

sapphire

Hard and Soft Tissue Laser

with revolutionary Laser Embedded Handpiece Technology



Product Highlights

Laser Embedded Handpiece Technology

Express craft of your profession with ease and precision by the state of the art Laser Embedded Handpiece, which feels just like holding a traditional drill. This unique technology significantly increases the economics of owning a laser, due to lower operational costs and far greater clinical versatility when compared to traditional and contemporary lasers and techniques.

Minimally Invasive Treatment Technology

Permits minimally invasive treatment options for your patients and enhances treatment experience by eliminating high pitched sounds and unpleasant vibrations from traditional drills. Procedures with sapphire is assured to be pleasant, fast and predictable.

Light, Compact and Mobile

Due to sapphire's innovative modular design, it weighs only 35 kg and is very compact in size, facilitating great mobility in a clinical environment. Sapphire is amongst the lightest, smallest and yet the most robust laser systems in the market.

Wireless Footswitch

Enhances operating experience and versatility with sapphire's Wireless Footswitch available to you. Treat your patients with simplicity, elegance and in a cable-clutter-free environment.



Feels Just Like What You are Used To



Fully Rotatable Handpiece

Features an ergonomic, light and yet fully rotatable handpiece, minimizing resistance and fatigue of the physician's hand. The handpiece is only 22 grams in weight due to the use of medical-grade aluminum alloy and cutting edge engineering technology.

Robust Soft Tube

Sapphire's non-optic-fiber soft tube is flexible, bendable and robust, ensuring you full control of the laser and a care-free operating experience. Simply pull it out and use it like a high-speed drill, there is absolutely nothing to worry about.

Fast Transition from Old to New

Handling the sapphire handpiece is just like using a traditional drill. Keep the amazing craft that you've learnt and experience the modern laser technology.

Customized to All Dental Practices

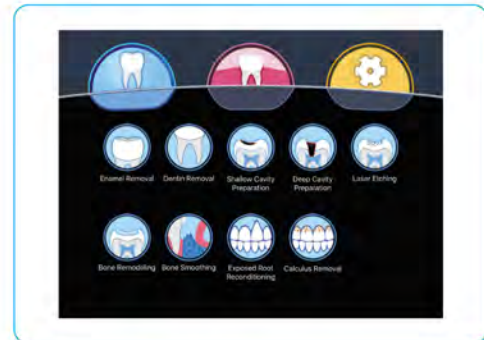


Advanced User Interface

- Large 8" inch color LCD with graphical user interface, enabling the most intuitive operating experience.
- Resistive touch screen allows convenient use through surgical gloves and objects, permitting rigorous protocol for infection control.
- Foldable screen may be easily adjusted to accommodate physician's height and preferred angle of operation.

Built-in Treatment Protocols

- 16 clinically proven effective procedures onboard.
- 2-step navigation design allows activation of laser in seconds.
- Fully customizable for storage of preferred treatment parameters.



