

LUCID QY/Q-PTP

1064nm/532nm Q-Switched Nd:YAG Laser

BISON
MEDICAL EQUIPMENT MANUFACTURER

LUCID **QY**
LUCID **Q-PTP**™

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01

LUCID QY/Q-PTP

1-1. LUCID QY/Q-PTP

1-2. Nd:YAG

1-1 LUCID QY/Q-PTP

1064nm/532nm Q-Switched Nd:YAG Laser

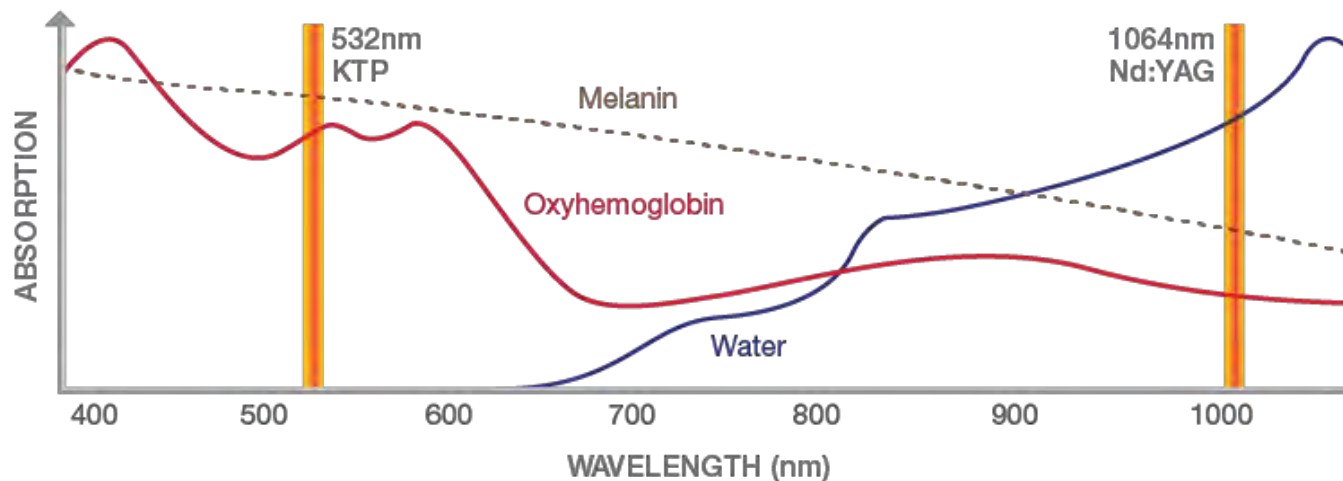
LUCID QY/Q-PTP is Q-Switched method Laser realizing 1064nm/532nm by using Nd:YAG. Q-Switched Nd:YAG Laser is widely used for pigment treatment and LUCID Q-PTP is to add PTP function(dividing one pulse into two pulses) in order to reduce pain and side-effect when operation. High repetition rate of 25Hz at 1064nm wavelength can realize fast and safe treatment. LUCID QY/Q-PTP has various range of treatment such as pigment treatment, tattoo removal, toning, soft peeling and etc. In addition to that, Quasi long(300 μ s) mode can realize skin rejuvenation effect by genesis technique. LUCID QY/Q-PTP is a basic equipment which is possible utilize for various indications.

LUCID^Q-PTP™
LUCID^QY



1-2 Nd:YAG

Nd:YAG (neodymium-doped yttrium aluminium garnet; $\text{Nd:Y}_3\text{Al}_5\text{O}_{12}$) is a crystal that is used as a lasing medium for solid-state lasers. Nd:YAG makes both 1064nm and 532nm(using KTP) wavelength. 532nm wavelength is excellent in epidermis pigment lesion treatment due to high absorption of oxyhemoglobin and melanin as well as shallow skin penetration. 1064nm wavelength is effective on dermis pigment lesion treatment and tattoo removal because 1064nm influence average oxyhemoglobin and melanin treatment but the wavelength is relatively long enough to penetrate deep.



02

Indication

1 ▶ Epidermal Pigmentation lesions

- Freckles, Lentigo, Café au lait spot, Seborrheic keratosis, Tattoo(red)



2 ▶ Dermal Pigmentation

- ABNOM, Nevus of Ota, Tattoo(blue, black)



3 ▶ Etc.

- Toning(melasma, Hyper pigmentation, Acne Scar), Soft peeling

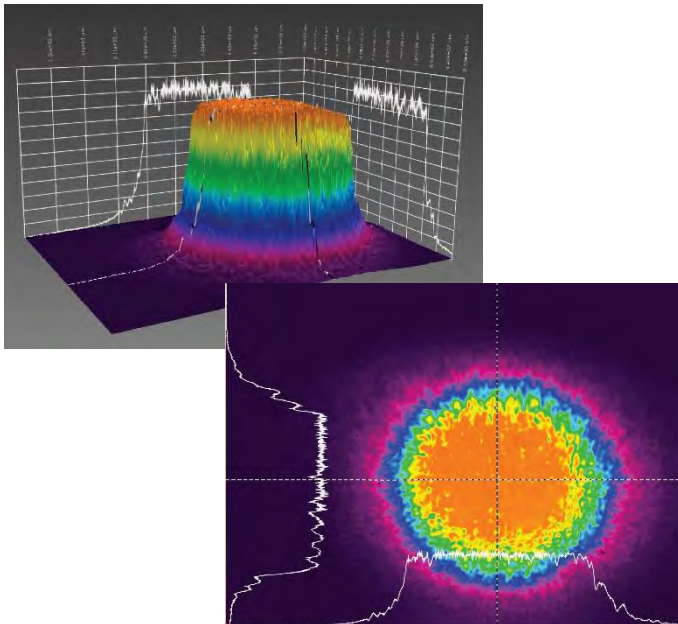


03

Features

Flat-Top Beam

Flat top beam is a unique high-technology which irradiates the energy equally, meaning that safe operation is possible, lessening side-effect.



