

ACIES AJ SERIES

Fiber laser-equipped blanking
process integrated solution



AMADA

A further evolution of ACIES

High speed, low running cost processing

A debut of the ACIES-AJ series with the fiber laser AJ installed on the blanking process integrated solution ACIES for variable-mix variable-volume production and high quality processing!

The ACIES-AJ series has overcome the weaknesses of CO₂ laser systems and has achieved high speed, low-running cost processing.

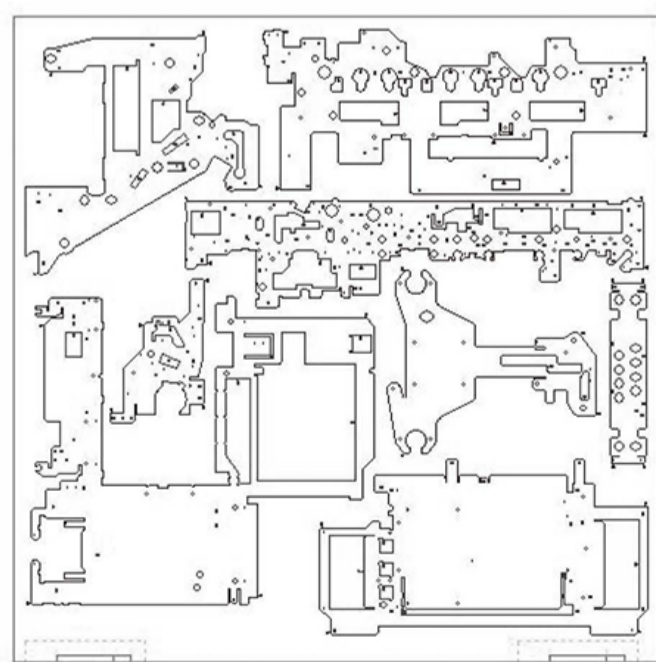
The laser cutting area is enclosed by a table cabin and a shutter to ensure safety. Fiber laser-equipped blanking process integrated solution combination with automation options allows for continuous long-time operation.

Fiber laser-equipped blanking process integrated solution

Debut of ACIES-AJ series!



Processing examples with sample workpieces



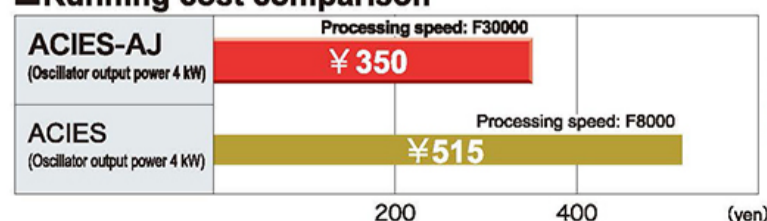
- Material type and thickness: SECC, 1.0 mm
- Material size: 914 × 914 mm
- Number of tools used: 12
- Hit count: 449 hits

■Processing time comparison



Time reduction of
13% per sheet

■Running cost comparison



Cost reduction of
32% per sheet

4

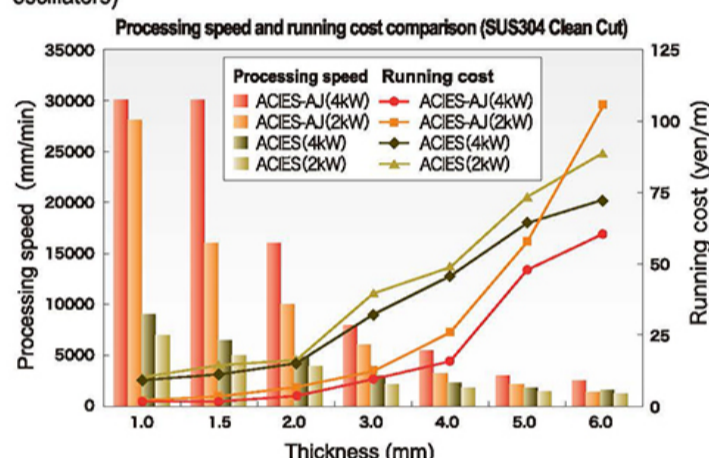
ACIES-AJ Four new technologies

New technology 1

High speed and low running cost

① High speed processing of thin materials

As compared with CO₂ laser cutting, thin materials can be clean cut with higher speed and lower running cost. (Lineup of 2kW and 4kW AJ oscillators)



* Processing speed comparison is laser cutting speed comparison and is not productivity comparison.
* The processing conditions are tentative and may be changed later.
* The running cost includes the cost of laser cutting per meter and excludes the cost of consumables.

Safety and operability achieved together

① Table cabin

The laser head moves in the Y-axis and the material moves only in the X-axis during laser cutting. The processing area is enclosed with a table cabin and a shutter to completely prevent the laser beam from escaping outside.



