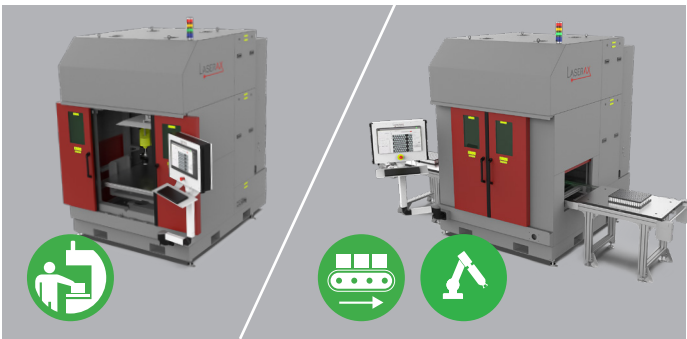


VERSA LASER WELDING MACHINE

The Versa Laser Welding Machine is purpose-built for R&D, prototyping, and medium-to-low volume battery production. Its name reflects the versatility it brings to battery manufacturing, suitable for prismatic, cylindrical, and pouch cells, with configurations ranging from manual to fully automated loading.

This battery laser welding machine is designed as a modular solution, giving you the flexibility to add advanced features as needed, such as dynamic clamping, integrated vision, and AI-powered weld quality monitoring. It is powered by the same core technology as our high-volume machine, allowing for a future-proof investment with seamless transferability to mass production.



Versatility to Suit Your Needs

Whether used for R&D or production, customize your Versa with only the features you need to weld cylindrical, prismatic, or pouch battery cells. Load it manually or have it automated with a conveyor or robot system.



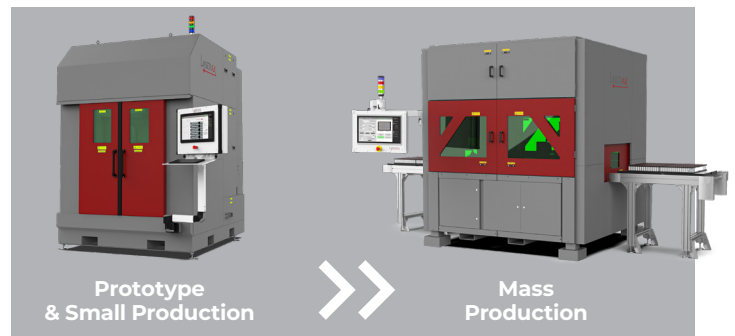
High-Performance, Lean Cost.

Optimize CapEx and accelerate iteration with a de-risked path from lab to line by using production-grade core technologies. The Versa machine packs up all the tools needed to perform precise, high-quality welds when high production speed is not required.



Easy-to-Use Software

Our intuitive software includes all systems for development and production. It enables fast and efficient operation with all welding recipes, vision, and AI-powered weld quality monitoring, all in the same place.



Scalable Platform

Develop and produce efficiently with a scalable technology. Jump from small production to mass production with more machines or directly transpose the welding/clamping solution to a multi-robot machine for faster throughput.

Laser Specifications

Versa Laser Welding Machine (VWM)	
Laser Power	2000W single-mode continuous-wave 1000-6000W power range available (Single-mode, Multi-mode, Ring-Core)
Laser Type	Ytterbium-doped fiber
Wavelength	1064 - 1080 nm
Laser Source MTBF (typical)	100,000 hours
Laser Process	Laser welding of busbar for cylindrical and prismatic cells
Part Material	Nickel-plated steel, aluminum, copper, stainless steel (all metals)
Cooling	Water-cooling (chiller included)
Weld to Cell Accuracy (typical)	± 100 µm (with vision)
Tooling/Clamping	Laserax-engineered, module-adapted busbar clamping tool on SCARA robots (included)
Machine Control	Laserax controller with complete welding machine programming interface on operator HMI
Communications	Ethernet/IP, PROFINET, EtherCAT, OPC-UA (others available)
Power Requirements	480V/60Hz or 400V/50Hz
Power Consumption	27kW (with a 2000W laser source) 43kW (with 6000W laser source)
Operating Temperature	15°C to 35°C
Operating Humidity	< 70%
Part Loading Options	Manual / Robot / Conveyor
Vision	Integrated 3D vision system X-Y-Z measurements
Fumes Extraction	Included
Enclosure	Class-1 certified laser safety enclosure with interlocked doors

Laser Machine Size	VERSA-600	VERSA-1400*
Total Welding Area (X-Y)	600 x 400 mm	1400 x 600 mm
Working Table Dimensions (X -Y)	900 x 600 mm	1400 x 600 mm
Pallet Conveyor max dimensions (X-Y)	800 x 640 mm	1200 x 640 mm
Clamping Robot Configuration	Single fixed robot	Single robot on linear track
General Dimensions (W x D x H)	1800 x 2200 x 2600 mm	2800 x 2200 x 2600 mm
Typical Weight	2800 kg	3500 kg

*Adapted sizes available

Welding Process Data and Options	
Welding Optics Field of View	300 x 300 mm with Vision**
Welding Speed (typical)	SCARA clamping: 0.5-1s per cell (Cylindrical: 21700, 46XX, Prismatic)
3D Vision Field of View	300 x 300 mm**
Weld Monitoring	Dual source, AI-powered weld quality monitoring (real-time) Defect type identification
Tooling/Clamping	SCARA robots with dynamic tooling for individual cell clamping Clamping tool pressure tip adapted to cell and busbar types
Tooling/Clamping Features	Automated clamping position correction from vision feedback Clamping pressure feedback Motorized angle adjustment Shielding gas option Integrated dust extraction
Power Meter	Optional power meter for in-station laser power measurement

**Also available at 400 x 400 mm (optional)



**INDUSTRIAL
LASER SOLUTIONS**

laserax.com

LASERAX HEADQUARTERS	Quebec, Canada	+1 418 478-1029
LASERAX USA	Wixom MI, USA	+1 330 331-6607
LASERAX USA SOUTHEAST	Atlanta GA, USA	+1 330 331-6607
DPSS LASERS, A LASERAX COMPANY	Santa Clara CA, USA	+1 330 331-6607
LASERAX GmbH	Bad Krozingen, Germany	+49 (0)7633-836-4935
LASERAX JAPAN SINTOKOGIO	Nagoya, Japan	