

The ULTRA 9 Platform



Advanced Laser Material Processing Solutions

The ULTRA 9 platform offers laser material processing for the widest possible range of materials. It is designed and ideally suited for precision material processing in manufacturing, research and development, academic research, and prototyping environments. With its unique modular architecture, customizable solutions can be easily reconfigured with a wide array of options for enhancing performance, capability, and safety to complete the perfect solution to meet present and future business needs.

FEATURES:

- High performance servo-driven beam delivery system with dual loop encoding
- Precision focusing with autofocus touch sensor
- Selectable laser power density
- Computer controlled gas assist with material collision detection
- Optics protection
- Camera registration
- 21 in (533 mm) touch screen control panel
- Automation interface
- All-in-one multi-function material support table
- ULTRA Laser System Manager
- Support for Class 4 conversion



ULTRA 9

The Ultra 9 Platform

The ULTRA 9 platform has a materials processing envelope of 36 x 24 in (914 x 610), with support for materials with a thickness up to 12 in (305 mm).

Configure the customizable ULTRA 9 platform with up to three laser sources consisting of two interchangeable CO₂ lasers and one fiber laser. When the platform is configured with three lasers, users can take advantage of MultiWave Hybrid™ technology enabling up to three wavelengths – 9.3 μm, 10.6 μm, and 1.06 μm – to be simultaneously combined into a single coaxial beam. Each spectral component of the beam is independently controlled and can be modulated in real time.

OPTIONS:

- 1X/13X Selectable Laser Power Density Optical Assembly
- Porous Carbon Tiles and Perforated Aluminum Tiles for Vacuum Table Configuration
- Elevating Aluminum Pins for Pin Table Configuration
- Vacuum Table Pump
- Lateral Gas Assist
- Fire Suppression
- Class 4 Conversion Module
- Traveling Exhaust
- UAC 4000 Air Cleaner
- SuperSpeed™
- Rotary Fixture



21" (533 mm) touch screen control panel



UAC 4000 Air Cleaner

Specifications

ULTRA 9	
Materials Library	www.ulsinc.com/material/materials-library
Processing Area	36 x 24 in (914 x 610 mm)
Max Material Thickness	12 in (305 mm)
Carriage Travel	1.0 in (25.4 mm)
Max Autofocus Range	12 in (305 mm)
Max Autofocus Accuracy	+/- .001 (25 µm)
Beam Positioning Acceleration	> 5G
Max Beam Positioning Speed	> 150 in/sec (3810 mm/sec)
Path Planning	Real Time Path Planning Optimization
Minimum Addressable Beam Positioning	.00008 in (2 µm)
Beam Delivery System Accuracy	.001 in (25 µm) ^{2,3}
Selectable Power Density Coefficients for CO ₂ laser	3X/5X (Standard), 1X/13X (Optional) ⁴
Fiber Power Density Coefficient	52X ⁴
Max Number of Lasers Supported	3
Available Wavelengths	1.06, 9.3 and 10.6 µm
Max Laser Power	150 Watts CO ₂ (9.3 or 10.6 µm) 50 Watts Fiber (1.06 µm)
Laser Power Control	Encoder Based Programmable
System Cooling	Air Cooled
External Connectivity	Ethernet or WIFI Windows™/ macOS™/ Linux™/ Android™/ iOS™ (browser based)
Controls	21 in (533 mm) Touchscreen Interface
Software Interface	File Formats: PDF, DXF, G-code, Intelligent Materials Database, Design File Management, Design File Estimator, Design File Relocation and Duplication, Process Control Programming
Overall Dimensions	Width: 65 in (1651 mm) (<i>control panel folded</i>) Width: 83.5 in (2121 mm) (<i>control panel extended</i>) Depth: 45 in (1143 mm), Height: 53 in (1346 mm)
Max Weight	550 lbs (250 Kg)
Max Power Requirements	220-240V/16A
Exhaust Requirements	UAC 4000 Air Cleaner or External Exhaust Blower capable of 700 CFM @ 6 in Static Pressure (1190 m ³ /hr at 1.5 kPa)
Safety	Class 1 for Material Processing Lasers (1.06, 9.3, 10.6 µm) Contains Class 2 Alignment Laser (670 nm) Convertible to Class 4 Operation with Patented Optional Class 4 Conversion Module (<i>patent no. 7,723,638</i>)

