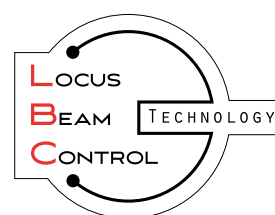




SOLUTION

VENTIS AJ **SERIES**

HIGHER PERFORMANCE WITH LOWER POWER



VENTIS AJ SERIES

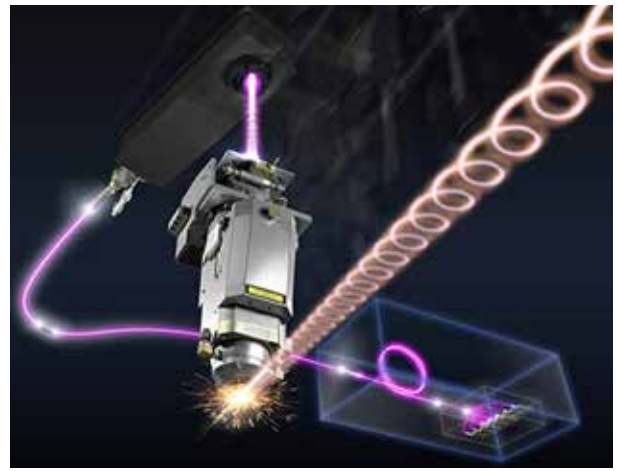
HIGHER PERFORMANCE WITH LOWER POWER

DROSS FREE PROCESSING POSSIBILITIES

GROUNDBREAKING LBC TECHNOLOGY FOR LASER PROCESSING

The VENTIS-AJe series fibre lasers utilise AMADA's original Locus Beam Control (LBC) Technology. With the ability to manipulate the laser beam pattern whilst processing, LBC Technology 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. Combined with AMADA's new, in-house developed high power single diode module fibre laser engines, the VENTIS-AJe has a very high quality laser beam which is perfectly suited to LBC Technology applications.



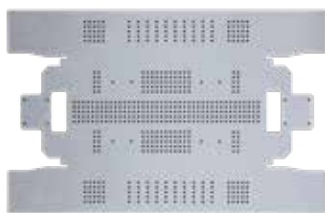
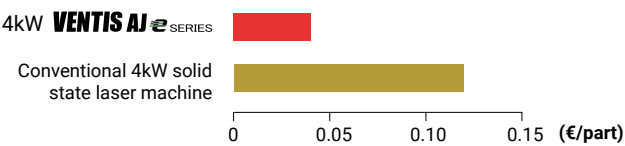
TYPICAL PROCESSING SAMPLES



Mild steel 20 mm
113.0 mm x 51.0 mm

RUNNING COST COMPARISON

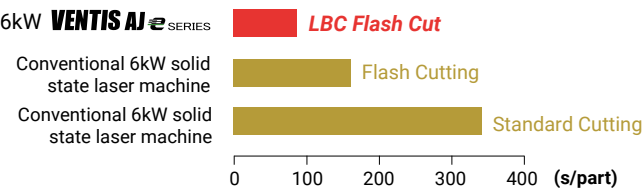
66.7% COST REDUCTION PER PART



Stainless steel 1 mm
344.0 mm x 210.0 mm

RUNNING TIME COMPARISON

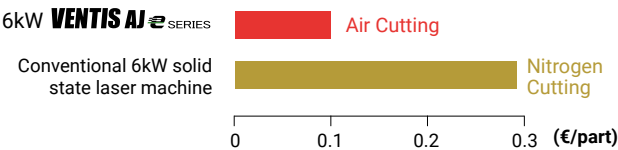
74.6% TIME REDUCTION PER PART



Stainless steel 8 mm
90.0 mm x 55.0 mm

RUNNING COST COMPARISON

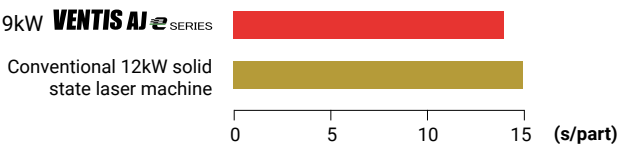
66.7% COST REDUCTION PER PART



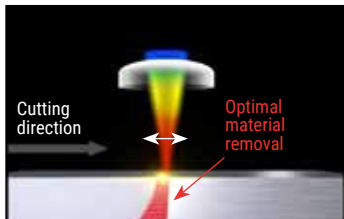
Aluminium 15 mm
105.0 mm x 80.0 mm

RUNNING TIME COMPARISON

6.7% TIME REDUCTION PER PART WITH 25% LESS POWER

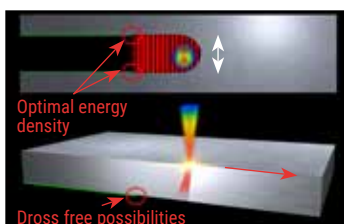


STANDARD EQUIPMENT AND FUNCTIONS



LBC Technology - Productivity Mode

Standard laser cutting requires the laser beam power to be defocused to achieve acceptable results. LBC Productivity mode uses the optimum beam pattern to provide more efficient material removal and, therefore, cutting speeds similar to higher power machines.



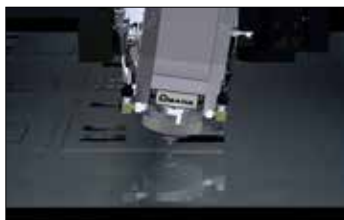
LBC Technology - Quality Mode

LBC Technology allows the full beam energy density to be used across the entire cutting gap, leading to dross free stainless steel possibilities and results never before achievable on solid state lasers.



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.



