

Technical specification:

Parameter	Specification
Laser Type	Erbium YAG Diode Laser
Wavelength	2940 nm 980nm 650nm 450nm
Pulse Energy	- Hard tissue mode: 100-700 mJ - Soft tissue mode: 50-400 mJ - Gentle Treatment mode: 20-40 mJ
Pulse Rate	10-50 Hz
Pulse Duration	- Hard tissue mode: < 0.5 ms - Soft tissue mode: < 1.0 ms - Gentle Treatment mode: < 0.4 ms
Power	- Normal operation: 0.5-8.4 Watts on tissue - With Gentle Treatment mode: 0.2-2.0 Watts on tissue
User Interface	High-resolution, color LED display with touch-screen technology
Footswitch	Covered, watertight, on/off operation
Electrical RequirementsCooling System	100-240 VAC, 13A, 50-60 Hz, Single phase
Cooling System	Self-contained, distilled water

SOGA[®]

The First Chinese brand Er:YAG+Diode laser

80 different indications for soft tissue, hard tissue and bone

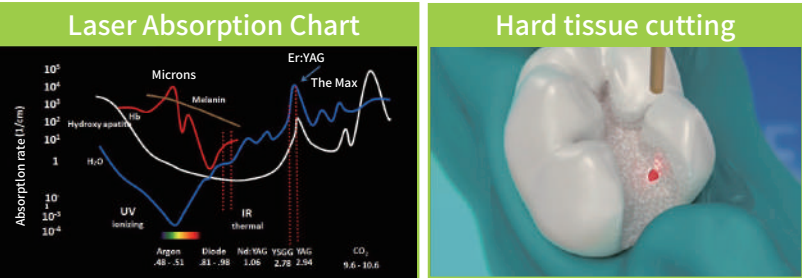
Er:YAG: 2940nm

Diode: 980nm, 650nm, 450nm



Therapeutic “Goldilocks” Zone

H₂O Laser’s proprietary Er:YAG 2940nm wavelength has optimal absorption in both water and Hydroxyapatite for cool and efficient cutting in both hard and soft tissue.



vs H₂O Laser VS. Traditional Methods: Cavity preparation

H₂O Laser:Er:YAG 2940nm

Hard Tissue Advantages:

Minimized Thermal Damage: The Er:YAG laser prevents heat injury to the dental pulp during cavity preparation.

No Smear Layer Formation: This technique avoids creating a smear layer, resulting in rough cavity walls that enhance adhesion.

Preservation of Dentin Structure:The laser precisely removes tissue, conserving natural tooth structure and improving visibility.

Open Dentin Tubules:The laser treatment keeps dentin tubules open without demineralization, enhancing bonding with composite resins.

Soft Tissue Advantages:

Minimal Anesthesia Required: Often no anesthesia or only minimal anesthesia is needed for procedures.

Improved Acid Resistance: The cavity preparation surface exhibits enhanced resistance to acids.

Improved Visibility: The laser minimizes bleeding, enhancing visibility at the treatment site.

CRACKS OR MICROFRACTURES

Heat Damage SMOOR LAYER

Others

Implant

The Er:YAG laser has been approved by FDA for use on hard oral tissues.Gain effective subgingival access for decontamination of implant surfaces and in-between threads by H₂O Laser

Before After

Effectively debride implants, **removing 98%** of biofilm on infected titanium surfaces without damaging or affecting surface temperature.

Versatility: The Er:YAG laser can be used for various implant-related procedures, including implant surface decontamination, peri-implantitis treatment, and implant surface modifications.

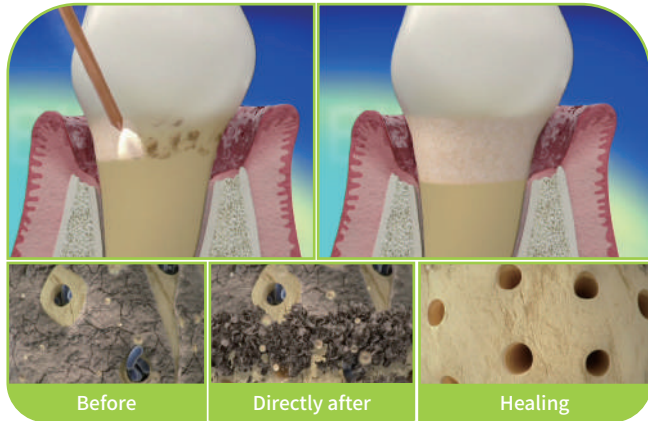
Improved Osseointegration: The Er:YAG laser stimulates new boneformation around the implant, promoting osseointegration and long term stability .



