



# SOLUTION

## **LC $\alpha$ V** SERIES

THE PROVEN HYBRID STYLE  
LASER CUTTING MACHINE



## THE PROVEN HYBRID STYLE LASER CUTTING MACHINE

### THE PERFECT MACHINE FOR EASY LOADING AND PROCESSING OF SURFACE SENSITIVE MATERIALS

#### HIGHER PRODUCTIVITY, MORE FEATURES, GREATER EASE OF USE

AMADA's laser machines constantly provide our customers with optimum solutions. Among them, the LC ALPHA is the best selling hybrid type laser cutting machine with over 3000 units delivered worldwide since its introduction in 1993 proof of its reliability.

The latest LC ALPHA V NT series makes material loading very easy, a feature characteristic of the table type. Many of the features now installed


as standard equipment come as a result of our commitment to listening to our customers requirements. The outcome is an upgraded series of laser machines that can cut thicker materials with faster speed, higher accuracy, and greater ease of use.

With a new, highly tuned oscillator and full brush table, the LC ALPHA V NT is also ideal for automation applications.



Photograph includes optional equipment


# TYPICAL PROCESSING SAMPLES



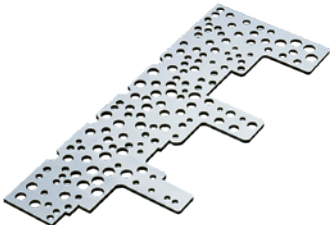
Stainless steel 6 mm  
460 x 270 mm

**PROCESSING TIME**

**LCαV** SERIES




0 5 (min)



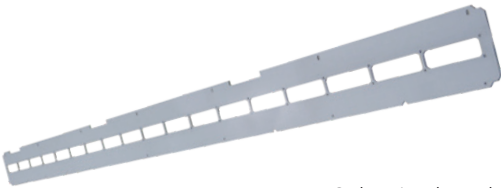
Mild steel 1.0 mm  
205 x 82 mm

**PROCESSING TIME**

**LCαV** SERIES




0 1 2 (min)




Galvanised steel 1.6 mm  
4100 X 410 mm

**PROCESSING TIME**

**LCαV** SERIES




0 5 10 (min)



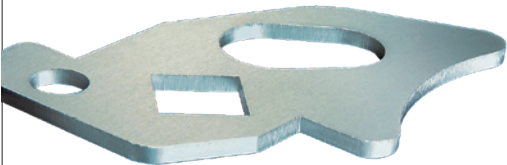
Stainless steel 6.0 mm  
100 X 80 mm

**PROCESSING TIME**

**LCαV** SERIES




0 15 30 (s)



Aluminium 3.0 mm  
100 X 80 mm

**PROCESSING TIME**

**LCαV** SERIES



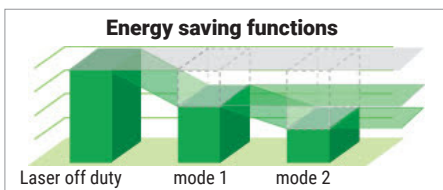
0 15 30 (s)

## HIGH SPEED STABLE PROCESSING HIGHER PRODUCTIVITY, LOWER COSTS



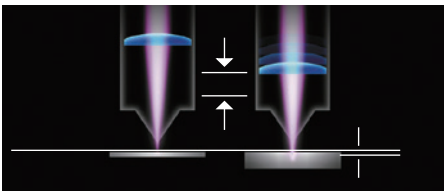
### NEW AF3500I-C OSCILLATOR

The new, AMADA tuned, 3.5 kW oscillator utilised in the LC ALPHA V NT has been designed with a higher beam density for the processing of thin to mid-thickness materials. This 30% improvement in beam density (compared to a conventional machine) also improves cutting speed and surface roughness of cut parts.



### MULTIPLE POWER REDUCTION MODES WHILE IDLING

The LC ALPHA V NT is equipped as standard with a system to dramatically reduce the power required in 2 stages when the machine is at idle.



### MOTORISED AUTO FOCUS CONTROL SYSTEM

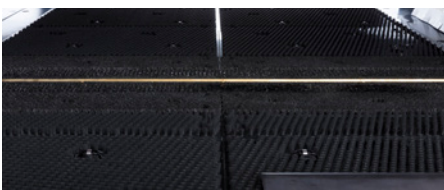
The optimum focal point is automatically set from the cutting database to suit each material. A constant focus is maintained, ensuring optimum laser beam quality and reduced assist gas costs.

