

SOLUTION

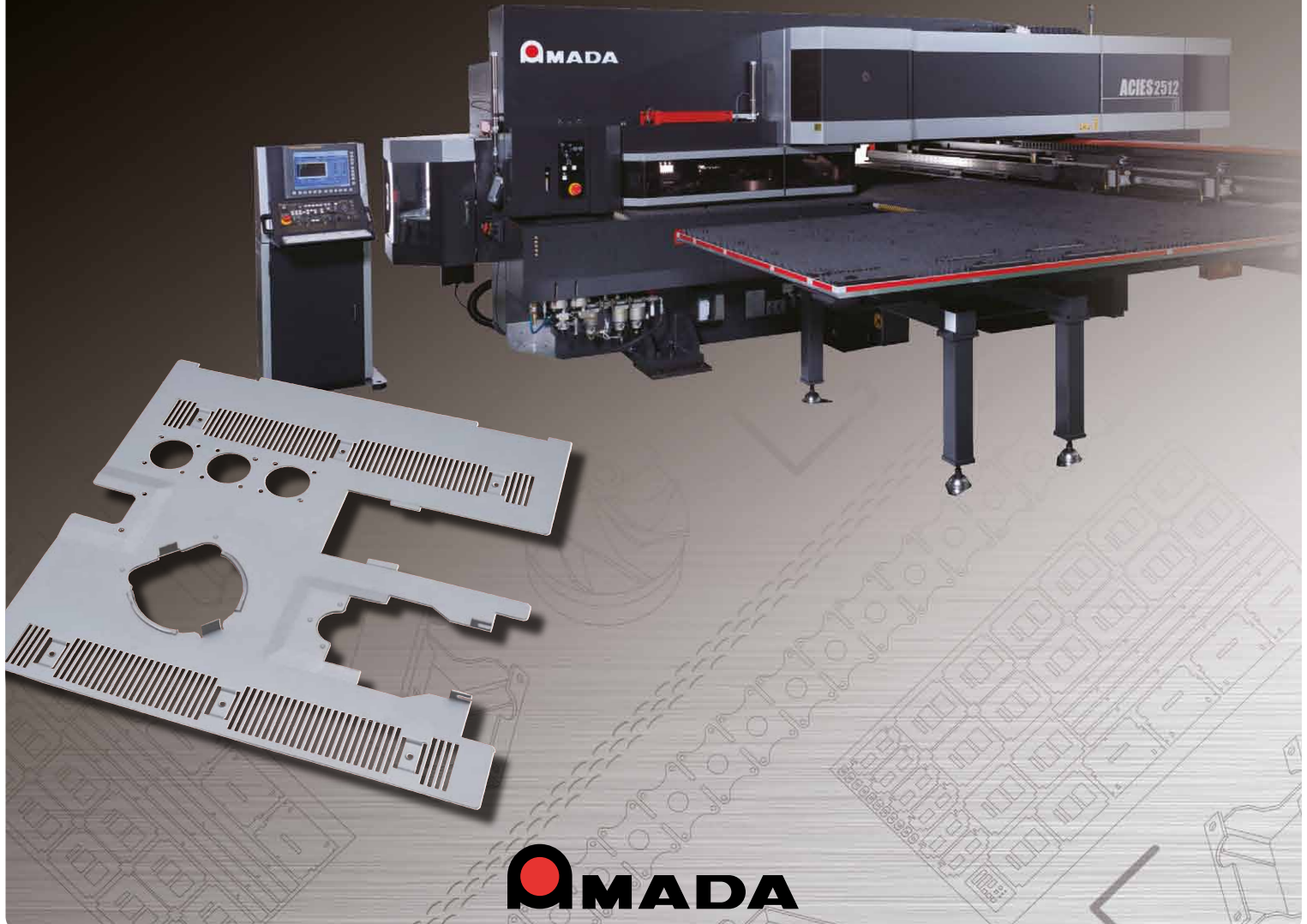


ACIES

SERIES

Integrated blanking process solution

Blanking



“40 years of punch press innovation”

Perfect for all production requirements and continuous operation

Amada has developed the ACIES, the integrated blanking process solution. The ACIES is a fully automatic laser/punch combination machine that can run automatically and continuously by quickly creating processing data for very small lots or new products and greatly reducing setup time .

