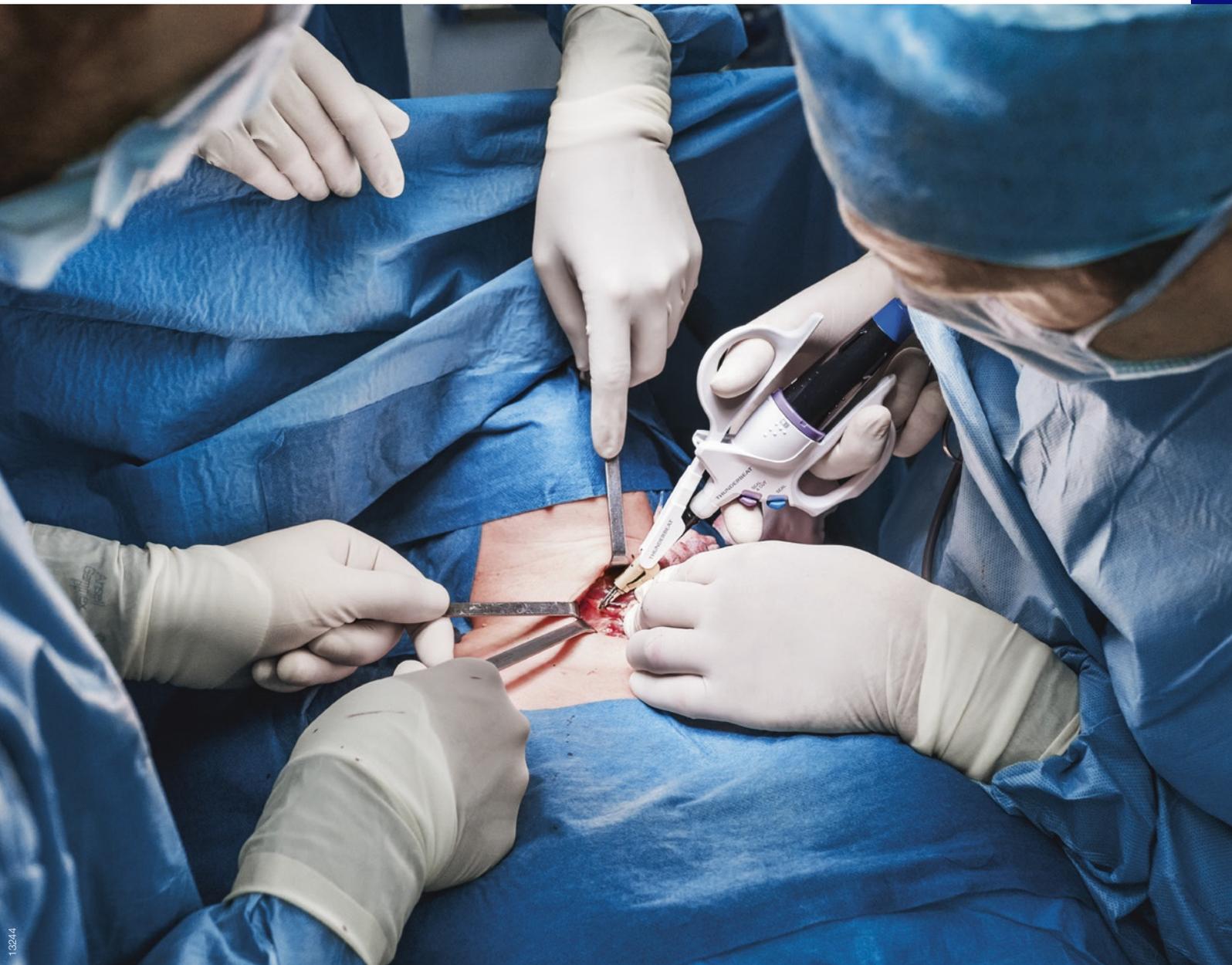


UNIQUE HYBRID
TECHNOLOGY

THUNDERBEAT OPEN FINE JAW

Sophisticated Design for Fine and Precise Open Surgery



THUNDERBEAT DESIGN RATIONALE

Philosophy

Contemporary surgical instruments must be multifunctional. When the THUNDERBEAT Tissue Management System for laparoscopic surgery was introduced, the clear goal was to develop a multipurpose instrument in order to reduce instrument exchanges, surgical time, and blood loss.

This was achieved by creating an instrument that not only allows tissue cutting that is the fastest in its class and secure 7 mm vessel sealing, but also functions as a true laparoscopic instrument – allowing the surgeon to grasp, manipulate, and bluntly dissect tissue.

Three Design Criteria Make This Possible:

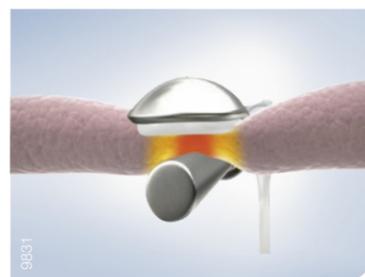
1. Integration of Two Forms of Energy

Only the THUNDERBEAT system delivers two well-established types of energy to the tissue simultaneously:

- Ultrasonic energy, which is widely accepted for its fast tissue-cutting capability.
- Bipolar energy, which provides fast and secure hemostasis to vessels up to and including 7 mm in diameter.

