

General Catalogue

Diode Laser (Upgradable) with 3 wavelengths system

980nm/635/405nm, 10W

SMART^M PRO



BE SMART... START TREATING AT LAST!

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1. INTRODUCTION

1.1. GENERAL DESCRIPTION

SMART^MPRO 980nm 10W/15W + 635nm - 400mW + 405nm - 400mW is the latest laser device with 3 wavelength laser device used for cutting, coagulation and tissue vaporization. High-end optical system and the availability of different light sources (405nm, 635nm, or 980nm) as well as flexible fiber optic with a variety of handpieces provides a unique application scope in microsurgery and biomodulation considering such medical fields as dentistry, ENT and dermatology.

SMART^MPRO diode laser dedicated for dentistry is equipped with three different wavelengths – 635nm, 405nm due to additional photochemical and photobiological effects, and 980nm regarding its high water absorption. 635nm wavelength optimally selected for activating tolonium chloride dye for photo-activated chemo therapy eliminating all bacteria and biofilms without side effects. 405nm wavelength is used in diagnostics. 400mW of power provides safe, “cold” biomodulation and photoactivated disinfection in relatively short time of therapy. Due to proper applicators and parameters, we can significantly accelerate the healing process of any wounds.

980nm wavelength in **SMART^MPRO** effects of cutting and vaporization are most effective (this wavelength has even eight times more absorption in water than other popular wavelengths like 808nm or 810nm). Apart from microsurgery, we can use our dental laser in endodontics, where you can treat tooth sensitivity or decontaminate root canals, periodontology – for decontamination gingival pockets. **SMART^MPRO** is also an excellent tool for teeth whitening and therapy. The parameters of the beam – up to 15W of power provides a comfortable and fast work in surgical and esthetic dentistry

1.2. BASIC FEATURES

VERSALITY

The device is designed to be used in many medical fields. Available in many versions, differing in power and wavelength, it can be used in a small practice as well as in a large clinic. Due to its inherent properties and current technological advancement, the most versatile and efficient wavelength of a semiconductor diode module is 980nm. Variety of fiber optic accessories and handpieces allows more efficient treatment of a greater number of diseases.

PRECISION

- **SMART^MPRO** diode laser 8in1 is one solution for cutting, coagulation, vaporization, whitening, Therapy, BIO, PAD, Diagnostics and Aesthetic medicine.
- **SMART^MPRO** provides maximal comfort and quality of work. It works only in place where fiber touches the tissue closing blood and lymphatic vessels, often without any need of placing any stitches.
- Homeostatic cutting of tissues prevents from uncontrolled bleeding, tamponade or crusts. Therefore **SMART^MPRO** allows us to do the microsurgery even when patients have tendency to bleeding or with blood clotting disorders.



QUALITY

- Combination of two appropriately selected wavelengths and treatment applicators in **SMART^MPRO** provides an unique treatment efficiency.
- **Duo no. 1:** 980nm diode laser which provides best light absorption for soft tissue cooperates with thinnest - 200µm glass fiber. This compilation provides real precision of work, minor violation of tissue and time of treatment reduction. 980nm wavelength eliminates also anaerobic bacteria.
- **Duo no. 2:** 635nm diode laser can perform biomodulation treatment by the mean of fiber treatment applicators of 2mm and 8mm diameter as well as 12mm lens applicator tip. Diode laser 635nm – 400mW is perfect for activating tolonium chloride dye for Photoactivated Disinfection (PAD). PAD leads to elimination of fungi, viruses and bacteria.
- **Duo no. 3:** A 405nm laser can accurately diagnose the extent of infection bacterial and mucosal changes invisible to the naked eye. Now the treatment can be even more effective, the bacteria are finally there visible. So you can easily determine the scope of change and plan the best course of treatment, and finally check its effectiveness. Seeing the problems we cure, faster, more accurately, simply better.

