

SMARTXIDE² DOT/RF



MEDICINE AND AESTHETICS

SMARTXIDE²

CO₂ and RF: Valuable Synergies for Skin Rejuvenation

Unique, Versatile, Multidisciplinary

DEKA Intelligent Technologies:
Experts from the Start

DOT/RF Therapy
DOT Therapy
Periocular Lifting
Dermatological Surgery
Plastic and Aesthetic Surgery



The Code of Excellence

SMARTXIDE²

SMARTXIDE² DOT/RF: COMBINED ACTION, TOTAL REJUVENATION

DEKA has developed an innovative and exclusive configuration designed for aesthetic medicine and dermatological surgery. The equipment is called **Smartxide² DOT/RF** and introduces for the first time the combined action of CO₂ laser with radiofrequency (RF).

SmartXide² corrects skin imperfections and counteracts the effects of aging, such as wrinkles and flabbiness, by exerting a unique action on the tissues with effective stimulation of neocollagenesis. It is also ideal for areas hitherto considered untreatable such as the neck, décolleté and periocular area.

DEKA, world leader in the development of advanced laser systems, concentrated the results of thirty years of know-how into the technological advancements of the SmartXide². The CO₂ laser source with exclusive **PSD[®] (Pulse Shape Design)** technology, achieves performance levels never attained before in dermatological applications. The therapeutic action selectively reaches surface tissues and deeper areas, ensuring maximum reliability in controlling the application, with minimum thermal damage and extremely rapid recovery times for patients. In line with the ongoing quest for innovation, DEKA paves the way towards a new multidisciplinary, avant-garde laser system.

*"I have been using **SmartXide² DOT/RF** since 2010 with fantastic results. SmartXide² is clearly superior to all the other CO₂ laser sources. Thanks to the **PSD[®]** technology it works in continuous mode and in a multitude of pulsed modes with very different features. This versatility makes it possible to select the optimal pulse shape for the required treatment. I can work in "cold" mode when I have to vaporise with minimal heat damage to the surrounding tissues, in "hot" mode to coagulate, and also in "heat selection" mode when I have to operate in depth on small areas, as with skin resurfacing and fractioned rejuvenation. It is precisely in this type of application that the new **HiScan DOT/RF** offers unique performance with amazing results and fewer sessions. All this is made possible by the option, offered exclusively by **HiScan DOT/RF**, of using a radiofrequency source combined with CO₂ laser."*

Prof. Nicola Zerbinati, M.D.
Department of Dermatology
University of Insubria - Varese, Italy

MEDICINE AND AESTHETICS

SMARTXIDE²

SMARTXIDE² CO₂ LASER: UNCOMPROMISING VERSATILITY

The SmartXide² generates optimal pulses for multidisciplinary applications, especially in aesthetic medicine and dermatological surgery. This is the result of the development of RF CO₂ laser source equipped with the exclusive **PSD[®]** (*Pulse Shape Design*) technology.

This exclusive proprietary technology makes possible the production of fractional laser pulses with variable pulse shapes, duration and peak powers, which represents a revolutionary approach to the CO₂ laser technology.

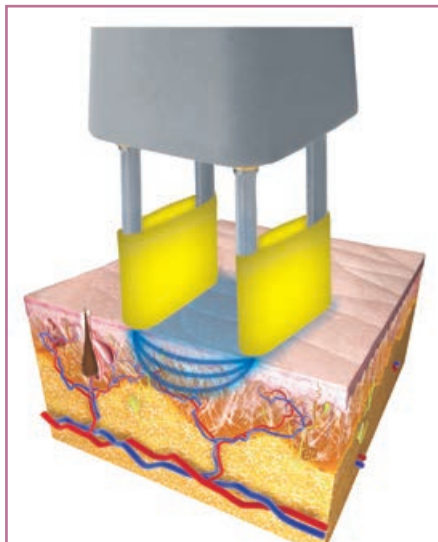
The advantages for physicians and patients are evident: the use of **PSD[®]**, together with the particular features of each pulse shapes, delivered combined with RF, is able to specifically perform several treatments and offers the utmost benefits, with least invasiveness, quicker recovery time and excellent results.

