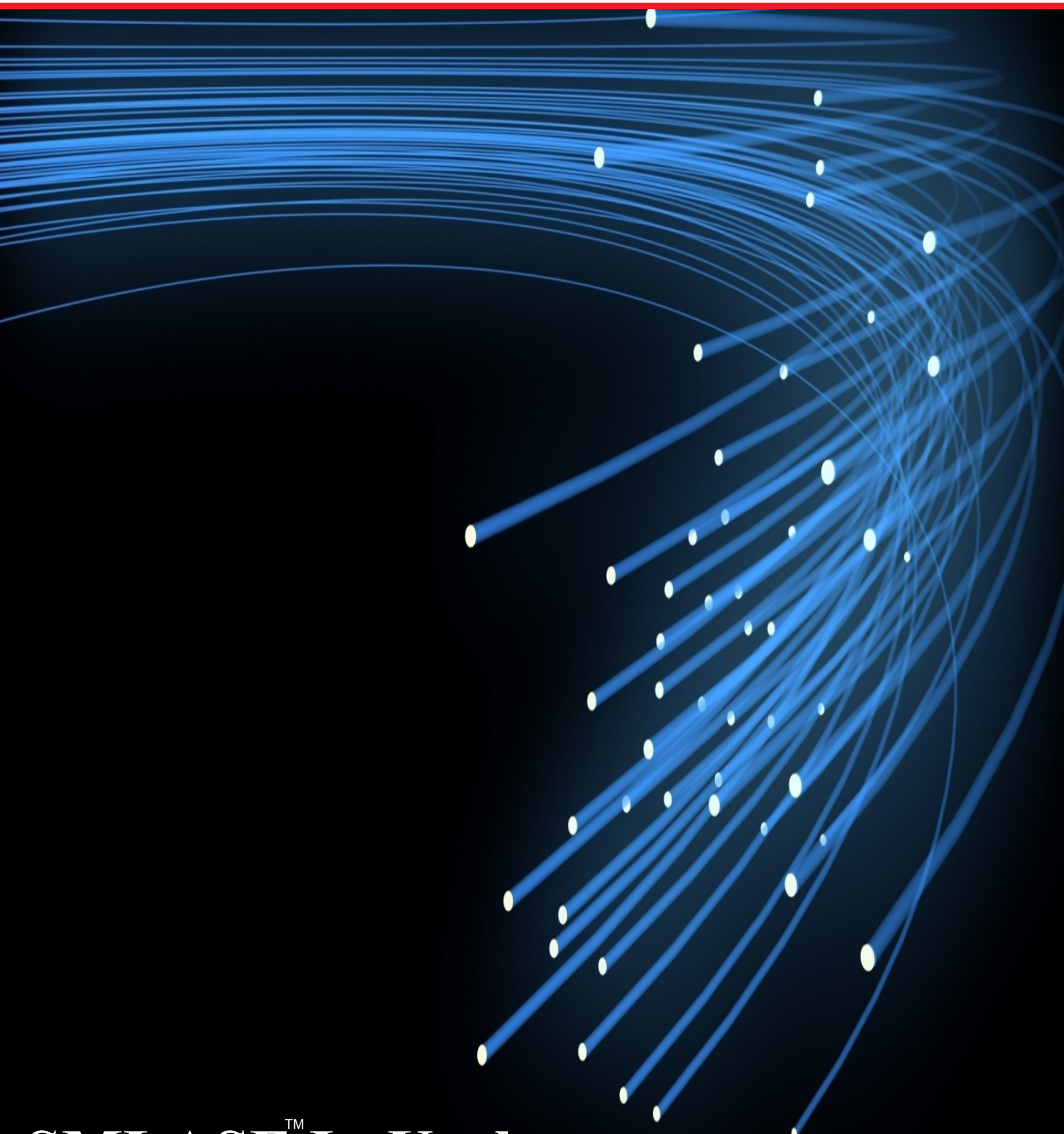
SMLASE™



SMLASE™ In Urology

SMLASE™ Photon

At the cutting EDGE™ of technology

Company Profile:

We are specializing in design, development, manufacturing and sale of medical laser systems and related accessories. The four pillars of our solid research and design foundation are:
Precision, Efficacy, Usability and Safety!
We have a strong emphasis on research and development, which is driven by the needs and ideas of our customers, and realized by our strong team of scientific and technical experts. Our laser products are developed and manufactured in Germany, hence each component placed in our products ensures superlative quality, precision and long life, true to the renowned standards of German engineering. Our growing network of suppliers and distributors worldwide, reflects our work ethics and offers high standards of service quality.