Perio

H₂O Laser-Assisted Periodontal Therapy: A Paradigm Shift in Periodontal Debridement

Beyond surpassing traditional techniques in patient-reported outcomes (PRO), H₂O Laser excels even over Minimally Invasive Surgical Technique (MIST),Equivalent clinical results to open flap techniques,



Bactericidal Effect:

H₂O Laser demonstrates bactericidal properties, reducing the bacterial load in periodontal pockets.

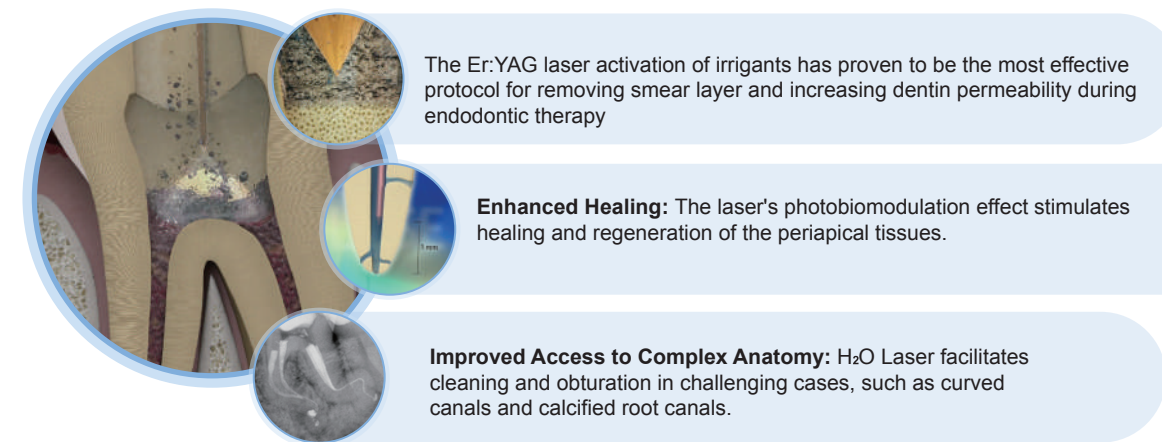
Greater Accessibility:

H₂O Laser facilitates access to difficult-to-reach areas, ensuring complete removal of plaque and calculus deposits, and reducing the need for invasive surgical interventions.



Endo

Preserving Structural Integrity: H₂O Laser's Minimally Invasive Approach to Root Canal Access



The Er:YAG laser activation of irrigants has proven to be the most effective protocol for removing smear layer and increasing dentin permeability during endodontic therapy

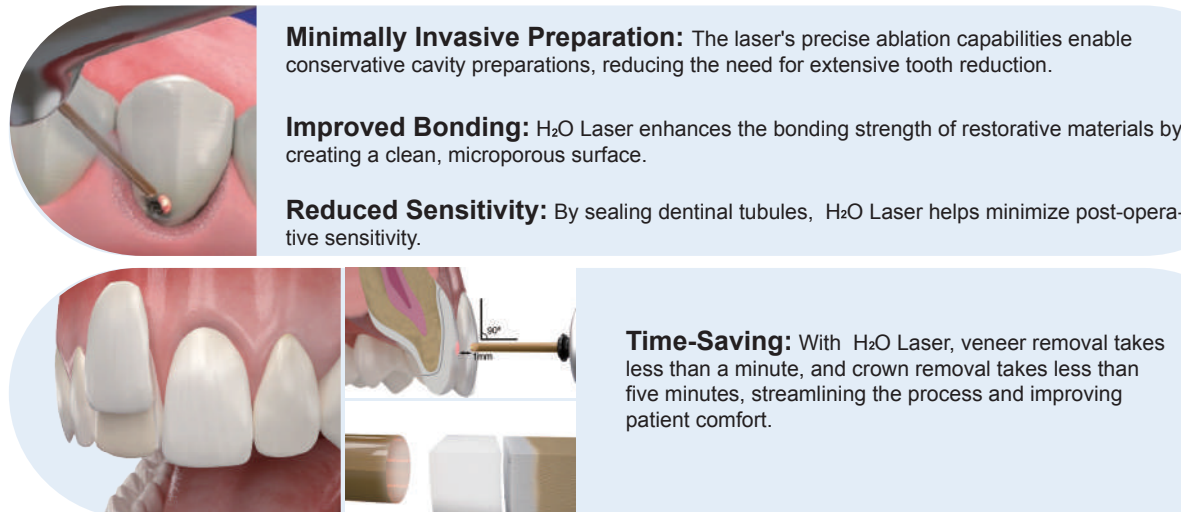
Enhanced Healing: The laser's photobiomodulation effect stimulates healing and regeneration of the periapical tissues.

Improved Access to Complex Anatomy: H₂O Laser facilitates cleaning and obturation in challenging cases, such as curved canals and calcified root canals.



