

SABER-20

High Power Industrial Femtosecond Laser



SABER-20 combines advantages of fiber laser technology and free-space solid state amplifier technology to get >20 W output power with pulse energy over 200 μJ and pulse duration <700 fs.

- The fiber mode-locked laser seed enables the SABER-20 to be more stable, compact and more flexible than the traditional solid-state seed lasers.
- The solid-state amplifier ensures the output of high pulse energy with excellent beam quality and extreme stable operation of the laser.

KEY HIGHLIGHTS

Repetition rate of single shot to 2 MHz

TEM₀₀ ($M^2 < 1.3$)

Pulse width < 700 fs

Pulse energy > 200 μJ @ 100 kHz

Burst Mode available

Compact

RS232 and external GATE control

Assembled in 1000 class clean room

APPLICATIONS

Glass cutting and drilling

Ceramic cutting and drilling

Semiconductor cutting

Precision machining

Injector nozzle drilling

Sapphire cutting and drilling

Thin film cutting

Scientific applications



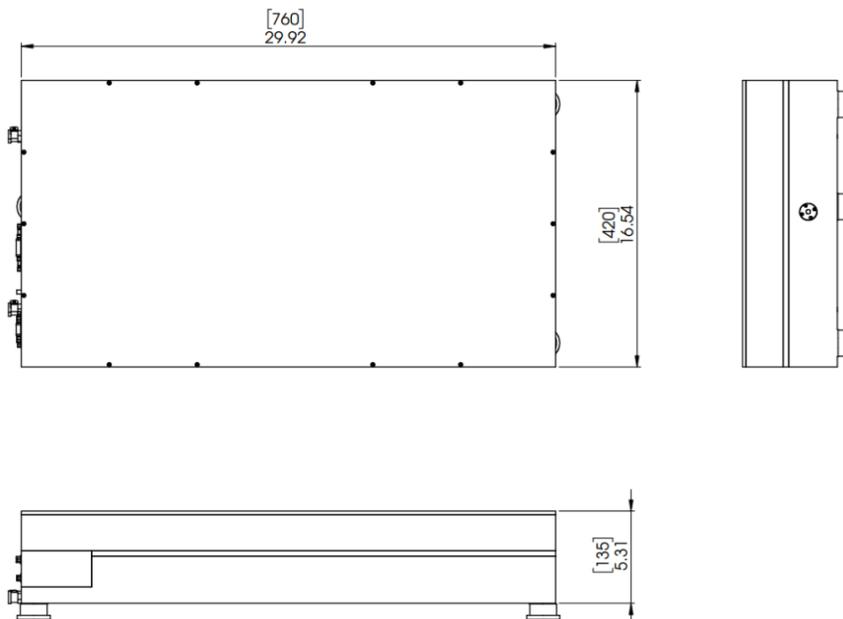
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20 W 1030 nm High Power Industrial Femtosecond Laser

System Specifications

Center Wavelength	1030 nm
Pulse Repetition Rate	Single shot to 2 MHz
Pulse Duration	<700 fs
Maximum Average Power	> 20 W @ 100 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	~1.6 mm
Beam Roundness	> 90%
Pointing Instability	< 50 μrad
Polarization Direction	Vertical
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



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

