

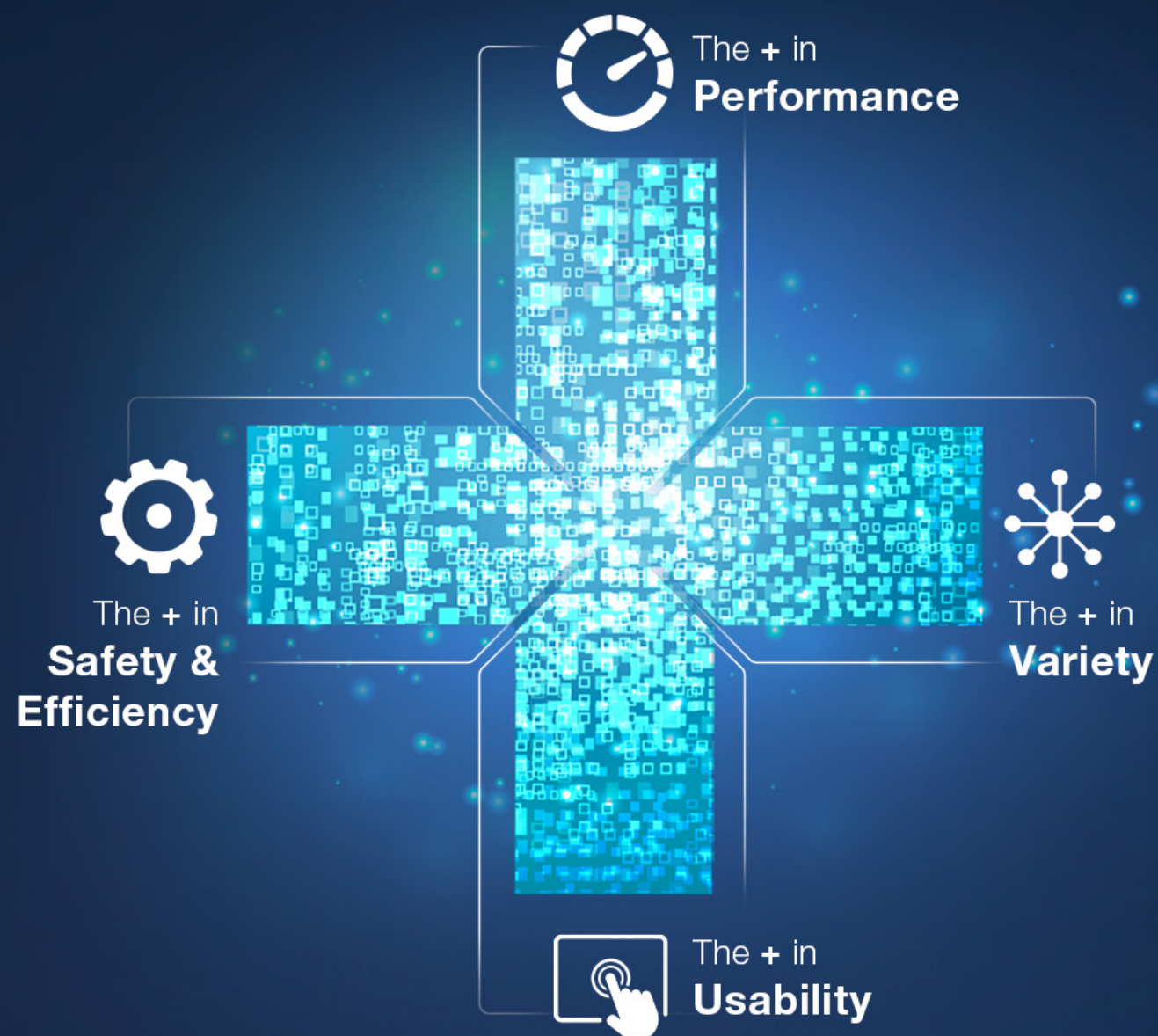
The + in Bipolar Surgery

BPH and NMIBC Treatment with the PLASMA+ System



PLASMA+

Procedure-Oriented, Safe and Efficient Solution for All Needs in BPH & NMIBC



We Are Proud to Introduce Our Most Advanced Energy System Yet: **PLASMA+**

Millions of patients worldwide have been successfully treated with the Olympus PLASMA system.* The underlying HF technology of PLASMA has been used and **proven for over 17 years.**