Restorative

H₂O Laser technology revolutionizes restorative procedures and crown & veneer removal by offering time-saving, conservative



Minimally Invasive Preparation: The laser's precise ablation capabilities enable conservative cavity preparations, reducing the need for extensive tooth reduction.

Improved Bonding: H₂O Laser enhances the bonding strength of restorative materials by creating a clean, microporous surface.

Reduced Sensitivity: By sealing dentinal tubules, H₂O Laser helps minimize post-operative sensitivity.

Time-Saving: With H₂O Laser, veneer removal takes less than a minute, and crown removal takes less than five minutes, streamlining the process and improving patient comfort.



Tissue

“Gold Standard” Laser---Er:YAG(2940nm)

Wavelengths are produced by solid crystal lasers,better peak power and pulse duration range

ABLATION SPEED In enamel (mm³/sec)

0.95↑
SOGA Er:YAG

0.29↓
Diamond Drill

Cutting speed: Er: YAG vs. diamond drill



Hard-Tissue



Soft-Tissue

The Er:YAG rapidly heating superficial tissues to induce vaporization while confining heating to the dermis or lamina propria. Promotes collagen/elastin absorption and normal tissue regeneration, resulting in high lesion ablation rates.

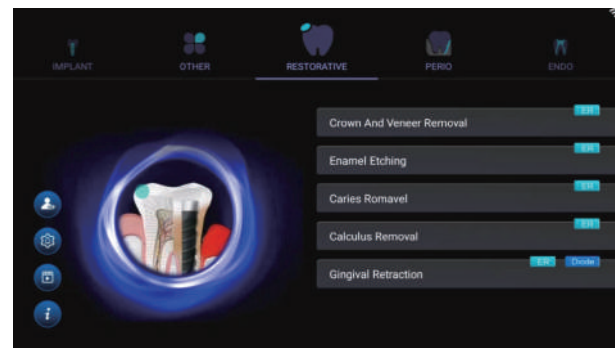
No Noise or Vibration: The laser operates quietly and without vibration, enhancing patient comfort.

Pain-Free Treatment: Many patients, especially children, find the procedure painless, increasing acceptance of laser dentistry.



MODULAR SOFTWARE DESIGN

Optimize your device performance to suit your practice requirements affordably, emphasizing the treatments most essential to your patients and business



Soft-Tissue
Restorative
Perio
Endo
Hard-Tissue
Other

Diode Laser &. Er:YAG Laser



Explore 2 laser modes options

4 distinct wavelengths:Er: YAG: **2940nm**

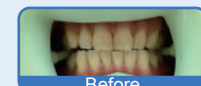
Diode:**980nm,650nm,450nm**

Offering over **80** indications for a versatile Patient-friendly solution tailored to meet the unique needs of every dentist.



Innovative Quad-Wavelength

01 Blue Wavelength-450nm Tooth Whitening



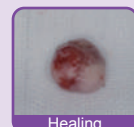
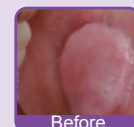
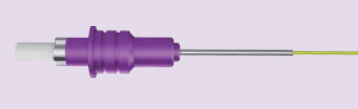
Hemostasis Pretty high photon energy for activating the molecules of whitening gel Efficiency of all dental diode laser

02 Red Wavelength-650nm Photobiomodulation



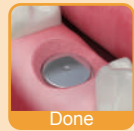
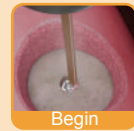
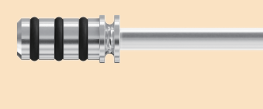
Perfect for Photomodulation(PBM)Low Level Laser Therapy(LLLT) Faster Wound Healing Pain-free Dental Treatments

03 Infrared Wavelength-980nm Soft tissue surgical procedure,Endo & Perio



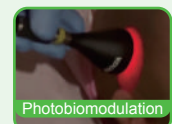
Efficiency and Coagulation (Hemostasis) at very lowpower settings High efficiency of anti-bacterial and anti-inflammatory High power laser treatment(HPLT) Pain reduction in TMJ

04 Infrared Er:YAG Laser-2940nm Implant Uncovering



Optimal absorption in both water and Hydroxyapatite for cool and efficient cutting in both hard and soft tissue. Start performing minimally invasive and predictable gingivectomy, gingival recontouring, troughing, hemostasis, biopsy and lesion excision.

05 TMJ Handpiece Temporomandibular Joint Disorders



Laser therapy treatment outside the mouth using Low-Level Laser Therapy (LLLT) and High Energy Laser Therapy (HELT). It helps in pain relief and wound healing, especially for TMD. TMJ-tips come in three sizes with luminous surface diameters of 20mm, 35mm, and 45mm