

Innovative Ultrafast Laser Solutions

ADVANTAGES

Fully-integrated system including:

- Field-proven laser source technology (CPA-series or IMPULSE)
- Multi-axis positioning system
- Beam delivery system
- Selection of processing parameters
- Class I enclosure
- Integrated, intelligent, on-axis machine vision and inspection system
- Motion control
- Repetition-rate control, pulse grouping and pulses on-demand capabilities
- Optional digital and/or analog IO
- Complete computer control
- Granite base mounted on isolator
- Small footprint

APPLICATIONS

- Micro-machining
- Photo-polymerization /3D printing
- Direct-write waveguides
- Laser ablation
- Micro/Nano patterning
- 3D Tomography

UMW-Series

Ultrafast Micromachining Workstations



Over thirty years experience with ultrashort-pulse laser manufacturing combined with hundreds of real-world projects and years of processing know-how have led to our latest generation of femtosecond micro-machining workstations.

The UMW-Series encompasses everything you need to micro-machine with ultrashort pulse lasers. The design benefits from our years of experience learning the optimum combination of components, performance parameters, and software required to micro-machine materials with ultra-short pulses of light.

The UMW-Series provides ample space for custom beam delivery and manipulation. It also includes a sophisticated machine vision and inspections system and complete computer control. The software provides powerful and intuitive access to all system functionality including the laser, motion, and machine vision systems, and provides advanced intercommunication between them.

Ordering Information:

UMW

Order Example:

1	2	3	4	5	6	7	8	9	10
UMW	HE	S	3	2G	F10	IL	LF	01	VP

1 Series

UMW

2 Laser

CP CPA
IM IMPULSE
HE IMPULSE-HE

3 Laser Output

F Fundamental
S Second Harmonic
T Third Harmonic

4 Positioning Axis

3 3 Axis
4 4 Axis
5 5 Axis

5 Galvo configuration

00 No galvo
2G 2 Axis

6 Objective

F10 100 mm Focal Length -Theta
F16 160 mm Focal Length -Theta
F24 240 mm Focal Length -Theta
X05 5X Microscope Objective
X10 10X Microscope Objective
X20 20X Microscope Objective

7*1 Inline Video

00 No inline vision
IL Inline vision system

8*1 Off-axis Video

00 No off-axis video
LF Low resolution off-axis work area overview
HF High resolution off-axis and offset inspection

9 Integrated diagnostics

01 Power meter

10 Software options

VP Vision Pro

Notes:

*1 - At least one vision option must be selected.

Specifications:

Positioning System: Contact Clark-MXR for details

Vision System: Includes high-resolution camera, LED lighting, and integrated vision package, pro software package optional

Enclosure: Class 1 laser

Certifications:*2 NFPA 79, IEC 60825-1, SEMI S2, SEMI S8, SEMI S14

Notes:

*2: Certifications available on certain models, contact sales for details.



Left: First demonstration of industrial femto-second laser machining during Laser World of Photonics in Munich, Germany in 1997.



Where your imagination of the very small is realized



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