Now, with the **third generation** of bipolar technology, we have integrated the **latest knowledge, experience and innovation.** The system sets new standards in terms of **performance, treatment options, safety, cost and time efficiency.**

* Data on file, as of Dec. 2020





PLASMA+

ESG-410 — Energizing PLASMA Procedures

Introducing Our New Electrosurgical Generator

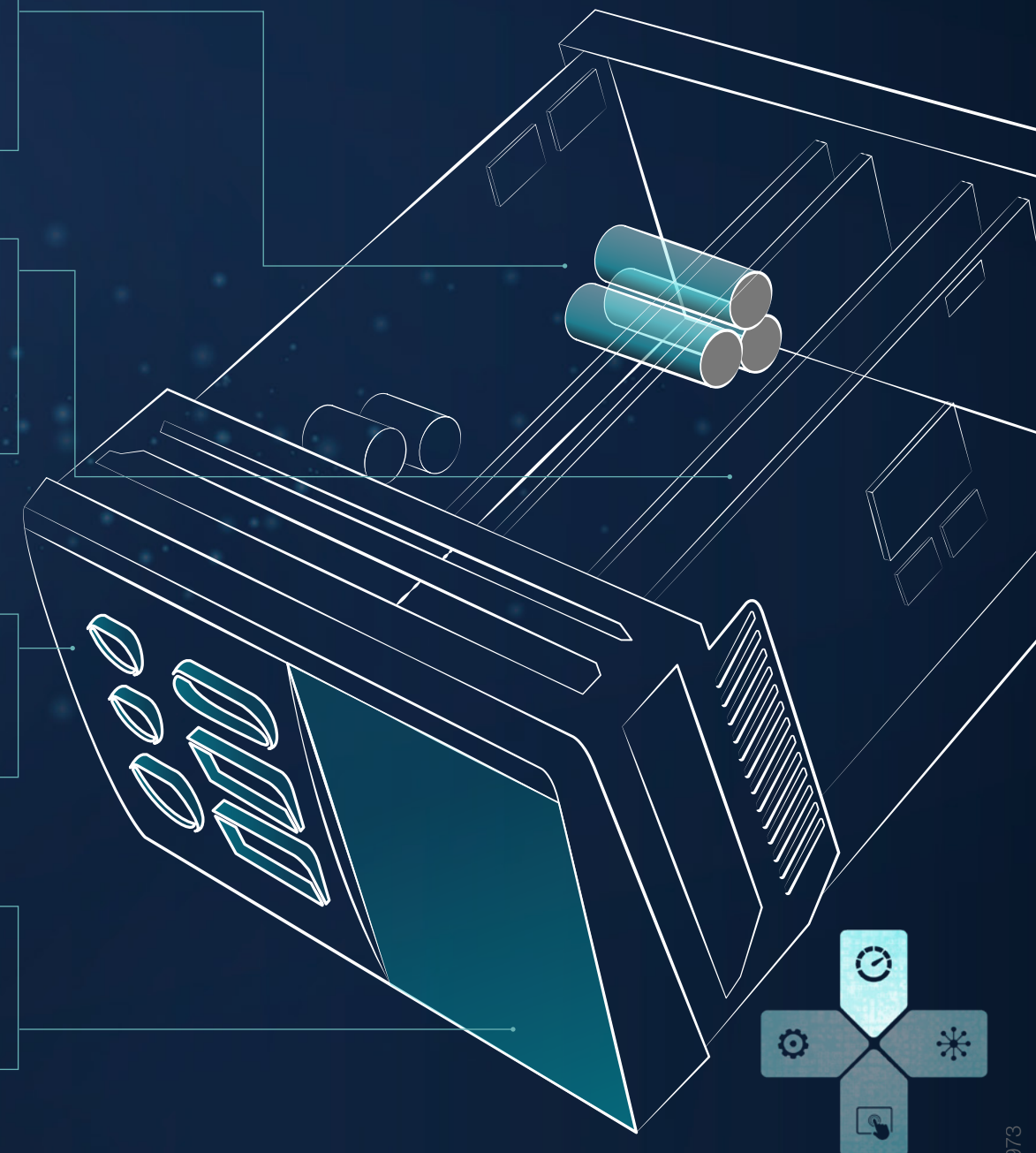
The ESG-410 comes with a wide range of smart features that aim to upgrade the way BPH and NMIBC can be treated. The latest technology, more capacitors and faster controlling cycles enable the high system performance and superior PLASMA ignition.

