

SmartXIDE² TRIO

The only
THREE IN ONE
GYN Laser
Platform



DEKA
Innate Ability

SmartXIDE² TRIO

Unique, TRIO

The accuracy of scanner-assisted CO₂ laser
and the flexibility of CO₂ and diode lasers

DEKA
Innate Ability





CO₂ Laser

Articulated Arm



CO₂ Laser

Hollow Fibre



Diode Laser Module

Fibre

SmartXIDE² TRIO



CO₂ Laser Hollow Fibre

To reach the most difficult areas.



Diode Laser

An additional wavelength (980 nm) to expand the range of available procedures.





CO₂ Laser Articulated Arm

The SmartXide² Trio RF-excited CO₂ Laser source offers high power and speed of action.

The newest PSD[®] (Pulse Shape Design) technology, utilizing both of these features, generates variable peak pulses with different structure, duration and power to adapt to the various clinical conditions. This makes the SmartXide² Trio CO₂ laser systems extremely versatile for the various surgical applications, especially for GYN surgery. U-PULSE ("Ultrapulsed" - Fig. B) and "Real CW" pulses are the most commonly used in this kind of surgery.

U-Pulse is the perfect pulse for GYN microsurgery because a massive energy is supplied in microseconds, ensuring a perfect ablation without tissue carbonisation.

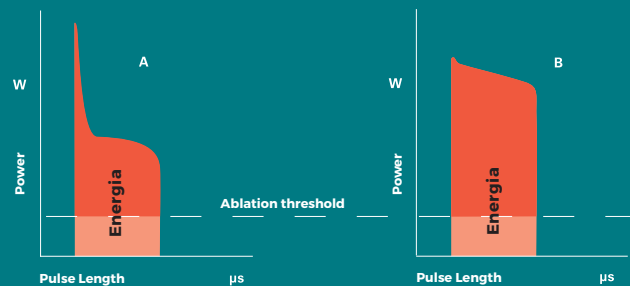
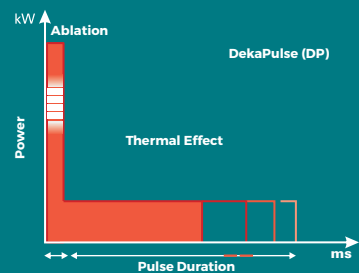


Fig. A: Single-impulse continuous-supply excited laser CO₂ (Superpulse emission).
Fig. B: Single-impulse radiofrequency excited laser CO₂ (Ultrapulse emission). Radiofrequency-excited CO₂ laser sources produce greater energy above the ablation threshold (red colour) compared to continuous-supply excited CO₂ lasers, and at comparable pulse length.



The D-Pulse or DEKA-Pulse is specific for the treatment of the vaginal mucosa (MonaLisa Touch[®]) and ensures maximum effectiveness with the penetration depth control and the control of the thermal effect.

connectable with:

- Electronic scanning systems, for extremely precise, safe and reproducible treatments
- High Precision micromanipulators
- Dedicated handpieces with various focal lengths and integrated smoke suction channel
- V²LR Scanner for MonaLisa Touch Treatment



EasySpot + HiScan Surgical

Take it Easy

DEKA Scan-Assisted Laser Microsurgery:

- **Minimal thermal damage** to perilesional tissues (less than 50 microns).
- **No carbonisation**, cleanliness of cutting edges.
- **Control on cutting length ablation area, depth and coagulation (%)**.
- 2 working modalities: “**Depth**” and “**Power**”.
- **Software-guided procedure** for both **focusing** and laser beam **centration**.



Easy control

Operate without ever moving your eyes from the microscope.

4 functions controlled by the exclusive microswitch joystick:

- **Scanning shape rotation** (step-by-step and fast).
- Ablation figures **dimension** adjustment.
- **Scan-ON/Scan-OFF**.
- Laser beam **Centering** adjustment.



Easy field

- **Mechanical control of the working area to** precisely confine the laser beam within the operating field. Easy and safe.

SAFETY
REPRODUCIBILITY
EASE OF USE



Easy plug

- Fast connections and internal wiring.

HiScan Surgical

- Ultra fast laser **beam movement** (100 millionths of a second), minimum dwell time.
- High-precision **scanning shapes**, with **size of up to 6.3 mm** for tissue cutting and ablation.

