

April 10, 2025 AMADA MACHINERY CO., LTD.

# Launch of the "PCSAW-430AXII"

## Variable Pulse Cutting Band Saw Machine

The new "variable pulse cutting" technology enables even faster and more stable cutting



AMADA MACHINERY CO., LTD. (Isehara City, Kanagawa Prefecture; President: Yasuhiro Kawashita) launched sales of the PCSAW-430AXII on April 10th. The PCSAW-430AXII is a variable pulse cutting band saw machine that achieves faster and more stable cutting and has an environmentally friendly design that reduces energy consumption.

The PCSAW-430AXII is equipped with a new technology called "variable pulse cutting." Conventional pulse cutting is a technology where a constant pulse vibration is applied to the blade during production. This has been advanced into an original variable pulse cutting mechanism that makes it possible to control the pulse to the optimum frequency for the cutting conditions and the blades used. This results in a large reduction of the cutting resistance and enables faster and more stable cutting. Additionally, the shorter cutting time and the adoption of an eco-pump have made it possible to greatly reduce the power consumption compared to conventional machines. It is an environmentally friendly, next-generation machine with a design that reduces energy consumption.

There is a growing need for automation and digitalization to respond to the backdrop of shortages of workers and skilled technicians in recent years. In response to these issues, the PCSAW-430AXII offers a wide range of systems that can meet the diverse automation needs of customers. Additionally, connecting it to the "V-factory" IoT system from AMADA

supports the improvement of the equipment utilization rate by visualizing the operation status and maintenance information to enable preventive maintenance.

#### Main features

#### 1. Variable pulse cutting

It is possible to greatly reduce the cutting resistance by changing from a conventional constant pulse frequency to control what produces the optimum pulse frequency for the workpiece (material, shape and size), such as the type of blade, and cutting conditions. Additionally, the machine is equipped with an 11 kW high-output blade motor, which supports high-speed cutting with the carbide blade "AXCELA." The cutting speed has been increased to up to 30% higher than on conventional machines. Additionally, the application of the pulse vibration produces intermittent cutting that means that the actual cutting distance per blade is shorter than that of continuous cutting. This suppresses the progression of tooth tip wear and extends the service life of the blade.

#### 2. Lower energy consumption and reduced environmental impact

An eco-pump that only operates when needed has been adopted as the hydraulic pump that is necessary for the machine operation. Compared with the conventional models, this reduces the power consumption during standby by approximately 50% and the power consumption during processing by approximately 10 to 20%. Additionally, the shortening of the cutting time due to the higher speed cutting makes it possible to greatly reduce the power consumption and contributes to a reduced environmental impact.

#### 3. Improved operability and precision

The intuitive touchscreen control panel has been increased to 21 inches, which has greatly improved its legibility and ease-of-use for tasks such as data entry.

The use of servo motors and ball screws on the material feeding mechanism realizes highly accurate positioning. The structure of the main body vise has been changed to ensure that the product is held securely and does not tip over at the end of the cutting. This reduces burrs and the chipping of the band saw blade, and also enables cutting for products down to a minimum product length of 5 mm.

#### 4. System building

A variety of systems is offered to meet the diverse needs of customers. This includes the "1 shift model," which has an RT conveyor connected and uses two conveyor lanes alternately to improve the utilization rate, and the "2 shift model" that has carry-in and carry-out equipment connected and automates the processing from the material carry-in to the cutting and product sorting. There is also the "24 hour model" that also has material storage shelves connected. This systematization realizes a significant improvement of productivity and reduction of labor requirements.

### Specifications

Model name			PCSAW-430AXII
Cutting capacity	Round (Dia)	mm	ø30 - ø430
	Rectangle (W × H)	mm	30 × 30 - 430× 430
Blade	Size (W × T × L)	mm	54 × 1.6 × 6100
	Blade speed	m/min	15 – 120
			(Inverter-controlled continuously variable speed)
	Motor output	kW	11
	Cutting control		Automatic setting of the optimum
			cutting conditions by CNC
Mass of machine		kg	4900

■ Start of sales

April 2025

Annual sales target

30 units/year

Sales price (excluding tax)

26.4 million yen (base price)

\* The information in this release is subject to change without notice.

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