Larger capacitors for **superior ignition performance.**

New real-time tissue management for **safe and effective treatment.**

More sockets for **higher procedural flexibility.**

Increased display size for **better usability.**





The + in Performance

Immediate PLASMA Ignition and Continuous Activation

Reliably Powering Larger Electrodes

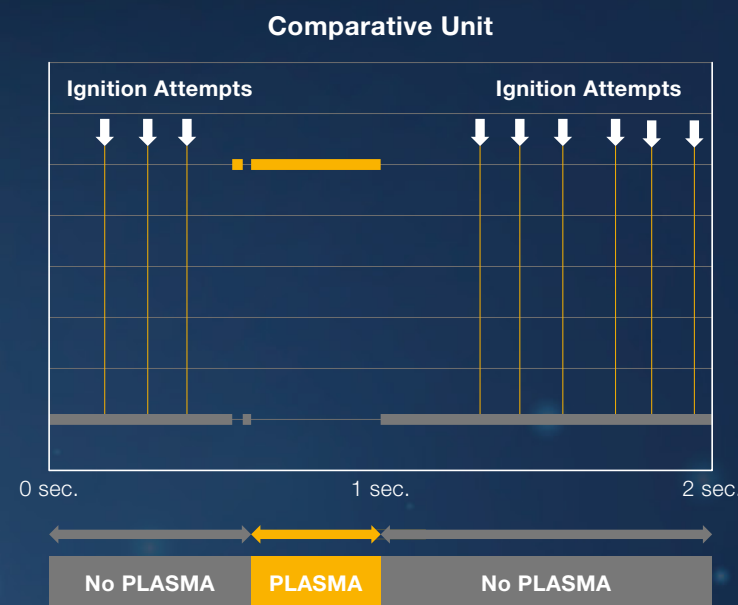
Especially when utilizing larger electrodes, the ESG-410 delivers up to 50% higher PLASMA stability¹² versus comparative units, allowing for smoother procedural workflows and potentially reduced procedure times.



Superior PLASMA Stability

Comparative units have often been unable to deliver reliable and continuous PLASMA stability under all conditions.

Now the PLASMA+ system, powered by the novel ESG-410 generator, offers stable and fast PLASMA ignition for all electrode types — **even in free saline.**



