INGENUITY
FOR
HEALTH

LAPAROSCOPIC INSTRUMENTS

INGENIOUS

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INGENIOUS

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INGENIOUS

REUSABLE INSTRUMENTS

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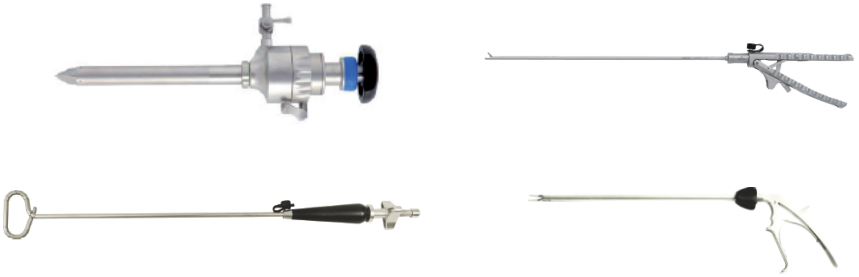
- HF Instruments
- LAP Instruments
- Clip appliers
- Retractors



REPOSABLE INSTRUMENTS

- HF Monopolar Instruments

DISPOSABLE INSTRUMENTS

- Trocars
- HF Instruments
- LAP Instruments
- Surgical staplers

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1. PRODUCT OVERVIEW – USAGE

INGENIOUS

- Creating Access for Gas, instruments and other accessories
- Cutting and removing tissue.
- Grasping tissue
- Dissecting anatomical landmarks
- Hemostasis
- Suctioning and Irrigation to clean the abdominal cavity
- Ligating Vessels

1. PRODUCT OVERVIEW – QUALITY MEASURES

INGENIOUS

- It is usually 33 cm AND 45 cm long.
- Jaws to be adequately elastic to perform atraumatic handling .
- Parts Should be interchangeable between similar instruments .
- Easy cleaning & Sterilization.
- Simple design with minimum number of hinges and bolts.

REUSABLE INSTRUMENTS

2. REUSABLE LAPAROSCOPIC INSTRUMENTS

INGENIOUS

TROCAR SYSTEM

PUNCTURE NEEDLE

CLIP APPLIER & CLIPS

SUTURING SYSTEM

RETRACTORS

S/I INSTRUMENTS

HF MONOPOLAR INST.

HF BIPOLAR INST.

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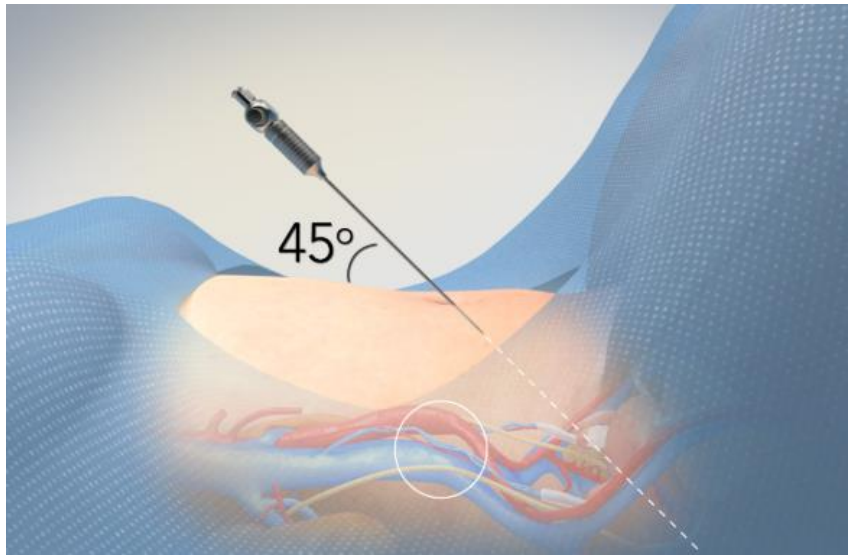
TROCAR SYSTEM

TROCAR SYSTEM – VERESS NEEDLE

INGENIOUS

- Veress needle technique is the oldest and most traditional
- Spring-loaded needle used to create pneumoperitoneum for laparoscopic surgery.
- When the tip of the needle enters a space such as the peritoneal cavity, the dull, inner stylet springs forward.
- Carbon dioxide is then passed through the Veress needle to inflate the space, creating a pneumoperitoneum.
- Diameter: 2.2 mm
- Working length: 110, 120 and 150 mm.



Used as a safety step to create an extra space between abdominal tissue and organs before the insertion of trocar

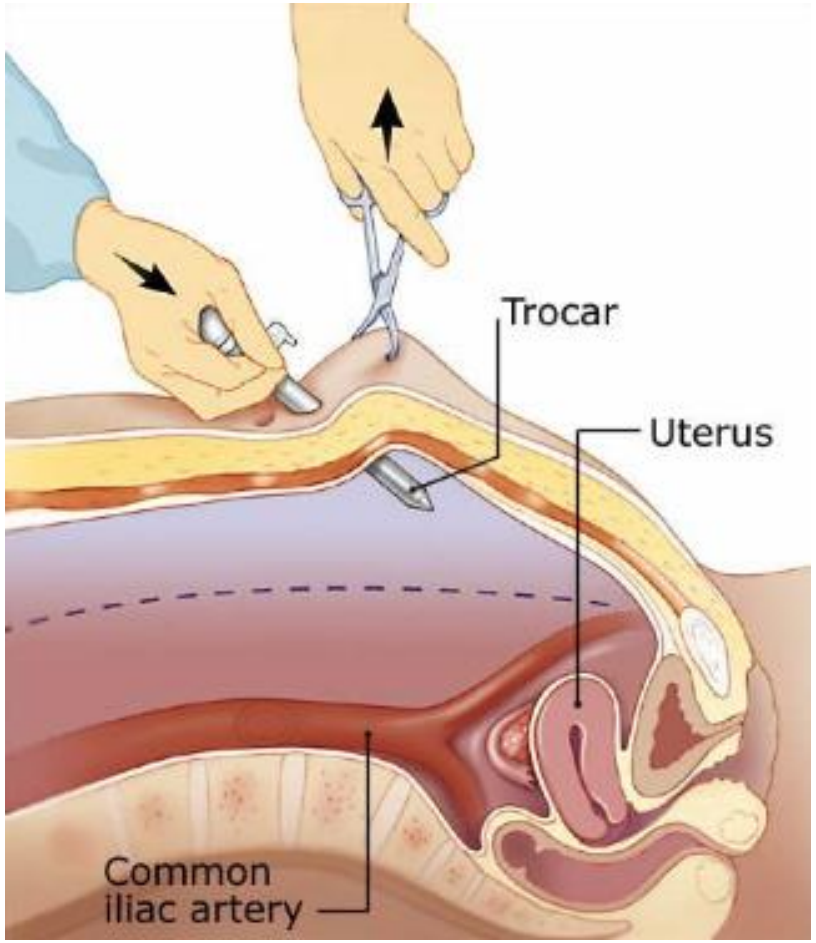
TROCAR SYSTEM – TRORCARS

INGENIOUS

- Composed of a sleeve / cannula and an obturator
- Create an opening into the body through which the sleeve may be introduced, to provide an access port during surgery.
- Insures the flow of CO2 into the abdominal cavity.

TYPES OF TROCARS:

- Silicone sealing trocars
- Manual lever trocars
- Magnetic ball trocars
- Magnetic sheath trocars



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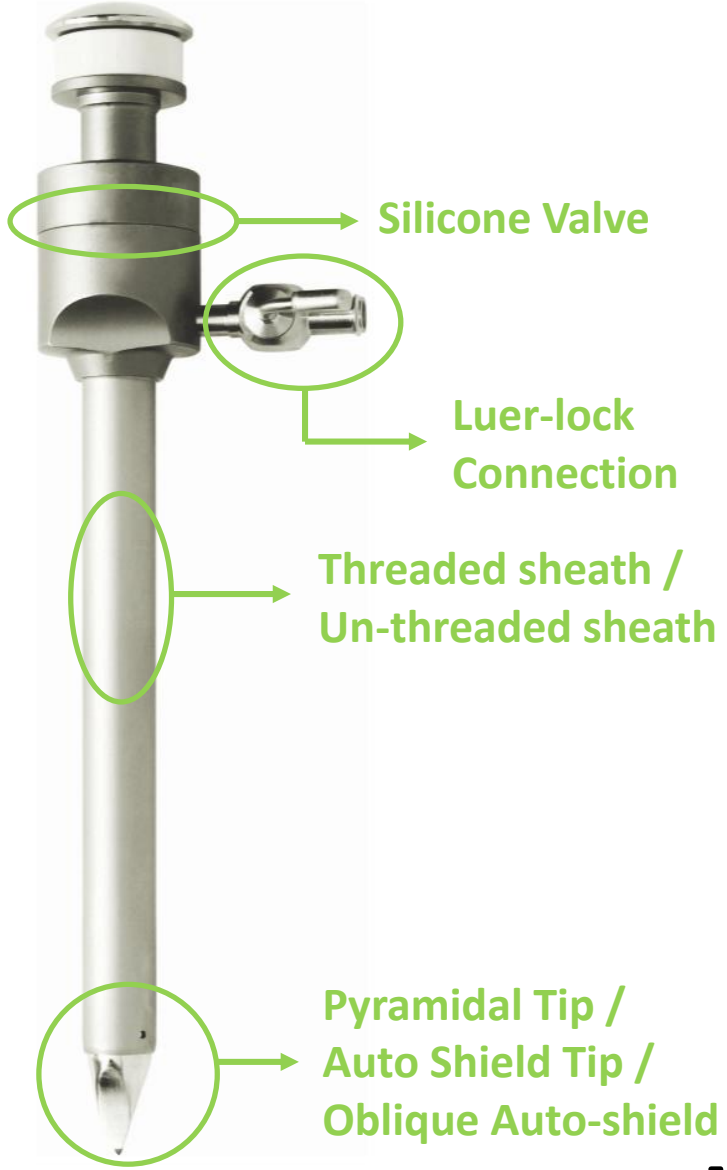
SILICON VALVE TROCARS

- Working length: **95 mm**
- Threaded and un-threaded cannula
- Diameters: **Ø 3**, **Ø 5.5** , **Ø 10.5** and **Ø 12.5 mm**

Free reducer is offered with every Ø 10.5 and Ø 12.5 mm trocar

TROCAR COMPONENTS

- Trocar Sleeve
- Obturator
- Silicon outer value
- Luer-lock connection
- Silicon inner valve



