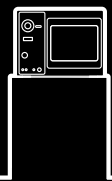


# Fiber Dust

THULIUM LASER





# Fiber Dust

TFL TECHNOLOGY BY QUANTA SYSTEM

**Fiber Dust** laser system is a Thulium Fiber Laser (TFL) surgical device intended for **both Lithotripsy and precise soft tissue surgery**.

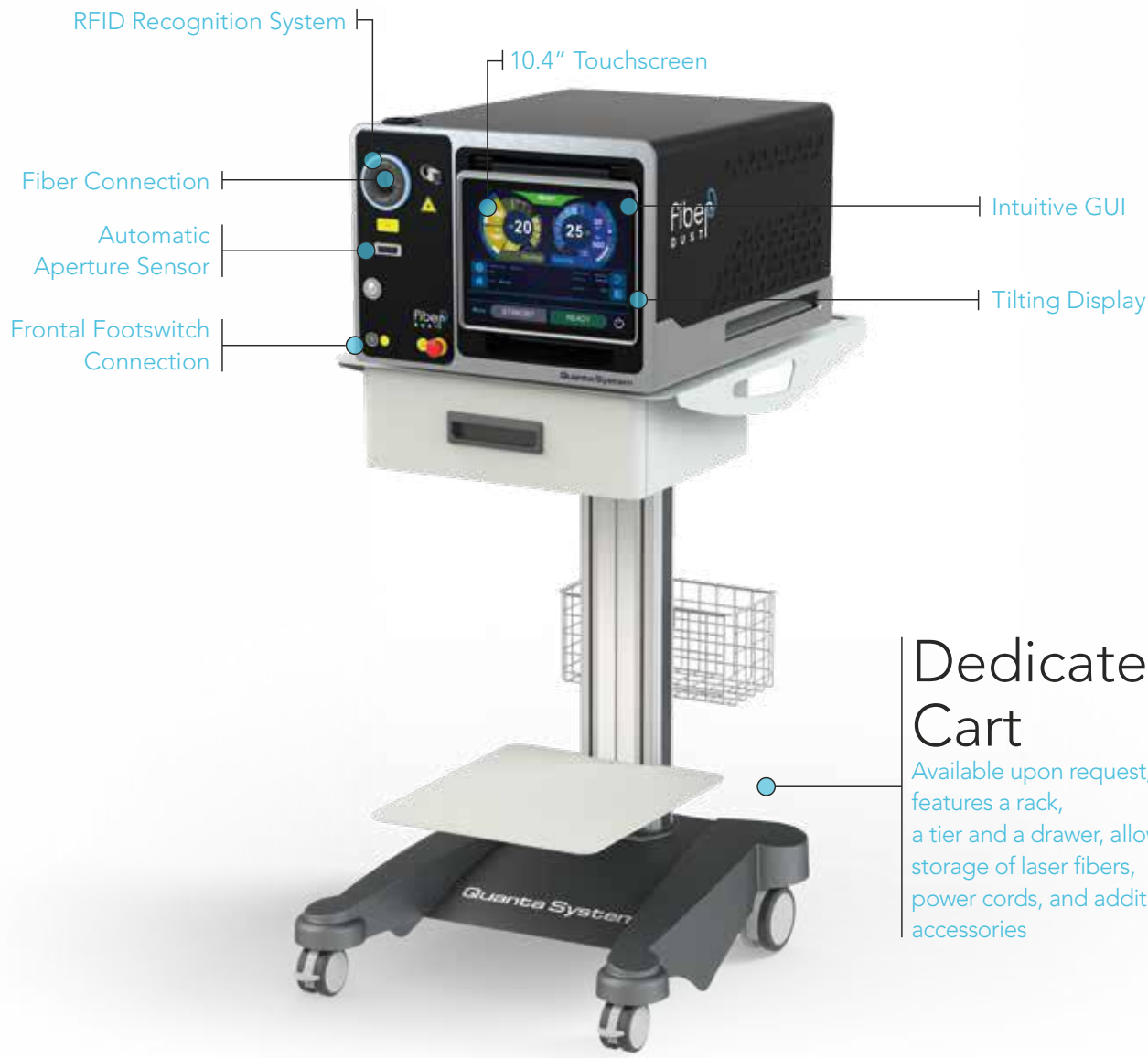
During the latest years, TFL technology emerged as a new alternative to Holmium laser, in particular for the treatment of stones.

