

## **Launch of Fiber Laser Cutting Machine ENSIS-RI for Sheet-metals, and Pipes and Structural Steels**

New proposal for realizing high productivity and v-mix, v-lot production



AMADA CO., LTD. (Isehara/Japan, President: Tsutomu ISOBE) will launch on June 15 the fiber laser cutting machine ENSIS-3015RI which enables to cut sheet-metals, and pipes and structural steels with a single machine.

"Improvement of productivity" and "realization of v-mix, v-lot production" are the key issues in the recent sheet-metal processing industry. As solutions, use of a fiber laser oscillator capable of high-speed cutting and integration of multiple processing steps are pursued.

ENSIS-3015RI is an all-in-one machine equipped with the AMADA's original 3kW fiber laser oscillator, taking advantage of its unique beam control technology "ENSIS Technology", which has a well-established reputation for high speed, high quality and high stability cutting combined with the "rotary index mechanism" capable of cutting pipes and structural steels. It enables to process sheet-metals, and pipes and structural steels with a single machine, saving both space and setup time, as well as realizing high productivity and achieving higher efficiency in v-mix, v-lot production.

The AMADA Group will propose the processing solutions for improving productivity by strengthening the ENSIS series line-up, and expand the sales of fiber laser cutting machines.

## **Main features of ENSIS-3015RI**

### 1. Integration of fiber laser cutting machine for sheet-metals and pipes

Conventionally, two separate machines were required to be programmed and operated when cutting sheet-metals and pipes. However, to process an equipment frame made up of sheet-metals and square pipes, for example, ENSIS-3015RI allows to program and process only with a single machine. Furthermore, it greatly reduces setup time by instantly switching from the sheet-metal cutting mode to the pipe cutting mode. Also, in the pipe cutting mode, new Z-axis control allows high speed and stable cutting.

By the synergistic effect with the advantages of fiber laser such as energy saving and high-speed cutting, the running cost can be reduced.

### 2. Beam controlled "ENSIS technology"

The fiber laser oscillator is equipped with Amada's unique "ENSIS technology" that can freely control the laser beam to an optimum beam shape according to the material and its thickness. It has eliminated setup of lens exchange, which used to be required when it is switched from thin to thick sheet-metals. Furthermore, it has realized stable and high-quality cutting by optimizing beam shape.

### 3. New "rotary index mechanism"

AMADA has developed a new "rotary indexing mechanism" that rotates a pipe or structural steels during processing. It synchronously rotates the main and the support chuck that fastens a workpiece at two positions to prevent its twisting of workpiece during processing and slip scratches during rotation. Even when a workpiece itself is twisted or strained, this synchronous rotation mechanism achieves unprecedented high precision processing.

### 4. Touch probe mechanism for detecting workpiece end-face

In hole-cutting and tab and slot processing, ENSIS-3015RI is capable of precision cutting by measuring a pipe or structural steels with a touch probe and indexing the end-face of a workpiece or the center of a pipe.

### 5. Processing of long workpiece (6 m)

The machine is equipped with the repositioning function for workpiece, so that even 6-meter long workpiece can be directly loaded on the machine. This function reduces the setup process for pre-cutting of a workpiece with another machine.

### Specifications of machine

Model name		<b>ENSIS-3015RI</b>
Oscillator		ENSIS-3000
Laser source		Laser diode-pumped fiber laser
Laser power	W	3000
Controller		AMNC 3i
Max axis travel (X x Y x Z)	mm	3070 x 1550 x 200
Positioning speed (X x Y)	m/min	170
Cutting speed	m/min	0 - 120
Working range (X x Y)	mm	Sheet-metal: 3070 x 1550 Round pipe: $\varnothing$ 19 - $\varnothing$ 220 x 6000 Square pipe: $\square$ 19 - $\square$ 150 x 6000
Max workpiece mass	kg	Sheet-metal: 920 / Pipe: 200
Power requirements*	kVA	37
Dimensions of machine** (L x W x H)	mm	12500 x 2920 x 2480
Mass of machine	kg	11000

Note: The information herein is subject to change without notice.

\* Including chiller and dust collector

\*\* Including shuttle table