MADE IN GERMANY
Highest Quality

www.smhcp.com

What is SMLASE Photon and why it is the perfect addition to your clinic?

We understand the value of realizing medical challenges with technological innovations. SMLASE Photon is our diode laser system offering 980nm of laser wavelength with continuous wave power of up to 150W. This revolutionary laser wavelength lies at the sweet spot, offering high absorption in water and hemoglobin, making it a great solution for Laser treatment of Benign Prostate Obstruction, among an array of other medical applications. In addition, due to its compact design, SMLASE Photon offers convenient mobility and high versatility.

Medical Applications

- ✓ **Prostate: BPH (Benign Prostate Hyperplasia)**
- ✓ **Kidney: Partial Nephrectomy**
- ✓ **External Genitals: Condyloma acuminate and other virus associated skin lesions, Penile carcinoma**
- ✓ **Urethra: Strictures**
- ✓ **Bladder: Tumors, Bilharoziosis, Intestitial Cystitis**
- ✓ **Urethra: Carcinomas**
- ✓ **Pediatrics: Congenital dysplasia of Urethra and Ureter**

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Laser Diode Specifications

Type	Diode laser
Wavelength	980 nm ± 10 nm @ 25° C
Electrical to Optical Efficiency	50% ± 5%
Pilot laser	650 nm wavelength, <5mW optical power output
Laser Class	Class 4 for laser module
	Class 3R for integrated pilot laser

Laser System Specifications

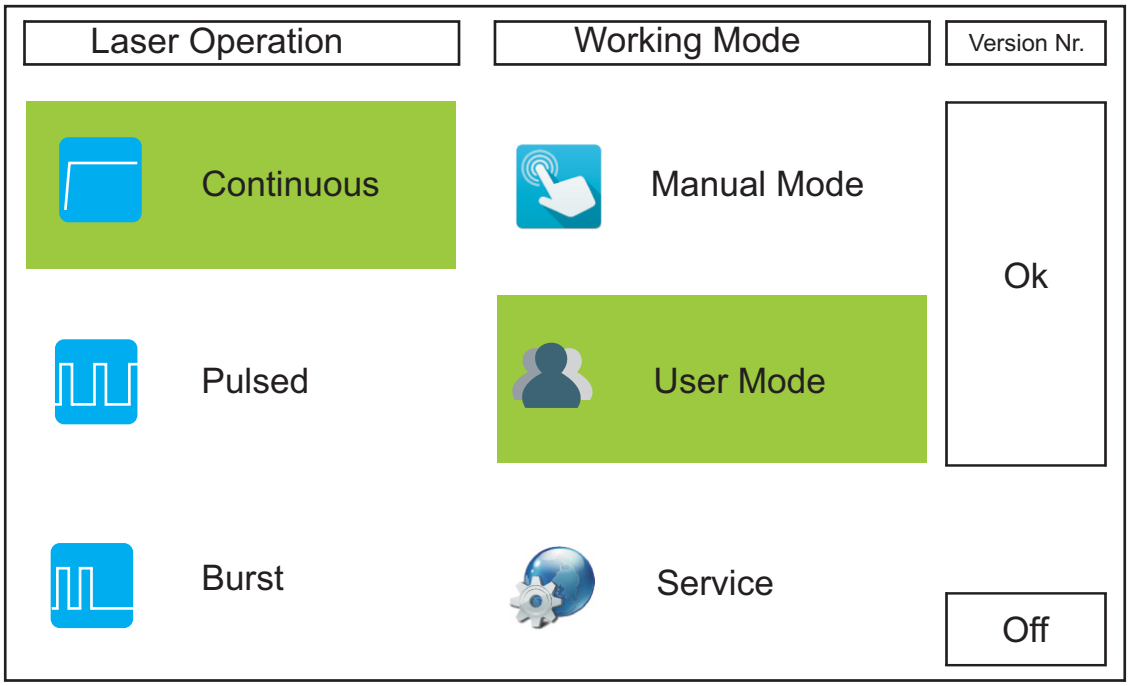
Max Optical Power (W)	~150
Operating Modes	Continuous Wave, Pulse Mode, Burst mode
Pulse Width (s)	0.01 to 99.9
Pulse Pause (s)	0.01 to 99.9
Number of Pulses in Burst Mode	1-1000
Duty Cycle (%)	50 to 100
Input Voltage (V)	230 ± 10% (AC)
Input Current Frequency (Hz)	50
Main power supply	AC/DC
Cooling	Air cooled by fans
Fiber Connector	Easy to access Fiber connector at the user interface
Emergency Off	Key Lock integrated in Emergency OFF
Operating Control	By touch screen and footswitch (foot pedal)
Dimensions (HxWxD)	Approx. 25cmX50cmX30cm
Weight	Approx. 30 Kg

