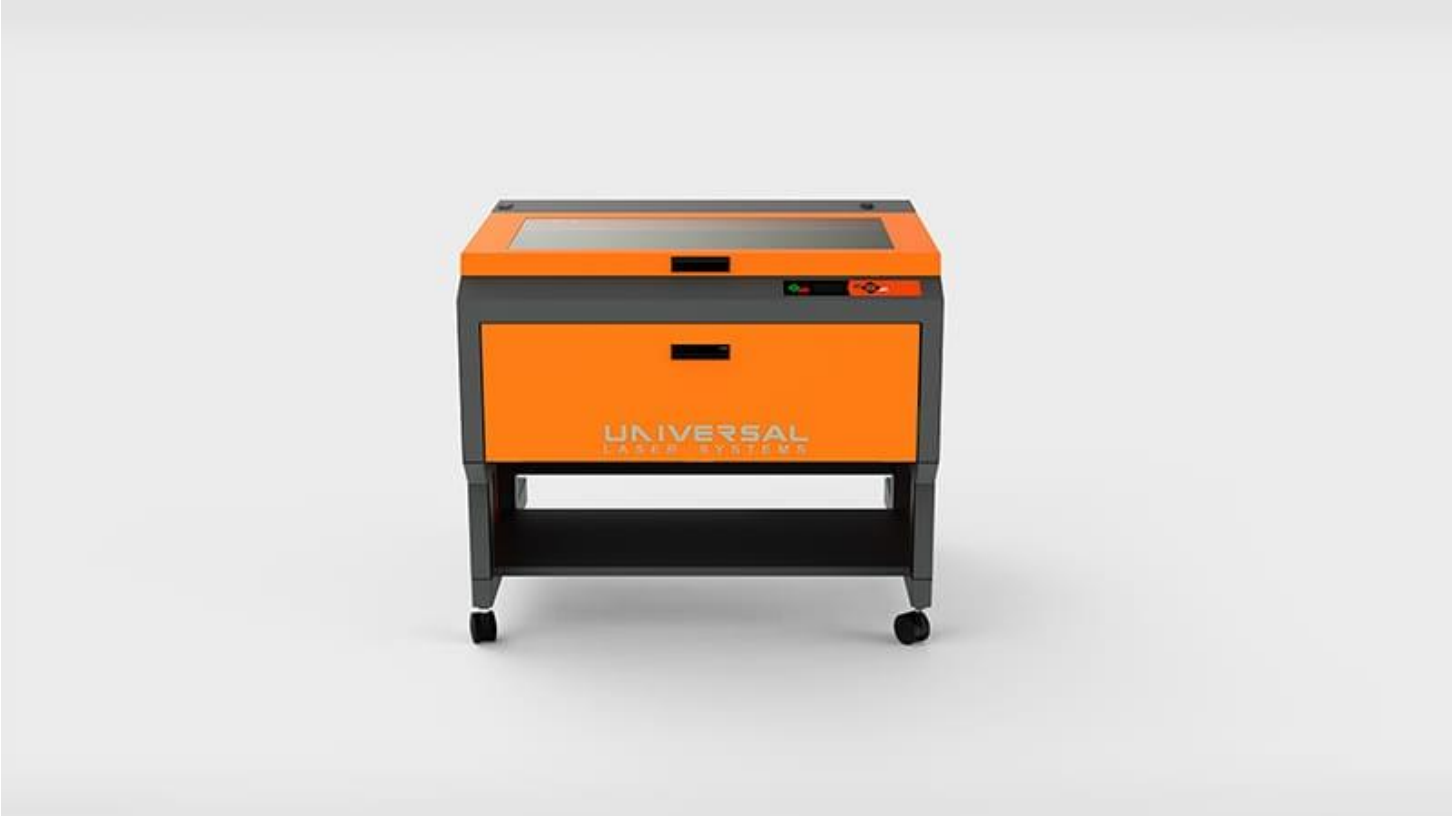
UNIVERSAL LASER SYSTEMS

PLS6MW



Platform Overview

The PLS6MW (Multi-Wavelength) is a free-standing platform uses multiple laser wavelengths to process the broadest possible spectrum of materials and supports either CO_2 or fiber lasers. The PLS6MW has a materials processing envelope of 32" x 18" x 8.5" or 4,896 in³ (813 x 457 x 216 mm or 80,253 cm³). With Universal's Rapid Reconfiguration technology, any one of the following lasers can be used: one 10.6µm CO_2 laser (available from 10 to 75 watts); one 9.3µm CO_2 laser (available in 30, 50 or 75 watts); one 1.06µm fiber laser (available in 40 and 50 watts).

