



POCKETLASER

MADE IN ITALY





# Pocket Laser:

## High precision and versatility in pocket size

**Pocket Laser** is a latest generation diode laser, **extremely performing, with high precision and versatility, in truly unique dimensions.**

Thanks to its technical and structural characteristics, it is ideal for both experienced dentists or dental hygienists or those who want to approach laser technology.



# Features

## Limited dimensions and maximum power

With its **6 watts of power**, **Pocket Laser** represents, among the small-sized lasers, one of the most powerful devices.

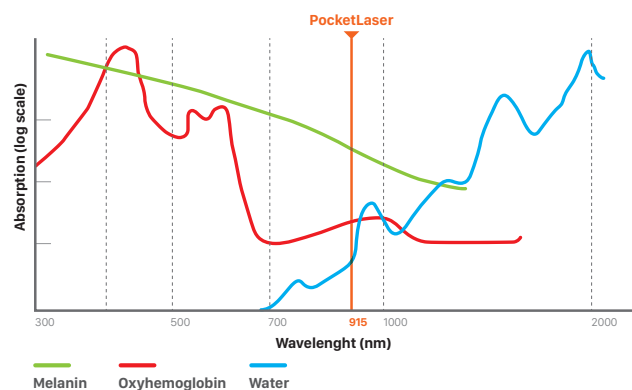
**Thanks to its small dimension and light weight it is incredibly easy to carry.**

The **wireless pedal** with long-life battery allows **hands-free** operation and increases freedom of movement.

**Pocket Laser** have a multiple accessories for every clinic application.

## The advantages of 915 nm wavelength

**Pocket Laser** is a diod laser with a **length of 915 nm**. The top of the market. 915 nm is the wavelength together with the 810 NM with **greater penetrating power**. With 915 nm, the stimulation of ATP production and the active regeneration processes of the affected tissues are favoured, promoting healing. Thanks to its **different sources, continuous pulsed** and **super pulsed**, it allows an excellent performance in **analgesic treatments** and **resolution of the inflammatory processes**. Experimental evidence has shown a regenerative biological action.



Study on mucosal incision with molecular quantum resonance scalpel: biophysical and histological evaluation  
Ital Oral Surg. 2012 Apr.

Vescovi P, Meleti M, Corcione L, Merigo E, Manfredi M, Fornaini C

## Touch screen and maximum hygiene control

Thanks to its versatility, **Pocket Laser** allows to use **various types of handpieces and accessories** that make it universal and versatile in the use from endodontics to surgery.

**Pocket Laser** is equipped with a very high precision **touch screen**, usable also with

protective adhesive films disposable and sterile that make it safe for the maximum hygienic control.

The **resistive touch** screen allows the operator to interact with the device also wearing gloves or touching the screen with gauze or with instruments.



# What are the advantages with the universal connection?

**Pocket Laser is a very versatile laser and thanks to its universal connection it allows the use of a wide range of accessories.**



## Contact Handpiece

The **Contact Handpiece** is equipped with a universal Luer lock connection to accommodate different inserts and terminals present in the medical world. Its **fibres** are 2 Mt long in sizes **200-300-400**, extremely flexible.



## Silver Handpiece

The new **Silver Handpiece** allows to **use tips with interchangeable integrated optical fibers** for ultimate convenience. The tips are available in various sizes **200-300-400** and for extra efficiency angular **intraoral biostimulation tips**, **extraoral** biostimulation/therapy, and **arc whitening** become available.



## Sapphire Handpiece

The new **Sapphire Handpiece**, unique of its kind, is a handpiece that combines the characteristics of the **cold-blade scalpel with the advantages of the laser**. Its **conical and prismatic inserts** are suitable for **surgical applications**.

Pocket Laser is a complete laser for any treatment, from periodontics to surgery, Implantology, Endodontics, Biostimulation, LLLT, whitening.

