

# SOLUTION

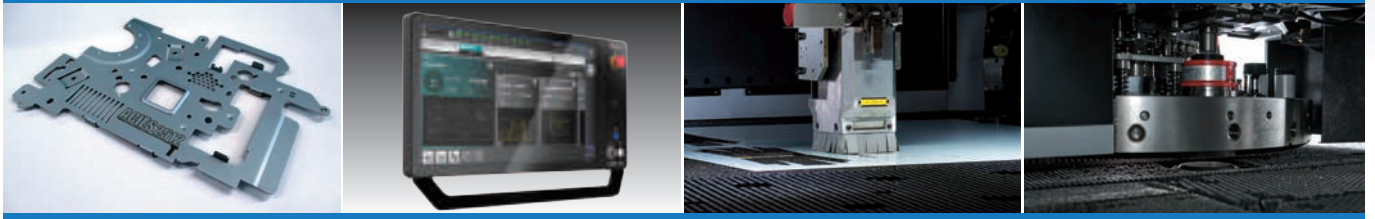


Premium combination machine equipped with a Fiber laser for multiple processes

# ACIES AJ

SERIES

Blanking



The Engineering AMADA



# Premium integrated machine for any person and any process, ACIES-AJe will support customers' challenges!

Is it possible for companies that want to try a new job/process but don't have skilled operators or programmers to have stable, reliable, and high quality continuous operation at a low cost? The ACIES-AJe is a premium combination machine equipped with a fiber laser that supports the increase in business range and profits by responding to the work style changes and human resource shortages of customers.

## Taking customer's blank processing one step ahead!



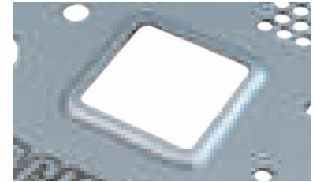
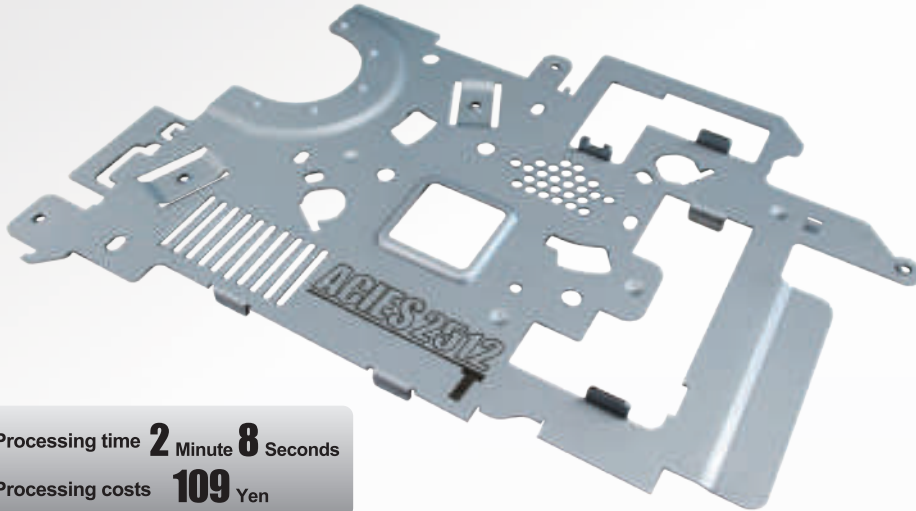
Premium combination machine equipped  
with a fiber laser for multiple processes

# ACIES AJ SERIES

# Processing examples with sample workpieces

Material : SECC 1.0mm  
Product size: 150.4×207mm

ACIES-AJe is solved in the vertical forming process which was difficult in the past.



Upward emboss forming



Downward bending



Downward bridge forming

Processing time **2 Minute 8 Seconds**  
Processing costs **109 Yen**

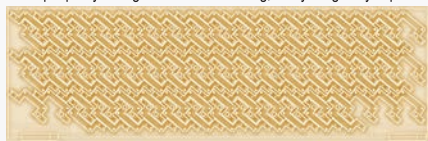
Material: C1100 (pure copper) 2.0mm  
Material size: 365×1200mm

Replacing a standalone NCT machine with a combination machine reduces processing time, programming time, and tool setup time by producing contour and complex shapes processing with lasers, shortening the total lead time. Additionally, yield is greatly improved and material costs are reduced.