With the introduction of this new surgical laser device, **Quanta System completes its already wide laser portfolio**, empowering the surgeon with full choice in terms of surgical equipment.

## General Overview

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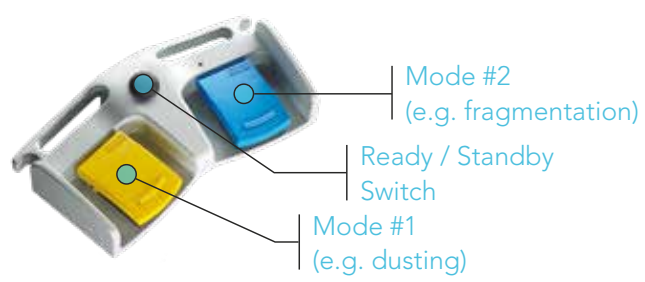
- ✓ Effective Lithotripsy
- ✓ Minimized Retropulsion
- ✓ Disposable and Reusable Fibers
- ✓ Continuous and Pulsed Emission
- ✓ Compatible with Standard Wall Outlet
- ✓ Extreme Frequency Emission
- ✓ Compact Design



## Dedicated Cart

Available upon request, it features a rack, a tier and a drawer, allowing storage of laser fibers, power cords, and additional accessories

## Double Footswitch



The double footswitch enables **immediate** switch from one emission mode to another, with **complete customization** of pedal-mode association. No bothersome interruptions are needed for settings readjustment.

# Advantages

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## HIGH ABSORPTION EFFICIENCY

Wavelength by Fiber Dust matches one of the peaks in absorption curve for water. This results in strong effect on both stones and soft tissues, with reduced depth of penetration.



## REDUCED ENERGY REQUIREMENTS

High performances with limited energy consumption!



## STANDARD OUTLET REQUIRED

Compatible with standard power outlet, with no need of dedicated socket in the OR.



## COMPACT SIZE

The simple internal device architecture enables space saving, allowing easy positioning in the OR and storage.



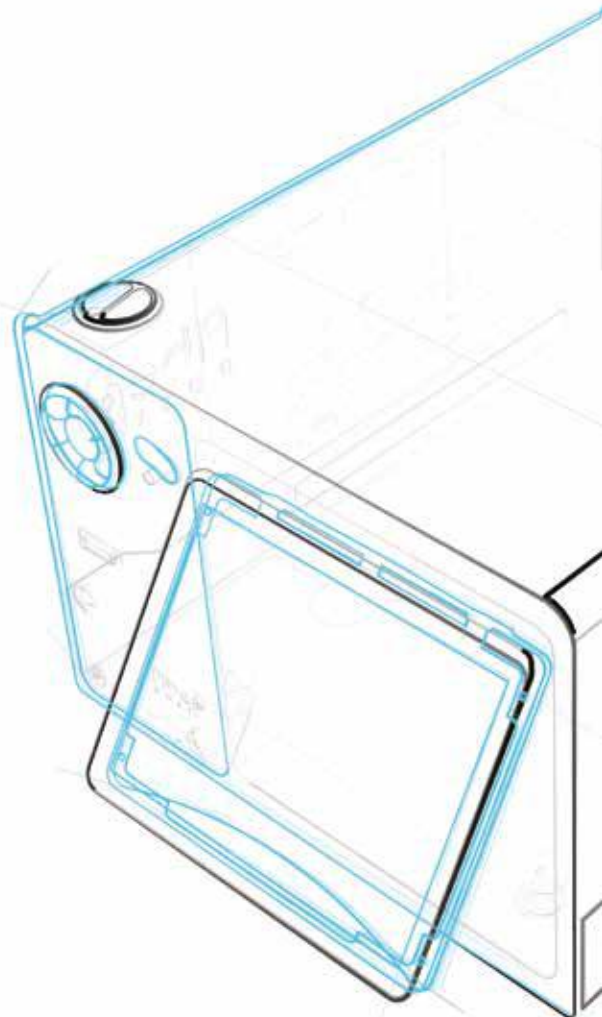
## SURGICAL VERSATILITY

Lithotripsy and soft tissue treatments with the same device (limitations may apply to BPH management in light of medium power output).



