation and processing of sheet templates. It also provides the AMADA Full Auto Blank function. It supports the fully-automatic import of production plans and creates cross-machine nesting plans on the basis of these. The ACSD function is also completely new. This makes it possible to convert parts data present in the form of CSV files from an ERP system into a 3D SEM file that can, in turn, be used for the fully-automatic generation of bending programs.

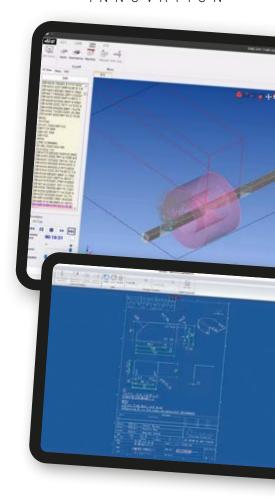
Other innovations include the LBC Flash Cut function for cutting small, round holes using the laser optics and the Soft Joint function. This permits the simple clamping of components without the need for strips and consequently greatly reduces reworking at the component. The function is available on the VENTIS 6 kW and REGIUS 12 kW.

Intelligent support

The new AMADA VPSS is rounded off by AI-assisted features such as the AI Bend function, which makes use of existing bending programs to generate production proposals – irrespective of whether the programs were created manually, automatically or at the machine. AI Drawing Assistance is another AI-based feature. This supports the import of PDF files, which it then automatically completes before transferring them to the AMADA 2D CAD system. This is now integrated as a standard module in AMADA VPSS. •



Lukas Pollok, Software Application Engineer, AMADA GmbH



AMADA meets School

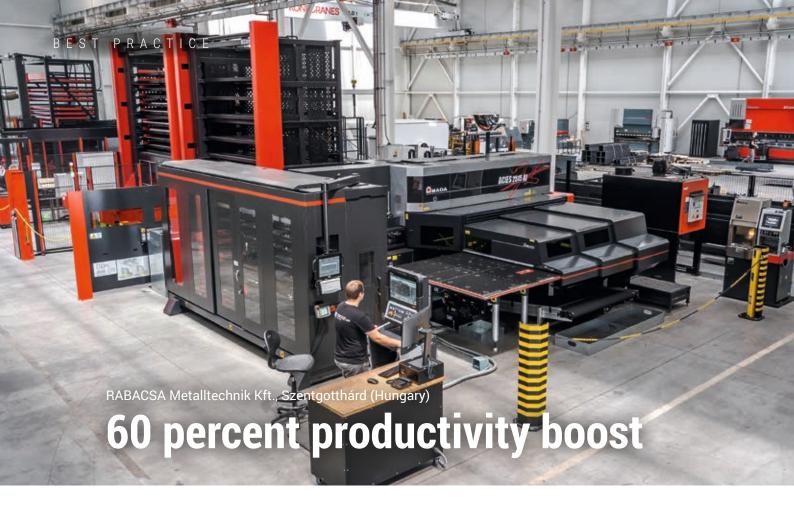
"Modern and ready for the future"

The Münster Chamber of Trade's Training Center uses an end-to-end AMADA software solution for digital, fully-automatic manufacturing on an AMADA press brake.

Since 2017, the Training Center (HBZ) Münster has placed its trust in AMADA, and more precisely in an AMADA HFE3i-5020 press brake. The Center has now made a very important extension to its training offering: "To teach our students about digital, paperless manufacturing, we have updated our existing AMADA software solution and extended it to include the AMADA Order Manager (SaaS)," explains Horst Raupach, a trainer in the metal workshop. More specifically, the solution comprises all the steps from the import of the 3D parts through the virtual feasibility analysis and on to the ERP interface and the automatic feedback of the production results from the AMADA press brake. According to Raupach: "A paper layout plan isn't even needed for setup." "This is a modern, forward-looking solution that can be used for end-to-end digital manufacturing."



Horst Raupach, Trainer at HBZ Münster



The Hungarian firm RABACSA Metalltechnik Kft. has used AMADA V-factory and the AMADA Order Manager to network its highly-automated AMADA systems with its DMW software, to which all the company's other departments are connected. The result is an end-to-end digital manufacturing environment that has enabled this long-established company to increase its productivity by 60 percent.

