

PixelCO₂

ADVANCED
TECHNOLOGY WITH
MAXIMUM VERSATILITY
FOR DERMATOLOGY &
AESTHETIC PROCEDURES

Fractional and Non-Fractional Applications

- ✓ Skin Resurfacing
 - ✓ Skin Rejuvenation
 - ✓ Skin Tightening
 - ✓ Scar Remodeling
 - ✓ Skin Tags & Benign Skin Lesion
 - ✓ Skin Imperfections
-



*"The Pixel CO₂
is brilliant; it is a
must - have device
for all dermatologists
and plastic surgeons."*

Dr. Michael Shochat, MD, Dermatologist.

ALMA PixelCO₂

The carbon dioxide (CO₂) laser has been known to provide some of the most dramatic, age-defying results in the treatment of challenging skin imperfections including wrinkles, fine lines, photodamage, uneven skin tone and skin laxity, as well as in scar treatment, skin tags and benign tumors.

Using the power of the CO₂ laser, the optimal mix of ablative and thermal effects and an array of applicators and treatment modes for highly tailored procedures, Alma's Pixel CO₂ brings unparalleled precision and innovation to the field of dermatology and plastic surgery.

Alma Pixel CO₂ is a highly flexible system for **char-free tissue ablation, vaporization, excision, incision and coagulation of soft tissue**. It allows physicians full control of treatment parameters, including level and depth of ablation and thermal control via pulse duration and mode of energy delivery. This versatility maximizes precision and treatment results while minimizing unnecessary tissue damage.

The CO₂ laser uses a 10,600nm wavelength, which is ideal for collagen matrix renewal and an optimal choice for treating an extensive range of dermatological issues. The CO₂ laser has the ability to perform efficient, highly precise fractional and non-fractional laser treatments using the widest assortment of advanced applicators.

With powerful performance and hundreds of treatment options, Alma Pixel CO₂ opens the door to new possibilities in dermatological and surgical treatments. These include: Keratoses, Solar/actinic elastosis, Acne scars, Surgical scars, Rhinophyma, Cutaneous papilloma and more.

The platform also extends its use for Gynecology, Otolaryngology (ENT) and other medical fields using advanced, breakthrough applicators.



Modes of Operation

The CO₂ laser system offers 4 modes of energy delivery:

1. CW Mode (Continuous Wave):

Emits one continuous and consistent laser energy, typically used for excision or cutting.

2. Pulse Mode (Single pulse):

Produces a single pulse of laser energy for more supervised and accurate energy delivery.

3. Repeat Mode:

Produces a series of either short or long pulses of laser energy at variable speeds.

4. Super Pulse Mode:

Super pulse mode provides the highest peak power with the shortest pulse duration, enabling the deepest penetration with minimal residual thermal damage. This mode is designed for performing ablation without inflammation and achieves highly effective results with minimal downtime and enhanced patient comfort.



A FULL RANGE OF TREATMENT-SPECIFIC APPLICATORS

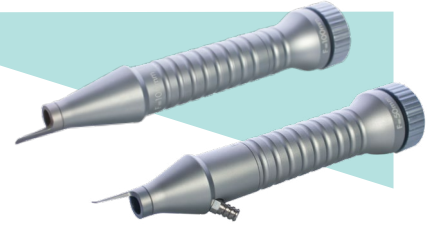


Focus Applicators

Cut & Coagulate with perfect control, ideal for surgical applications

Alma's Focus applicators combine cutting and coagulation into a single setting. Both work synergistically, allowing physicians to perform both actions without having to switch applicators or parameters during procedures.

In "cut" (ablation) mode, short pulses emit high peak power, causing immediate ablation of tissue. In "coagulation" (thermal) mode, a longer pulse emits low to modest power, generating heat, which causes blood vessels and tissue to shrink. This sequential-action pulse allows physicians to achieve optimal tissue incision or excision cutting with minimal bleeding as well as reduced patient downtime. Fixed focus applicators of the two spot sizes allow for precise and accurate soft tissue cutting.



