

# CHARMANT



## TECHNOLOGY PRESENTATION

### Challenging for new value through Open Innovation

Charmant is an innovative and quality oriented Japanese engineer and manufacturer who contributes to the medical professions through the development of advanced technology.

Hybrid Microscissors

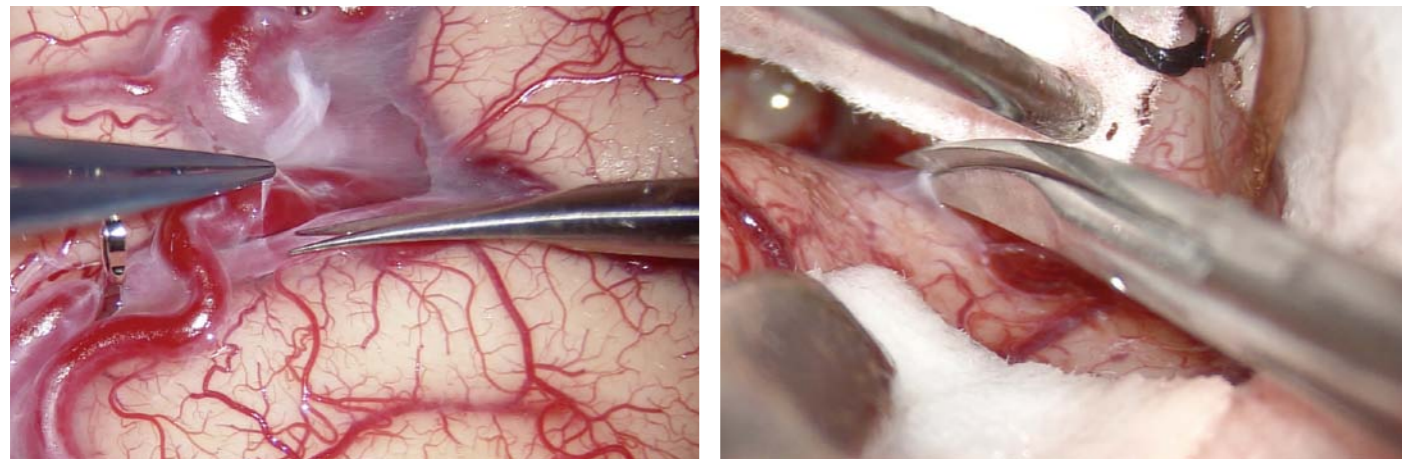
Patent Pending

Lasting superior incision quality

Close collaboration with surgeons produced an ergonomic and functional design that minimizes the stress on surgeon.