Precision and Efficacy

- ✓ Our trademark **EDGE Technology ™ (Efficient Diode Guided Emission Technology)** along with our **Optimize** user settings, enhances the laser ablation efficiency with a minimized energy imparted on the tissue.
- ✓ High electrical to optical energy conversion efficiency
- ✓ Offers three Laser operations: Continuous Wave, Pulsed, Burst
- ✓ Continuous wave with user defined power
- ✓ Pulsed laser operation with three degrees of freedom to plan the treatment: Power, Pulse length, Pulse Pause
- ✓ Burst laser operation delivers user defined number of customized laser pulses for a short and precise burst of energy

Safety

- ✓ Continuous check of the system for thermal conditions, Laser fiber connection, Laser protection glass shield and all the electronics and electrical connections within the system for ensuring optimum and safe functioning of the system at all times.
- ✓ A comprehensive self-test routine to ensure correct functioning of the system at every start
- ✓ Audible indication with volume control when Laser light is On
- ✓ Activation of foot pedal only after successfully completing all treatment planning steps and receiving a visual indication 'System Ready' from the system
- ✓ Emergency off with double contacts
- ✓ Excellent fiber transmission efficiency ensures negligible losses from the source to the Lasing location
- ✓ Indication of a wrong coupling of Laser fiber to ensure no losses in transmission