## Wide variety of clinical programs

**Pocket Laser** is the ideal tool for those approaching the diode Laser for the first time: In fact, it is equipped with **70 pre-set clinical programs, which can be additionally implemented**. Furthermore, the use is also recommended for the expert Dentist who can autonomously **customize** the existing clinical programs.

Pocket Laser's clinical programs are continuously updated. **Pocket Laser** is also suitable for **biostimulation, Low Level Laser Therapy** and **High Power Laser Therapy**.



**Pocket Laser,**  
just one tool to

- › **Desensitize**
- › **Cut**
- › **Excise**
- › **Disinfect**
- › **Coagulate**
- › **Vaporize**
- › **Biostimulate**
- › **LLLT - Low Level Laser Therapy**
- › **HPLT - Hight Power Laser Therapy**
- › **Whitening**



# Technical File

POWER SUPPLY		
Internal		Rechargeable battery, 3.7V, 4.2Ah, single cell, Lithium Polymer
External		Input: single phase 100÷240Vac, 50÷60Hz, 0.4A; Output: 5V, 4A max
TYPE OF LASER		
Laser Power		AlGaAs diode LASER, CW and Pulsed, 915nm±10nm, 6W±20% (fiber), Classe 4
Pilot beam		AlGaAs diode LASER, CW, 635÷660nm, 3mW max (fiber), Class 3R
OPTICAL FIBRE		
Type of fibre		Fibres: Core=Silica, Reflecting layer (Cladding)=Hard Polymer, Protective covering=Tefzel (EFTE); N.A.=0.37; Available diameters=200µm, 300µm, 400µm; Nominal beam divergence=F=arcsin (N.A.)=20.5°=0.36rad
Fibre Connector		SMA-905
Maximum Power Fibre	W	6W±20%
OPERATING CHARACTERISTICS PULSED		
Frequency	Hz	Frequency=20÷15000Hz - Duty-cycle=5-95%
ELECTRICAL PROTECTION		
Type	EN 60601-1	Class II
Degree	EN 60601-1	BF
PROTECTION AGAINST PENETRATION BY LIQUIDS		
Degree	EN 60529	IP20 Pocket Laser - IP21 Pedale Wireless
DIMENSIONAL CHARACTERISTICS		
Dimensions	mm	101x167x42 (69) mm
Weight	Kg	0.8kg
ELECTROMAGNETIC COMPATIBILITY		
Emissions	EN 60601-1-2	Conform – look table 1 and test Report IMQ
Immunity	EN 60601-1-2	Conform – look table 1 and test Report IMQ
CONDITIONS OF USE		
Method of use	Non applicabile	Continuous. Temporarily use
Use in flammable gas, oxigen and nitrogen	Non applicabile	Not appropriate
STORAGE CONDITIONS		
Temperature	°C	-20°C + 60°C
Humidity	%RH	< 80% non-condensing
Pressure	hPa	> 630 hPa
OPERATING CONDITIONS		
Temperature	°C	da + 10 a + 40 °C
Humidity	%RH	< 80%
Pressure	hPa	700-1100 hPa
Maximum altitude	m	< 2000 m



# Pocket Laser Advantages and benefits

## Visual field and safety improvement

Thanks to the high haemostasis control achievable, **Pocket Laser** allows to considerably increase the visibility of the operative field, ensuring greater safety. **Pocket Laser** can be used on **pace-maker or implantable cardioverter-defibrillators (ICD) users**. The clinical efficiency of the diode laser is well documented by countless scientific works.

## Evidence-based clinical practice for complete customer satisfaction

Near Infrared lasers (NIR) have been successfully and safely used in different branches of medicine for about twenty years. The **laser minimal invasiveness** causes minimum pain and swelling and for this reason it is favourably accepted compared with traditional methods because it ensures greater patient satisfaction.

## Less blade usage and rapid fast scar-less healing

Almost every operation in oral surgery can be performed with the diode laser, ensuring greater comfort and safety. By reducing the use of the blade, giving sutures to control the haemostasis is no longer necessary. Promoted healing process and biostimulation allow to obtain a better wound healing of the soft tissues with little or absent scar also in case of secondary intention healing.