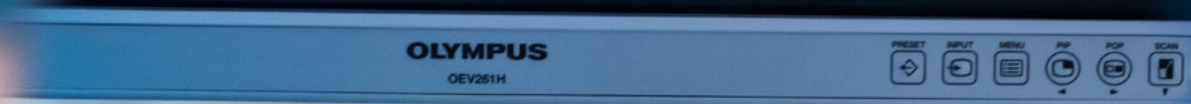
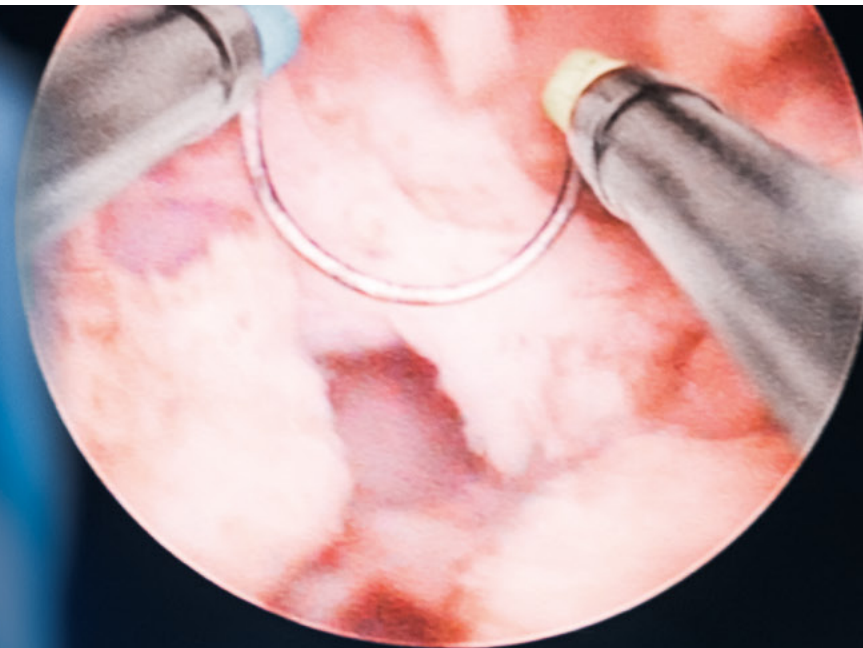


The + in Variety

From BPH to NMIBC — One System for Individual PLASMA Treatment

Combined with the intelligent power control unit ESG-410, Olympus provides an **extended portfolio of electrodes to expand your treatment possibilities.**

With resection loops in different sizes and angles, needle and band electrodes, oval and round vaporization buttons, and a special enucleation loop, the Olympus **PLASMA+ system provides solutions for BPH and NMIBC treatment.**





The + in Variety

From BPH to NMIBC — One System for Individual PLASMA Treatment

The + for **PLASMA BPH Resection**

Transurethral PLASMA resection remains the most common treatment for BPH. The Olympus PLASMA+ portfolio features different loop sizes and widths, thus providing surgeons with different solutions for different patient profiles.

What's New?

The large loop enables faster and smoother operations, with a **52% higher tissue ablation rate**.¹³

The **band electrode offers continuous hemostasis** already during cutting and even higher stability, also, for example, for enucleation.

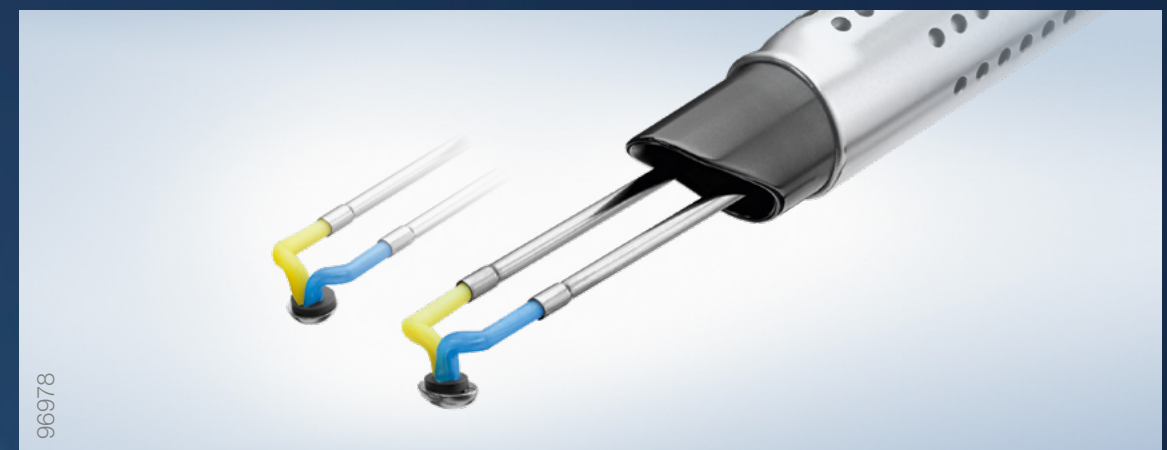


The + for **PLASMA Vaporization**

PLASMA vaporization uses energized gas to smoothly vaporize tissue. PLASMA vaporization enables effective, fast and virtually bloodless ablation and has been demonstrated as a possible treatment for patients on anticoagulants.¹ With fewer complications and shorter hospital stays, it has the potential to be used for day-case surgery.^{2, 3}

What's New?

