SOLUTION

LC 2515 G1 AJ e

ECO FRIENDLY PUNCH/LASER
COMBINATION MACHINE

AMADA

LC 2515 C1 AJ e

ECO FRIENDLY PUNCH/LASER COMBINATION MACHINE

ENHANCED FORMING CAPABILITIES

Using AMADA's in-house designed 3kW fibre laser engine and market leading servo electric punching technology, the LC-C1 AJe provides the perfect tool to enhance your productivity.

Tapping stations, auto index stations and slug suction systems all contribute to a compact, highly flexible processing centre.

In order to provide the highest levels of operator protection, and to fully comply with CE marking regulations, an innovative table cabin design is utilized. Due to the front open concept, as with all AMADA fibre laser combination machines, a sheet of material can be loaded manually if required without opening the table cabin due to a second origin point in front of the cabin.

Photograph may include optional equipment

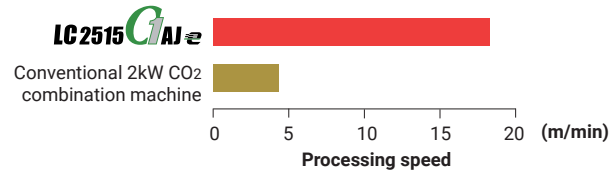
TYPICAL PROCESSING SAMPLES

Galvanised steel 0.8 mm
100.0 x 47.0 mm

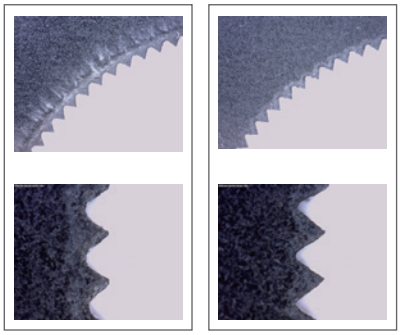
- Number of tools used: 5
- Number of punching hits: 19
- Number of tapping hits: 2

PRODUCTIVITY COMPARISON

27% TIME REDUCTION



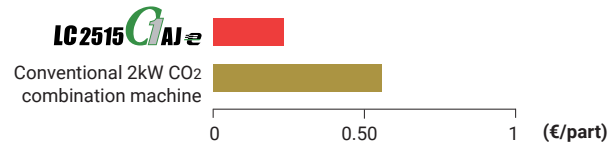
CO_2 laser | Fibre laser



Fibre laser processing reduces the melt effect on coated surfaces and cut edges

RUNNING COST COMPARISON

56% COST REDUCTION PER PART



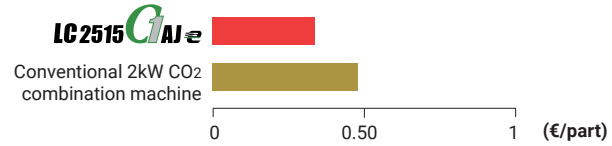
Mild steel 6.0 mm
Ø52 mm

- Number of tools used: 9
- Number of punching hits: 485
(including 461 center punching hits)
- Number of tapping hits: 12

* Marking produced with center punch tooling

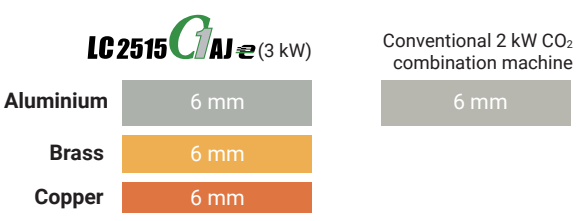
RUNNING COST COMPARISON

25% COST REDUCTION PER PART



The LC-C1 AJe can cut highly reflective materials that are difficult to cut with a CO_2 laser.

