



# Picosecond Laser

Beijing Hopelaser  
Company



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# What is Picosecond Laser?

Picosecond laser is for multiple aesthetic treatment applications. This unparalleled breakthrough in laser technology delivers ultra-short bursts of energy to the skin in trillionths of a second, enabling unmatched photomechanical impact or patented PressureWave™.

Picosecond pulse width is 100 times shorter than nanosecond technology, enabling photomechanical impact to shatter targets without injury to the surrounding skin.

$1\text{ms}=0.001\text{s}=10^{-3}\text{s}$

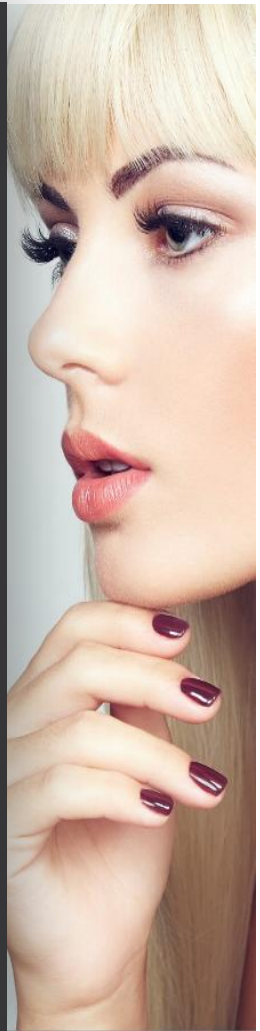
$1\mu\text{s}=0.000001\text{s}=10^{-6}\text{s}$

$1\text{ns}=0.000000001\text{s}=10^{-9}\text{s}$

$1\text{ps}=0.000000000001\text{s}=10^{-12}\text{s}$

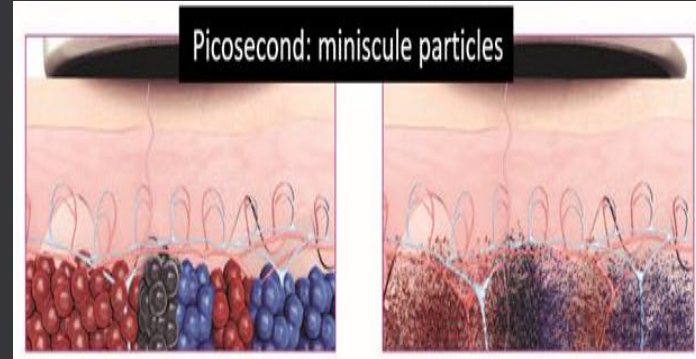


Pico



## Working Principle

The picosecond laser machine utilizing the explosive effect of the ND:YAG LASER, the laser permeates the epidermis into the dermis and takes effect on pigment mass and is absorbed by pigment. Since the laser pulses is extremely short in nanosecond and comes with super high energy, the pigment mass would swell quickly and break into small pieces, which will be eliminated through metabolism. In the case, the pigment become lighter gradually and finally disappear.



## How does it work?

# Parameter

Wavelength	755nm /1064nm /532nm/585nm/650nm
Pulse duration	500ps-750ps
Energy	2000mj for 755nm,1064nm 1000mj for 532nm 500mj for 650nm and 585nm
Spot size	1-10mm adjustable
Frequency	1-10Hz for 755nm and 1064nm 1-5HZ for 523nm
Electrical power	200-240VAC; 50/60 Hz
Dimensions and weight	110(H)*114(L)*55(W) 155kg
Aming beam	635nm



# Function

- 1.Remove Chloasma, coffee spots, freckle, sunburn, age spots, etc.
- 2.Removing all kinds of tattoos, specialized in removing red , coffee, brown, black, cyan and other colorized tattoos.
- 3.Remove mole, birthmark,brown blue nevus,junctional nevus,etc.
- 4.Remove the pigment skin pathological changes, the pigmentation caused by color pigment mixture, Pore remove,Face lift.
- 5.Skin rejuvenation





## Laser Arm



360° treatment without dead angle. Ensure the highest energy output and the minimum energy loss during laser transmission.

