

# JK704TR

*Pulsed Nd:YAG Twin-Rod Laser*



**Unique twin-rod design provides high peak and mean power for high performance trepan and percussion laser drilling.**

- High speed, high performance drilling to meet demanding and unusual application needs
- Low divergence resonator optics provide a high intensity laser spot
- Fast material removal
- Proven performance



## JK704TR Process Performance

Patented (US Patent 5,699,376) twin rod technology enables high peak and mean power to be combined with excellent focussing characteristics. The JK704TR can be used for:

- Percussion drilling of larger holes 0.4-1.2mm
- Fast trepanning of 0.5-0.8mm holes in less than 1 sec
- Shaped hole drilling
- On-the-fly drilling

Typical applications include drilling of film cooling (effusion) holes in jet engine and gas turbine components such as nozzle guide vanes, blades and combustor liners.

The JK704TR also includes pulse shaping capability which can be used to improve hole geometrical quality.

## Turnkey Machines

The JK704TR can be fully integrated into GSI Group or other manufacturers turnkey machines. Please inquire about options and interface details.

The JK700 Series are Class IV/4 lasers, when supplied complete with safety enclosure they can be to Class I/1 safety standards.

## Laser Options

Standard

- Laser Head
- Pre-aligned Optics
- Ceramic Reflectors
- Quick Change Flashlamps
- High Speed Process Shutter
- BET
- Microprocessor Control
- Diagnostics

- Pulse Shaping
- Single/Multi-pulse Selection
- Modular Power Supply
- Integrated Cooling
- IP55/NEMA 12 Sealing
- Low Divergence Optics
- RS232 Interface

Optional

- CNC Interface
- HeNe Laser\*
- CCD Camera
- Remote Shutter Control
- Machining Head
- Trepanning Head
- Galvanometer Head

\* HeNe used for pointing only. Not required for alignment. For details of these features, process and production benefits please ask for our general JK700 Series and Beam Delivery Guides.

## Specifications

### LDA Operating Mode

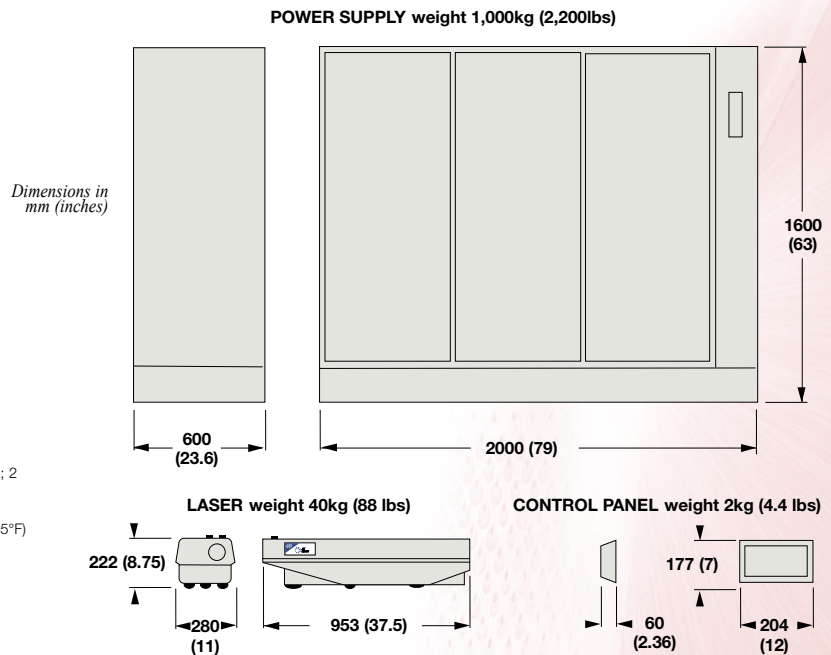
- Maximum Power: 230W
- Pulse Energy Maximum: 60J
- Peak Power Maximum: 30kW
- Pulse Width: 0.3-5ms
- Frequency: 4-100Hz
- Beam Quality: 3 mm mrad

### LDB Operating Mode

- Maximum Power: 370W
- Pulse Energy Maximum: 60J
- Peak Power Maximum: 30kW
- Pulse Width: 0.3-5ms
- Frequency: 6-150Hz
- Beam Quality: 6 mm mrad

### Service Requirements

- Supply rating: 22kVA at maximum rated power
- Maximum power consumption: 16kW at maximum rated power
- 3 phase 3 wire supply with  $\pm 6\%$  voltage tolerance
- Water requirements: 22 litres (5.9 gals)/min at 15°C (60°F); 2 bar minimum differential pressure
- Ambient temperature: 5-35°C (40-95°F) operating
- Humidity: 95% at 15°C (60°F) derated to 32% at 35°C (95°F)



Specifications are subject to change. Please consult Product Center for complete details.

[www.gsig.com/lasers](http://www.gsig.com/lasers)



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