

Advanced Photonic Sciences Introduces Model  
LE-445-6000-SC Spot Creator,  
a 6-Watt Blue Diode Laser



Features

Simple Installation On X-Y-Z CNC Machines

Adjustable Focusing Lens to Create 50, 80, and 100 Micron Diameter Spots

Create High Intensities on Target

Self-Contained Fully Integrated Laser Module Including High Power Blue Diode, Active Cooling, Beam-Forming Optics, and Power Supply

Stable Output Power

Precision Engineering

Rapid Engraving, Etching, and Marking

Modulate Up To 250 kHz

Proportional Control in CW Mode Using 5V CW Signal

High Efficiency

Simple to Power Up and Operate

## Applications

Most Advanced High Power Blue Laser For Laser Engraving, Etching, and Marking  
Higher Speed Materials Processing Due to High Power and Small Focal Spot Size  
Create Symmetric Spot Size Down to 50 Microns, Perfect For Precision Engraving,  
Etching, and Marking Most Metals, Including Stainless Steel  
Use to Engrave, Mark, Cut, and Drill a Wide Variety of Metals and Soft Materials,  
Including Foam, Plastics, and Various Woods  
Perfect Pump Source For Ti:Sapphire Ultrafast Oscillators  
Pump Other Solid-State Lasers Including Pr:YLF, Cr:LiSAF, Cr:LiCAF, Cr:LiSGaF, and  
Cr:BeAl<sub>2</sub>O<sub>3</sub>  
Wide Area Illumination Applications, Including Laser Light Shows

Several application videos are available online:

Stainless Steel Color Engraving: <https://www.youtube.com/watch?v=sOY7Lp6-Ing>

Engraving Graphics 1: [https://www.youtube.com/watch?v=WKuc\\_-HzkIk&t=2s](https://www.youtube.com/watch?v=WKuc_-HzkIk&t=2s)

Engraving Graphics 2: <https://www.youtube.com/watch?v=-qLpNTel1DY&t=>

Foam Cutting: [https://www.youtube.com/watch?v=1P\\_ARxF2piw&t=](https://www.youtube.com/watch?v=1P_ARxF2piw&t=)

Cutting Forms of Foam: <https://www.youtube.com/watch?v=9G6sH9FRFaE>

Cutting Padding Material of Foam: <https://www.youtube.com/watch?v=Dul7ONXuWk4>

Stamp Engraving: <https://www.youtube.com/watch?v=EcaMVoqboPw>

## Specifications

Model LE-445-6000-SC

Wavelength (nm) 445 ± 5

Output Power (mW, Typical)

6000 (-10 to 25 °C)

5300 (25 to 40 °C)

Output Beam Transverse Mode Lower Order Mode, Near TEM<sub>00</sub>

Polarization (Vertical, ± 2 °) Contrast Ratio 100:1

Power Stability After Warm Up (%) < 1

Focal Spot Diameter (µm)

f=30 mm 50

|  |              |
|--|--------------|
| f=50 mm                                  | 80           |
| f=70 mm                                  | 100          |
| Maximum Modulation Frequency (kHz) (TTL) | 250          |
| Modulation Voltage Range (V)             | 0.2 ? 5.0    |
| Power Up Rise Time (µsec)                | 1.4          |
| Power Supply Input (VDC/mA)              | 9-12/4000    |
| MTTF (Hours)                             | > 10,000     |
| Cooling Method                           | Fan          |
| Laser Dimensions (mm)                    | 81 x 62 x 40 |
| Operating Temperature (oC)               | -10 to 40    |
| Storage Temperature (oC)                 | -10 to 85    |

#### A Note About Laser Safety

The LE-445-6000-SC Spot Creator Laser is a Class 4 laser device, and not a toy. The laser is capable of blinding and can produce serious burns to the skin. It is meant to be used in OEM applications that incorporate adequate laser safety measures, and is not CDRH compliant. APS assumes no responsibility for users that do not follow adequate laser safety protocols, such as the use of laser glasses with the proper amount of Optical Density at the operating wavelength of 445 nm, or do not take measures to protect the skin or eyes. In applications such as do-it-yourself laser engraving, marking, or cutting X-Y-Z machines, it is the responsibility of the user to provide adequate shielding from scattered laser light to protect the eyes.

#### APS Exclusive Distributor in United States and Canada

APS has been appointed Exclusive Distributor of Model LE-445-6000-SC Spot Creator Laser in the United States and Canada by Lasertack GmbH of Kassel, Germany. APS will provide distribution, support, application assistance, and servicing from our facility in Friendsville, Pennsylvania. Please contact Mr. Sten Tornegard at APS for ordering, pricing, and applications support ([info@advancedphotonicsciences.com](mailto:info@advancedphotonicsciences.com)).