Auto-Calibration System

System of Auto-Calibration organizes equal-beam quality for user to use stabilized energy.



User Friendly UI

With one-touch, 532nm/1064nm/Quasi long mode can be selected. It is designed for user convenience with auto-awareness of spot size, pre-set parameter of lesions.



Various spot size

Based on wavelength, it is possible to select the adequate size for the lesions from 9 kinds of spot range.

Zoom HP

1064nm (1.5, 2, 3, 4, 5, 6, 7.5, 9, 10)mm



532nm (1, 1.5, 2.5, 3.5, 4.5, 5.5, 7, 8.5, 9.5)mm



Fractional Handpiece(Option)

1064nm/532nm Fractional Handpiece makes possible to minimize PIH and conduct safe operation.



DYE Handpiece 650nm/585nm (Option)

650nm/585nm wavelength of Dye Handpieces can be used to treat not only pigment, but also acne, telangiectasia, melisma and etc.

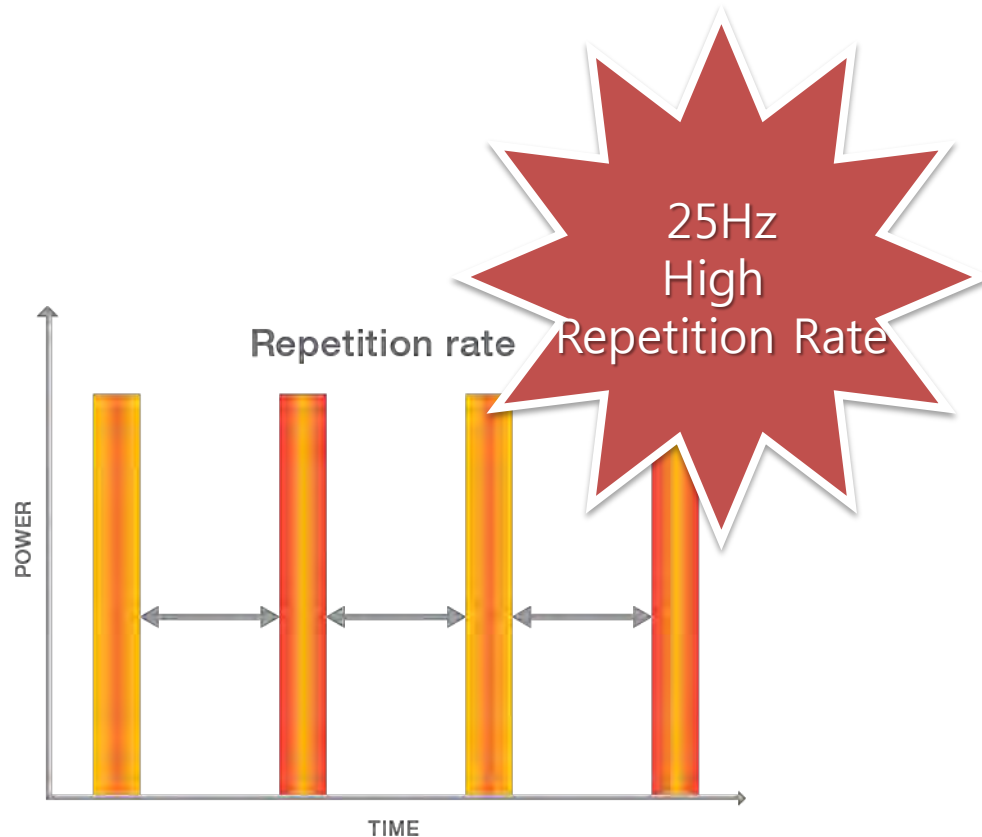


PRF Doubling Technology (Pulse Repetition Frequency)

LUCID^Q-PTP™

LUCID Q-PTP realizes 25Hz of high repetition rate by PRF Doubling technology. In PTP mode, dividing into two pulse with the same amount of energy increases the treatment effectiveness.

The main characteristic of PRF Doubling technology is that energy generation tool for two pulse makes the laser alternate with each other which has the same amount of energy at 25Hz high repetition rate.