## Less use of local anesthetic

The delicate and precise action of **Pocket Laser** allows to **reduce** and sometimes **avoid the use of local anesthetic**. The haemostatic properties, which characterize diode laser, permit less use of vasoconstrictors and in some cases its use is not even necessary. In addition, several studies demonstrate the **antibacterial properties** of diode laser, which are particularly useful in oral surgery and during **periodontal, peri-implant and endodontic therapy**.

# Pocket Laser Advantages and benefits

It is very useful desensitize the stumps and prepare the gingival sulcus before getting the dental impression. It facilitates the prosthetic restoration of compromised dental elements, allowing the operator to practice gengivectomy or clinical crown lengthening with minimal invasiveness.

Pocket Laser can be used in endodontics to improve the antibacterial action of the irrigant solutions. In conservative dentistry, its action allows the decontamination of dentin and enamel surface. Dentinal hypersensitivity can be treated with simplicity and efficacy. Performing dental whitening is much more effective with Pocket Laser than with other methods.

## Pocket Laser, just one tool to

- |                |                              |
|----------------|------------------------------|
| 1. Desensitize | 6. Vaporize                  |
| 2. Cut         | 7. Biostimulate              |
| 3. Excise      | 8. Low Level Laser Therapy   |
| 4. Disinfect   | 9. Hight Power Laser Therapy |
| 5. Coagulate   | 10. Whitening                |



# PocketLaser Kit





Description	Advanced Kit (cod. PL-ADV-PLD6W)	Advanced Kit Plus	Professional Kit (cod. PL-PRO-PLD6W)	Professional Kit Plus
Pocket Laser (cod. L09PLD06)	•	•	•	•
Briefcase (cod. LDA00202)	•	•	•	•
70 pre-set clinical programs*	•	•	•	•
Wireless foot pedal with long life battery for "hands free" use (cod. RIC00305)	•	•	•	•
Satin contact handpiece (for reflex reduction) with Luer-lock coupling compatible with any fiber diameter, sterilisable (cod. FT000022)	•	-	•	-
No contact defocused handpiece with integrated optical fiber for biostimulation, LLT, whitening with sterilisable terminal (cod. FT000020)	•	-	•	-
Universal/endodontics HCP 200 fiber, silicone sheath, 2mt length, SMA STD connection (cod. LPA00200)	•	-	•	-
Universal/surgery HCP 400 fiber, silicone sheath, 2mt length, SMA STD connection (cod. LPA00400)	•	-	•	-
Sapphire handpiece. Surgical handpiece for sapphire tips compatible with sapphire tip adaptor (cod. LHC3000)	-	-	•	•
Adaptor for sapphire tips (cod. LPC3002)	-	-	•	•
Conical sapphire tip (cod. ZCT500)	-	-	•	•
Prismatic/chisel tip (cod. ZST600)	-	-	•	•
No. 2 white glasses with 810/1064 LD green protection lens compatible with the DPI vision frame for NIR diode lasers (cod. LDA00105)	•	•	•	•
Peels off cut fiber clamp. Useful for cutting, handling, measuring and maintenance HCP/ ULS optical fiber of different diameters (cod. LDA00013)	•	-	•	•
Set 20 non-sterile white mac tips with Luer-Lock compatible graft (cod. FT000015)	•	-	•	-
Paper for fiber tip preparation blue baush (cod. LDA00050)	•	•	•	•
Lithium battery charger kit for Pocket Laser and wireless foot control unit (cod. RIC00310)	•	•	•	•
Pocket Laser user manual (cod. MAN00015)	•	•	•	•
DVD instruction on clinical cases, briefcase and carry case for Pocket Laser (cod. DVDPLD6W)	•	•	•	•
Legal guarantee	•	•	•	•
Multikit Handpick with : 5 pz disposable tips 200 and 5 tips 400, disposable whitening tip, biostimulation tip into e oral. (cod. PL-MF-TIPS)	-	•	-	•

\* Tested in collaboration with Dr. E. Ruga, tutor at the grad School in Odontostomatological Surgery, University of Turin, School of Medicine.

