ADVANCED LAPAROSCOPY

ENDOYE FLEX 3D is the Only Solution That Can Provide the Critical Clinical View While Maintaining Image Orientation. Greater Depth of Field and the Optimal Amount of Depth Perception Are Also Realized with the 3D HD Image. We Are Proud to Introduce This Innovative Solution for 3D Imaging.

100 Degree Angulation
The ENDOYE FLEX 3D can bend up to 100 degrees in four directions. This function provides the critical clinical view during surgery while maintaining optimal and correct visual orientation, which cannot be achieved with conventional rigid telescope and camera head 3D systems.

Focus-Free
ENDOYE technology using distally located image sensors maximizes the 3D benefit by means of a brighter, more light-sensitive image with a greater depth of field while eliminating manual focusing.

All-in-One Lightweight Ergonomic Design
An all-in-one integrated structure is adopted that provides a true plug-and-play solution. The device can thus be easily set up before surgery, and it also offers improved handling during surgery, even in 3D.

Compatibility with Current 2D Scopes
Olympus 3D Imaging Solution ensures compatibility with our current 2D scopes to provide an economical means of upgrading your video system with minimal incremental cost. Our video platform supports over 100 different flexible and rigid camera heads, videoscopes, and endoscopes.

3D in HDTV
The ENDOYE FLEX 3D utilizes high-density image sensors at the distal end of the videoscope providing 3D images in high definition.

Dual-Lens 3D Optical Structure
The dual-lens design is the key to creating the correct amount of depth in the image.
INTEGRATED BIPOLAR AND ULTRASONIC ENERGY FROM A MULTIFUNCTIONAL INSTRUMENT

Groundbreaking Integrated Technology
THUNDERBEAT is the world’s ONLY integration of both advanced bipolar energy and ultrasonic energy delivered simultaneously from a single, multifunctional instrument. This integration delivers the widely recognized benefits of each type of energy: the ability to rapidly cut tissue with ultrasonic energy and the ability to create reliable vessel seals with bipolar energy.

The Benefits of Unprecedented Versatility
- Fastest-in-class cutting speed
- Reliable 7 mm vessel sealing
- Precise dissection with fine jaw design
- Bipolar energy always available for hemostasis without cutting
- Highest-in-class tip grasping force
- Minimal thermal spread
- Fewer instrument exchanges
- Reduced mist generation for improved visibility

Revolutionary Jaw Design
All THUNDERBEAT devices feature a patented center-pivot jaw design. This unique feature allows for even distribution of closing pressures onto the tissue while at the same time improving grasping forces. The result is improved fine and blunt dissection and a more reliable vessel seal.

Intuitive, Easily Accessible Hand Switches
- Intuitive hand switches that are easily accessible from various directions allow for stable activation, regardless of hand size or position
- Additional protrusions on the SEAL button provide tactile recognition for a seamless operational flow

Optimized Actuating Handle Design
A) Thinner front grip of the actuating handle provides surgeon with direct tactile feedback for blunt dissection
B) Wider rear grip of the actuating handle provides stability when grasping and cutting tissue
Ligation of Dorsal Vein Complex
Urologists need to identify the plane between the urethra and dorsal vein complex. The flexible tip of the endoscope provides the front or side view without instrument confliction. It helps to prevent injury to the DVC and urethra during ligation. In addition, 3D visualization helps in predicting the needle’s point of entry and delivery, which allows for safer and faster suturing.

**Incision of Overlying Fascia Surrounding the Prostate Gland**
The 3D depth perception facilitates orientation and allows for a finer angle of engagement, leading to more precise and safer peeling of the fascia from the prostate.

**THUNDERBEAT** creates less mist and supports better vision. It allows a quick and safe freeing of the prostate due simultaneous sealing and cutting. It enables controlled preparation of all vessels in this region.

**Bladder Neck Transection**
When transecting the bladder neck, the fully flexible endoscope supports urologists in determining the dissection line easily. Thanks to better orientation and 3D depth perception, the risk of too large bladder holes or prostate incisions is reduced.

**THUNDERBEAT** facilitates bladder neck prevention. Seal & Cut at once leads to less bleeding and ensures better vision at the posterior bladder neck; therefore, the risk of going into the bladder is reduced.

