

SOLUTION



Fiber Laser Welding System

FLW 3000L_e



The Engineering AMADA



成形する



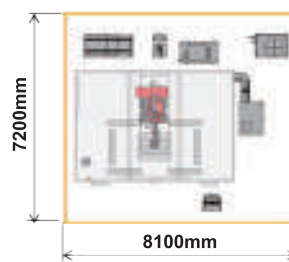
A compact fiber laser welder debut!

This space-saving machine has been created by adopting a small robot. A small head allows access to narrow areas, expanding the process range. Although the machine is compact, high quality and high speed welding unique to fiber lasers can be achieved using the AMADA's original features.



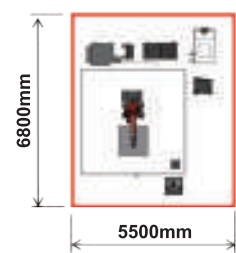
Installation space 65% of conventional machine

Conventional machine FLW-ENSIS (M1, M2)



Installation space 58.3m²

FLW-3000Le (M1, M2)



Installation space 37.4m²

Fiber Laser Welding System

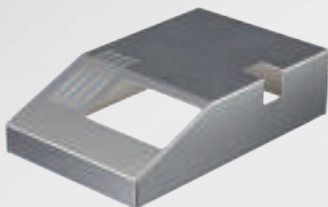
FLW 3000Le



Example of processing with representative samples

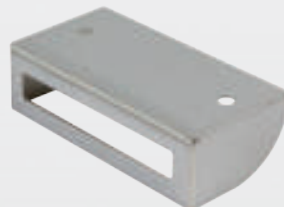
Machine cover

Material: A5052
Thickness :1.0mm
Dimension :150×240×60mm



Sensor cover

Material: SUS304
Thickness :0.6mm
Dimension :70×35×20mm



Tank

Material: SUS304
Thickness :1.5mm
Dimension :253×153×103mm

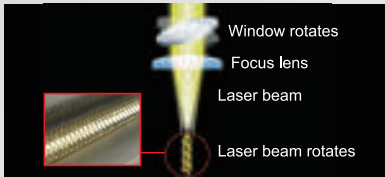


*Weld burns removed

1 FLW-3000Le Welding Technology

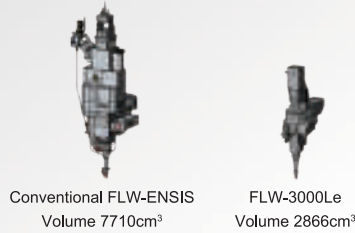
Beam weaving mechanism

Rotate the laser beam with the optical component. Used for gap bridging and stable welding with wire.



Small head

The head volume is 37% of the conventional head.



Filler feeder (Option)

Automatically feeds wire for overlaying or gap bridging. Stable processing is achieved by using weaving and filler together.



2 Operation with Easy Setup

Setup navigation

Register jigs, workpiece positions and CAM captures in the program. Easy setup is possible without error.



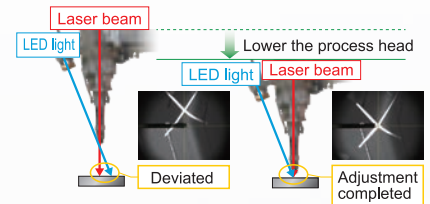
TAS (Teaching Assist System)

Weld points can be corrected on the NC screen. Positional deviations during setup and individual part differences can be easily modified.



Z indicator

Nozzle gap can be adjusted by looking at the screen. Stable processing is possible and prevents defects caused by incorrect nozzle gap.



3 Lineup of Nozzles for Each Application

Name	Fine nozzle	Water-cooled coaxial nozzle	Simple cutting nozzle
Image			
Standard or Option	Standard	Option	Option
Applications	Welding	Welding	Cutting
Features	Standard nozzle	Spatter durability	Cutting nozzle

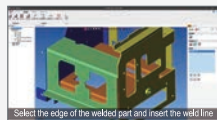
4 Digitization of the Welding Process

Offline teaching

VPSS 4ie WELD ◆Software for FLW-Le

1 Production Designer (PD)

Import 2D/3D CAD to create and add welding attributes such as joint shape during unfolding.