The combination of both forms of energy is delivered through the unique **SEAL & CUT** mode that only the THUNDERBEAT system offers. Tissue bundles and vessels are safely sealed and rapidly cut, allowing the surgeon to reduce tissue-dissection time.

Ultrasonic Energy Only



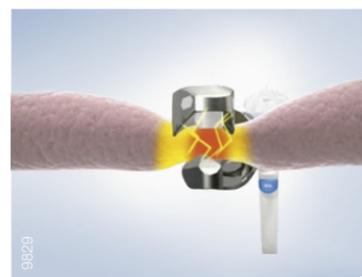
Rapid tissue cutting

Bipolar Energy Only



Reliable vessel sealing

THUNDERBEAT



Rapid tissue cutting **AND** reliable vessel sealing

2. Secondary Hemostasis and Spot Coagulation with Advanced Bipolar Energy

Advanced bipolar energy can be applied independently of ultrasonic energy with the THUNDERBEAT **SEAL** mode. This allows the surgeon to achieve secondary hemostasis and spot coagulation without the cutting effects of ultrasonic energy. This can help reduce instrument exchanges, which may streamline the surgical process further.

3. Superior Dissection with Optimal Temperature Control

The THUNDERBEAT instrument tip is an essential feature of the instrument. Alongside the delivery of two different types of energy, it is designed to act as a fully functional grasping and dissecting instrument. This is achieved through atraumatic serrations of the edges of the upper jaw, the even compression-force distribution across tissue, and the high tip-opening forces that enable blunt tissue dissection.

For safe and streamlined operations, Olympus developed the world's first and only safety assist system for ultrasonic-driven technologies that automatically stops the energy output when the tissue transection is complete. This new technology, called Intelligent Tissue Monitoring (ITM), decreases the residual temperature of the instrument and consequently reduces the risk of accidental tissue damage.

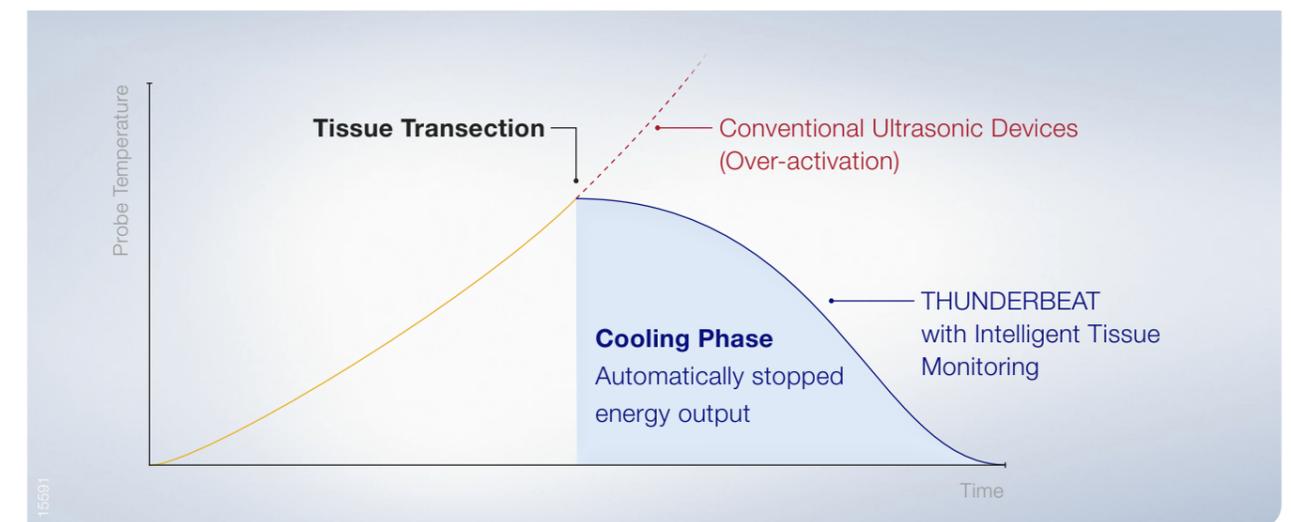
How Intelligent Tissue Monitoring Works

1. Detection of sudden pressure change on probe

2. Transmission of the information to the generator

3. Immediate stop of energy supply with audible feedback

4. Start of cooling phase



The ability to combine the proven advantages of ultrasonic and bipolar energy and the ability to provide finest possible tissue dissection makes THUNDERBEAT one of the most versatile instruments on the market. This technology is now available for open surgery.

The THUNDERBEAT Technology in Open Surgery

Advanced energy devices in open surgery go beyond standard monopolar and bipolar applications. They allow for shorter procedure times and reduced use of hemostatic clips, sutures, or ligation ties, thus saving time and materials costs.

The THUNDERBEAT Open Fine Jaw* maintains the general philosophy behind the THUNDERBEAT technology, and the instrument has been specifically designed for open surgical procedures that require delicate and fine tissue dissection, such as in thyroidectomy or various Ear-Nose-Throat (ENT) and breast procedures. The result is a highly ergonomic instrument that cuts tissue fast, seals vessels safely and securely, and allows for extremely fine tissue dissection and spot coagulation.

