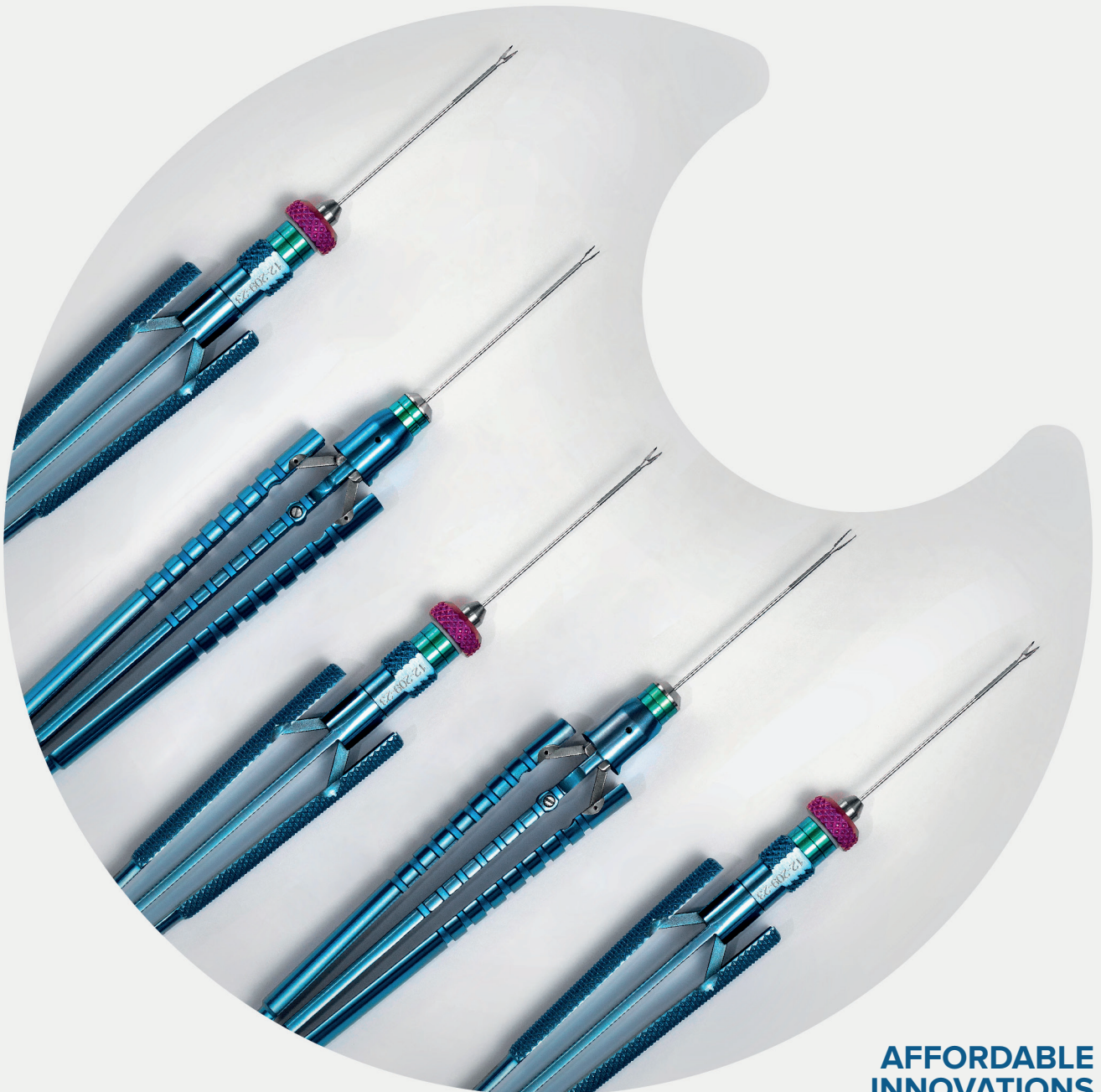




# RUMEX INSTRUMENTS

FOR VITREORETINAL SURGERY

2025



AFFORDABLE  
INNOVATIONS

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

RUMEX International Co. is one of the leading manufacturers of high precision ophthalmic instruments for handheld surgery. Since 1994 our company has been working closely with honorable surgeons all over the world. The distinguished ergonomic design of instruments, and high quality materials they are composed of, will ensure that every surgical manipulation is gentle and precise.