Our PLASMA vaporization solutions and **Round and Oval Buttons** enable an **easy-to-learn, reliable and more cost-efficient solution** for BPH in comparison to any laser equipment.





The + in Variety

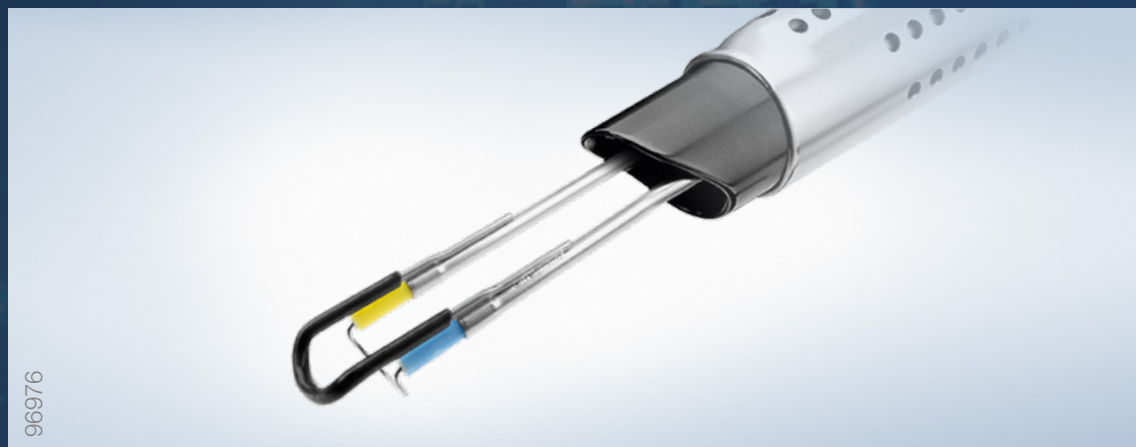
From BPH to NMIBC — One System for Individual PLASMA Treatment

The + for **PLASMA Enucleation**

The new type of BPH treatment peels out the prostate lobes for the complete excision of an obstructing adenoma. Enucleation provides minimum intraoperative blood loss, better long-term outcomes and a shorter convalescence period when compared to resection.⁴

What's New?

The special design of **the enucleation loop allows state-of-the-art enucleation**, cutting and coagulation — an alternative to laser enucleation.



The + for **PLASMA NMIBC Resection**

Performing conventional or en bloc resection of NMIBC using PLASMA+ in combination with Narrow Band Imaging (NBI) enables the surgeon to offer the optimal therapy to the patient. The Olympus portfolio features electrodes for the treatment of various bladder tumor types.

- **Needle electrode** — particularly suitable for en bloc resection.
- **Loop electrode** — in different sizes adapting to the tumor size.
- **Angled loop** — to better reach the anterior bladder wall.

What's New?

PLASMA+ offers **smooth and continuous ignition — even without tissue contact**, potentially leading to more precision, control and increased safety during the procedure.





The + in Variety

One System to Meet the Needs of Surgical Units

Leverage Your Investment: Incorporate Multiple Functions into a Single Device



High-end generator dedicated to BPH and NMIBC treatments.



Various Medical Applications

- Open,
- laparoscopic and
- endoscopic surgery.



Fully Equipped HF Generator

- Two monopolar,
- one bipolar and
- two universal sockets for connecting common electrosurgical instruments.





The + in Usability

ESG-410 — Intuitive and Procedure-Oriented System for Optimal Patient Outcomes



Plug & treat: Automatic mode selection for existing and future Olympus devices with universal sockets.



Ease of use with large 8.4" high-quality LCD touch panel.



Streamlined workflow with customizable settings and fewer interruptions due to fewer nonsafety-relevant pop-ups.