## SIMPLIFIED, SCRATCH FREE OPERATION GREATER EASE OF USE



### SMALLER FOOTPRINT AND FRONT-OPEN STRUCTURE

The integral mechanical-electrical structure, a tradition of the LC ALPHA series, provides a small footprint. The pass line of the table is at the optimum height to ensure the ease of loading and unloading materials.



### HIGH DENSITY BRUSH TABLE

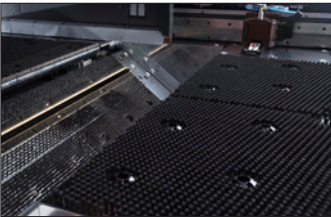
In order to reduce scratching of the underside of the material, the LC ALPHA V NT is supplied with a high density brush bed capable of supporting 10 mm thick material\*.

# FUNCTIONS AND OPTIONAL EQUIPMENT



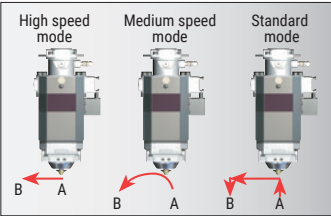
### AMNC 3i

The LC ALPHA V NT is equipped with the AMNC 3i NC and a new touch screen interface providing comfortable operation and impressive ergonomics. It enables simple, intuitive ease of use and fits perfectly into the VPSS 3i digital suite concept.



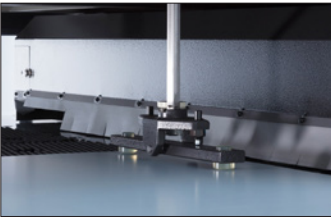
### Large workchute

A large workchute (550 x 1470 mm for LC-1212 αV NT and 550 x 1750 mm for LC-2415 αV NT) is utilised to achieve highly efficient microjoint free processing. These large workchutes improve the access to finished parts.



### Quick change of laser head operating mode

The AMNC 3i control panel and lightweight laser head allow three operating modes to be selected for the laser head, depending on specific cutting operations to be performed. The operation of the laser head can be changed by one touch on the screen.



### Repositioning mechanism

The workclamps can be automatically moved during processing to the optimum position to suit the material being processed. This avoids any dead zones, resulting in improved material yields as well as allowing longer sheets to be processed.



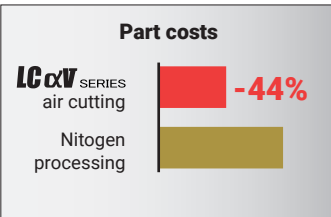
### Cutting plate

Due to the hybrid nature of the machine axis movements, the dedicated cutting plate uniformly supports the cutting area to ensure stable processing. The cutting gap can be adjusted based on the material being processed.



### ECO Cut

Utilising smaller nozzle sizes and reduced assist gas consumption, ECO Cut achieves higher speed processing of mild steel up to 10 mm thick compared to traditional oxygen cutting.



### Compressed Air Cutting

To keep part cost to a minimum, the LC ALPHA V NT allows you to process many materials with the standard compressed air cutting system, giving high quality results. Assist gas costs are, therefore, zero.

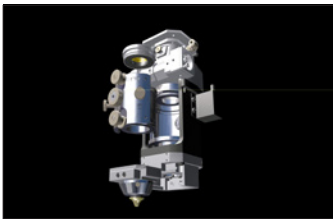


## FUNCTIONS AND OPTIONAL EQUIPMENT



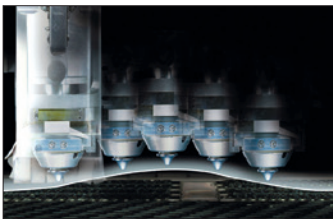
### Nozzle cleaner

To ensure stable processing the LC ALPHA V NT is equipped with an automatic nozzle cleaner which can be set to clean the nozzle after a specific number of pierces, or as a simple, automatic one touch maintenance operation.



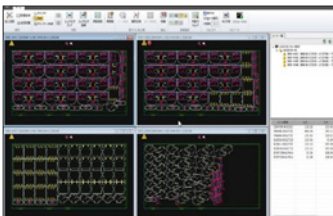
### 'One Touch' exchange system

To minimise any machine setup time, the Alpha V is configured with a quick and simple cutting head cartridge system. This allows daily preventative maintenance to be carried out and increases cutting efficiency.



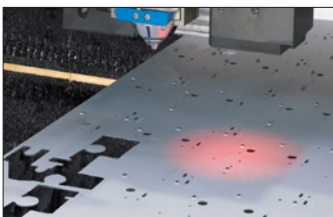
### HS capacitance head

In order to ensure reliable processing, the LC ALPHA V NT is equipped with AMADA's latest HS capacitance sensing head. This smoothly and quickly follows the sheet profile to maintain a consistent cut even when the sheet is not 100% flat.