04

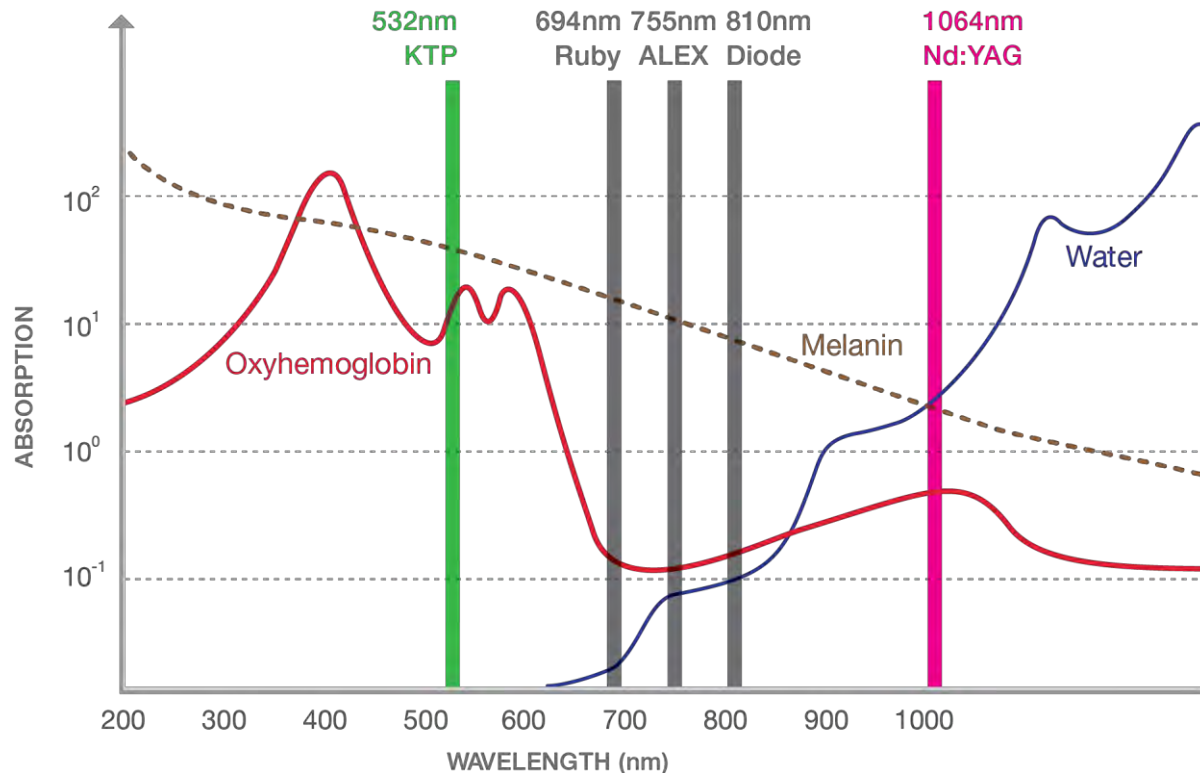
Comparison

4-1. Wavelength

4-2. Depth of Penetration Based on Laser Wavelength

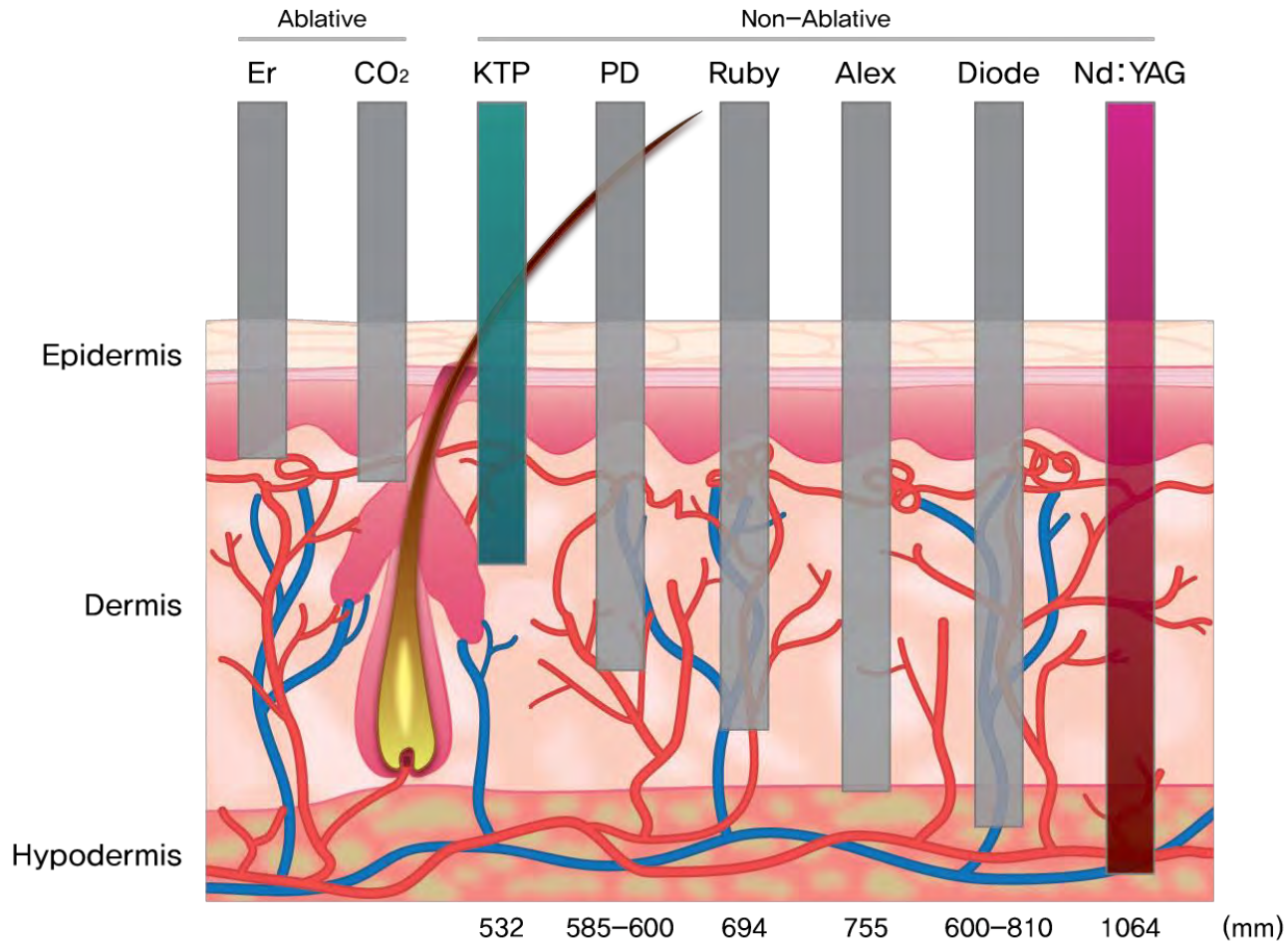
4-3. Specification Comparison

4-1 Wavelength



532nm wavelength is for epidermis pigment lesion treatment due to high absorption of oxyhemoglobin and melanin. 1064nm wavelength is for dermis pigment lesion treatment where the lesion is located deeper area.

4-2 Depth of Penetration Based on Laser Wavelength



4-2 Specification Comparison

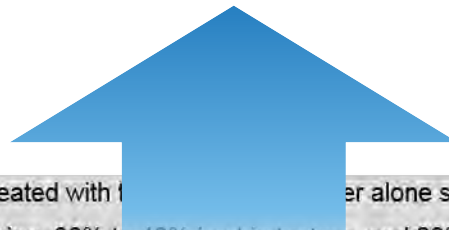
Item	LUCID Q-PTP	A COMPANY	B COMPANY	C COMPANY
Laser type	Q-Swicked Nd:YAG Laser	Q-Swicked Nd:YAG Laser	Q-Swicked Nd:YAG Laser	Q-Swicked Nd:YAG Laser
Power consumption	220/230V, 50/60Hz, 12A	220/230V, 50/60Hz, 15A	220V, 50/60Hz	220V, 50/60Hz, 20A
Beam mode	Top hat mode	Top hat mode	-	Top hat mode
Operating parameters	1064nm Q-Switched, 532nm Q-Switched, 1064nm Quasi Long, 1064nm PTP Q-Switched, 532nm PTP Q-Switched	1064nm Q-Switched, 532nm Q-Switched, 1064nm Quasi Long, 1064nm PTP Q-Switched, 532nm PTP Q-Switched	1064nm Q-Switched, 532nm Q-Switched, 1064nm Quasi Long(FR)	1064nm Q-Switched, 532nm Q-Switched, 1064nm Quasi Long, 1064nm PTP Q-Switched
Energy	Up to 1200mJ @ 1064nm Q-Switched Up to 500mJ @ 532nm Q-Switched Up to 3400mJ @ 1064nm Quasi-Long Up to 2200mJ @ 1064nm PTP Q-Switched Up to 600mJ @ 532nm PTP Q-Switched	Up to 1200mJ @ 1064nm Q-Switched Up to 4500mJ @ 1064nm Quasi Long Up