SOLUTION

VENTIS AJ SERIES

NEW POSSIBILITIES FOR LASER PROCESSING

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NEW POSSIBILITIES FOR LASER PROCESSING

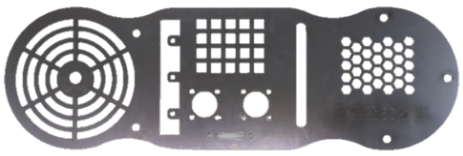
HIGHER PRODUCTIVITY, HIGHER QUALITY, LESS POWER

GROUNDBREAKING LBC TECHNOLOGY FOR LASER PROCESSING

The VENTIS fibre laser is the world's first material processing laser to utilise AMADA's 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 4kW single diode module fibre laser engine, the VENTIS has a very high quality laser beam which is perfectly suited to LBC Technology applications.

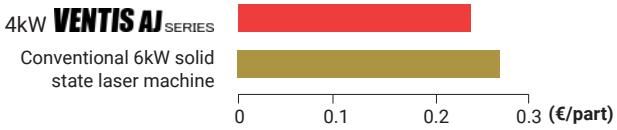
TYPICAL PROCESSING SAMPLES



Stainless steel 1 mm
435.0 mm x 135.0 mm

RUNNING COST COMPARISON

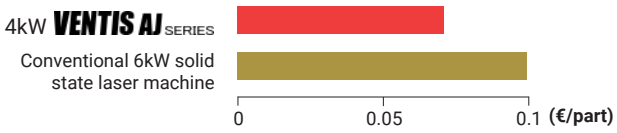
7.7% COST REDUCTION PER PART



Aluminium 8 mm
105.0 mm x 101.0 mm

RUNNING COST COMPARISON

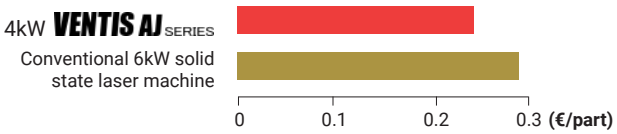
22.2% COST REDUCTION PER PART



Stainless steel 15 mm
90.0 mm x 55.0 mm

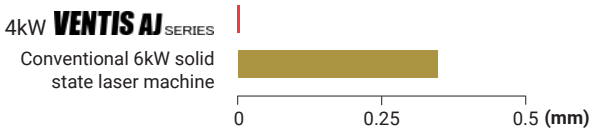
RUNNING COST COMPARISON (PRODUCTIVITY MODE)

17.2% COST REDUCTION PER PART



QUALITY COMPARISON (QUALITY MODE)

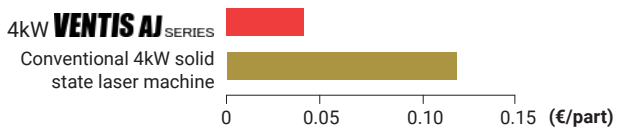
98.0% DROSS REDUCTION



Mild steel 20 mm
113.0 mm x 51.0 mm

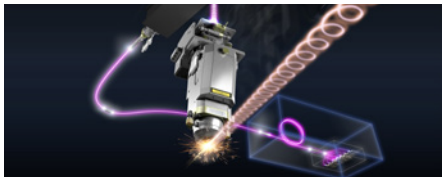
RUNNING COST COMPARISON

66.7% COST REDUCTION PER PART



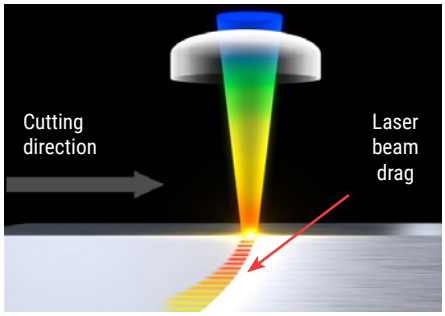
LBC TECHNOLOGY

NEXT GENERATION BEAM CONTROL

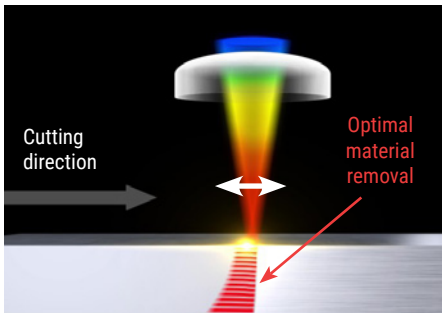


PRE-DEFINED PATTERNS

LBC Technology moves the laser beam in pre-defined patterns independent of the movement of the cutting head, providing the optimum material removal. The result is cutting speeds similar to higher power lasers.



