

ND:YAG LASER SYSTEM

PICOLASERCOS

LASER MACHINE

The most powerful pigment and tattoo removal solution on the market

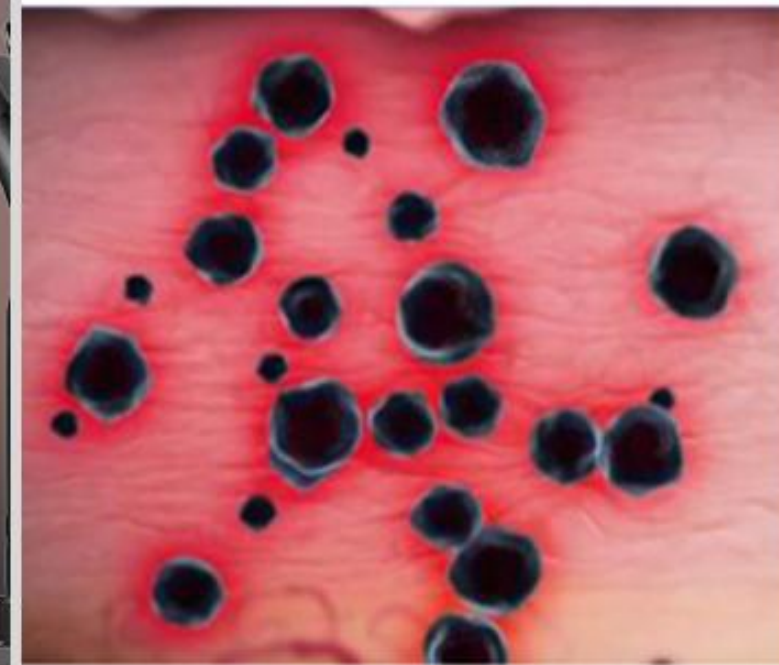
- ▶ HIGH PEAK POWER
- ▶ SHORTEST PULSE
- ▶ VARIOUS WAVELENGTHS
- ▶ VERSATILE TREATMENTS



Advantage of picocos lasers

1. Faster tattoo removal – There is enough literature to support the removal of tattoo in fewer sessions
2. Precise Target – Picosecond lasers of a particular wavelength can remove more colors than the nanosecond laser. However, a color-specific picosecond laser is still better for tattoo removal.
3. Less tissue damage – The ability to generate a short pulse minimizes heat diffusion for the target pigments. As a result, there is less surface tissue disruption and more selective treatment.
4. Photorejuvenation – The higher power causes molecular ionization and tissue cavitation. This process is called LIOB (laser induced optical breakdown). Picosecond lasers cause little “explosion” with the dermis with subsequent tissue remodeling and new collagen production. This forms the basis of rejuvenation.

