

# ULTRA X6000 ADVANCED LASER SYSTEM

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The ULTRA X6000 is a high-precision laser material processing system designed for demanding and complex applications in manufacturing, prototyping, and research and development environments.

It delivers a higher degree of accuracy, repeatability, and efficiency than other methods available today as well as offers an extensive set of advanced features and capabilities to achieve impeccable quality on the broadest range of materials. The ULTRA X6000 laser system addresses virtually any material challenge in one system.



ULTRA X6000

## ULTIMATE MATERIAL PROCESSING FLEXIBILITY

The ULTRA X6000 laser system supports three different laser wavelengths (10.6, 9.3 and 1.06  $\mu\text{m}$ ) and laser power from 10 to 300 watts CO<sub>2</sub> and 50 watts fiber. Additionally, with the patented Multi-Wave Hybrid™ technology, multiple laser beams of various wavelengths and power can be combined into a single coaxial, hybrid laser beam.

This unique capability enables matching of available laser energy with absorption characteristics of a material to deliver the most optimal and consistent results.

With Multi-Wave Hybrid™ technology, you can:

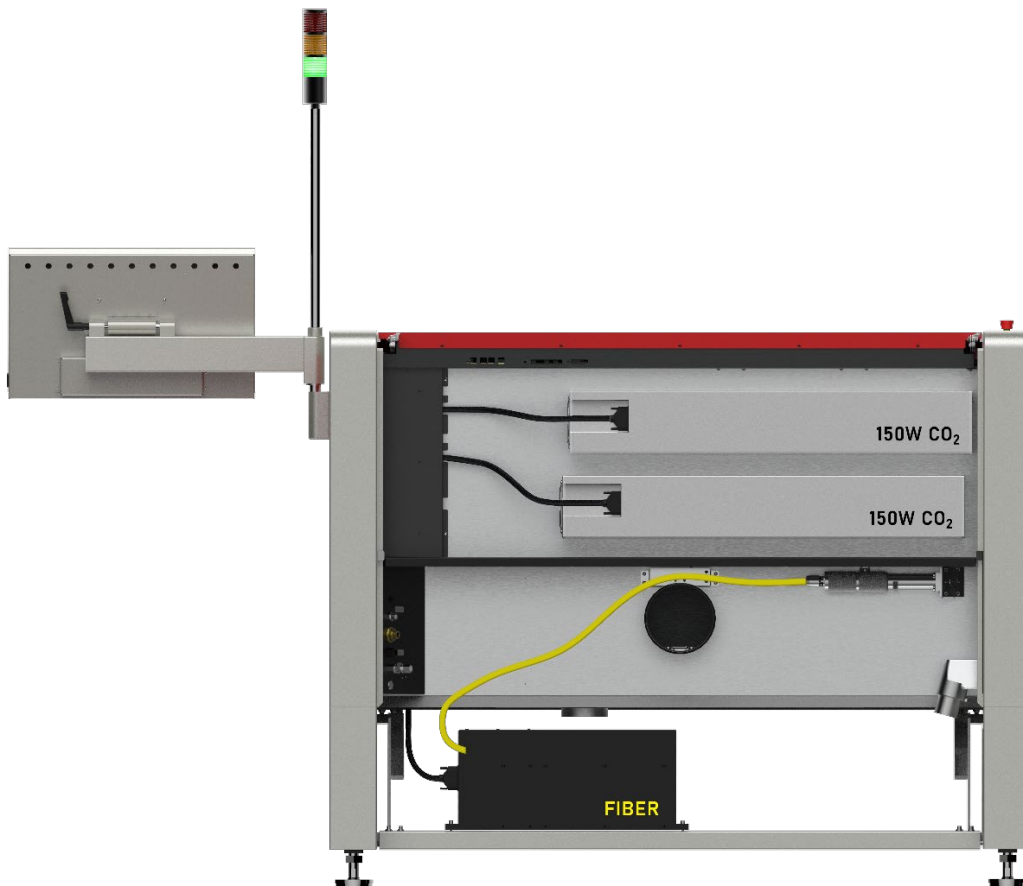
- Select the ideal laser wavelength and power to process a single material or multiple homogenous materials in a production cycle.
- Simultaneously combine more than one wavelength and power level to efficiently process composites including metals.
- Precisely process a target layer of a multilayer material without affecting other material layers.