INGENUITY FOR HEALTH

INGENIOUS

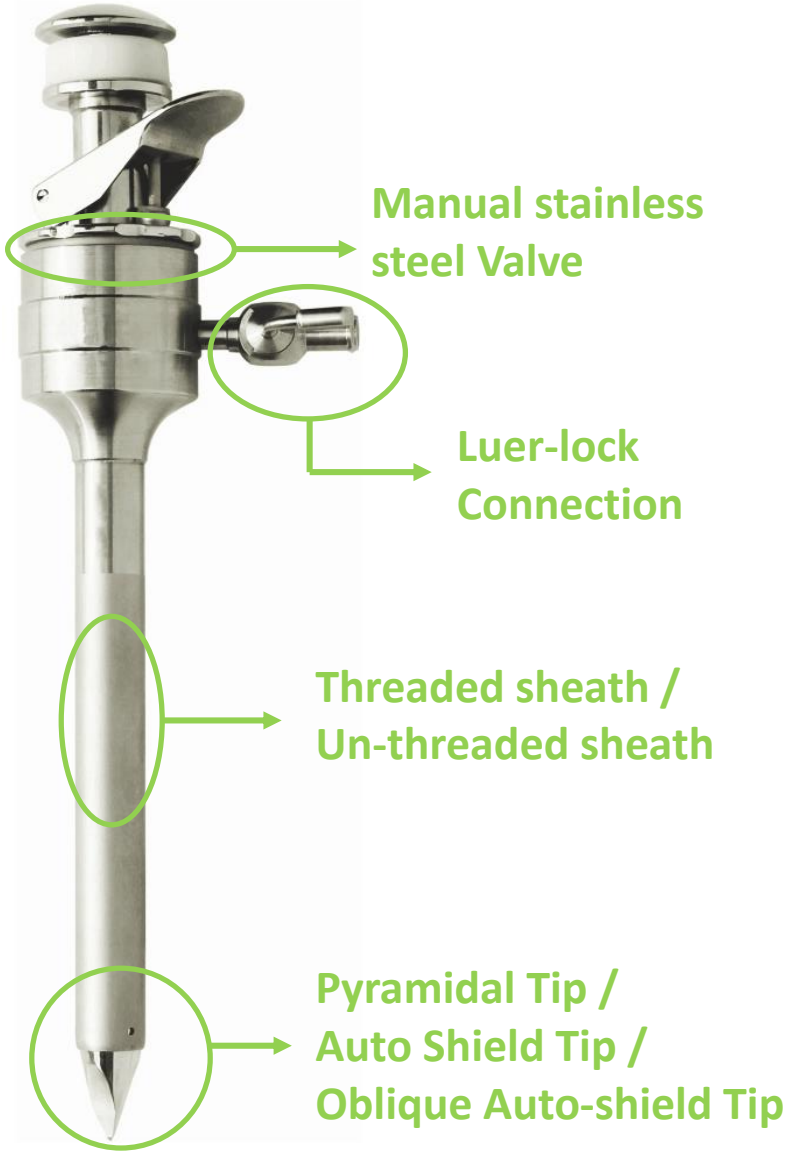
MANUAL LEVER TROCARS

- External silicon valve
- Internal stainless steel valve
- Working length: **95 mm**
- Threaded and un-threaded cannula
- Diameters: **Ø 5.5 , Ø 10.5 mm**

Free reducer is offered with every Ø 10.5 mm trocar

TROCAR COMPONENTS

- Trocar Sleeve
- Obturator
- Silicon outer value
- Luer-lock connection
- Manual stainless steel inner valve



INGENUITY FOR HEALTH

INGENIOUS

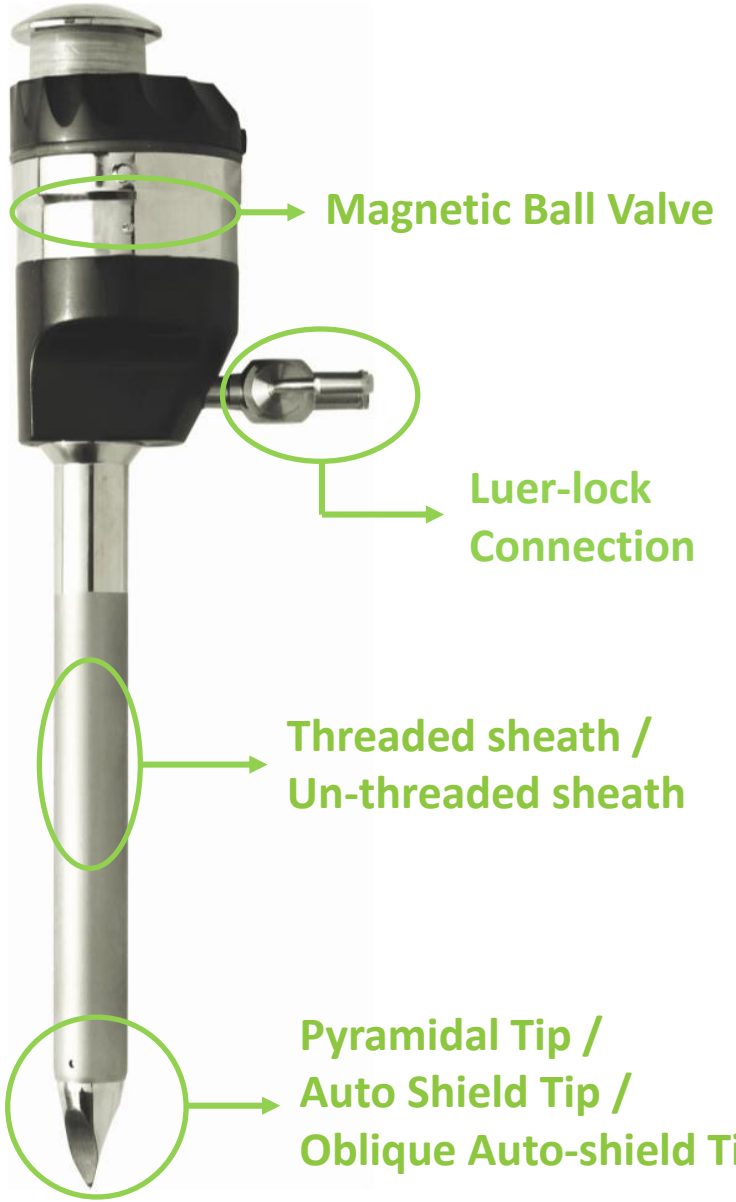
MAGNETIC BALL VALVE TROCARS

- External silicon valve
- Ball magnetic valve
- Working length: **95 mm**
- Threaded and un-threaded cannula
- Diameters: **Ø 5.5** , **Ø 10.5** and **Ø 12.5 mm**

Free reducer is offered with every Ø 10.5 and Ø 12.5 mm trocar

TROCAR COMPONENTS

- Trocar Sleeve
- Obturator
- Silicon outer value
- Luer-lock connection
- Magnetic ball valve



INGENUITY FOR HEALTH

INGENIOUS

MAGNETIC VALVE TROCARS

- External silicon valve
- Magnetic valve
- Working length: **95 mm** and **150 mm**
- Threaded and un-threaded cannula
- Diameters: **Ø 5.5** , **Ø 10.5** , **Ø 12.5** and **Ø 15 mm**

Free reducer is offered with every Ø 10.5 and Ø 12.5 mm trocar

TROCAR COMPONENTS

- Trocar Sleeve
- Obturator
- Silicon outer value
- Luer-lock connection
- Magnetic valve

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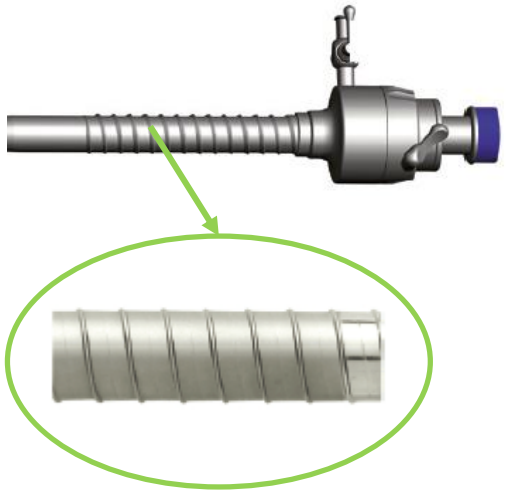
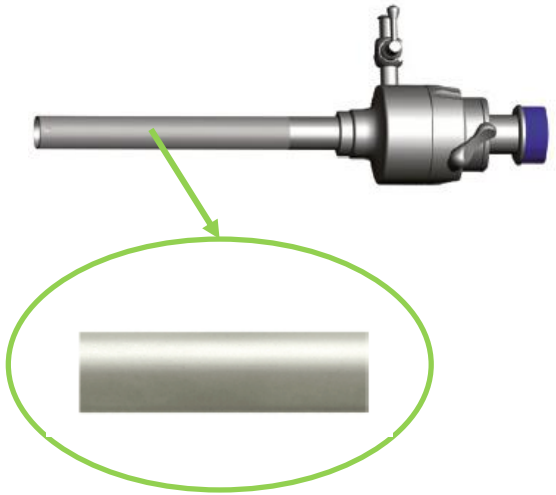
TROCAR SYSTEM – CANNULA & OBTURATOR TYPES

INGENIOUS

THREADED CANNULA



UN - THREADED CANNULA



PYRAMIDAL

AUTO-SHEILD

OBLIQUE AUTO SHEILD

TROCAR SYSTEM – REDUCERS

INGENIOUS

- Two types of reducers are offered:
  - Mounted Reducer
  - Standard Reducer

STANDARD REDUCER

- Used to reduce the working diameter of trocar to avoid any gas leak
- Reduce working diameter from **Ø 15 , Ø 12 , Ø 10 mm to Ø 5 mm**
- Standard reducers have several working lengths

MOUNT TYPE REDUCER

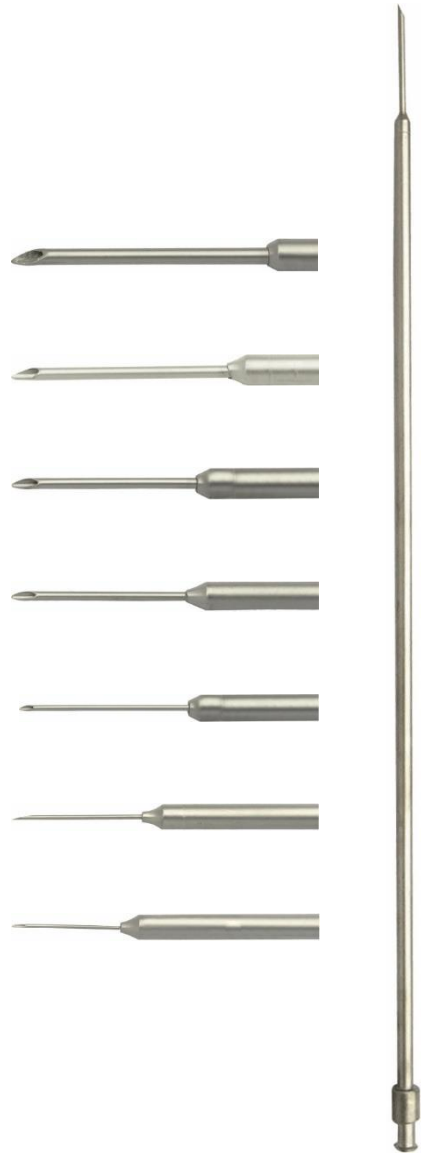
Free MOUNT TYPE reducer is offered with every Ø 10.5 and Ø 12.5 mm trocar