CHARMANT Hybrid Microscissors 12 models 68 SKUs

Fukushima Hybrid Super Microscissors 9 models 21 SKUs

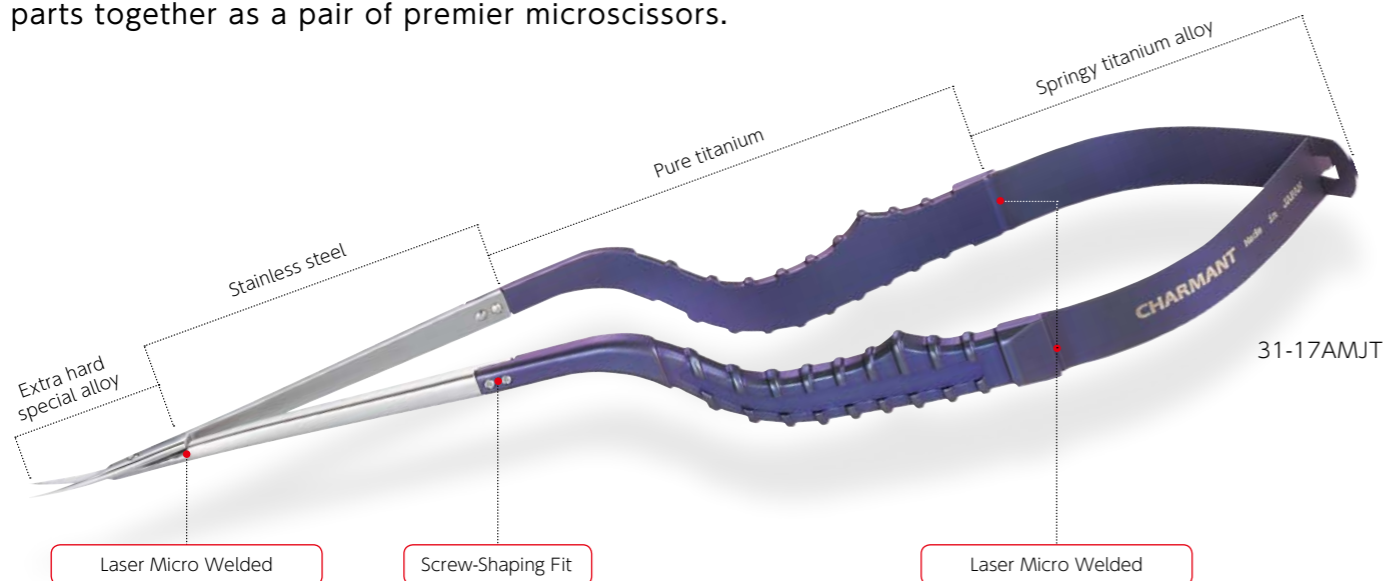


The most contemporary blades

- Exclusive extra hard special alloy is used for blade.
- Corrosion resistant and non-magnetic blade
- Combined are intense research on cutting mechanism and manual finish by skilled experts.

Innovative architecture

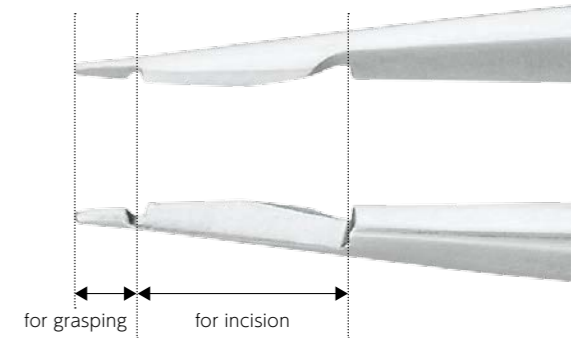
- Most suitable material is used for each functional part.
- Cutting-edge laser micro welding technology fuses special parts together as a pair of premier microscissors.



Needle holder with microscissors

Responding to clinical necessities

The instrument aims at improving the efficiency of procedure, shortening suture time.



Product under development

Transnasal endoscopy instrumentation

Creation through professional consortium

A collaborative project between leading medical companies and surgeons creates novel series of instruments.

Distribution: Mizuho America Inc.,  
Mizuho Medical Co., Ltd.  
Production: Charmant Inc.

Patent Pending



Malleable dissector



Malleable dissector 3.0 curved edged



Malleable ring current 5.0 curved



Malleable sucker 3.0 curved



Measuring

• A series of 28 models

Suction tube with Irrigation

Providing surgeons with superior control

Improved control greatly reduces surgeons stress.



Product under development

## OHKI Invents, an innovation through sophisticated collaboration with the top surgeon

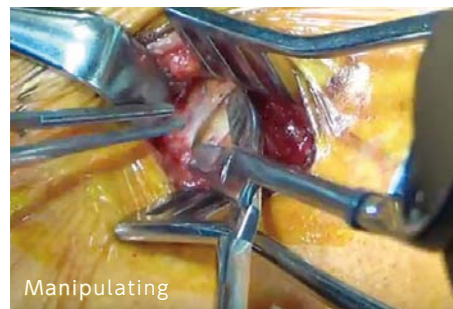
Designs from Prof. Takao Ohki of the Jikei University School of Medicine in Tokyo, Charmant's laser micro welding technology and precision metal processing have come together as a group of unique devices for vascular surgery.

