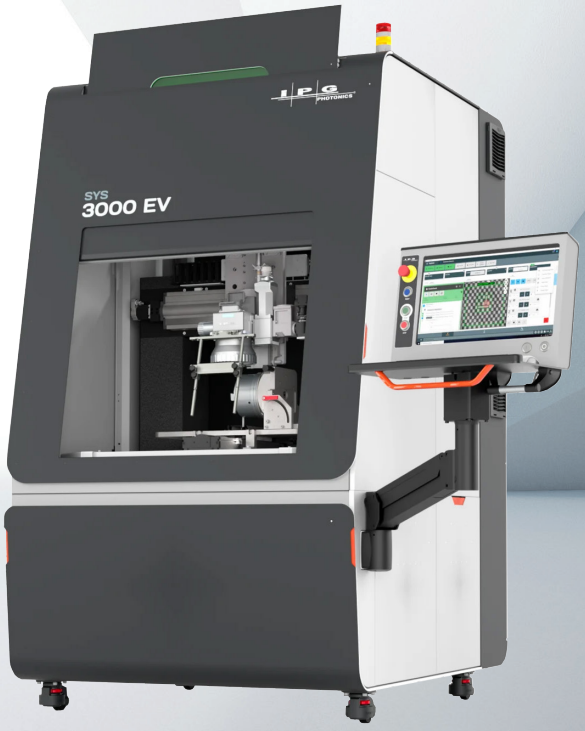
SYS-3000-EV

Battery Welding R&D Workstation



FEATURES

- Compact System Footprint
- Granite Base and Gantry
- Fine Control of Laser Parameters and High-Precision Motion Platform
- CDRH Class 1 Laser Safe

BENEFITS

- Turnkey system for rapid EV laser welding process development
- Highly configurable and optimized to application requirements
- IPG process development accelerates time to first part
- Optional conveyor pass-through facilitates part loading

The SYS-3000-EV is a turnkey laser welding system designed for R&D, process development, and small format production for laser welding battery and energy storage system applications.Featuring a compact footprint with a generous work envelope, this system allows for process development using the same components as those used on a full scale production line.

SYS-3000-EV systems offer both rapid deployment and a variety of configurations and options to address a wide variety of application requirements. Operators use IPG Core software, which fully integrates control of motion axes, vision systems, laser parameters, process head programming, and auxiliary equipment in an intuitive user interface. Conveyor pass-through facilitates part loading and integration with a production line. Real-time weld measurement measures each weld as it is made for 100% quality assurance to ensure safer, higher-quality batteries.

System Specifications	
Laser Sources	Internal: Rack-Mounted Fiber Laser up to 6 kW External: Single-Mode Adjustable Mode Beam (AMB) Fiber Laser up to 8 kW
Beam Delivery	IPG Mid-Power or High-Power Scanner IPG D30/D50 Welding Head (with or without Wobble)
Part Loading	Manual or Conveyor Loading, Automatic Doors standard
Motion Control	Up to four axes coordinated motion

Motion Stages	
Travel (X x Y x Z) mm	600 x 400 x 300
Max Speed (mm/sec)	1000
Accuracy** (µm)	500mm
Bi-Directional Repeatability** (µm)	+/- 5
Straightness and Flatness** (µm)	+/- 25
Orthogonality** (µm)	25
Calibration	Laser Spot & Vision Calibration Suite (non-fixed)

**All values per axis across full travel

General Characteristics	
Dimensions (W x H x D), mm	1300 x 1550 x 2250 Standard 1300 x 1550 x 2500 Long Focal Length Option
Weight, kg	2000
Process Gas	1 Process Gas Standard with Manual Flow Control. Up to 3 Gases Optional
Illumination	2 Channel Lighting Controller
Controls	Industrial Computer with Touch Screen Monitor Running IPG Core Software (Windows-Based Operating Software)

System Options	
Process Measurement	LDD Real-Time Direct Weld Measurement
Custom Tooling	Custom Clamping Tooling for Busbar-to-Cell Welding & Anode/Cathode Cap-to-Can Welding & Battery Enclosures
Factory Integration	Conveyor Pass-Through with SMEMA/MES Interface, Robotic Loading Automation Interface
Motion Axes	A- and B- Axes Optional
Illumination	Computer-controlled Illumination
Vision	Camera/Vision System for Automatic Alignment and Calibration
Power Measurement	On-Target Power Meter
Gas Flow Control	Electronic Mass Flow Control
Data Input	Barcode or RFID
Fume Extraction	Fume Extractor Unit

sales.us@ipgphotonics.com

www.ipgphotonics.com

Legal notices: All product information is believed to be accurate and is subject to change without notice. Information contained herein shall legally bind IPG only if it is specifically incorporated into the terms and conditions of a sales agreement. Some specific combinations of options may not be available. The user assumes all risks and liability whatsoever in connection with use of a product or its application. IPG, IPG Photonics, The Power to Transform and IPG Photonics' logo are trademarks of IPG Photonics Corporation. © 2025 IPG Photonics Corporation. **All rights reserved.**