PicoLC PREMIUM

Picosecond Nd:YAG laser (1064nm & 532nm)

EVOLVING THE NEXT GENERATION

Designed to provide fast and comfortable tattoo & pigmented lesion removal and skin rejuvenation

LASEROPTEK®

Transforming Technology to Enrich Your Life

Introducing PicoLO Premium Evolutionary Picosecond Laser Technology

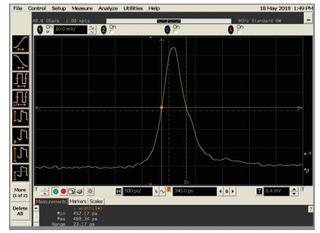
PicoLO Premium represents the new generation of LASEROPTEK's picosecond laser incorporating the proprietary DOE fractional technology, combining industry-leading power and stability.

It has 1064nm and 532nm dual wavelengths and delivers highly robust and stable ultra-short picosecond pulses of energy to tissues, provided by the LASEROPTEK's proprietary technology. It creates photomechanical effect which breaks up tattoo ink to smaller particles and offers skin rejuvenation.

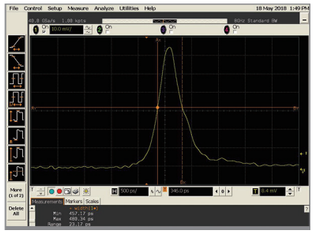
- High Stability
- Proprietary DOE Fractional Technology
- Comprehensive Treatments
- Effective Tattoo Removal
- Multimodal Skin Rejuvenation

Laser Stability Enables Optimal Results

Output energy and pulse duration stability are key requirements of picosecond lasers to maintain peak power and deliver safe, consistent and optimal treatment outcomes. LASEROPTEK's PicoLO Premium consistently delivers industry-leading laser stability at both 1064nm and 532nm wavelengths, ensuring a photomechanical effect.



1064nm

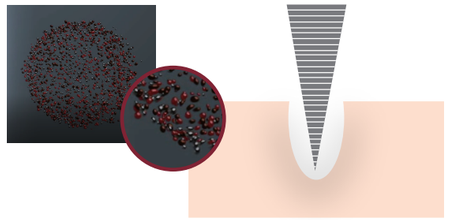


532nm

Actual oscilloscope screenshots measuring pulse width stability at 1064nm & 532nm. Standard deviation for both wavelengths is < 2%.

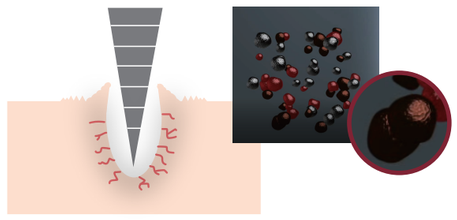
Photomechanical Effect

Picosecond Nd:YAG laser pulse durations are approximately 10x shorter compared to nanosecond Q-switched Nd:YAG laser. Ultra-short pulses generate high peak power levels, producing a photomechanical effect and less desirable photothermal effect, minimizing unwanted thermal damage.



PicoLO Premium laser

VS



Q-switched Nd:YAG lasers

A predominant photomechanical effect made by PicoLO Premium's ultra-short pulses reduces epidermal injury and enhances to fragment the deeper pigment and ink particles. Faster treatment results with less treatment sessions.

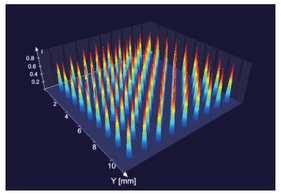
PicoLO Premium's Essence of Technology

Dia FX™
by PicoLO Premium

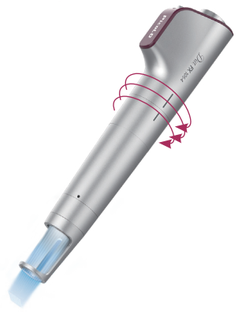
PicoLO Premium's Dia FX™, a new name of DOE fractional handpiece, incorporates LASEROPTEK's proprietary DOE fractional technology.

Dia FX Splits the laser beam into 81 microbeams which can evenly penetrate the deep dermis, while protecting the epidermal layer of intact skin. It allows for safe and effective treatment.

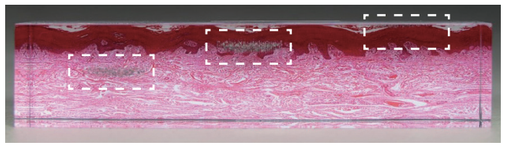
**Dia FX, Dia FX Lifting and Dia Toning are patent pending.*



Measured by 81 micro beams/cm²
Dia FX (DOE) beam profile



User Selectable Depth Control



3-step depth control

Users can select three penetration depths using an all-new Dia FX 1064 handpiece. Uniform 81 micro beams in 10 x 10mm² target lesion from the deep dermis to upper dermis and epidermis, allowing a physician to plan more delicate treatment.