Standard Cutting

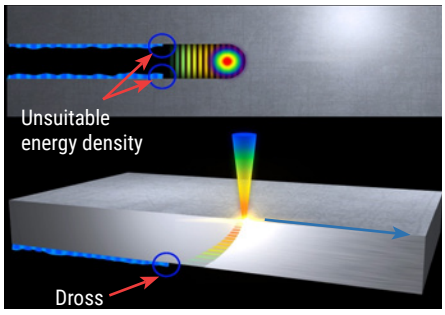


LBC Technology

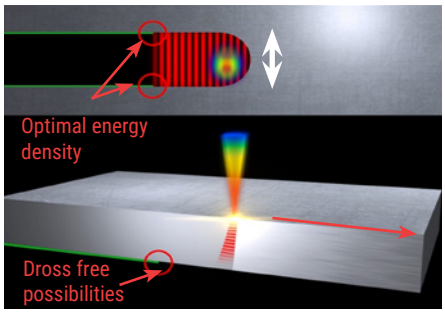
PRODUCTIVITY MODE

Standard laser cutting requires higher and higher power if the required speed is increased. Otherwise material cannot be removed efficiently, potentially leading to cutting failure.

With LBC Technology, the optimal beam pattern is used to remove all the molten material quickly and effectively from the cutting front, enabling speeds equivalent to higher power lasers.



Standard Cutting



LBC Technology

QUALITY MODE

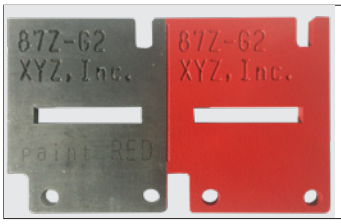
When processing stainless steel on a standard laser, the beam runs centrally to the cutting gap. The beam energy density is lower towards to cut edges, leading to dross formation.

LBC Technology allows the full beam energy density to be used across the entire cutting gap, leading to dross free possibilities and results never before achievable on 4kW solid state lasers.

STANDARD EQUIPMENT AND FUNCTIONS

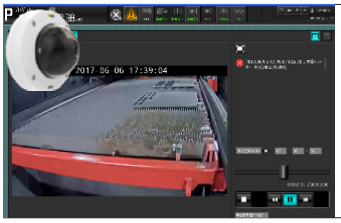
Nozzle Changer / Single Lens

To ensure uptime is maximized, the VENTIS-AJ is equipped with a 16 station automatic nozzle changer for fast changeover times. To further maximize productivity, all materials can be cut with a single lens.



Deep Etch

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

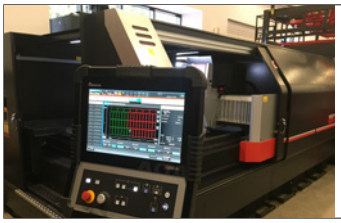


V-Monitor

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.

WACS II

AMADA's original Water Assisted Cutting System (WACS) has been updated and improved to provide more functionality and thick mild steel processing capability. This is especially important in times when material costs are increasing.



Front and side Access

The ability to retrieve cut parts quickly from the machine or to easily position small sheets / offcuts for urgent processing is achieved on the VENTIS-AJ by having twin sliding side doors as well as sliding end doors.

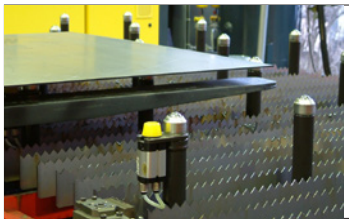
V-Factory Connection Box

As part of the standard equipment for the VENTIS-AJ, the laser is connected to AMADA's V-factory system via the VCBox, allowing you to collect all the production information and analyse it remotely on your smart device or PC to help improve efficiencies.

Compressed Air Cutting

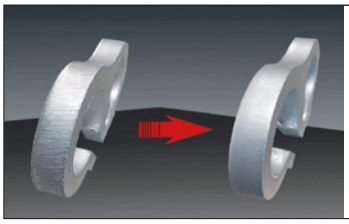
LBC Technology allows the VENTIS-AJ to process 15mm stainless steel, 15mm aluminium and 8mm mild steel with compressed air., significantly reducing the cost-per-part versus nitrogen processing.

OPTIONAL EQUIPMENT AND FUNCTIONS



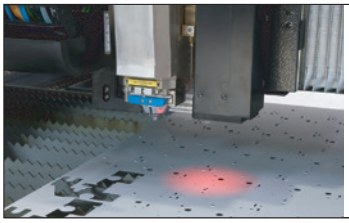
Free Bearing Table

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, 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 is a problem when processing with oxygen.



