SOLUTION

LASER & AUTOMATION
PRODUCT GUIDE

AMADA

AMADA GROUP

GLOBAL NETWORKS

(SHEET METAL FABRICATION MACHINES BUSINESS AND TOOLING)

HIGH POINT MANUFACTURING

CHARLEVILLE-MÉZIÈRES MANUFACTURING

Japanese Quality
Regional Supply

BREA LASER MANUFACTURING

FUJINOMIYA WORKS

LASER

SOLUTION

MORE THAN 40 YEARS PROGRESS OF AMADA LASER MACHINES

	1940's	1980's	1990's	2000's	2010's	2020's
	AMADA founded 1946	Laser processing for sheet metal	Productivity & network improvements	Laser technology & control developments	Innovation & connectivity	AI & IoT advancements
CO_2 Lasers	1981 *LC-644* 1986 *LCF-644*	1989 *LC V Series* 1990 *LC VII Series* 1993 *LC-α Series* 1993 *LC-β Series* 1995 *LC-α II Series* 1998 *LC-α III Series* 1999 *FO Series*	2000 *Quattro*	2004 *FOL-3015 NT* 2004 *FO NT Series* 2006 *LC-α IV-NT Series* 2007 *LCF1 NT Series*	2010 *FO-MII NT Series* 2010 *FO-MIIRI Series* 2013 LCG-3015	2017 *LC-α V Series*
Fibre Lasers					2010 *FOL-3015AJ* 2013 *FLC-3015AJ* 2014 *LCG-3015AJ* 2015 *ENSIS-AJ Series*	2018 *ENSIS-RI* 2019 *VENTIS-3015AJ* 2020 *REGIUS-AJ* 2021 *ENSIS-AJ 12kW* 2022 *High Power ENSIS-RI* 2022 *ENSIS-6225AJ*
Punch / Laser Combination	1986 *Malpas* 1987 *APELIO*	1990 *APELIO II* 1995 *APELIO III-V Series*	1999 *APELIO III-2510V*	2004 *EML NT Series* 2008 *LC-C1NT Series*	2011 *ACIES Series* 2014 *LC-C1AJ Series*	2016 *ACIES-AJ Series* 2019 *EML-AJ Series*
Laser Welding		1995 *YLR-1500* 1998 *YLR-1500 II*	2000 *YLM-500 P*	2007 *YLR-1500 III*	2011 *FLW-4000M3*	2017 *FLW-ENSISM3/M5* 2023 *FLW-3000Le*

FIBRE LASER CUTTING

SOLUTION

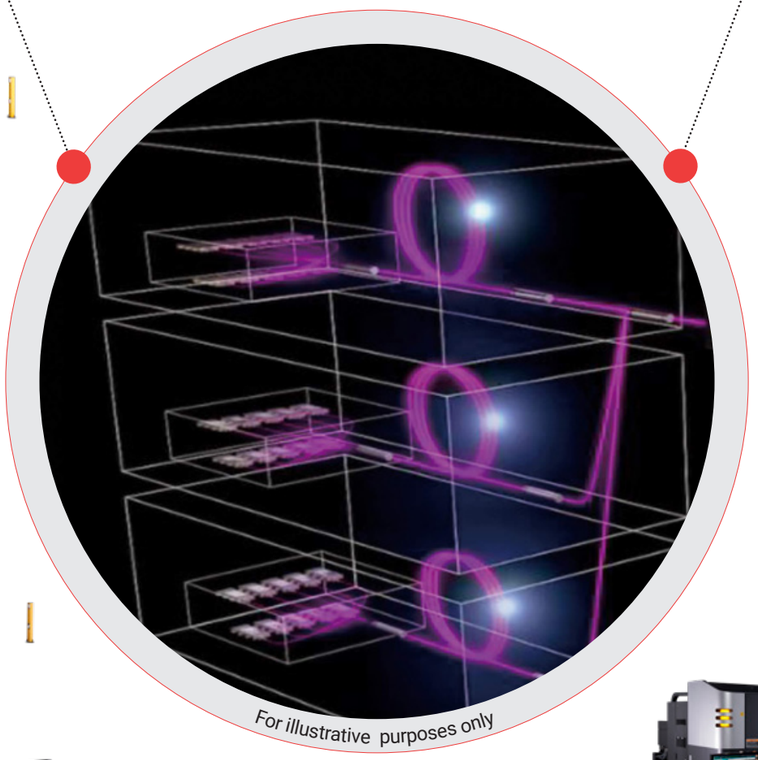
FIBRE LASER

REGIUS AJ e SERIES

VENTIS AJ e SERIES

ENSIS AJ e SERIES

ENSIS 3015 RI e



For illustrative purposes only

LASER COMBINATION

ACIES 2515 AJ e

EML 2515 AJ e

LC 2515 G1 AJ e

Hazard prevention measures are removed in the photos used in this catalogue.

AMNC 4ie MACHINE CONTROL

ENVIRONMENTALLY FRIENDLY MACHINES that can be used by anyone, anywhere.
Utilizing high speed processors providing up to 10% faster laser productivity.

AMNC 4ie

4i
- **Intelligent**
- **Interactive**
- **Integrated**
- **Innovative**

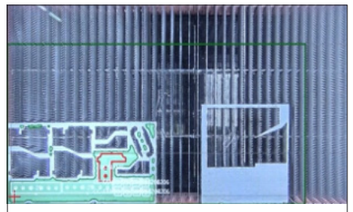
4e
- **Easy**
- **Efficiency**
- **Environmental**
- **Evolution**

Ecology Reports

CO_2 COMPARISONS

Information for CO_2 emissions relating to individual parts as well as fully nested sheets is available to view on the control and can also be downloaded.

Improve awareness of environmental considerations by visualization of CO_2 emissions.

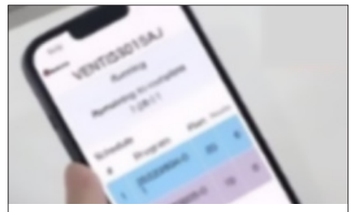


Automatic Nesting

REMNANT RECOGNITION

The improved i-CAS (i-Camera Assisted System) combines automatic material recognition and automatic nesting on the AMNC 4ie control.

Reduce on-site programming and improve remnant material utilization.

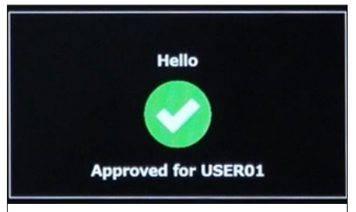


Mobile HMI

OPERATIONAL OVERVIEW

Viewing and updating machine schedules on an iPhone simplifies the production flow. Remote start of the machine also provides more efficiency in the manufacturing environment as multiple machines can be monitored by a single operator.

Combined with the V-Monitor camera system (model dependent), production stoppages can be rectified quickly.

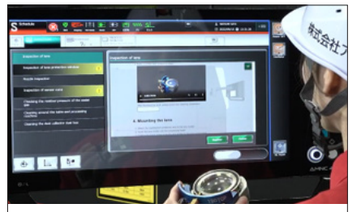


Facial Recognition

SAFETY AND SECURITY

When activated, the facial recognition system ensures automatic login of authorized users and sets the editing permissions accordingly.

15 different languages are available, allowing seamless production regardless of the operators native language



Guide Tutorials

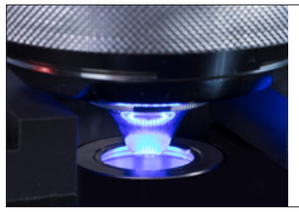
DESKILLING OPERATIONS

Interactive guidance tutorials simplify daily maintenance checks by the operator, helping to deskill the process.

QR codes allow videos to be transferred to an iPhone, allowing the task to be continued even if the operator has to move away from the control to complete it.

LASER INTEGRATION SYSTEM (LIS)

Systems to provide higher levels of autonomy, increased uptime and higher profit.

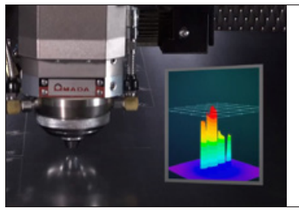


i-Nozzle Checker

In order to remove subjective operator decisions and maximize machine uptime, the i-Nozzle Checker automatically confirms the nozzle condition (working with the 16 station nozzle changer to replace it if necessary), centres the laser beam to the nozzle and checks the laser beam condition.

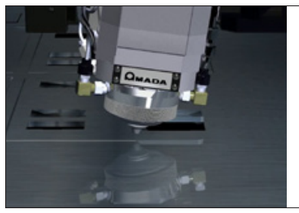
i-Optics Sensor

The single processing lens used on AMADA fibre lasers is protected by a glass shield which is monitored to alert the operator if there is any contamination that could interrupt production. This glass shield can then be cleaned or replaced as necessary.



i-Process Monitoring

The new i-Process Monitoring system is capable of checking the piercing and cutting performance for all thicknesses of mild steel, stainless steel and aluminium, and react accordingly when processing difficulties are encountered.