COMFORT

- Touch panel – makes your work with **SMART^MPRO** easy and simple. “QWERTY” keyboard simplifies adding new patients and searching the old ones in database.
- **SMART^{KEY}** – key, manual and patient database – always at hand.
- Handy grip – easy transportation from one treatment room to another without any necessity of dismantling device.
- Safety and mobility - the device and accessories are well protected in a transport case

PROFITS

- Lowest cost of single treatment – owing to reusable fiber and steel needle tip.
- World’s widest range of applications - **SMART^MPRO** allows you to perform all dental exertions from conservative or esthetic dentistry up to implantology and prosthetics.
- **SMART^MPRO** = investment in better future.

1.3. APPLICATIONS

Dentistry:

Periodontology – sterilization, elimination of bacteria in gingival pockets and superficial and deep gum depigmentation.

Endodontics – root canal sterilization and preparation, hypersensitivity treatment

Microsurgery, implantology, prosthetics, prosthodontics - cutting and coagulation of soft tissue and gingival margin, treatment area preparation, implant exposure, abscess opening, frenectomy, epulis removal, warts and fibroids cutting.

Biomodulation (BIO) – the treatment of inflammation, irritation, pulp exposure, hypersensitivity, treatment of chronic refractory gingivitis and periodontitis, prosthetic bedsores, tissue healing after surgical modeling, mucosal regeneration, stops bleeding after tooth extraction, treatment of dry socket and inflammation of the oral cavity, eliminating afters and herpes, the treatment of inflammation of the maxillary sinuses, surgical throat wounds, trigeminal neuralgia, nerve fiber regeneration, injury of the temporomandibular joint.

Aesthetic dentistry - complex and single tooth whitening (non-vital)

Pain Therapy - acute, chronic, degenerative diseases of the temporo-mandibular joints, degeneration of the hands, wrist, elbow joint, arm, carpal tunnel syndrome, neck and neck overload pain, herpes coagulation, aphtha.

Photoactivated disinfection (PAD) — of root canals, gingival pockets, implants (periimplantitis), cavities, treatment of inflammation of the oral cavity caused by a herpes virus and other viruses.

Diagnostics – of dental caries, calculus, plaque, enamel fracture, non-vital teeth, fillings and prosthetic restorations. Detection of bacteria and extent of oral mucosa pathologies invisible to the naked eye and pre-cancerous changes. Possibility of checking the precision of cavity preparation, root canal preparation and cleaning implant area

Aesthetic medicine – Skin warming up, initial cleaning, face & neck lifting, Acne treatment with BIO, DIAG & PAD, irritation reduction, treatment of burns, frostbite, scars and keloids.



2. TECHNICAL PARAMETERS

Laser type	diode, semiconductor
Operation mode	continuous or pulsed
Wavelength	980nm -endo/perio/surgery/whitening/therapy 635nm - biomodulation, photoactivated disinfection 405nm - diagnostics
Max power	up to 15W [CW], adjusted every 0,1 W for 980nm up to 400mW [CW], adjusted every 10mW for 635nm up to 100%, adjusted every 10% for 405nm
Pulse time	0,05ms - 10 000 ms
Frequency	0,05 -10 000Hz
Controller	microprocessor
Display	TFT with touch panel
Beam delivery	fiber optic with SMA 905 connector
Fiber diameter	min. 200µm or 320µm
Delivery system	2.5m - Fiber optic, silicone coated, 320µm diameter with SMA 905 connector on one end, open-ended on the other end (for endo, perio and microsurgery) 2m - Fiber optic cable 320µm diameter with SMA 905 connector on both sides (for whitening and therapy) 2m – Electrical cable (for biostimulation, PAD and diagnostics)
Pilot beam	red, 635nm
Beam emission initiation	footswitch and button on the treatment handpiece
Cooling system	internal, air, thermoelectric cooling and passive
Laser dimensions	270 x 245 x 90mm
Weight	2,5kg
Dimensions of transportation case	530 x 380 x 230mm
Weight of transportation case with laser and accessories	8,5kg

3. LASOTRONIX CAPABILITIES: THE CONFIGURATION OF THE LASER

3.1. **SMART^MPRO** is the Unique device.

