

# SOLUTION

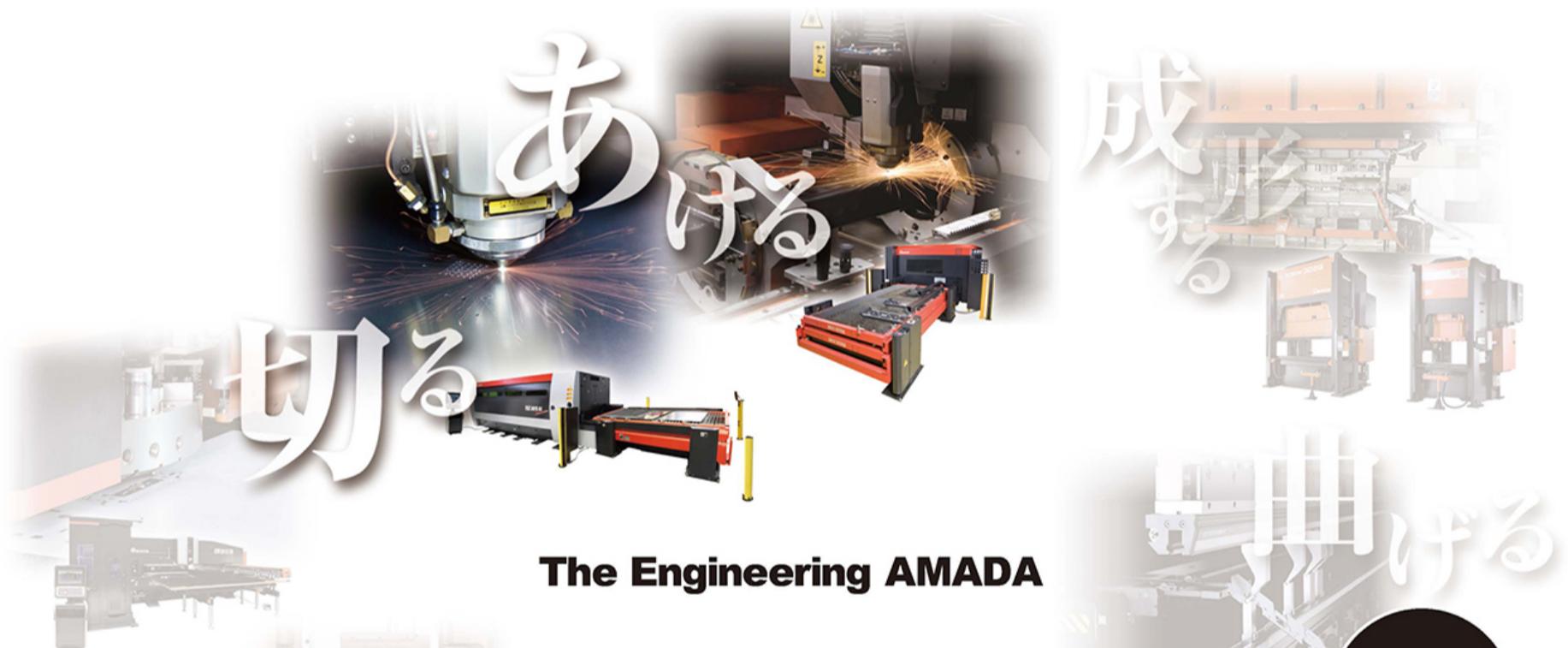


Fiber laser machine for  
flat sheet and tube cutting

## ENSIS 3015 RI

Rotary Index

Blanking



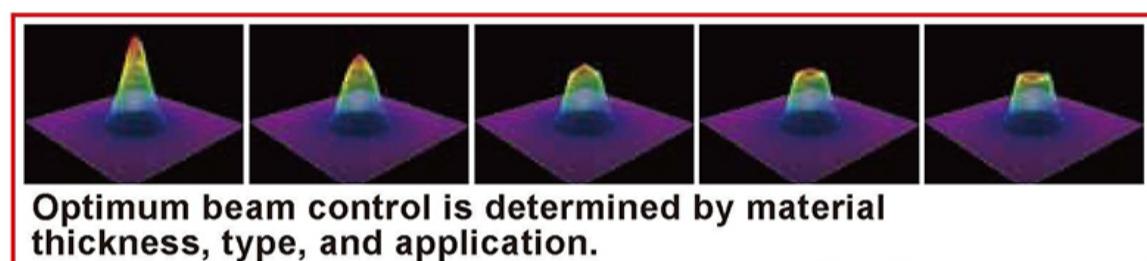
The Engineering AMADA



AMADA®

# The new addition to the ENSIS fiber laser series employs both flat sheet and tube (structural steel) cutting

AMADA's ENSIS series is now equipped with a rotary index and variable beam control technology for accurate processing of tube materials. ENSIS technology generates an optimum energy efficient beam for thin-to-thick cutting. The ENSIS-RI is the best solution for processing flat sheet and structural steel.