* THUNDERBEAT Open Fine Jaw, reddy design award winner 2015

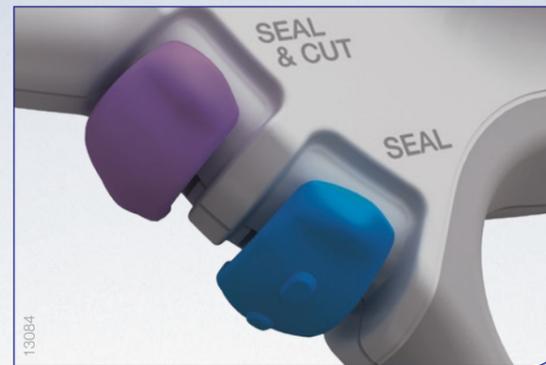
BENEFITS OF THUNDERBEAT OPEN FINE JAW

SEAL & CUT Mode

Fastest in class tissue cutting and secure vessel sealing through the unique combination of ultrasonic and bipolar energy.

SEAL Mode

Secondary hemostasis and spot coagulation through the application of advanced bipolar energy only.



Ultrasonic and Bipolar Probe



Bipolar Jaw

Atraumatic serrations for improved tissue grasping.

Tissue Stopper

Helps to control the amount of tissue to be transected and prevents tissue squeezing without activation.

13084



Intuitive, Easily Accessible Hand Switches

Optimized Balance and Lightweight

Precise and direct tactile feeling with scissors-type grip, similar to state-of-the-art surgical instruments.

Ergonomic Grip

Designed to help prevent hand slippage.

3113



“ The THUNDERBEAT Open Fine Jaw is like an extension of your hand. You can do things you can't do with only a vessel sealing or an ultrasonic device. Especially delicate dissection or very close spot coagulation even around the nerve. ”

Sam Van Slycke, MD

Department of General and Endocrine Surgery, OLV Clinic Aalst

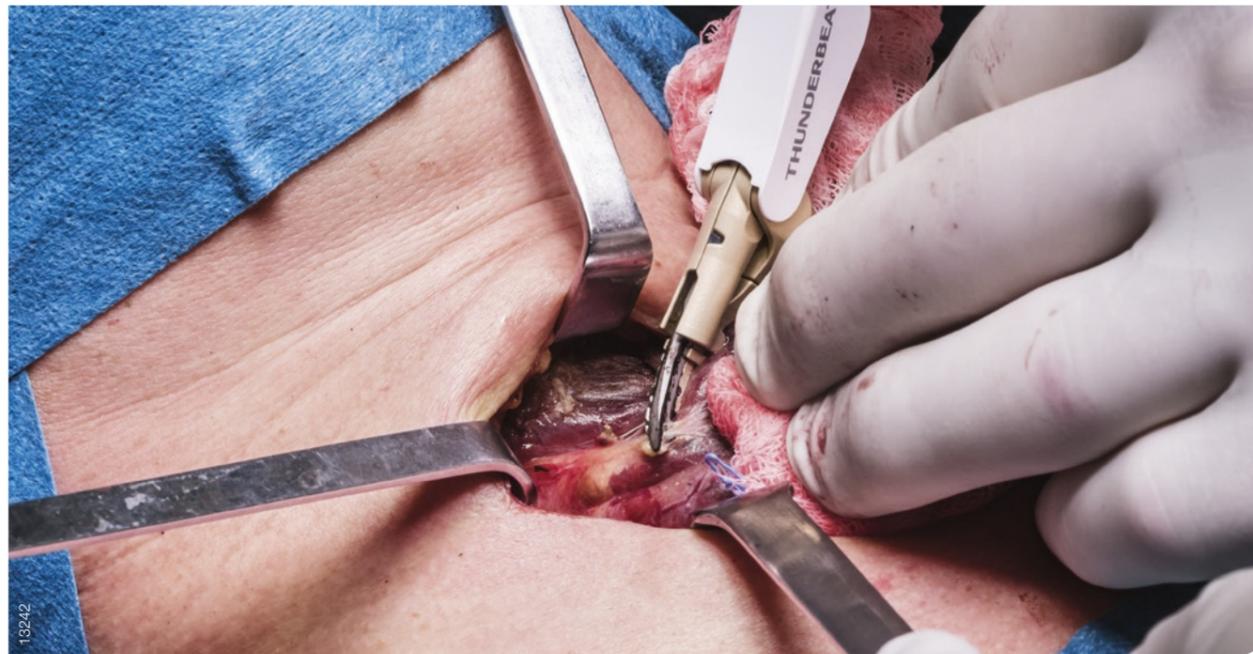


Scan the QR code or visit our website
to see the procedure video:
www.olympus-europa.com/THUNDERBEAT-OFJ

