



# Ruby Star™

694nm Q-Switched Ruby Laser System

- Flat-Top™ Beam
- Auto-Calibration System
- High Capacity Storage Space
- Wireless Foot Switch

**BISON**



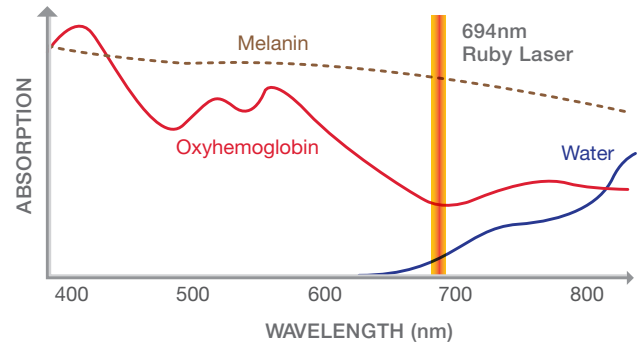
**RubyStar** is a **Q-switched Ruby laser**, which delivers wavelength **694nm** using ruby as a medium. The wavelength of 694 nm is well absorbed by melanin pigment, so it is widely used to treat pigmented skin lesions. It is also effective for removal of various color tattoos. It can also be used for black, dark blue and green colors, having a wider application than 1064nm wavelength, making it ideal for those wanting to remove tattoos. The wavelength of 694nm penetrates more deeply compared to 532nm, so it is very effective against freckles, café au lait spots and other dark lesions.



# RubyStar™

694nm Q-Switched Ruby Laser System

## Why 694nm?



Ruby laser of **694nm** wavelength has different level of penetration through the blood vessels in melanin compared to the laser rays in other wavelengths. It has a significantly low impact on the blood vessels and high impact on melanin pigments. As it hardly causes adverse effects as most of the energy is absorbed by melanin, not the blood vessels, it is most specialized for treating pigmentation.

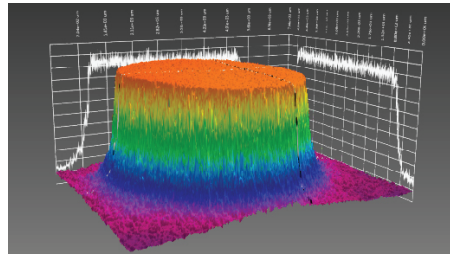
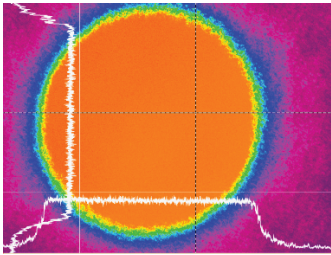


## Why RubyStar?

Why couldn't the existing **Q-Switched Ruby laser** be popularized? The existing Q-Switched Ruby laser has relatively unstable output and a high probability of adverse effects.

**RubyStar** maintains a very stable energy output with BISON's advanced technology and minimizes any adverse effects caused by unstable output. Also, it maintains a long lifespan for a long-term use.

# The world's first **Flat-Top™** Beam



BISON's **RubyStar** generates the quality **Flat-Top™** output from the Q-Switched Ruby laser for the first time in the world.

## Hand Switch or Foot Switch

**RubyStar** can use either a **finger switch**, **wired foot switch** or **wireless foot switches** for the convenience of users.



## High Output Energy

1650mJ or higher @ Head Aperture

## High Repetition Rate

Fast irradiation speed up to 2.0Hz

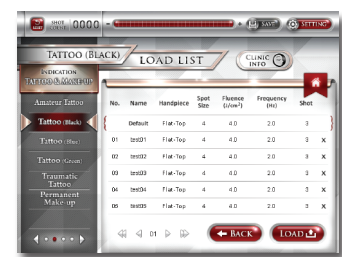
## Ultra Short Pulse

Short pulse at Approx 30ns

13 Indication + 1 User Custom

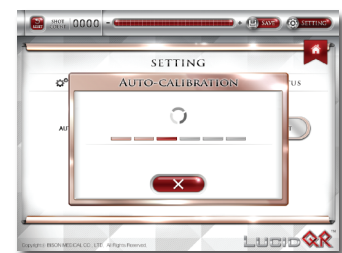
## High Capacity Storage Space

Each of the 13 embedded lesions and 1 user-defined lesion has 30 storage slots, making it possible to store various lesions of a number of patients in a **total of 420 slots** for fast and accurate personalized treatment.



## Auto-Calibration System

Auto-Calibration System maintains even beam quality for an extended duration of use.