For ACIES-AJe,  
95 parts are obtained

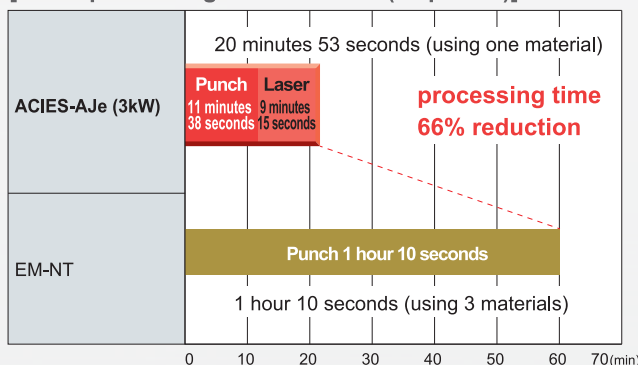
Outer periphery changed to laser machining, and yield greatly improved



For EM,  
40 parts are obtained

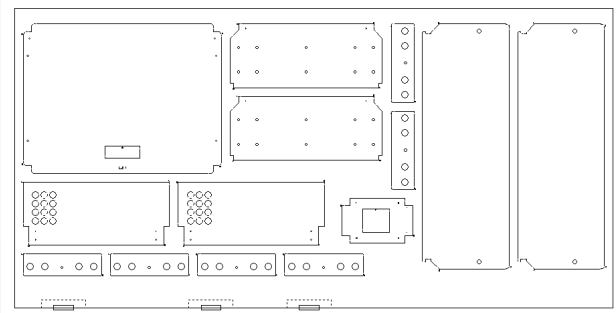


Comparison of processing time  
[When processing same number (95 pieces)]



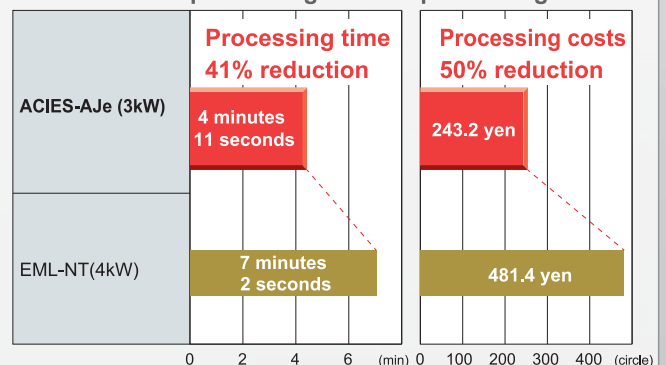
Material: SECC 2.3 mm  
Material size: 1219×2438mm

Fiber laser reduces cost by half and doubles productivity compared to conventional CO<sub>2</sub> machines.



Comparison of processing time

Comparison of processing costs



# ACIES-AJe Series New Technologies

## Taking customer's blank processing one step ahead!

**Forming process**  
Punch

Louver    Offset

**Increase processing range**

Mortise and tenon process

Half-shear positioning    Back surface marking

**Complex shape**  
Laser

**Make programs easier**

**Compatible for automation**  
Laser    Punch

**Complete blanking process with combination machine**

Laser slit

Prevention of bending bulge ~ Venus cut ~

**Positioning process**  
Laser    Punch

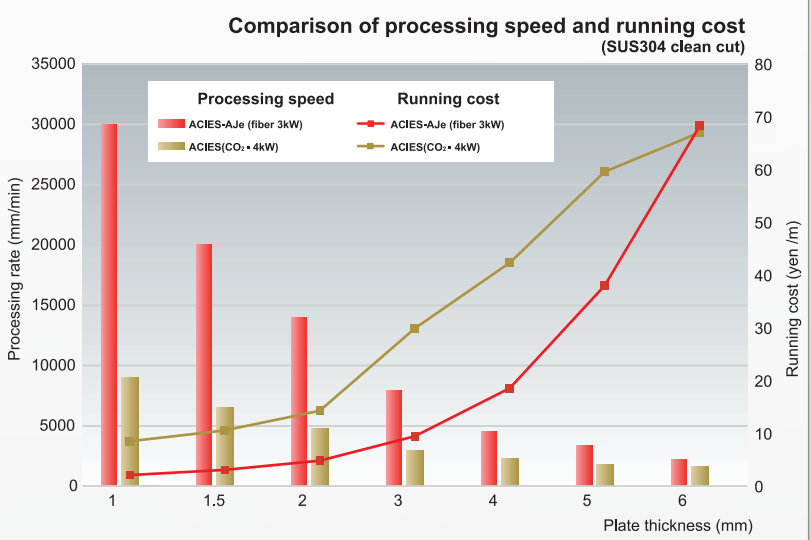
**Slit process**  
Laser

**Influence the post-process**

## 1 High productivity and low running cost

### Fiber laser oscillator: AJ-3000

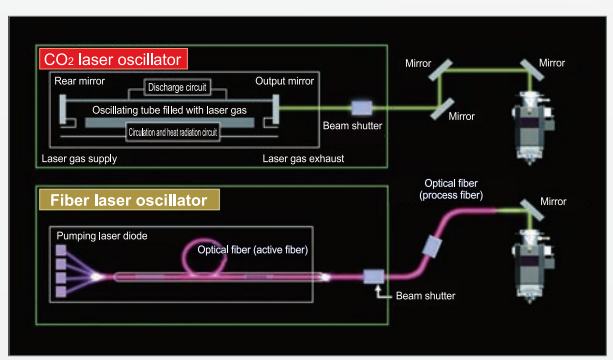
**High speed processing on thin sheet processing area**  
Compared to CO<sub>2</sub>, high speed processing and lower running costs on thin plate processing area is achieved by Clean Cut.