Made in Germany



## 585nm & 650nm

585nm: blue and purple  
tattoo removal

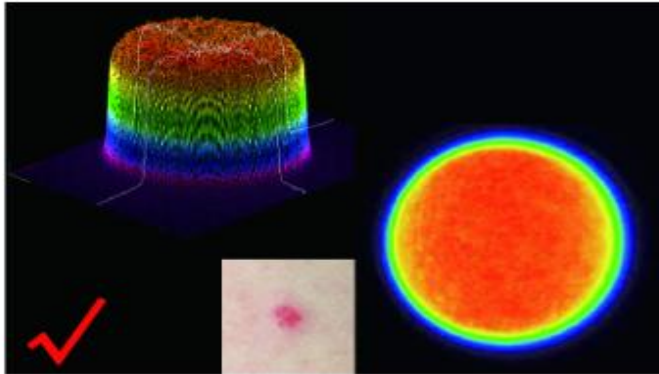
650nm: Green tattoo  
removal



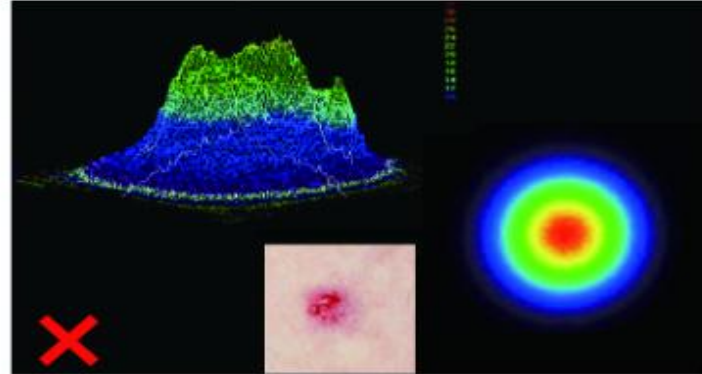


# Flat-top hat Beam

## FLAT-TOP HAT BEAM



Top hat beam



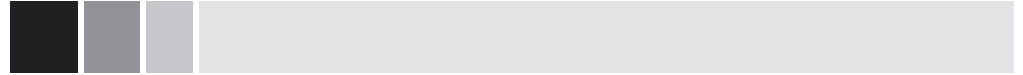
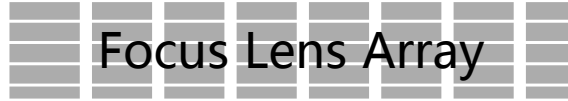
Gaussian beam

Flat-top hat Beam

Ensure that the energy is delivered efficiently to maximize effect while minimizing damage to surrounding tissue

# Focus Lens Array

Focus Lens Array



The Picosecond Focus Lens Array redistributes energy into high intensity and low intensity areas that lighten skin pigmentation.

Pico Original Head

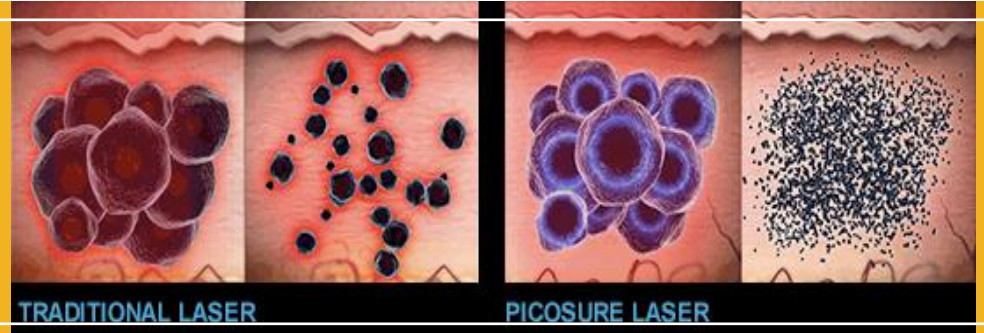


The absorbed high intensity energy creates an intra-epidermal zone of Laser Induced Optimal Breakdown (LIOB), The formation of LIOBs create a Pressure Wave that stimulates new collagen and elastin which provides the skin with a more youthful appearance.

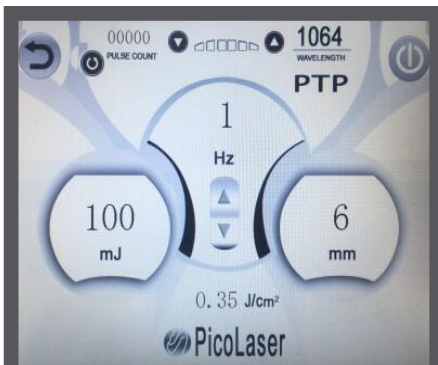
# Treatment

At Picosecond laser pulse width, the generated photomechanical stress target pigment particle, making its volume expansion instantaneously and resulting in breakup of target into micro-particles, which is much easier for phagocytes to clear.

Q-switch laser has pulse width of 5ns or more, its photomechanical stress is not efficient compared to picosecond laser, it creates large particles, and with long pulse width, scattering energy goes toward surrounding tissue, resulting in risks of thermal damage. Therefore, Picosecond laser provide a more effective and more safe treatment than Q-switch laser.



# Treatment Interface



1064nm/755nm  
Energy: 1-2000mj  
Frequency:1-10HZ



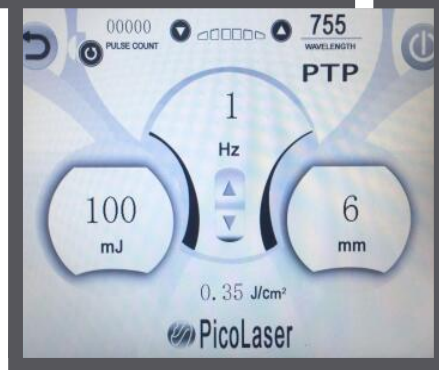
532nm  
Energy: 1-1000mj  
Frequency:1-10HZ



585nm/650nm  
Energy: 1-500mj



Five Wavelengths:  
1064nm/755nm/532nm  
650nm/585nm





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Thanks for your reading