The Greatest Range of Scanning Shapes for Surgery:

- Line
- Circle archs up to complete circle
- Filled circle
- Filled hexagon
- Double interpolated ellipse
- Spirals for high accuracy holes



Easy focus

- **Holographic technology** focusing system
- **Single-ring focus/defocus** system with **focal point memory**.
- High depth focus with **micrometric spots**

Endoscan

Miniaturised scanning system used with handpieces for either free-hand and laparoscopic surgery such as Endometriosis vaporization treatment.

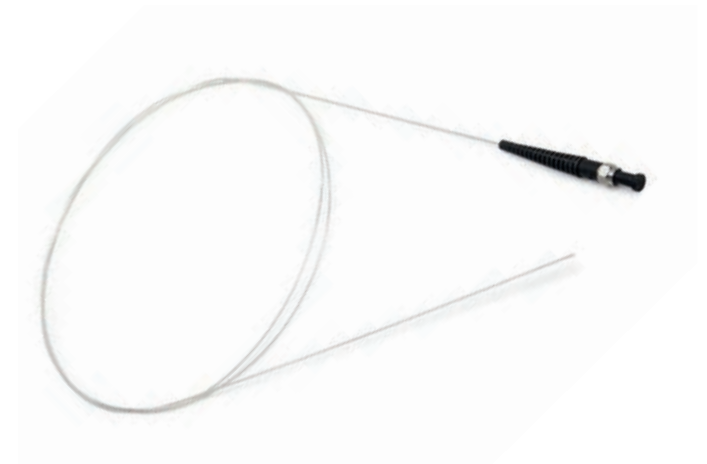
The multi-function key enables precise centering inside the Laparoscope and the ability to either activate or deactivate the scanner for vaporization or cut functions (Scan-ON/Scan-OFF function).



Flexible Delivery

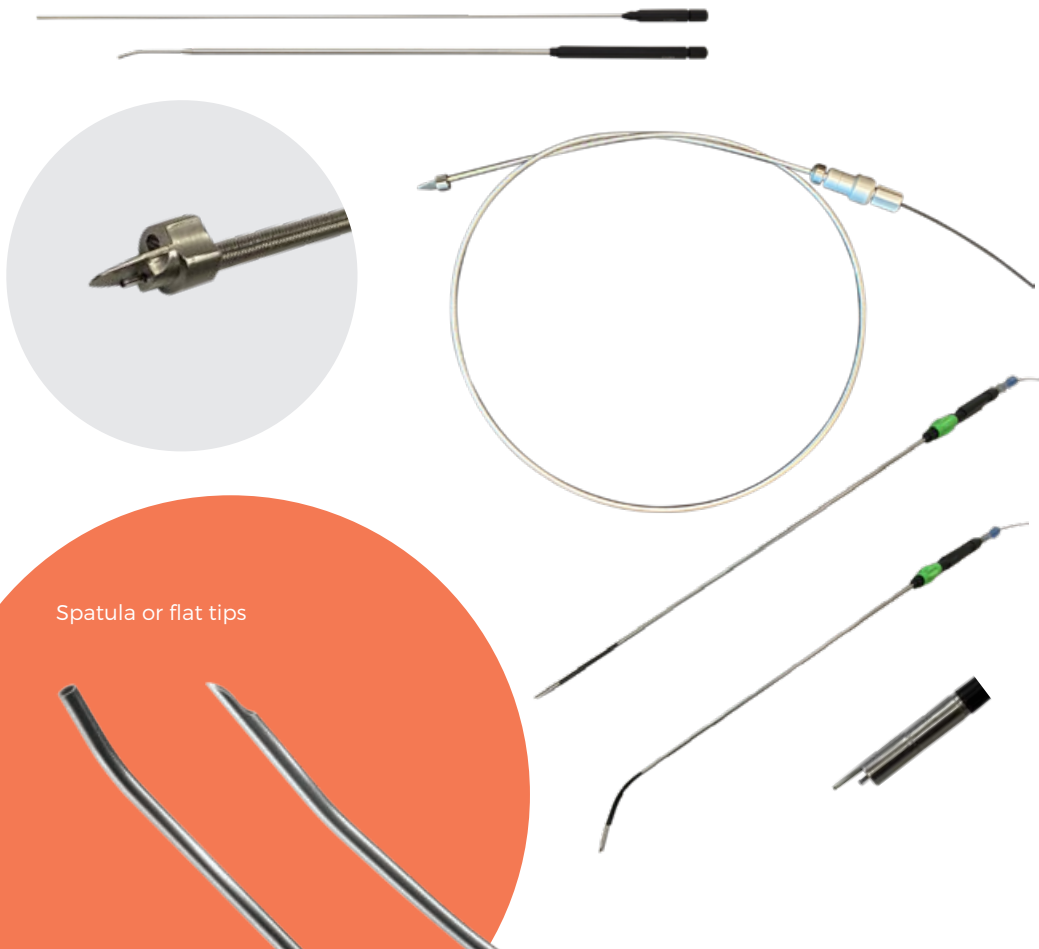
SmartXide² TRIO offers the possibility to operate in areas usually difficult to reach with traditional techniques thanks to both CO₂ and the Diode laser flexible delivery systems.