\*The running cost is only the laser-processing cost per 1m and does not include any additional consumables.  
\*Processing speed comparison is not a comparison of productivity, but a comparison of laser processing speed.  
\*Laser processing conditions may be changed depending on various conditions.

### Reduction in maintenance costs

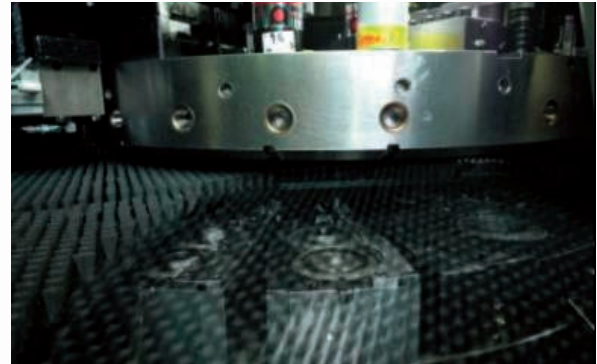
Compared to CO<sub>2</sub> oscillators, the simple structure reduces the number of components to be replaced periodically, thereby reducing maintenance costs.



## 2 Stable and high quality punch processing

### ZR Turret solves issues of bottom surface scratch and up/downward forming and is ideal for processing with the latest tooling technology

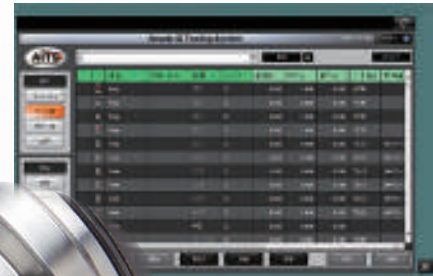
There are no fears of back scratches caused by dies, and there is no need to devise a program for forming. ZR turret and the full flat table revolutionized the turret punch press. Since only the dies required for processing are raised and lowered, up/downward forming and high height forming are also possible without scratches.



### ID tooling system

The ID tooling system digitally manages tools one by one using ID engraved on the tooling. Stable punching quality is achieved by informing the optimal maintenance time for each tools and polishing it before burrs are generated.

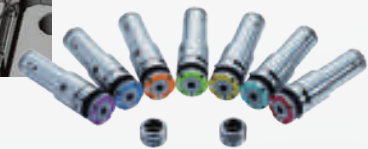
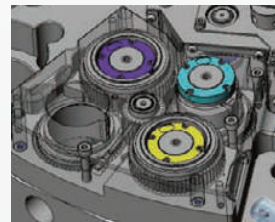
When combined with the automatic tool changer, zero tool setting errors are realized by reading IDs after the tools are set.



### MPT tapping unit

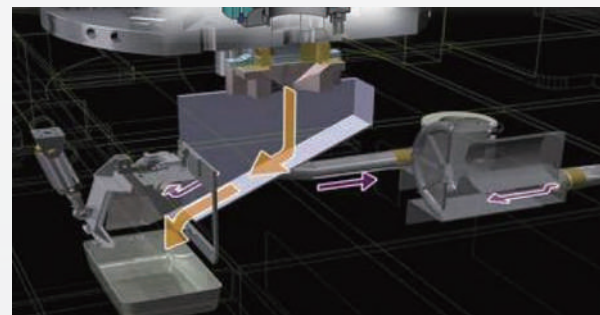
This machine is equipped with a tapping unit in the turret. The punching and tapping share the same processing range, reducing program time and processing time.

- \*Supports M2.5~M8 taps.
- \*Cutting and rolling taps can be supported



### Slug suction unit

Vacuum powerfully discharges the extracted slugs into the scrap box. The attachment prevents slug pulling with the inverter-controlled suction force stages on each station.

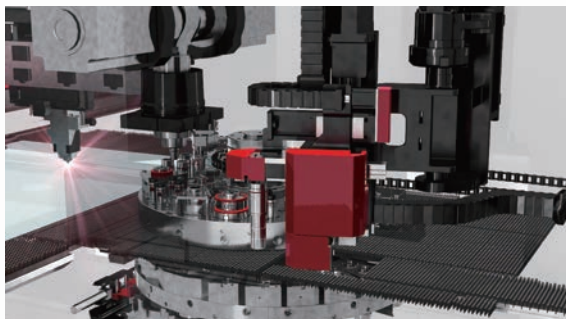


# ACIES-AJe Series New Technologies

## 3 Tooling setup without stopping the machine

### Automatic tool change during laser processing

ACIES-AJe can replace tools during processing. Tooling is automatically setup in the buffer turret during punching and automatically transfers to the turret during laser processing. Maximizes operation rate without the need to stop the machine for tooling setup.