to 400mJ @ 532nm Q-Switched Up to 1700mJ @ 1064nm PTP Q-Switched	Up to 1300mJ @ 1064nm Up to 500mJ @ 532nm Up to 3000mJ @ Quasi Long Up to 2000mJ @ PTP 1064nm Up to 600mJ @ PTP 532nm	Up to 1600mJ @ 1064nm Q-Switched Up to 450mJ @ 532nm Q-Switched(Gaussian) Up to 3500mJ @ 1064nm Quasi Long
Fluence[J/cm²]	Up to 32.0(@2mm)	-	-	-
Pulse duration	5~7ns @ 1064nm Q-Switched 5~7ns @ 532nm Q-Switched ~20ns @ 1064nm PTP Q-Switched ~20ns @ 532nm PTP Q-Switched 300μs @ 1064nm Quasi-Long	5~10ns @ Q-Switched mode 300μs @ Spectra mode	~10ns	5~10ns 300μs @ Quasi-Long
Spot size	1064nm(1.5, 2, 3, 4, 5, 6, 7.5, 9, 10)mm 532nm(1,1.5,2.5,3.5,4.5,5.5,7,8.5,9.5)mm Fractional handpiece (optional) 1064nm (6 X 6 mm ²) 532nm (6 X 6 mm ²)	1064nm (3, 4, 5, 6, 7, 8)mm 1064nm (1, 2, 3, 4, 5, 6, 7)mm - Option 532nm (2.6, 3.4, 4.3, 5.2, 6.0, 6.9)mm 532mm (0.8, 1.7, 2.6, 3.4, 4.3, 5.2, 6.0)mm - Option	Fractional handpiece 1064nm (5 X 5 mm ²) 532nm (4 X 4 mm ²) Collimator : 8mm Zoom handpiece (1 ~ 7mm)	1064nm (2mm ~ 10mm) 532nm (2mm ~ 10mm) Collimator handpiece : 6mm Fractional handpiece (optional) 5 x 5 mm ²
Repetition rate	0.4~Up to 25Hz	Up to 10Hz	1~Up to 10Hz	1-20 Hz
User memory	Each of 15 built-in lesions and 1 user custom slot, total 800	-	-	-
Calibration	Auto-calibration through external port	External, Auto-calibration & Self-restoration	-	External
Device cooling	Water-to-air heat exchanger	Closed circuit water to air	-	Closed cycle water to air heat exchanger