Auto Head Collision Recovery

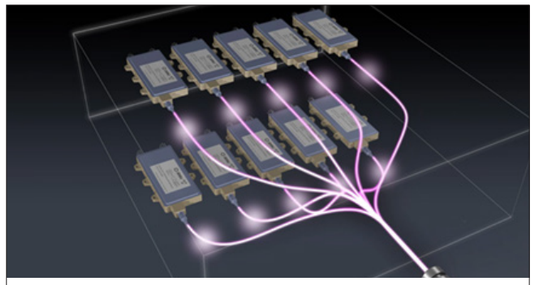
If there is a collision during processing, the cutting head automatically retracts and re-aligns itself. Depending on the speed of the collision, the machine can then use the i-Nozzle Checker to verify the nozzle condition, replacing it if necessary, before continuing at the next cutting profile.

LIS and AMNC 4ie features are model dependent. Please check website / dedicated model brochures for details.

AMADA FIBRE LASER TECHNOLOGIES

AMADA'S FIBRE LASER MACHINES
ensure accurate, reliable and productive processing thanks to specific cutting technologies*.

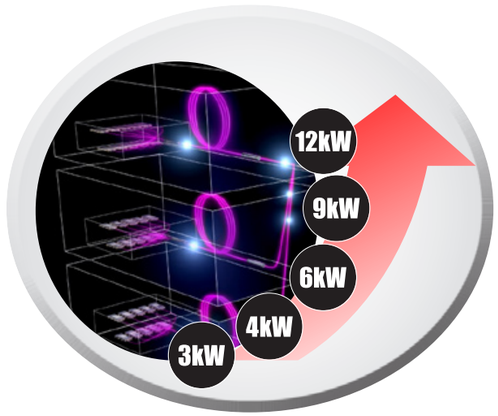
Fiber Laser



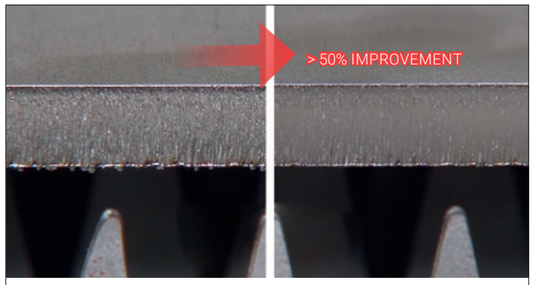
AJ Technology

CREATE THE BEAM
AMADA FIBRE LASER ENGINE

All AMADA fibre lasers utilise in-house developed, high power diode modules. Each individual module provides either 3kW, 4kW or 6kW of power depending on the machine. In order to enhance manufacture at AMADA's Fujinomiya facility, multiple clean rooms have been created specifically for production and assembly operations.



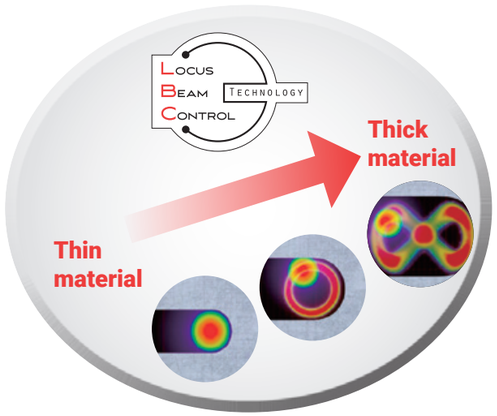
VENTIS AJ e SERIES



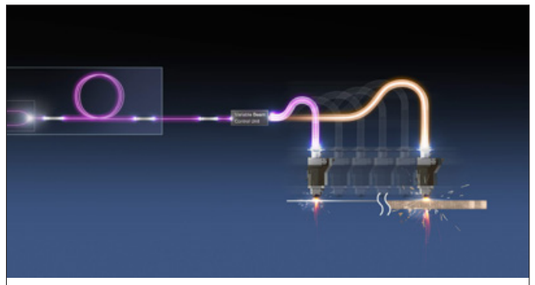
LBC Technology

MOVE THE BEAM
REVOLUTIONARY LOCUS BEAM CONTROL

AMADA's Locus Beam Control (LBC) technology allows the manipulation of the laser beam pattern whilst processing and creates possibilities never before accomplished with solid state laser cutting machines. Dross free capabilities, cutting speeds equivalent to much higher power machines and cut width (kerf) control are all achievable.



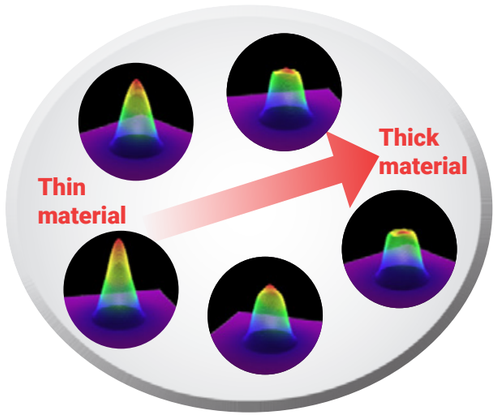
ENSIS AJ e SERIES



ENSIS Technology

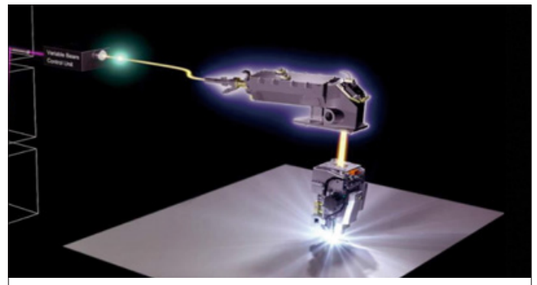
SHAPE THE BEAM
VARIABLE BEAM CONTROL

AMADA's Variable Beam Control technology has the ability to match the beam mode exactly to the material and thickness being processed, providing the most suitable cutting conditions. Utilising a single lens for the entire processing range also minimises setup times between jobs.



ENSIS 3015 RI e

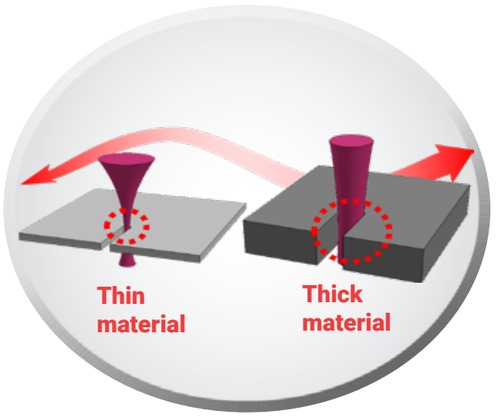
REGIUS AJ e SERIES



ENSIS Technology

CONTROL THE BEAM
AUTO COLLIMATION

Auto Collimation technology from AMADA offers the ability to precisely control the laser beam spot size and focus position, allowing the seamless removal of molten metal from within the kerf of the cut. This ensures the highest cutting speeds with a high quality cut surface. Auto Collimation is utilised on the 6, 9 and 12kW versions.

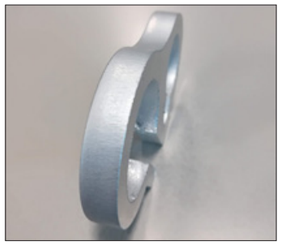


* Depending on the machine type.

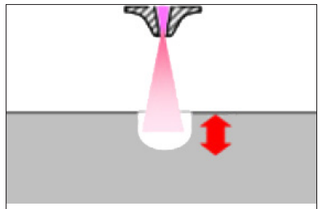
SPECIAL CUTTING FEATURES

AMADA'S FIBRE LASER MACHINES
allow high quality processing of various kinds of materials thanks to unique AMADA developed features.*

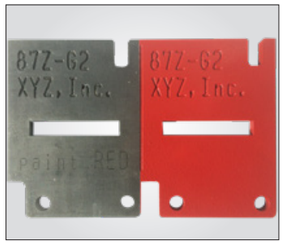
GAS MIXER
Ensures very high quality results for aluminium and mild steel.



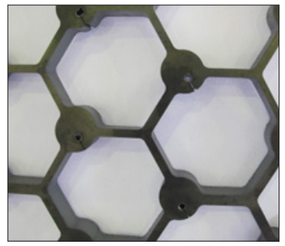
SILKY CUT
Stainless steel results comparable to 4kW CO_2 processing.

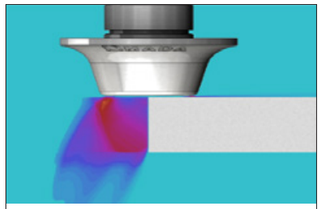


DEEP ETCH
Visible part traceability, achieved in a single pass of the laser beam, even after painting or galvanising.

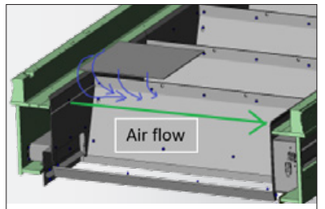


WACS II
AMADA's original Water Assisted Cutting System has been enhanced for greater quality, thick mild steel processing.

