

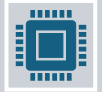
Innovation Development for New Entrants in Electrosurgical Devices

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Adopting Advanced Technologies to Improve Surgical Outcomes



Smart Tissue Sensing Technology



ARM Core Technology (Advanced RISC Machine (ARM) Processors)



PRE-CQM - patient return electrode contact quality monitoring



PER - Power Efficiency Ratio

1.ELECTRIZ 2.0

Elektriz 2.0 is our basic 300 Watt ESU having Monopolar, Bipolar and Mono polar resection in glycine.

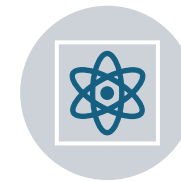
Features :

- **ARM Core Processor**
- **Smart Tissue Sensing Technology**
- **PRE-CQM**
- **PER**
- **Simultaneous Coag**
- **Display**
- **Bipolar Dissection**
- **Time Out Function**
- **Reset Button**

Advantages And Benefits



Fast processing, real-time control and Smooth device performance



Real-time energy adjustment and Precise and safe tissue effect



Monitors electrode contact and Enhances patient safety



Stable and efficient energy use

1. Monopolar Cut :

- **Pure / Lap Cut:** Continuous low-voltage current, clean, smooth cuts; minimal bleeding.
- **Blend Cut:** Modulated current, cuts with some coagulation, useful for slight bleeding control.

2. Monopolar Coagulation:

- **Fulgurate:** High-voltage sparks, superficial coagulation without contact.
- **Desiccate:** Contact mode ,deep, localized coagulation ,tissue dehydration.
- **Spray:** Very high voltage, wide, shallow coagulation for large bleeding areas.

3. Bipolar Current:

Flow between two tips (no grounding pad); low voltage, precise coagulation, minimal thermal spread.

- **Cut Modes – Force vs. Precise:**
- **Force:** High power, aggressive cut, some hemostasis for tough tissue.
- **Precise:** Low power, clean, sharp cut , minimal heat damage, for delicate work.

Strom[®] 2.0 Series – Reliability Powered by Innovation

- ✓ Advanced electrosurgery platform designed for precision and safety.
- ✓ Features **Smart Tissue Sensing Technology** for real-time monitoring.
- ✓ Ensures **consistent tissue effect** across all surgical modalities.
- ✓ Equipped with **integrated energy functionalities** for versatility.
- ✓ Ideal for a wide range of **surgical applications**.



STROM 2.0 SERIES COMPARISON CHART



PARTICULARS	STROM 2.0	STROM2.0 vs	STROM 2.0 br10	STROM 2.0 br10vs
SURGICAL MODALITIES				
MONOPOLAR	✓	✓	✓	✓
BIPOLAR	✓	✓	✓	✓
MONOPOLAR RESECTION IN GLYCINE	✓	✓	✓	✓
ENDO CUT	✓	✓	✓	✓
BIPOLAR CUT	✓	✓	✓	✓
BIPOLAR RESECTION IN SALINE	✗	✗	✓	✓
VESSEL SEALING	✗	✓	✗	✓
HARDWARE				
NEW ARM CORE PROCESSOR ENABLED	✓	✓	✓	✓
SMART TISSUE SENSING TECHNOLOGY	✓	✓	✓	✓

Key Features of Strom[®] 2.0 Series

- **Smart Tissue Sensing Technology (STST)**
 - Real-time energy adjustment based on tissue response
 - Ensures optimal precision and consistent tissue effect
- **PRE-CQM (Patient Return Electrode Contact Quality Monitoring)**
 - Continuous monitoring of patient return electrode contact
 - Enhances patient safety by preventing unintended burns
- **New ARM Core Chip Integration**
 - Faster data processing and control
 - Enables intelligent energy management and efficient device performance

Key Surgical Functions – Advantages & Benefits

Ligation

- Reduces thermal damage to surrounding structures
- Minimizes the need for additional sutures or clips