MAXIMUM MATERIAL THICKNESSES



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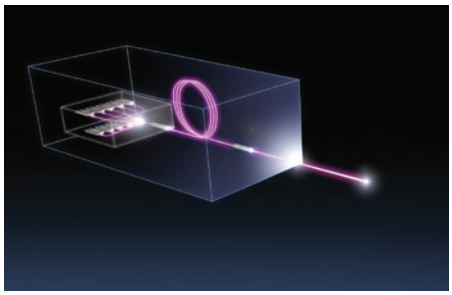
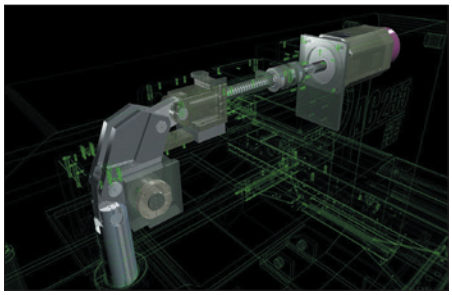
AMADA FIBRE LASER AND ELECTRIC PUNCH TECHNOLOGY

LOW ENERGY CONSUMPTION WITH HIGH PRODUCTIVITY



AMADA FIBRE LASER

The LC-C1 AJe uses a single module 3kW version of AMADA's own in-house designed fibre laser oscillator, which is perfectly suited to the processing of combination parts with very low running costs.

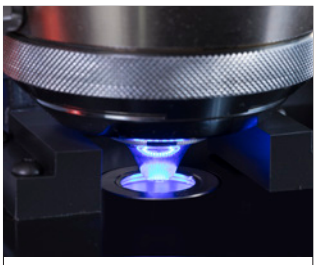


ALL ELECTRIC PUNCHING

The LC-C1 AJe uses a single AC servo motor to generate 20 tons of punching force, allowing a wide range of punched and formed parts to be processed. This system uses up to 70% less electricity compared to hydraulic systems.

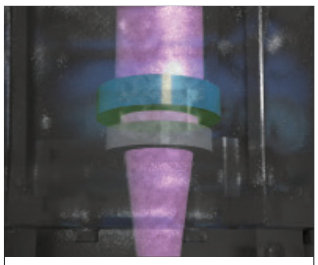
LASER INTEGRATION SYSTEM

As standard, the LC-C1 AJe series includes several automatic functions to increase machine autonomy and reduce operator intervention:



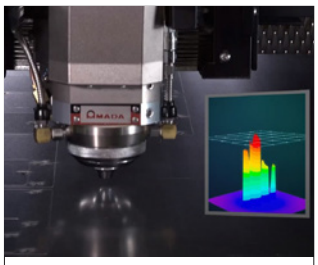
i-Nozzle Checker*

Nozzle damage detection + auto centring. Checks nozzle diameter, concentricity and condition.



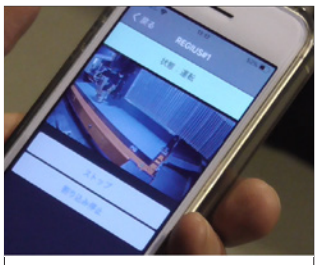
i-Optics Sensor

Protection glass monitoring. Detects abnormalities and informs the operator.



i-Process Monitoring

Pierce and cut failure assistance. Checks all thicknesses of mild/ stainless steel and aluminium.



Mobile HMI

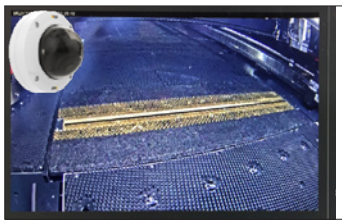
Remotely check schedules and machine history, receive production notifications and see alarm messages.

** Factory option*

STANDARD EQUIPMENT AND FUNCTIONS

ID Tooling

The tool identification is marked on each individual tool so each one can be digitally managed. When a tool is installed, the machine automatically checks the ID to ensure the correct tool is used.

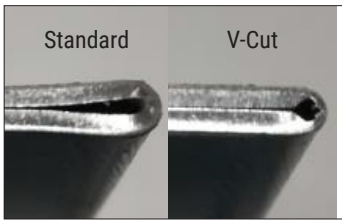


V-monitor

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.