Before



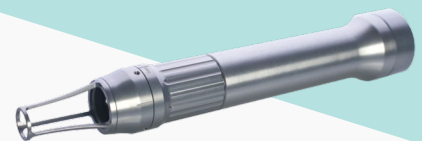
After

*Courtesy of Dr. Dinko Kaliterna, Dermatologist,
Poliklinika Poliderma, Zagreb, Croatia*

Various Spot Sizes (VSS)

Flexible spot size adjustment, ideal for individual skin tags and lesions

The VSS applicator can change the size of the laser spot from 1mm to 4mm using a single applicator. This allows physicians to work with larger spot sizes while maintaining work stability during treatment. It is ideal for removing skin tags and other benign skin growths as well as individual pigmented lesions.





The Fractional Laser Method

Unlike traditional ablative laser resurfacing which removes the entire top layer of the skin, Alma Pixel CO₂ deploys a fractional delivery method which creates pixel-sized perforations in the skin, leaving the surrounding tissue intact. The preservation of undamaged skin between the perforations allows for faster healing while the wound healing process promotes accelerated re-epithelization, generation of new collagen, tissue regeneration and contracture of existing fibers.

Fractional treatment controls and significantly reduces the risk of adverse side effects such as delayed hypopigmentation, scarring, post-inflammatory hyperpigmentation, infection and persistent erythema. Patients also benefit from much shorter downtime and increased patient comfort compared to traditional resurfacing.

The fractional method is ideal for skin resurfacing and rejuvenation treatments, including scar treatment, improving skin tone, elasticity and texture and reducing superficial pigmentation.

“Alma’s Pixel CO₂ technology achieves excellent results for skin rejuvenation. The deep thermal effect of the Pixel applicator stimulates collagen renewal, making it ideal for treating fine lines and wrinkles. The iPixel roller offers high speed capabilities, allowing us to treat larger areas far more quickly, easily and effectively.”

Dr. Acky Friedman, MD., Dermatologist, iSkin Clinic

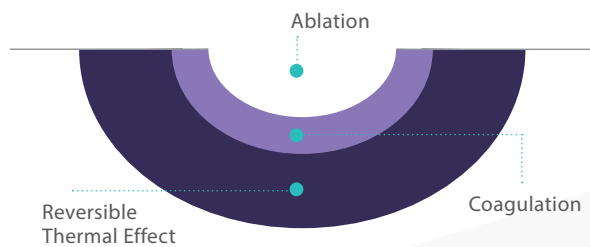
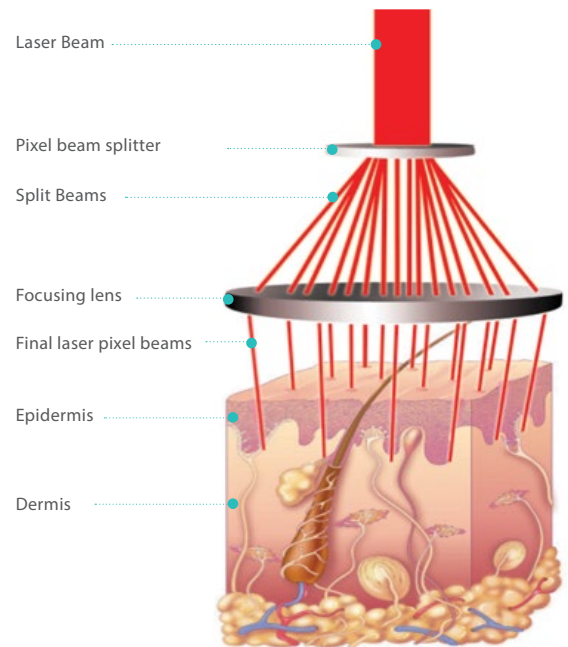
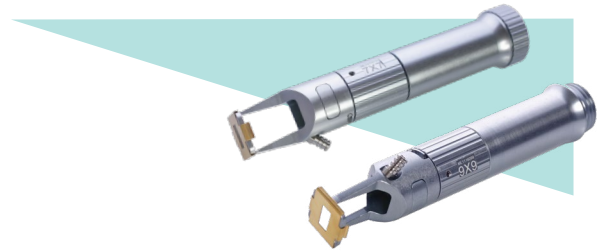
Pixel Applicator