05

Reference

❖ Combination 532nm and 1064nm Laser for Skin Rejuvenation

All 150 patients exhibited mild to moderate improvement in the appearance of rhytids, moderate improvement in skin toning and texture, and great improvement in the reduction of redness and pigmentation. The KTP laser used alone produced results superior to those of the Nd:YAG laser. Results from combination treatment with both KTP and Nd:YAG lasers were slightly superior to those achieved with either laser alone.

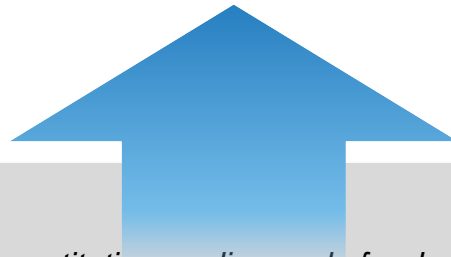


Result : After 3 to 6 treatments, 50 patients treated with the KTP laser alone showed improvement of 70% to 80% in redness and pigmentation, 30% to 50% in skin tone/tightening, 30% to 40% in skin texture, and 20% to 30% in rhytids. Another 50 patients treated with the 1064-nm Nd:YAG laser alone showed improvement of 10% to 20% in redness, 0% to 10% in pigmentation, 10% to 30% in skin tone/tightening, 20% to 30% in skin texture, and 10% to 30% in rhytids. The third group of 50 patients treated with both KTP and Nd:YAG laser showed improvement of 70% to 80% in redness and pigmentation, 40% to 60% in skin tone/tightening, 40% to 60% in skin texture, and 30% to 40% in rhytids. Skin biopsy specimens taken at 1-,2-,3-, and 6-month intervals demonstrated new collagen formation.

Conclusions : All 150 patients exhibited mild to moderate improvement in the appearance of rhytids, moderate improvement in skin toning and texture, and great improvement in the reduction of redness and pigmentation. The KTP laser used alone produced results superior to those of the Nd:YAG laser. Results from combination treatment with both KTP and Nd:YAG lasers were slightly superior to those achieved with either laser alone.

❖ Fractional, Nonablative Q-switched 1064nm laser

The results of this pilot case series suggest that the treatment with the fractional, nonablative Q-switched 1,064nm Nd:YAG laser device significantly improves superficial rhytides. With its outstanding safety, it seems to be particularly suitable for the treatment of sensitive areas, such as the periorbital region, lips, neck, and chest. The Q-switched Nd:YAG laser is a facile, safe, and fast treatment for aesthetic skin rejuvenation.



Results : *Employing the validated, quantitative grading scale for rhytides of the face and neck, a 0.29 grade improvement, or 11.3% improvement, over baseline grade was observed in the 7-subject cohort that completed follow-up following a mean of approximately 2 treatments at approximately 1-month follow-up. No pain and rapidly resolving minimal erythema were noted in all subjects during treatment.*

Conclusion : *The results of this pilot case series suggest that the treatment with the fractional, nonablative Q-switched 1,064nm Nd:YAG laser device significantly improves superficial rhytides. With its outstanding safety, it seems to be particularly suitable for the treatment of sensitive areas, such as the periorbital region, lips, neck, and chest. The Q-switched Nd:YAG laser is a facile, safe, and fast treatment for aesthetic skin rejuvenation.*

06

Specifications

06 Specifications

BISON

General	
Dimension	320(W) x 830(D) x 1010(H) (mm)
Weights	87.5 Kg
Main voltage	220/230V, 50/60Hz
Maximum power consumption	3000 VA
Main Current	12A
Safety class	Class IV laser
Laser type	Q-Switched Nd:YAG
Wavelength	1064nm/532nm
Output Energy	Up to 2200mJ @ 1064nm PTP Q-Switched Up to 600mJ @ 532nm PTP Q-Switched Up to 1200mJ @ 1064nm Q-Switched Up to 500mJ @ 532nm Q-Switched Up to 3400mJ @ 1064nm Quasi-Long
Frequency	up to 25Hz @ 1064nm Q-Switched up to 15Hz @ 532nm Q-Switched up to 15Hz @ 1064nm PTP Q-Switched up to 15Hz @ 532nm PTP Q-Switched up to 25Hz @ 1064nm Quasi-Long
Pulse width	5~7ns @ 1064nm Q-Switched 5~7ns @ 532nm Q-Switched ~20ns @ 1064nm PTP Q-Switched ~20ns @ 532nm PTP Q-Switched 300 μ s @ 1064nm Quasi-Long
spot size	*Zoom Handpiece 1064nm (1.5, 2, 3, 4, 5, 6, 7.5, 9,10)mm 532nm (1, 1.5, 2.5, 3.5, 4.5, 5.5, 7, 8.5, 9.5)mm *Fractional Handpiece 1064nm (6 x 6 mm ² , 9 x 9 dots, up to 5.2J/cm ²) 532nm (6 x 6 mm ² , 9 x 9 dots, up to 1.3J/cm ²)
Beam delivery system	Via 7-articulated arm