Exploiting the synergy of the CO₂ laser and RF source, the innovative **HiScan DOT/RF** can selectively reach all skin layers. The heat generated on the tissue surface is perfectly controlled to a deeper area; acting rapidly and effectively with great benefits for the patients.



| | |
|-----------------------------------|--|
| HiScan DOT/RF | The first scanning system that integrates CO ₂ fractional laser with bipolar RF energy source. |
| 5 | SmartStack levels, the function that controls the vaporisation depth in the skin and the heat action produced by each laser pulse. |
| SmartTrack | Exclusive randomised fractional scanning algorithm to minimise local temperature increases. |
| 5 | Scanning figures adjustable in size and height/width ratio. |
| More than 2,000,000 | Combination settings available. |
| PSD[®] Technology | The first RF CO ₂ laser system with the exclusive Pulse Shape Design technology. It enables the maximum flexibility of the pulse shape: S-pulse, D-pulse, H-pulse, U-pulse and the CW mode, greatly expand the surgical capabilities of the SmartXide ² making it an effective, versatile and powerful system. |
| Database | Integrated protocols designed for Aesthetic Dermatology and other applications (as Gynaecology, V ² LR, ENT and Dentistry). |
| Multimedia features | Integrated photo and video tutorial. |

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The bipolar RF technology of HiScan DOT/RF activates a selective heating of the derma and allows for a deep stimulation of neocollagenesis.

RADIOFREQUENCY: MORE POWER AND EFFECTIVENESS FOR LASER APPLICATIONS

Radiofrequency enhances the effects of CO₂ laser treatment by remodelling tissue in-depth, toning flabbiness and stimulating fibroblast activity to produce new collagen.

The **HiScan DOT/RF** scanning system comes with two special spacers that utilize bipolar RF technology to generate selective heating with a deep and localised action on the skin. The combined and simultaneous action of RF and CO₂ laser allows quicker recovery time and accelerate dermal tissues healing. The scanner can be connected to a SmartCryo system to enable continuous cooling and thus preserve the more superficial layers of the skin, reducing sensitivity to the treatment and recovery times. A similar accessory is used for smoke evacuation through a dedicated connection adaptable to the most diffused smoke evacuators.



The new **HiScan DOT/RF** scanner system.

DOT/RF TECHNOLOGY: EFFECTIVENESS AND QUALITY

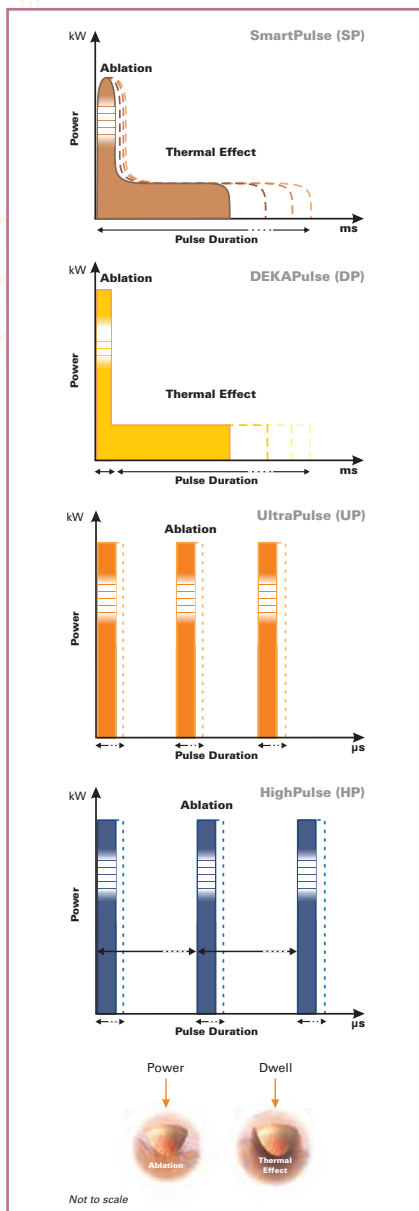
The **SmartXide² DOT/RF** technology enables accurate selection of all the operating parameters, modulating treatments in line with the characteristics of the patient and the target tissues.

