SOLUTION

ENSIS AJ e SERIES

ALL ROUND PROCESSING STANDARD

AMADA

ENSIS AJe SERIES

ALL ROUND PROCESSING STANDARD

THIN TO THICK PROCESSING WITH A SINGLE LENS

AMADA'S ORIGINAL VARIABLE BEAM CONTROL TECHNOLOGY IS NOW COMBINED WITH HIGHER POWER FIBRE LASER ENGINES

Now utilising 3kW to 15kW AMADA designed fibre laser engines, the ENSIS-AJe series machines significantly increase processing capabilities. AMADA's Auto Collimation system provides unrivalled beam spot control and, combined with AMADA's original Variable Beam Control technology, allows very high speed piercing, fast cutting rates and vastly improved bevel angles on thicker materials.

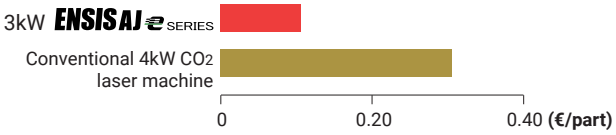
Utilising a single lens for the entire range of materials and thicknesses reduces machine setup and avoids potential mistakes, providing higher productivity and therefore higher profitability. A high capacity automatic nozzle changer and the new AMNC 4ie control introduces several new features such as facial recognition and maintenance tutorial videos, as well as the ability to link to AMADA's V-factory IoT service solutions.

TYPICAL PROCESSING SAMPLES

Mild steel 9 mm
116.2 x 138.4 mm

RUNNING COST COMPARISON

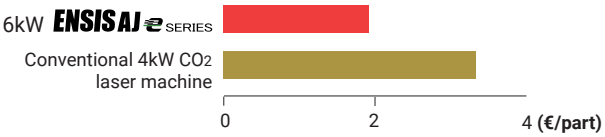
64.7% COST REDUCTION PER PART



Mild steel 4.5 mm
180.0 x 180.0 mm

RUNNING COST COMPARISON

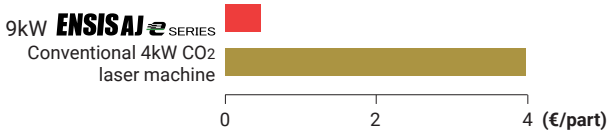
42.0% COST REDUCTION PER PART



Stainless steel 12 mm
223.0 x 195.0 mm

RUNNING COST COMPARISON

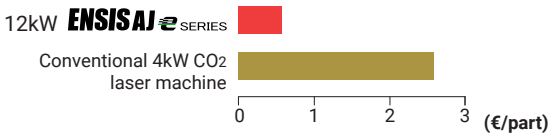
83.8% COST REDUCTION PER PART



Stainless steel 8 mm
200.0 x 200.0 mm

RUNNING COST COMPARISON

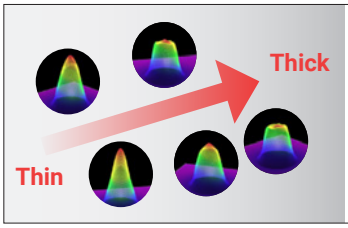
78.0% COST REDUCTION PER PART



Running costs include assist gases, electricity and consumables.

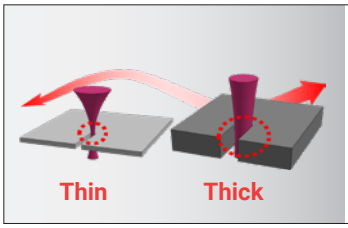
ENSIS AJ e SERIES

STANDARD EQUIPMENT AND FUNCTIONS



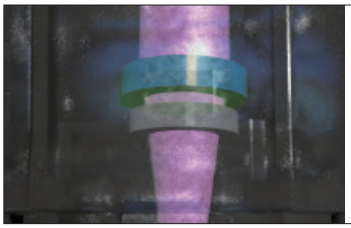
The Original Variable Beam Control

With the ability to seamlessly change the laser beam mode (not only the spot size and focus point), AMADA's original Variable Beam Control technology automatically matches the most suitable beam shape to the cutting task.