The cutting precision of the CO₂ hollow fiber laser and the greater coagulative properties of the Diode lasers are now available in one platform, to meet all surgical needs.



CO₂ Hollow Fibre

CO₂ hollow fibre can be used with handpieces of various shapes and lengths, and with either spatula or flat tips, and malleable. Whatever the surgeon's preferences/needs, for open, Laparoscopic and Robotic Surgery.



High Power Diode Laser

The diode laser and fibre delivery system allows the surgeon to operate easily, even in the hardest conditions

The use of diode lasers is well known in the surgical environment to be easy to use. 980 nm Diode laser represent a great combination between coagulation and cut to complete the whole application range, like hysteroscopy procedures.

Moreover, the flexibility of fibre optics allows users to easily reach difficult areas too.

The diode laser system can also be integrated into the SmartXide² TRIO at anytime, as part of an optional upgrade kit to the system.

A broad selection of fibre core diameters is available, from 200 µm to 600 µm single-use or up to 10 times reusable (to reduce operating cost).



Hi-Scan V²LR (Vulvo-Vaginal Laser Reshaping): for vulvo-vaginal health

Fractional CO₂ laser technology currently used in the dermatological field it is also applied to the improvement of vulvo-vaginal health.

The CO₂ laser acts directly on the vaginal mucosa stimulating its tissue and collagen regeneration. The results on the walls of the vagina are immediate, by improving either tone, trophism and elasticity. *MonaLisa Touch*[®] is recognized as the most popular and diffused laser procedure for treating vulvo-vaginal problems.

Offering a unique solution to all of those patients suffering from post menopausal symptoms, without the typical adverse effects typical of pharmaceutical drugs.



Dedicated probes

MonaLisa Touch[®] utilizes the "HiScan V²LR " scanning system to deliver CO₂ fractional laser energy over the vaginal mucosa. A wide range of autoclavable sterilised probes is available. Simply by changing each probe, HiScan V²LR scanner can be easily adapted to all the patient's needs.



HiScan V²LR Scanner System

Max Scanning Area	Square 8 x 8 mm (for single-angle and vulvar probes)
Dwell Time & DOT Spacing	Dwell Time: from 100 to 2,000 µs. DOT Spacing: from 0 to 2,000 µm
SmartStack Level	From 1 to 5
Scanning Methods	Normal, Interlaced, SmartTrack
Emission Modes	SP - DP - HP
Accessories	Vaginal Probes: 360° full-angle; 90° single-angle (optional). Vulvar Probe.


RF Touch : RadioFrequency for Vaginal treatments

DEKA has introduced the new disposable RF handpiece, with a bipolar radio frequency source. This handpiece is directly connected with the laser device and offers synergistic treatment with the procedure MonaLisa Touch® for the intimate health of patients.