Platform Specifications

PLS6MW	
Work Area	32 x 18 in (813 x 457 mm)
Maximum Part Size (W x H x D)	37 x 23 x 8.5 in (940 x 584 x 216 mm)
Overall Dimension (W x H x D)	44 x 39 x 36 in (1118 x 991 x 914 mm)
Rotary Capacity	Max Diameter: 8 in (203 mm)
Motorized Z Axis Lifting Capacity	40 lbs (18 kg)
Available Focus Lenses	2.0 in (50 mm) MW *recommended for most 10.6 and 9.3 micron applications* 4.0 in (100 mm) MW *recommended for most 1.06 micron applications* HPDFO™ (High Power Density Focusing Optics) MW
Laser Platform Interface Panel	Keypad and LCD display show current file name, laser power, engraving speed, PPI and run time.
Computer Requirements	Requires dedicated PC with Windows® 7/8/10 32/64 bit and one available USB port (2.0 or higher)
Optics Protection	Integrated with included Gas Assist
Cabinet Style	Free-Standing
1.06 µm (Fiber)	30 and 40 Watts
10.6 µm (CO_2)	10, 30, 40, 50, 60 and 75 Watts
9.3 µm (CO_2)	30, 50, and 75 Watts
Weight	345 lbs (156 kg)
Power Requirements	110V/10A 220V-240V/5A
Exhaust Requirements	Two 4 in (102 mm) ports 500 CFM @ 6 in static pressure (850 m^3/hr at 1.5 kPa)

Included Accessories

Gas Assist

Manual Gas Assist (with Optics Protection)

Gas Assist injects a stream of gas onto the material being processed at the point where the laser focuses onto the material. Optics protection supplies a constant stream of clean air creating positive pressure around critical optical elements, such as mirrors and lenses to keep them clean. The gas can be supplied either by an air compressor or from external gas tanks.

Benefits

- Reduces accumulation of residue deposits
- Improves cutting and engraving
- Protects optics

Safety & Facility

Fire Detection (Audible Alarm)

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Software

Universal Control Panel

The Universal Control Panel (UCP) is a user interface that controls ULS laser systems. This intuitive interface enables users to produce expert quality results. The UCP includes a Printer Driver and Direct Import Feature for uploading graphic designs. The UCP also provides an Intelligent Materials Database that calculates optimized settings for laser processing on hundreds of materials.

Benefits

- Intuitive and easy to use: allows laser cutting, engraving, and marking to be executed in three easy steps
- Time saving features maximize productivity: Direct Import, Materials Database, Duplicate, Estimate, Storage and Organization
- Manual Control feature allows users to enter individual laser settings for unique materials and applications, providing unlimited processing flexibility

Intelligent Materials Database

The Intelligent Materials Database automatically calculates optimized settings for laser processing on hundreds of materials.

Benefits

- Ever expanding database of laser processable materials allows users to achieve optimal results and avoid the learning curve for processing new materials
- Gives you limited control over your laser processing parameters when needed

Optional Accessories

Gas Assist

Computer Controlled/Programmable Gas Assist (with Optics Protection)

Gas Assist injects a stream of gas onto the material being processed at the focus point. Computer-Controlled Gas Assist allows the rate of gas injection and mixture of gas ratios to change within the same design file. Optics protection supplies a constant stream of clean air creating positive pressure around mirrors and lenses to keep them clean.

Benefits

- Allows computer controlled change of gas flow and mixture
- Reduces accumulation of residue
- Improves cutting and engraving
- Protects optics

Coaxial Gas Assist Attachment

The Coaxial Gas Assist attachment directs flow perpendicular to the material's surface. There are different Coaxial Gas Assist Attachments for each focusing lens; these maintain the optimal distance from the material while avoiding beam path obstruction. The Coaxial Gas Assist attachment forces air against the material and helps remove laser material processing byproducts from cutting, engraving, and marking processes.

Benefits

- Improved laser material processing
- Increased system safety
- Reduced maintenance

Lateral Gas Assist Attachment

The Lateral Gas Assist attachment is an adjustable attachment that can direct air along the material's surface at a variety of incident angles. This is particularly helpful in raster engraving applications where debris can be removed from the engraving for ideal processing.

Benefits

- Improved laser material processing
- Increased system safety
- Reduced maintenance

Compressed Air Source

ULS offers a compressed air solution that delivers optimally-conditioned air to both the Optics Protection and Gas Assist components. Additionally, the compressor controls the laser cutting, engraving, and marking equipment by supplying air only when it is demanded, reducing unnecessary wear, electrical costs and noise.

Benefits

- Clean and oil free air
- Dry air
- Turns on and off based on laser system requirements

Air Filtration and Handling

UAC 2000 Filtration System

ULS provides a line of air filtration solutions appropriately sized for each laser system.