Comparison with traditional laser shattered melanin particles

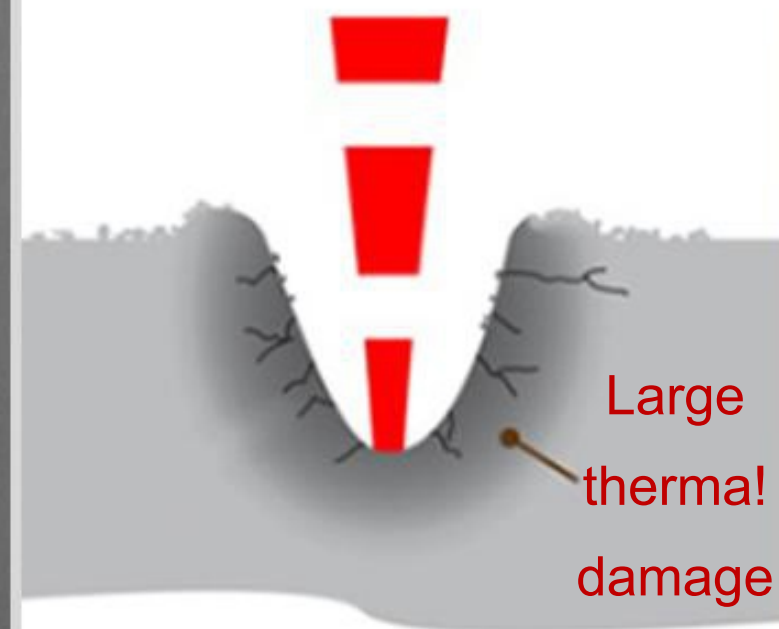


Traditional laser

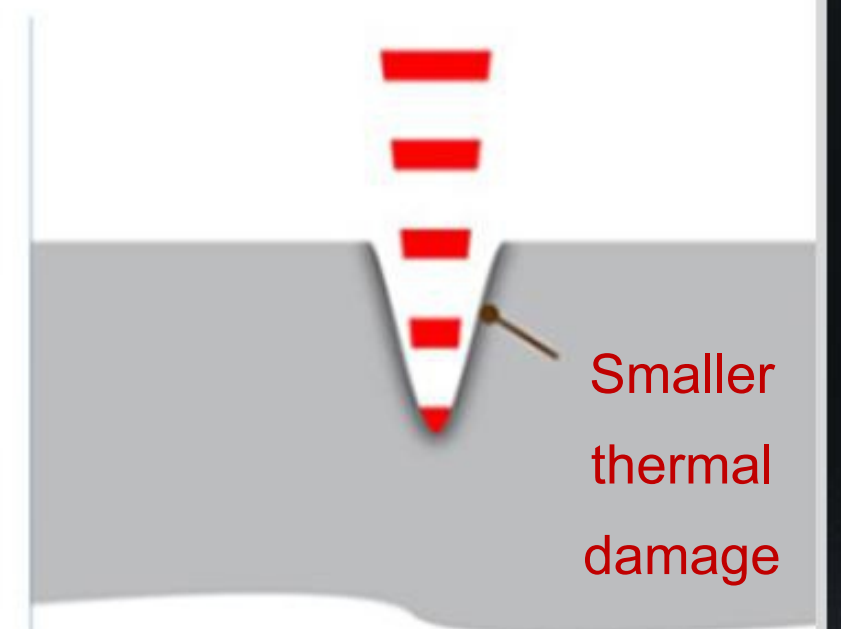


