



October 2, 2013

Nippon Avionics Co., Ltd.

<http://www.avio.co.jp/english/>

New Galvano Scanner System AGS-F301

*- It Helps to Improve Productivity and Joining Strength
of Our Single Mode Fiber Laser Welder -*



Nippon Avionics Co., Ltd. (Head office in Tokyo, Japan), a subsidiary of NEC Corporation, announced Galvano Scanner System, AGS-F301, today which can demonstrate its performance to the maximum level by using it in combination with our single mode fiber laser welder, LW-F1000 (Please see page 4 for more information about LW-F1000).

<Outline of Product>

Galvano Scanner is a device to scan the laser beam in high speed and wide range by use of a motor and a reflection mirror.

By using it in combination with our single mode fiber laser welder, LW-F1000, this system can demonstrate the feature of the welder and realizes high productivity and joining strength. It will provide solutions to various applications requiring spot welding, seam welding and hermetic sealing welding.

By introduction of the Galvano Scanner System this time, we will contribute to the improvement of productivity in various fields such as electronics, automobile, medical and energy.

<New Product Features>

1) **High Productivity by High Speed Scanning of Continuous Output Laser**

By scanning the laser beam, continuously output from the single mode fiber laser welder, in high speed by this system, multi-point welding and wide area welding can be accomplished in a short period of time. High output of continuous 1 kW maximum can be accommodated.

2) **Wide Welding Area (150mm Square)**

As the laser beam from the single mode fiber laser welder maintains high parallelism and narrow beam diameter without spreading the beam even at a long irradiation distance, wide work distance and welding area can be secured.

Furthermore, because of the deep focal depth, variable height within the welding area can be accommodated.

3) **High Joining Strength**

Because the laser is scanned in high speed in the vicinity of the joining point, wide and deep melting area is formed, and joining strength is increased.

4) **Stable Welding**

By employing the digital control which suppresses the positional drift due to the temperature change, stable welding with high positioning reproducibility can be realized.

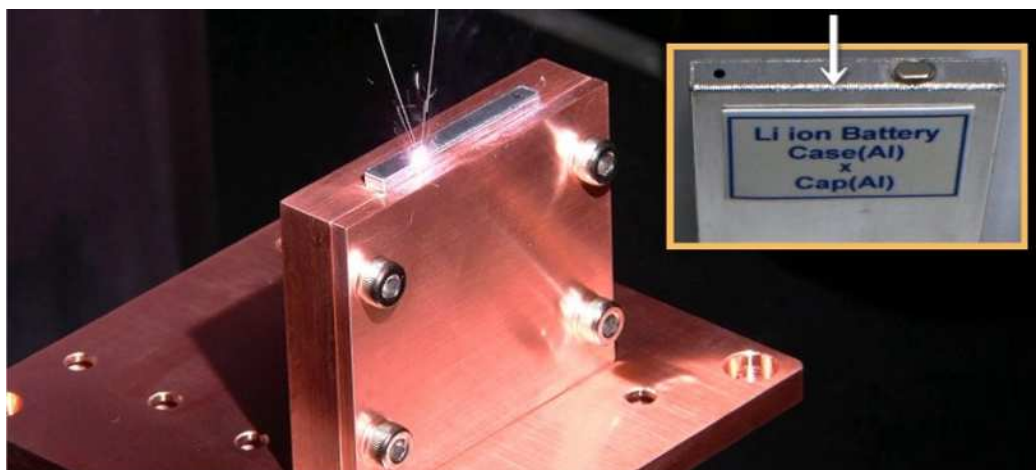
<Application Examples>

- Areas where high speed and multi-point welding are required

Example: Electronic components (capacitor, coil, connector, sensor, etc.), electrical components for automobiles, medical

- Areas where high energy density is required for welding and air tightness, such as Copper (Cu) and Aluminum (Al)

Example: Energy field (secondary battery, capacitor, bus bar, etc.)



All Circumferences Welding of Rectangular Lithium-ion Battery

<Free Sample Welding>

We are offering free sample welding so that the customer can verify the performance of this machine with their own sample. Please feel free to apply for this service.

<Specifications>

Galvano Scanner System

Items	AGS-F301
System Configuration	Scan Head ^(*1) , Control Box, Control PC, Dedicated Software
Scan Area	150 mm x 150 mm
Max Scan Speed	2000 mm/sec
Work Distance	374 mm
Control Method	Digital Control
Welding Mode	Spot Welding Mode, CW Welding Mode, Seam Welding Mode
Applicable Laser Model	Single Mode Fiber Laser Welder LW-F1000 Design Wavelength: 1080 nm Permission Laser Power: Max CW 1 kW
Cooling Method	Water
Power Source	AC100 - 240 V \pm 10%、50/60 Hz
Max Power Consumption	180 W or less ^(*2)
Dimension / Weight	Scan Head: W150 x D436 x H241 mm, 11 kg Control Box: W300 x D310 x H123 mm, 7 kg

(*1) Including collimation lens and f θ lens

(*2) Not including control PC

<Reference>

Single mode fiber laser welder, LW-F100

This is a welding machine utilizing the high quality single mode fiber laser beam.

Because the single mode laser beam has higher parallelism comparing to the multi-mode, the beam can be focused thin, and high energy density and deep melting are realized.

Because miniature objects for welding and high reflective material, such as Al and Cu, can be joined by non-contact and in high quality due to high power output of 1 kW maximum, this machine is favorably accepted in the market since its introduction in July 2012.



Specifications of Fiber Laser Welder

Items	LW-F1000
Wave Length	1080 nm
Max Rated Power	1 kW (Class 4)
Max Frequency	5000 Hz
Output Mode	Profile mode (arbitrary waveform, CW), Stylized waveform mode, Rectangular pulse mode (modulated)
Monitor Display	Laser output(W), Laser energy(J), Average output(W)
Alarm Function	Laser output, Temperature, Electric current, Fiber breakage
Cooling Method	Water
Power Source	AC 200 V \pm 10%, 3 ϕ , 50/60 Hz, 30 A
Max Power Consumption	6 kW or less
Dimension / Weight	W650 x D865 x H1150 mm (excluding protrusion), 180 kg

For Questions Regarding the Above, Please Contact

Sales Department, Welding Products Division

4206, Ikonobe-cho, Tsuzuki-ku, Yokohama, 224-0053, Japan

Tel: +81-45-930-3596

e-mail: product-mj@avio.co.jp