**Process a wide range of thin-to-thick sheet and tube materials**

## ENSIS-3015 RI



### Comparison to current model

**One machine can process a wide range of thin-to-thick sheet and tube materials**



Material	<input type="checkbox"/> 50 <input type="checkbox"/> 100 SPHC/1.6mm SS400/16mm
Kinds of parts	6 kinds
Total quantity	21 pieces

Comparison of processing time  
Time reduction by **39%** per 1 sheet



### Comparison of processing grade



Conventional CO<sub>2</sub> laser (4kW)



ENSIS-RI (3kW)



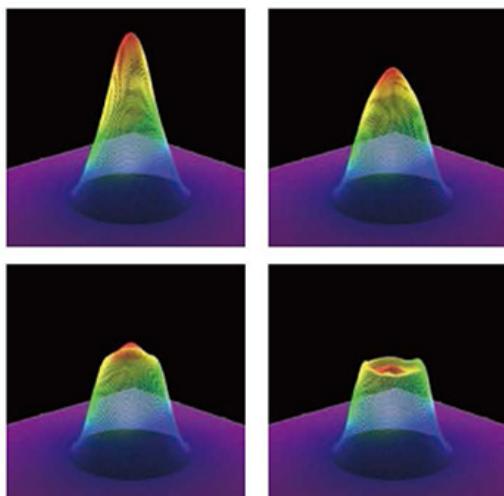
Realization of  
high grade  
processing

# Functions and features

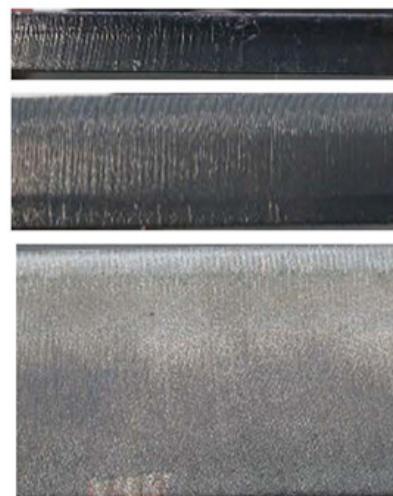
**ENSIS technology optimizes the processing of different materials at different quantities**

**AMADA's variable beam control feature is energy efficient**

AMADA's own ENSIS Fiber Laser technology uses variable beam control to provide a wide range of stable processing of thin-to-thick sheet, tube and structural steel