Step 1 Select procedure

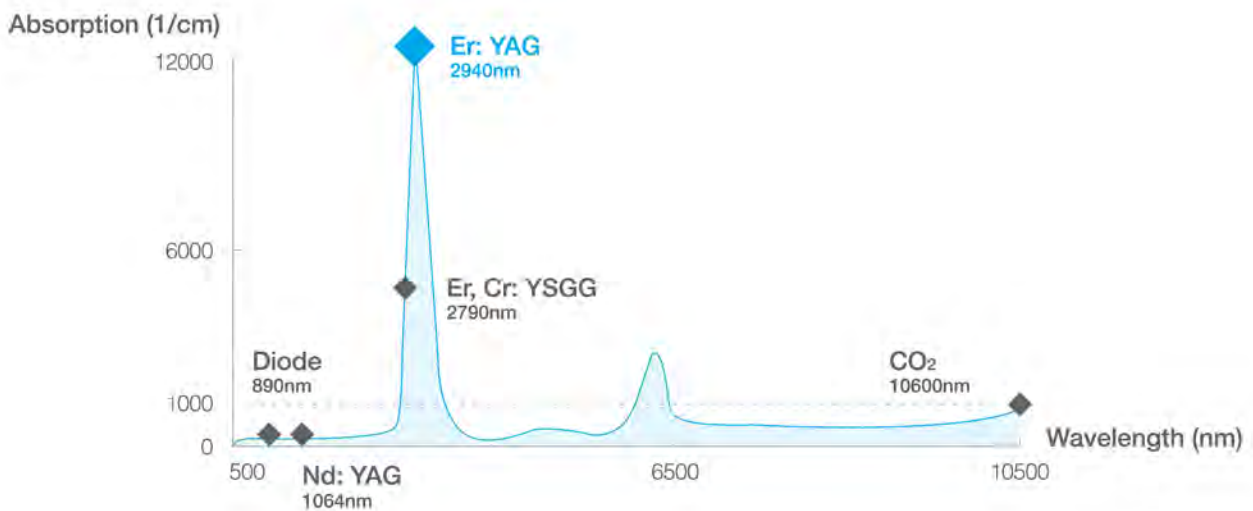


Step 2 Confirm parameters and Begin

Unrivalled Benefits of Er: YAG Laser

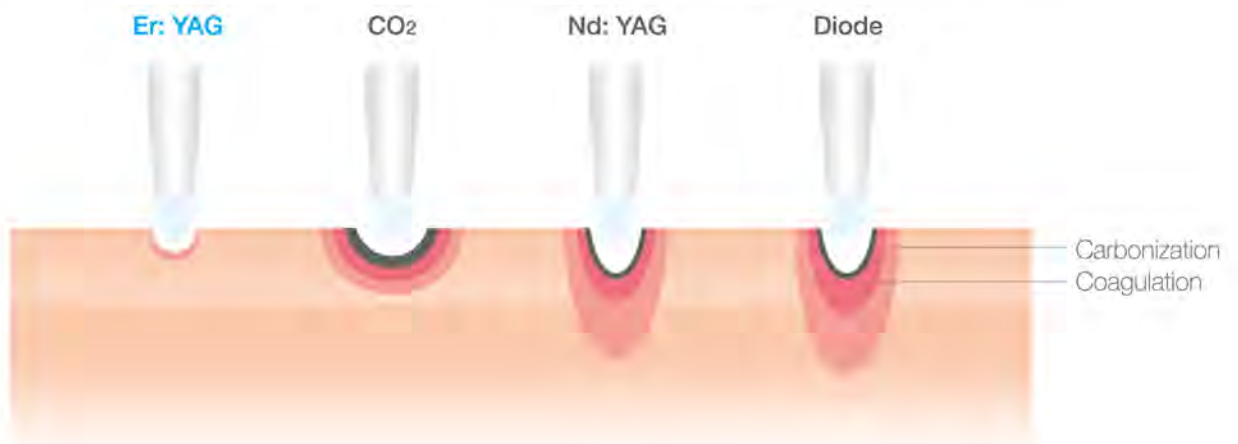
Ideal Properties for Hard Tissue Treatment

- Er: YAG laser is clinically proven to have the most efficacious and efficient wavelength for enamel, dentin and bone ablation procedures.
- Studies had shown that the pulp will be permanently damaged when heated up to 40°C. Hence, Er: YAG laser is considered to be the safest laser wavelength for hard tissue procedures, as its laser energy is mostly absorbed in the metamorphosis of water molecules.



Minimally Invasive Soft Tissue Procedures

- Er: YAG laser ablates only the surface of the irradiated soft tissue, and produces the least collateral thermal damage comparing to Diode, Nd: YAG and CO2 laser. Hence, Er: YAG laser treatment permits the shortest recovery time and optimal clinical results.
- Sapphire's laser parameters may also be adjusted to increase its cutting efficiency, producing faster yet satisfactory treatment results.



sapphire in Everyday Clinic

Restorative Dentistry

- **Microsurgery:** Conserves most of the healthy enamel and dentin with Er: YAG laser's selective and precise ablation.
- **Great Visibility:** Permits excellent visibility to surgical site with non-contact work.
- **No Micro Fractures:** Er: YAG laser affects only the surface of the irradiated area, and does not produce micro cracks on hard tissue.