BENEFITS OF THUNDERBEAT OPEN FINE JAW

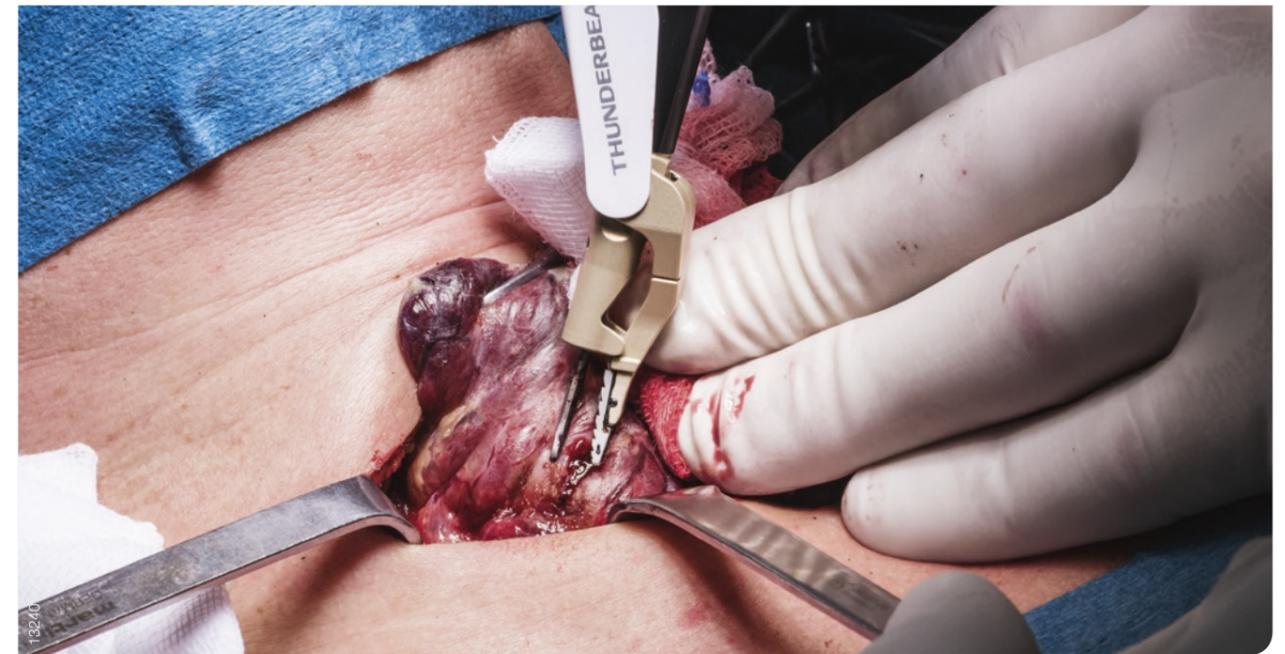
Speed and Safety with Synergistic Energy

Fastest in class tissue cutting and secure vessel sealing through the unique combination of ultrasonic and bipolar energy in SEAL & CUT mode.



Secondary Hemostasis and Spot Coagulation with Advanced Bipolar Energy

In the SEAL mode, advanced bipolar energy can be applied to immediately seal secondary bleeders without the cutting effects of ultrasonic energy.



BENEFITS OF THUNDERBEAT OPEN FINE JAW

Fine and Precise Tissue Dissection

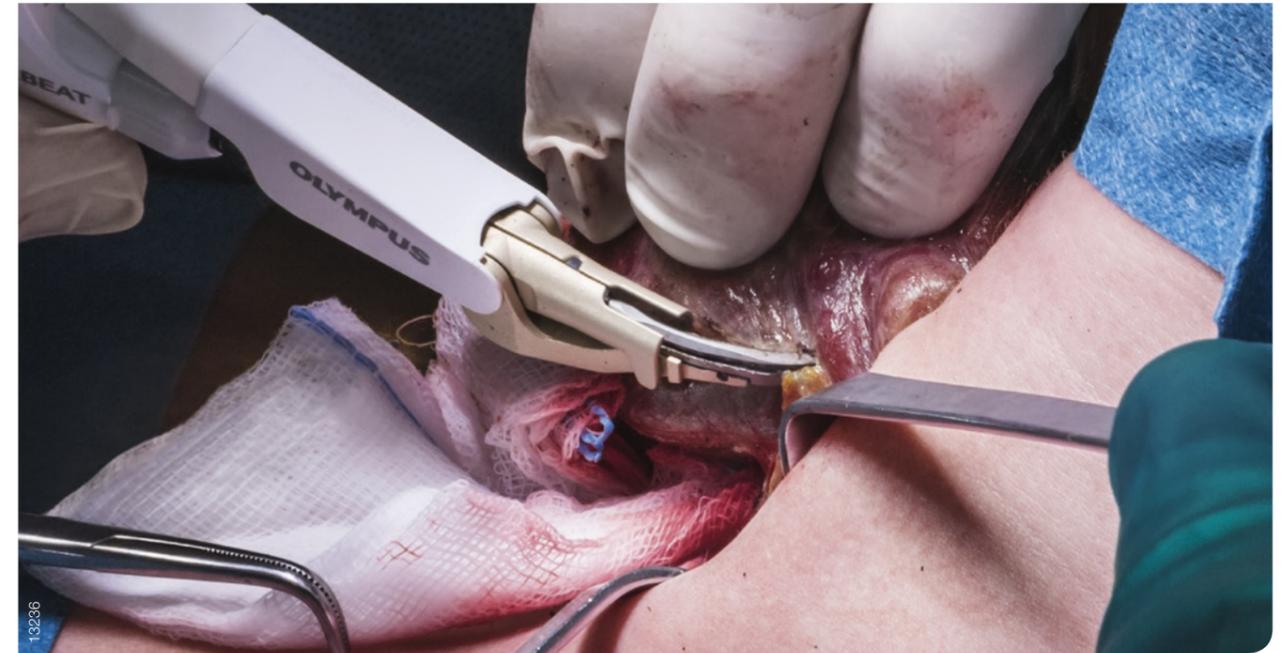
Fine, and curved tip allows precise and fine tissue dissection even in hard-to-reach places.