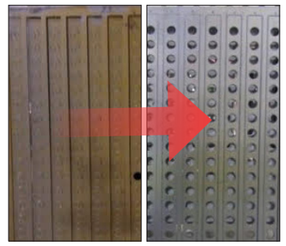




CFC
AMADA's Clean Fast Cut gives higher cutting speeds with less gas consumption.



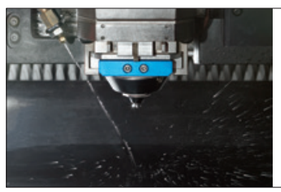
DUST AIR BLOW SYSTEM
Ensures cleaner parts and less secondary operations.



* Depending on the machine model.

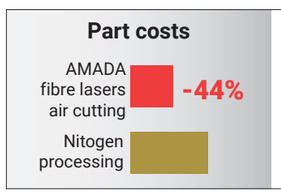
AMADA FIBRE LASER STANDARD FEATURES

High capacity nozzle changer (up to 16 stations depending on model).



Oil Shot provides high quality piercing for mid-thick mild steel.

Evolved AMNC 4ie control for easy, efficient and eco processing.



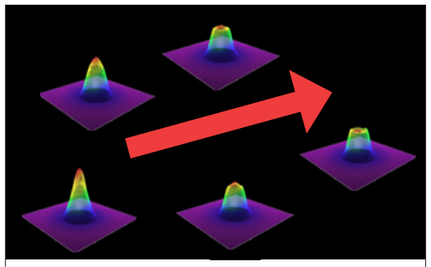
Compressed air cutting capabilities for reduced cost-per-part.

Single lens processing with simple maintenance accessibility.

Side and front access to cutting area (excluding ENSIS-RIe).

REGIUS AJ e SERIES

NEXT LEVEL LASER PROCESSING
is achieved through 3 axis, high speed linear drives, AMADA's Laser Integration System (LIS) and ENSIS technology

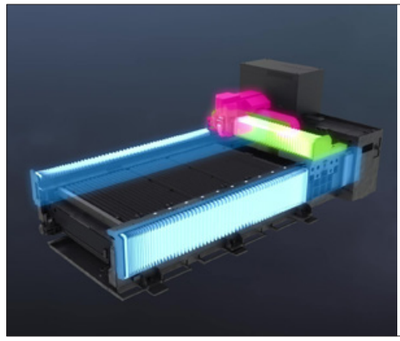


FULL BEAM MODE ADJUSTMENT

ENSIS TECHNOLOGY

AMADA's Variable Beam Control unit allows the machine to cut continuously from thin-to-thick material without changing the lens. The laser beam mode can be adjusted to exactly match the material and thickness properties of each job, providing consistent, highly productive processing.

With the increased power of AMADA's fibre laser engines, Variable Beam Control technology covers every requirement for metal processing, ensuring lower cost-per-part and higher profitability.



ULTRA FAST POSITIONING

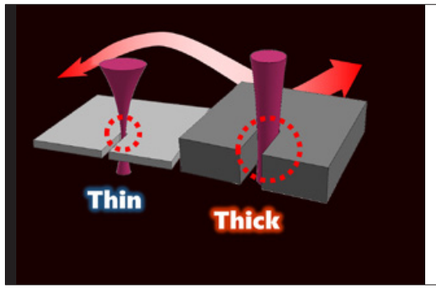
HIGH SPEED LINEAR DRIVES

The full linear drive functionality of the REGIUS-AJe provides a combined positioning speed of 340m/min with an acceleration of almost 5g. For manufacturers or sub contractors processing more complex parts mainly in thin to mid-thick materials, the time savings achieved with this type of drive system can be very significant.

Being magnetic, linear drives require very little maintenance and also provide very high accuracy.

DUAL GAS FUNCTION

The new Dual Gas function uses a shroud of compressed air to focus the oxygen assist gas into the cut kerf, proving minimal bevel and up to 60% oxygen saving.



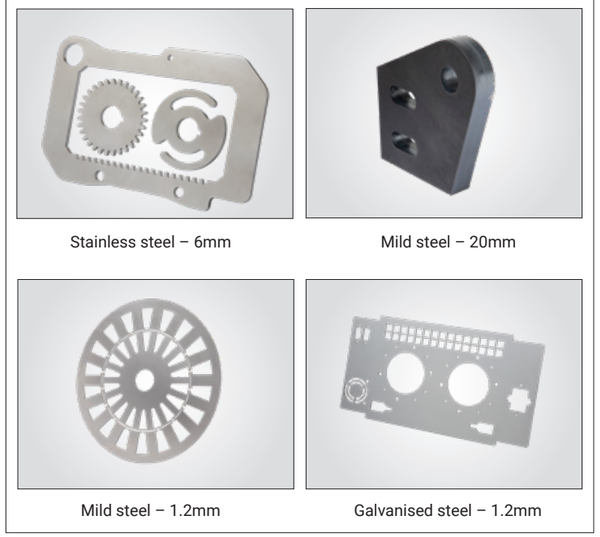
PRECISE BEAM CONTROL

AUTO COLLIMATION TECHNOLOGY

Utilised for 6kW, 9kW and 12kW REGIUS-AJe fibre lasers, Auto Collimation technology offers the ability to precisely control the laser beam spot size and focus position. This allows the seamless removal of molten metal from within the kerf of the cut.

AMADA's Auto Collimation technology offers the highest cutting speeds with a high quality cut surface and greatly reduces bevel angles.

Model		REGIUS-3015AJe & REGIUS-4020AJe				
Oscillator		ENSIS-6000 | ENSIS-9000 | ENSIS-12000				
Controlled axes		X, Y, Z axes (three axes controlled simultaneously) + B axis				
Maximum processing dimensions (mm)	X x Y	REGIUS-3015AJe 3070 X 1550		REGIUS-4020AJe 4070 X 2050		
Maximum simultaneous feed rate (m/min)	X/Y	340				
Maximum processing thickness according to cutting conditions (mm)	6kW | 9kW | 12kW	Mild Steel 25 | 25 | 25	Stainless Steel 25 | 25 | 25	Aluminium 25 | 25 | 25	Brass 15 | 18 | 18	Copper 12 | 12 | 12

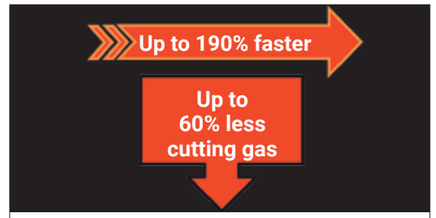


Stainless steel – 6mm

Mild steel – 20mm

Mild steel – 1.2mm

Galvanised steel – 1.2mm



LOWER COST-PER-PART

CFC TECHNOLOGY

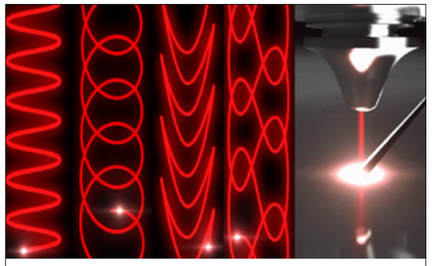
Clean Fast Cut (CFC) allows improved cutting speeds and reduced gas consumption for lower cost-per-part when processing mild steel and stainless steel with nitrogen.

Using a shielded nozzle and lower gas pressures, CFC technology can provide almost double the cutting speed as well as reducing gas consumption by up to 60% per metre of cutting versus conventional cutting processes.

The nozzle does not contact the material, so issues of part scratching and increased nesting margins do not apply. Higher sheet utilisation also helps the cost-per-part efficiency.

VENTIS AJe SERIES

GROUND BREAKING APPLICATIONS FOR LASER PROCESSING
creates possibilities never before accomplished with solid state laser cutting machines.

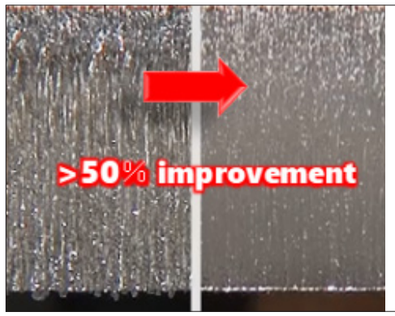


REVOLUTIONARY BEAM CONTROL

LBC TECHNOLOGY

AMADA's unique Locus Beam Control technology allows the full energy of the laser beam to be used to process various materials by manipulating the beam movement to exactly match the material and thickness being processed. There is no need to defocus the laser beam energy anymore.

AMADA's new 4kW and 6kW fibre laser engines use AMADA's highest power, single diode module with no combiner. This provides the world's highest beam quality in class, realising the full benefit of AMADA's LBC technology.



QUALITY IMPROVEMENT

QUALITY MODE (QM)

Utilising the full laser beam power density, LBC Technology allows very high quality stainless steel processing using the Quality Mode (QM) setting, which significantly reduces or eliminates any secondary operations required after cutting.

Up to 20mm dross free capabilities are possible with Quality Mode processing with the 6kW VENTIS-AJe.