PUNCTURE NEEDLE

PUNCTURE NEEDLE

INGENIOUS

- Simple insertion through a trocar
- Designed for the simple, safe aspiration of fluids from cysts and organs
- Used in a variety of laparoscopic procedures to aspirate fluid or take samples from the abdominal cavity or abdominal organs
- Matt shaft prevents operative glare
- Working diameter **Ø 5 mm**, working length **330 mm**
- Sharp tips vary between 0.7 – 2.2 mm

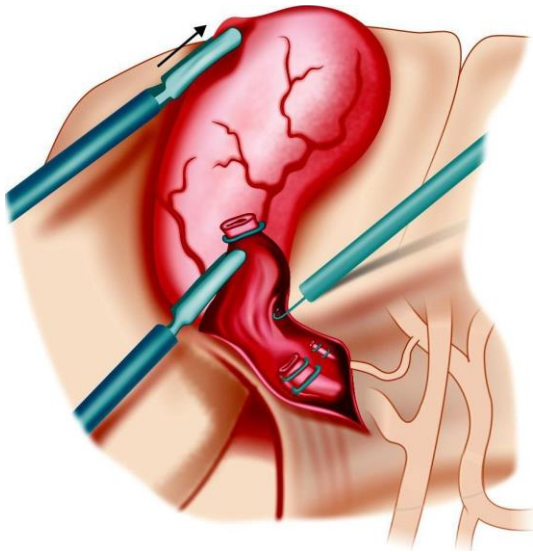


CLIP APPLIERS & CLIPS

CLIP APPLIER & CLIPS

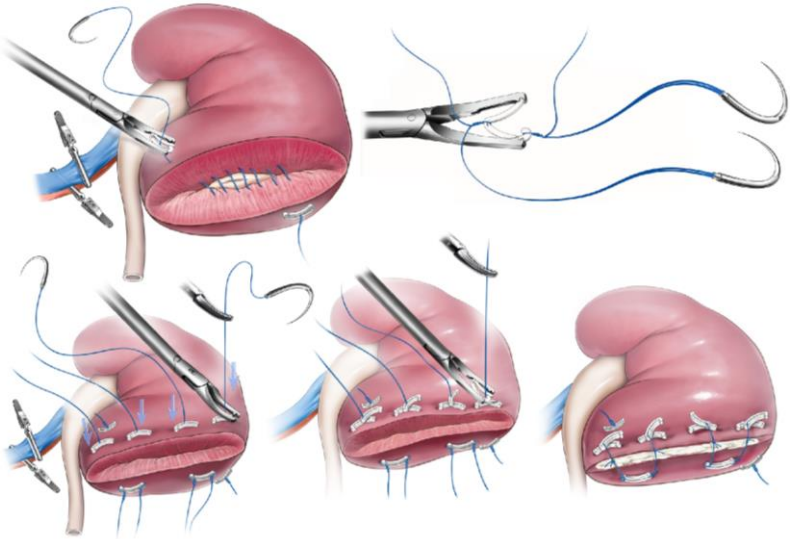
INGENIOUS

- Clips are used to ligate vessels and ducts



2 TYPES OF CLIPS :

Polymers & Titanium clips.



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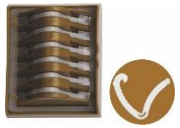
CLIP APPLIER & CLIPS – POLYMER

INGENIOUS

- Used during laparoscopic cholecystectomy for clipping the cystic duct and artery.
- Used during laparoscopic urologic procedures for control of vessels and ureters.
- In addition to numerous other gynecologic and general surgery procedures.

ML CLIPS

L CLIPS



XL CLIPS

TECHNICAL SPECIFICATIONS

- Designed for continuously varying 360° rotation for highly precise manipulation
- Reusable Handle and single use clips
- Diameter: **Ø10 mm**
- Fully autoclavable handles
- Excellent practice-proven ergonomic design
- Detachable versions

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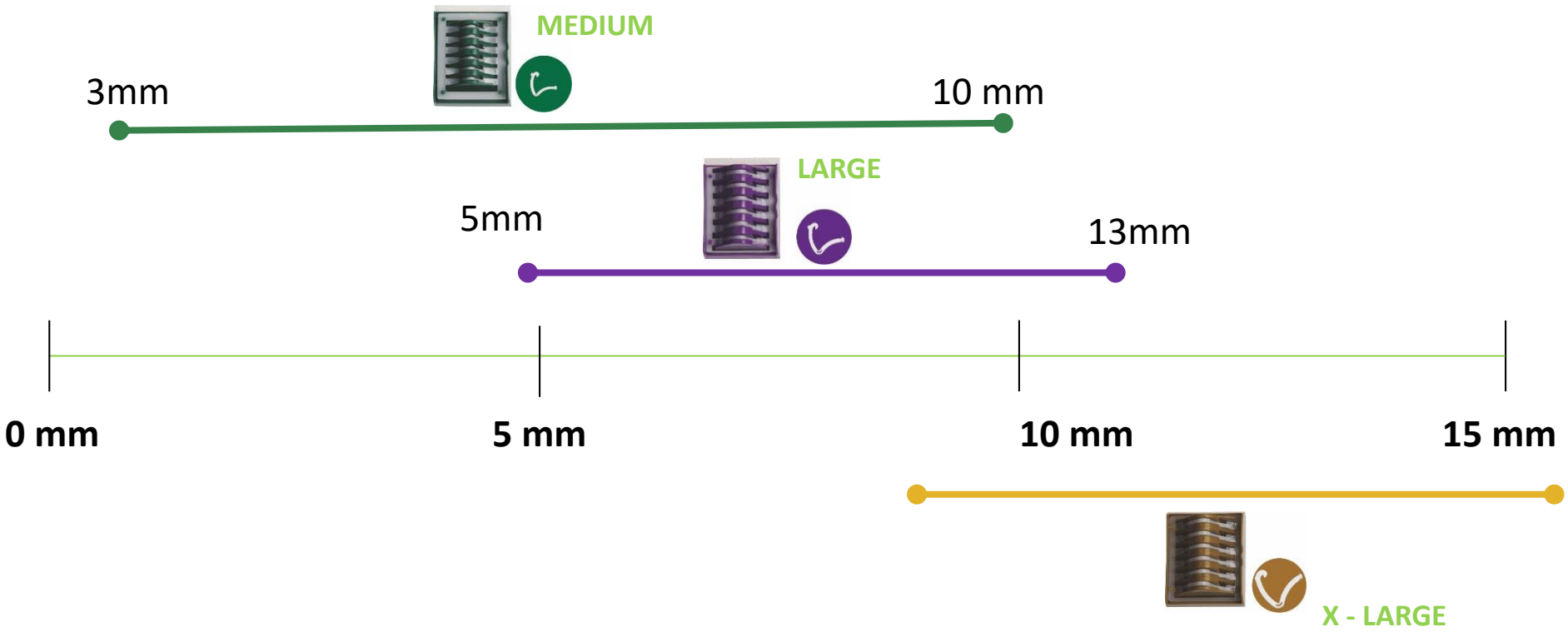
CLIP APPLIER & CLIPS – VESSEL & DUCTS THICKNESS

INGENIOUS



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CLIP APPLIER & CLIPS – POLYMER

INGENIOUS

CUTTING-EDGE DESIGN

1. Bosses are designed to retain clip in applier jaws.
2. Integrated teeth interface with the vessel and are designed to prevent slippage.
3. Bow-shape design allows removal with appropriate instrument.
4. Hinge allows flexibility in clip placement prior to clip locking.
5. Locking mechanism provides tactile feedback and secure closure.
6. Nonabsorbable polymer is inert, nonconductive, and radiolucent; it does not interfere with CT, MRI, or X-ray diagnostics.

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CLIP APPLIER & CLIPS – ADVANTAGES

INGENIOUS

RADIOLUCENCY
COMPROMISE MRI QUALITY

MINIMIZING THERMAL SPREAD
COOL LIGATION MODALITY

POLYMER FLEXIBILITY

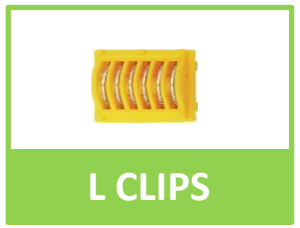
SECURITY
CLOSE & LOCK AROUND PATIENT
VESSEL / DUCT

REMOVABLE
USING CLIP APPLER REMOVAL

CLIP APPLIER & CLIPS – TITANIUM

INGENIOUS

- Helps in preventing bleeding and leaks.
- Are preferred because they are MRI and metal detector proof.
- Made of Titanium metal.
- If clips are used, they will remain in place.