# Accessories

## SILVER HANDPIECE

Cod. LH5001

Innovative handpiece that allows to use 200-300-400  $\mu$ m interchangeable tip terminal, defocused to plane wave, biostimulation tip intra/extra oral or the arc for whitening. Autoclavable.



## MULTIKIT HANDPIECE

Cod. PL-MF-TIPS

Multifunctional handpiece for 200-300-400 micron tips, biostimulation terminal, teeth whitening



**OPTICAL FIBER ULS 200  $\mu\text{m}$  2 mt**

Cod. LPA00201

Ready-to-use optical fiber (without polymeric coating). Particularly suited for endodontic applications. Universal. Autoclavable.

**OPTICAL FIBER ULS 320  $\mu\text{m}$  2 mt**

Cod. LPA00320

Ready-to-use optical fiber (without polymeric coating). Universal/conservative-prosthesis. Autoclavable.

**OPTICAL FIBER HCP 200 2 mt**

Cod. LPA00200

High resistance optical fiber with polymer coating. Universal/endodontics. Autoclavable.

**OPTICAL FIBER HCP 300 2 mt**

Cod. LPA00300

High resistance optical fiber with polymer coating. Universal/conservative-prosthesis. Autoclavable.

**OPTICAL FIBER HCP 400 2 mt**

Cod. LPA00400

High resistance optical fiber with polymer coating. Universal/surgery. Autoclavable.

**OPTICAL FIBER HCP 600 2 mt**

Cod. LPA00600

High resistance optical fiber without polymer coating. Universal/endoscopy. Autoclavable.



# Accessories

## NO CONTACT HANDPIECE

Cod. FT000020

No contact defocused handpiece with integrated optical fiber for biostimulation, LT, whitening with sterilisable terminal.



## SAPPHIRE HANDPIECE

Cod. LHC3000

Surgical handpiece for sapphire tips. The handpiece base is currently compatible with the sapphire tip adaptor.



## CONTACT HANDPIECE

Cod. FT000022

Autoclavable, decomposable, Satin-Finish handpiece (for reflex reduction) with Luer-lock terminal for maximum safety and compatibility. Usable with HCP or ULS fibers.



## WHITENING TIP

Cod. PL-W670

Whitening tip: disposable to be used with silver handpiece (Cod. LH5001)





### BIOSTIMULATION INTRA-ORAL TIP

Cod. PL-B670-8A

Biostimulation intra-oral tip: disposable to be used with silver handpiece (Cod. LH5001)



### BIOSTIMULATION EXTRA ORAL TIP

Cod. PL-TM670

Biostimulation extra oral tip: disposable to be used with silver handpiece. (Cod. LH5001)



### TAPERED SAPPHIRE TIP

Cod. ZCT500

Self-washable conical sapphire tip.



### CHISEL SAPPHIRE TIP

Cod. ZST600

Flat Prismatic autoclavable tip.



### SAPPHIRE TIPS ADAPTOR

Cod. LPC3002

Adaptor for Sapphire Tips.



### FLAT WAVE TERMINAL

Cod. BT5008

Innovative defocused terminal, high performance for biostimulation applications, LLLT, analgesic and anesthetic therapy.



# Accessories

## FIBER-CUT KIT

Cod. LDA00013

Useful tool for cutting, handling, measuring and maintenance optical fibers, HCP/ULS of different diameters



## WHITE GLASSES GREEN LENSES

Cod. LDA00105

For operators and patients, they provide complete protection and can be used with most glasses frame. DPI for NIR diode laser.



## POWER SOURCE KIT

Cod. RIC00310

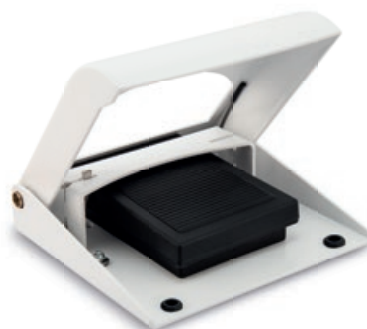
Universal power supply for Pocket Laser and Wireless foot pedal.