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**ENDOYE FLEX 3D Benefits in Prostatectomy:**
- Facilitated orientation for safe peeling of the fascia from the prostate
- Faster suturing, thanks to three-dimensional visualization of the needle at the point of entry
- Reduced risk of too large prostate incisions due to 100° angulation for clear identification of the dissection line
- Bird’s-eye view beneficial in neurovascular bundle sparing

**THUNDERBEAT Benefits in Prostatectomy:**
- Simultaneous Seal & Cut provides a quick and secure freeing of the prostate
- Facilitated prevention of posterior bladder due to less bleeding & better vision
- Controlled preparation of all vessels around the prostate
- The very good hemostatic ability is highly beneficial during separation of seminal vesicles from the rectum (lots of small vessels here)
PROSTATECTOMY – PROCEDURAL 3D HD AND THUNDERBEAT BENEFITS

Incision of Denonvilliers Fascia and Separation of Seminal Vesicles
The 3D visualization enables a controlled incision of the Denonvilliers fascia. The flexible scope helps to observe better the tip of the instruments and avoid damages to the rectum. With THUNDERBEAT’s fine tip Denonvilliers fascia can be opened precisely. THUNDERBEAT’s Seal & Cut provides a controlled and secure separation of the seminal vesicles and vas deference.

Neurovascular Bundle Sparing
The tip of the scissors for the apical dissection, which tends to be behind the prostate, can be observed from the front by creating the bird’s-eye view with the deflectable endoscope. Depth perception by means of 3D supports reduces the risk of injury of the NVB.

Anastomosis of Urethra and Bladder
Pelvic space is very limited, so it is beneficial that the flexible tip of the endoscope provides the side view, allowing for anastomosis to be performed without instrument confliction. In addition, 3D visualization facilitates suturing significantly and leads to time savings.

(PARTIAL) NEPHRECTOMY – PROCEDURAL 3D HD AND THUNDERBEAT BENEFITS

Endoeye Flex 3D Benefits in (Partial) Nephrectomy:
- Clear 3D visualization of the artery posterior to the vein for reduced risk of overlooking bleeders
- 3D depth perception reduces the risk of leaving tumor a behind
- Suturing becomes more intuitive, thanks to the depth perception and leads to reduced ischemia time

Thunderbeat Benefits in (Partial) Nephrectomy:
- Precise dissection capability and grasping force helps to identify and mobilize the kidney
- Prompt sealing and cutting of new vessels linked to renal cancer with only THUNDERBEAT
- For partial nephrectomy, THUNDERBEAT’s effective Seal & Cut leads to having one hand free and enables usage in conjunction with clips or a sucker

Mobilization and Freeing of the Kidney
The 3D vision facilitates better identification of the ureter, gonadal vein, etc. It helps to find the right plane for incision more easily and frees the kidney without injuring surrounding organs, such as the liver, the bowel, and the spleen. For mobilization, THUNDERBEAT grasps and fine dissects well. It enables freeing of the kidney from surrounding tissue significantly more quickly.

THUNDERBEAT enables effective and secure freeing of the kidney
(PARTIAL) NEPHRECTOMY – PROCEDURAL 3D HD AND THUNDERBEAT BENEFITS

Hilum
The combination of 3D HD and the flexible tip allows for a better visualization of the artery posterior to the vein. The risk of overlooking bleeders is reduced, thanks to being able to look at the hilum from the posterior aspect. THUNDERBEAT effectively cuts and seals at once while one hand of the surgeon is free which provides confidence for a worst case scenario.

Tumor Growth
3D HD visualization also supports in the excision phase of the procedure. As the depth perception of 3D helps to identify the point of entry and the cutting angle more precisely, the risk of leaving tumor behind is reduced. THUNDERBEAT can be used as an effective grasping instrument. At the same time, a large bleeder due to new vascularization linked to renal cancer biology can be sealed by THUNDERBEAT promptly. There is no need of an extra sealing device.

Partial Nephrectomy
An important aim in partial nephrectomy is sparing as much healthy tissue as possible. In this respect, the surgeon needs to precisely locate the tumor. Intraoperative 3D imaging provides the surgeons with the most possible realistic view and compensates the challenge of possible differences between the preoperative anatomical situations and the intraoperative situation.