•Products;OHKI Baum, Venous Forceps, Tunnelers, Scraper, Microscissors, Vascular clamps

### OHKI Baum

## Multiple functions in one instrument

Patent Pending



Manipulating



Grasping



Cutting

1. Cutting
2. Dissecting
3. Grasping tissues/veins
4. Grasping suture
5. Cauterizing



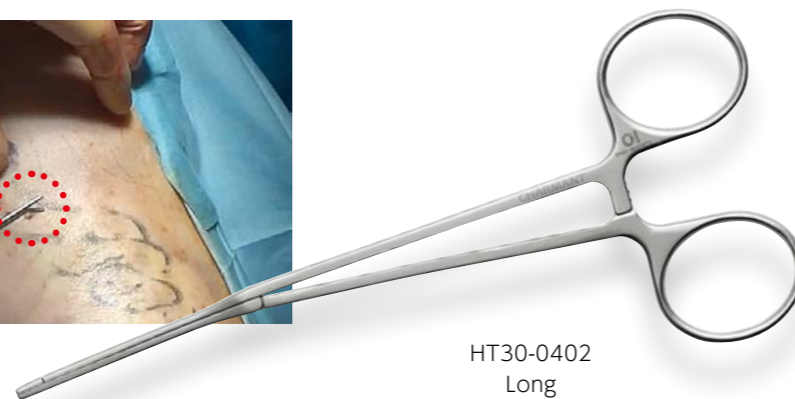
HT30-0101

### Venous Clamps

## Improved cosmetic outcome



1. Grasp varicose veins from a remote incision
2. Approach through a minimal wound without stretching the incision
3. A limited opening at distal tip



HT30-0402  
Long

### Translucent Retractor

Patent Pending

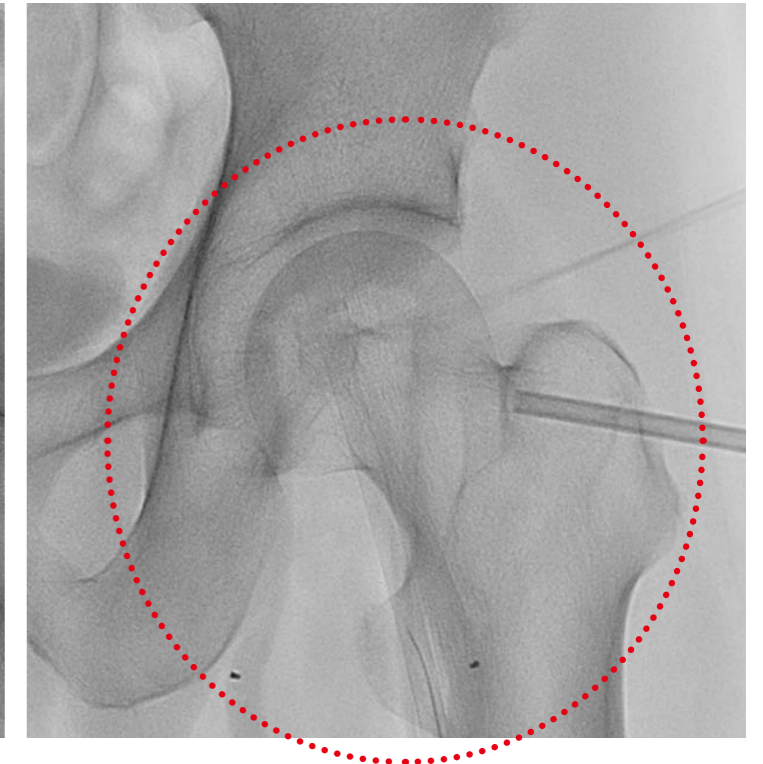
## Corresponding to hybrid imaging radiology

Provides improved images under radiation

### Conventional retractor



### CHARMANT translucent retractor



- TEVA (Thoracic EndoVascular Aortic repair)
- EVA (EndVascular Aortic repair)
- PTA (Percutaneous Transluminal Angioplasty)
- TAVI (Transcatheter Aortic Valve Implantation)