Picosecond laser

Comparison with traditional laser photothermal damage



Traditional laser

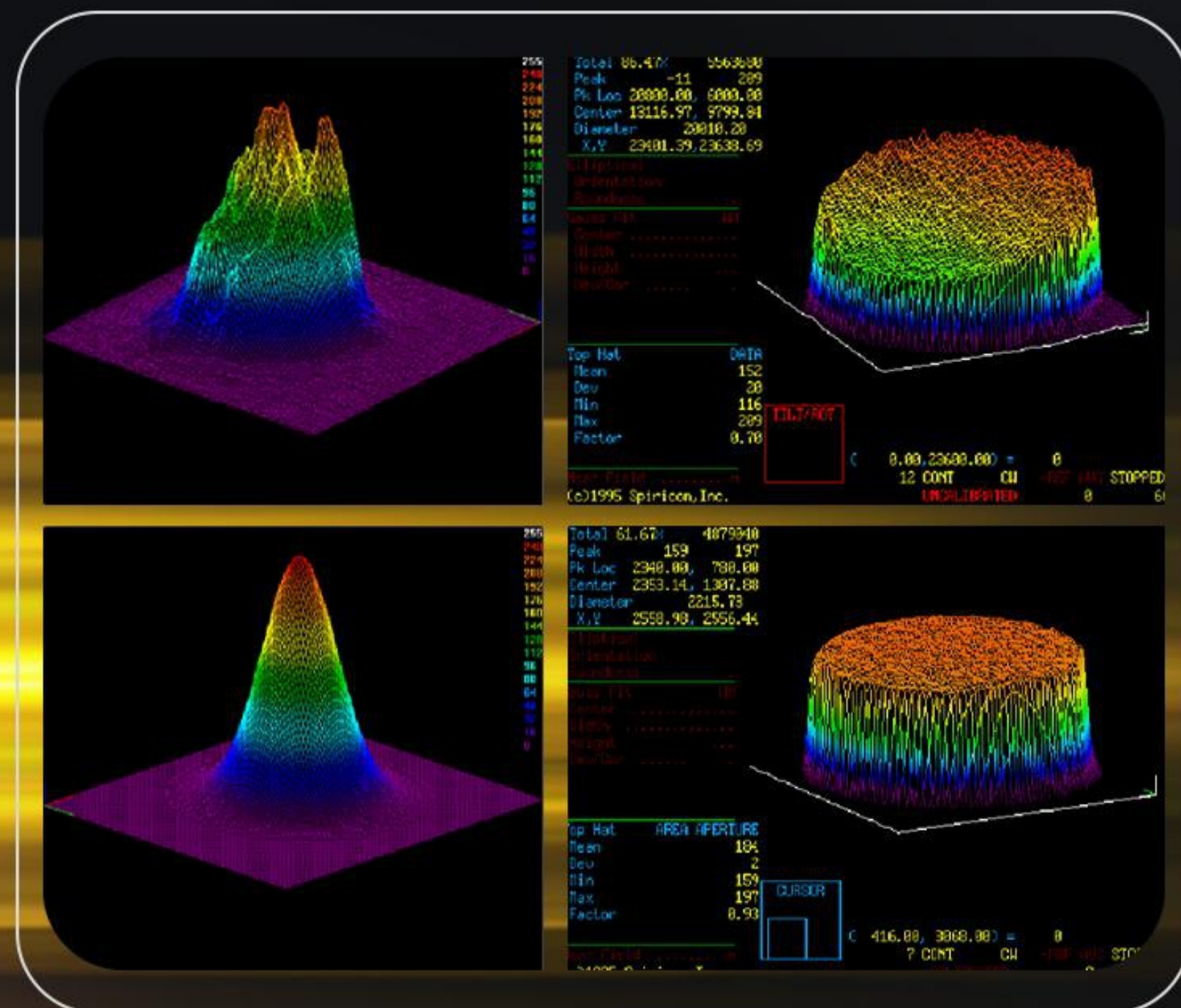
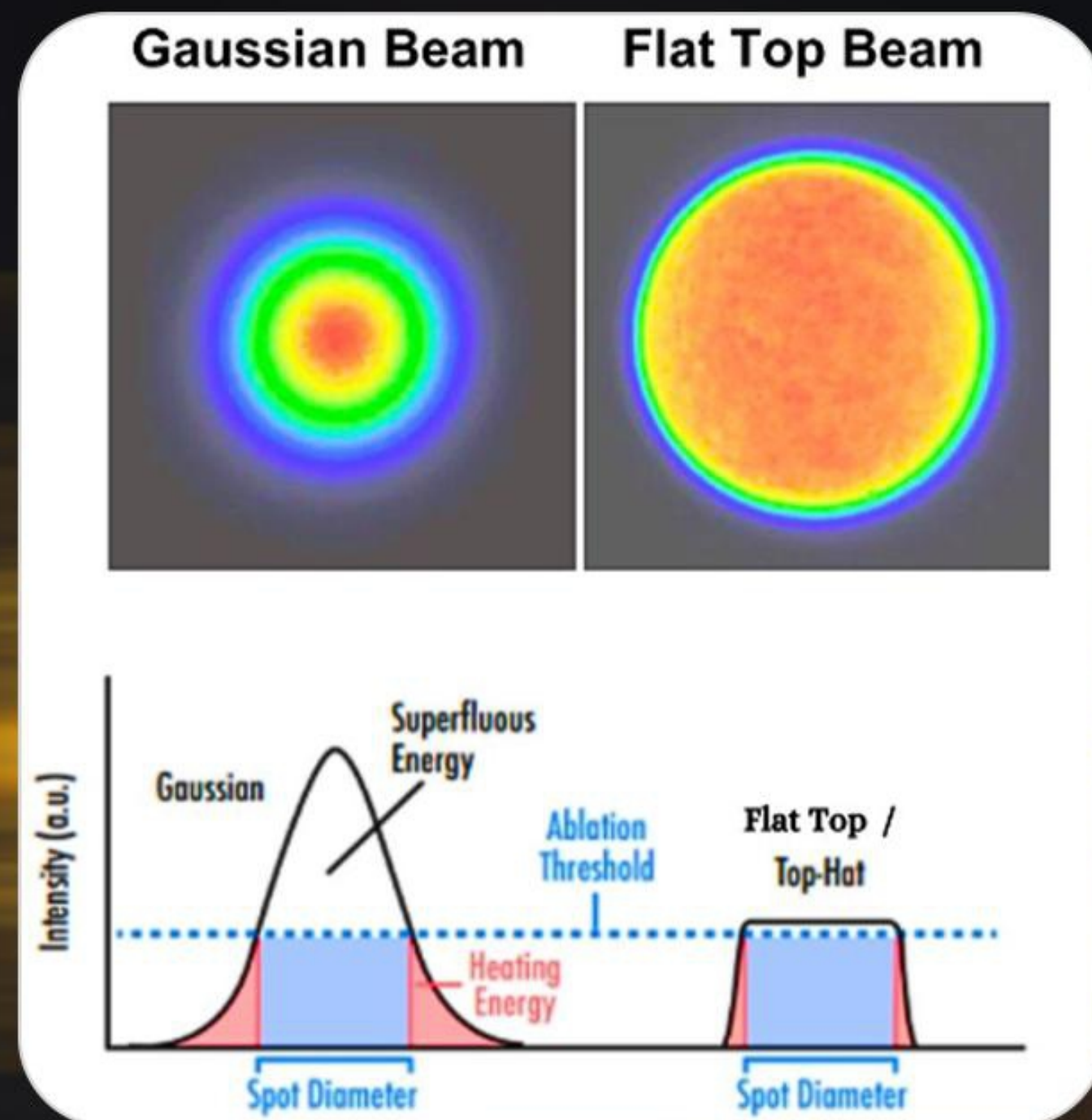