4kW 6kW

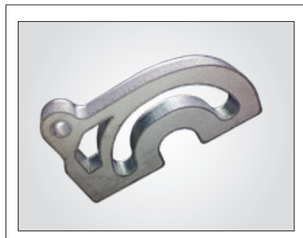
LOCUS BEAM CONTROL TECHNOLOGY

HIGH SPECIFICATION

STANDARD FEATURES

The VENTIS-AJe is equipped as standard with:
- 16 station nozzle changer
- Water Assisted Cutting System (WACS II)
- X axis conveyor
- Process monitoring
- Compressed air cutting
- Side and front access
- New AMNC 4ie control
- Dust air blow system
- Oil Shot

Model		VENTIS-3015AJe & VENTIS-4020AJe				
Oscillator	4kW | 6kW	AJ4000S | AJ6000S				
Controlled axes		X, Y, Z axes (three axes controlled simultaneously) + B axis				
Maximum processing dimensions (mm)	X x Y	VENTIS-3015AJe 3070 X 1550	VENTIS-4020AJe 4070 X 2050			
Maximum simultaneous feed rate (m/min)	X/Y	170				
Maximum processing thickness according to cutting conditions (mm)	4kW | 6kW	Mild Steel 25 | 25	Stainless Steel 20 | 25	Aluminium 16 | 25	Brass 10 | 15	Copper 8 | 12

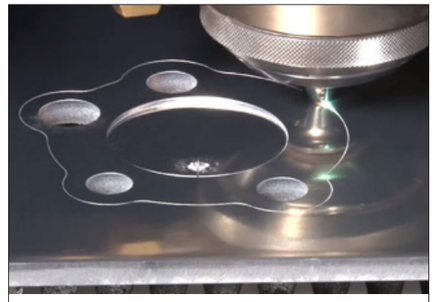


Stainless steel - 12mm (PM)

Stainless steel - 12mm (QM)

Aluminium - 8mm (PM)

Aluminium - 8mm (Gas Mixer)



LOWER COST-PER-PART

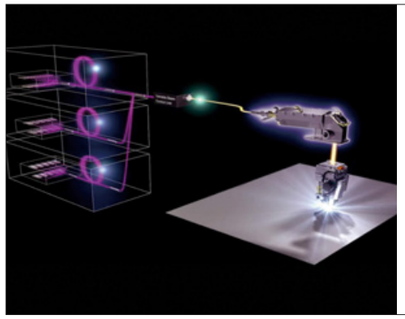
PRODUCTIVITY MODE (PM)

Productivity Mode (PM) gives cutting speeds of 2-3x a conventional equivalent power solid-state laser in some thicknesses and similar to a much higher powered laser. This leads to higher productivity rates and lower cost-per-part due to lower investment costs and reduced running costs.

Due to AMADA's unique LBC technology, higher productivity does not necessarily mean higher power is required anymore.

ENSIS AJ e SERIES

UNIQUE TECHNOLOGIES FOR COMPLETE VERSATILITY
give high speed piercing, fast cutting rates on thicker materials and single lens processing.

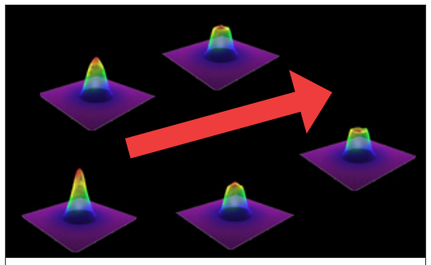


IN-HOUSE DEVELOPMENT

AMADA FIBRE LASER ENGINE

Now utilising 3kW, 9kW and 12kW fibre laser engines manufactured in-house using high power single diode modules, the ENSIS-AJe series machines significantly increase processing capabilities.The oscillator produces a very high quality beam tuned specifically for sheet metal processing. The perfect balance of power, speed and cut quality can be chosen based on production requirements.

Utilising high power diode modules reduces the amount of beam combining and increases beam quality, providing high cutting speeds.

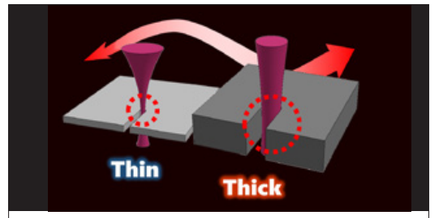


FULL BEAM MODE ADJUSTMENT

ENSIS TECHNOLOGY

AMADA's Variable Beam Control unit allows the machine to cut continuously from thin-to-thick material without changing the lens. The laser beam mode can be adjusted to exactly match the material and thickness properties of each job, providing consistent, highly productive processing.

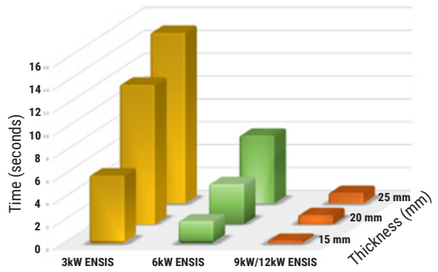
With the increased power of AMADA's fibre laser engines, Variable Beam Control technology covers every requirement for metal processing, ensuring lower cost-per-part and higher profitability.



AUTO COLLIMATION TECHNOLOGY

Utilised for 9kW and 12kW ENSIS-AJe fibre lasers, Auto Collimation technology offers the ability to precisely control the laser beam spot size and focus position. This allows the seamless removal of molten metal from within the kerf of the cut.

AMADA's Auto Collimation technology ensures the highest cutting speeds with a high quality cut surface and greatly reduces bevel angles.



IMPROVED PRODUCTIVITY

HIGH SPEED PIERCING

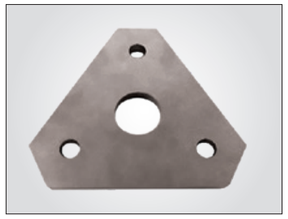
Thanks to the Variable Beam Control technology, the beam mode can be instantly changed between piercing and cutting, allowing very fast pierce times in thick materials.

This high speed piercing can save up to 57% of the processing time for a full sheet of parts on higher power ENSIS variants.

Models		ENSIS-3015AJe, ENSIS-4020AJe & ENSIS-6225AJe*				
Oscillator	3kW | 9kW | 12kW	ENSIS-3000 | ENSIS-9000 | ENSIS-12000				
Controlled axes		X, Y, Z axes (three axes controlled simultaneously) + B axis				
Maximum processing dimensions (mm)	X x Y	ENSIS-3015AJe 3070 X 1550		ENSIS-4020AJe 4070 X 2050	ENSIS-6225AJe 6200 x 2580	
Maximum simultaneous feed rate (m/min)	X/Y	170				
Maximum processing thickness according to cutting conditions (mm)	3kW | 9kW | 12kW	Mild Steel 25** | 25 | 25	Stainless Steel 15 | 25 | 25	Aluminium 12 |25 | 25	Brass 8 | 18 | 18	Copper 6 | 12 | 12

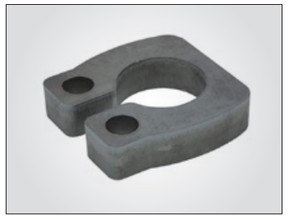
* ENSIS-6225AJe not available with 3kW. **25mm for the 3kW fully featured version ; 20mm on 3kW 'Standard specification' machine.

Copper, Brass, Aluminium - 3mm



Stainless steel - 12mm

Mild steel – 1.0mm



Mild steel - 20mm

LOWER COST-PER-PART

CFC TECHNOLOGY

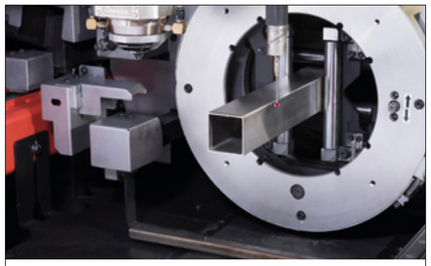
Clean Fast Cut (CFC) allows improved cutting speeds and reduced gas consumption for lower cost-per-part when processing mild steel and stainless steel with nitrogen.

Using a shielded nozzle and lower gas pressures, CFC technology can provide almost double the cutting speed as well as reducing gas consumption by up to 60% per metre of cutting versus conventional cutting processes.

The nozzle does not contact the material, so issues of part scratching and increased nesting margins do not apply. Higher sheet utilisation also helps the cost-per-part efficiency.

ENSIS 3015 RI e

UNIQUE AMADA VARIABLE BEAM CONTROL TECHNOLOGY
for cutting sheets, tubes, channels and angles.

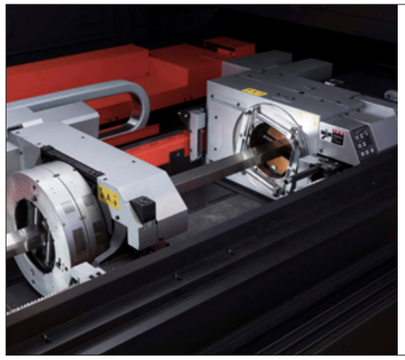


STABLE PROCESSING

TOUCH PROBE

Tube can often be bowed, bent, twisted or squashed, which creates specific processing problems. The ENSIS-RIe is equipped with a touch probe that measures the tube and offsets any holes as required to ensure accurate positioning. This is especially important when assembling components after cutting the tube. If holes are not aligned, assembly can be difficult or impossible.