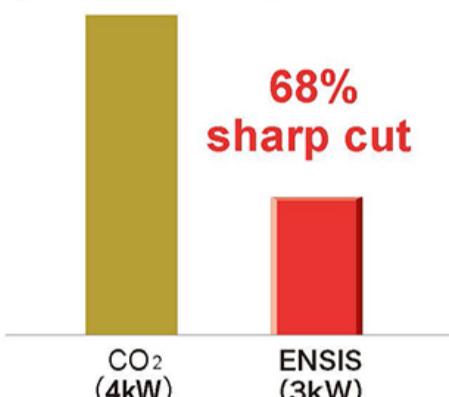


AMADA's variable beam control adjusts to thickness and type of material



One machine can process a wide variety of thin-to-thick materials

Comparison of oscillator / power consumption

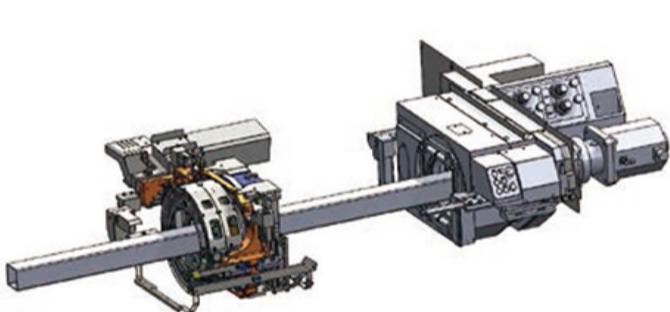


AMADA's in-house fiber oscillator is highly efficient and saves energy

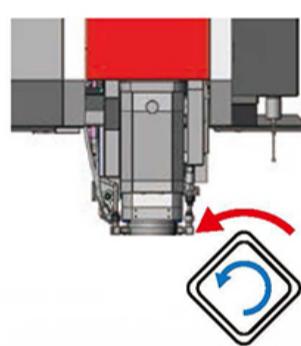
## Further advancement of rotary index

**Support chuck is synchronized with 4-axis control for simultaneous highspeed / highquality processing.**

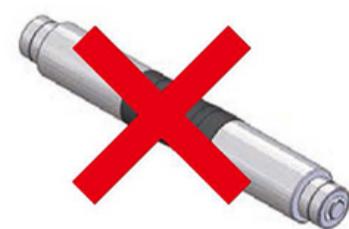
AMADA's advanced rotary index synchs the main and support chuck to eliminate tube vibration so the cutting process is not affected. The support chuck tightens up the tube to correct tube warp and prevent round tube slip for a quality, accurate, and reduced scratch processing. The upgraded control for tube processing has 4-axis (Z, X, Y, A) all simultaneously controlled for high speed and stable processing of parts.



Synchronized drive of main chuck and support chuck



X / Y / Z / A axes are simultaneously controlled for high speed processing



Synchronized support chuck eliminates setups for scratch free processing

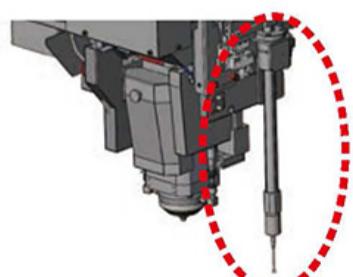
## Ultra-high accuracy on tube and structural steel processing.

**The mounted touch mechanism ensures accuracy for all base metal materials**

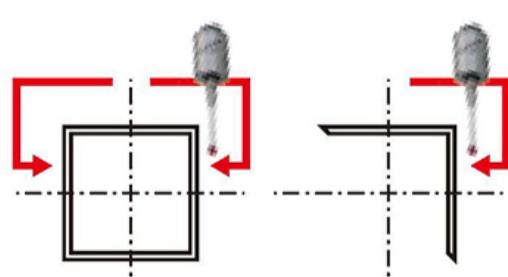
A touch sensor makes it possible to measure pipes and sections near the processing point. The sensor uses the center reference point to measure the end face position and adjust the twist of the pipe. In order to process the drawing instructions with ultimate precision, correct the flange position on the reference plane.



