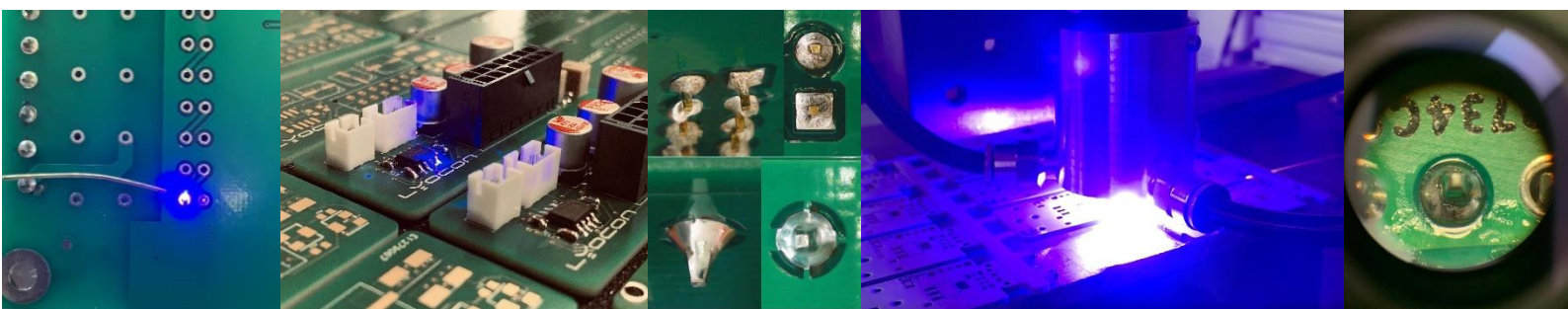


# ZEPHYRUS Blue

## HIG POWER FIBER COUPLED BLUE 450nm LASER SYSTEM



ZEPHYRUS is a fiber coupled laser system able to deliver up to **200W CW @450nm** in a 100µm optical fiber. It includes the ZEPHYRUS PLATFORM **BLUE** module, plus the laser driver, the cooling plate for water cooling and the optical fiber. Thanks to the strong absorption of the **BLUE 450nm** radiation by the highly reflective materials used in the **PCB manufacturing** process - up to 20x compared to IR wavelengths - ZEPHYRUS is the state-of-the-art solution for **soldering** of THT and SMD components, **depaneling** and **trimming**.

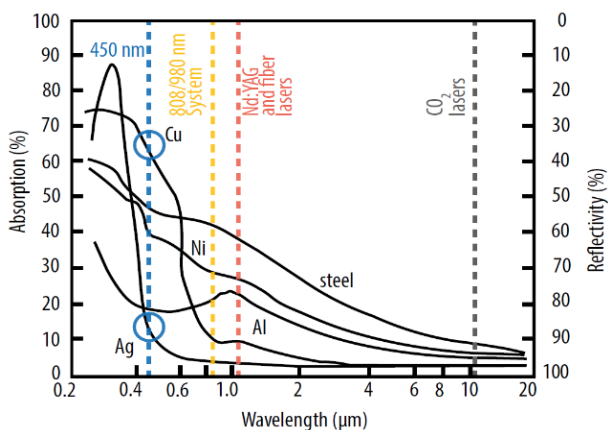
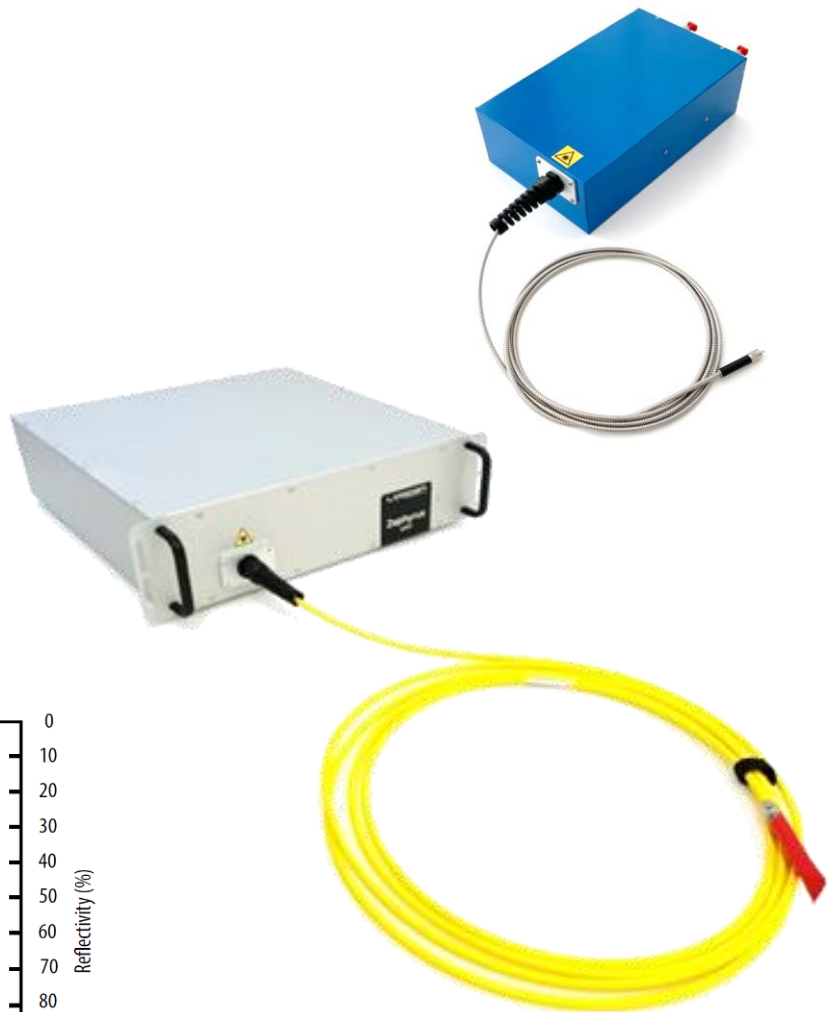
The high absorption grants lower power and time required to perform the job, as well as minimum unwanted back reflections from the solder pad, thus leading to a fast and safe process.