Wireless footswitch option for higher degree of freedom during use.



Transfer of individual settings and updates via USB.







The + in Safety and Efficiency

Equivalent Efficacy with Improved Safety Profile

Bipolar transurethral resection (TUR)/PLASMA is not only backed by a high level of evidence and grade of recommendation today, but also offers additional benefits with regards to safety and efficiency.*,⁵

	BPH	NMIBC
 Efficacy Bipolar technology achieves short-, mid- and long-term results comparable to those of monopolar TUR.	Similar results to M-TURP incl. maximum flow rate (Qmax), resection weight, PVR and IPSS/IEF-5. ^{5,6}	Can be associated with an equal resection performance to M-TURBT and noninferiority in recurrence. ^{7,8}
 Safety Bipolar technology has a more favorable perioperative safety profile.	100% less occurrence of TUR syndrome. ⁸ 58% lower clot retention. ⁸ 65% lower blood transfusion rates. ⁸	May be more efficient in peri- and postoperative phase due to fewer complications. ¹⁰

Further Safety Advantages

- **Real-time tissue monitoring** automatically checks and regulates PLASMA to ensure optimal energy output.
- The latest technology provides **significantly lower energy input** compared to comparative devices.¹⁴
- Best-in-class PLASMA **performance with confined thermal spread**¹⁵, which results in precise cutting with limited depth of penetration.

* compared to monopolar TUR





The + in Safety and Efficiency

Improvement of Clinical Outcomes Reduces Overall Costs

The safety benefits of PLASMA may translate into cost savings¹¹ while maintaining or even increasing the quality of the health care services.

Enhancing patient outcome and comfort:

- Shorter hospital stay.
- Shorter catheterization time.
- Less bleeding.

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Optimizing clinical outcomes:

- Fewer complications.
- Fewer readmissions.
- Long-term effectiveness.

= Lowering overall cost of care

Cost modelling shows that equipment costs are offset by savings from the reduced average length of hospital stay and fewer complications, leading to overall cost savings with PLASMA versus M-TUR for the hospital and health system.¹¹

Potential Cost Savings with PLASMA versus Monopolar ¹¹

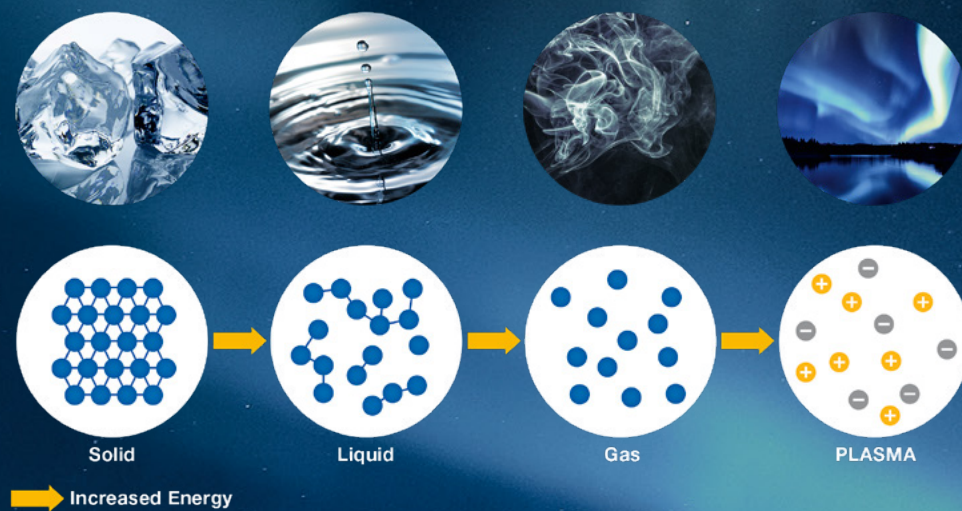




PLASMA+

The + in Bipolar Technology — What Is PLASMA?

- PLASMA is one of the **four fundamental states of matter**.
- It is created when **energy is applied to a gas** that then turns into PLASMA.