The comprehensive line of vitreoretinal products is a result of professional experience and manufacturing skills accumulated over many years. The range of vitreoretinal products offers a variety of options to meet any preference: reusable and disposable instruments in one-piece and two-piece design made of titanium, stainless steel and plastics.

The recently introduced group of reusable instruments with RUMEX FLUSHING SYSTEM is one of the latest innovative achievements that allows for efficient cleaning without disassembling and increases the lifespan of a tool.

COMING SOON section includes essential disposable products: vitrectomy cutters, fiber optic and laser probes that can be adjusted to the major brands of vitreo machines as well as VitreoOcta (perfluorooctane liquid), VitreoBlue & VitreoBlue Plus (trypan blue and brilliant blue dyes for posterior segment).

The brochure features suggested sets of vitreoretinal products, which include trocar systems, most popular models of scissors and forceps, backflush tools, diamond dusted scrapers and a selection of cannulas completed with silicone oil and infusion systems. The sets can be easily customized according to your personal requirements.

We respect long-term relationships and are always looking for new partners. Our brand is presented in more than 100 countries by now, and should you be interested to become a distributor of RUMEX products, please contact us for further details.



# VITREORETINAL INSTRUMENTS AND CONSUMABLES



SKU preferred by the majority of customers



Recently introduced into the product range of RUMEX International Co.



Disposable instruments



Available in a single-use edition



Quantity in the box



Available in Stainless Steel

**BRVO**

Branch Retinal Vein Occlusion

**CRVO**

Central Retinal Vein Occlusion

**ERM**

Epiretinal Membrane

**ILM**

Internal Limiting Membrane

**MVR**

Micro-vitreoretinal

**PFC**

Perfluorocarbon

**PVD**

Posterior Vitreous Detachment

**PVR**

Proliferative Vitreoretinopathy

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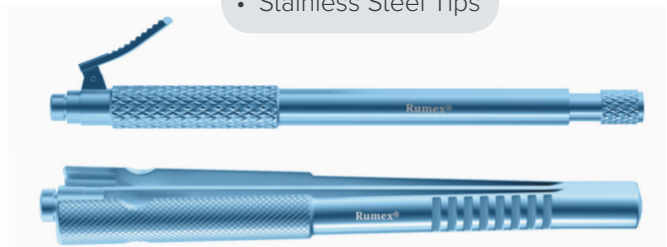
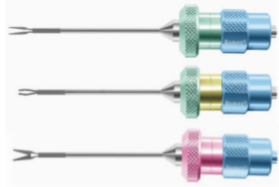
## A VARIETY OF OPTIONS FOR VITREORETINAL SURGERY

### REUSABLE

#### Option 1. Two-Piece Instruments

Universal Handle + Interchangeable Tips\*

Money-Wise Solution



- Durable
- Titanium Handle
- Stainless Steel Tips

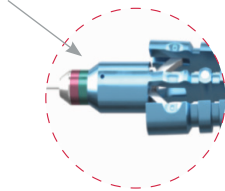
**EASY TO CLEAN**

\*completely detachable for most effective cleaning  
One handle for the set

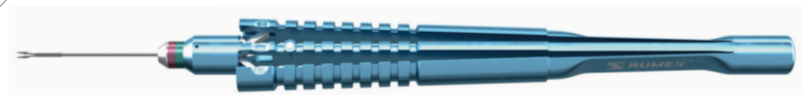
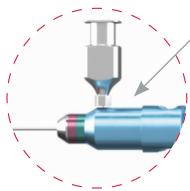
#### Option 2. One-Piece Instruments