## KEY FEATURES AND CAPABILITIES

- 36 x 24 in (914 mm x 610 mm) Material Processing Area
- Supports material thickness up to 12 in (305 mm)
- Supports up to (2) CO<sub>2</sub> laser sources and (1) fiber laser
- Camera Registration
- Automation Interface
- Patented Controllable Power Density Optics
- Precision Material Independent Autofocus
- Programmable Gas Assist
- Laser System Manager control software
- Intelligent Materials Database
- 21 in (533 mm) Touch Screen Control Panel
- Rapid Reconfiguration™ technology

### *Configuration Components Available*

- Patented SuperSpeed™ technology
- Fire Suppression
- UAC 4000 Air Filtration



*Multiple wavelength configuration with 300 watts CO<sub>2</sub> and 50 watts fiber*

## SPECIFICATIONS\*

<b>Material Processing Envelope (X,Y,Z)</b>	36 x 24 x 12 in. (914 x 610 x 305 mm)
<b>Minimum Addressable Beam Positioning</b>	2 micron (.00008 in.) beam position addressability
<b>Mechanical Beam Positioning Repeatability**</b>	± 10 micron (.00039 in.) repeatability
<b>Maximum Positioning Speed</b>	175 in./sec (4445 mm/sec)
<b>Maximum Effective Raster Processing Speed</b>	Equivalent to more than 300 in./sec (equivalent to more than 7620 mm/sec); <i>Requires SuperSpeed™ configuration</i>
<b>Maximum Functional Vector Processing Speed</b>	Equivalent to more than 40 in./sec (equivalent to more than 1016 mm/sec)
<b>Multiple Laser Support</b>	Up to (2) CO <sub>2</sub> laser sources and (1) permanently mounted fiber laser source; <i>Supports Rapid Reconfiguration™ of CO<sub>2</sub> lasers</i>
<b>Wavelengths / Laser Sources Available</b>	10.6 μm CO <sub>2</sub> : 10, 30, 40, 50, 60, 75 and 150 watt laser sources 9.3 μm CO <sub>2</sub> : 10, 30, 50 and 75 watt laser sources 1.06 μm Fiber: 50 watt laser source
<b>Maximum Laser Power</b>	300 watts CO <sub>2</sub> , 50 watts fiber
<b>System External Dimensions</b>	Width: 63.09 in. (1603 mm) with Control Panel folded 87.75 in. (2229 mm) with Control Panel extended  Depth: 50.07 in. (1272 mm)  Height: 47.67 in. (1219 mm) to top of enclosure 74.42 in. (1890mm) to top of Light Tower
<b>Weight</b>	550 lbs. (250 Kg)
<b>Power Requirements</b>	220V-240V/20A (300 watt configuration requires high power kit and 30A)

## SPECIFICATIONS\*

<b>Exhaust Requirements</b>	Intelligent Air Filtration (UAC 4000) or External Exhaust Blower Capable of >700 CFM at 6 in. WG Static Pressure (1190 m3/hr. at 1.5 kPa)  6 in. (152 mm) Exhaust Port
<b>Computer Requirements</b>	Not required; includes integrated 21" Touch Screen Control Panel
<b>Laser Safety Classification</b>	Class 1 for material processing lasers Class 2 overall due to red laser pointer Can convert to Class 4 with optional Class 4 module

\*Full specifications are available on the ULS website and are subject to change.

\*\*This specification refers to the ability of the beam delivery system to return to the same position repeatedly. For optimization of material processing results, consult with ULS.

### About ULS

Universal Laser Systems, Inc. (ULS), headquartered in Scottsdale, Arizona, is a global company with a 35-year legacy of pioneering advanced laser equipment tailored for precision material processing of materials manufactured by 3M, DuPont, Henkel, Rogers, Saint-Gobain, Solvay, Tesa, and many others. With an unwavering commitment to excellence, we aid organizations in solving complex material processing challenges, expanding their capabilities to introduce new materials for processing, and improving the processing of existing, established materials.

ULS caters to a wide range of industries encompassing aerospace, automotive, battery manufacturing, electronics, medical devices, and beyond. Our customers include nine of the world's top ten manufacturing companies as well as thousands of other organizations.

WARNING: UNIVERSAL LASER SYSTEMS PRODUCTS ARE NOT DESIGNED, TESTED, INTENDED OR AUTHORIZED FOR USE IN ANY MEDICAL APPLICATIONS, SURGICAL APPLICATIONS, MEDICAL DEVICE MANUFACTURING, OR ANY SIMILAR PROCEDURE OR PROCESS REQUIRING APPROVAL, TESTING, OR CERTIFICATION BY THE UNITED STATES FOOD AND DRUG ADMINISTRATION OR OTHER SIMILAR GOVERNMENTAL ENTITIES. FOR FURTHER INFORMATION REGARDING THIS WARNING CONTACT UNIVERSAL LASER SYSTEMS OR VISIT [WWW.ULSINC.COM](http://WWW.ULSINC.COM).



Universal laser systems are protected under one or more U.S. Patents: 7,060,934; 7,415,051; 7,715,454; 7,723,638; 7,947,919; 8,101,883; 8,294,062; 8,599,898; 8,603,217; 9,155,988; 9,263,844; 9,263,845; 9,281,649; 9,346,122; 9,354,630; 9,694,448; 9,737,958; 10,391,345; 10,456,875; 11,198,193. Other U.S. and international patents pending.

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**UNIVERSAL LASER SYSTEMS, INC.**  
GLOBAL HEADQUARTERS  
7845 E PARADISE LN, SCOTTSDALE, AZ 85260, USA  
[www.ulsinc.com](http://www.ulsinc.com)

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ULTRA X6000 PRODUCT SPECIFICATIONS