Building on our experience of the last 40 years of punch press innovation, the ACIES is equipped with the next generation, fully covered ZR turret* to enable high speed, high quality production of formed parts without scratching.

The intelligent ID tooling concept ensures the correct tools are used to prevent processing defects.

*Z type retractable turret



Integrated blanking process solution

ACIES

SERIES

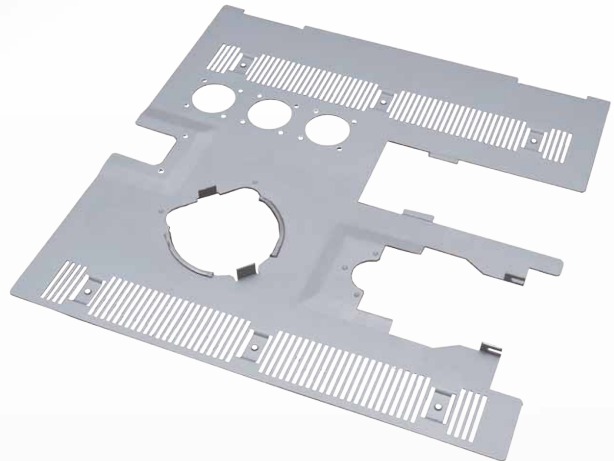
Type T: Tool storage specification

With a capacity of 300 tools, the ATC (ATC=Auto Tool Changer) storage system minimises machine setup times.

Typical processing samples

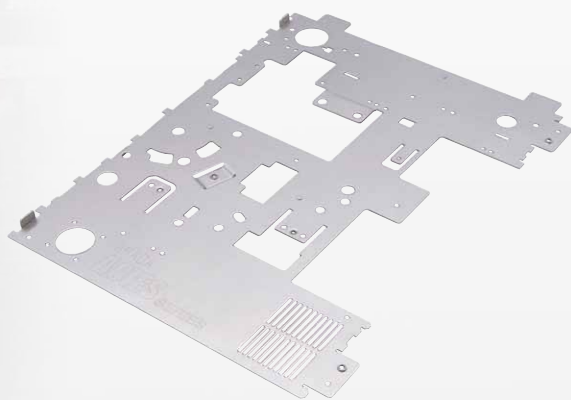


Material: SECC, 1.0 mm
Size: 300 × 300 mm



Processing time **7min10sec**

Material: SECC, 1.0 mm
Size: 200.0 × 260.0 mm



Processing time **5min20sec**

Material: SECC, 1.0 mm
Size: 100.0 × 100.0 mm



Processing time **8min15sec**



Comprised of three parts

ACIES Series new technologies

1 High quality, high speed processing

High speed processing of formed parts without scratching the underside

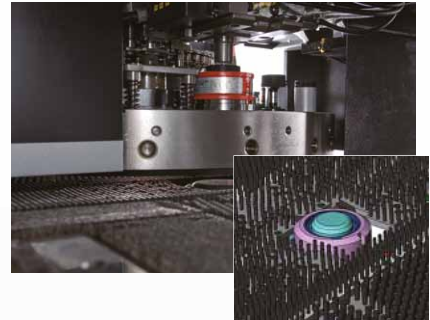
1 High speed processing with a scratch-free underside

ZR turret and completely flat brush bed table

Amada's continuous development of the turret punch press has led to the elimination of marking of the underside of the material by the die. The lower turret of the ACIES is completely covered by the brush table.

Up/down forming, high extruded forms and scratch free processing are all possible as only the required die is lifted through the brush bed.

1 Completely flat table



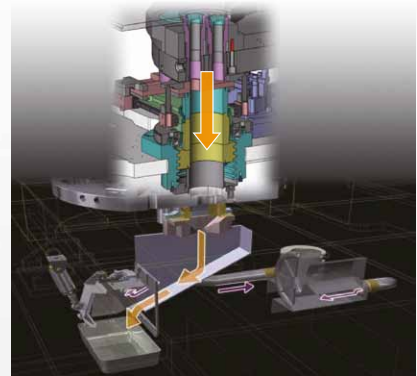
Only the required die lifts through the table

3 Highly efficient slug pull prevention system for all stations

New slug suction unit

The ACIES has a brand new slug suction unit design which prevents slug pull through the combination of 3 controllable stages at each turret station.