### CAD/CAM

This fully automatic CAM system nests all the user defined parts and quantities, applies punch tooling/laser profiles, defines the processing sequence and generates the NC program. Increase productivity for your punch, laser or combination machines.



### OVS IV

The OVS IV 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 and circularity of the cut holes are also measured. When the measured values fall outside the specified limits, an alarm is activated.



### Bar Code Reader

The LC ALPHA V NT is equipped with a bar code reader to allow reliable recall of programming data on the shop floor. By scanning the setup sheet from the CAM system, the operator ensures the correct, latest version of the program is loaded into the machine control.

## AUTOMATION SYSTEMS

### Automation to suit your application

AMADA's modular automation systems cover everything from compact, single pallet load/unload systems to fully automated stockyard systems for 24hour processing.



Part removal solutions



Sheet load/unload solutions

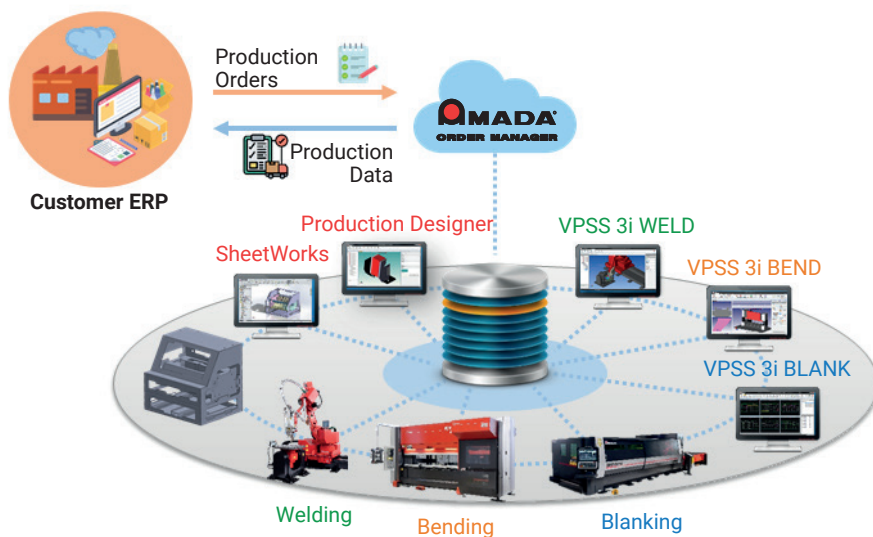


## A BRIDGE BETWEEN ERP AND AMADA ECO-SYSTEM

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.

AMADA provides a suite of perfectly integrated software products. Each software technology can take advantage of the VPSS concept (Virtual Prototype Simulation System) to lead to a total, enhanced and error-free production with AMADA machines.



## DIMENSIONS

Unit: mm

**LC-1212 aV NT 3.5 kW**  
(L) 2350 X (W) 3190 X (H) 2271

**LC-2415 aV NT 3.5 kW**  
(L) 2630 X (W) 5745 X (H) 2271



## MACHINE SPECIFICATIONS

			LC-1212 aV NT	LC-2415 aV NT
Numerical Control			AMNC 3i	
Controlled axes			X, Y, Z axes (three axes controlled simultaneously) + B axis	
Axis travel distance	X x Y x Z	mm	1270 x 1270 x 300	2520 x 1550 x 300
Maximum processing dimensions	X x Y	mm	2540 x 1270*	5040 x 1550*
Maximum simultaneous feed rate	X/Y	m/min	114	
Repeatable positioning accuracy		mm	±0.01	
Maximum material mass		kg	210	330
Processing surface height		mm	820	
Work chute size	X x Y	mm	550 x 1470	550 x 1750
Machine mass	AF3500i-C	kg	6000	7700

\*With a single reposition

## OSCILLATOR SPECIFICATIONS

			AF3500i-C
Beam generation			Fast axial flow, high frequency discharge excitation
Maximum power	W		3500
Wavelength	μm		10.6
Maximum processing thickness*	Mild steel	mm	10
	Stainless steel		10
	Aluminium		8

\* Refer to maximum material mass in machine specifications. Maximum value depends on material quality and environmental conditions.

Specifications, appearance, and equipment are subject to change without notice by reason of improvement.  
Scratch free operation dependant on environmental and machine conditions.



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 LC1212aVNT. Use this registered model names when you contact the authorities for applying for installation, exporting, or financing.  
The hyphenated spellings like LC-1212 aV NT 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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