

Launch of ARPAS, High-speed Line System with the Articulated Robots and Stamping Servo Presses

High-speed workpiece transfer between stamping press machines
realized with WAVE coordinated control operation



ARPAS

AMADA PRESS SYSTEM CO., LTD. (Isehara, Japan) announced today the launch of ARPAS, the high-speed line system with the articulated robots and stamping servo presses, which significantly improves the transfer speed of processed products between stamping press machines.

ARPAS is a new product in which WAVE coordinated control operation has been realized using a 6-axis articulated robot by applying coordinated control on a 2-axis servo robot line for stamping press processing and workpiece conveyance. This dramatically improves production takt time.

With conventional articulated robot and stamping press lines, workpiece was transported regularly after waiting for the top of the press processing slide to be reached, resulting in wasted time. On the other hand, ARPAS with the WAVE coordinated control operation allows workpiece to be transported while overlapping the operations of the stamping press machines and the transport robots, minimizing the time to processing. This has made it possible to improve production time.

Due to a shortage of workers caused by the retirement of skilled technicians and issues such as the declining birthrate and aging population, in recent years, there has been a growing need for automation and simplification of both setup and operation in the field of stamping press working. To address these issues, we are proposing ARPAS as an automated system that eliminates labor shortages. ARPAS utilizes a stamping servo press equipped with "i3" control, which offers excellent visibility and operability. This makes it possible for operators to simplify setup operations and reduce workload, thereby contributing to improved productivity.

Based on our management policy, “Aim to be a company that can provide optimal press systems on a global basis,” we focused on helping to resolve the issues customers are facing and contribute to manufacturing by considering customers’ manufacturing sites from a comprehensive perspective.

Main features of ARPAS

1. Realizes high-speed transfer and saves length of production line

The control panel, conventionally placed on the side of the stamping press machine, can be placed on the back, reducing the distance between presses by approximately 20%. This not only saves length of the production line, but also contributes to high-speed transfers. Additionally, the aforementioned WAVE coordinated control operation of the 6-axis articulated robot line system improves productivity by approximately 50% compared to conventional alternating operation.

In addition, this system allows flexibly for the customer’s processed products and line layouts.

2. Long continuous operation with automatic hand changing system (optional)

Replacement of the transfer hand, which is the grip of the 6-axis articulated robot, has been automated. This not only reduces setup time and contributes to reduced labor, but also enables continuous long-term operation of the line. We offer a wide variety of unique transfer hands that meet customer needs and have been well received for many years.

3. Camera monitoring for operational support (optional)

Cameras are installed to monitor the transport status and the processing line, allowing video to be recorded while processing. When an error or stop occurs, the operator can check the internal device information and the video from around the time the error occurred, allowing for early recovery.

ARPAS specifications

Model	Details	
ARPAS	Applicable presses	“i3” control-mounted stamping servo press with C-type frames
	Applicable robots	2-axis servo robots (top), 6-axis articulated robots
	Workpiece holding method	Vacuum, electromagnet
	Maximum carrying mass	kg 2
	Maximum number of connections (servo press/robot)	8/8

*The information in this release is current as of the launch date. Please note that the information is subject to change without notice. We would appreciate your understanding in advance.