13236

Enhanced Tissue-Grasping Capability

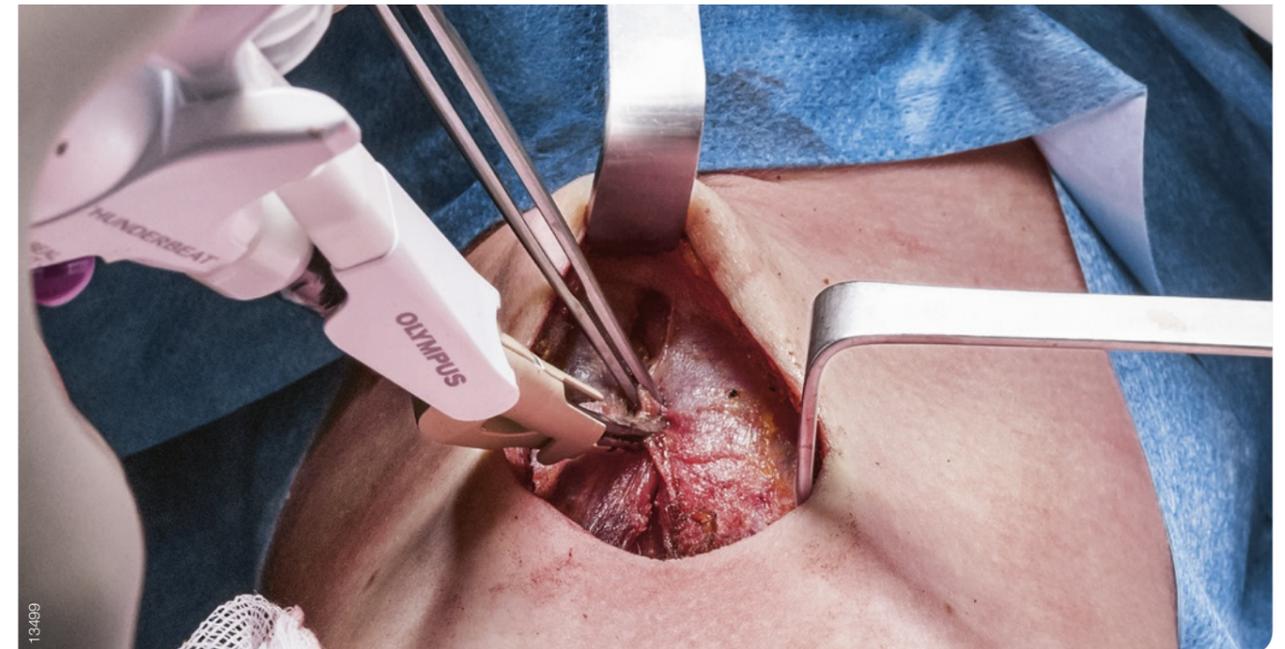
The instrument securely grasps and holds tissue without traumatizing it due to the unique jaw design with atraumatic serrations and uniform tissue compression.