L CLIPS


L CLIPS


M CLIPS


S CLIPS

TECHNICAL SPECIFICATIONS

- Designed for continuously varying 360° rotation for highly precise manipulation
- Reusable Handle and single use clips
- Diameter: **Ø5** and **Ø10 mm**
- Fully autoclavable handles
- Excellent practice-proven ergonomic design
- Detachable versions


SINGLE ACTION


5 MM SINGLE ACTION


90° SINGLE ACTION


DOUBLE ACTION

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SUTURING SYSTEM

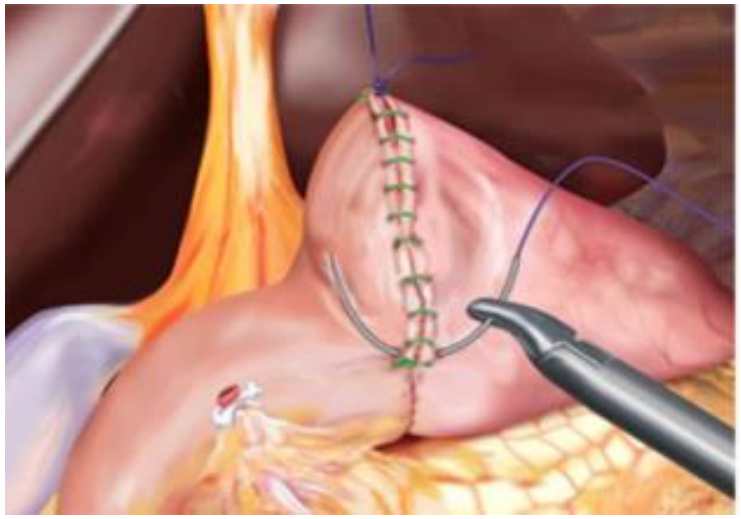
SUTURING SYSTEM – NEEDLE HOLDERS

INGENIOUS

- Used to grasp and manipulate needles to enable free-hand suturing of surgical incisions within the body

TYPES OF NEEDLE HOLDERS:

- O-Type needle holder
- Pistol Type needle holders
- A-Type needle holder
- V-Type needle holder



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SUTURING SYSTEM – O TYPE NEEDLE HOLDERS

INGENIOUS

- Classic line needle holder
- Suitable for small hands
- Working length: **330 mm**
- Diameter: **Ø 3 and Ø 5 mm**
- Autoclavable


STRAIGHT


LEFT CURVED


SELF RIGHTING


SELF RIGHTING


SELF RIGHTING

INGENUITY FOR HEALTH

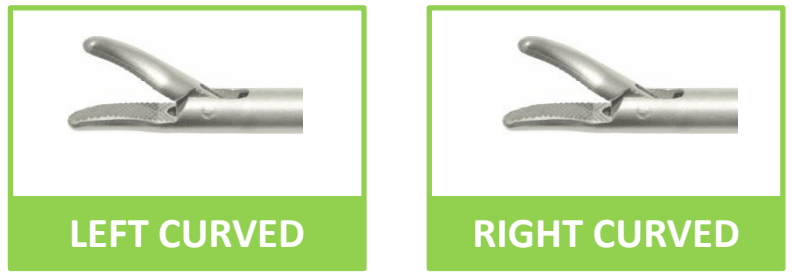
SUTURING SYSTEM – PISTOL TYPE NEEDLE HOLDERS

INGENIOUS

- Specially designed needle holder for a fatigue - proof and effortless handling
- Working length: **330** and **450 mm**
- Diameter: **Ø 5 mm**
- Autoclavable

STRAIGHT

SELF RIGHTING



LEFT CURVED

RIGHT CURVED

INGENUITY FOR HEALTH

SUTURING SYSTEM – A TYPE NEEDLE HOLDERS

INGENIOUS

- Specially designed needle holder for a fatigue - proof and effortless handling
- Suitable for small hands
- Minimal effort by the newly developed shorten ratchet
- Working length: **330 mm**
- Diameter: **Ø 3 and Ø 5 mm**
- Autoclavable

STRAIGHT

LEFT CURVED

SELF RIGHTING

SELF RIGHTING

INGENUITY FOR HEALTH

SUTURING SYSTEM – V TYPE NEEDLE HOLDERS

INGENIOUS

- Specially designed needle holder for a fatigue - proof and effortless handling
- Suitable for small hands
- Minimal effort by the newly developed shorten ratchet
- Working length: **330 and 450 mm**
- Diameter: **Ø 5 mm**
- Autoclavable

STRAIGHT

LEFT CURVED

RIGHT CURVED

SELF RIGHTNING

SELF RIGHTNING

SELF RIGHTNING

3 PC HOLDERS ARE AVAILABLE UPON DEMAND

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SUTURING SYSTEM – KNOT PUSHER

INGENIOUS

- Used during laparoscopic procedures to tighten surgical knots and to cut the suture.
- Simplify the tying of slipknots, simple and double knots.
- Used to form and manipulate the loop.
- Long and thin shafts terminating in a closed or open-ended loop.
- Working length: **330 and 450 mm**
- Diameter: **Ø 5 mm**

W/T OPENING

WITH OPENING

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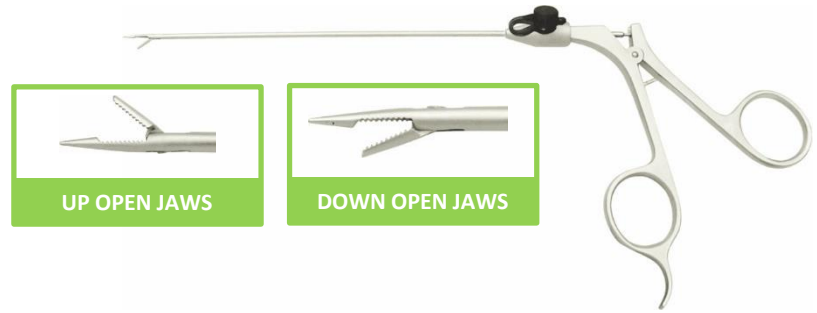
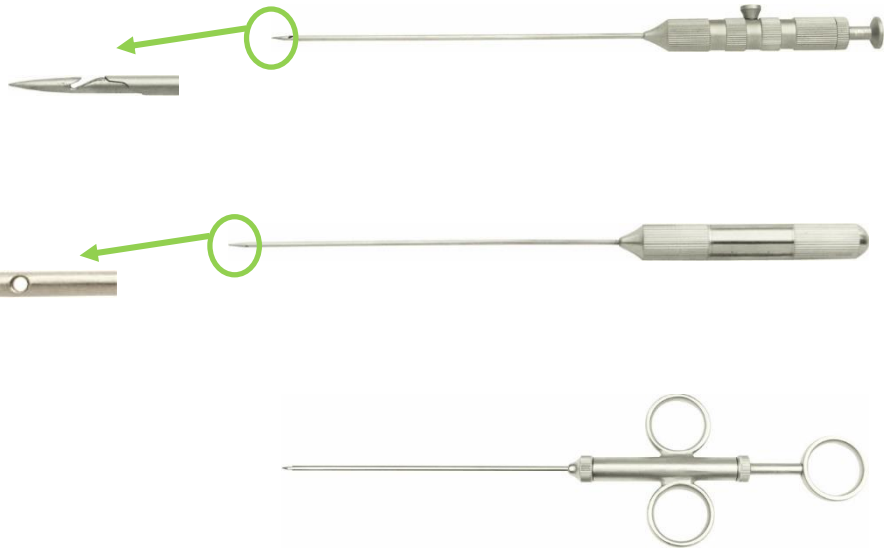
SUTURING SYSTEM – FASCIAL CLOSURE DEVICE

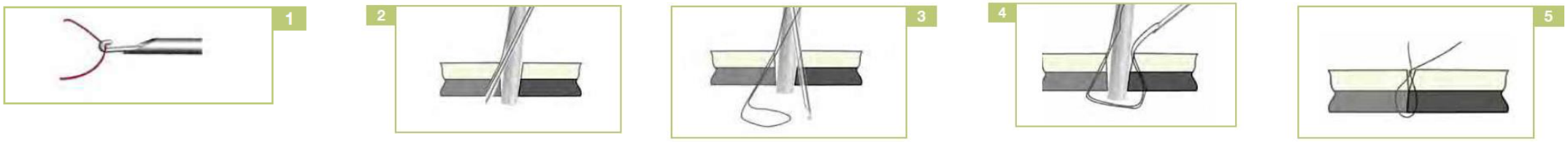
INGENIOUS

- Full closure of peritoneum and fascial layers through the trocar.



- Exchangeable through trocar cannula for easy port closure while maintaining pneumoperitoneum.





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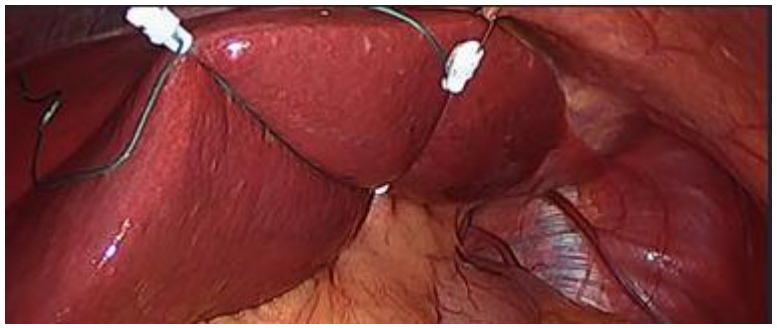
RETRACTORS

RETRACTORS

INGENIOUS

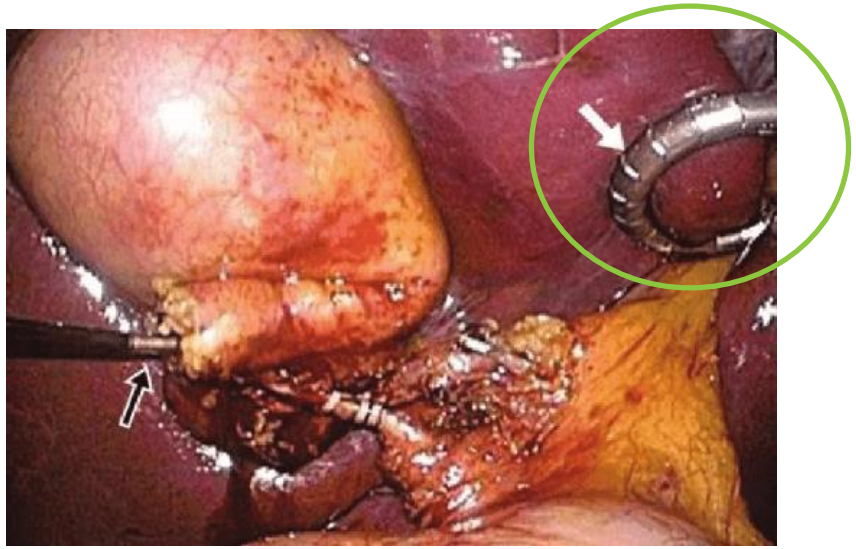
- Used to hold back underlying organs and tissues so that body parts under the incision may be accessed.
- Provide a better field of view for the surgeon
- Lift and protect surround organs during surgical procedure



LIFTING LIVER WITHOUT RETRACTOR

TYPES OF RETRACTORS:

- Fan shaped retractors
- Gold Fingure retractors



LIFTING LIVER USING RETRACTOR

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RETRACTORS – FAN SHAPED RETRACTOR

INGENIOUS

TECHNICAL SPECIFICATIONS

- Working length: **350 mm**
- Diameter: **Ø 5 and Ø 10 mm**
- Handle rotating mechanism