## REDUCED RETROPULSION

TFL technology uses pulsed emission with low peak power, generally allowing reduced retropulsion while ablating the stone.



# Why Quanta TFL?

TFL technology has recently arisen as alternative to the current gold standard for stone lithotripsy, Ho:YAG laser. With respect to other competitive TFL systems, Fiber Dust laser by Quanta System has the following advantages:

## PULSED & CONTINUOUS

Fiber Dust can operate in **both** pulsed and continuous emission. The **pulsed emission**, thanks to the higher peak power, enables stone lithotripsy and more aggressive tissue cutting. On the other hand, the **continuous emission** allows a slightly deeper effect and smoother action.



## REUSABLE FIBERS

TFL technology by Quanta System has been designed in order to enable **compatibility with reusable fibers too**, without the constraint in using disposable fibers only. This choice allows significant saving with respect to technologies compatible with disposable fibers only.



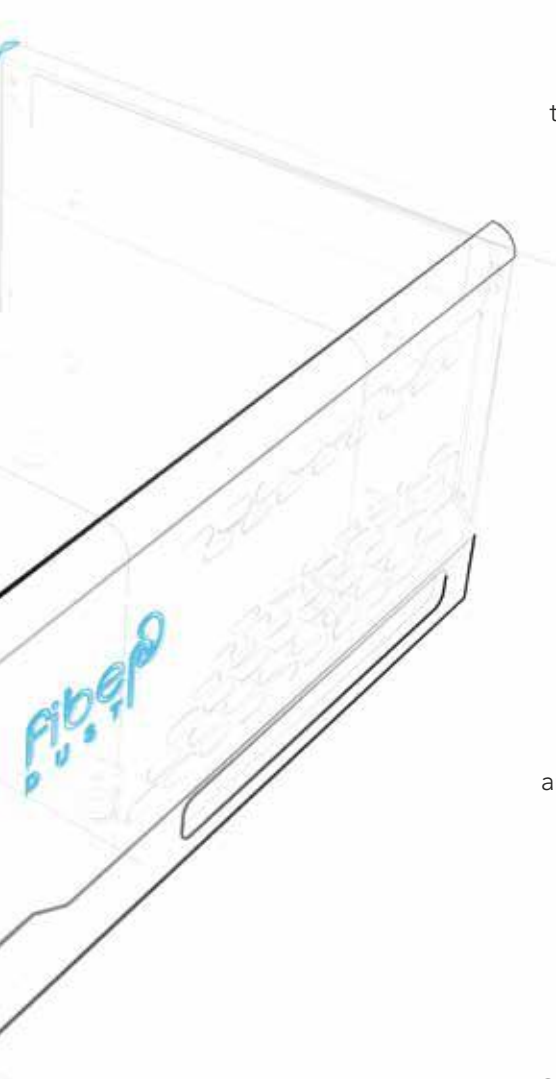
## EXTENDED SETTINGS, EXTENDED VERSATILITY

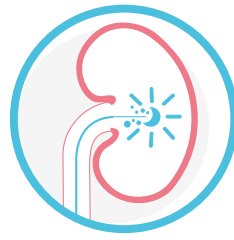
Fiber Dust offers the use of a lower minimum pulse energy and a higher maximum frequency. Also the possibility to **pilot the peak power with 7 steps**, instead of the traditional 3, grants wider fine-tuning of the emission the emission based on stone hardness and visual feedback.