Picosecond laser

Flat Top Beam vs Gaussian Beam

The Flat Top Hat Beam advantages:

1. Uniform Intensity: It ensures even distribution of high-energy radiation across the beam profile.
2. Improved Beam Quality: The flat-top profile enhances the consistency of the beam, reducing variability.
3. Higher Accuracy: It targets structures with precision while minimizing impact on surrounding tissues.
4. High Efficiency: The uniform distribution allows for effective treatment while protecting the epidermis from significant injury.



Korea 7 Joint Arm

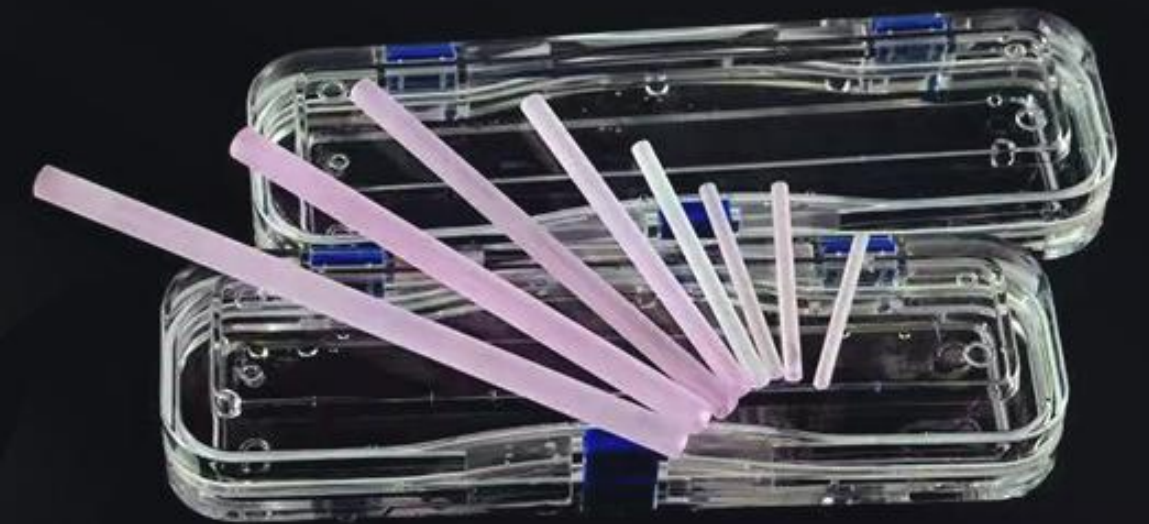
- | **Less Energy Loss.**
- | **360 degree rotation.**
- | **Uniform output energy.**
- | **Extremely Roundspot size.**
- | **Polarized Light is avoided.**



Double Purple Laser Rod

Double D9* 120mm Purple Laser rod to get the best energy magnification.