② Setting second origin

The second origin can be set to set the material without opening and closing the table cabin. This provides operability equivalent to that of the conventional combination machine.



New technology 2

Easy operation

① AMNC 3i

The AMNC 3i has a large screen with good visibility and can be intuitively operated like a smartphone. Touch on graphics allows for change of processing conditions, shelf operation with the NC unit, and check of operating results.



Intelligent
Interactive
Integrated

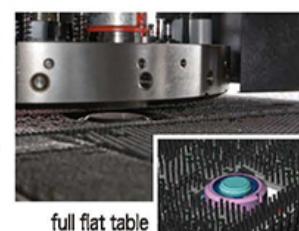
New technology 3

High quality and high speed processing

① ZR turret and full flat table

Free from scratching of the bottom surface by the tools and to devise forming process programs.

The die rises only as much as required for processing. This feature allows for scratch-free production of upformed parts, downformed parts, and tall parts.



full flat table

Die rises only as much as required for processing

② Stabilization of high quality processing Prevention of tool setup mistakes

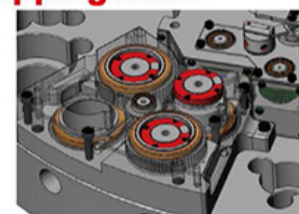
IDs are marked on tools so that the tools can be digitally managed on an individual basis. The ACIES-AJ not only informs the operator of tool setup mistakes and tool maintenance time, but also automatically adjusts the die height according to the grinding amount.



ID tools

③ Automatic change of tapping tools

Seven types of tapping tools can be automatically changed. When a tapping tool reaches the preset number of hits, it is automatically changed for a spare. This allows for continuous operation.



MPT tapping unit

New technology 4

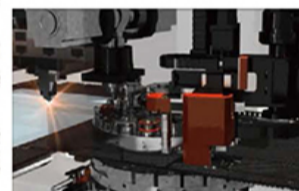
Tool setup without stopping machine and automation solutions

① Automatic tool change during laser cutting

The ACIES-AJ series can change tools in process.

Its automatic tool changer system prepares tools in the buffer turret while the machine is punching and automatically changes the tools in the turret with those in the buffer turret while the machine is laser cutting.

The machine need not be stopped for setting up the tools. Machine availability can be thus maximized.



Automatic tool changer

② Automation solutions

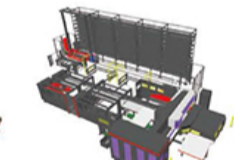
An automatic feeder and the take-out loader free the operator from material feeding, part separation, and part sorting, and allow for long continuous operation.

The parts can be immediately supplied to the next process to shorten the total lead time.

Space-saving
(Single-storage tower specification)

Material and part
storage towers
(Two-storage tower specification)

Automated storage and
retrieval system specification



③ Diagram illustrating benefits of introducing ACIES-AJ

ACIES-AJ Automation system	Tool setup	Blanking ① and ② (including automatic tool changer and takeout loader)				
Conventional machine (Standalone EML)	Tool setup	Blanking ①	Tool setup	Blanking ②	Microjoint breaking	Scratch finishing

The ACIES-AJ series eliminates the time to stop the machine for setup. The takeout loader frees the operator from microjoint breaking and scratch finishing and promptly sends the parts to the next process.

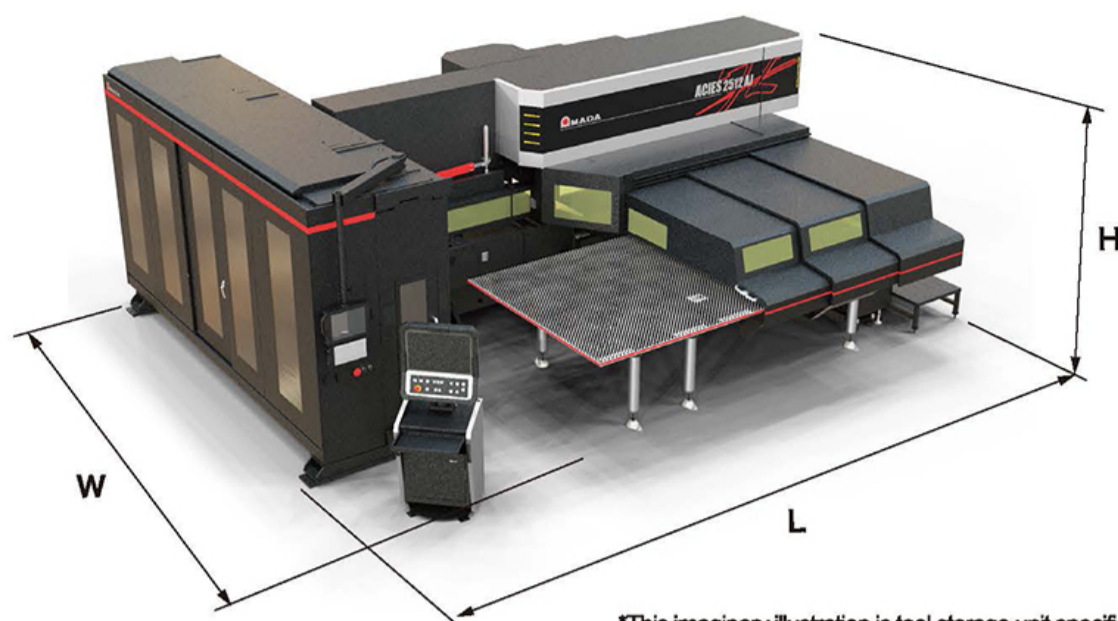
④ New functions (options) to support longer-time operation