## RELIABILITY

Quanta System has currently one of the largest laser portfolio for urology surgery and has more than **35 years of expertise in designing and manufacturing of laser devices**. We are committed to constantly developing new cutting-edge technologies to provide benefits to both surgeons and patients, while making access to them affordable.





# Lithotripsy

TFL technology has been described as a promising alternative to Holmium laser in stone management.



## Limited Retropulsion

Initial clinical experience and studies with TFL technology suggest low stone retropulsion



## Extreme Frequency

Take advantage of wide frequency range (up to 2500 Hz!) to tailor your technique to specific stone case



## High Power Emission

Fiber Dust allows full power already with 200  $\mu\text{m}$  fibers, leaving space for output increase when needed.



## Dust & Bust

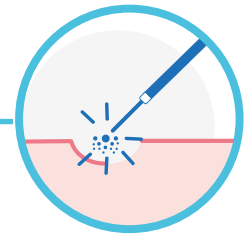
TFL technology proved so far as an excellent dusting tool, specific settings selection allows fragmentation capabilities, in particular for soft stones.



## 150 $\mu\text{m}$ Fiber

Smaller diameter enables greater scope flexibility and irrigation flow, providing the surgeon with an additional tool in his armamentarium.

# Soft Tissues



## Which Treatments? \_\_\_\_\_



### BPH MANAGEMENT

A maximum output power of 60W enables low-power **ThuLEP** (*Thulium Laser Enucleation of the Prostate*). With Fiber Dust, you can choose between a superpulsed ThuLEP, and a more traditional continuous emission ThuLEP, whose effect is similar to Tm:YAG.

### OTHER SOFT TISSUES

Thulium technology allows precise and smooth **ablation, resection and incision in soft tissues** requiring low-medium power, such as treatment of bladder and ureteral tumors, and stenosis.



## Coagulation Effect \_\_\_\_\_



### EFFECTIVE HEMOSTASIS

The Thulium radiation is highly absorbed by water, allowing quick coagulation of bleedings

### REDUCED PENETRATION

The Thulium radiation results in **shallow depth of penetration**, about 0.1-0.2 mm



## Select Your Mode \_\_\_\_\_



### CONTINUOUS EMISSION

Provides continuous delivery of energy, with smooth effect (thanks to the low peak power given by continuous emission) and slightly deeper coagulation effect. More surface charring may develop.