Under the same length, the larger the diameter, the higher the magnification and the greater the energy released



USA Lambda Lens and Cellular Lens

Each spot receives the same amount of energy.

No energy strong, point or weak point, which ensure energy being, effectively absorbed by the target color

- ▶ **Uniform distribution of energy.**
- ▶ **prevent the normal skin from being damaged.**



Therapy Principle

Therapy of epidermis and dermis pigmentation

Utilizing the explosive effect of the Nd: YAG laser, the laser permeate the epidermis into the dermis which includes amount of pigment mass. Since the laser pulses in nanosecond but with super high energy, the shot pigment mass swell quickly and breaks into small pieces, which will be eliminated through metabolic system.

Therapy of the dilatation of capillary vessel

Utilizing the heat effect of the Nd: Yag Laser, the laser is absorbed by the hemachrome in the capillary vessel, then the capillary vessel become blocked and disappear.

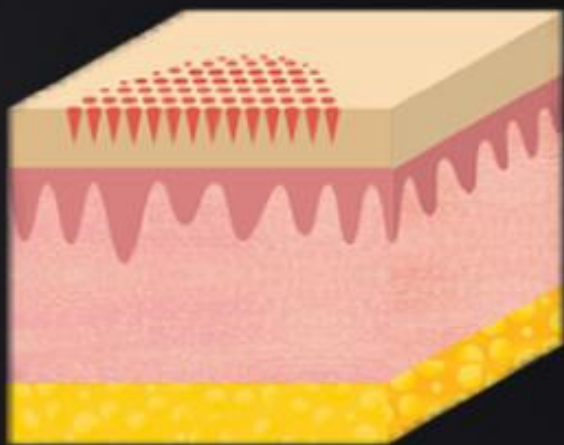


Handles



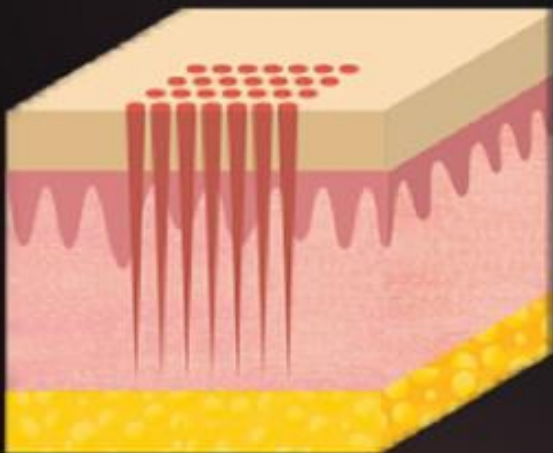
Celluar handle

Skin rejuvenation treatment.



Focus handle

skin tightening, skin resurfacing.



650nm handle

650nm wavelength is used on greens tattoos.



585nm handle

585nm is used on red, purples, multicolor tattoos.



Collimated handpiece



Zoom handpiece

Interface system

The PTP (Pulse-Twin-Pulse) mode VS Single Pulse mode:

1. Reduced Risk of Tissue Damage: PTP mode delivers continuous high output energy in twin pulses separated by a very short pause, which helps minimize the risk of damaging surrounding tissues.
2. Less Painful: The PTP mode is less painful compared to the Single Pulse method, enhancing patient comfort during the procedure.
3. Faster Collagen Regeneration: The PTP mode promotes quicker collagen regeneration, contributing to improved skin healing and rejuvenation.
4. Fewer Side Effects: PTP mode is associated with fewer side effects, such as hypopigmentation and post-inflammatory hyperpigmentation (PIH), compared to the Single Pulse mode.
5. Milder Pigment Response: Clinical studies have demonstrated that PTP mode results in a milder pigment response while maintaining the same energy level, making it a more effective and safer option.



Interface system

Genesis Mode

The Genesis mode enhances treatment by splitting a single pulse of energy into 3 short, sequential pulses. This approach delivers higher peak energy at brief intervals, specifically targeting melanosomes with reduced side effects and discomfort.