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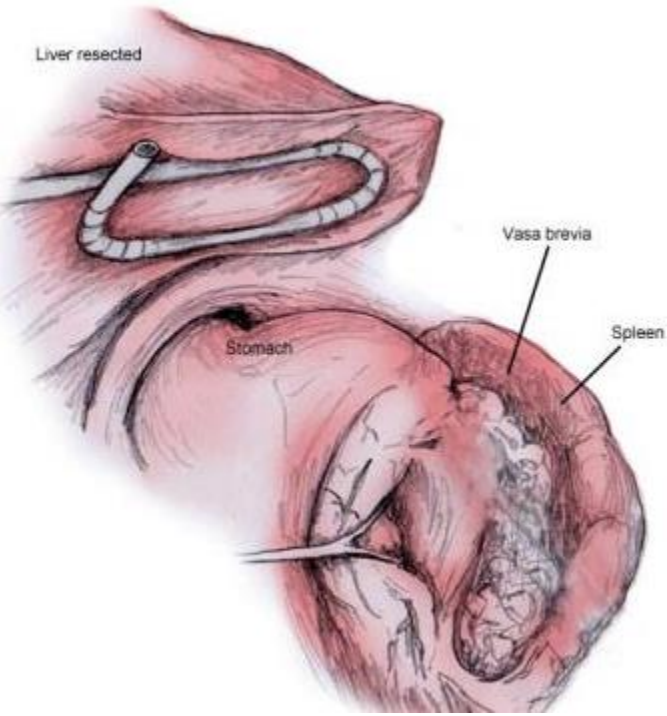
RETRACTORS – GOLD FINGER RETRACTOR

INGENIOUS

TECHNICAL SPECIFICATIONS

- Working length: **460 mm**
- Diameter: **Ø 5 mm**
- Handle rotating mechanism
- Half and full rings



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SUCTION / IRRIGATION INSTRUMENTS

SUCTION – IRRIGATION SYSTEM

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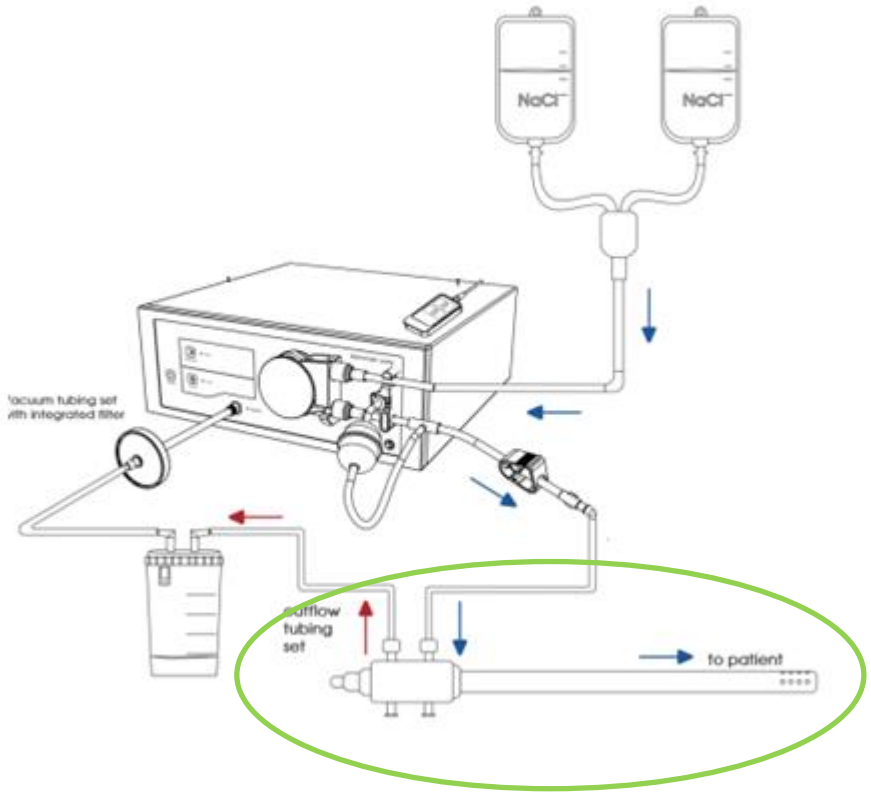
- Used for flushing the abdominal cavity and cleaning during laparoscopic procedures.
- Connected directly to the LAP PUMP



MODE OF ACTION:

- Irrigation: transport fluid from external environment to the abdominal cavity
- Suction: transport fluid and blood from the abdominal cavity to the external environment

- Autoclavable

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SUCTION – IRRIGATION SYSTEM

INGENIOUS

TECHNICAL SPECIFICATIONS

- Working length: **330 and 450 mm**
- Diameter: **Ø 5 and Ø 10 mm**

Free Ø 10 mm shaft is offered with every Ø 5 mm S/I instrument.

TRUMPET VALVE HANDLE

SLIDING VALVE HANDLE

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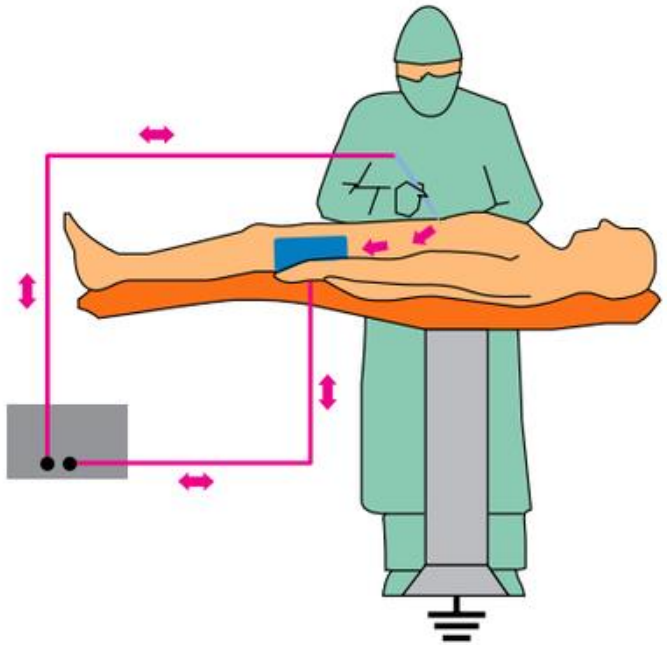
HF MONOPOLAR INSTRUMENTS

MONOPOLAR TECHNOLOGY

INGENIOUS

- High frequency current is generated from an electrosurgical unit (ESU).
- Current flows into the surgical instrument which is in contact with patient tissues.
- Current flows back from the patient tissues to the electro-surgical unit (ESU) via patient plate for neutralization.



➢ Active electrode at surgical site, return electrode at another site

GENERATOR → ACTIVE ELECTRODE → PATIENT → RETURN ELECTODE

HF MONOPOLAR - INSTRUMENTS

INGENIOUS

TECHNICAL SPECIFICATIONS

- Assembling and dismantling made easy thanks to a unique and mechanically safe connection system developed by INGENIOUS.
- Designed for continuously varying 360° rotation for highly precise manipulation.
- Made of high-quality fiber-glass reinforced plastics.
- The three-part-design allows an easy maintenance and cleaning, with the extra plus of an integrated Luer-Lock connection of the shaft.
- Fully autoclavable
- Excellent practice-proven ergonomic design.

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HF MONOPOLAR - INSTRUMENTS

INGENIOUS

- Handles with / without ratchet
- Scissors
- Dissectors
- Grasping forceps

HANDLES WITH RATCHET

HANDLES WITH RATCHET

TECHNICAL SPECIFICATIONS

- Diameter: **Ø3, Ø5 and Ø10 mm**.
- Working length: **220 , 330 and 450 mm**.

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HF MONOPOLAR - ELECTRODES

INGENIOUS

TECHNICAL SPECIFICATIONS

- Diameters: **Ø3 and Ø5 mm**
- Working length: **220 and 330 mm**
- Autoclavable


L - HOOK


BALL


KNIFE


NEEDLE


BUTTON


J - HOOK


SPATULA

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HF MONOPOLAR – SUCTION/IRRIGATION ELECTRODES

INGENIOUS

- Hybrid solution used for suction / irrigation and coagulation
- Connected to the LAP PUMP
- Connected to the ESU
- TRUMPET & SLIDING VALVES

TECHNICAL SPECIFICATIONS

- Diameter: **Ø5 mm**
- Working length: **330 mm**

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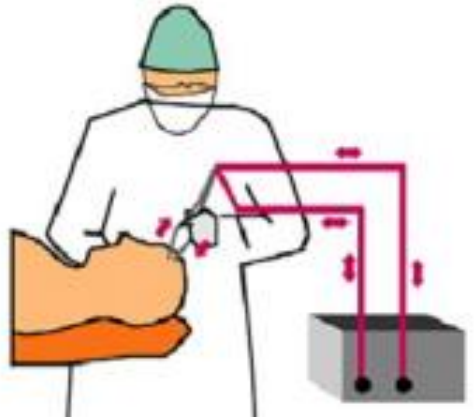
HF BIPOLAR INSTRUMENTS

BIPOLAR TECHNOLOGY

- High frequency current is generated from an electrosurgical unit (ESU).
- Current flows into the surgical instrument which is in contact with patient tissues.
- Current flows back through the surgical instrument.



HF BIPOLAR INSTRUMENTS

INGENIOUS

TECHNICAL SPECIFICATIONS

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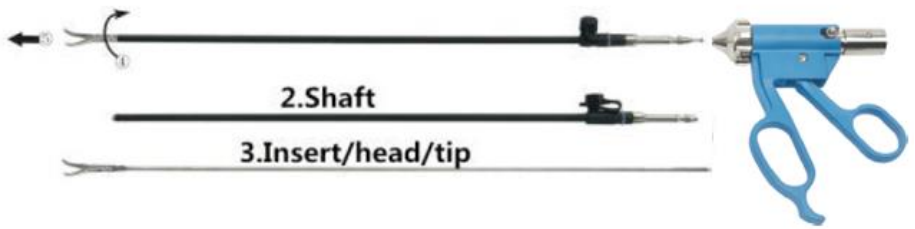
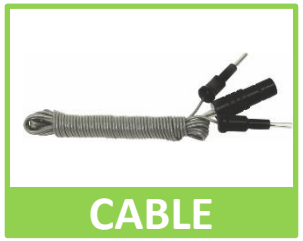
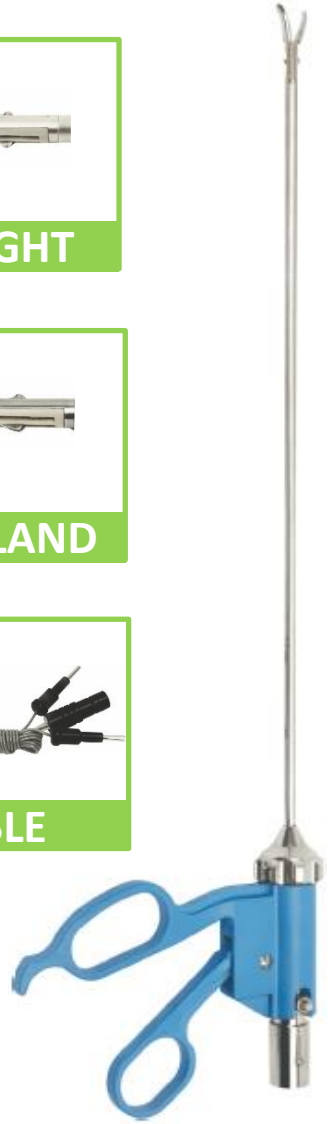