ACIES-AJe(3kW)

Tools Setup Blanking ①, ②, ③  
(including automatic tool replacement)



EML-NT(4kW)



### The following types are available depending on the number of tools

#### ■ Tool Storage Type /ACIES-T-AJe

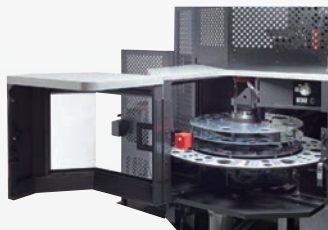
- Large number of tools including forming tools
- Die clearances are frequently changed  
Two types are available: 179 type and 300 type.  
Clearance is 2 types for one punch.



	Rack	Type 179	Type 300
Upper row	1/2"	88	152
	1 1/4"	65	100
Middle row	1 1/4"	11	25
Lower row	2"	10	15
	3 1/2" or 4 1/2"	Together 5	Together 8

#### ■ Buffer Type /ACIES-B-AJe

- Focus on laser processing
- Minimize the installation space in the Y-axis direction as much as possible  
Turret + three types of buffer turrets with 65, 69, and 75 tooling units are available.  
There is one clearance for one punch.  
LED lamps inform the position where the tools can be replaced.



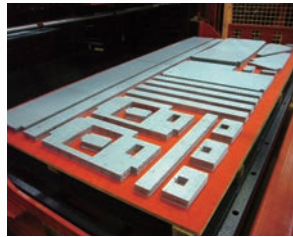
## 4 Solutions to prevent machine stoppage (options)

### TK automated solution

The automatic feeders and automatic product accumulation arms (TK) free the operator from material supply, disassembly, and sorting operations. Independently driven left and right arms allow joint-less removal of small, large, and even long parts.



Accumulation after laser cutting



Accumulation and sorting by product



Automatic skeleton accumulation



### Nozzle changer

Up to 4 types of nozzles can be automatically exchanged according to processing conditions for each plate thickness and material. Automatic replacement is possible when the same nozzle is installed and the cutting time exceeds a certain level.



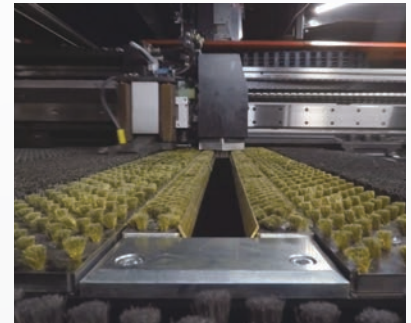
### Laser slug automatic removal

Laser slug is automatically transferred to the outside of the machine. Continuous operation is possible without stopping the machine for scrap removal.



### Cutting plate automatic cleaning

Automatically clean the dross on the cutting plate. Reduces operator man-hours for cleaning and reduces scratches on the bottom surface.

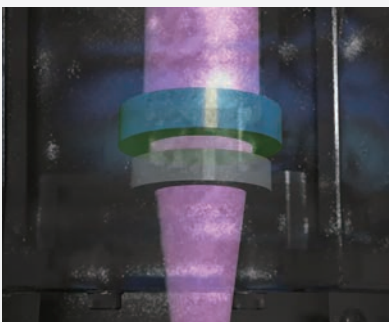


## 5 Laser stable processing support feature

Automation of laser processing operations reduces operator variability and waiting time. Contributes to increased productivity by supporting zero downtime and stable processing.

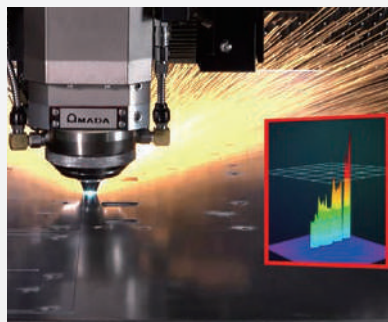
### i-Optics Sensor (Standard)

Automatic protection glass inspection



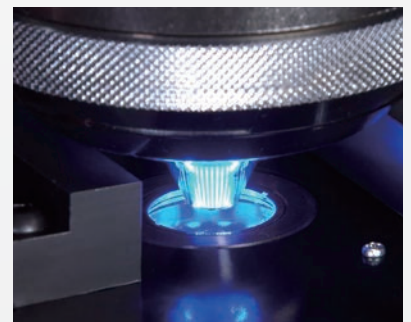
### i-Process Monitoring (Standard)

Cut/piercing failure monitoring.