The touch probe can also check if the 2 sides of an angle profile have the correct height and take the appropriate action if necessary.



EXPANDED CAPABILITIES

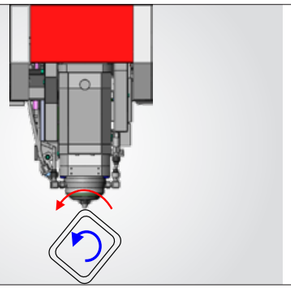
ROTARY INDEX

The Rotary Index system sits on a 3rd pallet, out of the cutting area when flat sheets are being processed. When required, the changeover between flat sheet and tube can be as little as 5 minutes. Unlike other systems, the ENSIS-RIe has a main chuck and a support chuck which are both driven synchronously to ensure that the profile being cut is not twisted during processing. It also means scratching does not occur when cutting round tube, allowing for higher quality parts to be manufactured.

The main drive chuck also provides the automatic tube feed function which removes the need for an operator to manually push the tube through the machine during processing.

Rotary Index Specification		
Chuckable diameter	Round tube Square tube	Ø 19 to 220 mm □ 19 to 150 mm
	Channels Angles	19 to 150 mm 19 to 130 mm
Diameter through chuck		Ø 19 to 220 mm
Maximum pipe mass		200 kg

3kW 6kW 9kW 12kW



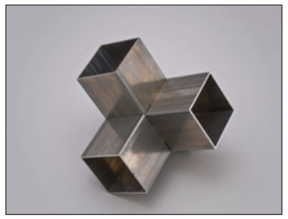
FASTER TUBE PROCESSING

Z AXIS INTERPOLATION

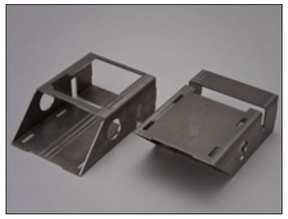
The Z axis interpolation feature that significantly increases productivity. The rotation of the profile being cut and the movement of the Z axis are now calculated by the machine, providing high speed processing around corners.

Depending on the shape, processing time can be decreased by up to 70% compared to the previous system.

Models		ENSIS-3015RIe				
Oscillator	3kW | 6kW | 9kW | 12kW	ENSIS-3000 | ENSIS-6000 | ENSIS-9000 | ENSIS-12000				
Controlled axes		X, Y, Z axes (three axes controlled simultaneously) + B axis				
Maximum processing dimensions (mm)	X x Y	3070 X 1550				
Maximum simultaneous feed rate (m/min)	X/Y	170				
Maximum processing thickness according to cutting conditions (mm)	3kW | 6kW | 9kW | 12kW	Mild Steel 25 | 25 | 25 | 25	Stainless Steel 15 | 25 | 25 | 25	Aluminium 12 | 25 | 25 | 25	Brass 8 | 15 | 18 | 18	Copper 6 | 12 | 12 | 12



Stainless steel tube assembly



Mild steel tube

Round stainless steel tube

Aluminium tread plate

FASTER SETUP

ONE TOUCH CLAMP CHANGING

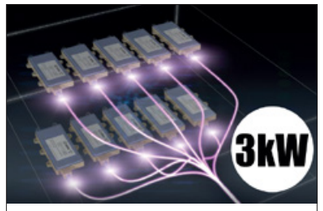
Another feature on the ENSIS-RIe that reduces setup time is the adoption of quick change jaws. These are used to provide accurate clamping of different size tubes or profiles.

A simple button system is used to remove the previous jaw. No tools are necessary. Due to this, setup time can be reduced by over 50% compared to systems that require tools for chuck adjustments.

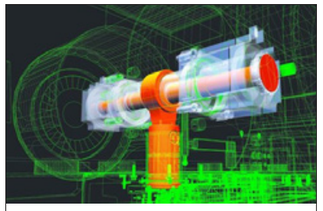
AMADA FIBRE LASER COMBINATION TECHNOLOGIES

AMADA'S FIBRE LASER COMBINATION MACHINES
provide solutions to common punching/laser problems thanks to unique AMADA developed features.

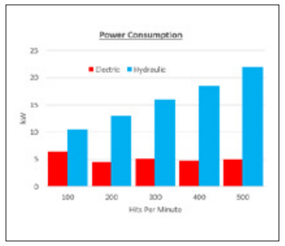




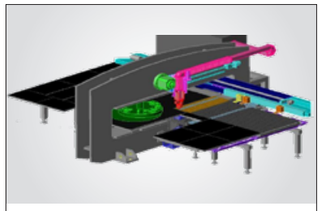
AJ TECHNOLOGY
All new AMADA combination machines utilise the in-house developed 3kW single diode module. No combining is necessary, providing the highest cutting results.



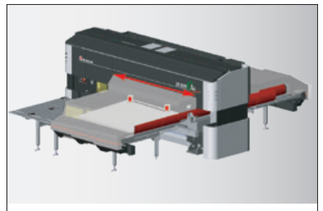
SERVO PUNCHING DRIVE
This technology uses a lot less electricity compared to traditional hydraulic systems, as well as eliminating oil changes and drastically reducing maintenance operations.



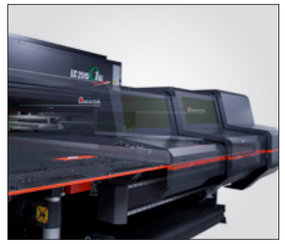
BRIDGE FRAME
AMADA developed the world's first bridge frame punching machine in 1971, the LYRA-555. This frame design went on to become the cornerstone of AMADA's expansion globally.



INDEPENDENT LASER AXIS
AMADA developed a unique system where the laser cutting head is on a completely separate frame to the punching system, providing class leading results.



RETRACTABLE TABLE CABIN
Operator safety and protection from the fibre laser beam (as required by CE regulations), is offered by the space saving design of the table cabin covers.



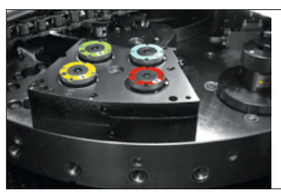
TOOL ID SYSTEM
In order to eliminate tool setup errors, which often stop production, all AMADA combination machines are equipped with the Tool ID system.

AMADA FIBRE LASER COMBINATION STANDARD FEATURES

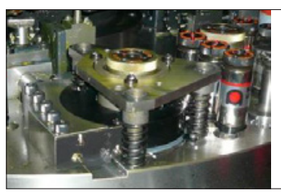
AMADA Rapid Forming Tool compatibility for fast beading, offset and chamfering.

High density brush table for greatly reduced part scratching.

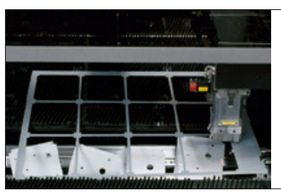
Evolved AMNC 4ie control for easy, efficient and eco processing.



Automatic tapping unit for tapping between M2.5-M8.



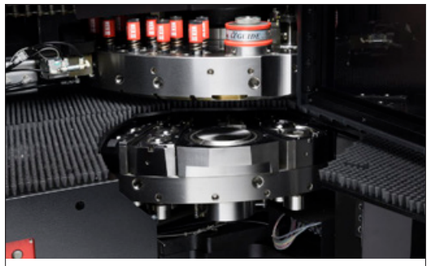
Auto-Index stations allow tools to be used at any angle.



Full width workchute allows simple part removal in-cycle.

ACIES 2515 AJ e

INTEGRATED BLANKING PROCESS SOLUTION
perfect for scratch free applications and continuous operation.



SCRATCH FREE

ZR TURRET

The ACIES-AJe is equipped with the next generation, fully covered ZR turret to enable high speed, high quality production of formed parts without scratching. All the dies in the lower tool turret sit below the brush table pass line and are automatically raised into position when required.

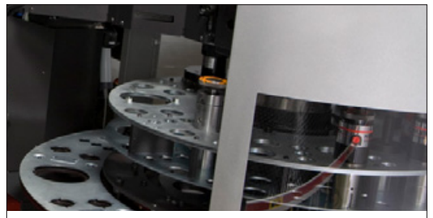
This also means that the tools are set to the correct height, taking into account any tool maintenance grinding operations that may have been carried out.

AUTOMATIC TOOL SETUP

TOOL STORAGE UNIT (TSU) (ACIES-TAJe)

Tools are managed digitally according to their individual ID. An automatic tool changer system, which holds up to 300 tools and 600 dies, prepares tools in the buffer turret while the machine is punching and automatically changes the tools in the turret while laser processing. The ACIES-TAJe reduces tool setup mistakes and tool maintenance, as well as automatically adjusting the die height to take regrinding into account. When a tool reaches the preset number of hits, it is automatically changed for a spare.

A new track structure eliminates the restrictions on tool location. When tools are specified, the optimum tool arrangement is automatically created by reference to their ID.



INCREASED UPTIME

BUFFER TURRET (ACIES-BAJe)

The ACIES-BAJe is supplied with a small buffer turret instead of a full TSU, allowing external loading of tools without interrupting the machine processing schedule.

