

DAGGER-15

ELIXIR
Photonics Incorporated

High Power Industrial Nanosecond UV Laser



DAGGER-15 is the best of all low cost-of-ownership industrial UV laser with thermally compensated super stable cavity design technology. It offers >15 W output power at 50 kHz with pulse energy over 300 μJ and pulse duration <20 ns. The excellent beam parameter performance, plus their proven reliability, makes Dagger-15 suitable for a wide range of high-precision industrial micromachining, including via drilling, electronic package singulation, silicon wafer sawing and scribbling, transparent material cutting etc..

KEY HIGHLIGHTS

Repetition rate of 40 – 100 kHz

TEM₀₀ ($M^2 < 1.3$)

Pulse width < 20 ns @ 50 kHz

Pulse energy > 300 μJ @ 50 kHz

Compact

RS232 and external GATE control

Assembled in 1000 class clean room

APPLICATIONS

Flex circuit cutting and machining

Microvia drilling of printed circuit boards

Thin film metal (copper, gold etc..) cutting, patterning, marking and machining

LED processing and production

Si wafer scribbling, cutting and dicing

Indium-Tin Oxide (ITO) removal and patterning on glass and plastic



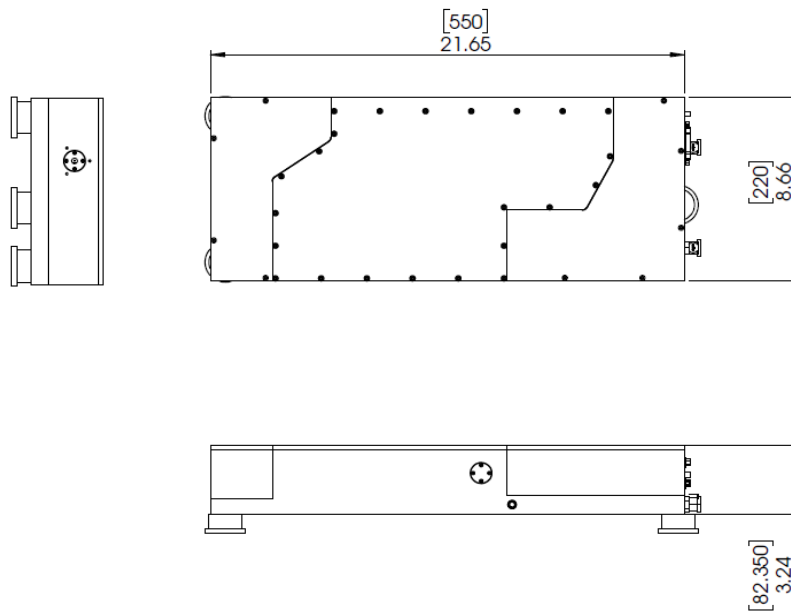
DAGGER-15

15 W 355 nm High Power Industrial Nanosecond UV Laser

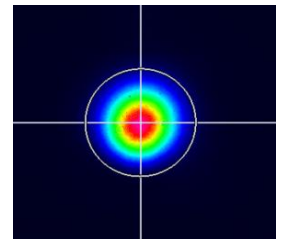
System Specifications

Center Wavelength	355 nm
Pulse Repetition Rate	40 to 100 kHz
Pulse Duration	<20 ns @ 50 kHz
Maximum Average Power	> 15 W @ 50 kHz
Average Power Stability	< 2% rms over 8 hours
Pulse-to-pulse Stability	< 3% rms
Spatial Mode	TEM ₀₀ , M ² < 1.3
Beam Divergence	< 1.5 mrad (full angle)
1/e ² Beam Diameter	~1.0 mm
Beam Roundness	> 90%
Pointing Instability	< 50 μrad
Polarization Direction	Horizontal
Polarization Ratio	> 100:1
Cooling	Water-cooling
Ambient Temperature	15 to 30°C
Storage Temperature	-10 to 50°C
Relative Humidity	10% to 80% (non-condensing)
Warm-up Time	< 10 minutes
Operating Voltage	85 to 264 V (50/60 Hertz)

Mechanical Specifications



Test Data



Elixir Photonics follows a policy of continuous product improvement. Specifications are subject to change without notice. Elixir Photonics offers a limited warranty for all DAGGER lasers. For full details of this warranty coverage, please contact Sales Department at sales@elixirphotonics.com.