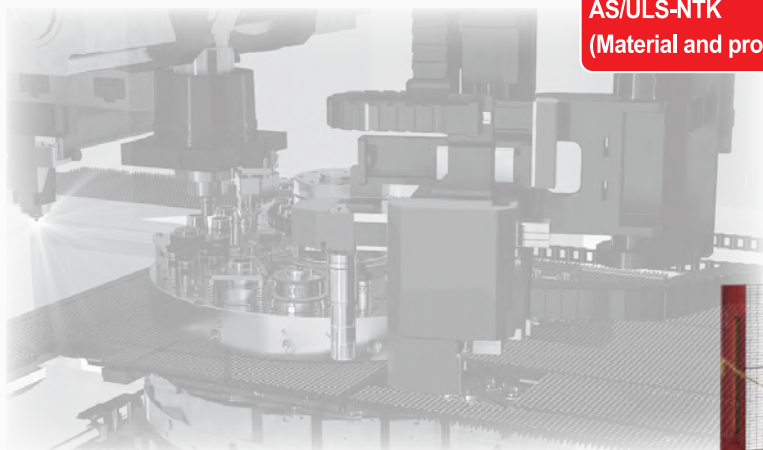
### i-Nozzle Checker (Option)

Nozzle status inspection and automatic centering



# Press Start and everything is completed ACIES-AJe Series

Two tower cycle loader  
AS/ULS-NTK  
(Material and product tower)



Automation solutions that do not require setup, maintenance work, or machine stoppages

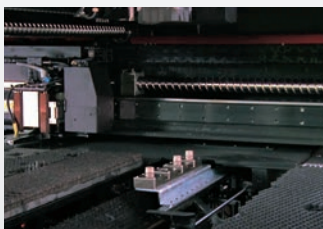


Automatic tool changer



TK automated solution

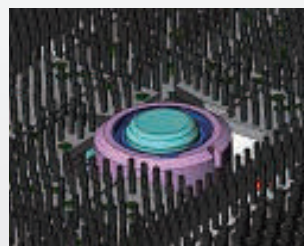
Stable and high quality punch processing



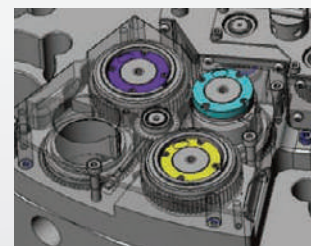
Nozzle changer



Automatic product sorting arm



ZR turret & full flat table



MPT tapping unit



Laser slug automatic removal

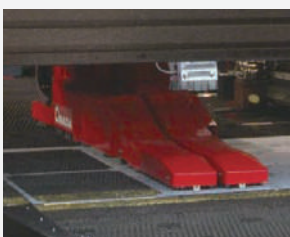


Cutting plate automatic cleaning

## TK automated solution

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Independently driven left and right arms allow joint-less removal of small, large, and even long parts.



Accumulation after laser cutting



Accumulation and sorting by product



Automatic skeleton accumulation

## Automation Solution Lineup

### Space saving

The single sheet pick-up device in the tower allows flexible scheduling regardless of material thickness and types.

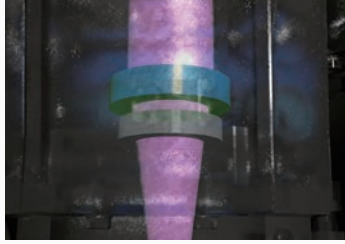


Premium combination machine equipped with a Fiber laser for multiple processes

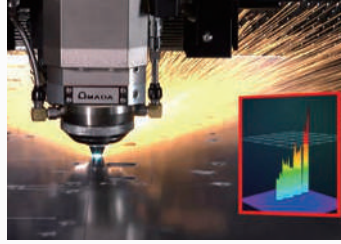
## New Technologies

### •Laser Stable Processing Solution

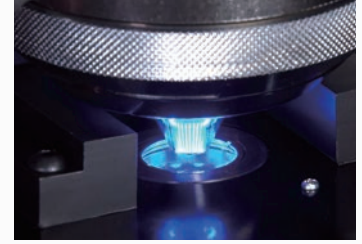
ACIES-T-AJe



i-Optics Sensor  
Automatic protection  
glass inspection



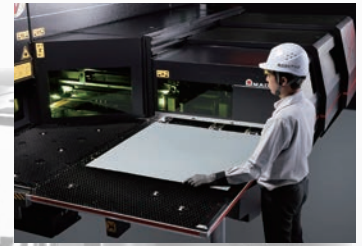
i-Process Monitoring  
Cut/piercing failure monitoring