- Nozzle changer
- Automatic laser scrap unloading
- Automatic cutting plate cleaning

■ Dimensions

Unit : mm

- ◆ ACIES-2512T-AJ
(L : 6930 × W : 5996 × H : 2666)
- ◆ ACIES-2515T-AJ
(L : 7090 × W : 6927 × H : 2666)
- ◆ ACIES-2512B-AJ
(L : 6082 × W : 5996 × H : 2524)
- ◆ ACIES-2515B-AJ
(L : 6242 × W : 6927 × H : 2524)



*This imaginary illustration is tool storage unit specification.

■ Machine specifications

Model	ACIES-2512T-AJ	ACIES-2515T-AJ	ACIES-2512B-AJ	ACIES-2515B-AJ
Model names (Refer to the following cautions)	ACIES12TAJ	ACIES15TAJ	ACIES12BAJ	ACIES15BAJ
Turret punch press	Press capacity	300		
	Drive method	AC servo direct twin drive		
	Turret specifications	ZR turret (storage-type turret)		
Move method	Punching	X/Y-axis material travel		
	Laser cutting	X-axis material travel, Y-axis laser head travel		
Processing range	Punching X × YP	3050 × 1525		
	Laser cutting X × YL	2500 × 1270	3050 × 1525 (with repositioning)	2500 × 1270
	Combined processing X × Y	2500 × 1270	3050 × 1525 (with repositioning)	2500 × 1270
Rapid feed rate X/YP/YL/Z	m/min	100 / 80 / 100 / 80		
Processing accuracy	mm	±0.07 (according to AMADA's punching pattern)		
Maximum material mass	kg	75 (F1)/150 (F4)	75 (F1)/150 (F4)/220 (FA+F4)	75 (F1)/150 (F4)
Workchute size X × Y	mm	400 × 1270	400 × 1525	400 × 1270
Number of stations (tool storage unit specification)		179 or 300		
Number of stations (buffer turret specification)		—		
Maximum hit rate (X axis)	min ⁻¹	430 (25.4 mm pitch/5 mm stroke)		
Maximum hit rate (Y axis)	min ⁻¹	320 (25.4 mm pitch/5 mm stroke)		
Machine mass (including 4 kW oscillator)	kg	28000	30000	24000
Power requirements (machine and dust collector)	kVA	44		

■ Oscillator specifications

Oscillator type	AJ-2000	AJ-4000
Oscillation method	LD-pumped fiber laser	
Output beam wavelength	μm	
Rated laser power	W	2000
Maximum pulse peak power	W	2000
Mass	kg	About 400
Power requirements	kVA	8.8
Compatible chiller power requirements	kVA	7.5

■ Turret layout

Tool size	36ST-2AI	32ST-4AI *w/E Range	32ST-4AI *w/o E Range
A 1/2"	16(16)	14(14)	14(14)
B 1 1/4"	10(10)	8(8)	8(8)
C 2"	2(2)	—	—
D 3 1/2"	1(1)	1(1)	2(2)
E 4 1/2"	1(1)	1(1)	—
B(TAP) 1 1/4"(TAP)	4(4)	4(4)	4(4)
G 1 1/4"(AI)	2(2)	2(2)	2(2)
H 2" (AI)	—	2(2)	2(2)
Total	36	32	32

*Numbers in parentheses indicate number of stations where shape tools can be installed.



For your safe use,
be sure to read the operator's manual carefully before use

● Use of this product requires safeguard measures to suit your work.

* Specifications, appearance, and equipment are subject to change without notice by reason of improvement.

Use the model names of the machines and units described in this catalog when you contact the authorities for applying for installation, exporting, or financing.

The hyphenated spelling AJ-2000 is used in some portions of this catalog for sake of readability. This also applies to the other machines in the ACIES-AJ series.

*The specifications described in this catalog are for the 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 : Avoid eye or skin exposure to direct or scattered radiation. Do not look into or touch the laser beam.

● Class 3R visible laser : Avoid direct eye exposure.

© AMADA CO., LTD. All Rights Reserved.

AMADA CO., LTD.
www.amada.com

Inquiry



The Head Office of AMADA is ISO 14001: 2004 certified.

F043-HQ01en

Oct. 2016