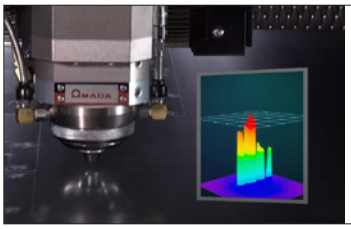
Auto Collimation Technology

Used on every power except 3kW, AMADA's Auto Collimation technology provides automatic spot size control for the most efficient cutting applications.



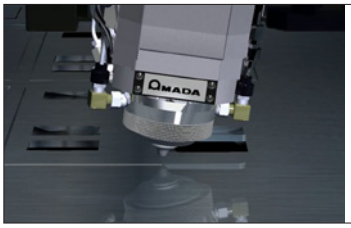
i-Optics Sensor

Remove subjective operator decisions when it comes to machine uptime. AMADA's i-Optics sensor informs the user when the protection glass needs maintenance.



i-Process Monitoring

The updated i-Process Monitoring system constantly checks the piercing and cutting processes, adapting the cycle as necessary.



Auto Head Collision Recovery

As standard, the ENSIS-AJe series is equipped with a system which, if a cutting head collision occurs, automatically stops the machine, retracts the Z-axis and realigns the assembly. If fitted with the optional i-Nozzle Checker, it will then confirm the nozzle condition and continue at the next cutting profile.

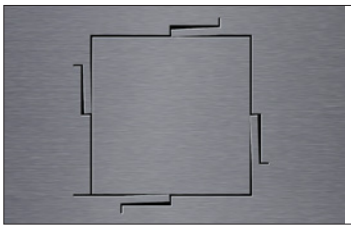
AMNC 4ie

The AMNC 4ie numerical control used on the ENSIS-AJe is a 21.5" HD touch screen system that provides simple, intuitive operation for higher productivity. Facial recognition to set access levels, service tutorial videos and connection to AMADA's IoT service systems helps increase machine uptime.

V-monitor

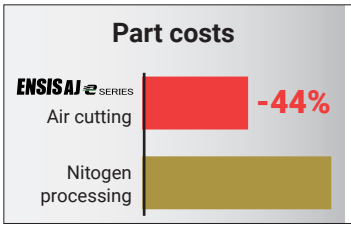
Check the real-time machine status remotely on your smart device. Additionally, whenever an alarm occurs, V-monitor will also record HD video to enable diagnosis of the issue.

PROCESS SOLUTIONS



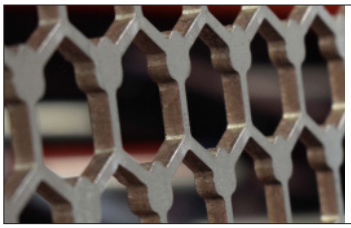
Soft Joint

AMADA has developed the unique Soft Joint function to allow microjoint free part processing and drastically reduce secondary grinding operations.



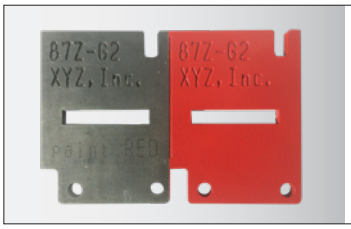
Compressed Air Cutting

To keep part cost to a minimum, AMADA fibre lasers allow you to process many materials with the standard compressed air cutting system, giving high quality results. Assist gas costs are therefore only the associated compressor running costs.



ECO WACS II

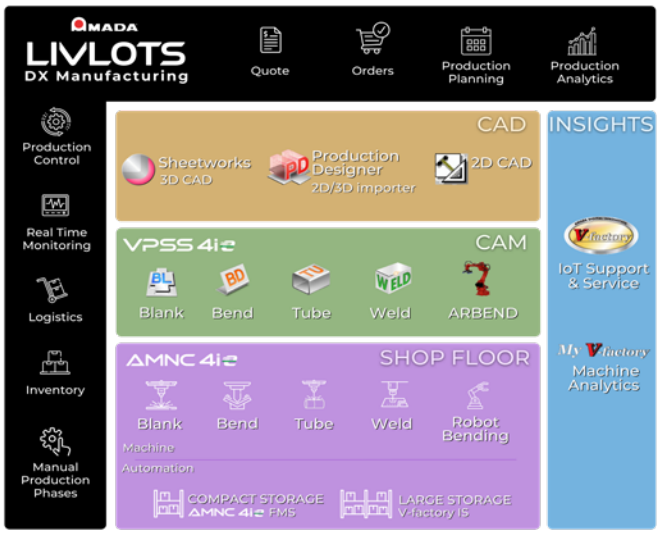
While cutting thick material, water is sprayed on the material to reduce the thermal effect of cutting, prevent cutting defects, and improve the material yield.