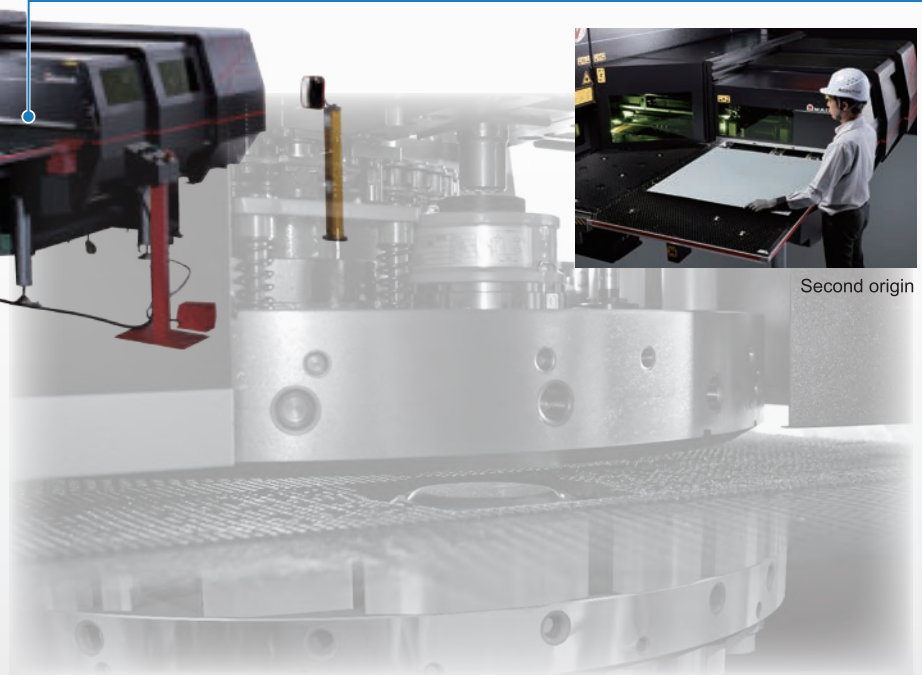
i-Nozzle Checker  
Nozzle status inspection and automatic centering



### •Manual operation solutions



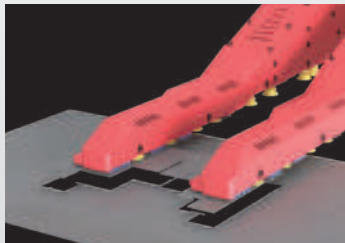
Second origin



### •The latest tooling solutions that demonstrate ACIES' new technologies



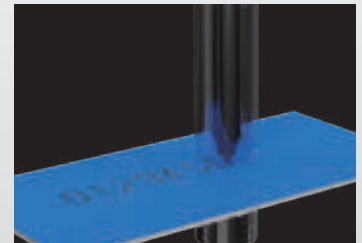
ID tooling



TK Assist



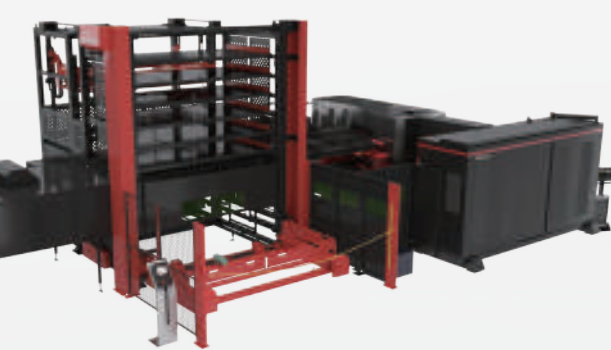
T-UpII  
Welding positioning



ARFT marking  
Sorting support

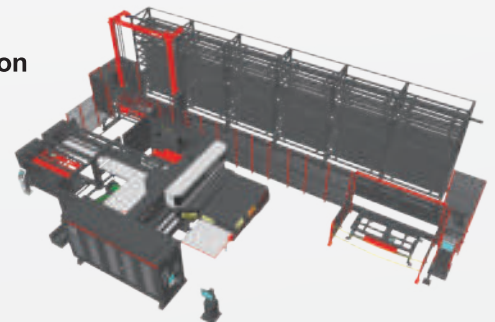
Note: Use protective film for fiber lasers for the material to be processed.

up



#### ■ Automatic warehouse connection specification

Continuous operation is realized by connecting to automatic warehouses. Efficient layout is possible according to the customer's installation space and height.