Suturing
Similar to the advantages in prostatectomy, 3D also facilitates suturing in partial nephrectomy, which is crucial in order to reduce ischemia time. By having better perception of where to stitch and grasp the needle, the result is time saved and less bleeding, which leads to a shorter ischemia time.
Simply Add 3D to Your Current System to Maintain Familiarity

Option of 3D Recording/Editing: This option allows for advanced recording, editing, and image management.

Option of a 3D Display: The display option comes with a large 42” monitor behind a hygienic glass cover to provide the whole OR team with a convenient 3D view to enhance teamwork.

Option of a 3D OR Integration: This option integrates the whole range of medical and peripheral equipment in your OR – including advanced 3D features allowing for live video streaming for teaching purposes and seamless overall work flow.

### 3D Components and Accessories

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>N4491360</td>
<td>EVIS EXERA III Mixer 3DV-190</td>
</tr>
<tr>
<td>N3643260</td>
<td>EVIS EXERA III CV-190 processor (two required)</td>
</tr>
<tr>
<td>N3643350</td>
<td>EVIS EXERA III CLV-190 light source</td>
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<tr>
<td>N4501750</td>
<td>ENDOEYE FLEX 3D endoscope</td>
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<tr>
<td>E0497429</td>
<td>SONY 24” 3D monitor LMD-2451-MT/TG</td>
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<tr>
<td>E0497620</td>
<td>SONY 32” 3D monitor LMD-3251ST</td>
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<tr>
<td>N3808460</td>
<td>IMH-10 – Blu-ray and HDD recording platform</td>
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<tr>
<td>N3808560</td>
<td>IMH-20 – Blu-ray and HDD recording platform</td>
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<td>N3829670</td>
<td>UHI-4 – insufflator</td>
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<tr>
<td>K10021613</td>
<td>WM-NP2 mobile workstation</td>
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### THUNDERBEAT Handpieces

<table>
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<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>N4488930</td>
<td>THUNDERBEAT 5 mm, 45 cm, front-actuated grip</td>
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<tr>
<td>N4489130</td>
<td>THUNDERBEAT 5 mm, 35 cm, front-actuated grip</td>
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<tr>
<td>N3810330</td>
<td>THUNDERBEAT 5 mm, 45 cm, pistol grip</td>
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<tr>
<td>N3810430</td>
<td>THUNDERBEAT 5 mm, 35 cm, pistol grip</td>
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<tr>
<td>N3810530</td>
<td>THUNDERBEAT 5 mm, 45 cm, in-line grip</td>
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<tr>
<td>N3810630</td>
<td>THUNDERBEAT 5 mm, 35 cm, in-line grip</td>
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<tr>
<td>N3810730</td>
<td>THUNDERBEAT 5 mm, 20 cm, in-line grip</td>
</tr>
<tr>
<td>N3810830</td>
<td>THUNDERBEAT 5 mm, 10 cm, in-line grip</td>
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</table>

### THUNDERBEAT Generators and Accessories

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>WB91051W</td>
<td>ESG-400* electrosurgical generator</td>
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<tr>
<td>N3808660</td>
<td>USG-400 ultrasonic generator</td>
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<tr>
<td>N3808760</td>
<td>Transducer for THUNDERBEAT</td>
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<tr>
<td>N3809330</td>
<td>Communication cable – short: 0.25 m</td>
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<tr>
<td>N3809630</td>
<td>Docking fixture</td>
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<tr>
<td>WA956215</td>
<td>Power cable Europlug (2×)</td>
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<tr>
<td>N3635730</td>
<td>Energy cart</td>
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<tr>
<td>N3809230</td>
<td>Foot switch for THUNDERBEAT</td>
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<tr>
<td>WB50403W</td>
<td>Foot switch, single (bipolar pedal)</td>
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<tr>
<td>N3809430</td>
<td>Communication cable – long: 10 m**</td>
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<tr>
<td>N3809530</td>
<td>Adapter for the connection to UHI-2 or UHI-3 insufflator**</td>
</tr>
<tr>
<td>E0427213</td>
<td>Neutral electrode cable (reusable)</td>
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</tbody>
</table>

* Including one double foot switch  
** Required for the automatic mist and smoke evacuation function

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