STRAIGHT

MARYLAND



CABLE



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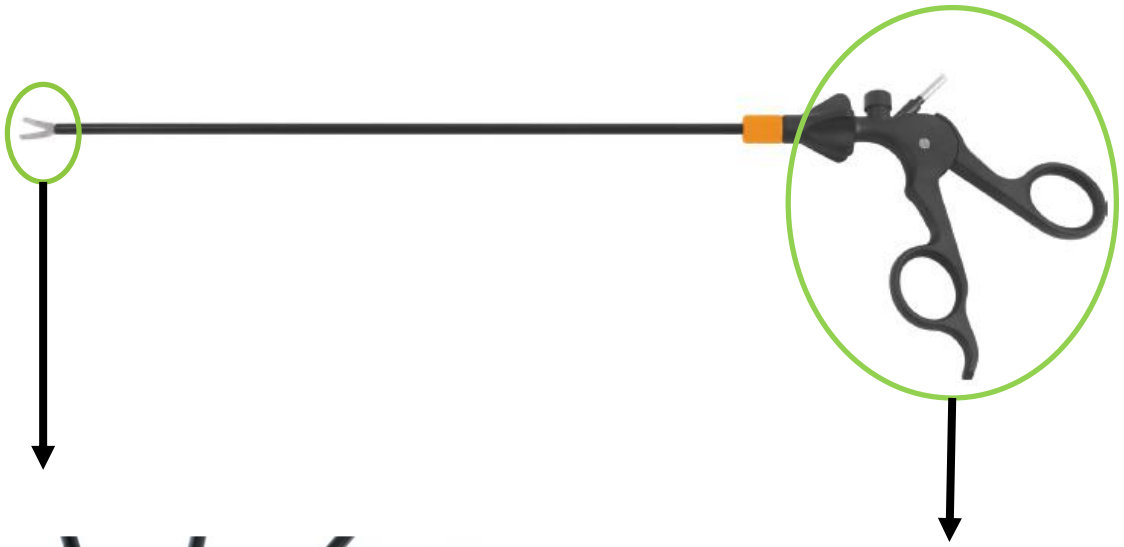
REPOSABLE HF MONOPOLAR INSTRUMENTS

REPOSABLE HF MONOPOLAR INSTRUMENTS

INGENIOUS

- Perfect solution for low budget clients.
- The use of reusable monopolar HF handle (with / without ratchet) and a single use sterile LAP insert.
- Working length: **330 mm**
- Diameter: **Ø 5 mm**



SINGLE USE STERILE INSERTS

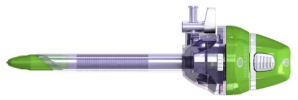
REUSABLE HF HANDLES

INGENUITY FOR HEALTH

DISPOSABLE INSTRUMENTS

DISPOSABLE INSTRUMENTS

INGENIOUS



TROCAR SYSTEM

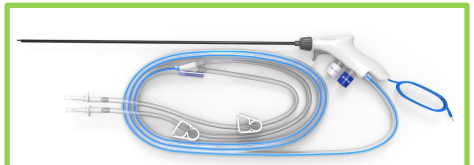
HF MONOPOLAR INST.

HF BIPOLAR INST.

RETRIEVAL BAGS

S / I INSTR.

CLIP APPLIERS



S/I ELECTRODE SYSTEM

TROCAR SYSTEM

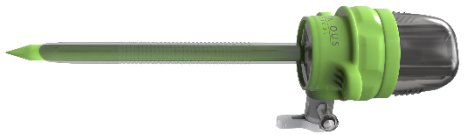
TROCAR SYSTEM – VERESS NEEDLE

INGENIOUS

- Diameter: **Ø 1.6 mm**
- Working length: **120 and 150 mm**
- Packing information: **25 pcs/box**

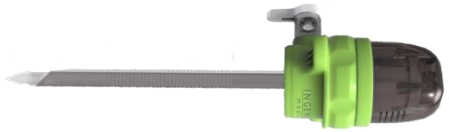
TROCAR SYSTEM – TROCARS

INGENIOUS



BLADELESS TROCARS

BLADED TROCARS



OPTICAL TROCARS

TROCAR SYSTEM – BLADELESS TROCAR

INGENIOUS

- External unique silicon layer
- Internal customized silicon valve
- Threaded cannula
- Diameters: **Ø 3, Ø 5, Ø 10, Ø 12 and Ø 15 mm**
- Working length: **100, 130 and 150 mm**
- Offered in single and double packing
- Packing: 6 pcs/box

SINGLE PACKING

DOUBLE PACKING

INGENUITY
FOR
HEALTH

TROCAR SYSTEM – BLADELESS TROCARS / COMPONENTS

INGENIOUS

=

OBTURATOR

+

TROCARS CAP

TROCAR SLEEVE

INGENUITY
FOR
HEALTH

TROCAR SYSTEM – BLADED TROCAR

INGENIOUS

- External unique silicon layer
- Internal customized silicon valve
- Threaded cannula
- Diameters: **Ø 5, Ø 10 and Ø 12 mm**
- Working length: **100 mm**
- Offered in single and double packing
- Packing: 6 pcs/box

SINGLE PACKING

DOUBLE PACKING

INGENUITY
FOR
HEALTH

TROCAR SYSTEM – BLADED TROCARS / COMPONENTS

INGENIOUS

=

OBTURATOR

+

TROCARS CAP

TROCAR SLEEVE

INGENUITY
FOR
HEALTH

TROCAR SYSTEM – OPTICAL TROCARS

INGENIOUS

- External unique silicon layer
- Internal customized silicon valve
- Threaded cannula
- Diameters: **Ø 5, Ø 10 and Ø 12 mm**
- Working length: **100 mm**
- Offered in single and double packing
- Packing: 6 pcs/box

SINGLE PACKING

DOUBLE PACKING

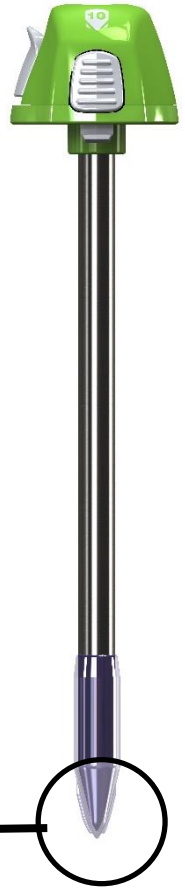
INGENUITY
FOR
HEALTH

TROCAR SYSTEM – OPTICAL TROCARS / COMPONENTS

INGENIOUS

=

OBTURATOR



+

TROCARS CAP

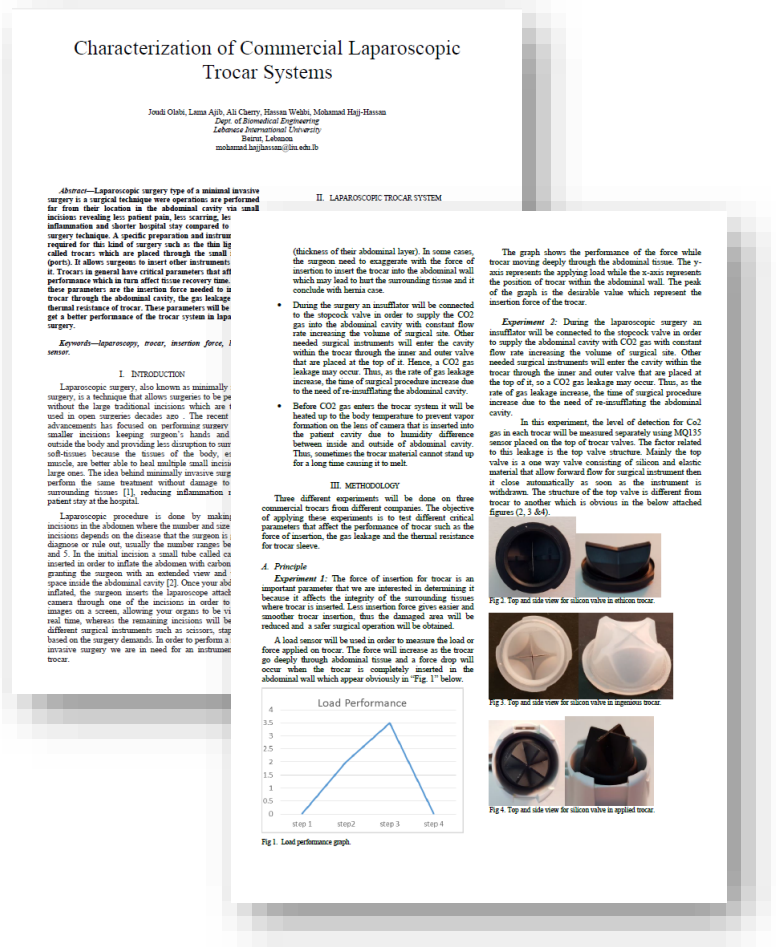
TROCAR SLEEVE

INGENUITY
FOR
HEALTH

Three different experiments PERFORMED on three commercial trocars from different companies, to test different critical parameters that affect the performance of trocar such :

A. **Force of insertion**

B. **Gas leakage**



Characterization of Commercial Laparoscopic Trocar Systems

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II. LAPAROSCOPIC TROCAR SYSTEM

III. METHODOLOGY

Load Performance

INGENIOUS

FORCE OF INSERTION

AFTER INSERCTION OF 30 MM (3 CM)

