

The ultimate solution of hair removal.
International patent technology.

PLANAR LED

The world's first high-power LED equipment for hair removal.





What is LED hair removal (Planar LED) ?

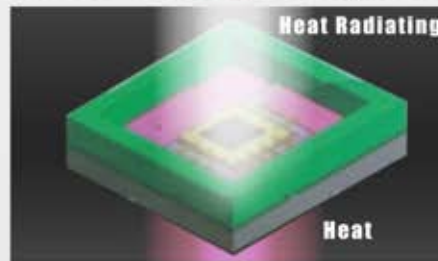
Use high-power super-emitting LED (Planar LED) array (12 pieces of chip) as a light source, crystal guide pyramid shaping and transmission of NIR beam, act on the subcutaneous, melanin in hair follicle absorb heat, to achieve hair removal effect.



Technical advantages:

1, Long lifespan and high stability

Up to 100 million shots and 5 years' expected service lifetime (less than 10% failure and 20% power attenuation), without any consumable. Stable performance, low malfunction rate, no downtime. Very easy maintenance and after sales services. Low running cost, but high return on investment.

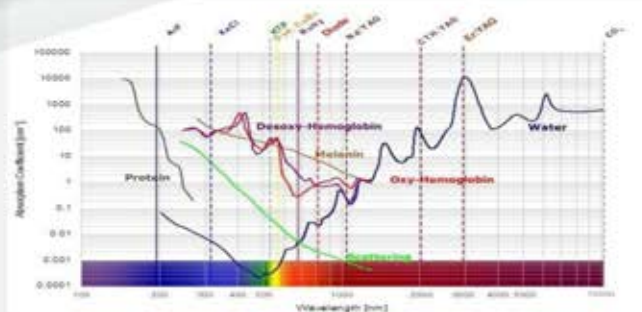


Why LED light source's lifespan and stability is much better than diode laser.

		Diode laser	LED	LED Advantages
Thermal damage	Light power	similar		The burn risk caused by overheating is much lower.
	Thermal power	Similar		
	Chip size	1*10mm	7.5*7.5mm	
	Conclusion	Similar total thermal power, LED has bigger heat dissipation are and smaller heat flow density.		
	Heat transfer path	Pass to the bottom and rear Average path is 1.5mm	Pass to the bottom Average path is just 0.2mm	
	Conclusion	LED has very short heat transfer path, lower thermal resistance and much higher efficiency of heat dissipation.		
Mechanical damage	Stress	Rectangle, high length-width ratio. Under stress of thermal deformation and thermal fatigue, chips easily desoldering or broken in pulsed working.	Square, 1:1 length-width ratio. Extra thin chip and large soldering area, firmly but low stress.	The desoldering and broken risk is much lower.
	Conclusion	Because of chip structure, LED chip's stress is smaller than diode laser.		
Optical damage	Light power	Similar		The burning risk of light emitting area is much lower.
	Light emitting area	Size 0.01*0.1mm High brightness, foreign body pollution can cause light-emitting surface burned.	Size 5*5mm Brightness is just similar to normal LED lamp or flashlight, slight dust will not be ignited to burn the lighting surface.	
	Conclusion	Because of surface emitting, the brightness of LED light emitting area is much smaller than diode laser.		
Chain damage		Not like diode laser, for LED chips, single area's failure does not affect other emitting area.		No chain damage risk

2, Reasonable light wavelength and spectrum

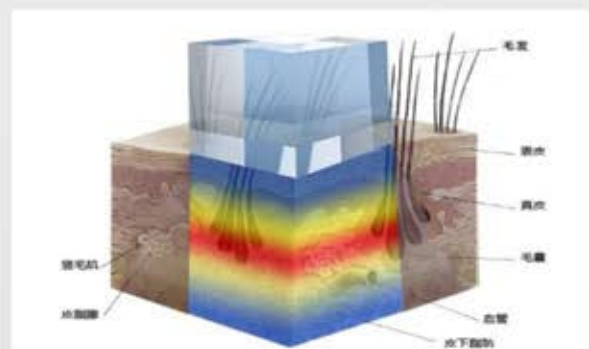
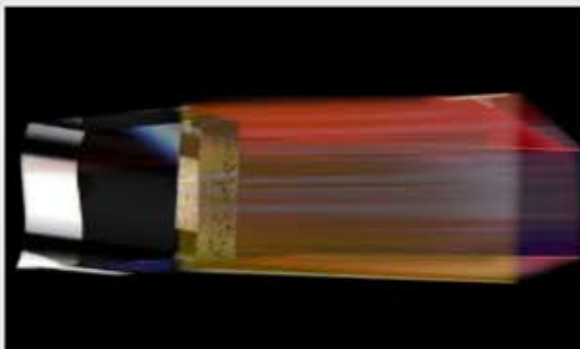
Planar LED use near infrared light with wavelength 780~850nm, little absorbed by skin tissue and vascular etc., but mainly absorbed by melanin in follicle, so hair removal is highly effective. Light spectrum has width, so can apply to more skin colors including dark skin.