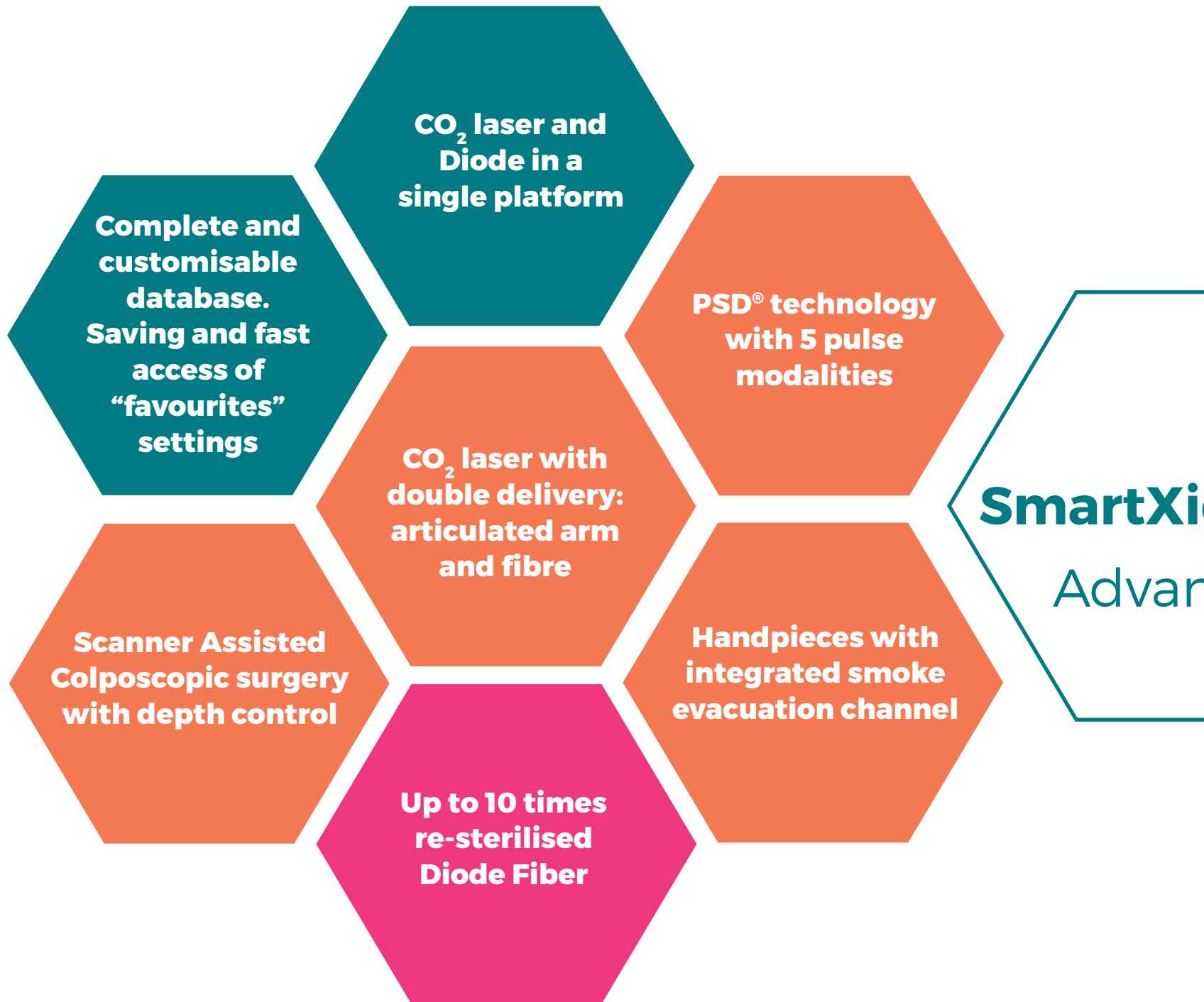
Radiofrequency penetrates deeply into the vaginal mucosa (when perfectly hydrated) and generates some heat in the connective tissue, stimulating its tone and promoting neocollagenogenesis.

RF Touch Single-Use Handpiece

Source	Radiofrequency
Maximum output voltage	70 Vrms
Maximum output current	1A
Working frequency	500 kHz
Power	From 1 W to 50 W, step 1 W
RF Ton time	From 25 s to 30 min, step 5 s
Treatment activation	Controlled by footswitch



RF TOUCH :
The NEW single Use
RadioFrequency probe.



SmartXIDE² TRIO Advantages

**Regulation of the maximum working field
Micromanipulator's Joystick**

**Scanner Assisted and Fibre Guided
Laparoscopic CO₂ Laser Surgery**

**Exclusive software guided procedure
for focusing and centering**

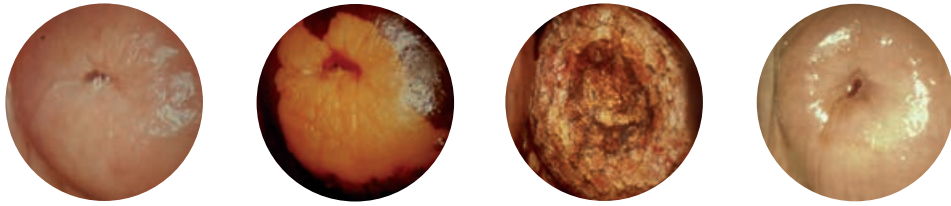
**The broadest range of scanning shapes
for surgery**

