

## PK TECHNOLOGY

Powering Gynecology



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PK TECHNOLOGY is an impedance-controlled bipolar energy system that is designed specifically to enhance performance and versatility in laparoscopic gynecological surgery. It offers a complete range of multifunctional laparoscopic instruments, each individually designed for a specific area of application.

PK TECHNOLOGY instruments have been established on the market for more than ten years and are used by gynecologists all over the world in various procedures.

The surgeon benefits from:

- High patient satisfaction and effective performance<sup>6</sup>,
- Potentially shorter procedure times<sup>1</sup>,
- Potentially improved operating-room efficiency<sup>1</sup>,
- The confidence that comes with ten years' proven clinical history

### PK TECHNOLOGY System with ESG-400 Generator

PK TECHNOLOGY provides surgeons with the ability to seal, transect, coagulate, dissect, vaporize, resect, and mobilize tissue all with precision and control from one energy platform: the ESG-400 – a fully equipped, latest-generation HF generator that provides the PK TECHNOLOGY instruments with advanced bipolar energy. An autodetection function and dedicated sealing and cutting modes for PK TECHNOLOGY instruments and other Olympus devices help simplify the OR workflow.

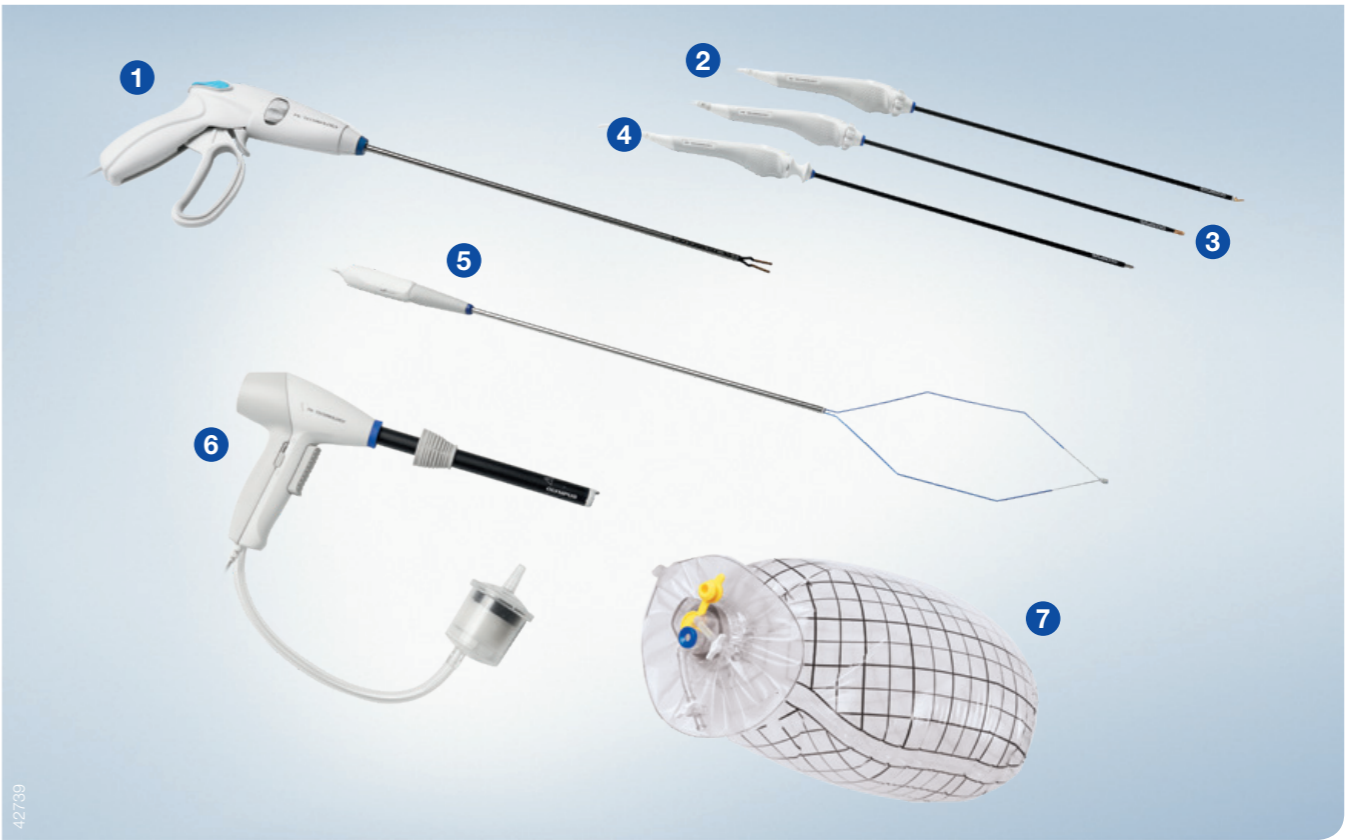


### Clinically Proven for Over Ten Years

PK TECHNOLOGY is an effective technology that has over ten years of proven clinical history:

- Safer than traditional energy technologies, such as monopolar or conventional bipolar<sup>2,3,4,5</sup>,
- Associated with reduced operation time and high patient satisfaction<sup>6</sup>,
- Eliminates the risk of electrical injury<sup>6</sup>,
- Minimizes thermal damage to the tissue<sup>7</sup>

### The PK TECHNOLOGY Instrument Portfolio



- |                      |                  |               |             |
|----------------------|------------------|---------------|-------------|
| 1 PK Cutting Forceps | 2 PK Spatula     | 3 PK J-Hook   | 4 PK Needle |
| 5 PK Lap Loop        | 6 PK Morcellator | 7 PneumoLiner |             |

<sup>1</sup> Erian J et al.: "Time Needed for Changing of Laparoscopic Instruments Has Been Minimized by the Use of the PK System." One Hundred Cases of Laparoscopic Subtotal Hysterectomy Using the PK and Lap Loop Systems; Journal of Minimally Invasive Gynaecology; 2005; 12: 365–9.

<sup>2</sup> Vilos GA, Rajakumar C: Electrosurgical Generators & Monopolar and Bipolar Electrosurgery; JMIG; 2013  
<sup>3</sup> Odell RC: Surgical Complications Specific to Monopolar Electrosurgical Energy: Engineering Changes That Have Made Electrosurgery Safer; JMIG; 2013  
<sup>4</sup> Brill AI et al.: Patient Safety during Monopolar Electrosurgery – Principles and Guidelines; JSLS; 1998  
<sup>5</sup> Shuman IE: Bipolar versus Monopolar Electrosurgery: Clinical Applications; Dentistry Today; 2001  
<sup>6</sup> Lee CL et al.: "Laparoscopic Radical Hysterectomy Using Pulsed Bipolar System: Comparison with Conventional Bipolar Electrosurgery"; Gynecol Oncol. 2007. 105(3): 620–4; Competitor: Kleppinger

# PK Morcellator and PneumoLiner

## Powering Gynecology

### Peeling Tip

Integrated peeling tip promotes peeling on target tissue and avoids tissue coring throughout the procedure.

### Reduced Surgical Smoke\*

The smoke management of the PK Morcellator ensures clear visibility of the morcellator, the target tissue, and collateral tissue.

### Faster Morcellation Speed\*

PK Morcellator completes morcellation at a fast rate.



\* Compared to PKS PlasmaSORD

### PneumoLiner Containment System

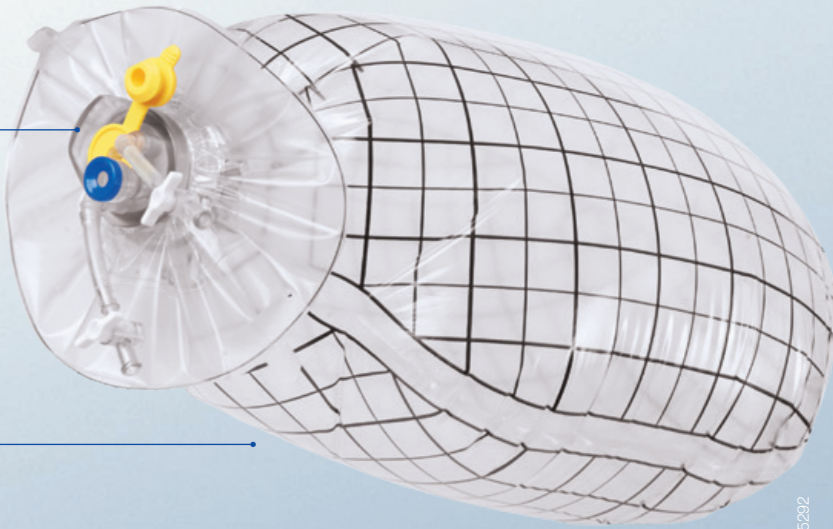
PneumoLiner is a closed containment system that prevents the escape of cells during power morcellation. The PneumoLiner system affords a complete and closed system including visualization, power morcellation, and tissue containment during intracorporeal tissue fragmentation and the safe removal of contents.

