Litho
Surgical Laser System
LITHO
30W - 35W HOLMIUM:YAG FOR LITHOTRIPSY

Litho surgical unit is based on Holmium (Ho:YAG) laser with emission at two micron (2100nm) wavelength. This wavelength is highly absorbed by water and biological tissue. The Litho automatically adjusts the correct pulse duration depending on the operating mode and sets the values of energy and repetition rate. When it is operating in a short pulse emission mode, it is highly effective in the fragmentation of calculi and the hard tissue ablation. In long pulse emission, it is highly effective in cutting soft tissue providing excellent hemostasis and coagulation with minimal damages of surrounding tissue, due to its low penetration depth. Because of the high radiation absorption by water, the application in a hydrous solution environment is highly safe.

APPLICATIONS

Litho laser system is an ideal tool for surgeons who want to get the best results in performing:

LITHOTRIPSY
GENERAL SURGERY
URETHROTOMY, URETEROTOMY
TRANSURETHRAL INCISION OF PROSTATE (TUIP)
TUMOR EXCISION
The Litho laser system has state-of-the-art technical specifications, which represent a gold standard in surgical market:

**Pulse energy:** it is possible to set up to 5 J per pulse. The pulse energy is related to the fragmentation efficacy. It is ideal for hard stone treatments.

**Repetition rate:** the maximum repetition rate is 30 Hz. By using the high repetition rate and low pulse energy, a fine fragmentation is secured. The DUSTING effect function assures the effective dusting even at high repetition rates.

**Pulse duration:** the unit provides a broad range of pulse durations. Due to this feature, the system could select the most suitable modality of preset parameters on the application menu (HARD STONE-DUSTING-ABLATION-COAGULATION).

The maximum effectiveness in ablation and fragmentation is assured also when using flexible ureteroscopes.

**TECHNICAL FEATURES**

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The employment of extended pulses and the broad regulation possibilities (concerning laser intensity and frequency) allow to adapt the treatment to calculus dimension and properties, strongly reducing retropulsion effects.

**DUSTING EFFECT, AN ADDED VALUE**

Quanta System introduces a new application setting: the Lithotripsy DUSTING EFFECT. This preset Application can be found on the main application menu beside Lithotripsy HARD STONE, Ablation and Coagulation.

The setting is intended for calculi, especially the renal ones, where the dusting effect lithotripsy technique could eliminate the need for basket extraction and that way reducing the total time of the procedure.

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**OPERATIVE MODE**

- Ablation
- Coagulation
- Lithotripsy - Dusting Effect
- Lithotripsy - Hard Stone

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Output</td>
<td>up to 35 W</td>
</tr>
<tr>
<td>Energy per Pulse</td>
<td>up to 5 J</td>
</tr>
<tr>
<td>Repetition Rate</td>
<td>up to 30 Hz</td>
</tr>
<tr>
<td>Pulse Duration</td>
<td>95-1500 µs</td>
</tr>
<tr>
<td>RFID Fiber Recognition System</td>
<td></td>
</tr>
<tr>
<td>Touchscreen Display</td>
<td></td>
</tr>
<tr>
<td>Double Footswitch</td>
<td></td>
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<tr>
<td>Frontal Footswitch Connection</td>
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</tbody>
</table>
RFID
Through the RFID fiber recognition system, the connected fibers are automatically detected. The laser immediately sets up the adequate working parameters.

SMART INTERFACE
Interactive interface with intuitive shortcut to the main function. Smart selection of output settings depending on the operative mode. Wide color touchscreen.

DOUBLE FOOTSWITCH
The double footswitch with front connector allows the operator to control the Ready/Standby status directly from the footswitch without the need of assistance in operation by touchscreen.

BENEFITS TO THE PRACTITIONER
- Fast treatments
- Stability of the stone target during laser emission
- Using high power with fibers of small diameter
- Reducing or eliminating the use of urology basket thanks to fine fragmentation effect
**OPTIONALS & ACCESSORIES**

- Sterile single use or reusable fibers with core diameter ranging from 200 µm to 1000 µm, 3m long
- Sterile single use core diameter 600 µm side fiber, 3m long
- Adjustable Fiber Optic Stripper
- Special Sterilizable Fiber Optic Stripper
- Handpiece for Open Surgery Treatment
- Ceramic Scissors

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**LITHO **

**IN BRIEF**

*Output Power up to 35 W*

*High Peak Power*

*Variable Pulse Width*

*Large Dynamic Power Range*

*Green Aiming Beam*

*Small Footprint Device*

*Dusting Mode*

*Low Maintenance and Minimal Operating Costs*

*Easy to Install and to Operate*

*RFID Fiber Detection System*

*Double Footswitch*

*Fast Warm Up*

*Intelligent Fiber Recognition*
**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th></th>
<th>Model 30 W</th>
<th>Model 35 W</th>
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</thead>
<tbody>
<tr>
<td><strong>Average power</strong></td>
<td>30 W</td>
<td>35 W</td>
</tr>
<tr>
<td><strong>Repetition rate</strong></td>
<td>3 - 25 Hz</td>
<td>3 - 30 Hz</td>
</tr>
<tr>
<td><strong>Energy per pulse</strong></td>
<td>0.2 - 4 J</td>
<td>0.1 - 5 J</td>
</tr>
<tr>
<td><strong>Wavelength</strong></td>
<td>2.1 µm</td>
<td></td>
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<tr>
<td><strong>Pulse duration</strong></td>
<td>95 - 1500 µs</td>
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<tr>
<td><strong>Beam delivery</strong></td>
<td>Wide range of flexible silica fibers</td>
<td></td>
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<tr>
<td><strong>Recognition fiber</strong></td>
<td>RFID System</td>
<td></td>
</tr>
<tr>
<td><strong>Activation</strong></td>
<td>Double Footswitch</td>
<td></td>
</tr>
<tr>
<td><strong>Aiming beam</strong></td>
<td>532 nm, (adjustable &lt;5mW) - Class 3R</td>
<td></td>
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<tr>
<td><strong>Electrical requirements</strong></td>
<td>230 Vac, single phase; 50/60 Hz; 10 A - 115 Vac, single phase; 50/60 Hz; 20 A</td>
<td></td>
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<tr>
<td><strong>Cooling</strong></td>
<td>Air cooled (closed water-air cooling circuit)</td>
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<tr>
<td><strong>Operating temperature</strong></td>
<td>10°C - 30°C</td>
<td></td>
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<tr>
<td><strong>Dimensions</strong></td>
<td>260 (W) x 840 (D) x 920 (H) mm³</td>
<td></td>
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<tr>
<td><strong>Weight</strong></td>
<td>86 kg</td>
<td></td>
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<tr>
<td><strong>Laser Class</strong></td>
<td>4 (IEC/EN 60825-1:2007)</td>
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</table>

**CAUTION - Laser radiation**

**TECHNICAL SPECIFICATIONS**

Quanta System products are manufactured according to the International standards and have been cleared by the most important International notified bodies. The Company is EN ISO 9001:2008 and EN ISO 13485:2012 certified. Quanta System S.p.A. was founded in 1985 and belongs to the EI. 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.

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