2 New slug suction unit



3 Easy programming

No track dead zones, free tool location

A new track structure eliminates the restrictions on tool location. When tools are specified, the optimum tool arrangement is automatically created by reference to their ID. This eases programming and improves material utilization.



Type B : Buffer turret specification

The solution enables external tool setup by buffer turret during machine running

2 Continuous processing

Setup of tools during processing and maximized machine uptime

① **Stable high quality processing. Prevention of tool setup mistakes ID tools**

Tools are managed digitally according to their individual ID. The ACIES not only reduces tool setup mistakes and tool maintenance time, but also automatically adjusts the die height to take regrinding into account.

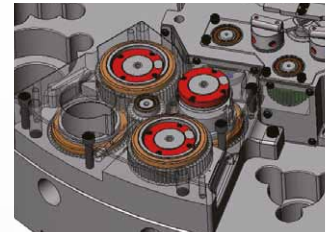
② ID tools



② **Automatic change of tapping tools, from M2.5 to M8 (seven sizes) MPT tapping unit**

Four types of tapping tools can be automatically changed to increase the number of parts that can be tapped on the ACIES. When a tapping tool reaches the preset number of hits, it is automatically changed for a spare. This allows for continuous operation.

② MPT tapping unit



③ **Tool setup while machine is running Automatic tool changer system**

The ACIES series can change tools while processing. An automatic tool changer system prepares tools in the buffer turret while the machine is punching and automatically changes the tools in the turret while laser processing. The availability of the machine can be maximized as a result.

③ Automatic tool changer system



④ **Elimination of part separation and sorting Microjoint-free processing**

Completed parts can be selected and sorted depending on part types. The parts are automatically stacked by a take-out loader system to free the operator from time consuming part separation and sorting tasks.

④ Microjoint-free processing



Part separation by laser

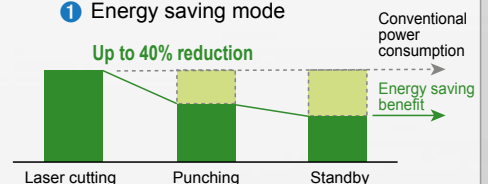
3 Energy savings

**Standby power is controlled.
Power consumption is drastically reduced.**

Energy saving mode

The power consumption of the oscillator and chiller is reduced in stages during punching. This power consumption can be reduced by approximately 40%, depending on the processing job.

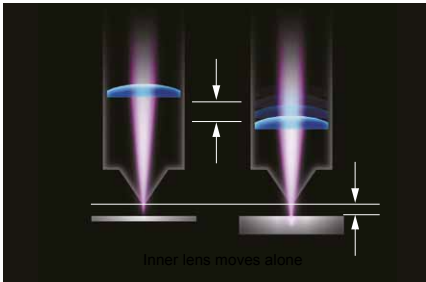
① Energy saving mode



Other features and options

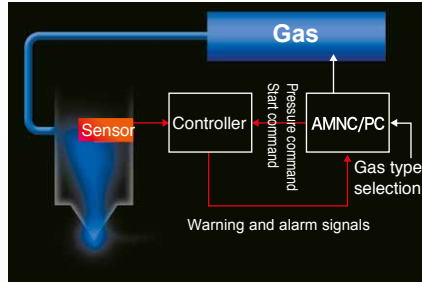
NC auto focus control system and Active Cut

The optimum focal point is stored in a database and automatically set to suit any material. The curvature of the mirrors is changed to keep the focus constant. This assures the optimum laser beam quality and saves assist gas cost.



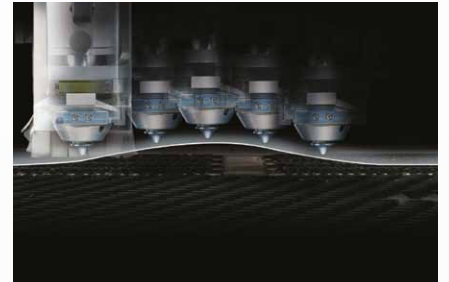
High pressure NC assist gas control system

The assist gas selection and pressure is automatically controlled by the NC to suit specific materials. The system is adapted to the processing of various material types and thicknesses.