LASOTRONIX is very successful in many markets than other competitors because having our diode laser **SMART^MPRO** you replace devices used before:

8 Device types in 1 **LASOTRONIX** device:

- CO₂ Laser (Microsurgery)
- Nd: YAG Laser (Periodontology and Endodontics)
- LED Lamp (Whitening)
- HPDL (Therapy)
- LLLT Laser (PhotoBiomodulation)
- OZONE Device/PAD Laser (Photoactivated Disinfection)
- Diagnostics Device
- Aesthetic Medicine

This allows to save a lot of space in doctor's clinic and save a lot of money.

In the table below **SMART^MPRO** does not have mechanical effects because this is realized by Erbium Lasers. Having our device you cover 75% of known dental applications instead (only Erbium laser is missed in order to cover 100% of applications).

Effects in Laser Dentistry:

LASER DENTISTRY	SMART ^S	SMART ^M	SMART ^M PRO	Erbium Laser
<u>EFFECTS</u>				
BIOCHEMICAL	+		+	
THERMAL		+	+	+
MECHANICAL				+
DIAGNOSTICS	+		+	



4. LASER AND ITS ACCESSORIES PRICES

4.1. LASER CONFIGURATIONS WITH BASIC ACCESSORIES AND PRICE OFFER

LASER MODEL with <u>10W</u>		SMART ^M PRO 3w1	SMART ^M PRO 5w1	SMART ^M PRO 6w1	SMART ^M PRO 7w1	SMART ^M PRO 8w1
APPLICATIONS						
1	Endodontics	✓	✓	✓	✓	✓
2	Periodontology	✓	✓	✓	✓	✓
3	Microsurgery (surgical applications)	✓	✓	✓	✓	✓
4	Whitening (complex & single)		✓	✓	✓	✓
5	Therapy		✓	✓	✓	✓
6	Biomodulation (BIO)			✓	✓	✓
7	Photoactivated disinfection (P.A.D.)				✓	✓
8	Diagnostics					✓
9	Aesthetic Medicine*					Opt.
PARAMETERS						
	980nm / 10W*	✓	✓	✓	✓	✓
	635nm / 400mW			✓	✓	✓
	405nm / 400mW					✓
BASIC EQUIPMENT PACKAGE (INCLUDED IN THE LASER PRICE)						
STANDARD (LASER 980nm)	Handpiece for Endo-, perio, and surgical applications (1)	✓	✓	✓	✓	✓
	Optical fiber 320µm with 2,5m long (6)	✓	✓	✓	✓	✓
	Needle tip (27mm length x 13mm curved) (2)	✓	✓	✓	✓	✓
	Needle tip (35mm length x 20mm curved) (3)	✓	✓	✓	✓	✓
	Needle tip (40mm length x 32mm curved) (4)	✓	✓	✓	✓	✓
	Carbide Fiber Optic Scribe (7)	✓	✓	✓	✓	✓
	Safety glasses for doctor λ 980nm (8)	✓	✓	✓	✓	✓
	Safety glasses universal λ 405nm, λ 635nm and λ 980nm (10)	✓	✓	✓	✓	✓
WHITENING + THERAPY (980nm)	Therapeutic handpiece with fiber optic cable 320µm diameter with SMA 905 connector on both sides (14)		✓	✓	✓	✓
	Whitening + Therapy Arch tip (15)		✓	✓	✓	✓
	Tip for single whitening and non-vital tooth, fiber with 8mm diameter (16)		Opt.	Opt.	Opt.	Opt.
LASER (635nm)	Diode laser handpiece for BIO and PAD 635nm – 400mW (19)			✓	✓	✓
	Connection cable 635nm or 405nm) (21)			✓	✓	✓
	Safety glasses for doctor λ 635nm (9)			✓	✓	✓