### PneumoLiner Neck Design

allows easy specimen encapsulation

### Grid Pattern on the Containment System

allows the surgeon to visually identify the bag's location throughout the procedure to minimize risk of inadvertent damage from surgical instrumentation



# PK Cutting Forceps

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### Clinically Proven and Convincing for More Than 10 Years

PK Cutting Forceps may shorten procedure times<sup>7,8</sup> due to:

- Reliable coagulation<sup>8</sup>,
- Potentially fewer instrument changes<sup>7</sup>,
- Controlled and precise mechanical cutting,
- Strong grasping

### Versatile Treatment

It is particularly suitable for LSH, TLH, LAVH, and BSO<sup>9</sup>.

PK TECHNOLOGY

### Innovative Jaw Design

Smooth trigger and sticking prevention due to non-sticky, coated stainless-steel jaw.



### Coagulation Button

allows easy hand activation

### Rotation Wheel

for up to 330° shaft rotation

### Smooth Trigger

for controlled and precise cutting

### Ergonomic Handle

uitable for all hand sizes

### Locking Mechanism

provides option to lock trigger jaw

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<sup>8</sup> Zupi E: "Hysteroscopic Endometrial Resection vs Laparoscopic Supracervical Hysterectomy for Menorrhagia"; Am J Obstet Gynecol; 2002; 188(1); Literature No.: 6862-0305

<sup>7</sup> Wang CJ et al.: "Comparison of Efficacy of Pulsed Bipolar System and Conventional Electrosurgery in LAVH"; J Laparoendosc Adv Surg Tech; 2005; 15(4): 361-4; Competitor: Kleppinger

<sup>9</sup> LSH: Laparoscopic Supracervical Hysterectomy; TLH: Total Laparoscopic Hysterectomy; LAVH: Laparoscopic-Assisted Vaginal Hysterectomy; BSO: Bilateral Salpingo-Oophorectomy

# PK Lap Loop

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The Lap Loop offers higher patient safety in addition to fast, immediate, and straight cutting of the uterus during LSH procedures<sup>10</sup>. The gynecologist performing advanced laparoscopic surgery benefits from:

### Patient Safety

- Blue-coated wire for optimal visibility
- White ceramic tip helps to identify if bowel is caught in loop

### Efficiency

- Fast, clean, and immediate bipolar cutting during LSH procedures<sup>11</sup>

### Easy and Convenient Handling and Placement

- Large loop for big uterus
- Pop-up diamond-shaped loop opens up automatically in the abdomen
- Consistent loop shape
- Ergonomic handle design

