大威激光科技有限公司
Davi Laser Technology Co., Ltd.

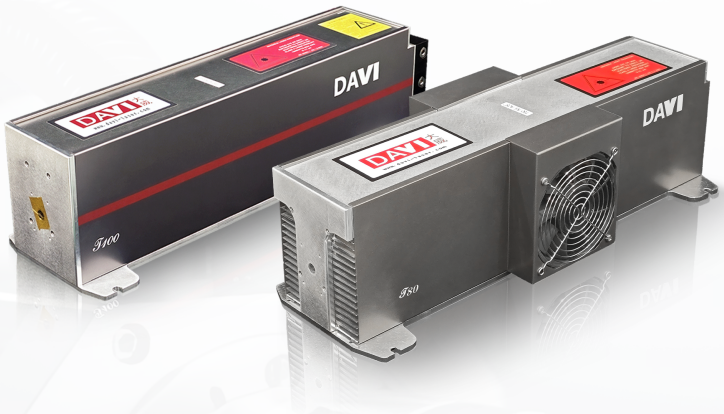
T80/100

二氧化碳射频激光器

Carbon dioxide RF laser

T80/T100射频 CO_2 激光器采用陶瓷芯设计，具备连续输出特性，可配置风冷或水冷两种方式。

The T80/T100 RF CO_2 lasers is a continuous output lasers featuring Ceramic Core design, which can be configured for both air cooling and water cooling.



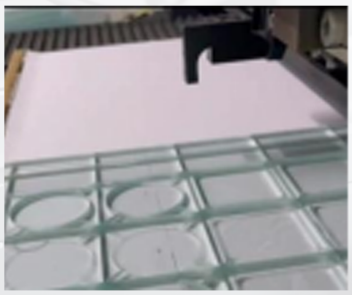
产品特点

- 全陶瓷芯设计显著降低激光气体衰减，使用寿命延长三倍
- 共振腔内部组件减少30%，可靠性大幅提升
- 极短的脉冲上升和下降时间，显著提高生产效率
- 优异的功率稳定性确保系统高可靠性

Product Features

- Fully Ceramic Core design significantly reduces laser gas attenuation, extending the lifespan by threefold.
- A 30% reduction in internal components of the resonant cavity enhances reliability.
- Extremely short pulse rise and fall time, contribute to high production efficiency.
- Excellent power stability ensures high reliability

应用场景
Application Scenarios



玻璃裂片
Glass lobes

图案切割
Pattern cutting

手机壳切孔
Cell phone case cutting hole

产品参数
Product parameter

型号 MODEL / 参数 SPECIFICATIONS	T80	T100
波长(μm) Wavelength(μm)	10.6	10.6
输出功率(W)① Optical Output Power(w)①	⩾ 80W	⩾ 100W
功率稳定性②③ Power Stability(%)②③	< ±5%	< ±4%
光束质量(M^2) Mode Quality (M^2)	M^2 < 1.2	
光束椭圆度 Beam Elipticity	< 1.2:1	
光束直径(mm) Beam Size(mm)	2.5 ±0.5	
光束发散角(mrad全角) Beam Divergence(mrad,full angle)	5.2 ±0.5	
脉冲上升/下降时间(μs) Rise Time(us)	<75μs	
脉冲频率 Pulse Frequency(kHz)	0 - 100kHz	
重量 Weight	14.5kg(风冷Fan) / 17.5kg(水冷Water)	
尺寸：长*宽*高(mm) Dimensions (L*W*H)	535 × 192.9 × 156(风冷Fan) / 581.15 × 176× 156.1(水冷Water)	
散热方式 Cooling	风冷Fan/水冷Water	
热负荷 Heat Load (W)	< 1400W	
电源要求 Input Power		
输入电压 DC Input Voltage(VDC)	48VDC	
输入电流④ Continous DC Input Current④	30A	
环境条件 Environment Condition		
外壳最高温度 Maximum Case Temperature	< 50℃	
工作环境温度 Temperature	5℃ ~ 35℃	
海拔高度 Altitude	< 2000m	
湿度 Humidity	无冷凝 Non-Condensing	
航运和存储环境 Shipping/Storage Environment	-10℃ ~ 60℃，无冷凝 Non-Condensing	
冷却水要求 Coolant		
流速 Dynamic Coolant Flow Rate (l/min)	6L/min	
最大压力 Coolant Maximum Static Pressure (kPa)	500kPa	
温度 Coolant Setpoint Temperature Range	20℃ - 30℃	
硬度（$CaCO_3$） Hardness of water （$CaCO_3$）	< 250mg/L	

以上规格如有变动，恕不另行通知

说明：

① 激光输出功率在激光器温度25℃条件下测得，高于25℃每上升1℃输出功率约降1%

② 功率稳定性定义：±(Pmax-Pmin)/(2Pmax)

③ 功率稳定性测量条件：在正常的工作环境下，出光10分钟后

④ 在10 kHz的脉冲重复频率和100%占空比条件下，测量最大平均输入电流

The above specifications are subject to change without prior notice

Notes:

①Measured at 25℃ and derated by 1%/℃ for higher laser head temperatures

②Power Stability definition: ±(Pmax-Pmin)/(2Pmax)

③Measured at constant duty cycle after 10 minutes laser out at operating condition

④Measured at 10 kHz PRF and 100% duty cycle operation, maximum average input current