SELECTING THE RIGHT LASER SYSTEM

There are many variables to consider when selecting a laser system. It can be difficult to decide which system will best satisfy your individual application requirements, while remaining cost-effective. The information offered here will help you compare systems and simplify the process of choosing the best solution for your individual needs.

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How Much Laser Power Do I Need?

The amount of laser power you choose should meet the majority of your production requirements. For example, a 10 watt laser is capable of cutting and engraving 1/8" wood, but only at very slow speeds. More wattage can greatly increase your productivity. Also, some operations such as metal marking require a minimum of 30 watts of laser power. Use the wattage guidelines below for choosing the amount of power you need.

- **10 watts -** Entry level power for light surface engraving operations and cutting thin materials. 10 watts can cut approximately 1/8"
- **20-30 watts -** Low to medium power level for moderate speed cutting and engraving and high speed, low power engraving. Not recommended for thick cutting operations or dual head applications. 25 watts can cut approximately 1/4"
- **40-60 watts -** Medium power level for deeper, high speed engraving and thick cutting operations at average speeds. 50 watts can cut approximately 1/2"
- **60-80 watts -** Medium-high power level that is ideal for high productivity engraving and cutting operations

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- **80-120 watts -** High power for heavy cutting and deep, high throughput engraving. Ideal for use with dual head. In a dual laser system, turning one laser off is helpful for precision engraving of very low power materials. 100 watts can cut approximately 3/4"

How Do the Systems Compare in Size and Power?

The chart below allows you to compare the available work area and laser power choices for the various systems offered by Universal Laser Systems.

	System	Work Area	Laser Power Choices
VersaLaser Series (VLS)	VLS2.30	16" x 12"	10, 25, 30 watts
	VLS3.50	24" x 12"	10, 25, 30, 40, 50 watts
	VLS3.60	24" x 12"	10, 25, 30, 40, 50, 60 watts
	VLS4.60	24" x 18"	10, 25, 30, 40, 50, 60 watts
	VLS6.60	32" x 18"	10, 25, 30, 40, 50, 60 watts
Professional Laser Series (PLS)	PLS4.75	24" x 18"	10, 25, 30, 40, 50, 60, 75 watts
	PLS6.75	32" x 18"	10, 25, 30, 40, 50, 60, 75 watts
	PLS6.150D	32" x 18"	10, 25, 30, 40, 50, 60, 75 watts (Select any two lasers for up to 150 watts)
	PLS6.120D SuperSpeed™	32" x 18"	10, 25, 30, 40, 50, 60, 75 watts (Select any two lasers for up to 150 watts)
Industrial Laser Series (ILS)	ILS9.75	36" x 24"	10, 25, 30, 40, 50, 60, 75 watts (Select any two lasers for up to 150 watts)
	ILS9.75D	36" x 24"	10, 25, 30, 40, 50, 60, 75 watts (Select any two lasers for up to 150 watts)
	ILS12.75	48" X 24"	10, 25, 30, 40, 50, 60, 75 watts (Select any two lasers for up to 150 watts)
	ILS12.75D	48" X 24"	10, 25, 30, 40, 50, 60, 75 watts (Select any two lasers for up to 150 watts)

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Which Materials Can Be Used with a Laser System?

The charts below show the wide variety of materials that can be engraved, cut, and marked with Universal Lasers.

MATERIALS FOR ENGRAVING AND CUTTING

Material	Engrave	Cut	Material	Engrave	Cut
ABS Plastic	•	•	Melamine	•	•
Acrylic	•	•	Mother of Pearl	•	•
Avonite	•	•	MDF	•	•
Brick	•		Mylar®	•	•
Cardboard	•	•	Nylon	•	•
Ceramic	•		Paper	•	•
Chipboard	•	•	Particle Board	•	•
Corian®	•	•	Polycarbonate	•	ILS only
Cork	•	•	Polypropylene	•	•
Delrin®	•	•	Polyester	•	•
Fabric	•	•	Pressboard	•	•
Fiberglass	•		Resin	•	•
Foam	•	•	Rubber	•	•
Fountainhead	•	•	Silicone	•	•
Glass	•		Silk	•	•
Granite	•		Stone	•	
Kevlar	•	•	Styrene	•	•
Laminated Plastics	•	•	Tile	•	
Leather	•	•	Travertine	•	
Marble	•		Twill	•	•
Masonite®	•	•	Wood	•	•
Mat Board	•	•			

MATERIALS FOR METAL MARKING

Material	Direct†	MMC††
Alum-A-Mark	•	
Aluminum		•
Anodized	•	
Brass		•
Carbide	•	•
Cobalt	ILS only	•
Copper		•
Iron	•	•
Nickel		•
Painted Brass	•	
Pewter	•	•
Stainless Steel	•	•
Steel	•	•
Titanium	•	•
Tungsten	ILS only	•

†Can be marked directly (without need for Metal Marking Compounds) using High Power Density Focusing Optics (HPDFO)

††MMC (Metal Marking Compounds) can only be used on bare metal, free of clear coating or polish