High thermal effect, short downtime, ideal for wrinkles and skin tightening

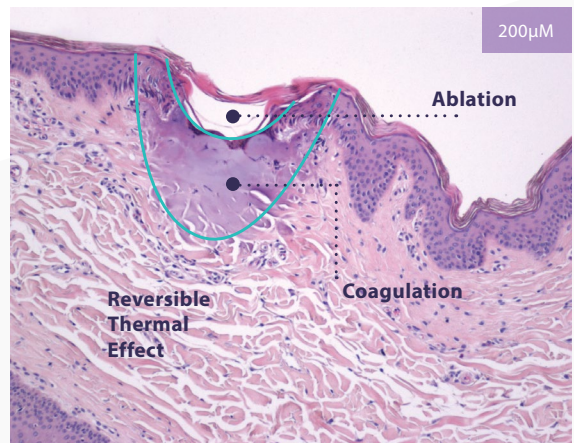
The Pixel CO₂ 7x7 and 9x9 stamping applicators deliver CO₂ laser energy to the skin through a DOE (Diffractive Optical Element) which pixelates the beam to either 49 or 81 pixels, creating simultaneous microscopic columns of micro-ablative damage. The energy is delivered in a square pattern with an 11x11mm spot size.

This unique technology approach enables the use of much higher energy levels via longer pulse durations, creating a greater coagulation and thermal effect with minimal ablation and significantly less patient downtime.

The deep thermal effect of the Pixel applicator makes it ideal for skin rejuvenation, treating fine lines and wrinkles.



Powerful coagulation and thermal effect with a micro-ablative effect.



Ex vivo (pork skin) histology of Pixel beams



Before

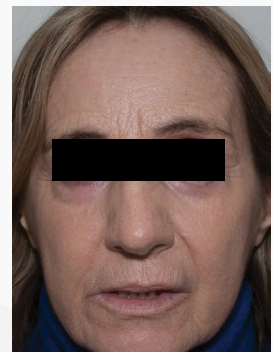


After

Courtesy of Dr. Michael Gold, Medical Director, Gold Skin Care, Nashville TN



Before



After

Courtesy of Dr. Guilherme de Almeida, Hospital sírio libanês, São Paulo, Brazil



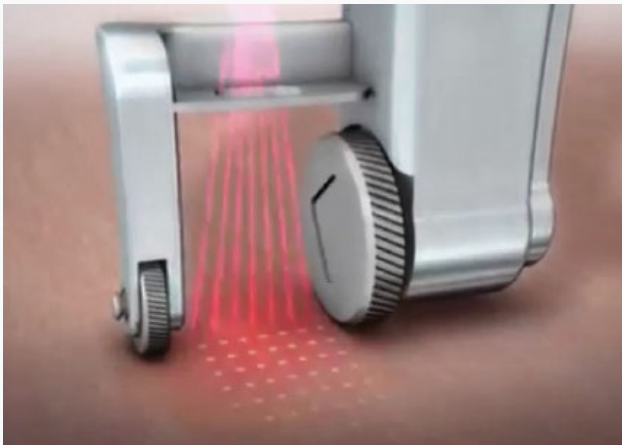
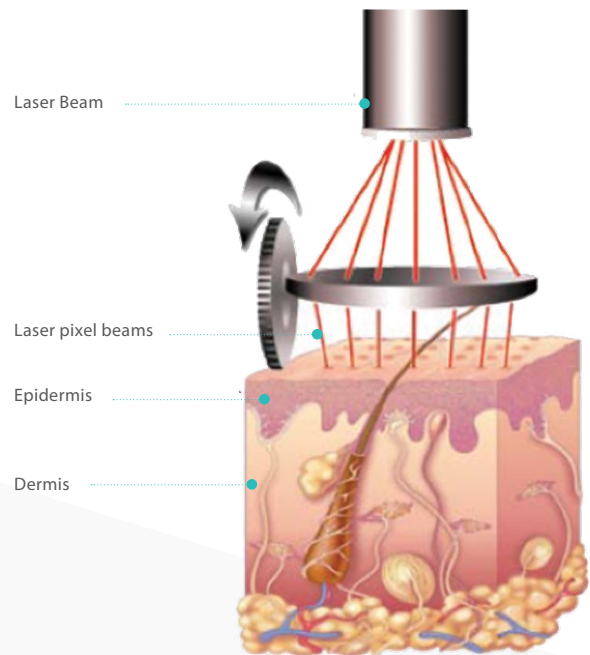
iPixel Roller

Pixel roller for fast, ablative treatments - ideal for larger areas



The iPixel roller releases a 7 sequential laser pixel beams as it is rolled across the skin, enabling fast treatment of large areas. The movement of the roller triggers a high power laser pulse, channeled into a horizontal line of seven evenly-spaced thermal and ablative channels.