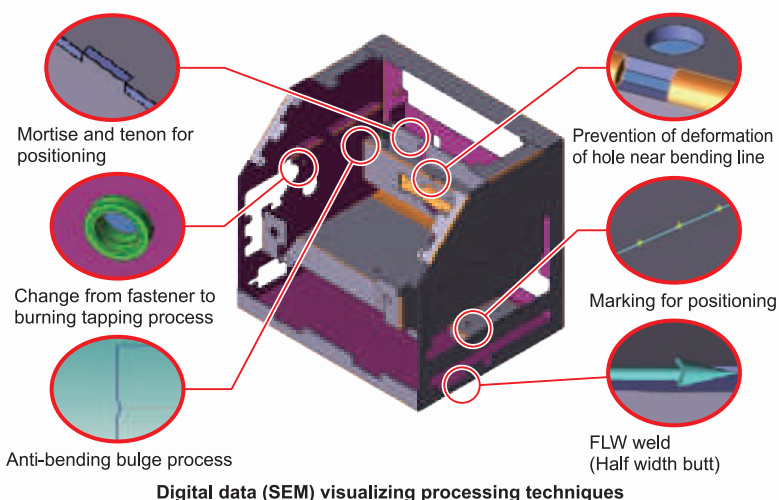
# The concept that offers customers solutions by conn

## Software

Advanced sheet metal engineering system

### VPSS 4ie

The evolved sheet metal engineering system, VPSS 4ie, is more intelligent and automated than ever before, digitizing the processing know-how of all processes and bringing revolutionary benefits by connecting machines, software, and people in the factory with information.

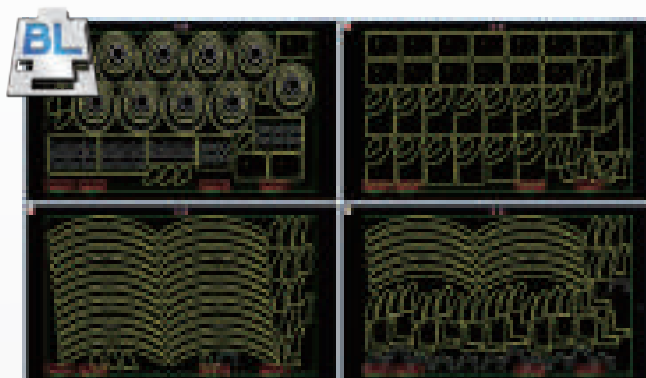


## CAM (VPSS 4ie PREMIUM/BLANK for blanking)

Blank CAM software for sheet metal that fully utilizes the performance of our blank cutting machines.

It performs cutting, automatic allocation, and processing verification for each part and assembly. It reduces data preparation time and maximizes productivity and utilization of our blank machines.

\*VPSS 4ie PREMIUM can create efficient programs including bending simulation by CAM for bending.



## Link machines with customers **AMNC 4ie**

The new AMNC 4ie NC system is developed based on the concept of the "4 e's" to address the key issues in sustainability, namely "human issues" and "environmental issues." In addition to controlling machines and peripheral devices, the AMNC 4ie has enhanced interface functions to connect customers and machines.



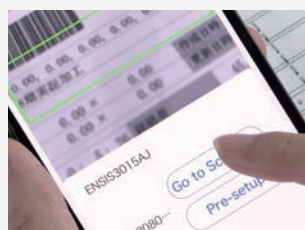
- |  |   |
|--|---|
| Easy operation for anyone to use<br><b>Easy</b>                    | Efficiency in remote operation from anywhere<br><b>Efficiency</b> |
| Environmental sustainability in production<br><b>Environmental</b> | Evolution together with our customers<br><b>Evolution</b>         |



**Facial recognition**  
Language and screen display can be switched. (setting is required in advance)



**Startup inspection guidance**  
Navigation video that allows anyone to perform startup inspections according to the procedures. Management and sharing of inspection history.



**Mobile HMI**  
Notification of remote start/end prediction/completion using mobile HMI.



**CO<sub>2</sub> emission reporting function**  
CO<sub>2</sub> emissions are measured for each component, and reports can be created and filed.

# ecting to Amada

## V-factory

Amada's recommended V-factory is based on the concept of "creating profits for customers". V-factory will co-create factory reforms with customers by providing visualization, taking advantage of IoT technology and maximizing machine utilization.

### V-factory Connecting Box

Used to connect machines to the cloud and start V-factory.

### V-monitor \*

Automatically records the state of the machine during automatic operation.