**4 Micromanipulator's Joystick controlled
scan functions**

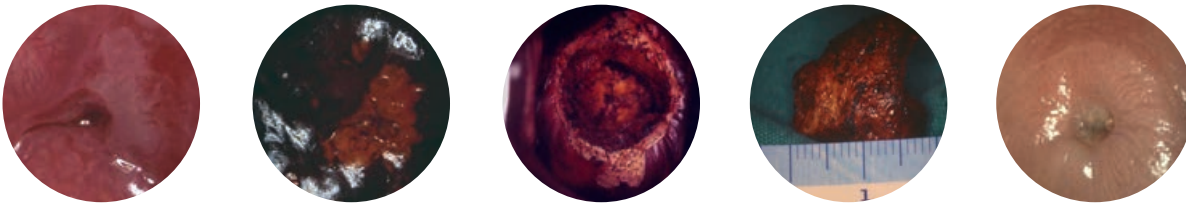
**Micromanipulator with Easy focalization and
focal point memory**

**"DEPTH" and "POWER" operative modes.
Depth controlled ablations**

Clinical Cases



Vaporization for LSIL



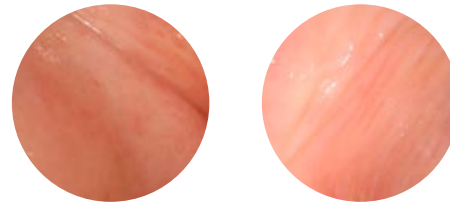
Conization for HSIL

Courtesy of: **Prof. C. Penna M.D., M. G. Fallani M.D.**,
Department of Gynaecology and Obstetrics Colposcopy and
Laser Therapy Office - Careggi University Hospital, Florence - Italy.



Treatment of Endometriosis

Courtesy of: **Maurizio Rosati M.D.**,
Director of the Operating Unit of Gynaecology and Obstetrics
Spirito Santo Hospital, Pescara - Italy.



Monalisa Touch treatment atrophic
epithelium

Courtesy of: **M.G. Fallani M.D.; A. Pieralli M.D.;**
Prof. S. Guaschino M.D.; Prof. C. Penna M.D.,
Careggi University Hospital, Florence, Italy



Laser labioplasty for hypertrophy of the labia
minora

Courtesy of: **P. González Isaza M.D.**,
Pereira, Colombia

The Experience of Professionals

“ The use of the CO₂ laser coupled to the micromanipulator with microspot and scanner, combines speed, ease of use and minimally invasiveness. Checking the depth of ablation and damage thermal increase safety and efficacy in full treatments respect for patients. CO₂ laser systems with scanner technology are the gold standard in outpatient surgery low genital tract. ”

Prof. Carlo Penna M.D.

Department of Gynecology and Obstetrics, Colposcopy Unit and Laser Therapy, Careggi Hospital, Florence, Italy

“ Smartxide² CO₂ laser wavelength is ideal to treat extremely delicately and precisely all the soft tissues. It doesn't requiring contact, it allows to intervene even in areas typically difficult to reach with other methods used in video laparoscopy. In advanced DEKA systems, use of the Ultrapulsed high energy mode per pulse, added to the movement of the beam by the scanner, guarantees safety and minimally invasive, in particular on pathologies that are difficult to solve such as endometriosis or in general infertility therapy. For these reasons the Smartxide² laser system is an indispensable tool for the laparoscopist gynecologist. ”

Maurizio Rosati M.D.

Equipe di UOC, Ginecologia e Ostetricia, Ospedale Spirito Santo, Pescara, Italia

“ MonaLisa Touch[®] is a revolutionary method. Really surprising that such a simple and outpatient procedure minimally invasive can treat several problems so effectively in the vulvovaginal area. The success we have achieved with this therapy far exceeded our expectations: almost all women experienced significant improvement. ”

Mickey Karram M.D.