The treatment achieves effective tissue remodeling and skin resurfacing with the benefit of faster healing time associated with the fractional treatment method. It is ideal for skin rejuvenation and treating skin pigmentation in larger areas.



Moderate ablation with extensive coagulation and thermal effects.



Before



After

Courtesy of Dr. Michael Shochat, MD, Dermatologist.

LiteScan

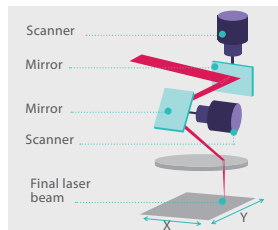
Versatile fractional scanner for efficient ablative procedures, ideal for skin texture and pigmentation

LiteScan is a handheld microprocessor-controlled laser scanner for char-free ablative procedures that allows for rapid coverage of large areas. It is designed for use in a variety of dermatological, cosmetic and surgical applications. Multiple scanning options are available including square or circle, in a spiral, grid or circumferential pattern as well as straight or curved lines.

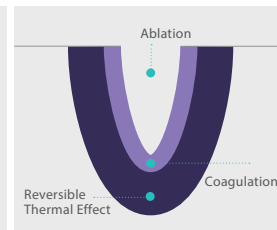
LiteScan optimizes treatment efficacy by providing higher energy output per pixel in shorter pulses for ablative procedures. The galvanometric scanning motor delivers energy more quickly per scanning area than the CO₂ focus applicators, for faster and more efficient coverage of large surface areas.

Paint Brush Mode

In "paint brush" or random mode, LiteScan delivers energy in a dispersed, randomized pattern with quick pulses and variable pulse duration. This approach creates a more natural ablative pattern, smoothing out the edges of the treatment area and avoiding the undesirable "checkerboard" appearance. Physicians can control treatment power by moving either slower, for higher density pixels, or faster, for lower density pixels- adapting the treatment to the specific needs of different areas of the face.



Automated scanning apparatus that creates a rapid sequence of aligned, focused beams.



High-powered ablation with moderate coagulation and a mild thermal effect.



Before



After

Courtesy of Dr. Mario A. Trelles, MD, PhD, Instituto Medico Vilafortuny, Tarragona, Spain

Random mode can achieve either deep or superficial ablative and thermal effects, while minimizing the risk of hyperpigmentation. It is ideal for skin resurfacing of large areas with the least amount of downtime.

Combined Modalities Scar Treatment

LiteScan and Pixel provide the ideal combination for effective scar removal

The combined power of the LiteScan and the Pixel applicator achieves excellent results for the treatment of hypertrophic and hypotrophic scars. Pixel applicator provides a deep thermal effect while LiteScan offers a powerful ablative effect. This combination triggers a healing process that replaces scar tissue with healthy regenerated skin.



Before



After

Courtesy of Dr. Uwe Paasch, MD, PhD, Dermatology Department, University of Leipzig, Germany



SkinTight

Non-ablative laser with zero downtime, for skin tightening



The new and uniquely designed SkinTight applicator is a CO₂ probe created specifically for skin tightening. It features a large, 6mm spot size and uses a defocused low fluence laser beam to gently heat tissue without ablation; effectively heating the dermal layer and triggering neocollagenesis. Energy is applied to the skin without contact and is suitable for treating fine lines, wrinkles and for skin tightening of the face, neck and décolleté.



Before



After

Courtesy of Dr. Dinko Kaliterna, Dermatologist, Poliklinika Poliderma, Zagreb, Croatia

"I've seen very impressive results for skin tightening with the dedicated SkinTight applicator. It's light weight and ergonomic structure makes it easy to operate, and the immediate results show that this applicator truly delivers on its promise."