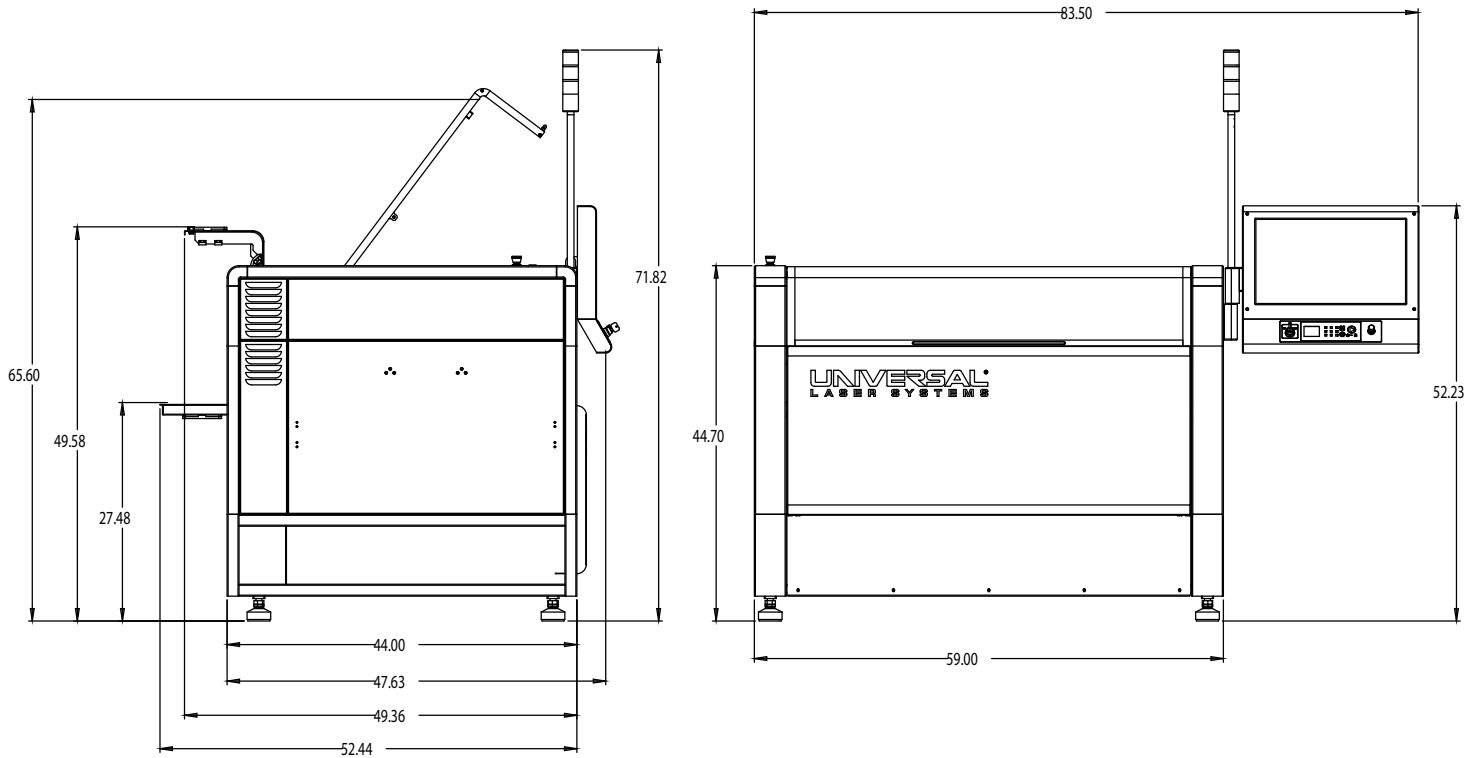
(1) Universal Laser Systems reserves the right to change these specifications at any time without notification (2) Accuracy is measured per foot under controlled conditions. Accuracy is affected by temperature.

(3) Accuracy of material processing results are affected by ambient temperature, material temperature, processing area temperature, humidity, laser processing settings, and material characteristics.

(4) Normalized power density (Watts/cm²) = Power Density Coefficient x 103 x Average Laser Power (Watts) where average laser power is power of lasers used to process materials and normalized power density is power of laser used to process materials divided by the area of the focal spot measured at 1/e².

Mechanical Specifications

ULTRA 9



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ULS laser systems are protected under one or more of U.S. Patents: 6,181,719; 6,313,433; 6,342,687; 6,423,925; 6,424,670; 6,983,001; 7,060,934; 7,415,051; 7,469,000; 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; D517,474. Other U.S. and international patents pending. Made in the U.S.A.

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