### Blue Wire Coating

promotes good visibility and contrast against surrounding tissue

### Consistent Loop Shape

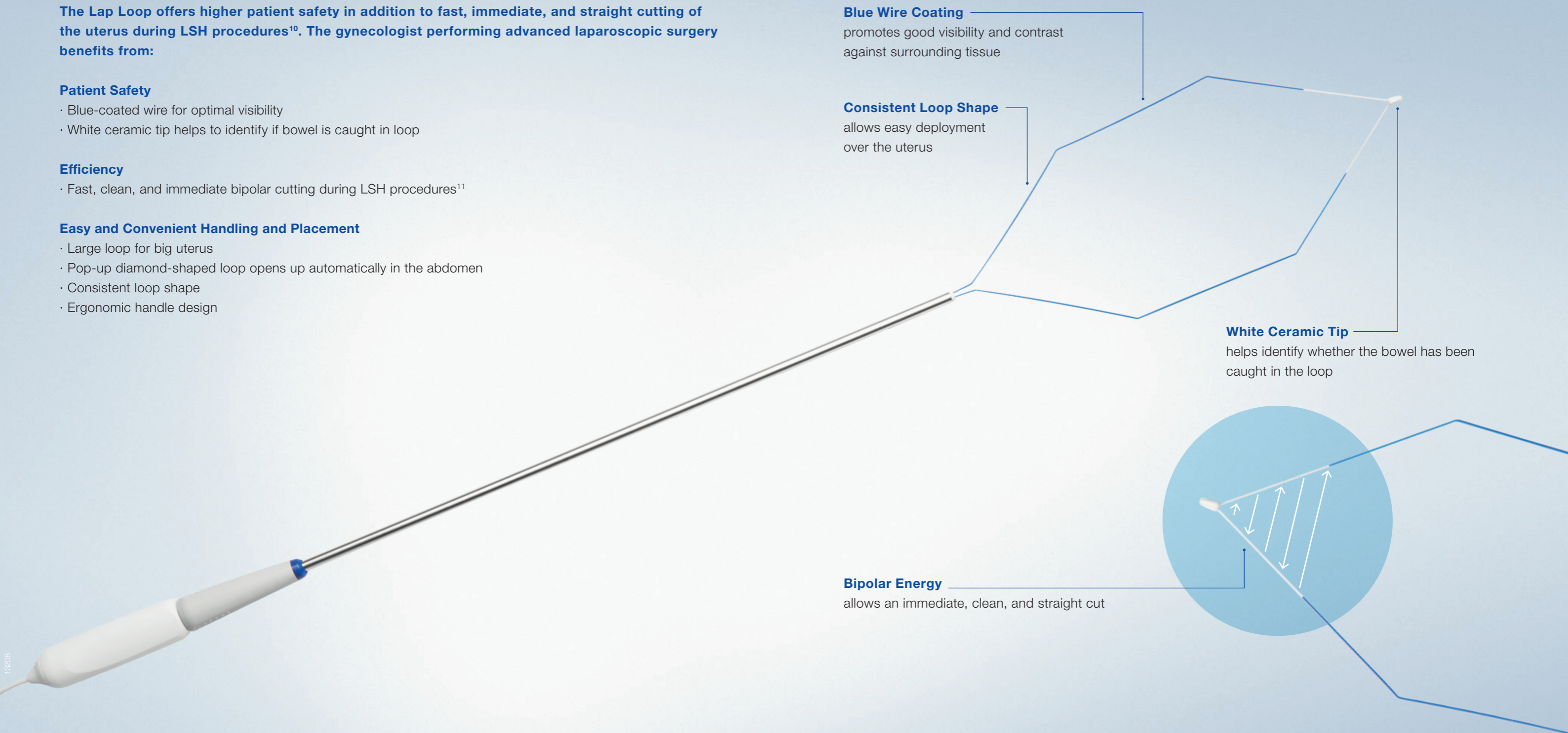
allows easy deployment over the uterus

### White Ceramic Tip

helps identify whether the bowel has been caught in the loop

### Bipolar Energy

allows an immediate, clean, and straight cut



<sup>11</sup> Erian J et al.: One Hundred Cases of LSH Using the PK and Lap Loop Systems; J Min Invasive Gyn; 2005; 12: 365–9; Competitor: Medsys

# PK Loki

## Powering Gynecology

### PK Spatula

The PK Spatula cuts, coagulates, and dissects with unique bipolar precision, thus allowing for potentially faster procedures and enhanced effectiveness. The tip design allows for both pinpoint and broad tissue coagulation.

The PK Spatula is indicated for resection and coagulation of soft tissue and blood vessels in laparoscopic surgery. It is particularly suitable for myomectomies and the amputation of the uterus<sup>10</sup>.



Efficient tip design

### PK J-Hook

The PK J-Hook can reduce the operating time by cutting and coagulating simultaneously. The unique tip design is excellent for skeletonization and mobilization, thus potentially enabling a smoother operation. The PK J-Hook is particularly suitable for adhesiolysis and the amputation of the uterus.



Simultaneous cutting and coagulation

### PK Needle

The PK Needle is a unique bipolar cutting device that allows the surgeon to perform precise, safe, and fast procedures.

The PK Needle is indicated for resection of soft tissue in laparoscopic surgical procedures. It is particularly suitable for the treatment of ectopic pregnancy, myomectomies, and the amputation of the uterus.