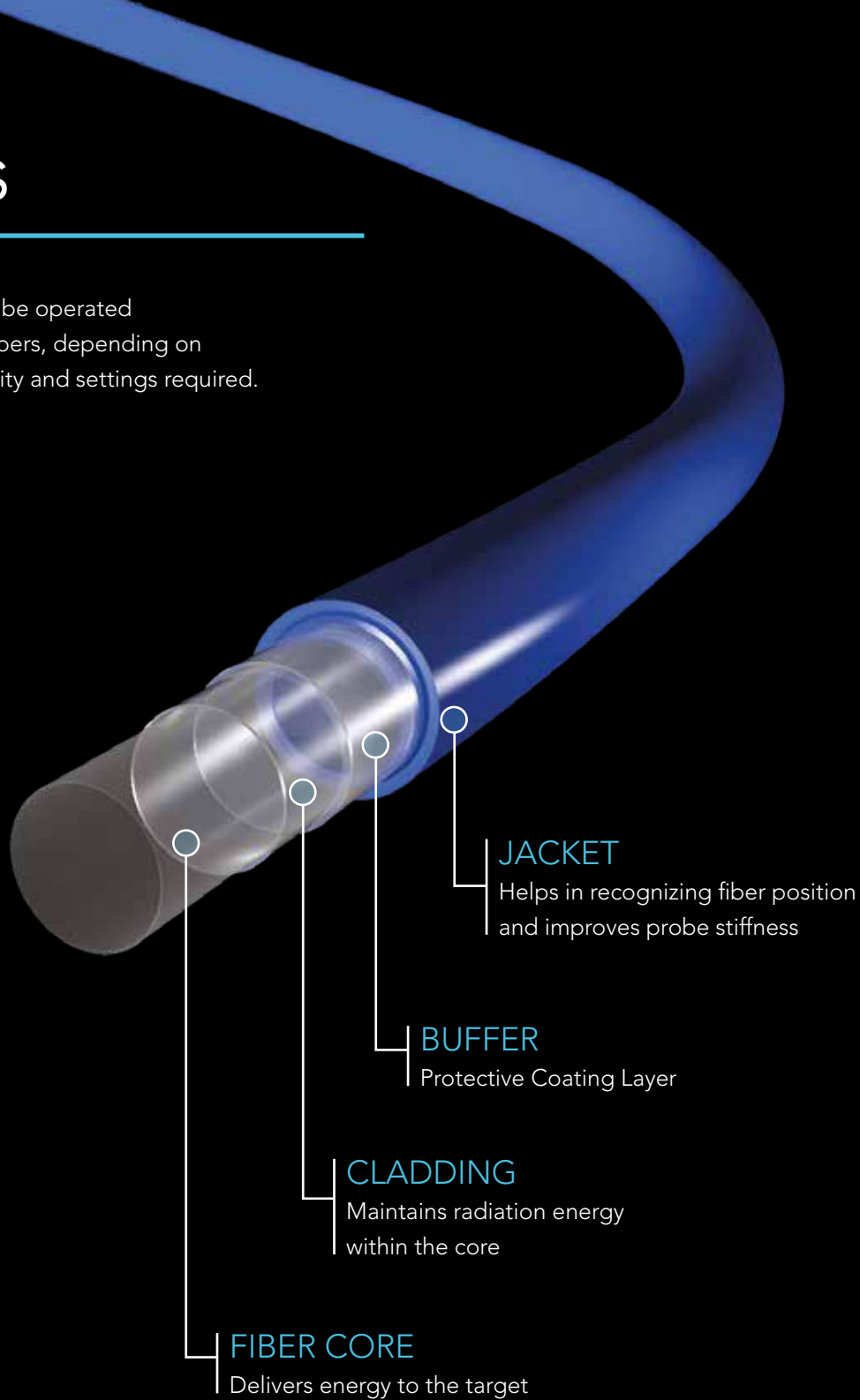
### SUPERPULSED EMISSION

Provides delivery of energy pulses with higher peak power, generally resulting in slightly more aggressive effect, less charring and less penetration. These effects can be further tuned by adjusting pulse duration, pulse energy and frequency settings.



# Fibers

**Fiber Dust** device can be operated with a large range of fibers, depending on the application, flexibility and settings required.