- Due to its conductivity, PLASMA enables energy to cross at lower levels. This allows for **lower operating temperatures** and, therefore, **less thermal spread**. The targeted tissue is vaporized by a locally confined denaturation process, while **heating effects in the surrounding tissue are minor**.

Discover Other Forms of PLASMA

PLASMA is common in our world and appears in different variations in nature. It is especially prevalent in atmospheric and outer space phenomena such as the sun and initiates polar lights as well.



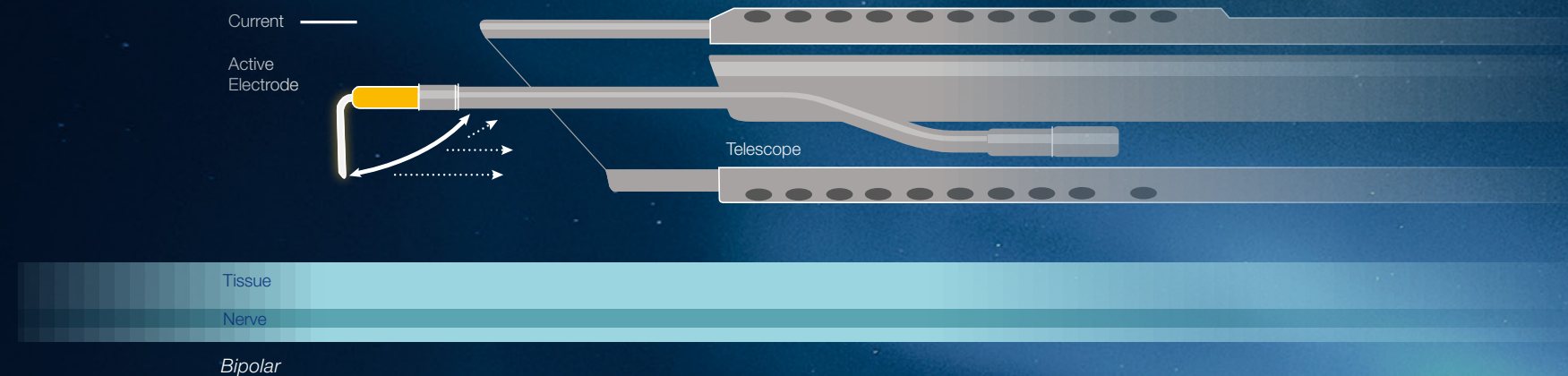
PLASMA+

The + in Bipolar Technology — the PLASMA Difference

Olympus PLASMA Provides Precise and Safe Treatment

The HF-generator creates a constant PLASMA field to remove tissue at low operating temperatures, resulting in minimal thermal damage to surrounding tissue and a low penetration depth.

With the monopolar technology, the nonconducting irrigation fluid forces the electrical current to travel through tissue in the patient's body before returning to the neutral electrode. In comparison, with PLASMA technology, the current only flows between poles, which are part of the same device.



Backed by Strong Evidence

- B-TURP is the most widely and thoroughly investigated alternative to M-TURP.
- PLASMA is well-established in the worldwide market.
- EAU recommended: for all prostate sizes, PLASMA (TURis / bipolar resection) is one of the recommended first-choice treatments.⁵

References

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- ¹¹ National Institute for Health and Care Excellence. *The PLASMA system for transurethral resection and haemostasis of the prostate. NICE medical technologies guidance MTG23*. January 2021. <https://www.nice.org.uk/guidance/mtg53>.
- ¹² Data on file. Bench test comparing plasma stability of ESG-410 with competitive generator.
- ¹³ Data on file. Resection volume versus medium loop.
- ¹⁴ Data on file. Bench test comparing energy input in TURis application in free saline of ESG-410 with competitive generator.
- ¹⁵ Data on file. Same as predecessor electrosurgical generator ESG-400 (max. 0.4 mm, depending on electrode). Bench test comparing thermal spread in PlasmaCut mode.

As medical knowledge is constantly growing, technical modifications or changes of the product design, product specifications, accessories and service offerings may be required.