Compressed Air Cutting

A wide range of materials and thicknesses can be processed with compressed air on the LC-C1 AJe as standard. This drastically reduces the assist gas costs and leads to higher profitability. Cutting speeds are generally the same as with nitrogen.

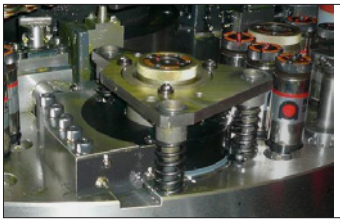


V-Cut Compatibility

Using the special V-Cut tooling, parts can be processed on the LC-C1 AJe that allow sharp internal profiles and much flatter hemming bends to be achieved on the bending machines.

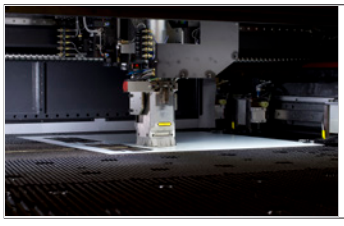
AMNC 4ie

The AMNC 4ie numerical control used on the LC-C1 AJe is a 21.5” HD touch screen system that provides simple, intuitive operation for higher productivity. Facial recognition, service tutorial videos and connection to AMADA's IoT service systems helps increase machine uptime.



Auto Index Stations

The Auto-Index System enables punching at any angle with a single tool, thus eliminating the need for special key angle tooling. When combined with special shaped tooling, the Auto-Index System becomes even more productive and flexible.



Independent Laser Axis

To maintain high accuracy, all AMADA combination machines have an independent laser axis that helps keep the laser head isolated from the punching process.

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STANDARD EQUIPMENT AND FUNCTIONS

Tapping Stations

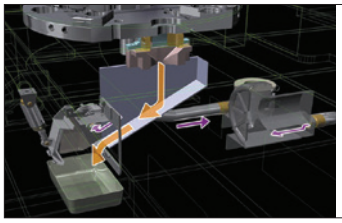
4 tapping stations are integrated into the turret of the LC-C1 AJe. These allow M2.5 to M8 taps to be utilized in the program. When they are not required for tapping operations, they can be loaded with standard 'B' station tools.

Floating brush table

After down forming, the brush table around the turret raises to lift the material clear of the die before moving to the next position.

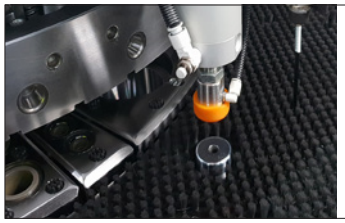
AMADA Rapid Forming Tool (ARFT) Compatibility

The LC-C1 AJe is supplied with the ability to support the AMADA Rapid Forming Tools (ARFT) for continuous, quick forming of more complex profiles such as offsets, beading and chamfering.



Slug Pull Prevention System

The LC-C1 AJe has a vacuum slug suction unit design which prevents even large diameter slug pulling.

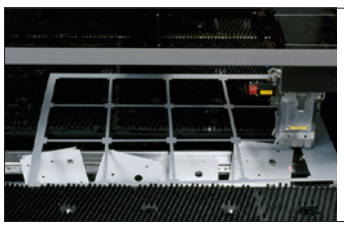


Punch Break Detector

The sheet repositioning cylinders are used to blow air through a punched hole to determine if it has been correctly processed or not. A build-up of back pressure indicates the punch could be broken or incorrectly setup. The machine will stop to prevent further issues.

Table Cabin & 2nd Origin

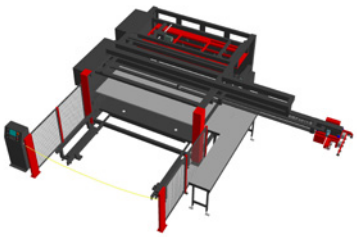
To protect the operator, the unique table cabin solution is used in a closed position when laser processing. If being manually loaded, there is a 2nd origin point outside the cabin to allow easy sheet positioning without having to open the cabin.