Product under development



Interchangeable tips

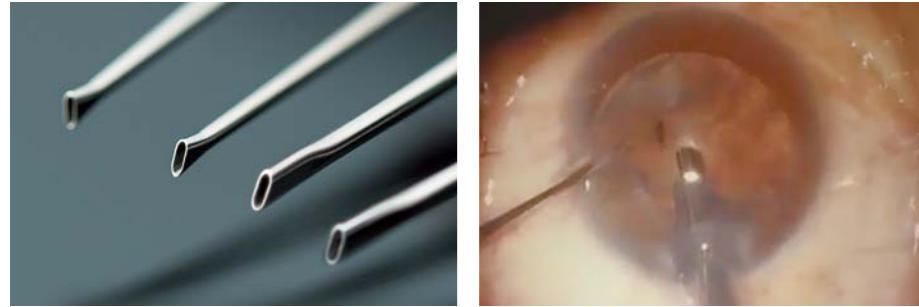
The recent clinical trial indicates efficacy of radiotranslucent retractor for improved imaging while no adverse event is reported. Further development of the related products is being undertaken.

MK Tips (Phaco US tips)

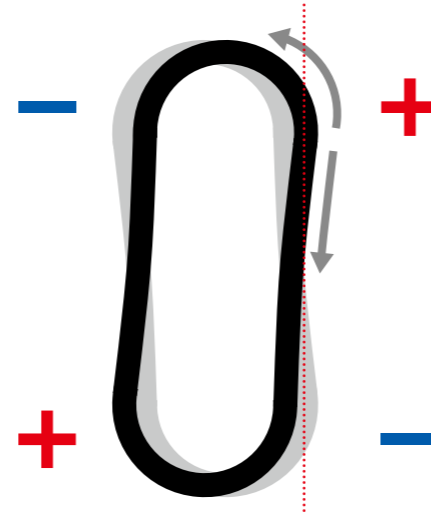
Patent Pending

# Revolutionary torsional phaco tips minimizing cavitation during PEA

The specially designed straight tip minimizes the destructive force to intra ocular tissues.



Efficient and safe torsional phaco



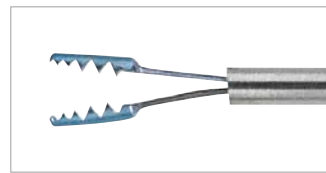
MK-Tip Standard 15°  
37-0051



MK-Tip Micro 30°  
37-0054



Vitreoretinal Forceps



Microscopic jaw design



25G micro forceps

Interchangeable head with multi-purpose handle

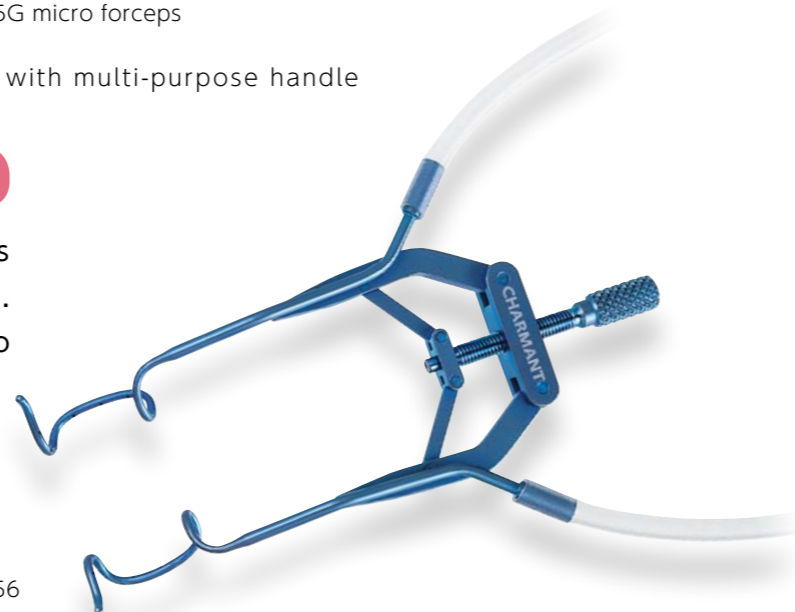
Aspirating Speculum

Industry's first all-titanium aspirating speculum is designed with micro holes on bent tubular titanium. The light weight instrument stays in position to provide comfortable and safe surgery.



each 7 x 0.5mm $\phi$ holes ensures stable aspiration through corrosion free pipes.