LUCIDQ-PTP™



06 Specifications

BISON

General

Dimension	320(W) x 830(D) x 1010(H) (mm)
Weights	83 Kg
Main voltage	220/230V, 50/60Hz
Maximum power consumption	3000 VA
Main Current	12A
Safety class	Class IV laser
Laser type	Q-Switched Nd:YAG
Wavelength	1064nm/532nm
Output Energy	Up to 1400mJ @ 1064nm Q-Switched Up to 600mJ @ 532nm Q-Switched Up to 1600mJ @ 1064nm Quasi-Long
Frequency	0.4~15Hz
Pulse width	~5ns @ 1064nm Q-Switched ~5ns @ 532nm Q-Switched 300μs @ 1064nm Quasi-Long
spot size	*Zoom Handpiece 1064nm (1.5, 2, 3, 4, 5, 6, 7.5, 9,10)mm 532nm (1, 1.5, 2.5, 3.5, 4.5, 5.5, 7, 8.5, 9.5)mm *Fractional Handpiece 1064nm (6 x 6 mm ² , 9 x 9 dots, up to 5.2J/cm ²) 532nm (6 x 6 mm ² , 9 x 9 dots, up to 1.3J/cm ²)
Beam delivery system	Via 7-articulated arm

LUCIDQY



07

Conclusions

- 1 ▶ Auto Calibration function
- 2 ▶ 25 Hz maximum frequency in Korea
- 3 ▶ Automatic checking system for each system (temperature, power status, water, etc.)
- 4 ▶ Preset parameter
- 5 ▶ Has electronic chart, patient name can be saved
- 6 ▶ The accuracy of the spot size
- 7 ▶ Clear Top Hat Mode
- 8 ▶ Easy attachable FRX & DYE Handpiece
- 9 ▶ Continuous survey, excellent in spot shape and energy homogeneity
- 10 ▶ PRF doubling technology