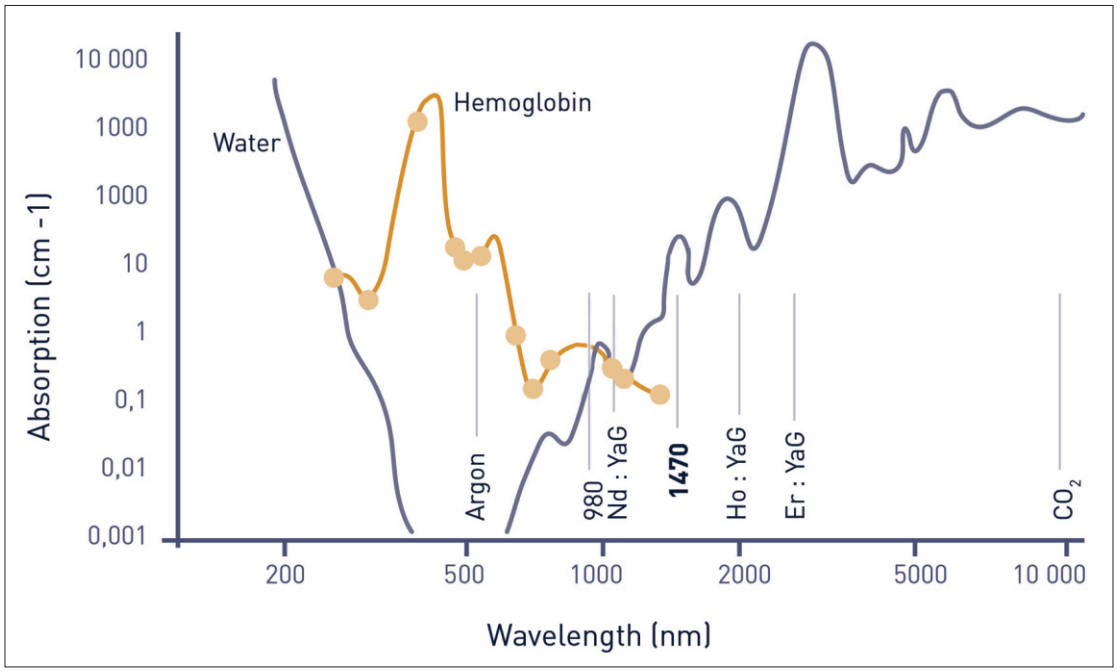


Usability

- ✓ **Optimize** user setting for each laser operation – Single touch treatment planning with recommended laser settings from SMLASE[2*]. An ideal solution for the first time users of Diode Laser Enucleation of Prostrate (DiLEP) technique, ensuring very convenient treatment planning and a short learning curve.
- ✓ Offers two working modes for each laser operation – Manual mode and User mode
- ✓ Within User mode, saves upto three user settings for every Laser operation
- ✓ An intuitive Touch Screen aided simple treatment planning software
- ✓ Visual indicators mimicking a traffic light for a simple status indication: Red = Stop, Yellow = Standby, Green = Ready!
- ✓ Aiming laser brightness control with easy access
- ✓ Compact design with integrated air cooling enhances maneuverability
- ✓ Convenient mobility with easy to carry waterproof, dustproof and shockproof carrying case
- ✓ Operational with a standard electrical wall socket[3*]
- ✓ Compatible with Multi-use, state of the art, Medical approved Laser fibers from SMLASE[4*]
- ✓ Easy calibration and other service features for an on-site system service

Why 980nmDiode laser for medical application?

Light distribution and absorption within the tissue, affect the optical penetration in a wavelength dependent manner. For thermal laser-tissue interactions, absorption is the most important factor. Energy absorption leads to excitation of a molecule, which results in temperature increase and thus thermal affects leading to coagulation, vaporization, or carbonization. To predict these effects, a number of variables are relevant including the wavelength and type of radiated tissue, especially the type of target chromophore.
In prostate tissue treatment, mainly two chromophores are of interest: the hemoglobin molecule of the red blood cells and the intercellular water. The 980 nm laser wavelength of SMLASE Photon, offers high simultaneous absorption in water and hemoglobin.



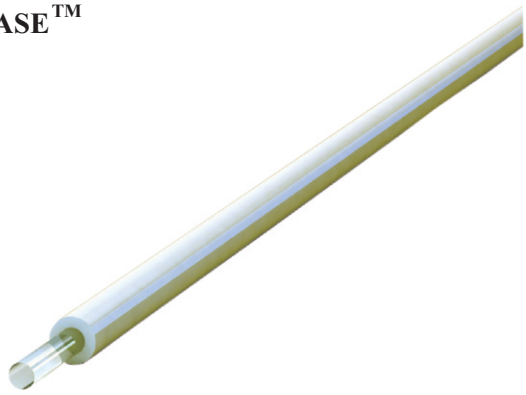
Other laser wavelengths and types offer high absorption in either the hemoglobin molecule or the water molecule. But, the 980nm wavelength of SMLASE photon lies at the ***Sweet Spot***with an overlapping high absorption coefficient in water molecule as well as hemoglobin molecule. The result is high ablation rate in tissue, char free coagulation, excellent hemostasis and lower bleeding rates.

Accessories

- ✓ **Dust proof, corrosion resistant, water proof, customized carrying case for ease of transportation**
- ✓ **Safety goggles**

- ✓ **Multi-use, state of the art, Medical approved Laser fibers from SMLASE™**
  - **Front firing Bare fiber with a flat tip**
  - **600 micrometer core diameter**
  - **Transmission efficiency of ~99%[4*]**
  - **Multiple use for upto 10 procedures**
  - **Outer diameter 1.6mm +/- 5%**
  - **Length 3m +/- 0.1**
  - **Visual indicators for cutting the fiber after use**
  - **Suitable for high optical powers**

  (other fiber types, sizes and configurations are available on request)



- ✓ **Fiber handling kit**
- ✓ **Headpieces for other medical applications**

Product From :

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1* see technical details for ranges; 2* recommendation through our internal calculations of Laser-tissue Linteractions, and user experience; 3* see technical details for compatibility with your local electrical power supply settings; 4* under standard test conditions