HT37-0056



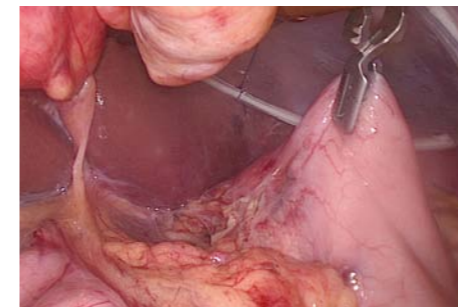
FJ Clips

Patent Pending

# Unique clips to advance laparoscopic surgery

Free jaw design allows the clips work with any forceps of laparoscopic surgeries. Entry through the 5mm or 12mm trocar.

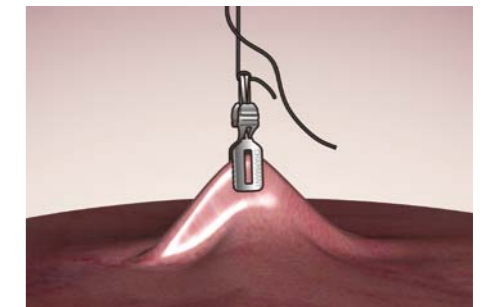
These reusable clips provide firm and stable grasping while avoiding damage to tissues.



● Partial gastrectomy (12mm)



● Cholecystectomy (5mm)



24-0001



24-0002

F Loop Plus

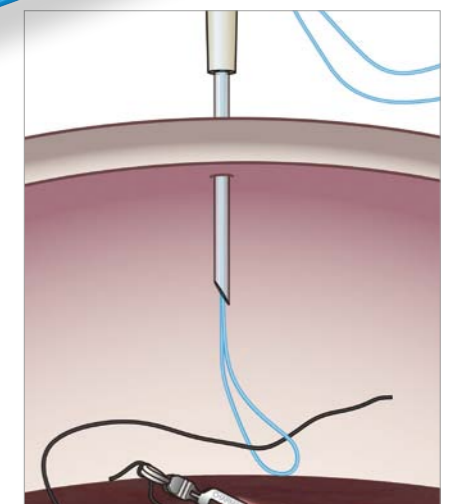
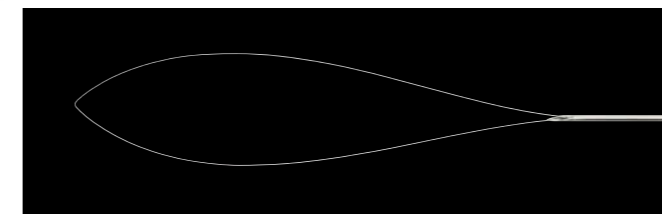
# A novel product truly assisting minimally invasive surgery

The 0.1mm $\phi$ loop of memory titanium opens up to pick the clip thread up to deliver it out of the abdominal wall.

Patent Pending



Product under development



## Surgery Support System / Spider 5

# Light weight and secure

Designed by Prof. Takanori Fukushima, the system provides surgeons with a maximum operative space.



- Hollow tubular structured titanium posts and bars
- Slip-free mechanism on table clamp

## Made in JAPAN

### Other Products

- ① Single use clips
- ② Semi-disposable microscissors
- ③ Bipolar forceps
- ④ VATS devices
- ⑤ Latest ophthalmic instruments
- ⑥ Instruments for Neurosurgery
- ⑦ Instruments for Microvascular anastomosis

# CHARMANT

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Not all products are available in all markets.

※Designs and specification subject to change without notice