13236



13239

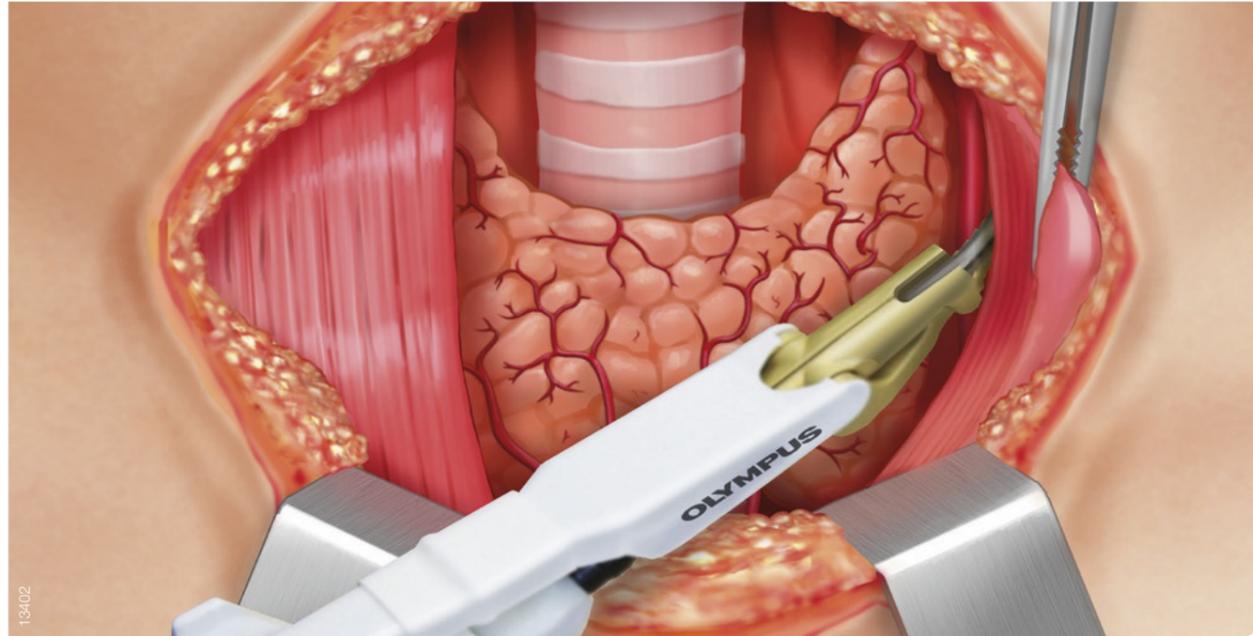


13499

HIGHLIGHTS OF THUNDERBEAT OPEN FINE JAW DURING THYROIDECTOMY

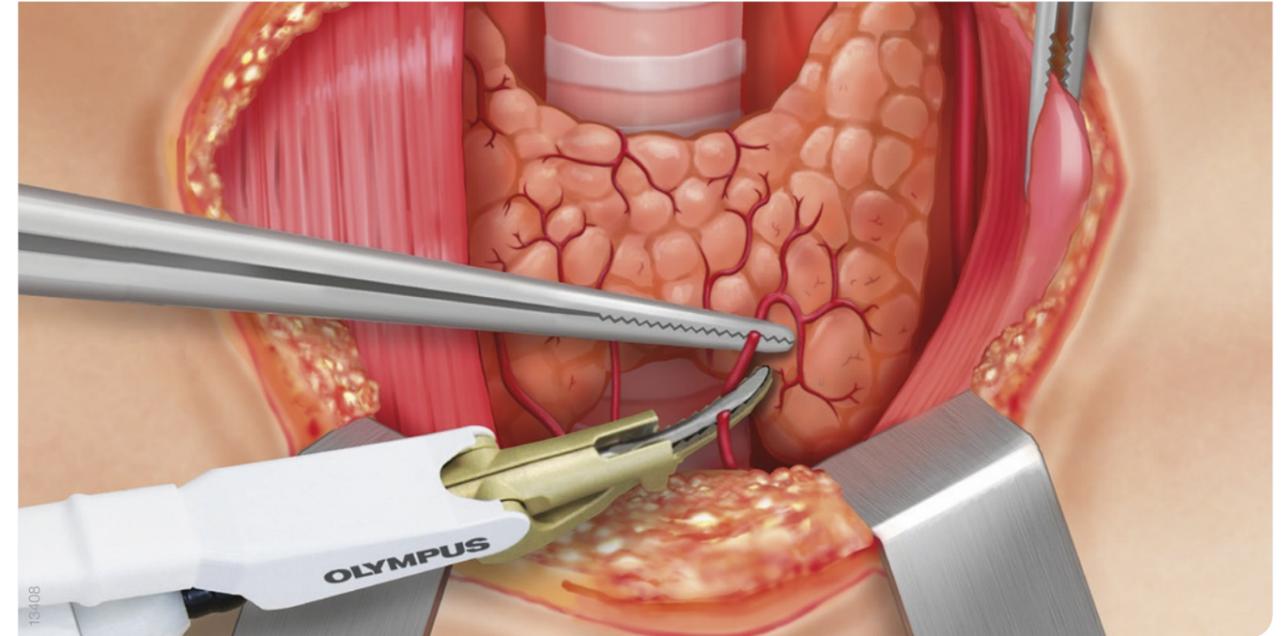
Dissection of Lateral Border of the Thyroid

All thyroid arteries and veins can be divided by THUNDERBEAT.