## WIRELESS FOOT PEDAL

Cod. RIC00305

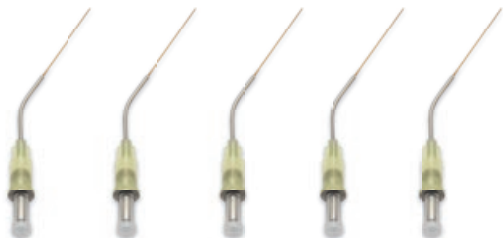
Wireless foot pedal with long life battery for "hands free" use.



### 5 PIECES PACK LASER TIP 200 $\mu\text{m}$

Cod. TL620 (Silver handpiece required)

Multi-purpose tip with integrated optical fiber, autoclavable and re-usable. The tips can be inserted and removed with ultimate convenience and rapidity. Tips lenght 15mm.



### 5 PIECES PACK LASER TIP 300 $\mu\text{m}$

Cod. TL630 (Silver handpiece required)

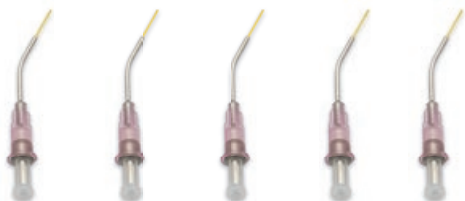
Multi-purpose tip with integrated optical fiber, autoclavable and re-usable. The tips can be inserted and removed with ultimate convenience and rapidity. Tips lenght 10mm.



### 5 PIECES PACK LASER TIP 400 $\mu\text{m}$

Cod. TL640 (Silver handpiece required)

Multi-purpose tip with integrated optical fiber, autoclavable and re-usable. The tips can be inserted and removed with ultimate convenience and rapidity. Tips lenght 10mm.



### DISPOSABLE TIPS SET

Cod. FT000015

Angled disposable tips with Luer-lock compatible graft. It can be used with contact handpiece.



### BATTERY 4200MAH, 3.7 V

Cod. RIC00309

Battery for Pocket Laser unit.



### POCKET LASER CASE

Cod. LDA00202

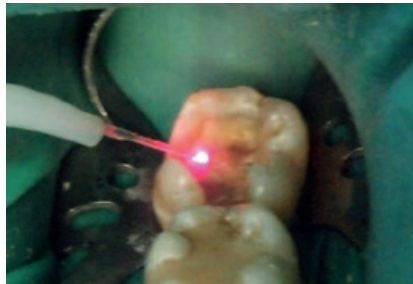
Extra briefcase to transport Pocket Laser.



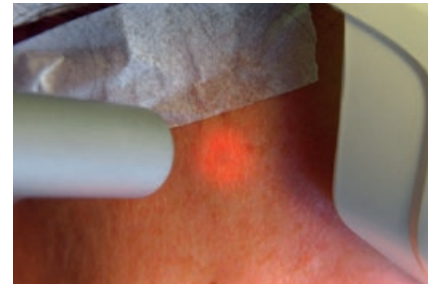
# Clinic evaluation



In Endodontics, the possible applications range from condensation and removal of gutta percha, to root canal disinfection and activation of irrigation solutions.



Enamel and dentin decontamination in conservative dentistry.



Biostimulation in case of painful TMJ disorders.



**Picture 1 and 2**

Ankyloglossia in adult patient. An important limitation of tongue movements can be observed.



**Picture 3**

Lingual frenectomy performed with 915nm diode laser. Adequate haemostasis and enhanced intraoperative vision.



**Picture 4**

Healing after 7 days.



**Picture 5 and 6**

60 days follow-up: after functional re-education an appropriate tongue mobility is reached.







Implant uncovering.



Clinical crown lengthening and construction of a direct provisional.



Excision of a neoformation of the perioral skin by means of 915 nm diode laser.