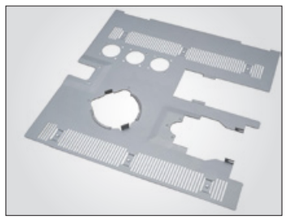
HIGH PRODUCTIVITY

AUTOMATION SOLUTIONS

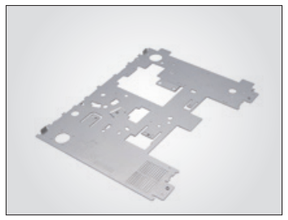
Several levels of automation systems are available for the ACIES-AJe, ranging from single pallet load/unload devices, up to double tower cells that include automatic part removal.

The machine can also be connected to a complete stockyard storage system if required.

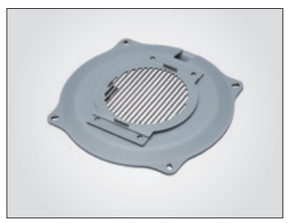
Model		ACIES-2515TAJe
Oscillator		AJ-3000 (3kW)
Combined working range with reposition (mm)	X x Y	3050 x 1525
Maximum material thickness (mm)		6
Rapid feed rate (m/min)		(X) 100 / (YP) 80 / (YL) 100 / (Z) 80
Press capacity (kN)		300
Hit rate (hpm)	25.4mm pitch / 5mm stroke	430



Galvanised steel - 1mm

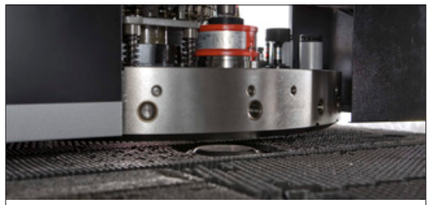


Mild steel - 1mm



Galvanised steel - 1mm

Mild steel - 6mm



CLEAN PRODUCTION

SPATTER GUARD & CUT GAP CLEANING SYSTEM

Like all AMADA fibre laser combination machines, the ACIES-AJe is equipped with a spatter guard in front of the tool turret which becomes active when the machine switches to laser cutting. This eliminates any spatter from the cutting process affecting the tools loaded into the turret.

The ACIES-AJe also has a cut gap cleaning system which can be programmed to automatically clean the cutting slot between each sheet. This stops any contamination between different sheets of material.

EML 2515 AJ e

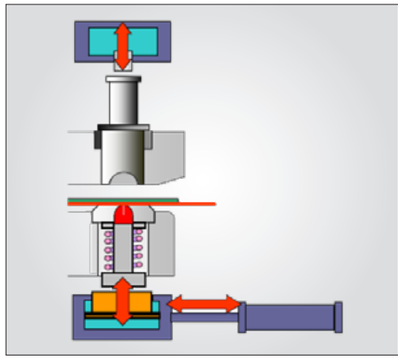
LATEST GENERATION COMBINATION TECHNOLOGY
offering the ultimate in production flexibility.

AUTOMATIC TOOL SETUP

PUNCH DIE CHANGER UNIT

The EML-AJe is available with the optional Punch Die Changer (PDC) unit. This holds up to 220 tools and 440 dies that can all be changed automatically during the processing cycle. This allows the free allocation of tools in the machine turret, making the programming significantly faster and reducing operator involvement

Forming dies that traditionally cause sheet deformation when in close proximity to standard punch tools can be loaded, used and unloaded quickly, allowing trouble free processing



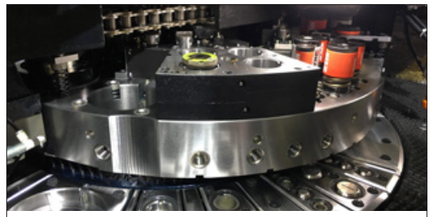
INCREASED FORMING CAPABILITY

PUNCH & FORMING (P&F) SYSTEM

This standard feature allows very high forms up to 22mm to be processed on the EML-AJe. The system uses a ram under the lower turret to raise the forming die to the correct position. During this action, the upper tool is used to securely hold the material in place.

P&F provides high quality forming of small flanges that would be difficult to achieve on a press brake as a secondary operation.

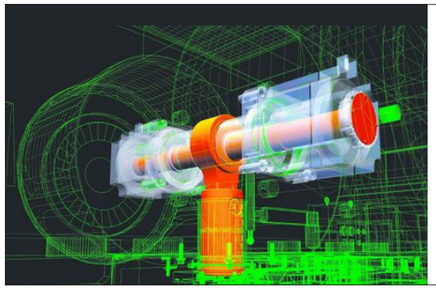
3kW



EASE OF USE

Z TURRET

The 'Z' style turret utilizes a larger lower turret, allowing any manual tool changing to be easily and quickly achieved without the use of special equipment.



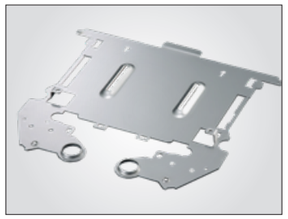
INCREASED PRODUCTIVITY

AC SERVO-DIRECT TWIN DRIVE

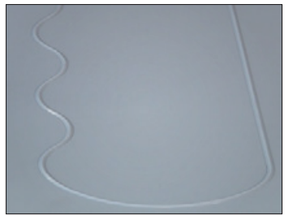
The EML-AJe combines high speed laser cutting with high hit rate punching generated by the AC servo-direct twin drive. Punching, forming, tapping and cutting can all be achieved with high accuracy.

An energy recovery system is utilized to even out the electrical consumption during punch processing.

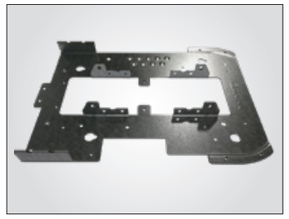
Models		EML-2515AJe & EML-2515AJPe
Oscillator		AJ-3000 (3kW)
Combined working range with reposition (mm)	X x Y	3050 x 1525
Maximum material thickness (mm)		6
Rapid feed rate (m/min)		(X) 100 / (YP) 80 / (YL) 100 / (Z) 80
Press capacity (kN)		300
Hit rate (hpm)	25.4mm pitch / 5mm stroke	500



Mild steel - 1.5mm

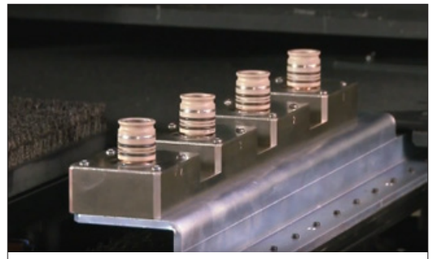


AMADA Rapid Forming Tool beading



Electrogalvanised steel - 1mm

Mild steel - 6mm



CONTINUOUS OPERATION

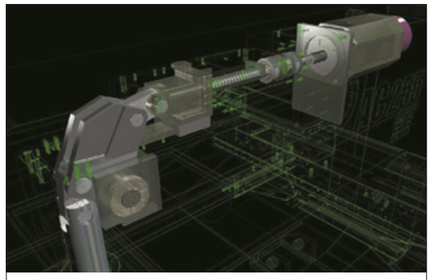
AUTOMATIC NOZZLE CHANGER

The EML-AJe is equipped with a 4 station automatic nozzle changer to provide longer unsupervised operation. During the nozzle change process, the nozzle is cleaned and the cutting head is also calibrated to ensure consistency across all materials.

When not in use, the nozzle changer sits outside the processing area to protect the spare nozzles and avoid any disruption..

LC2515C1AJe

PUNCH / FIBRE LASER COMBINATION MACHINE
to cover various materials and thicknesses.

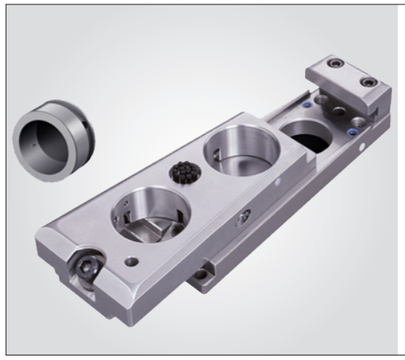


ENERGY SAVING

AC SERVO PRESS DRIVE & AMADA FIBRE LASER

The LC-2515C1AJe is equipped with a highly energy efficient AC servo press drive providing energy recovery features to reduce the overall power requirements. This means the machine requires less power than a hydraulic combination machine.

AMADA's fibre laser has a higher energy conversion and 3 times higher energy efficiency than a CO_2 laser.

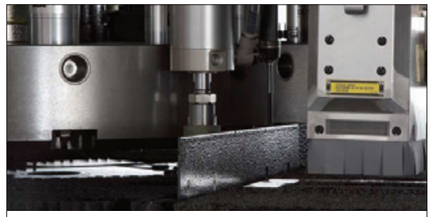


INCREASED FLEXIBILITY

MULTI PURPOSE TURRET (MPT)

The LC-2515C1AJe features a multi purpose turret which allows many different types of processing to be achieved. The 46 station arrangement includes 4 tapping stations (which can be used for standard tooling if required), 4 Auto Index rotating stations and AMADA's proven, quick change die bases to facilitate fast tool setups of smaller tools.