Dr. Eyal Kramer, Plastic Surgeon

Extending Clinical Performance with Superior Results

- ✓ Multiple dermatological and cosmetic surgery indications
- ✓ Versatile applicators for targeted procedures
- ✓ Adjustable treatment patterns
- ✓ Exclusive non-ablative mode
- ✓ Unique Pixel Technology
- ✓ Safe for delicate areas
- ✓ Precise & Fast treatment
- ✓ Versatile for high ROI

Value Added System Features



System Endurance

Pixel CO₂ uses a Coherent RF-excited tube with a high quality laser beam and extremely long span time.



Purge-Air System

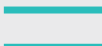















The purge-air flow system is designed to remove laser-generated smoke from the treatment area and keep the lens clean. It consists of an air compressor and a medical-grade sterilizable silicone tube that extends along the articulated arm to the applicator.



Smart, User-friendly interface

The Alma Pixel CO₂ is designed with smart, user-friendly features and quick set-up capabilities. A color touch screen LCD display provides step-by-step operating instructions and indicates correct scanning patterns for each treatment objective. The system optimizes procedures by offering pre-set operation and laser delivery parameters and allows users to configure custom parameters and patterns of lasing for specific indications. These settings may also be saved for future procedures.

CO₂ Applicators Footprint

Applicator	Footprint
Focus 50/100mm	 > Continuous  > Pulsed
LiteScan Aesthetic Mode	   
LiteScan Surgical Mode	   
iPixel Roller	0 mm  1 mm  2 mm 
SkinTight	 * thermal effect only
Pixel	7x7  9x9 



"Pixel CO₂ with the Roller applicator is an unbeatable combination when treating scars and stretch marks."

Dr. Tania Meneghel, MD, Dermatologist, Brazil



Alma Pixel CO₂ Specifications

System Specifications	
Laser Type	Coherent Inc. Sealed-off, RF-excited CO ₂ laser
Wavelength	10,600 nm
Laser Power	60 /30 Watts
Operational Mode	CW, Repeat, Pulse, Super Pulse
Electrical	120 VAC, 16 A, 60/56 Hz or 230 VAC, 8 A, 60/56 Hz
Dimensions	(HxWxD) 52" x 17" x 132) " 21 cm, 43 cm x 53 cm)
Weight	135 lbs. (61 kg)

Focus Applicators

Focal Distance	Spot Size
50 mm	100 µm (0.125 mm)
100 mm	200 µm (0.20 mm)
200 mm	400 µm (0.4 mm)

Cutting & VSS

Focal Distance	Spot Size
50 mm	100 µm (0.125 mm)
100 mm	200 µm (0.20 mm)
200 mm	400 µm (0.4 mm)
200 mm	1-4 mm

Pixel Applicator

Spot Density	Energy
49 Pixels (7 x 7)	Energy/Pixel: 10 to 150 mJ/Pixel
81 pixels (9 x 9)	

iPixel Roller

Spot Density	Energy
7 Pixels (7 x 1)	Energy/Pixel: 10 to 150 mJ/Pixel

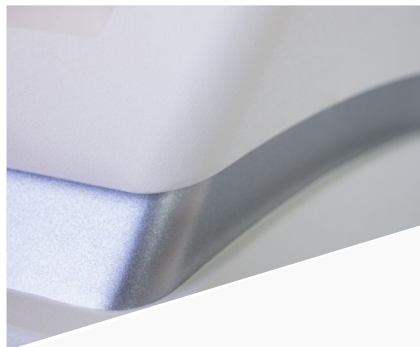
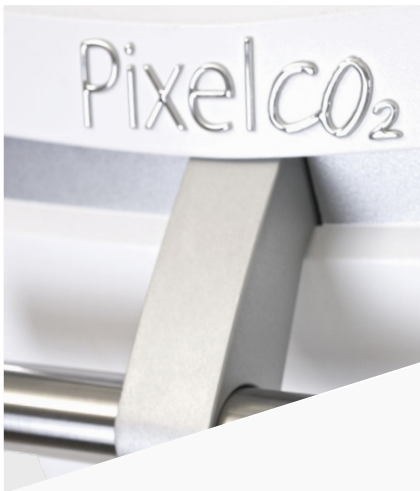
LiteScan

30W System:

Energy/Pixel: up to 13,440 mJ/Pixe

60W System:

Energy/Pixel: up to 26,880 mJ/Pixel





Alma
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