Future developments will include more sub-pulses, improving its efficacy for treating deep, stubborn pigments like chloasma, birthmarks, and nevus of Ota.



Interface system

Long Pulse Mode

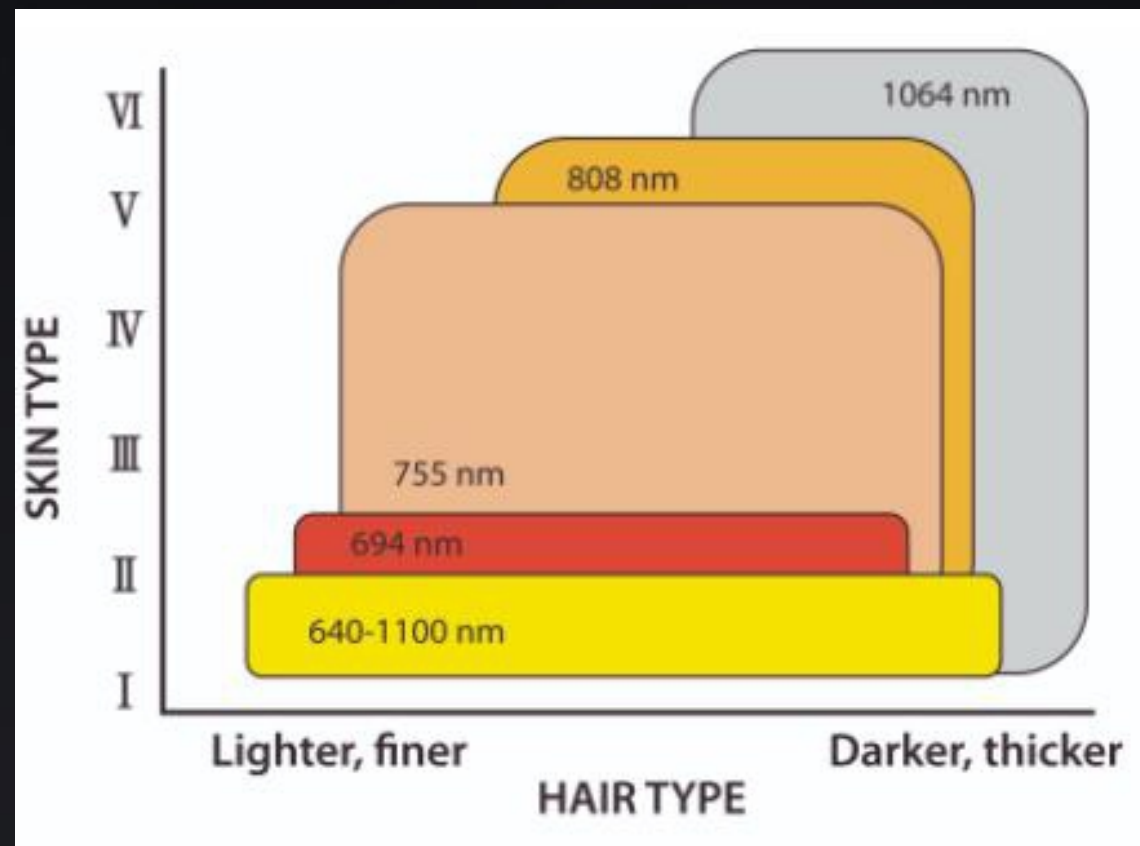
Single mode: for veins and vascular removal

Multi mode: for hair removal



Premium Long Pulsed Nd

YAG Laser treating multiple indications such as Hair removal, Vascular lesion, Skin rejuvenation and newly added Pico laser function, like Tattoo removal, skin rejuvenation..... Strong dual cooling system.



Laser diode (wavelength:810 nm)

Laser diode is a semiconductor, continuous laser. Long pulse operation can be obtained by turning on/off the current input into the semiconductor laser. The wavelength of laser diode has relatively better absorption rate for melanin than 1064 nm but does not allow deep penetration into the dermis, precluding complete removal of hair bulbs.