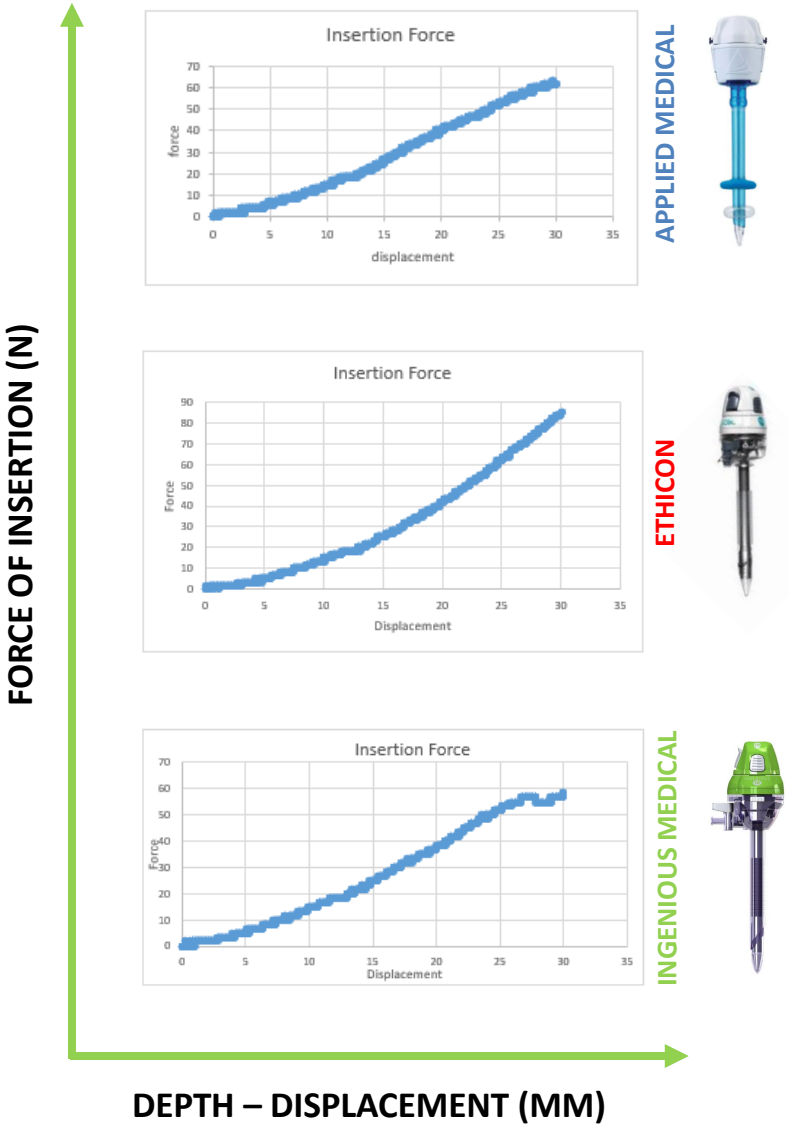
☹ **APPLIED MEDICAL INSERTION FORCE = 60 - 62 N**

☹ **ETHICON INSERTION FORCE = 73 - 85 N**

😀 **INGENIOUS MEDICAL INSERTION FORCE = 51 - 58 N**

With INGENIOUS trocars, surgeon perform less force/power to insert the trocars through the abdominal layers

With INGENIOUS trocars, potential of organs damage upon rough insertion is decreased

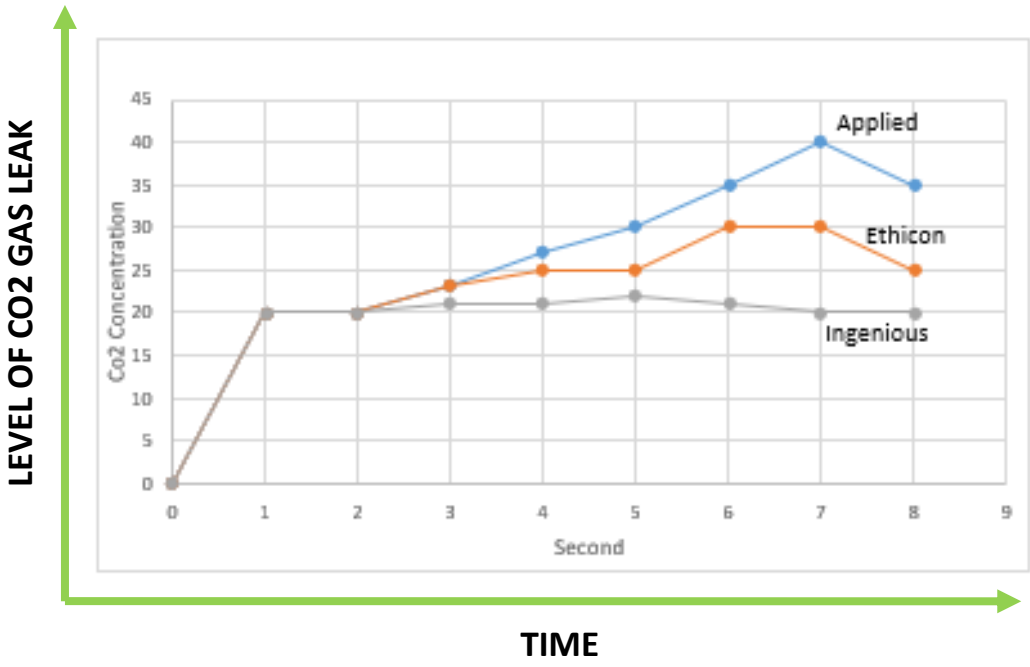


INGENUITY FOR HEALTH

GAS LEAKAGE

CO2 GAS LEAKED MEASURED DURING TIME OF CO2 FLOW

- With INGENIOUS trocars, level of CO2 gas leak is the lowest
- With INGENIOUS trocars, time of laparoscopic operation will decrease
- With INGENIOUS trocars, consumption of CO2 gas will decrease
- With INGENIOUS trocars, abdominal pressure is maintained



HF MONOPOLAR INSTRUMENT

TECHNICAL SPECIFICATIONS

- Designed for continuously varying 360° rotation for highly precise manipulation
- Excellent practice-proven ergonomic design
- Working length: **330 mm**
- Diameter: **Ø 5 mm**
- Packing Information: **12 pcs/box**

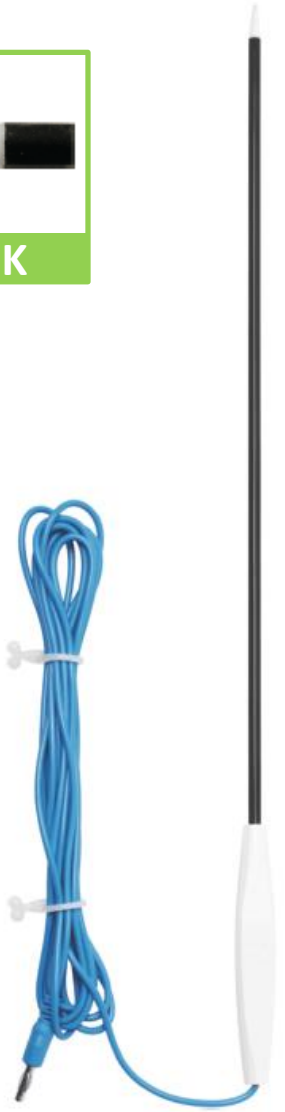
HF MONOPOLAR INSTRUMENTS - ELECTRODES

INGENIOUS

TECHNICAL SPECIFICATIONS

- Offered with and without HF cable
- Diameter: **Ø 5 mm**
- Working length: **330 mm**
- Packing Information: **10 pcs/box**

L -HOOK



INGENUITY
FOR
HEALTH

HF BIPOLAR INSTRUMENTS

HF BIPOLAR INSTRUMENTS

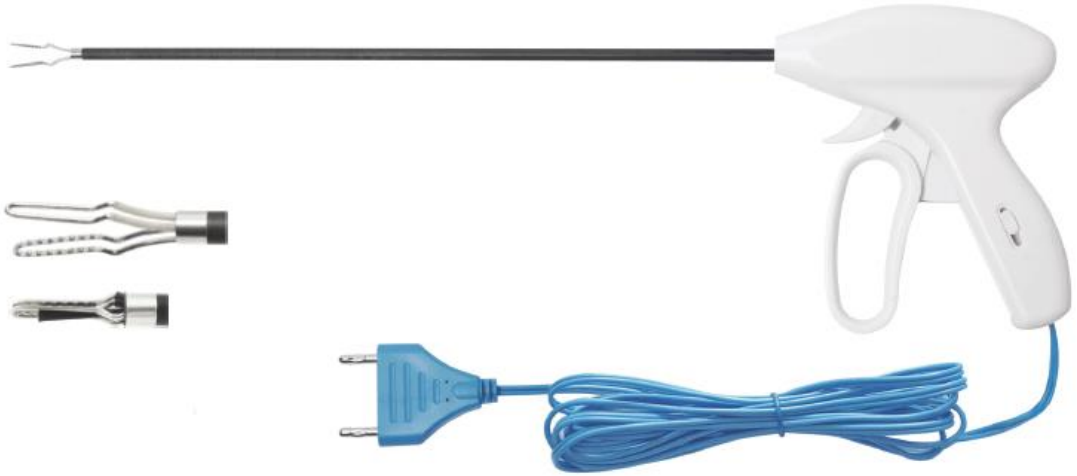
INGENIOUS

TECHNICAL SPECIFICATIONS

- Designed for continuously varying 360° rotation for highly precise manipulation
- Excellent practice-proven ergonomic design
- Offered with single use HF cable

TECHNICAL SPECIFICATIONS

- Cutting mechanism
- Excellent practice-proven ergonomic design
- Offered with single use HF cable



INGENUITY FOR HEALTH

SPECIMEN RETRIEVAL BAGS

SPECIMEN RETRIEVAL BAGS

INGENIOUS

- Used to place a resected specimen from the abdominal cavity
- Prevent infection to abdominal organs
- Endo Bags with and without wire
- Different sizes **100 ml, 300 ml, 500 ml, 1000 ml**
- Diameters: **Ø 10 and Ø 12.5 mm**
- Working length: **330 mm**
- Packing Information: **10 pcs/box**

RETRIVAL BAG

RETRIVAL BAG WITH HANDLE

RETRIVAL BAG WITH HANDLE & WIRE

INGENUITY FOR HEALTH

SUCTION IRRIGATION INSTRUMENT

SUCTION IRRIGATION INSTRUMENT

INGENIOUS

- TRUMPET valve handle
- 2 spikes
- Diameters: **Ø 5 mm**
- Working length: **330 mm**
- Packing Information: 6 pcs/box

INGENUITY
FOR
HEALTH

CLIP

APPLIERS

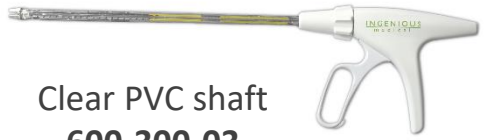
CLIP APPLIERS

INGENIOUS

- 360°rotation knob.
- Titanium ligation clips are pre-loaded in the device.
- 600-300-03: lucent shaft provides line of sight to remaining clips.
- 600-300-04 and 600-300-05: stainless steel shaft, more stable for operation.
- 600-300-04 with the counter design, which shows the quantity of the clips inside the shaft
- Ergonomic hand piece facilitates control.