Laser Emission

Check Real-time Output Energy

Stable Treatment

# Wireless Foot Switch

## Convenient usage!

It helps doctors to avoid constant inconvenience of cables underfoot and under operating table. Does not interfere with other wireless devices.



## Features of Wireless Foot Switch

- ◆ Does not restrict users movement.
- ◆ Low battery consumption  
(\*When there is no battery, you just need to plug the cord.)



Use it with the **Fractional Handpiece!**

 **6X6 mm<sup>2</sup> / 9X9 dots**

81 small dots which have same energy density within the beam of '6mm by 6mm' square spot size are distributed in fractions.



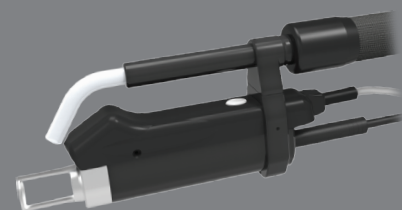
Fractional handpiece makes the laser beam finely divided to leave the normal tissue between where the beam is shot, thereby shortening the downtime and speeding up regeneration, compared to using zoom handpiece.

## Optional Cooling System

**Recommendation:** The Cryojet device (optional cooling system) could minimize the patient's pain and side effects such as PIH for safe and effective treatments. (We provide Cryojet device with Cryojet Holder)



**Cryojet**  
(Optional)



**Holder** (Optional)  
With Handpiece

# Flat-Top™ Spot Size



The spot sizes may be adjusted to 2, 4, 6, 8, 10mm and the system automatically recognizes the spot size of hand piece.



Q-Switched Ruby Laser

**World's Best Big Beam Size**

**10mm**



## Indication

with 13 indications, including pigmented lesions and tattoo removal, it realizes and provides practitioners more comfortable and safe treatment on the different lesions of patients.

Ruby Star is specialized for treating pigmentation and works effectively on various indications such as freckles, age spots (lentigo), café-au-lait spots, ABNOM, the nevus of ota, etc.

## Pigmented Lesion

The 694nm wavelength absorbs various colors of tattoo such as black, blue, and green. It can remove amateur tattoos, expert tattoos in various colors, semi-permanent tattoos, and even traumatic tattoos almost perfectly.

## Tattoo & Make-up

Ruby Toning works on Melasma and Whitening. As the 694nm selectively absorbs and destroys the melanin pigments, it treats and whitens the pigmentation on the dermis and epidermis.

## Ruby Toning

The User Custom menu can be defined by the user in addition to the 13 lesions provided.

## User Custom



The U.I is designed intuitively and sensibly for user convenience and visual delight.



## System Specifications

### General

Dimension (W x D x H)	320(W) x 851(D) x 959(H) (mm) (Include Arm H : 1569 mm)
Weight	120.7 Kg
Weight including accessories	129 Kg
Main voltage	220/230V, 50/60Hz
Maximum power consumption	4800 VA
Main current	13 A
Safety class	Class IV laser

### Laser system

Laser type	Q-Switched Ruby
Wavelength	694nm
Beam delivery system	Via 7-articulated arm
Aiming beam	LD, 532nm, 5mW
Maximum Energy	Up to 1650mJ @ Head Aperture
Minimum Energy	Up to 50mJ @ Head Aperture
Maximum Fluence	30 J/cm <sup>2</sup>
Minimum Fluence	0.1 J/cm <sup>2</sup>
Pulse Duration	Approx 30ns
Frequency	0.4 ~ 2.0Hz
Auto-Calibration	Run with Photo Diode sensor
Pulse Control	Foot Switch or Handpiece Switch
Laser cooling	Water-to-air heat exchanger

### Spot size

Flat-Top™ Handpiece	Φ 2, 4, 6, 8, 10 (mm)
Fractional Handpiece	6 x 6 mm <sup>2</sup> , 9 x 9 dots, Up to 2.6J/cm <sup>2</sup>

### Environmental Condition

Temperature	+10 ~ +40 °C
Relative humidity	30 ~ 75 %
Atmospheric pressure	700 ~1060 hPa



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## BISON

**OFFICE** 1803, **R&D** 1802, **FACTORY** 1801  
(Gasan-dong, Ace High-end Tower 6), 234,  
Beotkkot-ro, Geumcheon-gu, Seoul, Korea  
(☎.08513)

 +82-2-865-7121  
 +82-2-865-7131  
 sales@bisonmedical.com  
 www.bisonmedical.com  
 www.facebook.com/bisonmedical