This makes it especially useful in more complex treatments such as scars, cutaneous pigmentation, deep rhytidosis, and in the darkest skin phototypes, **SmartXide² DOT/RF** virtually eliminates the risk of PIH (*Post Inflammatory Hyperpigmentation*).

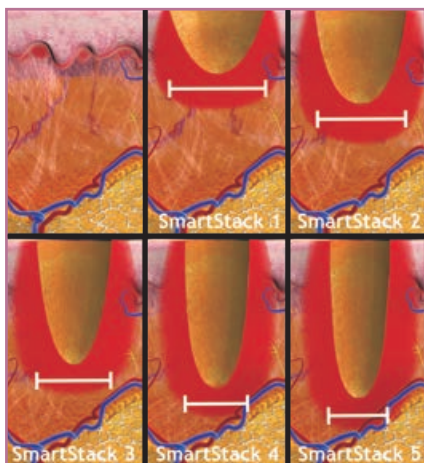
Ideal for treating delicate areas such as the neck and décolleté, SmartXide² is also particularly suitable for minimally invasive periocular lifting.

Versatile, Precise, Safe Technology

Power, scanning mode with *SmartTrack* algorithm, shape and size of treatment area, distance between DOTs, DOT dwell-time, and *SmartStack* level are all parameters that, when appropriately set, make it possible to perform all types of aesthetic and dermatological treatments in the most efficient way, facilitating the patient's post-op recovery.



Ablation and thermal denaturation, two effects modulated by the new SmartXide² pulses.



Effects of the laser pulses on the skin in proportion to increase of the SmartStack level. A progressive narrowing of the ablation channel due to the enhanced shrinkage effect can be observed.

PSD®: TOTAL CONTROL OF THE PULSED EMISSIONS

Complete control of duration, energy and shape of each pulse makes the choice of SmartPulse (SP), DEKAPulse (DP) and HighPulse (HP) the best solution for all the needs in Skin Resurfacing and Surgical treatments. **PSD®** can modulate the ablation and the coagulation (thermal effect) freehand and fractional scanning modes.

Ablation. The high peak power delivered in the first part of the pulse releases a great amount of energy very rapidly and causes immediate ablation of the epidermis and the topmost skin layers, which are less rich in water.

Thermal effect. Following rapid vaporisation, the CO₂ laser energy is transformed in heat propagating deep down in the water-rich derma. The result is an immediate “shrinkage” of the tissues and direct stimulation of the cells to produce new collagen.

THE INNOVATIVE SMARTSTACK FUNCTION

The *SmartStack* function guarantees maximum precision in controlling the vaporisation depth of the skin and the thermal effect, with the possibility of varying subsequent pulse emissions from 1 to 5 in the same point (DOT), making the **SmartXide² DOT/RF** system safer and more effective than other pulsed laser systems with only ablative effect. This results in rapid recovery times and enhanced patient comfort.

Control of thermal effect: the physician can deliver the laser energy in a single pulse or in several consecutive pulses, always on the same DOT. By increasing the SmartStack level the tissue cools between one pulse and the next, thus reducing thermal damage and the risk of undesirable side effects, particularly in delicate areas or in patients with dark or Asian phototypes.

Precise control of the vaporisation depth: SmartXide² DOT/RF prevents heavy bleeding of the skin and the consequent lengthy recovery times, even where greater ablation depth is called for, as in the treatment of scars.