Non-contact Z-axis sensor

The sensor is constructed to reduce the effect of plasma and adopts a high frequency (MHz) band that is less susceptible to the effect of noise, which maintains the gap between the material and laser head during high speed processing for stable cutting.



Nozzle cleaner

Automatically cleans the nozzle to remove any spatter and debris, increasing processing reliability. The system can also be set to clean the nozzle at regular intervals during processing.



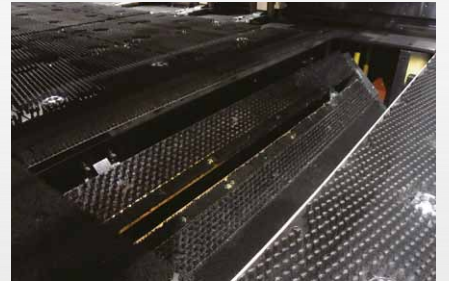
Spatter guard

The automatic spatter guard raises when processing switches from punching to laser cutting to prevent spatter contaminating the turret area.



Work chute

Large 400 × 1270 mm (ACIES 2512) or 400 × 1525 mm (ACIES 2515) work chute enables highly efficient, microjoint free processing.



Lineup

The ACIES is available in the following lineup, depending on the material size and number of tools installed.

ACIES-T



ACIES+tool storage specification
ACIES with tool storage (TSU) (up to 300 tools)

ACIES-B



ACIES+buffer turret specification
ACIES with buffer turret (for buffer turret model)

**Clamp positioner
(two-clamp specification)**

Automatically positions the workclamps as programmed. Material thickness should be of 3.2 mm or less.

(Option)



**Stationary fixed clamps
+ clamp positioner
(four-clamp specification)**

Clamp 1 and 2: L clamps (manual)
(Maximum setting value: 530 mm)
Clamp 3 and 4: Clamp positioner

(Option)



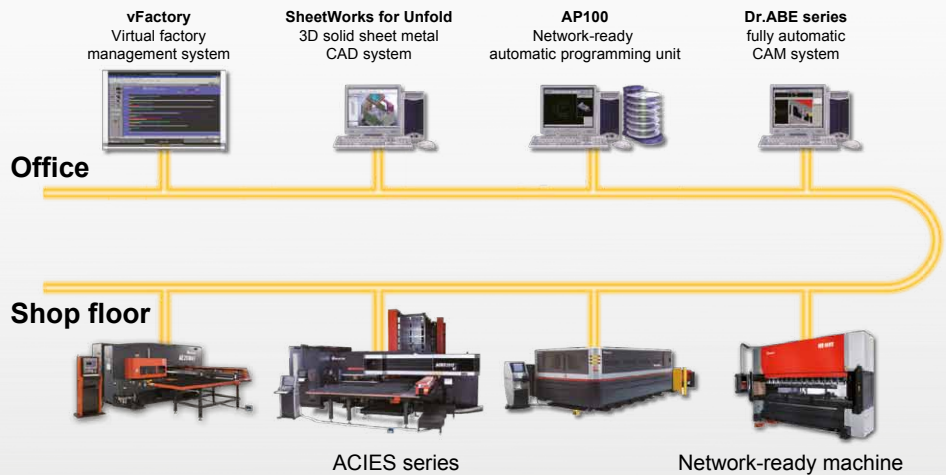
Intelligence

The network ready AMNC-PC control system provides built-in intelligence for many aspects of the machine operation. Tooling setup, program editing and highly accurate press control solutions improve functionality and performance.