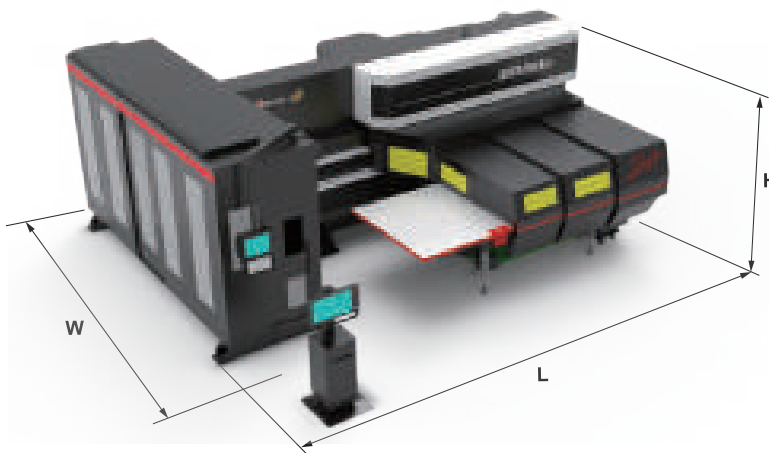


## ■ Dimensions

Unit :mm

- ◆ ACIES-2512T-AJe  
(L:7270 × W:6173 × H:2666)
- ◆ ACIES-2515T-AJe  
(L:7500 × W:6927 × H:2666)
- ◆ ACIES-2512B-AJe  
(L:6422 × W:6173 × H:2479)
- ◆ ACIES-2515B-AJe  
(L:6652 × W:6927 × H:2524)

\*Dimensions above include oscillator



\*The image is a tool storage specification.

## ■ Machine specifications

Model		ACIES-2512T-AJe	ACIES-2515T-AJe	ACIES-2512B-AJe	ACIES-2515B-AJe	
Model names (Note the points listed below)		ACIS12TAJE	ACIS15TAJE	ACIS12BAJE	ACIS15BAJE	
Punch	Press capability	kN	300			
	Drive method	AC servo direct Twin Drive				
	Turret layout	ZR turret (storage-type turret)				
Axis travel method	Punching	X/Y axis material travel				
	Laser cutting	X material Y laser beam				
Processing range	Punching X × YP	mm	2550 × 1270	3050 × 1525	2550 × 1270	3050 × 1525
	Laser cutting X × YL	mm	2550 × 1270	3050 × 1525 (with repositioning)	2550 × 1270	3050 × 1525 (with repositioning)
	Combined processing X × Y	mm	2550 × 1270	3050 × 1525 (with repositioning)	2550 × 1270	3050 × 1525 (with repositioning)
Rapid feed rate X / YP / YL / Z	m/min	100 / 80 / 100 / 80				
Processing accuracy	mm	±0.07 (according to AMADA inspection standards)				
Maximum material mass	kg	75(F1)/150(F4)	75(F1)/150(F4)/220(FA+F4)	75(F1)/150(F4)	75(F1)/150(F4)/220(FA+F4)	
Workchute size X × Y	mm	400 × 1270	400 × 1525	400 × 1270	400 × 1525	
Number of stations (tool storage unit specification)		179 or 300		—		
Number of stations (buffer turret specifications)		—		65 or 69 or 75		
Maximum hit rate (X-axis)	min <sup>-1</sup>	430 (25.4mm pitch /5mm stroke length)				
Maximum hit rate (Y-axis)	min <sup>-1</sup>	320 (25.4mm pitch /5mm stroke length)				
Machine mass (including oscillator)	kg	28000	29500	24500	26000	
Power requirements (machine body and dust collector)	kVA	44		41		

## ■ Oscillator specifications

Oscillator type	AJ-3000	
Oscillation method	LD-pumped fiber laser Fiber laser	
Output beam wavelength	μm	1.08
Rated laser power	W	3000
Maximum pulse peak power	W	3000
Mass	kg	About 400
Receiving capacity	kVA	10.1
Compatible Chiller Power Receiving Capacity	kVA	9

## ■ Turret layout

Tool size	36ST-2AI	32ST-4AI (with E range)	32ST-4AI (without E range)
A	1/2"	16(16)	14(14)
B	1 1/4"	10(10)	8(8)
C	2"	2(2)	—
D	3 1/2"	1(1)	1(1)
E	4 1/2"	1(1)	1(1)
B(TAP)	1 1/4" (Tap)	4(4)	4(4)
G	1 1/4" (AI)	2(2)	2(2)
H	2" (AI)	—	2(2)
Total		36	32

\*Numbers in parenthesis indicate the station numbers where shaped tools can be installed



**For your safe use,**  
Be sure to read the "Instruction Manual" carefully before use.

•When using product, you need to take appropriate measures to prevent danger in accordance with your specific work.

\*Specifications, appearance and equipment are subject to change without notice.

\*For applications related to the administration of machines and equipment (installation notification, export, financing, etc.) described in this catalog, please use the model name/ The hyphenated spellings like ACIES-2512T-AJe, ACIES-2515T-AJe, ACIES-2512B-AJe, ACIES-2515B-AJe are used in some portions of this catalog for sake of readability. This also applies to other machines.

\*The specifications described in this catalog are for Japanese domestic market.



**This laser product uses a Class 4 invisible laser for processing and a Class 3R visible laser for positioning.**

- **Class 4 invisible laser** : Exposure to the eyes or skin of beams or scattered light is dangerous! Do not look or touch.
- **Class 3R visible lasers** : Avoid direct eye exposure.

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Inquiries



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