RABACSA Metalltechnik Kft. is located in Szentgotthárd in the very west of Hungary. On the one hand, this family-run business, which was founded in 1998, concentrates on traditional wrought iron work, modern stainless steel products and designer pieces, thus continuing a family tradition going back more than a hundred years. On the other, the company also focuses on contract metal processing and thus on the manufacture of sheets, tubes and complex components manufactured in custom formats. To do this, RABACSA uses state-of-the-art AMADA technology and possesses a total of twelve AMADA systems, including AMADA press brakes, an AMADA laser-welding system, an AMADA laser-punching machine and a number of latest-generation AMADA laser-cutting machines. It is characteristic of the company that these systems are highly automated via the corresponding AMADA modules.

Valuable real-time data

To give its in-house performance capacity and manufacturing efficiency a further substantial boost, RABACSA recently introduced smart, fully-network production based on the Industry 4.0 principle and is now using the corresponding AMADA technology to take full advantage of all the possibilities and potentials of digitalization. The first step was taken in 2019 with the introduction of AMADA V-factory, which permits the real-time monitoring of the entire AMADA production environment on the desktop or a smart device. "With AMADA V-factory, we are able to monitor each individual system and see its status live, including stoppage and standby times, energy consumption and material utilization, as well as running and terminated programs,", explains Balázs Racker, CEO of RABACSA Metalltechnik Kft. "However, thanks to AMADA V-factory, we are also

always able to keep an eye on our components. We know exactly where they are and what their processing status is. This is very important for us because we not only manufacture mid-sized and large runs, but also small series and sometimes simply individual parts."

Intelligent order handling

The company took another large step towards digital production in 2022 when it introduced the AMADA Order Manager (AOM). "We connected the AMADA Order Manager to our ERP system via our Digital Manufacturing World Software (DMW), which we developed in-house, and this allowed us to achieve fully-networked production," stresses Racker. In the factory, production starts with the creation of the order in the DMW software. The AMADA Order Manager then prepares the manufacturing orders and transfers the data

to the AMADA CAM programming system. It then releases the orders for production and feeds back the completed production data from the AMADA machines to the DMW software in real time. "We create a corresponding program for each required part and give it an item number that is stored in the AMADA Order Manager," explains Racker. "If this part subsequently has to be manufactured again, then our DMW software automatically uploads the data and production can be resumed immediately."

Networked company departments

The solution has another advantage: "The AMADA Order Manager also allows us to mix different orders and run them together, a feature that saves us a lot of time. This means that we can simultaneously cut various different customer orders on one and the same sheet. The parts are then sorted on the basis of the operating plan and prepared for the next machine," continues Racker. At RABACSA, however, it is not just the AMADA Order Manager but also all the other company departments such as Purchasing, Sales, HR, Logistics, Controlling as well as all the Production facilities that are connected to the DMW software. The



The highly-automated AMADA systems are a key component in RABACSA's fully-networked, end-to-end production landscape.

result is that Purchasing, for example, automatically receives information on the required raw material, which can then be ordered with no loss of time. At the same time, the Sales department, for example, is able to clearly see the actual production costs per component.

Significant performance boost

All in all, RABACSA now possesses a fully-networked, end-to-end digital production and enterprise platform that offers the company enormous benefits. As Racker puts it: "Thanks to digitalization, we have been able

to increase our productivity by 60 percent within a year. Our manufacturing operations are now faster, more efficient and, most importantly, more flexible. This ensures that we stay competitive and also that we are optimally equipped for the future."



Balázs Racker, CEO of Rabacsa Metalltechnik Kft

AMADA IOT Support App

"Perfect service"

Rabacsa is one of the very first users to take advantage of the AMADA IoT Support App, which will soon be available to all customers.

The AMADA IoT Support App allows users to get in touch with AMADA's Service department directly. Each individual system is listed in the app and the customer can open a case for each machine, for example when reporting an error message. The app also makes it possible to chat and exchange information. "This includes, for

example, brief instructions that the customer can follow directly on site, meaning that it may be possible for them to correct the fault themselves," explains Carsten Jurgeleit, Team Leader IoT at AMADA. "The customer is delighted and the app is the perfect service tool for them."





100% PERFORMANCE, 60% CONSUMPTION **High Power Performance, Lower Cost-Per-Part**

The VENTIS-AJe 6kW fibre laser expands AMADA's proprietary LBC Technology's capabilities (laser beam pattern manipulation while processing), producing exceptional thick mild steel results, aluminium processing speeds that are often equivalent to 8-10kW standard machines, and increased dross-free stainless steel capabilities.

Combining this with the all-electric ASF II EU automation tower, with it's ground-breaking pallet exchange system, gives a production solution with superior cutting applications and higher profitability.



Photo is not contractual. Hazards prevention measures are not included in the photo.

07.-10. November - Stuttgart Hall 3 - 3201