Healing after 30 days. Absence of cicatricial outcomes.

## References:

- » Wetter NU, Barroso MC, Pelino JE. Dental bleaching efficacy with diode laser and LED irradiation: an in vitro study. *Lasers Surg Med*. 2004;35(4):254-8
- » Merigo E, Vescovi P, Margalit M et al. Efficacy of LLLT in swelling and pain control after the extraction of lower impacted third molars. *Laser Ther*. 2015 Mar 31; 24(1): 39–46
- » Ehsan Azma, Nassimeh Safavi. Diode Laser Application in Soft Tissue Oral Surgery. *J Lasers Med Sci*. 2013 Autumn; 4(4): 206–211.
- » Belletti S1, Uggeri J, Mergoni G et al. Effects of 915 nm GaAs diode laser on mitochondria of human dermal fibroblasts: analysis with confocal microscopy. *Lasers Med Sci*. 2015 Jan;30(1):375-81.
- » Polizzi B, Albanese A, Giannatempo G et al. Laser-assisted surgery in oral medicine: treatment of fibrous epulis with diode 915 nm Ann Stomatol (Roma). 2013 Apr-Jun; 4(Suppl 2): 37.
- » Romanos GL, Nentwig GH. Diode laser (980 nm) in oral and maxillofacial surgical procedures: clinical observations based on clinical applications. *J Clin Laser Med Surg*. 1999 Oct;17(5):193-7.
- » Pick RM1, Colvard MD. J.Current status of lasers in soft tissue dental surgery.. *Periodontol*. 1993 Jul;64(7):589-602..
- » Fornaini C, Pelosi A, Queirolo V, Vescovi P, et al. The “at-home LLLT” in temporo-mandibular disorders pain control: a pilot study. *Laser Ther*. 2015 Mar 31;24(1):47-52.
- » Asnaashari M, Godiny M, Azari-Marhabi S, Tabatabaei FS, Barati M. Comparison of the Antibacterial Effect of 810 nm Diode Laser and Photodynamic Therapy in Reducing the Microbial Flora of Root Canal in Endodontic Retreatment in Patients With Periradicular Lesions. *J Lasers Med Sci*. 2016 Spring;7(2):99-104.
- » Fekrazad R, Karamifar K, Bahador A. Comparison of antibacterial effect of photodynamic therapy using indocyanine green (Emundo) with 2% metronidazole and 2% chlorhexidine gel on *Porphyromonas gingivalis* (an in-vitro study). *Photodiagnosis Photodyn Ther*. 2016 Sep;15:28-33.
- » Sohrabi K, Sooratgar A, Zolfagharnasab K, Kharazifard MJ, Afkhami F. Antibacterial Activity of Diode Laser and Sodium Hypochlorite in *Enterococcus Faecalis*-Contaminated Root Canals. *Iran Endod J*. 2016 Winter;11(1):8-12.
- » Hilal AlanEmail author, Ümit Yolcu, Mahmut Koparal, Cem Özgür, Seyit Ahmet Öztürk and Siddik Malkoç Evaluation of the effects of the low-level laser therapy on swelling, pain, and trismus after removal of impacted lower third molar *Head & Face Medicine* 2016 12:25
- » Desiate A, Cantore S, Tullo D, Profeta G, Grassi FR, Ballini A 980 nm diode lasers in oral and facial practice: current state of the science and art. *Int J Med Sci*. 2009 Nov 24;6(6):358-64.
- » Christopher J. Smiley, Sharon L. Tracy, Elliot Abt et al. Systematic Review and Meta-Analysis on the Nonsurgical Treatment of Chronic Periodontitis by Scaling and Root Planing with or without Adjuncts *JADA* 146(7) July 2015
- » Kamal Sagar, Arundeeep Kaur, Pooja Patel, et al. DIODE LASER AS AN ESTABLISHED TOOL IN PERIODONTICS A REVIEW *American Journal of Oral Medicine and Radiology*. 2015;2(2):54-60





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