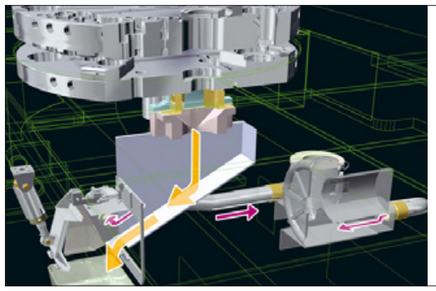
Up and down form tools can be loaded, as well as AMADA's ARFT and V-Cut form tool systems.



REDUCED MAINTENANCE

TURRET SPATTER GUARD

As with all AMADA combination machines, the LC-2515C1AJe is fitted with a turret spatter guard which automatically activates when laser cutting. This prevents spatter affecting the tooling loaded into the turret.



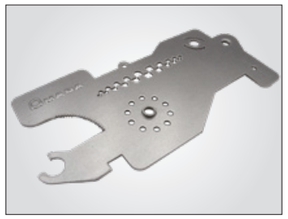
RELIABLE PROCESSING

POWER VACUUM FUNCTION & SLUG SUCTION UNIT

The LC-2515C1AJe has 2 systems designed to ensure removal of the punched material slugs. For smaller A and B stations, the Power Vacuum function uses a jet of air to create low pressure under the die which sucks the slug downwards. All tool stations also benefit from the Slug Suction Unit which is installed under the tool turret.

These features allow faster punching hit rates as less tool penetration is required into the lower die.

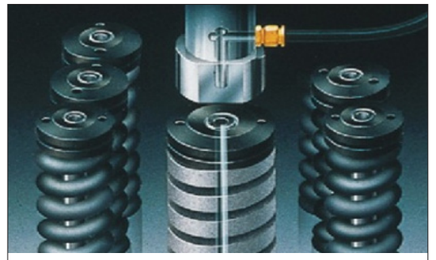
Model		LC-2515C1AJe
Oscillator		AJ-3000 (3kW)
Combined working range with reposition (mm)	X x Y	3050 x 1525
Maximum material thickness (mm)		6
Rapid feed rate (m/min)		(X) 100 / (YP) 80 / (YL) 80 / (Z) 80
Press capacity (kN)		200
Hit rate (hpm)	25.4mm pitch / 5mm stroke	370



Galvanized steel - 0.8mm

Mild Steel - 6mm

Copper - 4mm, Brass - 5mm, Aluminium - 6mm



REDUCED TOOL MAINTENANCE

AIR BLOW SYSTEM

AMADA's Air Blow feature, common to all AMADA fibre laser combination machines, extends tool life and improves punching quality. The system sprays a fine mist of oil through the centre of the Air Blow tooling to lubricate the tool during processing. The effect is to help with the removal of the punched material slugs, thereby increasing productivity.

The Air Blow feature helps to reduce tooling costs and operator intervention.

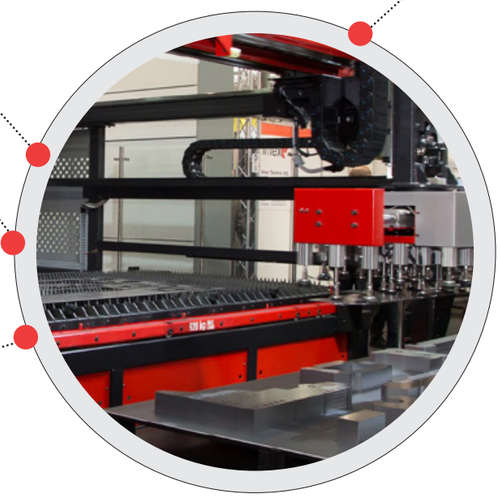
AUTOMATION

SOLUTION

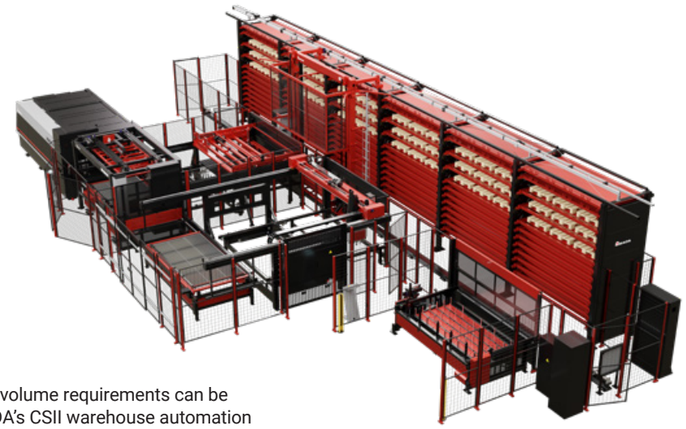
MULTI SHELF LOAD / UNLOAD

SINGLE PALLET LOAD / UNLOAD

PART REMOVERS



STOCKYARD SYSTEMS

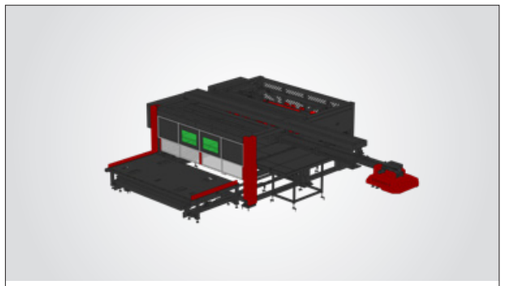


CS II

The very highest volume requirements can be fulfilled by AMADA's CSII warehouse automation system. Up to 999 shelves are possible, with both single row or double row configurations available. Lasers, punching machines and combination machines can all be connected, with input/output (I/O) stations positioned according to the customer requirements. The stacker crane delivers raw materials to the individual machine cells and removes finished parts either back to the storage or to an I/O station for removal to the next manufacturing stage. CSII warehouse systems are available for 3m sheet formats.

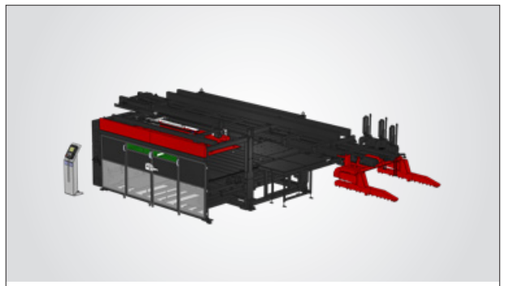
COMBINATION FIBRE LASER AUTOMATION

ACIES 2515 AJe EML 2515 AJe LC 2515 G1 AJe



RMP N

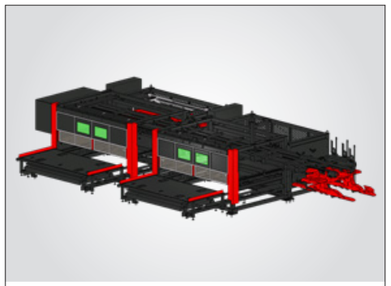
Designed to provide fully automated processing with a compact footprint, the RMP-N is equipped with 2 pallets (1 load / 1 unload), each with a 3000kg capacity. The loading of raw materials and skeleton removal are all completed by the same unit. Adhering to AMADA's 'Front Open Concept', all operations are completed at the rear of the combination machine, leaving the front area open for manual sheet loading if required.



RMP NTK

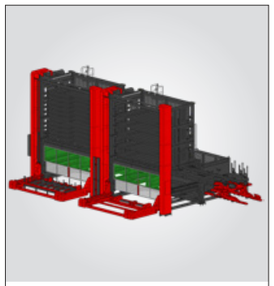
To answer our customers requests for more flexibility, this system is composed of a load/unload module and a part remover. The compact design allows it to be easily integrated into a workshop. In standard configuration, it is equipped with 3 pallets, each with a capacity of 3000kg. 1 pallet is for raw material, 1 pallet for finished product and 1 pallet for sheet skeletons. Vacuum cups provide reliable part removal and stacking operations. Microjointed sheets can also be removed after processing.

ACIES 2515 AJe EML 2515 AJe LC 2515 G1 AJe



LA 3015 NTK + SR 3015 NTK

With the ability to pick parts up to 2800mm x 1445mm or 3000mm x 500mm, as well as up to 120kg (when both arms are used), this load/unload and part removal system covers a very wide range of production environments. Due to the integrated microjoint cutter, parts can also be picked from punched as well as laser cut sheets. The 3 pallet configuration allows 1 raw material pallet, 1 picked parts pallet and 1 skeleton unload pallet.



AS 3015 NTK + ULS 3015 NTK

Utilising the same base as the LA-3015NTK + SR-3015NTK, this double tower load/unload and part removal system expands the automated capacity by adding up to 10 raw material pallets and 5 unload pallets for picked parts / skeletons.

ASR 3015 PR

This single tower load/unload and part picking system has an extremely compact footprint and multiple storage shelves to allow uninterrupted processing. With a part picking range between 100mm x 50mm and 2500mm x 1445mm, a very wide range of applications can be covered. Due to the intelligent design of the safety systems, parts can be unloaded from the storage tower whilst the combination machine is operating.