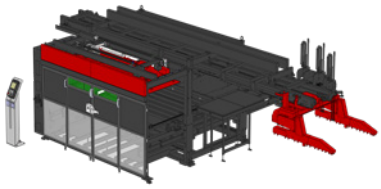
Work Chute

The full width, automatic work chute allows parts to be quickly and easily removed from the processing area. A drop miss sensor detects if a part fails to drop correctly to minimise production interruptions.

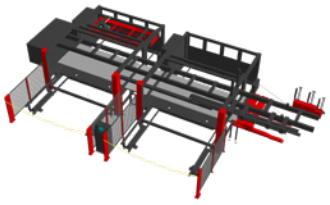
AUTOMATION OPTIONS



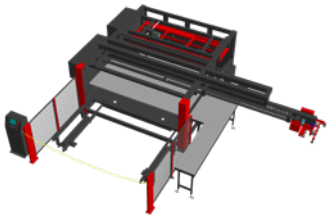
RMP-N
Single pallet L/UL



RMP-NTK
Compact single pallet L/UL
+ part removal



LA-NTK + SR-NTK
Single pallet L/UL + enhanced part removal

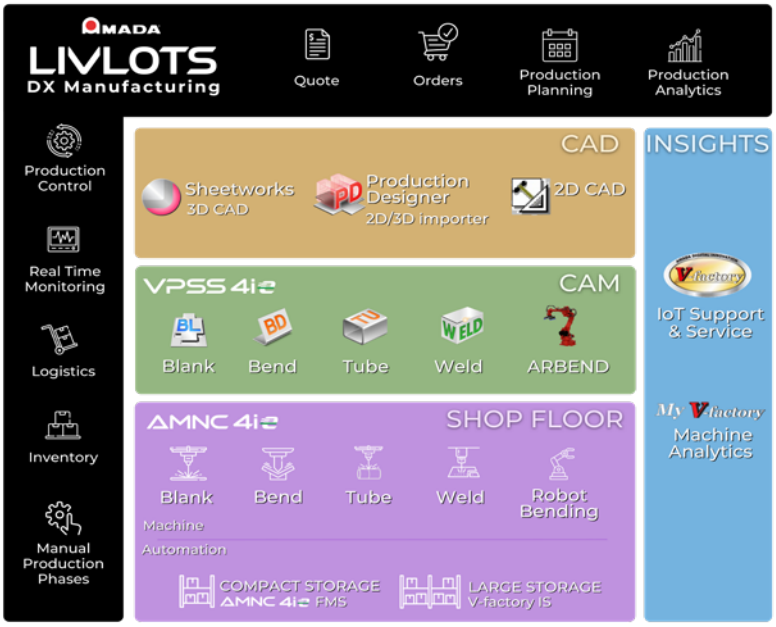


AS-NTK + ULS-NTK
Double tower L/UL
+ enhanced part removal

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.



DIMENSIONS*

LC-2515 C1 AJe
(L) 6420 x (W) 6927 x (H) 2377

* Without safety equipments

Unit : mm

MACHINE SPECIFICATIONS

LC-2515 C1 AJe			
Numerical control			AMNC 4ie
Combined working range (with reposition) X x Y		mm	3050 x 1525
Maximum material thickness		mm	6.0
Punch	Rapid feed rate X/Y/Z	m/min	(X) 100 / (YP) 80 / (YL) 80 / (Z) 80
	Press capacity	kN	200
	Press stroke (25.4 mm pitch / 5 mm stroke)	hpm	370
	Tapping (cutting/forming)		MPT Tap
Laser	Oscillator		AMADA AJ-3000
	Laser protection		Table cabin
	Accuracy	mm	± 0.07

OSCILLATOR SPECIFICATIONS

		AJ-3000
Beam generation		Laser diode-pumped fibre laser
Maximum power	W	3000

TURET SPECIFICATIONS

Standard		46 station MPT (4 Auto Index)
Option		49 station MPT (1 Auto Index, 3 Die Lift Up)

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 LC2515C1AJE. Use this registered model names when you contact the authorities for applying for installation, exporting, or financing.
The hyphenated spellings like LC-C1 AJe 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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