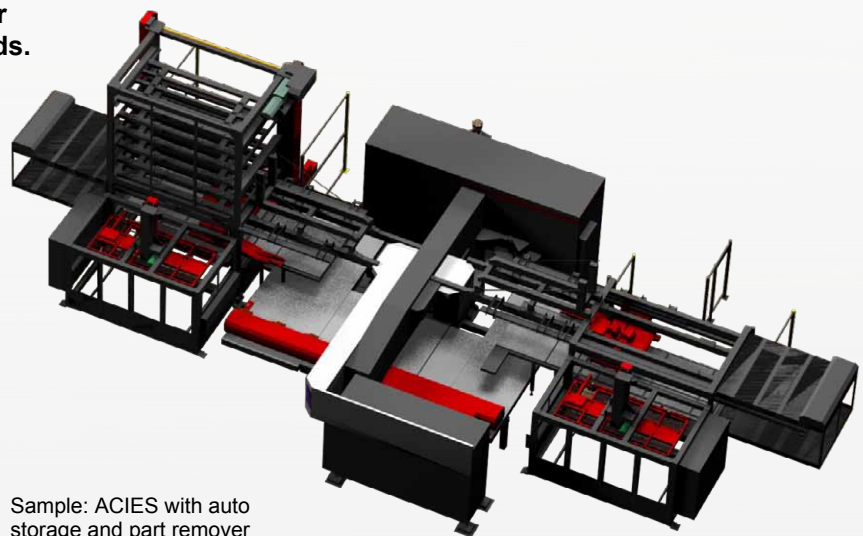
Network capabilities

Amada proposes a digital production system centered on the virtual prototype simulation system (VPSS). The processing data created in the office can be managed in an integrated manner by the SDD and can be called up through the network and used on the shop floor.



Automation (Option)

AMADA offers a wide range of modular automation covering all customer needs.

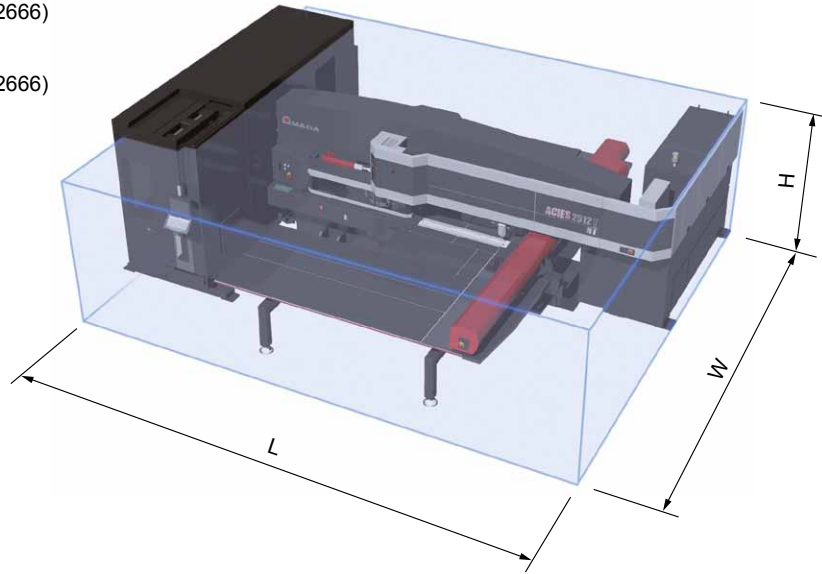


Sample: ACIES with auto storage and part remover

■ Machines dimensions*

Unit: mm

- ◆ ACIES-2512T
(L : 7870 x W : 5970 x H : 2666)
- ◆ ACIES-2515T
(L : 7975 x W : 5970 x H : 2666)



* without safety equipments

■ Machines specifications*

Models			ACIES-2512	ACIES-2515
Punch	Press capacity	kN	300	
	Drive method		AC servo, direct twin drive	
	Turret specification		ZR turret with 32 stations (4 Auto Index stations)	
	Buffer turret specification		33 stations	
Laser oscillator	Model		AF4000i-C	
	Rated power	W	4000	
Processing range	Punch, X/YP	mm	3050/1525	3050/1525
	Laser, X/YL	mm	2500/1270	2500/1525
	Combination, X/Y	mm	2500/1270	2500/1500
Maximum axis feed rate	Punch	m/min	(X/YP) 100/80	
	Laser	m/min	(X/YL) 100/80	
Maximum material mass	kg	220		
Combined processing accuracy	mm	±0.07**		
Slug pulling prevention unit		Slug suction (all stations)		
Work chute size, X/Y	mm	1270/400		1525/400
ATC in option (maximum number of tool stations)		Storage model 179 or 300 stations (for model T)		

*Specifications, appearance, and equipment are subject to change without notice for further improvement.

**The specifications of precision are based on VDI/DGQ 3441 machine standard.



For Your Safe Use
Be sure to read the operator's manually carefully before use.



This laser product uses a Class 4 CO₂ 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. Never look into the radiation nor touch it.
- Class 3R visible laser: Avoid direct eye exposure.

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E007-EU01en

web August 2013