## STANDARD FIBERS

For general use in stone and soft tissue treatments



## BALL TIP FIBERS

Strongly simplify the insertion in already bent scopes



## 150 $\mu\text{m}$ FIBER

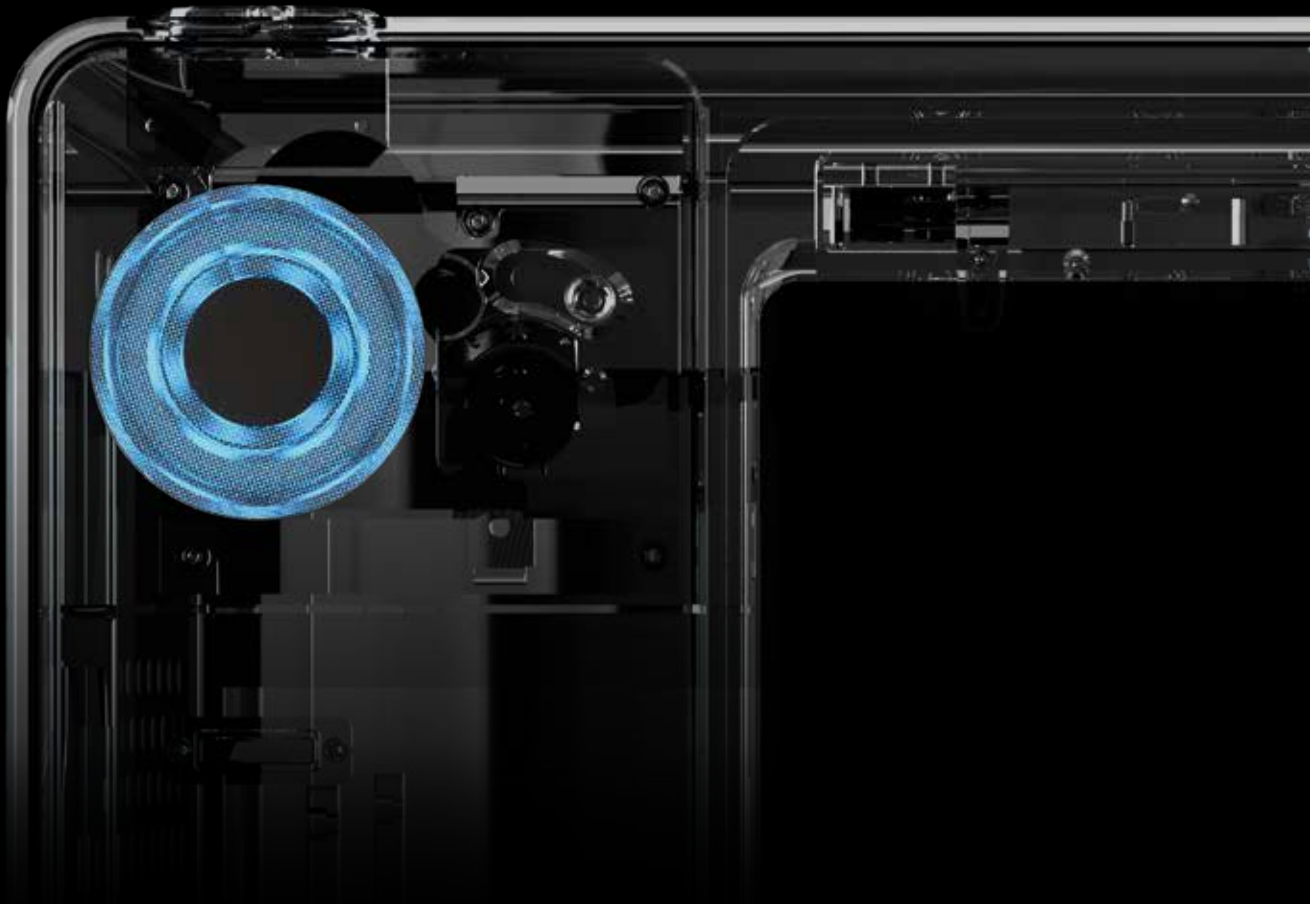
This thinner fiber grants even greater flexibility and irrigation



## GASTRO FIBERS

Specifically designed for the fragmentation of gallstones





### REUSABILITY MADE POSSIBLE

TFL technology by Quanta System was designed in order to be compatible with reusable fibers, and not only with disposable ones



### EXTREME EMISSION CAPABILITIES

Full performances already with 200 $\mu$ m fibers, enabling a fast procedure while allowing high scope flexibility. Only 150 $\mu$ m fibers presents few emission limitations