08

Before / After

8-1 Large pore+Pigmentation+Carbon peel

Before



After



8-1 Large pore+Pigmentation+Carbon peel

Before



After



8-1 Large pore+Pigmentation+Carbon peel

Before

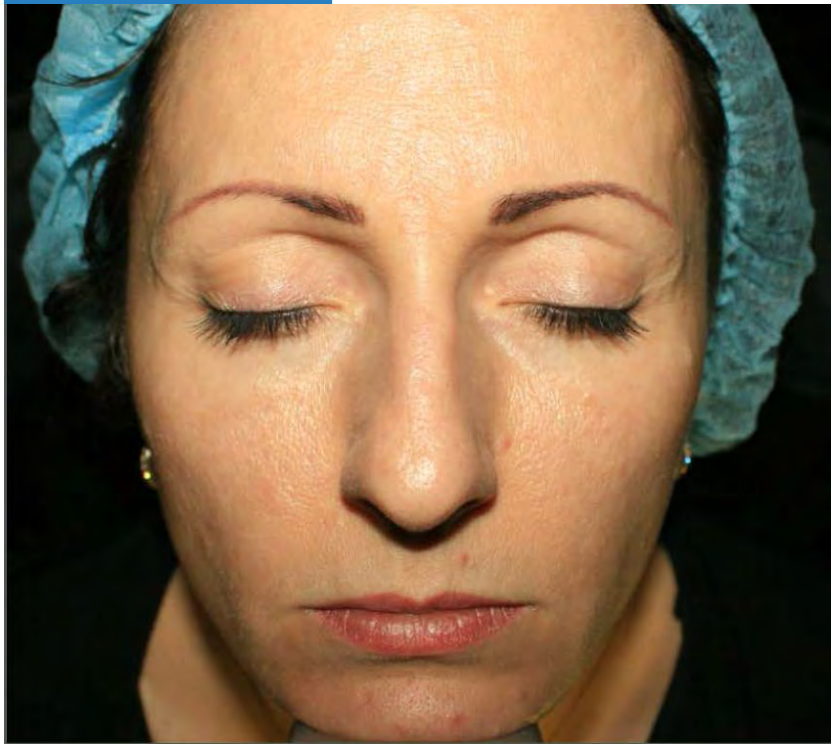


After

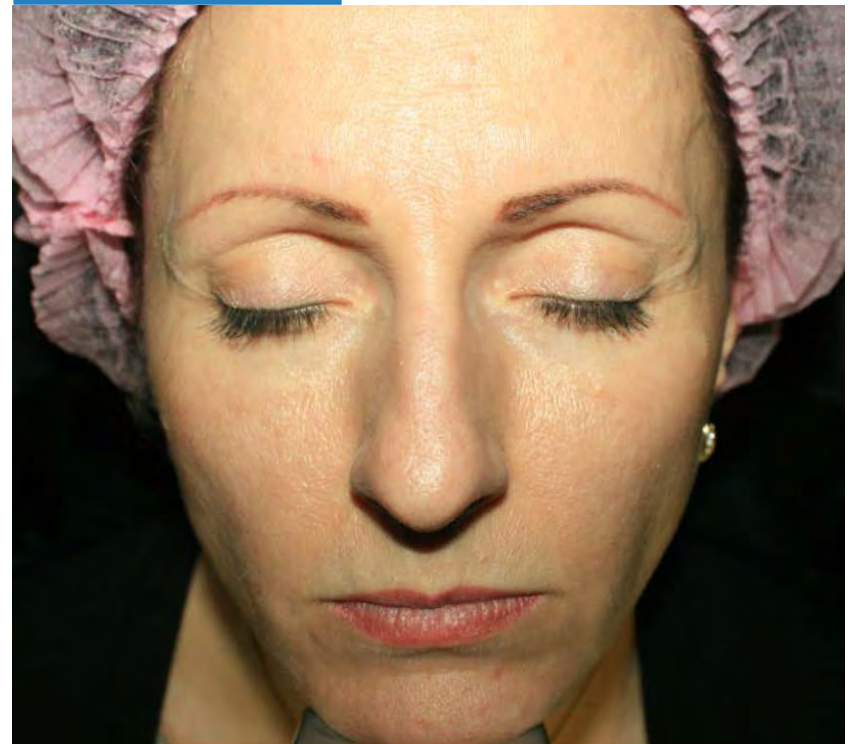


8-1 Large pore+Pigmentation+Carbon peel

Before

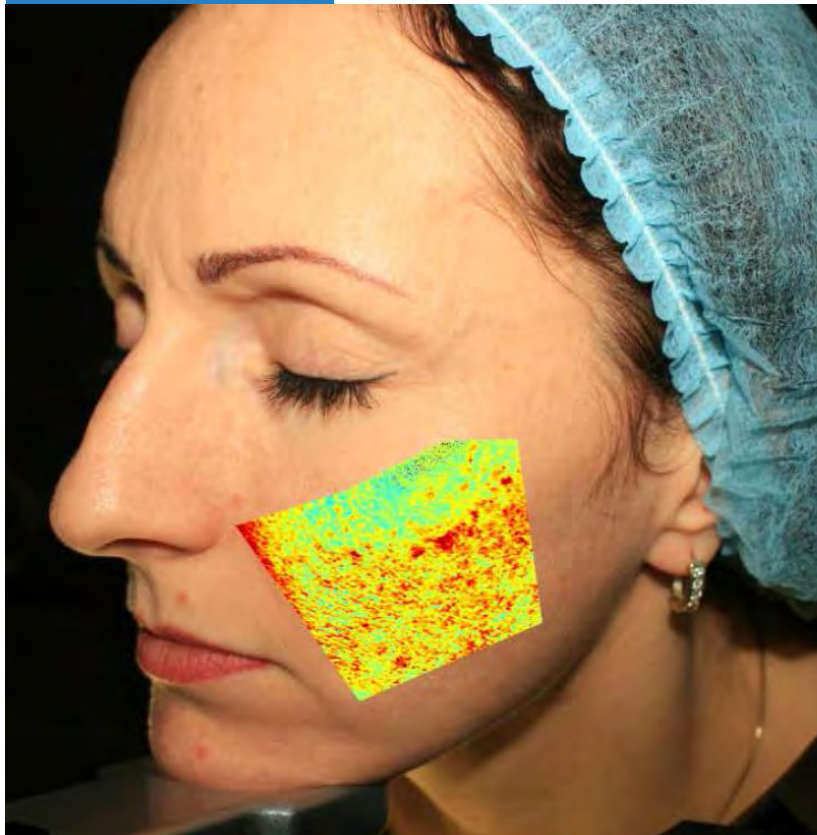


After

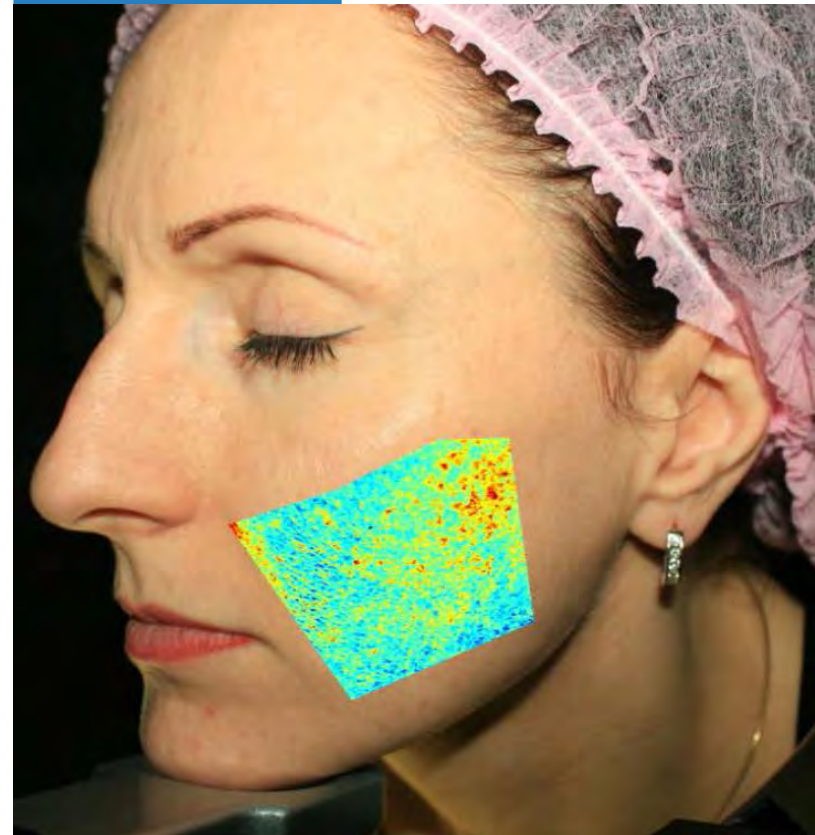


8-1 Large pore+Pigmentation+Carbon peel

Before



After



8-1 Large pore+Pigmentation+Carbon peel

Before