Pelvic medicine and reconstructive feminine surgery Fellowship program Director , The Christ Hospital, Cincinnati, OH - USA

“ Monalisa Touch[®] is undoubtedly the procedure with the greatest evidence in the medical literature, demonstrating how much it is safe and effective. The other lasers have not yet produced similar evidence, and every single laser is different from the others, therefore we cannot say that all CO₂ lasers achieve the same effects with the same security. ”

Prof. Stefano Salvatore M.D.

Head of the Gynecology Department, San Raffaele e Vita Salute Hospital, Milan, Italy



Laser CO₂

Models *	C60 e C60H	C80 e C80H
Wavelength	CO ₂ RF - PSD®	
Laser emission mode	10.6 µm	
Emission modes	TEM ₀₀	
Emission modes	CW - SP - DP - HP - UP	
CW power	From 0.5 to 60 W	
SP power	From 0.1 to 15 W	
DP power	From 0.2 to 15 W	
HP power	From 0.1 to 15 W	
UP power	From 0.5 to 60 W	
Exposure time	From 0.01 to 0.9 seconds	
Delay time	From 0.1 to 5 seconds	
Transmission system	7-mirror articulated arm with counterweight or flexible hollow fibre	
Guide light	High Quality Diode @ 635 nm - 4 mW Intensity can be regulated, from 2% to 100%. Diode function OFF during emission (DOWL).	
User database	About 150 pre-set, protocols, updatable with USB / unlimited saving of user parameters / possibility of saving customisable protocols.	
Control panel	10.4" LCD colour touchscreen	
Accessories*	Flexible hollow fibre for CO ₂ laser. High Power Diode laser @ 980 nm - Max. power 50 W. HiScan Surgical scan system. EasySpot Hybrid micromanipulator. Endoscan scanning system. Broad range of surgical handpieces.	
Power supply	From 100 to 120 Vac - 50/60 Hz From 220 to 230 Vac - 50 Hz / 1600 VA	
Size and weight	cm 167 (A) x 59 (L) x 56 (P) - 100 Kg (with closed articulated arm)	

CO₂ Hollow Fibre

Length	200 cm
Diameter	500 µm (internal) - 1 mm (external)
Power	40 W (Max)
Emission modes	CW - SP - DP - HP - UP
Accessories	Handpieces of various shapes and lengths, hard and soft
Insufflation air	Can be used with filtered internal system air and with hospital air.

Integrated High Power Diode Laser

Wavelength	980 nm
CW power	50 W
Emission modes	CW and PW
Exposure modes	Continuous, single impulse, burst or repeated burst
Emission time in PW (Ton)	From 5 to 2000 ms
Emission delay time in PW (Toff)	From 5 to 2000 ms
Burst impulses in PW	From 2 to 50
Delay between bursts	From 0.5 to 5 seconds
Transmission system	200 µm, 300 µm, 400 µm, 500 µm and 600 µm fibre optics, single-use or resterilisable up to 10 times, with chips, SMA 905 connector.
EndoScan	
Maximum size	5 mm @ 300 mm EFL, 6.3 mm @ 400 mm
Dwell time	From 100 to 1000 µs
Scanning system	Cutting (tip), circle, ball
mission modes	CW - UP

HiScan Surgical Scanning System

Max scanning area	6.3 mm x 6.3 mm @ 400 mm EFL
Dwell time	From 100 µs to 45 ms
Scan depth	From 0.2 to 2 mm
Scan modalities	Power Mode and Depth Mode
Scanning shapes	Lines, circle arches up to a complete circle, spiral, ball, hexagon (progressive and interlaced scan).
Emission modes	CW - UP

Easy Spot Micromanipulator

Optics technology	Holographic lenses and mirrors (Hybrid)
Spot dimension	Min 140 µm - Max 4.5 mm
Work field @ 400 mm EFL	Min 20x18 mm - Max 55x40 mm
Joystick-regulated functions	Rotation and size of scanning shapes, Scan, On/Scan Off, fine centration.

**Can be used with all surgical microscopes.

This brochure is not intended for US market.

ATTENTION - Visible and invisible laser radiation. Avoid exposing eyes and skin to direct or diffuse radiation. Class 4 laser appliance



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DEKA Innate Ability

DEKA, a spin-off of the El.En. Group, is a leader in the design and production of light laser systems for medical applications. DEKA markets its appliances in over 80 countries through a network of distributors in international markets and with direct branches in France, Japan and the USA. DEKA produces laser devices in compliance with Directive 93/42/CEE specifications and in compliance with the ISO 9001 and ISO 13485 quality system.

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