LASER MODEL		SMART ^M PRO 3w1	SMART ^M PRO 5w1	SMART ^M PRO 6w1	SMART ^M PRO 7w1	SMART ^M PRO 8w1
BIO (635HM)	Adaptor for fiber therapeutic biomodulation tips (635nm/405nm) (23)			✓	✓	✓
	Therapeutic tip for biomodulation (lenticular) 14mm diameter (22)			✓	✓	✓
	Therapeutic tip for biomodulation (fiber) 8mm/8mm diameter (24)			✓	✓	✓
	Therapeutic tip for biomodulation (fiber) 6mm/2mm diameter (25)			✓	✓	✓
PAD (635HM)	Photoactivated disinfection adapter tip (26)				✓	✓
	Photoactivated disinfection tip – Perio(27)				✓	✓
	Photoactivated disinfection tip – Endo (28)				✓	✓
	Photoactivated disinfection tip – Bio (29)				✓	✓
	Tolonium chloride blue, for PAD – viscous fluid – 1.2ml (30)				✓	✓
	Tolonium chloride blue, for PAD – endo fluid – 1.2ml (31)				✓	✓
DIAGNOSTICS (405HM)	Diode laser handpiece for caries and mucosa diagnostics 405nm – 400mW (20)					✓
	Adaptor for fiber therapeutic diagnostic tips (405nm) (23)					✓
	Safety glasses for doctor λ 405nm (11)					✓
	Therapeutic tip for diagnostics (fiber) 8mm/8mm diameter (24)					Opt.
	Connection cable between diode laser housing and therapeutic handpiece 635nm or 405nm (21)					Opt.
BASIC EQUIPMENT PACKAGE INCLUDED IN THE LASER PRICES	SMART KEY – USB key with manual and personal patient database (35)	✓	✓	✓	✓	✓
	Foot switch (36)	✓	✓	✓	✓	✓
	Interlock	✓	✓	✓	✓	✓
	Power cable	✓	✓	✓	✓	✓
	AC adapter	✓	✓	✓	✓	✓
	Accessory case (handpieces, tips and optical fibres)	✓	✓	✓	✓	✓
	Transportation case	✓	✓	✓	✓	✓
	Warning labels	✓	✓	✓	✓	✓

PACKAGES:
LASER - 635 nm
PACKAGE BIO (wavelength 635 nm)
PACKAGE P.A.D (wavelength 635 nm)
PACKAGE WHITENING + THERAPY (wavelength 980 nm)
PACKAGE DIAG (wavelength 405 nm)
PACKAGE AESTHETIC MEDICINE (with software upgrade)*

REMARK: *There is an option to buy diode laser 980nm with the power of 15W**

Laser 980nm



Package WHITE/THERAPY (980nm)



Package Laser 635nm



Package PAD (635nm)



Package BIO (635nm)

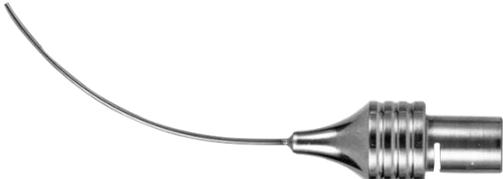
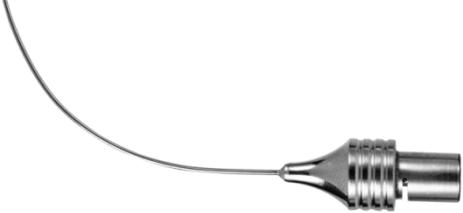
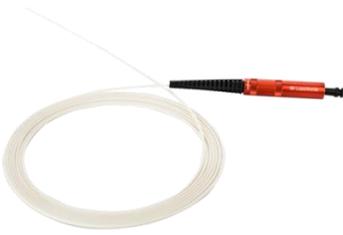


Package DIAG (405nm)



Package Aesthetic Medicine (with Software upgrade)

4.2. ADDITIONAL ACCESSORIES

NO.	NAME AND SPECIFICATION	PRODUCT NAME
1.	Handpiece for: - microsurgery - endodontics - periodontology Part no.: 170027.02	
2.	Needle tip (27mm length x 13mm curved - compatible with 200/320µm fiber) Part no.: 560075.01	
3.	Needle tip (35mm length x 20mm curved - compatible with 200/320µm fiber) Part no.: 560075.03	
4.	Needle tip (40mm length x 32mm curved - compatible with 200/320µm fiber) Part no.: 560075.04	
5.	Optical fiber in silicone jacket (200µm fiber core, 2.5m long, standard SMA 905 connector) Part no.: 250009	
6.	Optical fiber in silicone jacket (320µm fiber core, 2.5m long, standard SMA 905 connector) Part no.: 250010	

