# PERFORMANCES AT FIRST

## MultiPulse Tm+1470

**THULIUM LASER**
**COMBINED WITH**
**1,470 nm WAVELENGTH.**

**DESIGNED TO IMPROVE YOUR PATIENT'S QUALITY OF LIFE.**


### Main Application Fields

UROLOGY | GENERAL SURGERY

JENA SURGICAL
LASER AT YOUR SIDE

## MultiPulse Tm+1470

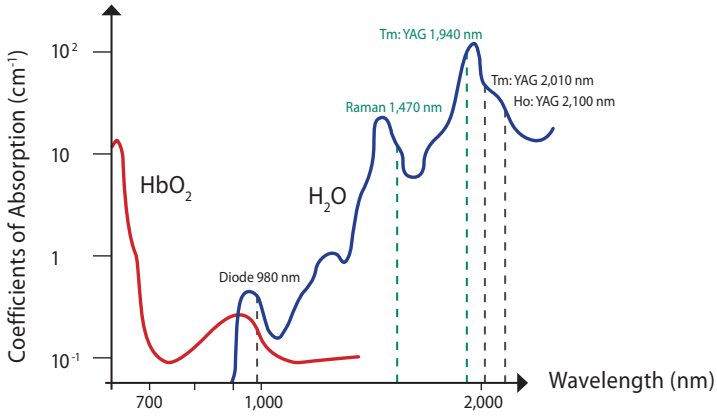
# PERFORMANCES AT FIRST

Jena Surgical introduces the **MultiPulse Tm+1470**, the only system that combines a **1,940 nm** last generation **Thulium:YAG laser** with a **1,470 nm** diode laser (maximum power **120 W + 30 W**). The system is designed to deliver the best performance in the operating room!

## Unmatched in terms of efficiency, accuracy and safety.

The wavelenght of 1,940 nm is absorbed by water more than 1st generation Thulium at 2,040 or Holmium at 2,100 nm.

To have a more significant coagulation effect, the **MultiPulse Tm+1470** integrates a 1,470 nm Raman laser, which can be combined as desired in the same fiber optics.
When a greater **coagulation effect** is required, it is sufficient to change from "cutting-mode" to "coagulation-mode", selecting the 1,470 nm wavelength only by pressing a different pedal. The pedal control allows the surgeon to select the required mode without changing the laser fiber and without looking away from the operating field.




The ability to mix or separate these two wavelengths allows optimization of the laser beam interaction with the tissue. This ensures **perfect vaporization** and **better hemostasis when cutting**, using **less working power** and thus minimizing residual carbonization.

Moreover, in addition to the continuous mode (cw), the **MultiPulse Tm+1470** can work with pulsed emission in order to operate with maximum precision and delicacy, even in those areas that require "colder" action.

# MultiPulse Tm+1470

**MultiPulse Tm+1470 is a versatile and multi-disciplinary system, recommended for a wide range of applications in UROLOGY and GENERAL SURGERY.**

## **UROLOGY -** applications

**Prostate Enucleation (BPH Treatment) with ThuLEP Procedure | Urethrotomy | Excision of Urethra, Bladder and Ureter Tumors | Partial Nephrectomy**

ThuLEP (Thulium Laser Enucleation of Prostate) is the innovative transurethral thulium laser technique of anatomical enucleation. The advanced technology of the **MultiPulse Tm+1470** enables work with an excellent view of the operative field, thanks to the perfect hemostasis and the absence of residual material from carbonization.
The **mix of its two wavelengths**, properly calibrated, enables net and clean surgical incisions with good execution speed, reduces operating time and allows prostates of any size to be treated.
This procedure achieves the complete removal of adenomatous tissue, with maximum urodynamic effectiveness, minimal side-effects and lack of bleeding complications.

### Advantages for the surgeon

- Unique combination of two wavelengths:  1,940 nm and 1,470 nm
- Specific for ablation / cutting & hemostasis / coagulation effect
- Low residual tissue carbonization for a clean and clearly visible surgical field
- Pedal control for perfect wavelength modulation without taking eyes off from the surgical field and without changing fiber
- Ability to always perform the histopathological exam of enucleated tissue samples (it is possible to request the morcellator as a non-integrated optional accessory)
- TDFA (Thulium Doped Fiber Amplifier) technology for better beam uniformity, advanced performance and less maintenance requirements
- Low-noise system with limited power consumption

### Advantages for the patient

- Safety, accuracy and speed of treatments
- Reduction in side effects (e.g. TUR syndrome, bleeding, etc.)
- Recommended for the treatment of patients with coagulation problems (e.g. those being treated with anticoagulants)
- Suitable for patients with large prostates (more than 70 g), as a minimally invasive alternative to the traditional method of open adenomectomy
- Shorter treatment time and hospital stay as well as faster functional recovery with a clear improvement in quality of life
- Greatly reduced time or none for post-operative catheterization
- Low rate of recurrences

# MultiPulse Tm+1470

## **GENERAL SURGERY -** applications

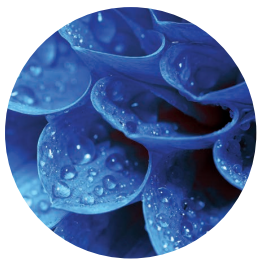
**Open, laparoscopy and endoscopic surgery, including incision, excision, resection, ablation, vaporization, coagulation and hemostasis.**

The **MultiPulse Tm+1470** is a precious tool for **surgeons** in many procedures, from routine through to the more complex operations, both in endoscopic and open surgeries.
This is a high-performance surgical instrument for tissue **resection**, guaranteeing the surgeon precise control over both, **cutting** and **ablation** through the intuitive regulation of the main operating parameters.