Deka Software: user-friendly right from the start.

DEKA SOFTWARE: SIMPLICITY AND KNOW-HOW SERVING THE PHYSICIAN

SmartXide² new graphic interface is designed to simplify all the available functions. The large *LCD Touch Screen* offers a quick and easy selection of the operating parameters.

The integrated database allows for rapid selection of the most suitable settings for carrying out the medical treatment, considerably reducing the time usually needed to learn how to use such a complete system with so many functions. The multimedia content with photos and videos provides quick and targeted training for the specialists and their staff.



A wide range of surgical handpieces is available.

SMARTXIDE² SYSTEM: UNIQUE, VERSATILE, MULTIDISCIPLINARY

SmartXide² system represents a real innovation. It is the only platform in the market equipped with CO₂ and diode lasers, allowing multidisciplinary uses. A complete series of accessories are available for specialist use in Dermatology, Aesthetic Medicine, Surgery (ENT and Gynaecology), V²LR (*Vulvo-Vaginal Laser Reshaping*) and Dentistry.

Each system comes with a complete database and specific handpieces as well as optional accessories designed for dedicated use.



The flexibility and practicality of the diode laser, coupled with the speed and precision of the CO₂ laser, make the SmartXide² an extremely versatile and powerful system.

DIODE LASER

Available with 2 wavelengths (940 nm or 980 nm), 2 maximum power of 30 W or 50 W, the diode laser can work with optical fibres from 200 to 600 microns, single use or 10 times sterilisable. A disposable kit for endovascular laser therapy is also available.

If not integrated already in the system at time of purchase, the diode laser can upgrade the equipment at any time.

A wide range of applications are possible, especially in endovascular laser therapy as well as in Dermatology, General Surgery and Endoscopy thanks to the versatile delivery of the laser beam in the optical fiber.

SYNERGISTIC TECHNOLOGIES OF A POWERFUL SYSTEM FOR ADVANCED TREATMENTS

Combining the benefits of a CO₂ laser with bipolar RF source, SmartXide² with the **HiScan DOT/RF** scanner offers physicians a wide range of applications and benefits thus becoming an indispensable tool in modern medical-aesthetic practices. SmartXide² can be used for a wide range of dermatological and surgical treatments.



Combined treatment of scars with DOT + RF.

Courtesy of: N. Zerbinati, M.D. Varese - Italy.



Combined treatment of scars with DOT + RF.

Courtesy of: N. Zerbinati, M.D. Varese - Italy.



Periocular Lifting.

Courtesy of: P. Campolmi, M.D. - G. Cannarozzo, M.D. - P. Bonan, M.D. Florence - Italy.



DOT Therapy.

Courtesy of: P. Campolmi, M.D. - G. Cannarozzo, M.D. - P. Bonan, M.D. Florence - Italy.



Dermatosis papulosa Nigra.

Courtesy of: P. Campolmi, M.D. - G. Cannarozzo, M.D. - P. Bonan, M.D. Florence - Italy.



Inflammatory Linear Verrucous Epidermal Nevus.

Courtesy of: P. Campolmi, M.D. - G. Cannarozzo, M.D. - P. Bonan, M.D. Florence - Italy.

