

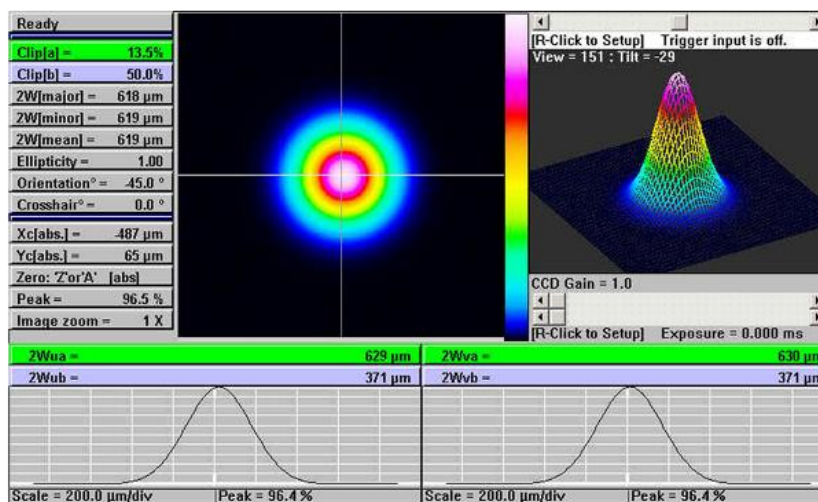
## CS450 - Mid Power Industrial Fiber Laser

Convergent Photonics new CS450 FL Series fiber laser, are designed to deliver the best  $TM_{00}$  beam quality and the highest performance in material processing to better suit the customer needs.



The highly efficient and compact CS450 medium power fiber lasers with output power up to 450W, guarantees low maintenance operation, high reliability and superior processing performances.

Capable for many different applications such as Precision Cutting and Additive Manufacturing, which require that the fiber laser can output high beam quality with smallest beam spot size and proper power intensity.



Typical CS450 laser output beam profile

Main advantages in installing fiber lasers include:

- High Beam quality diffraction limited  $M2 < 1.2$
- Flexible laser beam delivery, 5m delivery fiber length (longer cable upon request)
- High electro-optical efficiency, up to 30% wall-plug efficiency
- Simple, compact, maintenance free and robust design
- Laser Fiber delivery RQB, not water cooled
- Fast modulation
- Long term power stability, no beam wandering
- Optimized beam profile and Laser Spectrum for Scientific research



## Technical specifications

|  |              | CS450  |                |                |
|--|--------------|--|----------------|----------------|
|  |              | Min  | Typ.           | Max            |
| Nominal Output Power                       |              | 450W   |                |                |
| Power Range                                |              | 50 W   | 450 W          | 490 W          |
| Power Stability                            |              |  | Typ. $\pm 1\%$ | Typ. $\pm 2\%$ |
| Pulsing Frequency                          |              | CW -5kHz   |                |                |
| Wavelength                                 |              | 1070nm   | 1070nm         | 1080nm         |
| Polarization                               |              | Random   |                |                |
| Beam Parameter Product (1/e <sup>2</sup> ) |              |  | 0.3mm*mrad     | 0.5mm*mrad     |
| Electronic Shutter On/Off Time             |              | 1.2s   |                |                |
| Feeding fiber core diameter                |              | 12 $\mu$ m   |                |                |
| Feeding fiber length                       |              | 5 m to 30 m  |                |                |
| Minimum bend radius                        |              | 200 mm   |                |                |
| Output connector                           |              | RQB/QBH Fiber Optic Cable                                    |                |                |
| Safety                                     |              | PLd  |                |                |
| Diode Pointing Laser                       |              | Wavelength 520 nm Power <2 mW                                |                |                |
| Electrical Power Consumption               |              |  | 1.5 kW         | 1.6 kW EOL     |
| Voltage                                    |              | 100 - 240 VAC, single-phase                                  |                |                |
| Operating Environment (min/max)            |              | 5° C / 50° C   |                |                |
| Relative Humidity                          |              | < 95% non-condensing   |                |                |
| Laser Cooling 35% Glycol Mix               | Cooling Cap. | 1.5 kW *   |                |                |
|  | Pressure     |  |                | 6 Bar          |
|  | Flow         | 4 l/Min  |                |                |
|  | Temp         | 20 ° C $\pm$ 2   |                |                |
| Dimensions (mm) W / H / L                  |              | 440/125/540  |                |                |
| Weight                                     |              | 22 Kg  |                |                |
| Connections                                | Coolant      | 1/2 inch hose barb or 10mm OD quick disconnect fittings (x2) |                |                |
| Ingress Protection Rating (IEC60529)       |              | IP20*  |                |                |

**\*Note:** IP20 (IEC60529) indicates that the laser will not be protected from dust ingress or water. Therefore, it **MUST** be hosted in a IP54 cabinet.