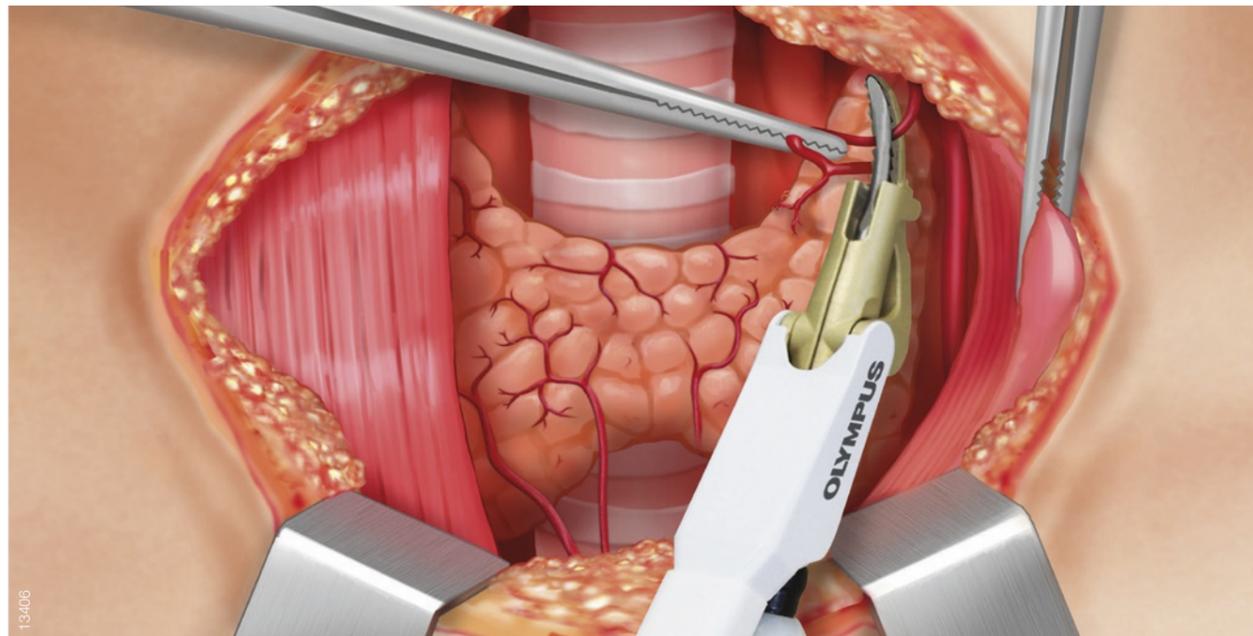
Dissection of Inferior Pole

Ligation of branches of the inferior thyroid artery and inferior thyroid veins by THUNDERBEAT.



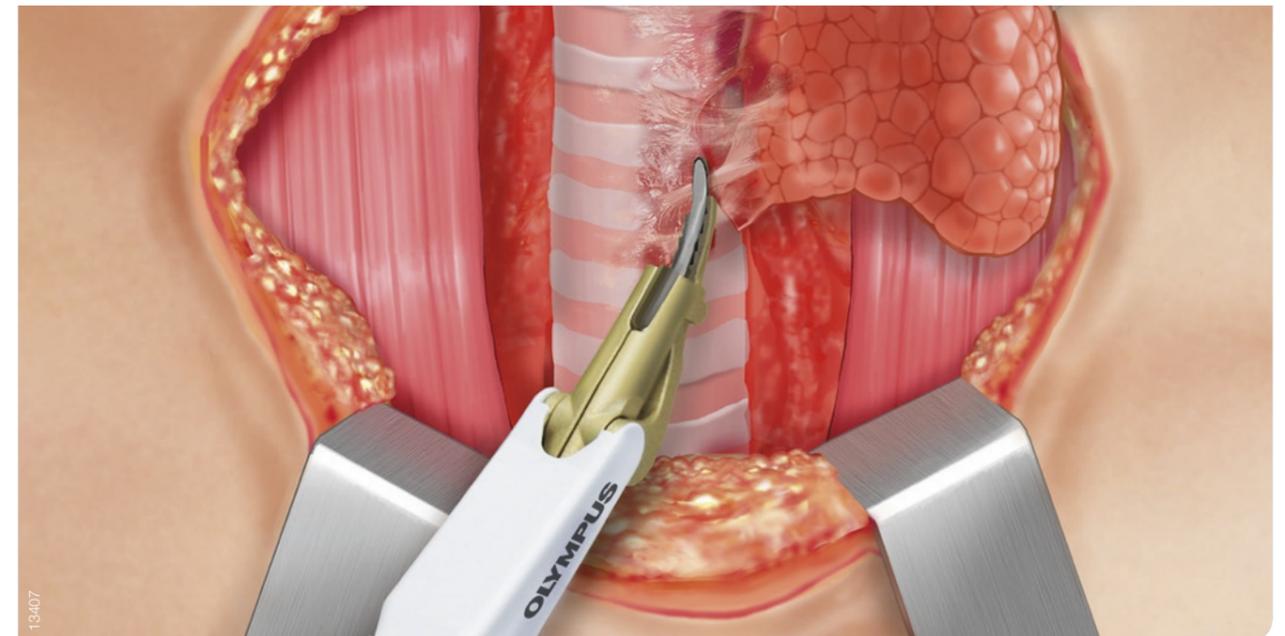
Dissection Superior of Pole

THUNDERBEAT is applied for dividing the vessels of the superior pole.



Transection of Isthmus

The pretracheal adhesions are divided by THUNDERBEAT and a complete hemithyroidectomy is performed.



OLYMPUS ENERGY SOLUTIONS

Olympus Energy Solutions Work Together to Provide:

■ Electrosurgery

ESG-400 – A Fully Equipped, Latest-Generation HF Generator

Optimizing your state-of-the-art electrosurgery in all surgical disciplines for monopolar, bipolar, and advanced bipolar modes for open, laparoscopic, and endoscopic applications, as well as transurethral or transcervical resection (TURis/TCRIs).