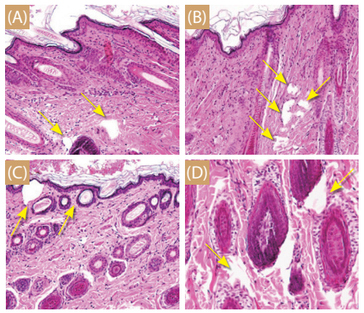
LIOB Induced Skin Rejuvenation

A powerful Dia FX creates a laser-induced optical breakdown (LIOB). Thru the process of LIOB, Dia FX's laser beam creates micro-injury zones present as dermal vacuoles and stimulates a healing process, resulting in skin rejuvenation.

The LIOB formation made by PicoLO's DOE fractional beam is evidenced in a recent acne scar treatment study where significant dermal remodeling was achieved, thereby confirming PicoLO Premium's Dia FX based treatments effective in treating atrophic acne scars.[2]

Histologic findings of skin treated with the PicoLO Premium revealed the formation of intra-epidermal and dermal cavities caused by LIOB. Dia FX 1064nm's selectable depth control (I, II, and III) demonstrated LIOBs in (a) dermis, (b) upper dermis, and (c) epidermis, respectively.

In addition, Dia FX 532nm demonstrated to create intra-dermal cavities, while the outer skin layer remained intact.



Histology from guinea pig skin specimens (H&E, 200X)
(A) Intra-dermal LIOBs by Dia FX 1064nm Depth I
(B) Intra-dermal LIOBs by Dia FX 1064nm Depth II
(C) Intra-epidermal LIOBs by Dia FX Depth III
(D)Intra-dermal LIOBs by Dia FX 532nm

Unveiling a Brand New Dia FX 1064S™ Handpiece

Dia FX 1064nm S™ handpiece, specifically designed to target delicate areas, such as fine lines in the eye area, nasolabial folds, and small-sized scars, etc.

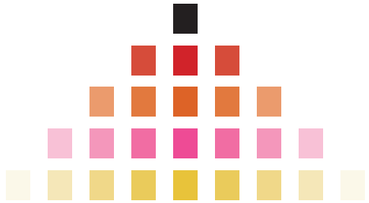
The User selectable depth control feature allows a more delicate treatment plan. It delivers gentle but noticeable skin lift and tightening without downtime.

Dia FX 1064S™

Faster and Safer Clearance

With PicoLO Premium, you can achieve faster and more complete clearance. It breaks up the pigment and tattoo ink into fine particles.

PicoLO Premium's 1064 and 532nm wavelengths were chosen to remove the most common ink colors and pigments on the wide range of skin types.



1064/532nm color range

Treatments for Multiple Indications

A recent clinical study demonstrated PicoLO Premium's efficacy and safety in treating photoaging associated facial pigmentation; evidenced by pigment clearance and skin tone improvement. A majority of subjects experienced skin revitalization, particularly improvement in skin tone and appearance of fine wrinkles.

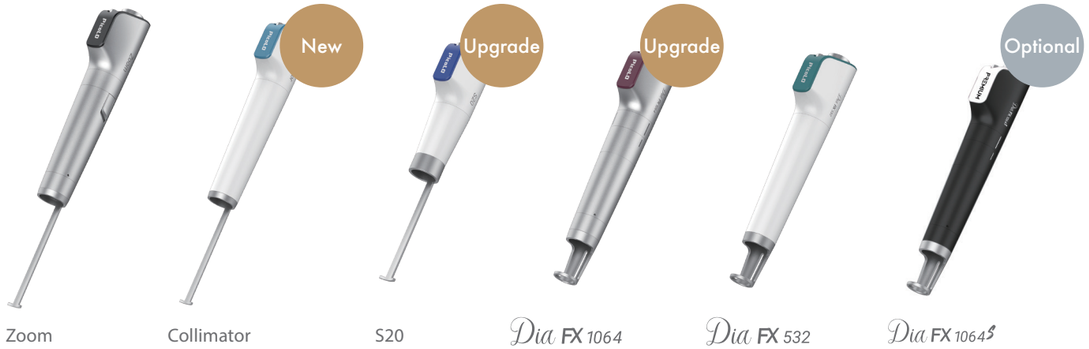
Its ultra-short pulse Induces epidermal to dermal microscopic damage with photomechanical effects, which generates new collagen and elastin that results in tightening of the skin, reduction in fine lines, shrinking of pores, and reduction in sun damage.[1]

PicoLO Premium showed successful treatment of acne scars. Superficial cystic cavitation and dramatically increased fragmentation of collagen fibers were observed through examination of a punch biopsy. It generates dermal remodeling and an attractive treatment option for atrophic scars.[2]

In addition to a distinct dermal remodeling process and the lack of collateral thermal damage, PicoLO Premium showed more favorable responses, a shorter recovery time, less pain and fewer side-effects in the treatment of acne scarring than the Er:glass laser in a recent study of comparing a 1064nm Nd:YAG picosecond laser vs. a nonablative 1550nm Er:glass laser for treatment of facicial acne scarring.[3]

PicoLO Premium can provide safe, comfortable and efficacious treatments for multiple indications.