Deep Etch

The Deep Etch function, completed in a single pass of the laser beam, allows part identification to be readable even after coating. This provides part traceability through the manufacturing process.

PRODUCTION PLANNING AND PROACTIVE SERVICE



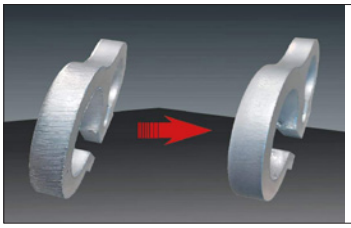
With the brand-new software solution LIVLOTS (LIve Variable LOT production System), AMADA demonstrates how digital transformation can make production processes more efficient and reliable.

Particularly noteworthy is the deep integration into innovative machine technologies, the VPSS 4ie CAD CAM software solution for virtual prototype manufacturing, complemented by predictive support from technical services, which reduces downtime and increases machine availability.

OPTIONAL EQUIPMENT AND FUNCTIONS

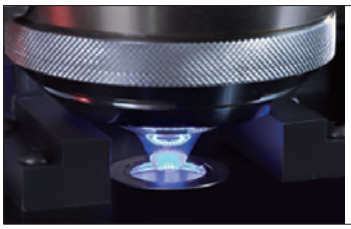
Fiber Silky Cut

For stainless steel processing, AMADA developed the automatic Fiber Silky Cut function, giving CO_2 type quality and maintaining the fibre laser savings for electrical consumption (typically 70% less than an equivalent CO_2 laser).



Gas Mixer

When processing aluminium or mild steel, a mix of nitrogen and oxygen allows the perfect combination of improving the cut quality compared to nitrogen, while keeping the weldability of the material, which can be a problem when processing with oxygen.

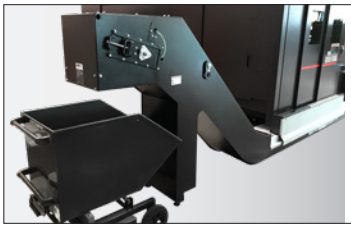


i-Nozzle Checker

Automatic nozzle centring and condition check help remove subjective operator decisions and help improve machine uptime.

i-Camera Assisted System (i-CAS)

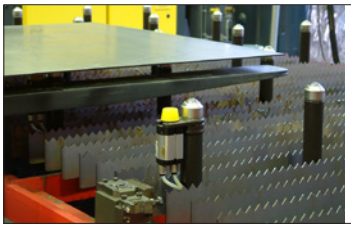
Automatic nesting and program creation of parts on remnant material helps increase overall material utilisation.



Y-Axis Conveyor*

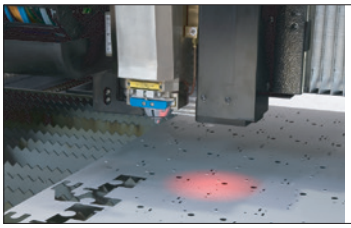
Increase machine productivity using this Y-axis conveyor that can be positioned towards the front or back of the machine for easier scrap removal, in conjunction with the standard X-axis conveyor.

**Container not included.*



Free Bearing Table

In order to make material loading easier and safer for a single operator, a free bearing table can be added to the standard LSTe pallet changer. This is especially useful when loading and positioning thicker materials.



OVS-D

The OVS-D system measures the pitch of two reference holes and automatically compensates for any origin deviation when transferring a sheet of parts from the punch machine. The pitch of the cut holes are also measured. When the measured values fall outside the specified limits, an alarm is activated.