Precise bipolar cutting

### Ergonomic Handles with Hand Activation



Left: PK Spatula/J-Hook with rotation function; right: PK Needle

<sup>10</sup> Hoffmann CP et al.: "Since Changing to the PK ZIP Needle to Detach the Cervix, We Have Seen Much Less Significant Delayed Cuff Bleeding"; Laparoscopic Hysterectomy: The Kaiser Permanente San Diego Experience; J Min Invasive Gyn; 2005; 12: 16-24

# Olympus Energy Solutions

## Powering Gynecology

### 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

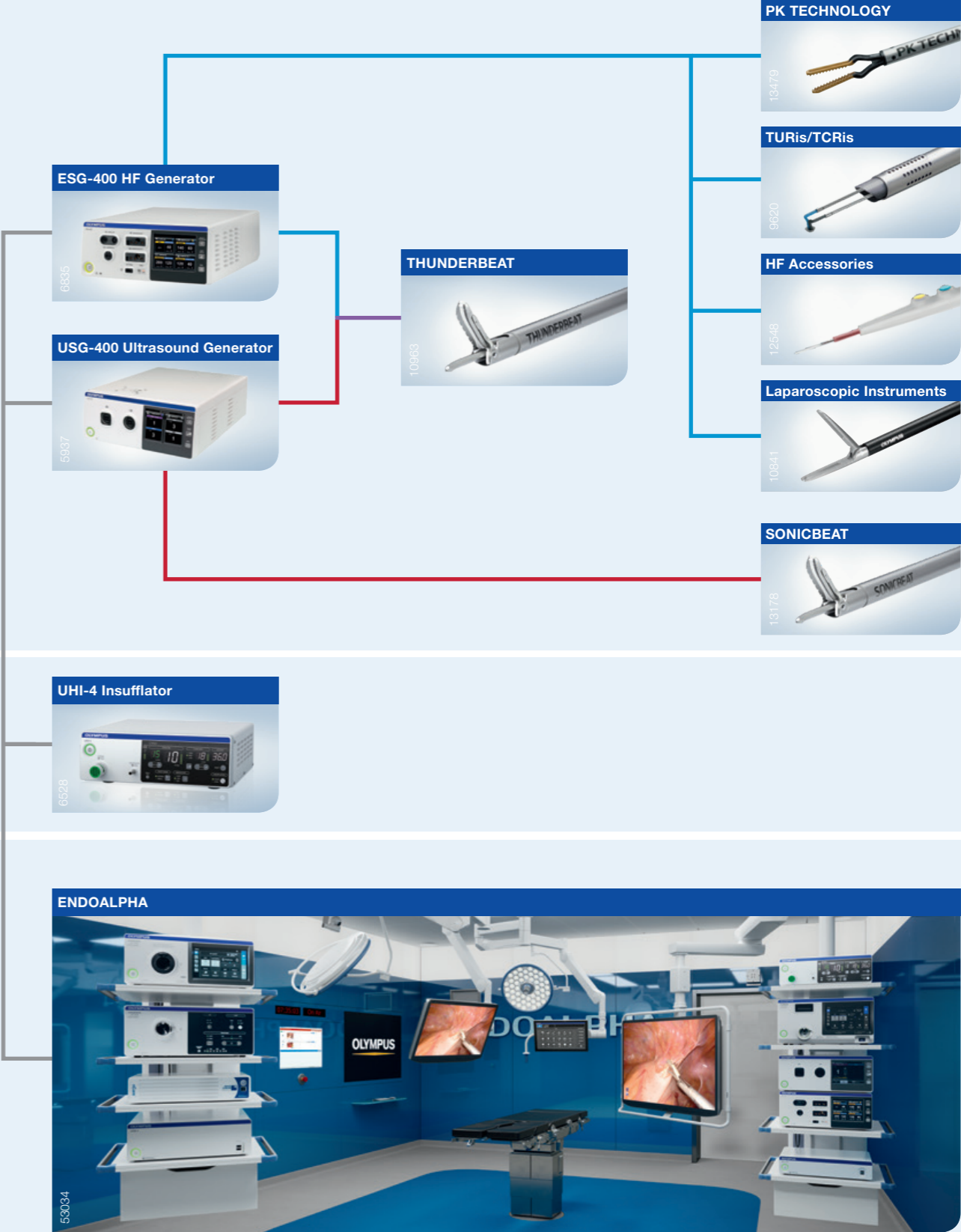
The Olympus Surgical Tissue Management System communicates intelligently with the Olympus insufflators (UHI-3 and UHI-4) in order to evacuate any smoke or mist whenever required during laparoscopic surgery. Coupled with the reduced mist production of the THUNDERBEAT laparoscopic instruments and Olympus 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 or PK TECHNOLOGY 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 non-sterile 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.



 [www.olympus.eu/pk](http://www.olympus.eu/pk)

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

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