OVS-D

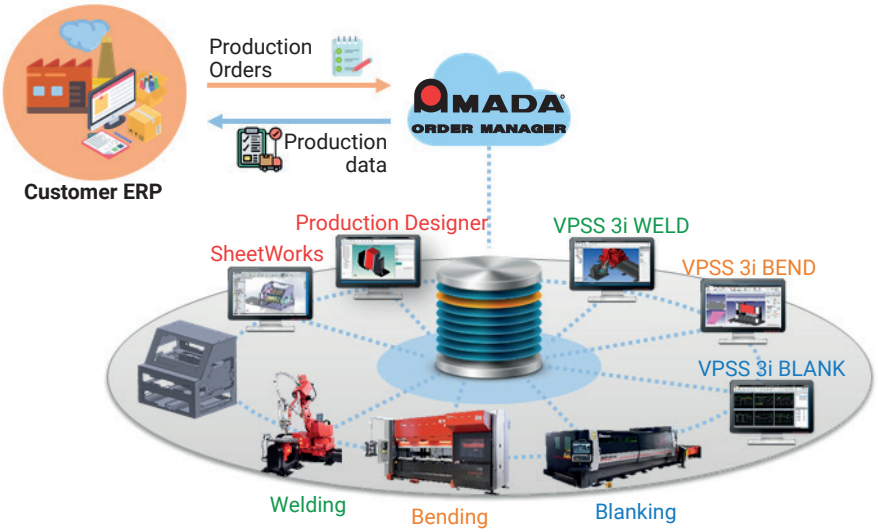
The OVS-D system measures the pitch of two reference holes and automatically compensates for any origin deviation when transferring a sheet of parts from the punch machine. The pitch and circularity of the cut holes are also measured. When the measured values fall outside the specified limits, an alarm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

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.



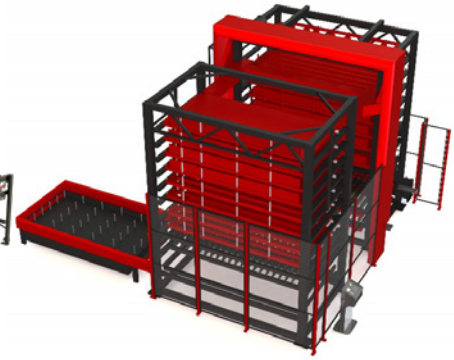
AUTOMATION SYSTEMS

MPF-3015
Single pallet 3m L/UL

MP-4020
Dual pallet 4m L/UL

TK Systems
3m / 4m part removal

Single Towers
3m / 4m versions



Double Towers
3m / 4m versions

2nd Output
3 side unloading

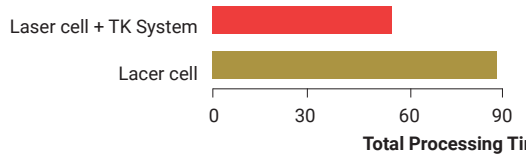
CS II Systems
Automated stockyards

Laser + Tower + TK

Laser + Tower

PRODUCTIVITY COMPARISON

TK CELL CAN BE 43% HIGHER PRODUCTIVITY



Total processing time includes sheet loading, cutting, sheet unloading, auto / manual part picking for an 8 sheet schedule

DIMENSIONS

VENTIS-3015AJ + shuttle table (LST-E)
(L) 10060 x (W) 2840 x (H) 2432

VENTIS-4020AJ + shuttle table (LST-E)
(L) 11482 x (W) 3340 x (H) 2432

Unit: mm

MACHINE SPECIFICATIONS

			VENTIS-3015AJ	VENTIS-4020AJ
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	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		kg	9200	12300

OSCILLATOR SPECIFICATIONS

			AJ4000S
Beam generation			Laser diode-pumped fibre laser
Maximum power		W	4000
Wavelength		µm	1.08
Maximum processing thickness*	Mild steel Stainless steel Aluminium Brass Copper	mm	25 20 16 10 8

* Maximum value depends on material quality and environmental conditions

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 to EN 60825-1

The official model name of the machines and units described in this catalogue are non-hyphenated like VENTIS3015AJ. Use this registered model names when you contact the authorities for applying for installation, exporting, or financing. The hyphenated spellings like VENTIS-3015AJ are used in some portions of the catalogue for sake of readability.

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

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