■ Ultrasonic Surgery

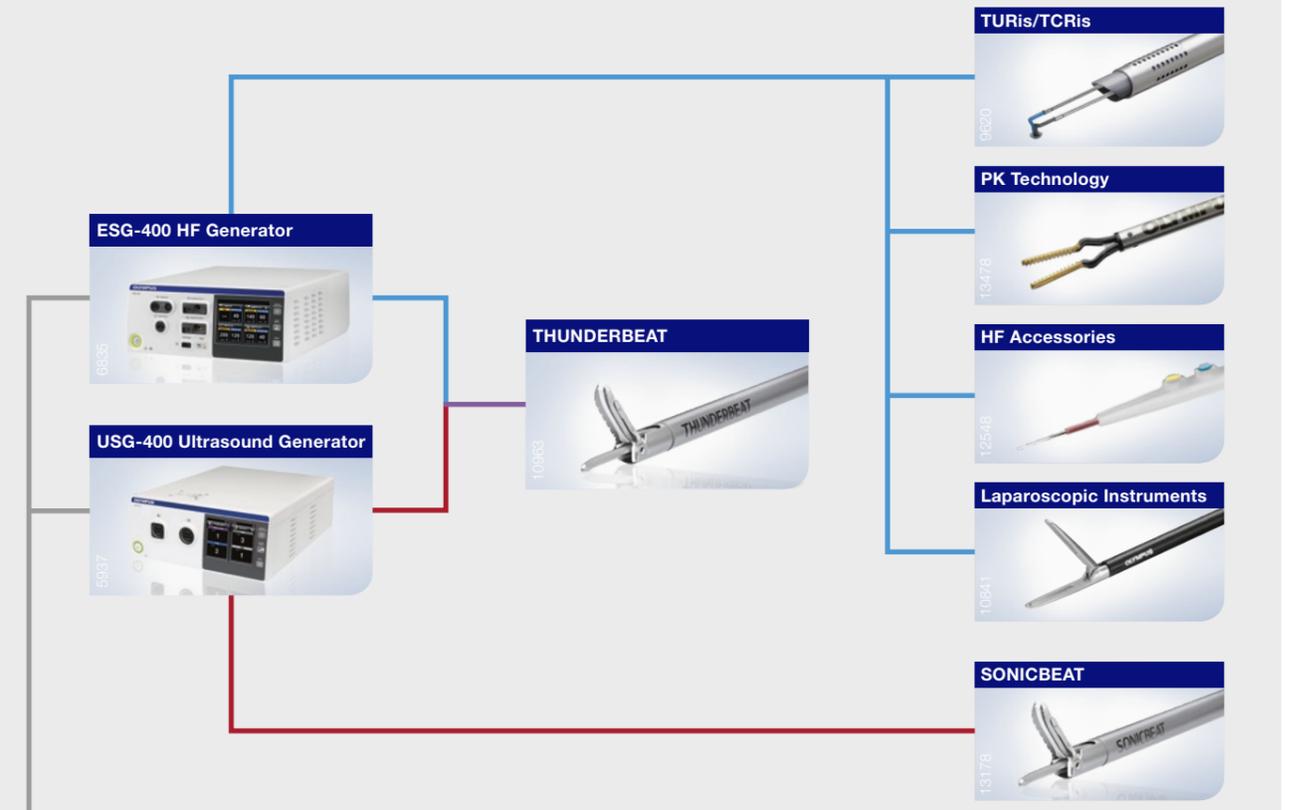
USG-400 – Ultrasonic Energy for Advanced Tissue Management

The USG-400 Generator provides ultrasonic energy for the SONICBEAT Ultrasonic Dissector.

■ Combined Energy Surgery

Surgical Tissue Management System (THUNDERBEAT Platform)

Both surgical energy generators combined provide a unique platform that delivers the most widely used energy requirements to the surgical suite, eliminating the need for multiple devices in the operating room.



■ Visibility

The Olympus Surgical Tissue Management System communicates intelligently with the Olympus insufflators (UHI-3 and UHI-4) in order to evacuate any smoke and mist whenever required during laparoscopic surgery. Coupled with the reduced mist production of the THUNDERBEAT laparoscopic instruments and Olympus imaging equipment, the surgeon enjoys the best possible visualization.



■ Utility

Olympus energy devices can be seamlessly integrated into the Olympus ENDOALPHA OR solutions. This enables clinical staff to easily select the desired function of THUNDERBEAT directly from the HomeScreen user interface of UCES-3. It also allows for intuitive navigation through the device using the touch screen or voice control. UCES-3 offers a centralized one-touch control for all sterile and/or nonsterile medical devices – for example, electrosurgical generators, surgical cameras, or surgical lights and tables, providing greater efficiency and improved ergonomics during procedures. Finally, the Scene Selection function, an intelligent combination of user- and procedure-specific actions operated using one-touch control,

- Helps to standardize procedures,
- Decreases turnaround time,
- Enhances quality and overall workflow.



THUNDERBEAT OPEN FINE JAW

 www.olympus.eu/thunderbeat



Specifications, design, and accessories are subject to change without any notice or obligation on the part of the manufacturer.

OLYMPUS

OLYMPUS EUROPA SE & CO. KG
Postbox 10 49 08, 20034 Hamburg, Germany
Wendenstrasse 14-18, 20097 Hamburg, Germany
Phone: +49 40 23773-0, Fax: +49 40 233765
www.olympus-europa.com