3, Excellent surface emitting

A Evenly rectangle spot with nice consistency, energy is uniform, no painful feeling during treatment. Surface array light source, lower max. local brightness, no harmful to human eyes though direct watch.

B Planar light emitting area, uniform rectangular spot, and the light's divergence angle is small to 15°, easily penetrate into skin, very deep penetration depth, deep hair follicle also can be treated.



Equipment advantages:

1, High power and energy; excellent clinical effect

Total 840W, 12 pieces of 70W lamp beads(chip) from USA. Chip outside size is small, can collocate chips compactly, to achieve higher power density. Compared with similar VCSL laser(non-channel laser), power density is higher about 70%, enhance clinical effect a lot.

2, Convenient and solid hand piece

Handle can be changed singly, more strong, even if bending or collision not induce damage. During operation, intelligent LCD window can show being used energy, pulse interval, frequency and shots count clearly, convenient for operator.



3, Sapphire contact cooling

Water cooling and TEC contact cooling.

Because of compact chips' collocation, when transmission in light guide crystal, efficiency is high, so still can have sapphire contact cooling. The lowest temp. reach -15°C , cool enough to protect epidermis, comfortable treatment feeling.



4, Big spot size

Big spot size is $17*22\text{mm}$, efficient hair removal for big skin area.

5, Intelligent software

Two treatment mode: Stamp and Repeat

Advanced setting: supplier can manage machine's using well by all the technology design parameters (alarm record and daily log etc.)

Energy calibration function: exact energy can be calibrated in every energy level, precise treatment .

WiFi internet connection: convenient remote after sales services.





Technology comparison:

Technology		IPL	Diode Laser	LED
Light source features	Light source	Xeon lamp	Diode laser bars	LED chips
	Wavelength	Wide spectrum 610~900nm	Single wavelength 755/808nm/1064nm	Narrow spectrum 780~850nm
	Light power	5~10kW	320~1000W	840W
	Light emitting area shape	Columnar	Line	Surface
	Pulse lifespan	10000~30000 shots	8~30 million shots	60~100 million shots
Operation	Operation mode	Stamp	Stamp/Repeat	Stamp/Repeat
	Energy density	1~40J/cm2	Stamp: 5~100/cm2 Repeat: 5~12J/cm2@10Hz	Stamp: 5~100/cm2 Repeat: 5~12J/cm2@10Hz
Maintenance	Handle	Always need change light tube	Laser generator is easily damaged, need replace every 1 to 2 years	If normal use and regular maintenance, handle has the same lifespan as device
	Filter	No need	Need often change filter and deionizer, if not, laser generator is easily damaged	No need
	Cooling water	Drinking water	Special deionized water or coolant	Drinking water



Clinical photos





Parameters:

Planar LED	
Light source	LED
Light spectrum	NIR
Light power	840W
Pulse width	5-750ms
Energy density	1-100J/cm ²
Frequency	1-10Hz
Applicable skin color	I-VI
Operation mode	Stamp/Repeat
Spot size	17*22mm
Cooling temperature	-15~10°C
Cooling system	TEC sapphire contact cooling/water cooling
Size	430*500* 870mm
Net weight	35KG



Company introduction

Shenzhen LeafLife Technology Co., Ltd., founded in 2015 year, is a R&D, manufacturing and marketing medical company, which produce medical laser equipment, beauty equipment, home use beauty devices and core components such as lasers, chips, etc..The products have been sold to more than 50 countries, annual sales tens of millions RMB.

As an innovation-oriented new technology-based company, owns strong R&D power, the first fiber coupled diode laser technology is the breakthrough of diode laser hair removal. Global patent LED hair removal technology, lead the new technological innovation and market upgrading.

Provide OEM, new technology R&D, consulting, training, equipment and technical problem solution etc. services for the investors, equipment suppliers, and distributors

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