### FEATURES AND BENEFITS

- Valid substitute to actual IR laser
  - 50% power required to solder
  - 60% time required to solder
- Reduced thermal stress on solder pad
- Minimum unwanted back reflections
- Ready for integration
- Long lifetime > 30,000 hours

### APPLICATIONS

- SOLDERING OF THT, SMD COMPONENTS
- DEPANELING
- TRIMMING
- WELDING



## TECHNICAL SPECIFICATIONS

Wavelength (nominal)	nm	450nm			
Wavelength range	nm	440 / 460			
Output power	W	35	50	100	200
Fiber core (min) (*)	µm	100	200	200	200
Fiber NA	-	0.22	0.22	0.22	0.22
Fiber connector	-	FC/D80	D80	D80	D80
Operating current	A	< 3.8	< 3.8	< 3.8	< 3.8
Operating voltage (1 channel)	V	< 40	< 30	< 30	< 30
N° of channels		1	2	4	8
Operating temperature (**)	°C	+15 / +30			
Storage temperature (**)	°C	-20 / +60			
Available or customizable Options		Different fiber types Coupling into scanning head Fixed or variable focusing heads			
		PCB soldering Projection Plastic Welding Pumping Stereolithography	PCB soldering Projection Plastic Welding Pumping Stereolithography	PCB soldering PCB cutting Projection Plastic Welding Stereolithography	Soldering Cutting Projection Welding Stereolithography
		Electronics Defense 3D printing	Electronics Defense 3D printing	Electronics Industrial 3D printing	Electronics Industrial Battery

Conditions unless otherwise stated: typical parameters at 25°C.

\*\* Not-condensing environment

\* Optical fiber not included

(a) Special model 4W in 50µm NA 0.12 fiber

## ACCESSORIES

Available/customized accessories for ZEPHYRUS System are:

- Fixed or zoom focusing head
- Collimation optics for scan head interface
- In-line pyrometer and/or camera module for focusing head



## APPLICATION TIPS

Find our application tips and insights at the following links:

- <https://www.lyocon.com/applications/blue-welding-soldering/>
- <https://onlinelibrary.wiley.com/doi/epdf/10.1002/phvs.202100036>

Lyocon aims to continuous improvement of its products, so specifications may change without notice. Class 4 Laser Product.

LYOCON S.r.l.

HQ: Via Mercalli, 16 – 20019 Settimo M.se (MI) – Italy  
OP: C.so Novara, 161 – 27029 Vigevano (PV) – Italy

Phone: +39 0381 453792  
Fax: +39 0381 455213

E-mail: [Info@lyocon.com](mailto:Info@lyocon.com)  
Web: [www.lyocon.com](http://www.lyocon.com)