

# Laser Welding Glovebox Systems



Based on the industry-leading Benchmark® AX5000, Amada Miyachi's laser glovebox systems offer precise control of moisture, pressure, and gas composition in the processing environment. Capable of coordinated motion and laser weld firing in up to 5 axes of both linear and rotary motion, the systems ensure reliable weld spot overlap and superior hermeticity. Tooling, optimized stage configuration, and innovative focus head mounting add value to system functionality. These laser welding machines are perfectly suited for assembling sensitive electronic packages such as implantable medical devices and semiconductors

## KEY FEATURES

- Integrated welding station and glovebox provide non-reactive environment by controlling moisture, oxygen, nitrogen or other gas levels yielding higher quality welds and improved material finishes
- Precise environmental control maintains selected gas composition for reliable, repeatable welding and sealing processes
- Programmable laser power confirmation provides automatic laser power measurement and data-logging at user-specified intervals
- Real-time power feedback for optimal process control
- Historical and real-time graphical display of glovebox operating parameters and status
- Advanced motion control software for welding 2D and 3D contours, including position-based-firing, normal production and rework modes
- Integrated motion control / laser / vision user interface simplifies automation
- Controlled-access user interface and data-logging meets FDA requirements
- CDRH, Class 1, eyesafe enclosure

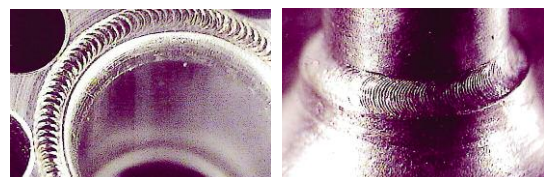
## TYPICAL APPLICATIONS



*Medical devices*



*Electronic devices*



*Industrial components*

**SYSTEM OPTIONS:**

- Vision-directed motion
- Barcode / 2D matrix code job control
- Auto-vision alignment and calibration
- Seam-tracking on contour welds
- Standard or galvo beam delivery
- Gas analyzers
- Gas mixers
- Soot filtration
- Gas purification
- CCD camera viewing system
- Antechambers and ovens
- Vacuum pumps
- Laser light curtain
- Status light towers

**TECHNICAL SPECIFICATIONS**

	Features
<b>Antechambers and ovens</b>	
<b>Configuration options</b>	End, front, rear loading
<b>Heating</b>	Wall heating or heated shelves
<b>Temperature</b>	0 - 200° C std., higher available
<b>Vacuum pumps</b>	Rotary vane, dry, or turbo pumps
<b>Analysis and monitoring capabilities</b>	
<b>Oxygen detection range</b>	0-1000 PPM or %
<b>Moisture detection range</b>	0 - 150 PPM or ° C dewpoint
<b>Helium monitoring</b>	%
<b>Argon monitoring</b>	%
<b>Gas Purification</b>	
<b>Single column</b>	30 CFM (51 m3/hr) Moisture and/or oxygen removal
<b>Dual column</b>	
<b>Automatic dual column</b>	
<b>Gas Mixers</b>	
<b>Manual set mixers</b>	Two and three gas versions
<b>Automatic closed loop mixer</b>	Two gases
<b>Others</b>	
<b>Soot removal systems</b>	30 CFM (51 m3/hr) or 100 CFM (170 m3/hr)
<b>CDRH Class 1 eyesafe window</b>	Wavelength based on application
<b>Light tower</b>	Indicates glovebox or process status
<b>Tool Interchange</b>	Floor access, front loading
<b>Safety</b>	Light curtain, interlocks

**WEIGHT & DIMENSIONS**

	<b>AX5000 - 48</b>	<b>AX5000 - 56</b>
<b>Dimensions (L x W x H)</b>	39 in x 48 in x 36 in (991 mm x 1219 mm x 915 mm)	39 in x 56 in x 36 in (991 mm x 1423 mm x 915 mm)
<b>Number of glove ports</b>	2	4
<b>Weight</b>	Will vary with selected options	Will vary with selected options

Other configurations and custom sizes available

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