TECHNICAL DATA

SMARTXIDE² - Configurations in Dermatology and Aesthetic Medicine

| Models | C40 | C60 | C80 |
|-------------------------|--|------------------------|------------------|
| Laser Type | CO ₂ RF - PSD® | | |
| Wavelength | 10.6 µm | | |
| Emission Beam Mode | TEM ₀₀ | | |
| Emission Modes | CW - SP - DP - HP | CW - SP - DP - HP - UP | |
| CW Power | From 0.5 to 40 W | From 0.5 to 60 W | From 0.5 to 70 W |
| SP Power | From 0.1 to 12 W | From 0.1 to 15 W | From 0.1 to 15 W |
| DP Power | From 0.2 to 12 W | From 0.2 to 15 W | From 0.2 to 15 W |
| HP Power | From 0.1 to 4 W | From 0.1 to 8 W | From 0.1 to 15 W |
| UP Power | N/A | From 0.5 to 60 W | From 0.5 to 80 W |
| Emission Time | From 0.01 to 0.9 s | | |
| Delay Emission Time | From 0.3 to 5 s | | |
| Beam Delivery | 7 Mirrors articulated arm with counterweight | | |
| Aiming Beam | Laser diode @ 635 nm - 4 mW - Adjustable intensity from 2% to 100% - Aiming light OFF or Diode OFF while lasering (DOWL). | | |
| Internal Database | About 150 factory stored protocols, upgradable by USB. Possibility of storing unlimited number of custom user's protocols. | | |
| Control Panel | Wide LCD Colour Touch Screen (10.4") | | |
| Accessories* | HiScan DOT/RF Scanner System Laser diode @ 940 or 980 nm - 30 or 50 W Wide range of handpieces | | |
| Electrical Requirements | From 100 to 230 Vac (automatic selection) 1,600 VA - 50/60 Hz | | |
| Dimensions** and Weight | 162 (H) x 59 (W) x 56 (D) cm - 95 kg | | |

HiScan DOT/RF Scanning System

| | |
|-------------------|---|
| Max Scanning Area | 15 x 15 mm |
| Dwell Time | From 100 µs to 2,000 µs, steps of 100 µs |
| Dot Spacing | From 0 to 2,000 µm, steps of 50 µm |
| Scanning Shapes | DOT, Line, Triangle, Parallelogram, Exagon, Square |
| Scanning Modes | Normal, Interlaced, SmartTrack |
| SmartStack | From 1 to 5 |
| RF Power | From 5 to 50 W |
| RF Dwell Time | From 0.5 to 10 sec |
| Emission Modes | SP, DP, HP*** (DOT Fractional Scanning Mode) CW (Standard Scanning Mode) |

*In this catalogue only the technical features of the Dermatology and Aesthetic Medicine applications are listed. Please refer to the SmartXide² General Catalogue for the complete list of characteristics.
** Height with folded articulated arm.
*** Not available for C40 model.

Integrated Laser Diode (optional)

| | | |
|----------------------------------|--|------|
| Wavelength | 940 nm or 980 nm | |
| CW Power | 30 W | 50 W |
| Operating Modes | CW and PW | |
| Exposure Modes | Continuous, single pulse, burst or repeated burst | |
| Emission time in PW (Ton) | From 5 ms to 2,000 ms | |
| Delay Emission Time in PW (Toff) | From 5 ms to 2,000 ms | |
| Burst pulses in PW | From 2 to 50 | |
| Delay between bursts | From 0.5 sec to 5 sec | |
| Beam Delivery | Optical Fibers of 200 µm, 300 µm, 400 µm, 500 µm and 600 µm, single use or 10 times sterilisable, with chip; SMA 905 connector | |



This brochure is not intended for the market of USA.

DOT/RF THERAPY - DOT THERAPY - PERIOCCULAR LIFTING DERMATOLOGICAL SURGERY - PLASTIC AND AESTHETIC SURGERY



SmartXIDE²



The Code of Excellence

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DEKA The Code of Excellence

A spin-off of the El.En. Group, DEKA is a world-class leader in the design and manufacture of lasers and light sources for applications in the medical field. DEKA markets its devices in more than 80 countries throughout an extensive network of international distributors as well as direct offices in Italy, France, Germany, Japan and USA. Excellence is the hallmark of DEKA's experience and recognition garnered in the sphere of R&D in over thirty years of activity. Quality, innovation and technological excellence place DEKA and its products in a unique and distinguished position in the global arena. DEKA manufactures laser devices in compliance with the specifications of Directive 93/42/EEC and its quality assurance system, certified by in accordance with the ISO 9001 and ISO 13485 standards.