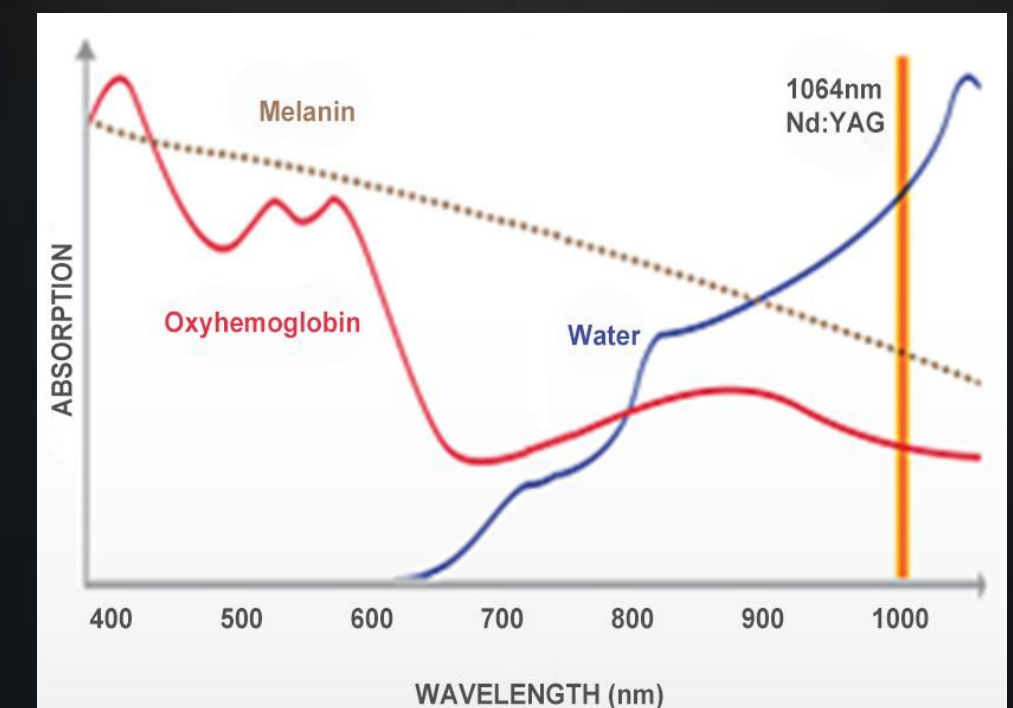
Long pulsed Nd:YAG laser (wavelength:1064 nm)

As mentioned above, long pulsed Nd:YAG laser has relatively lower absorption rate for melanin pigments compared to that of laser diode but is most effective for hair removal because of the deep penetration depth. It is less absorbed by melanin compared to other lasers, making it applicable to people of any skin type.

Dual system is the unique device combining picosecond laser and 1064nm Longpulsed Nd:YAG. not only 1064nm long pulsed wavelength due to the high melanin absorption it is effective for hair removal and pigmented lesions treatment. also Nd:YAG 1064nm long pulsed wavelength rejuvenate skin by stimulating the dermis layer, effectively treating vascular lesions.

1064nm Long Pulsed Nd:YAG Laser

Long pulse Nd:YAG has low absorption in melanin and deeper skin penetration due to its high energy. It stimulates dermis layer without damage of epidermis, rearranges collagen and thus improves loose skin and fine wrinkles.



Specification

SYSTEM TYPE	PICOSECOND	LONG PULSE		GENESIS
Wavelength	1064nm ; 532nm	Single 1064nm	Multi 1064nm	1064nm ; 532nm
Pulse Width	2000ps	Single :500-5000us	Multi : 100-300µs	2000ps*3
Maximum Rep Rate	Up to 10 Hz	Long: 1hz	1-10hz	Up to 10 Hz
Spot size	2-10mm	2-10mm	2-10mm	2-10mm
Maximum Energy	Single pulse 1064nm: 100-800mj; 532nm:100-400mj double pulse : 1064nm:100-1600mj; 532nm:100-800mj	Single: 1-30J Flunce:31.84j/cm2 2mm	Mutti:200- 3000mj Flunce:6.36j/cm2 2mm	80-2400mj Flunce:2.54j/CM2 2mm
Light guide beam:	650nm red laser	650nm red laser		650nm red laser
Power requirement:	220V, 10A, 50/60Hz			