### SIMPLIFY FIBER STOCK

Disposable and reusable fibers compatible with other Quanta System devices



### AVAILABLE DIAMETERS

150, 200, 272, 365, 550, 800 and 1000  $\mu$ m



### CLEANING

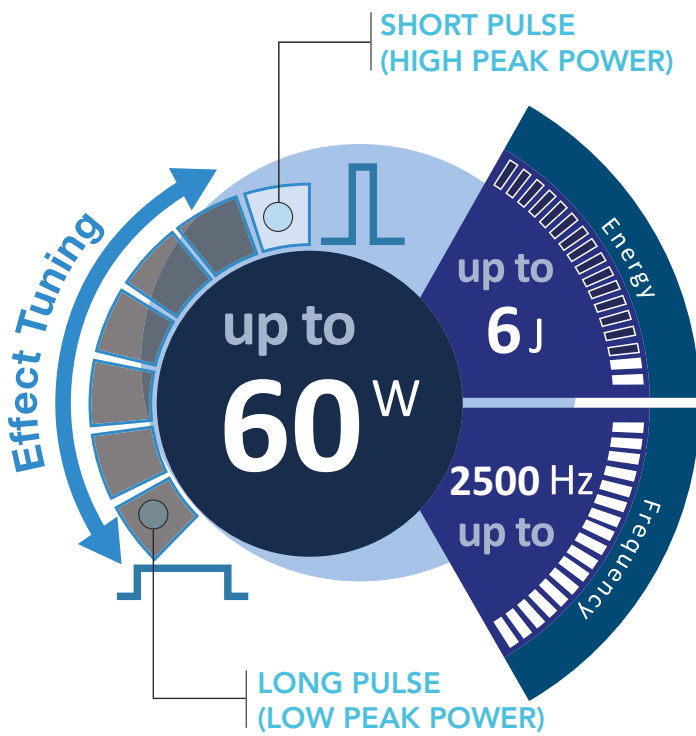
Reusable fibers can be sterilized by Sterrad<sup>®</sup> and steam sterilization



### STERILIZATION TRAY

A dedicated tray for sterilization of fibers and tools

# GUI



## GREATER FLEXIBILITY

7 levels of pulse width offer a greater flexibility compared to the traditional 3 levels offered by the other laser devices



## EFFECT TUNING

Adjust cutting and lithotripsy fashion step by step, based on your needs, target hardness and observed reaction

PULSED MODE

CONTINUOUS MODE

Switch between pulsed and continuous emission by pushing this button. Once in continuous mode, simply pilot the average output power.

Session History

Emission Counters

MasterPULSE

READY

200 mJ

100 Hz

W 20

25 W

50 mJ

500 Hz

Dusting

Dusting

Converted size: 272 µm

Energy emitted: 0.4 kJ

Mode: Manual

Laser pilot: 20%

STANDBY

READY

## SAVE AND LOAD SETTINGS

When you find a suitable settings combination, you can save that in a customized preset and reload these parameters in future treatments

# Technical Specifications

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<b>Wavelength</b>	1,9 $\mu\text{m}$
<b>Average power</b>	Up to 60 W
<b>Repetition rate</b>	Up to 2500 Hz
<b>Energy per pulse</b>	0.02 - 6 J
<b>Beam delivery</b>	Wide range of flexible silica fibers
<b>Aiming beam</b>	532 nm (adjustable <5 mW) - Class 3R
<b>Fiber recognition</b>	RFID System
<b>Activation</b>	Double footswitch
<b>Electrical requirements</b>	100-240 Vac; 50/60 Hz; 1000VA
<b>Cooling</b>	Air cooling system
<b>Operating temperature</b>	15°C ÷ 30°C
<b>Laser class</b>	4
<b>Dimensions and weight</b>	47 cm (W) x 60 cm (D) x 35 cm (H); 50 kg

This brochure is intended for the U.S. market

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**VISIBLE AND INVISIBLE LASER RADIATION**

Avoid eye skin exposure to direct or scattered radiation

Laser product: Class 4

Aiming beam: Class 3R



CAUTION - Laser radiation

**Rx Only**

*Note: National local authorities may put restrictions to the parameters indicated in the table in the previous page, or may limit or remove certain intended uses. Specifications are subject to change without notice.*

Quanta System products are manufactured according to the International standards and have been cleared by the most important International notified bodies.

The Company is UNI EN ISO 9001:2015 and EN ISO 13485:2016 certified. Quanta System S.p.A. was founded in 1985 and belongs to the El. En. Group (a public company listed in the Star segment of the Italian Stock Exchange) since January 2004.

The company, divided into three business units (medical, scientific and industrial) is specialized in manufacturing of laser and opto-electronic devices.

**Quanta System**  
LASER IN OUR DNA

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