Warp and distortion of base material

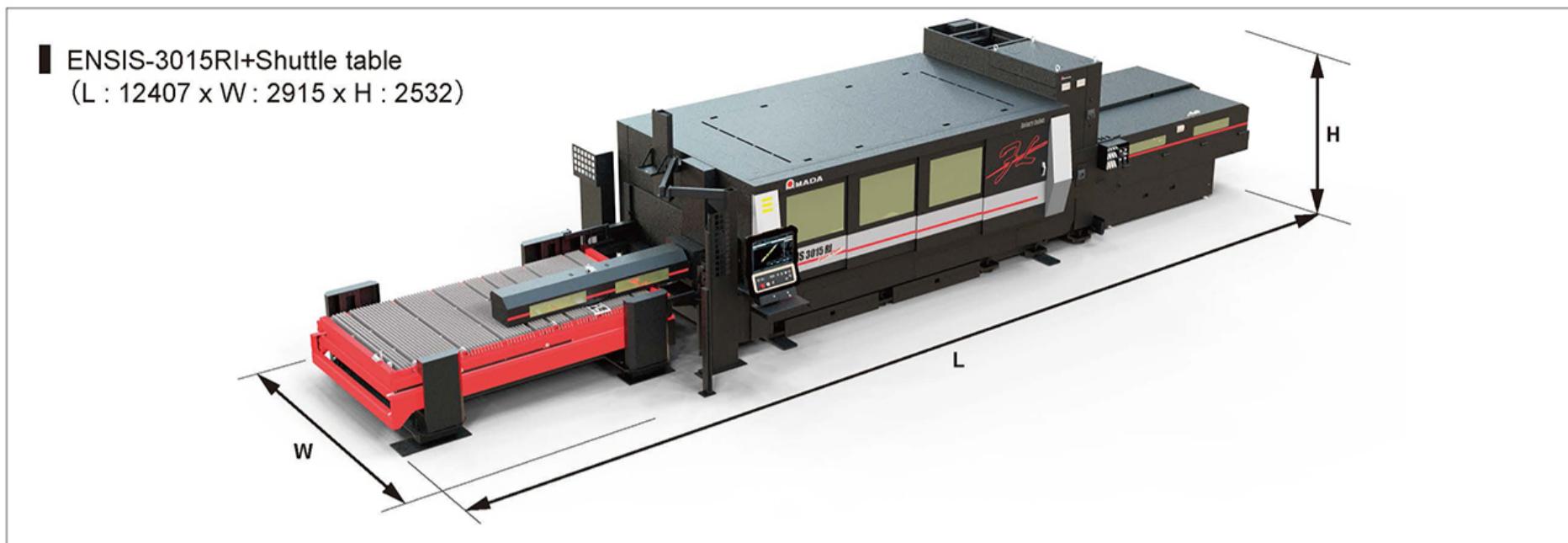


The touch sensor function is at the nearest point of processing



Center position is correctable to the reference plane

## ■Machine floor space



Unit : mm

## ■Machine specification

Model	ENSIS-3015RI
Registered model name	EN3015RI
NC type	AMNC-3i
Oscillator	AMADA ENSIS-3000
Chiller	R KE3752B-VA-UP2
Dust collector	PXN-6XA (self-standing pail can type)
Axis travel method	X, Y axis: Rack and pinon drive
Axis control method	X,Y,Z, A axes (simultaneous 4 axes control) + B axis + CF axis
Axis travel distance XxYxZ mm	3070 x 1550 x 200
Maximum processing dimensions XxY mm	3070 x 1550
Rapid feed rate X/Y axis Composite	170
Processing feed rate m/min	0 ~ 120 (maximum command speed)
Least input increment mm	0.001
Maximum material mass (flat sheet) kg	920
Working surface height mm	940
Power requirements (machine only) kVA	6.0

## ■Oscillator specification

Model	ENSIS-3000
Oscillation method	LD excitation fiber laser
Rated laser power W	3000
Stability %	±2.0 or lower
Pulse peak output W	3150
Pulse frequency Hz	1 ~ 10000
Duty %	0 ~ 100
Wave length μm	1.08
Amount of cooling water (recirculating type) L/min	40L/min or more (temperature at 25°C)
Power requirements kVA	11.9

## ■Tube specifications

Shape of tube/structural steel	Tube (Round/Square/Rectangular), Angle(even/uneven L shape), Section steel (C-channel)
Outer dimensions of tube/Structural steels mm	Round tube : Φ19 ~ 220 Square tube : □19 ~ 150 Rectangle tube : Circle circumscribing less than Φ220 Angle (L shape) : 19 ~ 90(h) x 19 ~ 90(w) C-channel : 19 ~ 150(h) x 19 ~ 150(w)
Max. processing length mm	6000 (dead zone: 218) *Size exceeding the processing range is supported by repositioning
Thickness of tube/structural steel mm	1 ~ 9 (tube) 1 ~ 12 (angle, C-channel)
Maximum tube/structural steel mass kg	200
Support chuck	Main chuck synchronization method

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

\*The official model names of machines and units described in this catalog are non-hyphenated like ENSIS3015RI.  
Use these registered model names when you contact the authorities for applying for installation, exporting, or financing.

The hyphenated spellings like ENSIS-3015RI. are used in some portions of this catalog for sake of readability.  
This also applies to other machines.

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inquiry



AMADA head office is certified and registered of ISO14001.

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## ■Standard functions and main options

Laser cutting process monitoring	Standard
Cooling cut (WACSII)	Standard
Oil shot	Standard
Nozzle changer	Standard: 8, Option: 16
PSA	Option
HP (hyper) EZ Cut II	Option
3 color light	Option

### For Your Safe Use

Be sure to read the operator's manual carefully before use.

- In order to operate this machine there must be a dedicated safety barrier.
- This system requires a dedicated shield for material when the wavelength is 1.07 μm.



This laser product uses Class 4 (invisible) laser beams for processing, and class 2 (visible) laser beams for maintenance.

- Class 4 invisible laser : Keep eyes and skin away from direct or scattered exposure of beam.Never touch or look into the beam.
- Class 2 visible laser : Avoid direct exposure to eyes.

\*The specifications described in this catalog are for the Japanese domestic market.