Bipolar Resection in Saline

- Safe operation in saline medium—ideal for TUR procedures
- Lowers the risk of TUR syndrome

Bipolar Dissect

- Accurate separation of tissue planes
- Enhances precision in minimally invasive surgeries

Key Surgical Functions – Advantages & Benefits

Simultaneous Monopolar Coagulation

- Coagulates tissue during cutting—no need to switch modes
- Speeds up workflow and reduces intraoperative bleeding

Intuitive Bipolar Divide

- Intelligent sensing for smooth tissue division
- Minimizes energy waste and optimizes cut/coag balance

Overall Benefits Across All Functions:

- Time-saving, single-platform functionality
- Reduced instrument changes during surgery

PLASMAPRO™ Technology – Advanced Bipolar Resection in Saline

Revolutionizing Surgical Precision with PLASMAPRO™

Proprietary Algorithm-Based Technology

- ✓ Faster energy cycles
- ✓ High plasma stability
- ✓ Superior ignition at lower temperatures
- ✓ Minimal thermal spread with targeted tissue effect

Zero Activation Lag

- ✓ Large capacitor-based modern hardware
- ✓ Advanced algorithms for instant plasma generation
- ✓ Eliminates inconsistency seen in conventional systems

PLASMAPRO™ – Versatile Modes, Enhanced Performance

**Versatile
Modes**

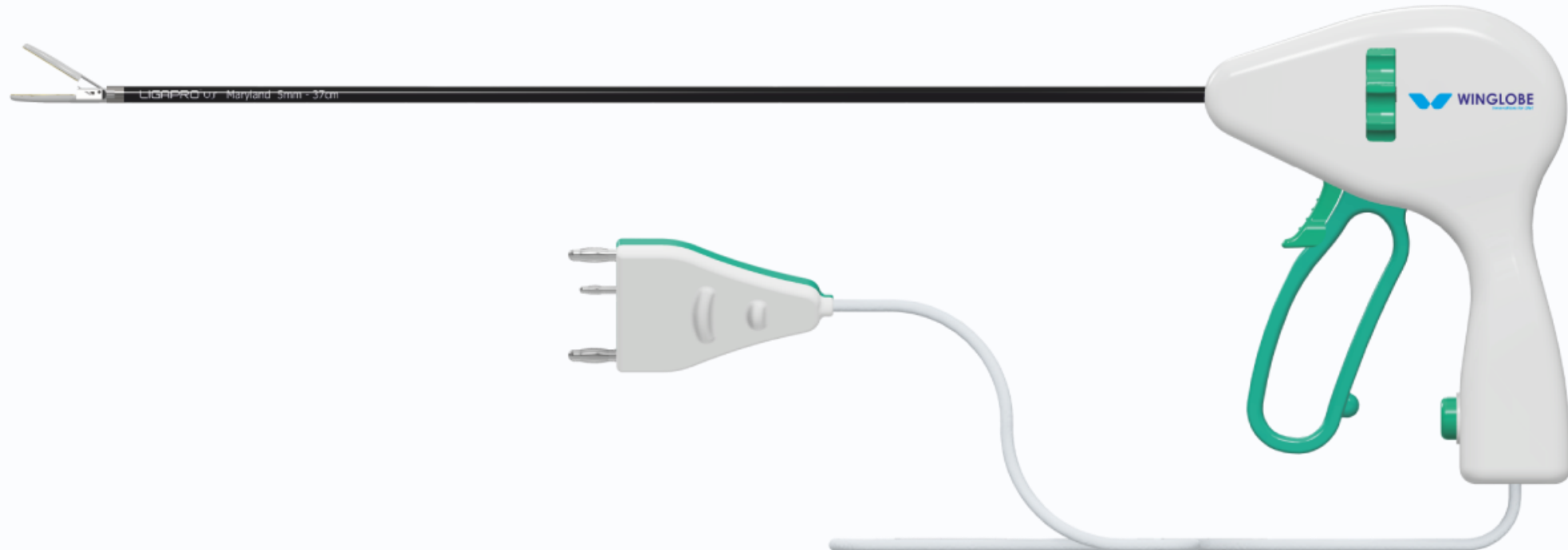
Plasma
Resection

Plasma
Vaporization

Plasma
Enucleation

LIGAPRO vs

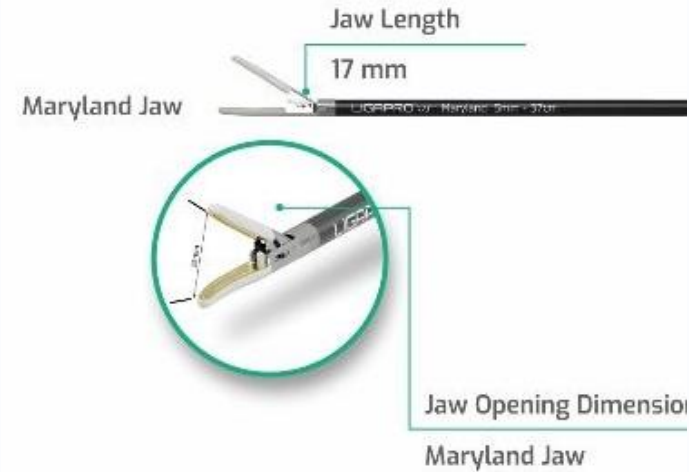
- **LigaPro** is a surgical device used to **Cut ,seal blood vessels and tissue bundles** during surgeries.
- It uses **advanced energy technology** to close vessels safely without using sutures or clips.
- Commonly used in **laparoscopic** and **open surgeries**.



What is Vessel Fusion / Sealing ?

• **Vessel sealing** is a method to **close off blood vessels** during surgery to prevent bleeding. As per the USA paper publication **220 PSI pressure and 90- degree temp required for permanent Vessel Sealing**

- It's done by applying **heat and pressure** to the vessel until it's sealed shut.
- Unlike basic cauterization, vessel sealing is **permanent, reliable**, and works on larger vessels.