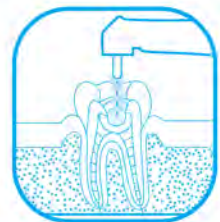
Periodontal

- **Natural Bactericidal Effect:** Laser's natural bactericidal property results in effective periodontal disinfection and predictable treatment results.
- **Less Needles:** Due to the minimally-invasive property of laser, many periodontal procedures may be operated without anesthetic needles.
- **Faster Healing:** Significantly reduces post-operation discomfort and recovery time. Patients can quickly return to their work and daily life.



Endodontics

- **Opening Preparation:** Produces less collateral thermal damage and micro fractures.
- **Root Canal Sterilization:** Removes smear layer and clean root canals.
- **Apicoectomy:** Performed in a cleaner and less invasive way.



Pedodontics

- **No Anesthetic Needles:** Due to the minimally-invasive property of Er: YAG laser, many of the restoration procedures may be done without anesthetic needles.
- **Quicker Procedure:** Permits quicker restoration procedures than rotary drills.
- **Optimal Patient Comfort:** Laser treatment eliminates vibrations and high-pitched sounds, resulting in a compliant and peaceful treatment.



Implant Dentistry

- **Implant Uncovering:** Ensures fast and precise implant uncovering procedure, as soft tissue's laser ablation threshold is much lower than the metallic implant.
- **Peri-implantitis:** Provides effective solution to contaminated implants.



Esthetics

- **Fast Recovery:** Er: YAG laser permits significantly shorter recovery time for esthetic treatments like gum re-contouring, crown lengthening and gum pigmentation.
- **Less Pain, More Precision:** Er: YAG laser enables excellent pain management and precise cutting, anesthesia is not required in many esthetic procedures.
- **Quicker Procedure:** Permits shorter procedure time than traditional approaches.

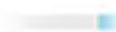


Accessories

Cylindrical Tips

Recommended for general ablation, caries removal, laser etching, dentinal tubular closing, osteoplasty, gingivalplasty, frenectomy and gum pigmentation procedures.

ST 100
1.3 x 14 mm



ST 120
1.3 x 19 mm



Conical Tips

Recommended for general incision, excision, intrasulcular incision, flap incision, apicoectomy, gingivectomy, troughing, and root canal sterilization procedures.

If the physician requires fine cutting, conical tips are also ideal for use in ablation procedures like caries removal and cavity preparation.

ST 200
0.8 x 14 mm



ST 220
1.0 x 17 mm



ST 240
0.6 x 17 mm



Chisel Tip

Recommended for general scaling and calculus removal procedures.

ST 700
0.3 x 17 mm



Side Firing Tip

Designed to deliver laser at a 90° angle, providing better access to particular surgical sites.

ST 900
1.3 x 19 mm



Angled Handpiece



- Designed to use with autoclave.
- "Click" tip installation and removal
- Weightless and ergonomic design ensure optimal operating experience.

Specifications

System Console

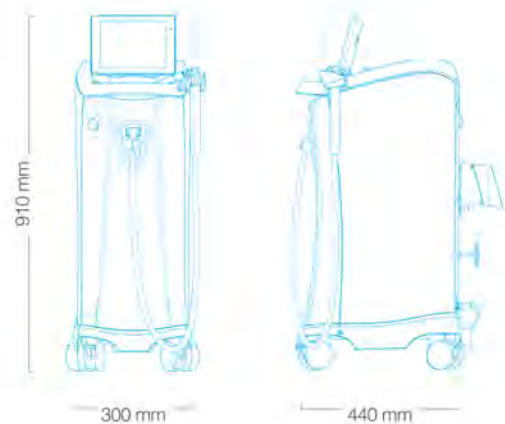
Dimensions (L x W x H)	30 x 44 x 91 cm (11.8" x 17.3" x 35.8")
Weight	35 kg (77.2 lb)

Electrical

Operating voltage	Single phase, 100 – 230 VAC
Frequency	50 / 60 Hz
Current rating	15 A

Optical

Laser classification	Class 4
Medium	Er: YAG
Wavelength	2,940 nm
Laser emission mode	Pulsed emission
Frequency	10 – 50 Hz
Max average power	8.4 W
Max pulse energy	700 mJ
Pulse duration	100 – 800 μ s
Spot size at distal end of tip	0.2 – 1.3 mm



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