AUTOMATION SOLUTIONS

MPF 3015
Single pallet 3m L/UL

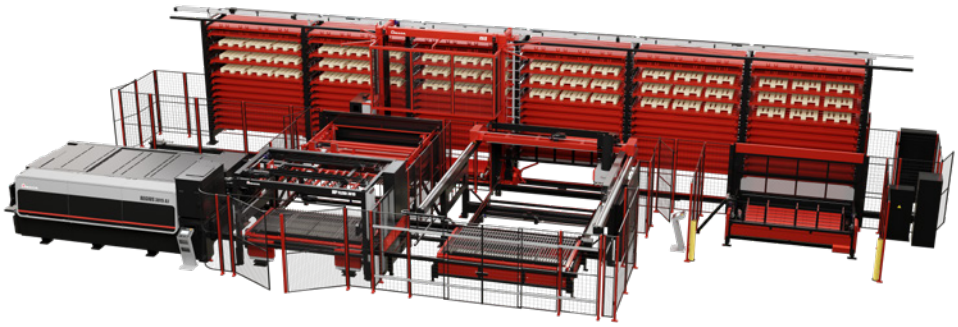
MP 4020
Dual pallet 4m L/UL

TK Part removers
3m / 4m

ASF II (3m) / ASLUL II (4m)
Single Tower

ASF II (3m) / ASLUL II (4m)
Double towers

Second output station
3m / 4m

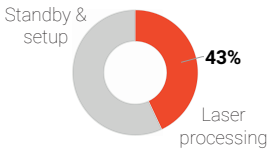


CS II
Stockyard systems 3m

LASER UTILISATION RATE COMPARISON

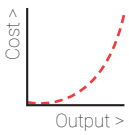
WITHOUT AUTOMATION
Laser utilising the LST pallet changer*

Laser utilisation



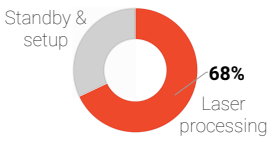
Operators needed

Cost/Output

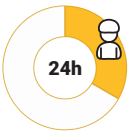


WITH AUTOMATION
Laser utilising an automated tower solution*

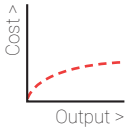
Laser utilisation



Operators needed



Cost/Output



** Utilisation rate based on representative EU customer data in 2022.*

DIMENSIONS

L x W x H

ENSIS-3015AJe + shuttle table (LST E)
9306 x 2840 x 2173

ENSIS-4020AJe + shuttle table (LST E)
9306 x 2840 x 2173

Unit: mm

MACHINE SPECIFICATIONS

			ENSIS-3015AJe	ENSIS-4020AJe
Numerical Control			AMNC 4ie	
Controlled axes			X, Y, Z axes (three axes controlled simultaneously) + B axis	
Axis travel distance	X x Y x Z	mm	3070 x 1550 x 100	4070 x 2050 x 100
Maximum processing dimensions	X x Y	mm	3070 x 1550	4070 x 2050
Maximum simultaneous feed rate	X/Y	m/min	170	
Repeatable positioning accuracy		mm	± 0.01	
Maximum material mass		kg	920	1570
Processing surface height		mm	940	
Machine mass	3kW 6kW 9kW 12kW 15kW	kg	9100 9500 9600 9700 TBC	12200 12800 12900 13000 TBC

OSCILLATOR SPECIFICATIONS

			ENSIS-3000	ENSIS-6000	ENSIS-9000	ENSIS-12000	ENSIS-15000
Beam generation			Laser diode-pumped fibre laser				
Maximum power		W	3000	6000	9000	12000	15000
Wavelength		µm	1.08				
Maximum processing thickness*	Mild steel Stainless steel Aluminium Brass Copper	mm	25 15 12 8 6	25 25 25 15 12	25 25 25 18 12	25 25 25 18 12	30** 25 25 18 12

* Maximum value depends on material quality and environmental conditions
** 30mm thickness for LST 3015 E. 25mm for LST 4020 E.

SHUTTLE TABLE SPECIFICATIONS

		LST 3015 E	LST 4020 E
Max. material dimensions X x Y	mm	3070 x 1550	4070 x 2050
Number of pallets		2	

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

The official model name of the machines and units described in this catalogue are non-hyphenated like ENSIS3015AJ. Use this registered model names when you contact the authorities for applying for installation, exporting, or financing.
The hyphenated spellings like ENSIS-3015AJ are used in some portions of the catalogue for sake of readability. This also applies to other machines.

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

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