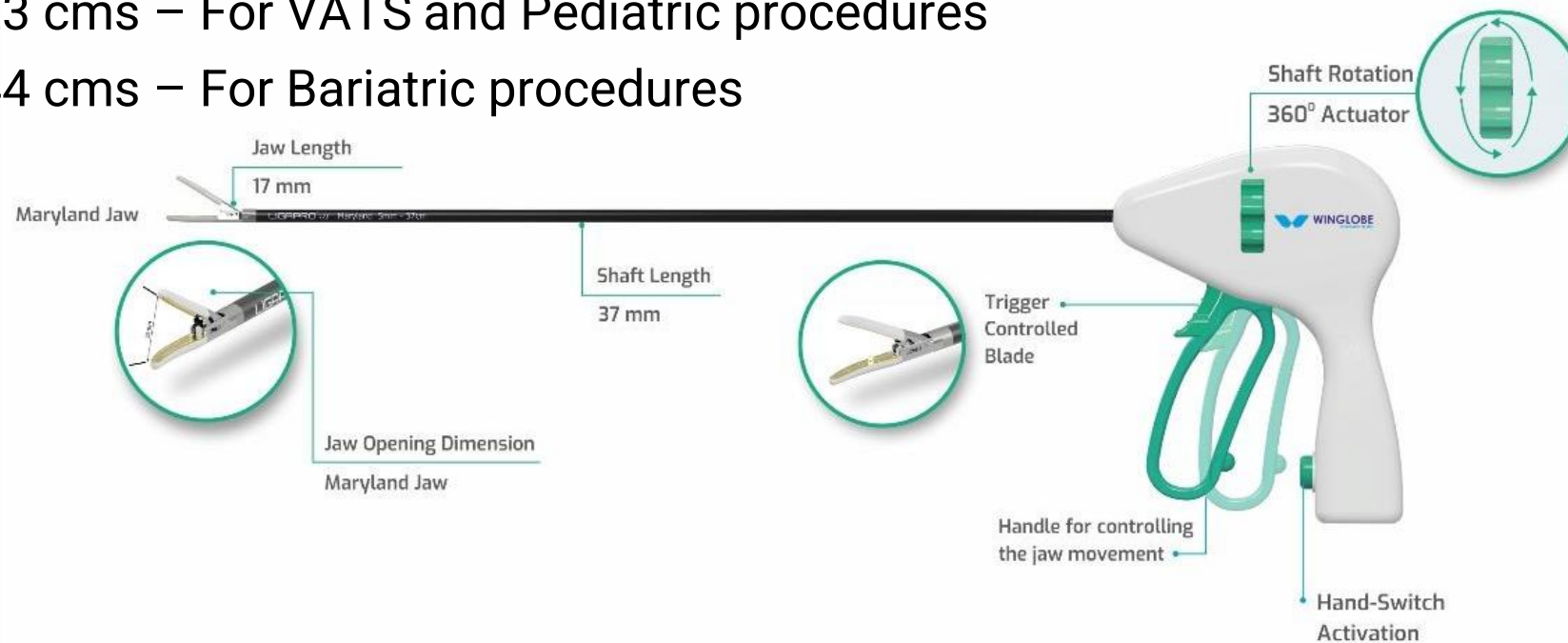


How Vessel Sealing Works

- LigaPro uses **bipolar energy** to heat vessel walls.
- Heat denatures proteins (like collagen and elastin) in the vessel walls.
- The walls **fuse together**, creating a permanent seal.
- Works on vessels up to **7mm in diameter**.
- Sealed vessel can withstand 3x Normal Systolic pressure (**Brust Pressure**) – **when increase the BP the sealing is not brake.**

LigaPro Design

- **Ergonomic handle design** for comfort and light weight.
- **Rotating jaw 360 degree** allows better reach in tight spaces.
- **Trigger mechanism** for smooth operation.
- **Multi-functional tip:** seals and cuts.
- Available in **various lengths and jaw types** for different procedures.
- 37 cms – For laparoscopic procedures
- 13 cms – For open procedures
- 23 cms – For VATS and Pediatric procedures
- 44 cms – For Bariatric procedures



Features of LigaPro

- It has Spring Controlled jaw Pressure mechanism
- Microblockers – it has 9 microblockers , given the uniform pressure from proximal to distal end .
- Proprietary coating on active plates – means temp management. High temp 90 degree and quickly drops down cooling 30 degree so prevent injury.
- Unique multilayered Jaw Construction & material – It is inside in body their 4 different components are inside means No smock, No Charming, No Sticking and Controlled Thermal Spread < 1mm.
- Protective coat on outer surface of law – As the active plate are inside , and protect uninted Thermal Injury.
- Trigger Controlled cold blade



Advantages of LigaPro

- **Quick Seal time 2-4 sec**
- Reduces need for **clips, sutures**
- Minimizes **blood loss and thermal damage**
- Can be used in **various types of surgeries**. (General Surgery, Gynecologic Surgery, Urologic Surgery, Bariatric Surgery)
- **Improved safety** due to controlled energy.

Benefits for Patients & Surgeons

- **Faster recovery** due to less tissue trauma.
- **Lower risk of infection.**
- **Reduced complications.**
- **Improved surgical efficiency.**
- **Cost-effective** in the long run.

Conclusion

The internship at **Winglobe Medical Devices** provided me with valuable hands-on experience and deep insights into the functioning of the **medical device industry**, particularly in the domain of **Electrosurgical Units (ESUs)**. Through my involvement in equipment calibration, performance checks, and field demonstrations, I was able to bridge the gap between academic knowledge and real-world application.

This experience enhanced my understanding of:

- The importance of precision and compliance in medical equipment.
- The role of R&D in product innovation and safety.
- Effective communication and coordination with biomedical engineers, hospital staff, and sales teams.

*Thank
you!*