Auto Head Collision Recovery

As standard, the VENTIS-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 i-Nozzle Checker (option on 4kW), it will then confirm the nozzle condition and continue at the next cutting profile.



AMNC 4ie

The AMNC 4ie numerical control used on the VENTIS-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.

LASER INTEGRATION SYSTEM

As standard, the VENTIS-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.

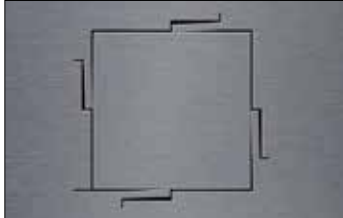


i-CAS (i-Camera Assisted System)*

Reduces on-site programming
and improves remnant material
utilisation.

*Optional on 4kW

PROCESS SOLUTIONS



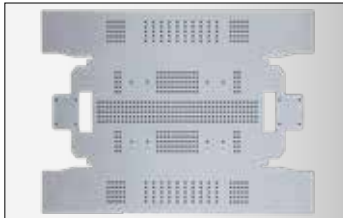
Soft Joint

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



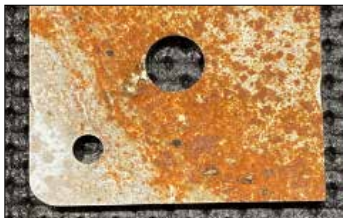
Compressed Air Cutting

The VENTIS-AJe has the ability to process stainless steel, aluminium and mild steel with compressed air, significantly reducing the cost-per-part versus nitrogen processing, especially as cutting speeds for stainless steel and mild steel are generally the same as nitrogen cutting.



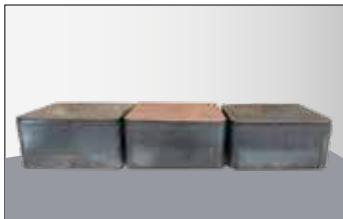
LBC Flash Cut

Another unique benefit of AMADA's revolutionary LBC technology is the ability to process small holes without moving the machine drive system. This significantly reduces part processing times and therefore costs.



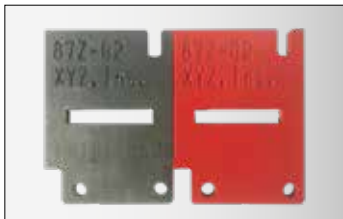
Rusty Material Processing

LBC technology allows corroded or rusty material to be processed without any cutting data adaptations, increasing material utilisation.



Various Grade Material Processing

Traditionally, when processing different grades of thick mild steel, users would need to change or create cutting data. LBC technology enables users to achieve this without operator intervention.



Deep Etch

AMADA's Deep Etch function, completed in a single pass of the laser beam, allows part identification to be readable even after coating and without any secondary operation, allowing part traceability through the whole manufacturing process.



ECO WACS II

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

OPTIONAL EQUIPMENT AND FUNCTIONS



Y-Axis Conveyor*

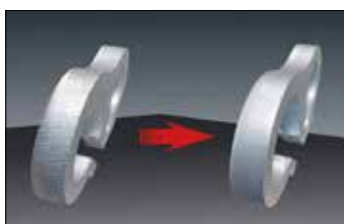
Increase machine productivity using this Y-axis conveyor that can be positioned towards the front or back of the machine for easier scrap removal, in conjunction with the standard X-axis conveyor.

**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.



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.



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.

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.

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

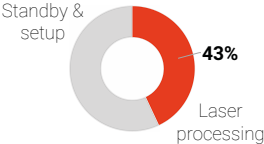
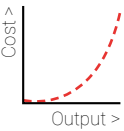
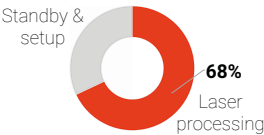
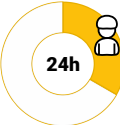
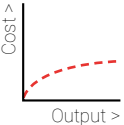


Second output station
3m / 4m



CS II
Stockyard systems 3m

LASER UTILISATION RATE COMPARISON

 WITHOUT AUTOMATION Laser utilising the LST pallet changer*	Laser utilisation  Standby & setup 43% Laser processing	Operators needed  24h	Cost/Output  Cost > Output >
 WITH AUTOMATION Laser utilising an automated tower solution*	Laser utilisation  Standby & setup 68% Laser processing	Operators needed  24h	Cost/Output  Cost > Output >

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

DIMENSIONS

L x W x H

VENTIS-3015AJe + shuttle table (LST-E)

9511 x 2840 x 2236

VENTIS-4020AJe + shuttle table (LST-E)

11482 x 3340 x 2236



Unit: mm

MACHINE SPECIFICATIONS

			VENTIS-3015AJe	VENTIS-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	4kW	kg	8900	12400
	6kW		9100	12700
	9kW		TBC	TBC

OSCILLATOR SPECIFICATIONS

			AJ4000S	AJ6000S	AJ9000S
Beam generation			Laser diode-pumped fibre laser		
Maximum power			4000	6000	9000
Wavelength			1.08		
Maximum processing thickness*	Mild steel	mm	25	25	30**
	Stainless steel		20	25	30**
	Aluminium		15	25	25
	Brass		10	15	18
	Copper		8	12	12

* Maximum value depends on material quality and environmental conditions

** To be confirmed - 30mm thickness for LST 3015 E. 25mm for LST 4020 E.

SHUTTLE TABLE SPECIFICATIONS

		LST-3015E	LST-4020E
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 with EN 60825-1

The official model name of the machines and units described in this catalogue are non-hyphenated like VENTIS3015AJe. Use this registered model name when you contact the authorities for applying for installation, exporting, or financing.

The hyphenated spellings like VENTIS-3015AJe 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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