FLYING OPTIC LASER AUTOMATION

REGIUS AJ e SERIES VENTIS AJ e SERIES ENSIS AJ e SERIES

MP FLEXIT-3015

The MP Flexit automation module provides continuous, automatic loading and unloading operations to increase machine utilisation. A 3000kg pack of raw material can be loaded into the system, and finished sheets are unloaded via a chain drive fork system onto a pallet at the front of the cell. The chain drive system ensures high quality parts compared to other automation systems as the finished parts are not dragged over the unload forks. Cut parts can be quickly removed by a fork lift truck while the laser is working and moved to the next stage of the manufacturing process. MP Flexit is the perfect solution for mid level volume production for 3m sheet lengths in a factory with height restrictions.

REGIUS AJ e SERIES VENTIS AJ e SERIES ENSIS AJ e SERIES

MP-4020

The MP-4020 is ideal for customers using 4m x 2m sheet sizes with low roof height and/or limited floor space. Equipped with 2 load and 1 unload shelves, the MP-4020 provides fully automated processing. A full sized 25mm thick sheet of material can be loaded and unloaded in automatic mode, providing a safer working environment for operators. The system also incorporates the ability to bring the cutting pallet to the front of the cell. This allows processing of urgent jobs quickly and easily without having to load material directly onto a loading shelf.

REGIUS AJ e SERIES VENTIS AJ e SERIES ENSIS AJ e SERIES

AS LUL (SINGLE & TWIN)

To satisfy customers with mid to high volume production requirements, the AS LUL tower was introduced with great success in Europe. It has a compact footprint for minimal impact on factory space, while providing fully automatic, continuous part flow. One feature that is particularly useful for sub contractors is the ability to bring the cutting pallet to the front of the tower and manually load a sheet of material as well as unloading finished parts. This allows the interruption of a long running schedule for an urgent job to be processed. The schedule can then be resumed afterwards. Available as single or double towers, the AS LUL is also available in 3m or 4m sheet length configurations.

REGIUS AJ e SERIES VENTIS AJ e SERIES ENSIS AJ e SERIES

ASF II EU (SINGLE & TWIN)

The ASF II EU was designed to compliment the advance in laser technology and the increased speed of manufacture that higher power fibre lasers achieve. With a sheet changeover time of less than 90 seconds, the ASF II EU ensures the highest levels of machine utilisation and flexibility for high volume manufacturing of 3m sheet formats. Standard (10 shelves in total), low (7 shelves in total) and high (14 shelves in total) variants are available to satisfy all customer requirements. Double tower versions are also available. Cut sheets are unloaded by a chain drive system to maintain the part quality. Cut parts / raw material can be removed / loaded while the laser is still in operation. The optional S-Pallet allows urgent job interruption of a schedule.

REGIUS AJ e SERIES VENTIS AJ e SERIES ENSIS AJ e SERIES

TK PART REMOVERS

Modern manufacturing requirements demand high machine efficiency and quick part turnaround. AMADA's TK part removal systems satisfy both these requirements. Parts can be removed from the cut sheet in-cycle and stacked on pallets at the front of the cell, with the skeleton returned to the storage system. Individual suction cup activation, extendable arm configurations, 180 degree head rotation and simple offline programming ensure a wide range of part sizes and shapes can be removed automatically. The TK is available for 3m and 4m sheet formats.

REGIUS AJ e SERIES VENTIS AJ e SERIES ENSIS AJ e SERIES

2ND OUTPUT STATION

Sometimes, there is a requirement to immediately unload cut parts from the manufacturing cell, while allowing other cut sheets to be stored within it. This is where the second output station proves to be a big benefit. Once the sheet of parts has been processed, it can be automatically moved through the cell to its home position and manually unloaded from 3 sides. After the parts have been removed, the skeleton can either be removed manually, or sent back into the storage tower to be removed later. Available for 3m and 4m formats.

ENSIS 3015 RI e

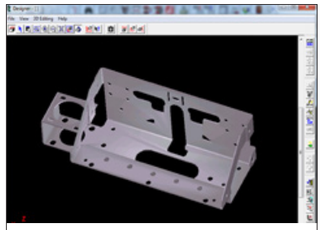
STRI OPTION FOR AS LUL

The STRI option for the AS LUL single or twin tower systems makes it possible to maximize the profitability of an ENSIS-RI for higher volume sheet cutting production. It allows fully automated flat sheet processing, combined with the existing tube mode production. The tube cutting mode is managed by the STRI module. This support table makes it quick and easy to maneuver the tube cover into place when changing from flat sheet to tube processing.

SOFTWARE

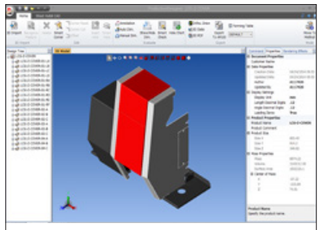
SOLUTION

CAD



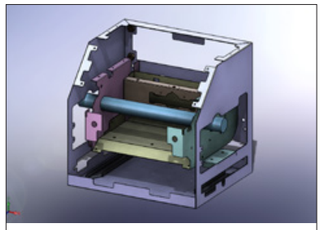
AP100 CAD

AP100 CAD is not only a standard 2D CAD system, but it also includes specific sheet-metal drawing & unfolding functions. Thanks to real bend deduction data coming from AMADA bending machines, AP100 CAD ensures a quick efficient 3D Sheet-Metal Model creation.



PRODUCTION DESIGNER

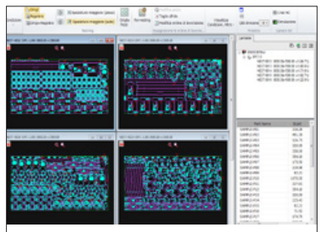
Production Designer allows you to import different 3D data formats; it automatically converts them into 3D sheet-metal parts and saves data into the AMADA Digital Database. Production Designer can automatically recognize sheet-metal specific attributes like bend data (V bend, hemming bend etc.), and blanking data (extrusions, tapping, emboss, louver, etc.).



SHEETWORKS

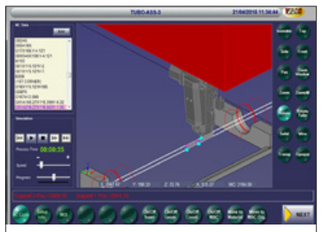
Thanks to the "BatchUnfold" process, SheetWorks can automatically create unfold drawings with efficiency, with all the related CAD/CAM attributes, starting from the 3D assembly, and save them all on the AMADA Digital Database. SheetWorks also includes tube modelling and processing technologies to produce tube, channel and framework

CAM



VPSS 3I BLANK

The evolution of CAM for AMADA blanking machines. Fully integrated in the VPSS 3i suite, VPSS 3i BLANK is a perfect mix of advanced algorithms for automatic processing (nesting creation, tool assignment and process sequence) and a smart manual environment for quick manual editing. Moreover, VPSS 3i BLANK allows competitor machines to be programmed using the CUT5 Extended module.



DR. ABE TUBE

Dr. ABE TUBE provides fully automated off-line programming and nesting for AMADA ENSIS-RI lasers. It is directly linked to AMADA's 3D modelling system, SheetWorks, for fast switching between CAD and CAM environments

PLANNING

AMADA ORDER MANAGER

ERP connected to AMADA Eco-System

AMADA Order Manager (AOM) is the new Cloud-based platform created by AMADA. Thanks to the AMADA standard data exchange interface, the customer's existing ERP system can be easily connected to AOM to allow the production data to be sent to the AMADA machines and for collecting the machine production data. .

INDUSTRY 4.0

SOLUTION

AMADA is proud to introduce "V-factory"

V-factory helps customers improve the efficiency of their factory and connects each working process. V-factory is a structure to create profits by connecting the customer and AMADA. All factory aspects such as machines, tooling, software and AMADA IoT Support Centre are linked by secured communication technology.

My V-factory

Reduce waste related to production

- Production targets and performance
- Operational status of machines
- Material consumption
- Energy consumption

Utilization of the full potential of machines

- Conditions of machines not in operation
- Reasons for suspension of operations
- Customization of measures
- Effects of measures

VISUALISING THE OPERATIONAL STATUS OF MACHINES VIA PCS AND MOBILE DEVICES

My V-factory is an app that allows for information related to the operation of AMADA machines installed at customer factories to be referenced in real time. By doing so, the application makes it possible to comprehensively manage AMADA machines via the Internet.

V-factory connecting box

AMADA IoT SUPPORT

Support for avoiding operational disruptions

- Preemptive maintenance support via warnings provided by monitoring
- Preemptive maintenance via remote inspections

Support for a prompt recovery

- Remote inspection support from alarms provided by monitoring
- Support through responding to customers inquiries

Support for improving operations

- Support for enhancing rate of operations provided by alarms analysis

PREVENTATIVE MAINTENANCE AND PROMPT RECOVERY OF MACHINES

IoT-Support is the second element to realize preventative maintenance and prompt recovery of the machines.

Specifications, appearance, and equipment are subject to change without notice by reason of improvement.

For your safe use be sure to read the user manual carefully before use.
When using this product, appropriate personal protection equipment must be used.

Laser class 1 when operated in accordance to EN 60825-1

Hazard prevention measures are removed in the photos used in this catalogue.

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