TECHNICAL SPECIFICATIONS

Order Nr.	Shaft diameter (mm)	Working Length (mm)	Clip Size (mm)		
			Aperture	Length	Width
600-300-03	290	290	5.5	8.7	1.0
600-300-04	290	290	5.5	8.7	1.0
600-300-05	330	330	4.4	9.1	0.75



Clear PVC shaft
600-300-03

Stainless Steel Shaft
+ counter
600-300-04

600-300-05

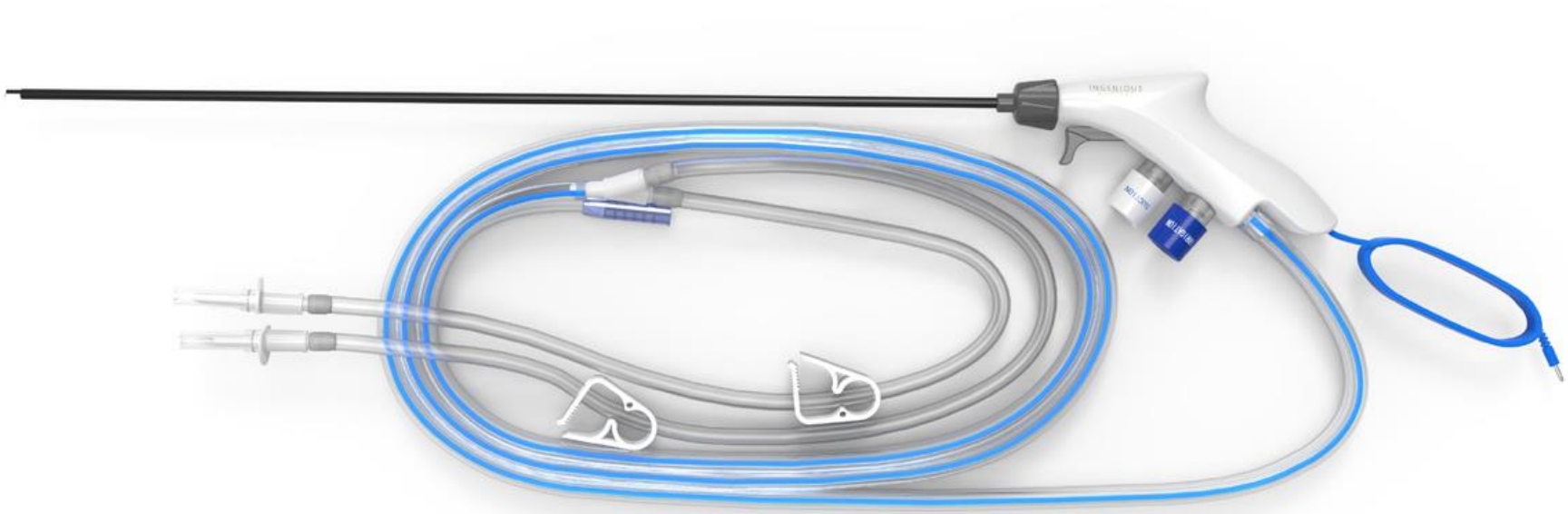
SUCTION & IRRIGATION

ELECTRODE SYSTEM

SUCTION & IRRIGATION ELECTRODE SYSTEM

INGENIOUS

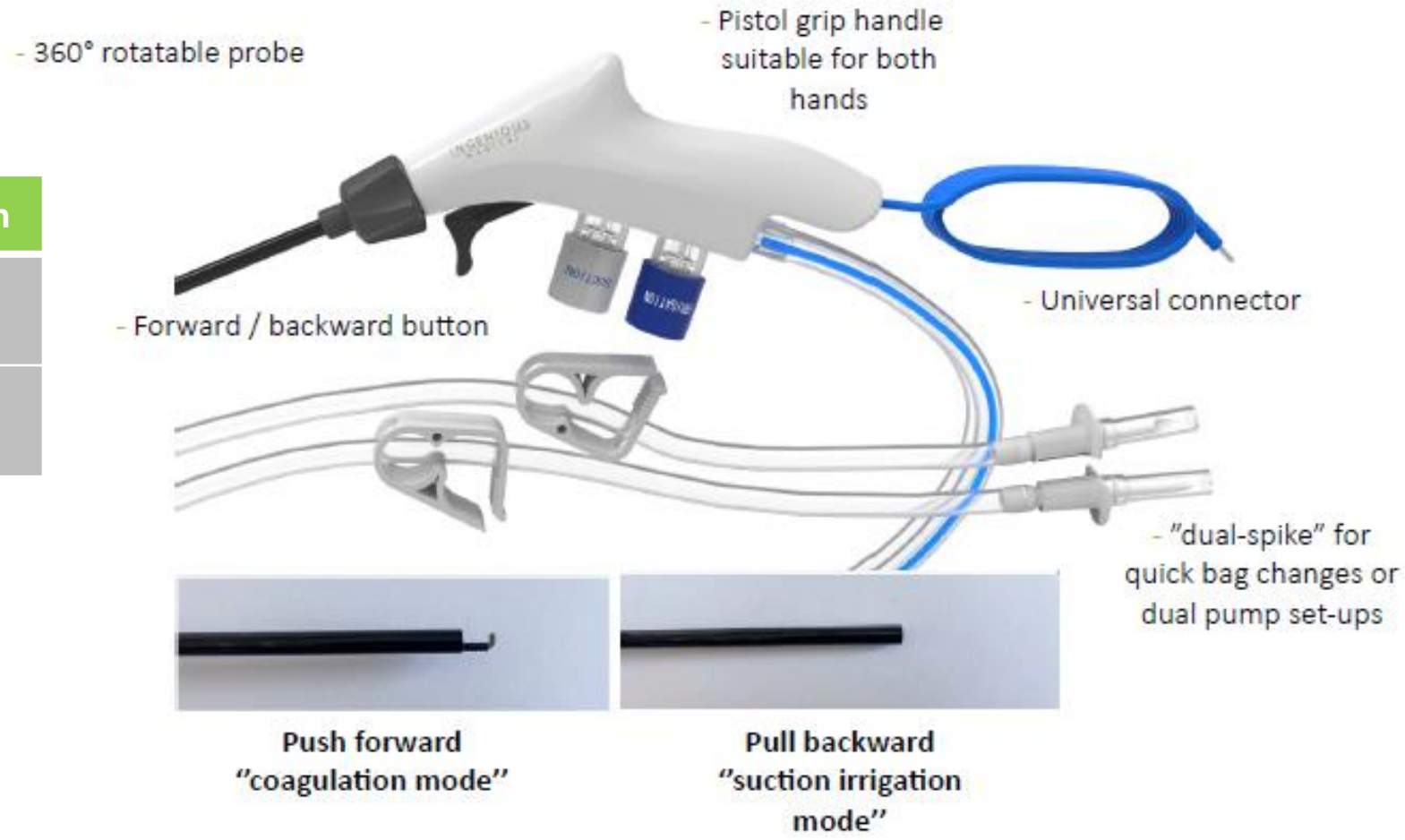
- All in one System: Suction, Irrigation, Cut, Dissect, Coagulation.



SUCTION & IRRIGATION ELECTRODE SYSTEM

INGENIOUS

Order Nr.	Specification	Coagulation
600-300-01	5mm x 330mm	L Hook
600-300-02	5mm x 450mm	L Hook



INGENUITY FOR HEALTH

CLEANING & STERILIZATION

There are 6 recommended steps for Instruments

Re-processing :

1. Cleaning & Disinfection
2. Inspection
3. Packaging
4. Sterilization
5. Storage and Delivery
6. Quality assurance






BEFORE CLEANING, WE SHOULD DISSASSEMBLE THE INSTRUMENTS INTO PARTS, AND AFTER CLEANING LUBRICATION IS DONE IF NEEDED

CLEANING & STERILIZATION – STEP 1 : CLEANING & DESINFECTION

INGENIOUS

- Cleaning of an instruments should be performed in a designated area, immediately after a surgical procedure.
- Quick cleaning removes blood or debris much easier, and can minimize corrosion, pitting or instruments staining.
- Cleaning can be done manually or mechanically with an ultrasonic washer (Mechanical cleaning has been proven to be 16 times more efficient over manual cleaning)

- After cleaning thoroughly rinse the instruments with tape water to ensure loosened debris and detergents are removed.

(If the tape water is of poor quality consider using treated water to avoid instrument staining)

- The instrument parts must be covered by the cleaning solution and all cavities must be filled. (Soaked for 15 min)

- Rinse again with tape water and dry with a lint-free cloth and medical compressed air.

CLEANING & STERILIZATION – CLEANING & DESINFECTION

INGENIOUS

Thorough cleaning to remove all traces of blood and debris.

Let the device soak for 2 minutes with the flush port removed (component of each instruments detached) in warm water – 20 to 25°C –

Flush instruments through the flush ports

Pay attention to shaft after disassembling while thoroughly scrubbing instruments with a soft bristle brush.

Transfer the device to an ultrasonic cleaner with an enzymatic cleaner and clean ultrasonically for 5 minutes.

INGENUITY FOR HEALTH

CLEANING & STERILIZATION – STEP 2 : INSPECTION

- Each instruments must be inspected after cleaning for residual debris or damage.
- Replace instruments as needed and never re-sterilize a dirty instrument.
- Check the proper function of each instrument and lubricate those who have metal to metal action.
- Instruments with stiff joints could be a sign of inadequate cleaning.

CLEANING & STERILIZATION – STEP 3 : PACKAGING

INGENIOUS

- Packaging is done by using approved FDA materials such as :
  - Sterilization pouches
  - Sterilization wrappers
  - Sterilization containers

FOR QUALITY CONTROL BE SURE TO INCLUDE CHEMICAL INDICATOR INSIDE THE PACKAGE

- Instruments trays should be wrapped.
- Sterilization containers can be used to sterilize instruments set.

- Sterile packages and containers should be stored in conditions that prevent contamination

- We do not use any sterile package that is damaged, opened or wet.

CLEANING & STERILIZATION – THERMAL STERILIZATION

INGENIOUS

GRAVITY STEAM STERILIZATION CYCLE

TEMP °C	EXPOSURE TIME	DRY TIME
121°C	30 minutes	45 minutes
134°C	18 minutes	45 minutes
135°C	10 minutes	30 minutes

PRE-VACUUM STEAM STERILIZATION CYCLE

TEMP °C	EXPOSURE TIME	DRY TIME
132°C	4 minutes	30 minutes
135°C	3 minutes	20 minutes

INGENUITY
FOR
HEALTH

INGENIOUS

INGENUITY
FOR
HEALTH

THANK YOU

INGENIOUS