7.	Carbide Fiber Optic Scribe Part no.: 690002.01	
8.	Safety glasses for doctor 980nm Part no.: 260002	
9.	Safety glasses for doctor 635nm Part no.: 260001	
10.	Safety glasses universal for 405nm, 635nm and 980nm Part no.: 260005	
11.	Safety glasses for doctor 405nm Part no.: 260006	
12.	Smartphone overlay for 405nm Part no.: 180013	
13.	Safety glasses for kids and aesthetic medicine for 405nm, 635nm and 980nm Part no.: 2600017	
14.	Therapeutic handpiece with fiber optic cable 320µm diameter with SMA 905 connector on both sides Part no.: 170008.03	

15.	Arch glass tip for whitening and High Power Laser Therapy Part no.: 170003	
16.	Tip for single tooth whitening and non-vital tooth bleaching (fiber) 8mm diameter Part no.: 170004	
17.	Therapeutic lens tip for High Power Laser Therapy 1cm ² for 980nm Part no.: 170006	
18.	Therapeutic lens tip for High Power Laser Therapy 2cm ² for 980nm Part no.: 170014	
19.	Diode laser handpiece for BIO and/or PAD 635nm – 400mW Part no.: 170043.01	
20.	Diode laser handpiece for caries and mucosa diagnostics 405nm – 400mW Part no.: 170043.02	
21.	Connection cable (between diode laser housing and therapeutic handpiece 635nm or 405nm) Part no.: 170031	
22.	Therapeutic tip for biomodulation and diagnostics (lenticular) ø14mm for 635nm Part no.: 170020	

23.	Adaptor for fiber therapeutic biomodulation and diagnostics tips (635nm/405nm) Part no.: 170024	
24.	Therapeutic tip for biomodulation and diagnostics (fiber) 8mm/8mm diameter (405nm) Part no.: 170025	
25.	Therapeutic tip for biomodulation (fiber) 6mm/2mm diameter Part no.: 170026	
26.	Photoactivated disinfection adapter tip Part no.: 170012	
27.	Photoactivated disinfection tip – „Perio” Part no.: 250003	
28.	Photoactivated disinfection tip – „Endo” Part no.: 250004	
29.	Photoactivated disinfection tip – „Bio” Part no.: 250005	
30.	Tolonium chloride blue, for PAD – viscous fluid – 1.2ml Part no.: 730004	
31.	Tolonium chloride blue, for PAD – endo fluid – 1.2ml Part no.: 730005	

32.	<p>Tolonium chloride blue, for PAD – viscous liquid in glass bottle – 10ml</p> <p>Part no.: 730015</p>	
33.	<p>Tolonium chloride blue, for PAD – endo liquid in glass bottle – 10ml</p> <p>Part no.: 730016</p>	
34.	<p>Whitening gel</p> <p>Part no.: 730001</p>	
35.	<p>SMART^{KEY} USB key with manual and personal patient database</p> <p>Part no.: 470001.01</p>	
36.	<p>Foot switch</p> <p>Part no.: 120051</p>	
37.	<p>SMART^M diode laser workstation (without the laser) Laser device position adjustable Shelf for all optical accessories Basket for footswitch and protective glasses Cable and power supply management system. Well balance and movable trolley. Part no.: 180006.24 12V</p>	

5. WARRANTY AND SERVICE

Diode lasers are covered by a 24-month warranty.

Basic warranty conditions:

1. The warranty covers possible material, production and design errors provided that the device is installed and used according to its purpose.
2. Any damage caused by inappropriate use, (against the rules stated in the operation manual), mechanical damage caused by fall, etc. is not covered by the warranty.
3. Any unauthorized repair or attempt of repair or removing seals voids the warranty.
4. Glass elements (fiber optics, lenses, etc.) are not covered by the warranty.

Further details concerning warranty service and after warranty service are described in the Warranty Card.