Benefits

- Increased Safety
  The innovative, patented sensor suite monitors filtration performance at every stage of filtration
- Improved Return on Investment
  Extremely efficient use of consumable filter media
- Enriched User Experience
  Extremely quiet operation, industry leading ease of use, and integration with the ULS product eco-system

UAC 4000 Filtration System

ULS provides a line of air filtration solutions appropriately sized for each laser system.

Benefits

- Increased Safety
  The innovative, patented sensor suite monitors filtration performance at every stage of filtration
- Improved Return on Investment
  Extremely efficient use of consumable filter media
- Enriched User Experience
  Extremely quiet operation, industry leading ease of use, and integration with the ULS product eco-system

Material Handling

Flow-Through Cutting Table

The Flow-through Cutting Table consists of a thin-wall aluminum honeycomb-core evenly supported by an underlying hollow structure. The target material is placed on the honeycomb core. When excess laser power passes the lower surface of the target material during a laser cutting process, this excess power is passed into the supporting structure where it is absorbed in an unfocused state.

Benefits

- Damage-free Laser Cutting
  Mitigates or eliminates laser damage to lower surface of target-material being laser cut
- Consistent, Clean, Laser Cutting
  Precision-levelled table provides a path for excess laser power and for laser processing byproducts to escape

Rotary Fixture

The Rotary Fixture allows spherical, conical and cylindrical objects to be marked, cut and engraved.

Benefits

- Accepts non-symmetrical objects
- Maintains precision accuracy
- Maintains repeatability
- Taper compensation
- 360 degree processing
- Allows raster and vector processing

Configurable Cutting Table (Pin Table)

The Configurable Cutting Table consists of an anodized aluminum plate with an array of precision holes with regular spacing. Specially designed material-support pins are placed into these holes in an arrangement to fully support the target-material while avoiding the cutting path of the laser completely. The result is zero back-reflection onto the lower surface of the target-material while maintaining full material support.

Benefits

- Damage-free laser cutting
- Consistent, clean laser cutting

Optics

2.0" Lens

This is the most versatile lens. It provides an ideal balance of spot size, depth of focus and focal length for most laser cutting, engraving and marking applications.

Benefits

- Versatility

4.0" Lens

This lens has the greatest depth of focus and focal length. It is able to accommodate the most uneven material surfaces. However it also has the largest spot size and therefore provides the lowest power density.

Benefits

- Largest depth of focus
- Largest focal length
- Can accommodate uneven material surfaces

HPDFO™

ULS offers customers the ability to drastically improve marking and engraving resolution, to directly mark onto some metals, and to increase the range of materials which can be cut with a CO_2 laser system. This is accomplished through ULS patented HPDFO™, which focuses the laser's energy into a much smaller area than is possible with standard lenses. The HPDFO™ option includes a collimator which minimizes divergence across the laser processing area producing more consistent focal spot size and energy density. A collimator is required for HPDFO™ to function.

Benefits

- Produce unmatched resolution
- Achieve high levels of detail and tighter tolerances
- Directly mark metals with a CO_2 laser

Productivity Enhancers

Automation Interface

The Automation Interface makes it possible to integrate ULS laser systems into automated manufacturing environments. Programmable inputs and event-driven outputs, combined with a powerful user interface, allow users to seamlessly adapt their laser systems to diverse automated applications.

Benefits

- Comprehensive External Laser System Control
  Initiate up to eight different laser system functions with programmable inputs
- Integrate External Devices into Laser Material Processing
  Control or signal up to two external devices using event-driven, programmable outputs

Software

1-Touch Laser Photo™

1-Touch Laser Photo™ is an innovative product for converting digital photographs into bitmap files that can be used to engrave the image into materials. This transforms an ordinary photograph into a professional quality engraving. Prior to 1-Touch this was possible only by experimenting with halftone screens, dithering patterns, and laser settings – an expensive and time consuming methodology.

Benefits

- High quality results
- Broadest material compatibility
- Intuitive user interface

Direct File Import/ Industry Standard Interchange Format Support

In addition to standard print drivers, ULS offers a Direct File Import option that enables users to import certain types of files including .PDF and .DXF directly into the laser system control software, without the need to print from any third party software. Additionally, G-Code import is exclusively available for ULTRA platforms.

Benefits

- Allows the user to import standard design file interchange formats from any design platform (PC, Mac, Linux)
- Offers improvement in vector processing quality

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CDRH Class 1 safety enclosure for CO_2 laser. Class 2 for red laser pointer.

CDRH Class 1 laser safety enclosure provides for safe operation without the need for an interlocked room or protective eyewear

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.

Protected under one or more of U.S. patents 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; 10.456,875; 9,737,958; 10,391,345. Other U.S. and International patents pending.