System & Handpieces



Zoom | Collimator | S20 | Dia FX 1064 | Dia FX 532 | Dia FX 1064S

- Wide variety of available handpieces
- Newly upgraded Dia FX 1064nm handpieces provide "one-touch" type, 3 step depth control
- The S20 handpiece's large spot size enables fast and efficient treatments
- Now Dia FX 1064nm S handpiece permits precise, targeted treatments in small areas, such as the periorbital region, with a high level of control and safety*
- Intuitive user interface
- Features Fast-Start technology, ready to treat in less than 30 sec
- Compact, contemporary design suits today's modern clinics

Dia FX 1064nm S is an option. Please inquire for details.

PicoLO Premium brings operationally flexible conditions for optimal results

Variety of standard and optional handpieces

Half the size of typical picosecond lasers enables excellent space utilization efficiency

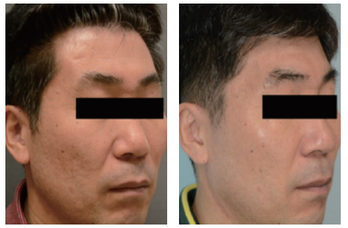
Adjustable viewing angle design provides comfortable viewing

Intuitive user interface

Integrated handpiece compartment

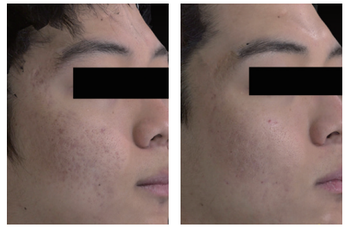
Clinical Results

Acne scars



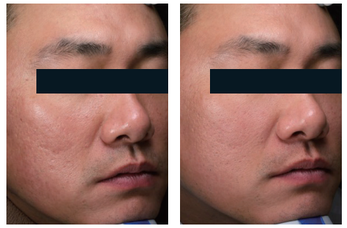
Before | After (3 sessions)

Photos courtesy of Myoung Eun Choi and Seung Hwan Paik, et al.



Before | After (2 sessions)

Photos courtesy of Jong Gu Kim, MD



Before | After (4 sessions)

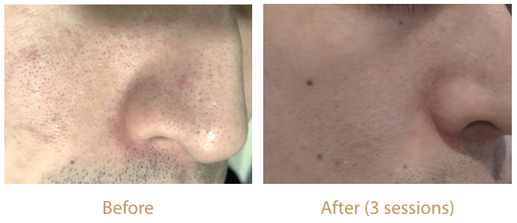
Photos courtesy of Jong Gu Kim, MD

Skin rejuvenation

Before | After (1 session)

Photos courtesy of Dr. Rattarui

Pores



Before | After (3 sessions)

Photos courtesy of Henri Ngai, MD

Pigmented lesions

Before | After (6 sessions)

Photos courtesy of Myoung Eun Choi and Seung Hwan Paik, et al.

Before | After (1 session)

Photos courtesy of Henri Ngai, MD

Tattoo Removal

Before | After (3 sessions)

Photos courtesy of Jihoon Kim, MD

Before | After (3 sessions)

Photos courtesy of Henri Ngai, MD

PicoLO Premium Specifications

Laser Type	Nd:YAG	
Wavelengths	1064nm	532nm
Pulse Duration	450ps	380ps
Max Energy	500mJ	350mJ
Peak Power	1.1GW	
Spot Sizes	ϕ2, 3, 4, 5, 6, 7, 10, 20x20mm	
Repetition Rate	SIG, M3, M5, 1-10Hz	
Beam Delivery	Articulated arm with detachable handpiece	
Power Requirements	220-230VAC, 50/60Hz	
Dimensions	372mm (W) x 1034mm (D) x 903mm (H)	
Weight	110kg	

Dia FX™ Specifications

Laser Type	Nd:YAG	
Wavelengths	1064nm	532nm
Pulse Duration	450ps	380ps
Spot Sizes	10 x 10mm 5 x 5mm*	7 x 7mm
Repetition Rates	SIG, M3, M5, 1-10Hz	

**Optional*

References

[1] Clinical improvement of photoaging-associated facial hyperpigmentation in Korean skin with a picosecond 1064-nm neodymium-doped yttrium aluminum garnet laser, Young Jae Kim and Sung Eun Chang et al. Lasers in Medical Science 2020.

[2] Treatment of acne scars with a fractional 1064-nm Nd:YAG picosecond laser and histopathologic findings. Myoung Eun Choi and Seung Hwan Paik et al. Dermatologic Therapy 2020.

[3] Comparison of a 1064-nm neodymium-doped yttrium aluminum garnet picosecond laser using a diffractive optical element vs. a nonablative 1550-nm erbium-glass laser for the treatment of facial acne scarring in Asian patients: a 17-week prospective, randomized, split-face, controlled trial. H.H. Kwon et al. JEADV 2020.

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