The **MultiPulse Tm+1470** allows to **work quickly** with an outstanding **hemostatic effect**, that can be adjusted as required, using a pedal and suitably blending the two wavelengths available.
The laser beam can be directed onto the organ to be operated on using an endoscope. In this way, the surgeon can easily perform very precise as well as accurate procedures and operate on parts of the body that could previously only be reached with traditional open surgery

**In the hands of a specialized surgeon, the laser makes it possible to:**

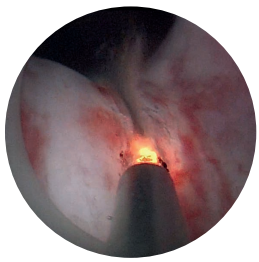
- cut or remove diseased tissue **without damaging** the adjacent **healthy tissues**
- cauterize (seal) blood vessels to **reduce blood loss**
- **reduce the risk** of incision infection
- minimize the size of the area involved by the surgery
- obtain **faster wound healing**



VERSATILITY

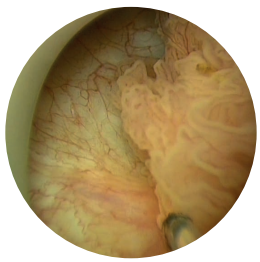
PROGRESS

## Clinical Cases



ThuLEP for BPH, performed by using the **MultiPulse Tm+1470**.

*[Courtesy of Dr. R. Hurle, M.D. - Consultant of the Operating Unit of Urology and Andrology Istituto Clinico Humanitas, Milan - Italy]*



Resection of a bladder tumor, performed by using the **MultiPulse Tm+1470**. The applied technique results in excellent hemostasis, limited thermal damage and reduced tissue carbonization.

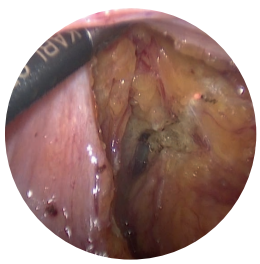
*[Courtesy of Prof. C. Imbimbo, M.D.- Director of Surgical Andrology, Universita' Federico II, Naples - Italy]*

A

B

(A) Right hepatectomy due to the presence of multiple metastases from colon adenocarcinoma, performed by using the **MultiPulse Tm+1470**. The technique results in excellent hemostasis, limited thermal tissue damage (as shown in picture B) and the closure of the bile ducts.

*[Courtesy of Prof. G. Sgroi, M.D. - Director of Surgical Oncology Treviglio Hospital, Bergamo - Italy]*



Laparoscopic-assisted resection of an adenocarcinoma of the rectum, performed by using the **MultiPulse Tm+1470**.
The applied technique used resulted in excellent hemostasis, limited thermal damage, reduced tissue carbonization and provides remarkable ease in the research for surgical plans.

*[Courtesy of Prof. G. Sgroi, M.D. - Director of Surgical Oncology Treviglio Hospital, Bergamo - Italy]*

| MultiPulse Tm+1470 | |
|---|---|
| Laser Source | Thulium + Raman module |
| Wavelength | 1,940 nm + 1,470 nm (simultaneously, in the same fiber) |
| Emission Mode | Continuous Wave (cw) - Pulsed Wave (pw) |
| Power | Up to 120 W (@ 1,940 nm) - Up to 30 W (@ 1,470 nm) |
| Repetition Rate | cw to 1000 Hz |
| Pulse Duration | 0.5 ms until cw |
| Operating Temperature Range | 20° - 30° C |
| Rel. Humidity | Max. 70 % (no condensation) |
| Cooling | Internal active water cooling |
| Beam Delivery | Wide Range of Flexible Optical Fiber |
| Aiming Beam | Laser Diode @ 635 nm <1 mW, adjustable |
| Control Panel | 12.1" LCD color touchscreen |
| Accessories | Fiber handpieces and diverse cannulas<br>Bare fibers (reusable and single use) available in following diameters: 200, 400, 600, 800, 1000 µm. |
| Electrical Requirements | 230 VAC - 50/60 Hz - 2,700 VA -16 A |
| Dimensions and Weight | 112 (H) x 87 (D) x 36.5 (W) cm - 125 kg |

# MultiPulse Tm+1470

Find more info about
**MultiPulse Tm+1470**

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LASER AT YOUR SIDE

## Applications

### UROLOGY

Prostate enucleation (BPH treatment) with ThuLEP procedure | Urethrotomy | Excision of urethra and bladder tumors | Partial nephrectomy

### GENERAL SURGERY

Open, laparoscopic and endoscopic surgery, including incision, excision, resection, ablation, vaporization, bronchoscopy, coagulation and hemostasis.

## Publications

**Thulium Laser Endoscopic En Bloc Enucleation of Nonmuscle-Invasive Bladder Cancer.**

*Migliari R, Buffardi A, Ghabin H.*
J Endourol. 2015 Nov;29(11):1258-62. doi: 10.1089/end.2015.0336. Epub 2015 Aug 3.

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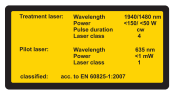




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