2 Data creation without backward movement by simulation function

The robot posture data is automatically generated by allocating the welding lines and setting the process conditions based on the welding attributes added by PD. Check also the collision among the parts, jigs and robot.



3 Improved productivity through offline teaching

The robot program can be created while the machine is under operation, improving the robot operation ratio.



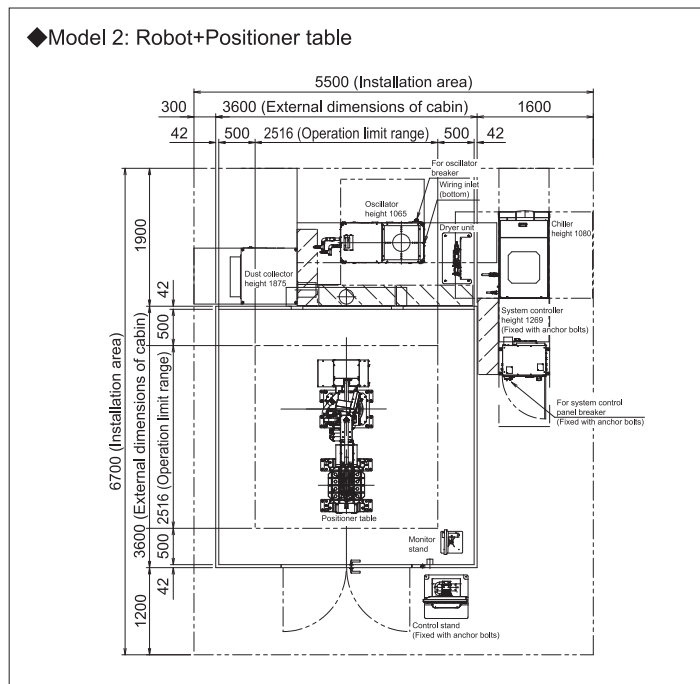
5 V-factory compatible machine

By visualizing the machine operation and maintenance status, operation management can be easily performed with data.



■ Dimensions

Unit :mm



■ Lineup

The following lineup is available according to the part size, application and lot.

- ◆ FLW-3000Le: Oscillator power 3kW
- ◆ Model 1: Robot-only
- Model 2: Robot+Positioner table



■ Machine body specifications

Machine model	FLW-3000Le
Registered machine name	FLW3000LE
Oscillator	*See below
Chiller	RKE2200B1-V 2 CH-AMD-A (made by ORION)
Robot	GP25 (made by YASKAWA)
Robot controller	YRC1000 (made by YASKAWA)
NC equipment	AMNC 4ie
Process head	Made by AMADA
Cabin	Full-covered cabin
Dust collector	PXN-IVBA (made by SINTO)

■ Positioner table specifications (with surface plate)

Model	MOTOPOS-D500F (made by YASKAWA)	
Passline height	mm	648
Loading capacity	kg	500
Rotation axis (angle)		±720°
Tilt axis (angle)		±90°

■ Oscillator specifications

Model	FL-3000	
Rated output	W	3000
External dimensions W×H×L	mm	550×1065×1490
Wavelength	μm	1.07
Power requirements	kVA	10.5
Weight	kg	346

■ Chiller specifications

Model	RKE2200B1-V2CH-AMD-A (made by ORION)	
Rated output	kW	5.6
External dimensions W×H×L	mm	690×1080×1200
Weight *() during operation	kg	215 (250)
Power requirements	kVA	8

! To ensure safe and correct use, thoroughly read and understand the "Instruction Manual" before using the product.

- To operate the machine, a special cabin is required to prevent danger.
- This system requires a light shielding material dedicated to 1.07μm wavelength.
- When operating a robot in Japan, it is necessary to take the "special safety education related to work such as teaching" stipulated in Article 36, Item 31 of the Ordinance on Industrial Safety and Health.

*The specifications and design are subject to change without notice.

*Applications for the administration (installation notification, export, financing, etc.)

of machines and devices described in this catalog are requested by the machine model name.

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! This laser product uses a class 4 invisible laser for processing, and a class 2M visible laser for checking the processing position.

- Class 4 invisible laser: Avoid to exposure to the eyes, skin of beams or scattered light.
- Class 2M visible laser: Do not stare into beam or expose users of telescopic optics.

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Inquiries



Product information
FLW-Le



E165-HQ01en

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