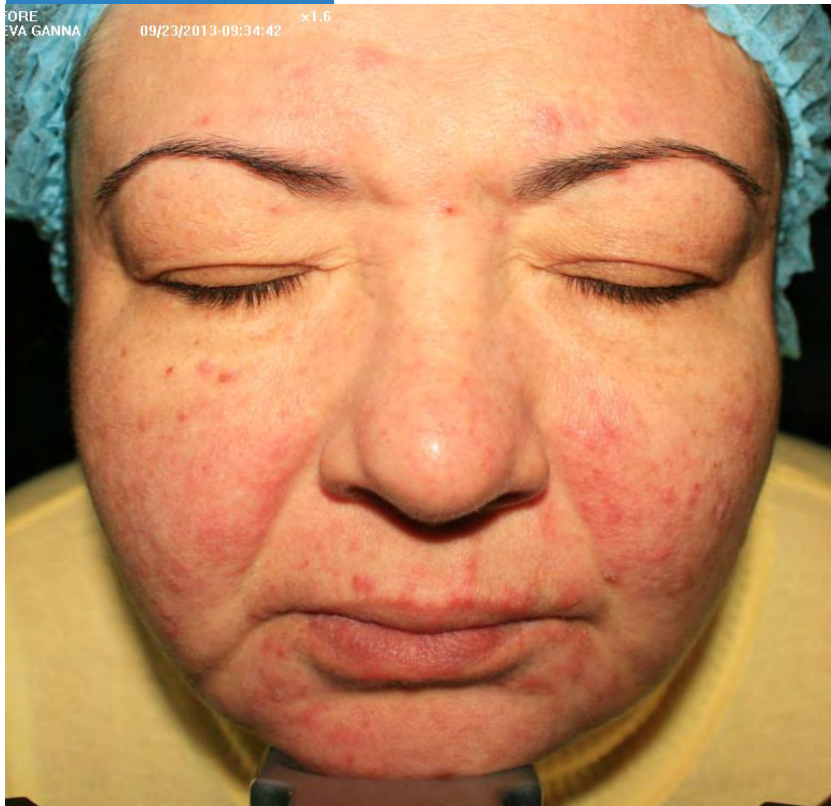


After

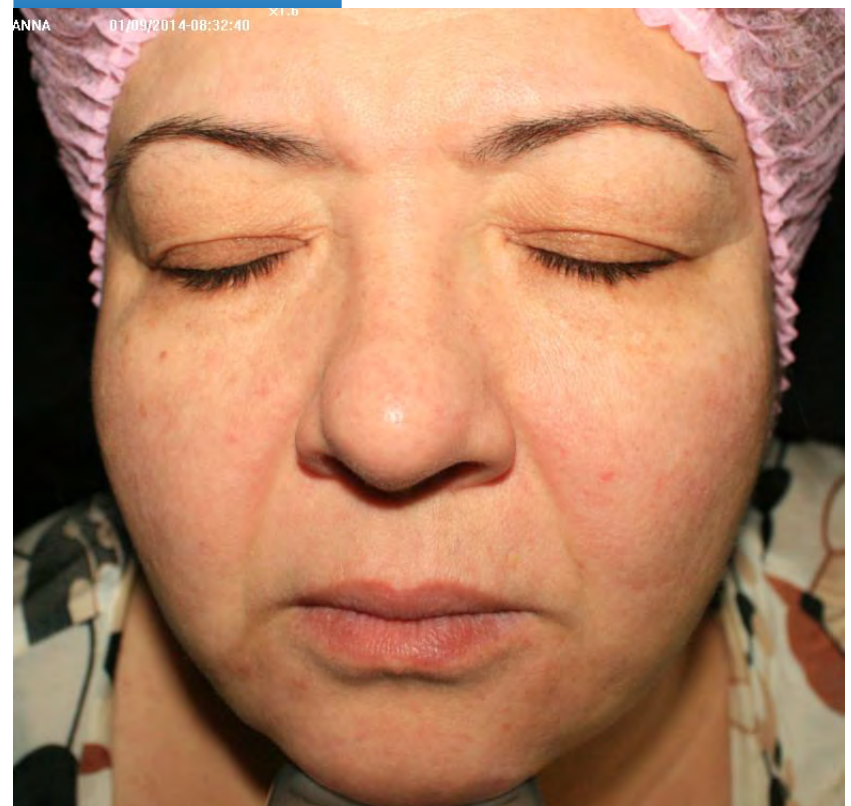


8-2 Carbon Peel + Acne Rosacea

Before



After



8-2 Carbon Peel + Acne Rosacea

Before



After



8-3 Carbon Peel + Acne Rosacea

Before



After



8-3 Melasma

Before



After



8-3 Melasma

Before



After



8-3 Melasma

Before



After



8-3 Dermatitis-induced PIH

Before



After





Thank You for your attention

Any Question please e-mail us
at bison@bisonmedical.com

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