with Innovative RUMEX Flushing System\*\*

Flushing port



Flushing cannula



\*\*easy cleaning without disassembling

**Complete tool** – no need to adjust the tip to the handle

**Delicate cleaning** – flushing liquid streams towards the tips with zero stress for the jaws

**Increased lifespan** – the inner mechanism is not involved into the cleaning process and stays intact

### DISPOSABLE

**READY FOR USE**

#### Option 1. All Stainless Steel Instruments

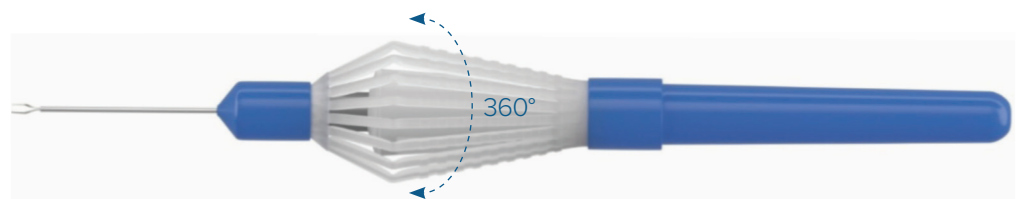
Precise performance and instant tactile control

STERILE  



#### Option 2. Ergonomic 360-Degree Handle\*

Enhanced utility due to rotatable squeeze handle



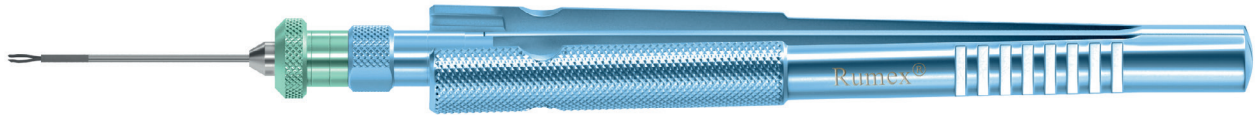
\*Not available in the US and Europe

Product design and/or features that do not influence its functionality and main parameters are subject to change.

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## FEATURED PRODUCTS

### UNIVERSAL END-GRASPING FORCEPS WITH ASYMMETRICAL BRANCHES

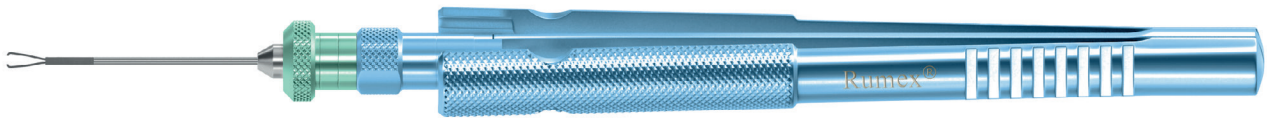


Universal End-Grasping Forceps allow the performing of ILM peeling and safe removal of epiretinal membranes. Asymmetrical design of branches provides for ideal maneuverability and excellent visualization of the grasped tissue.



12-420-23 23 Ga  
12-420-25 25 Ga  
12-420-27 27 Ga  
Tip only

### END-GRASPING FORCEPS

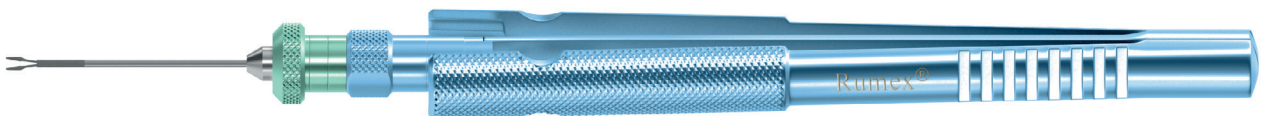


The special design of the tips promotes delicate, precise and safe ILM peeling. The strengthened jaws ensure enhanced gripping power. Expanded space between branches contributes to greater visualization of the grasped membrane in the macular area.



12-4013 23 Ga  
Tip only

### GRIPPING FORCEPS WITH A 'CROCODILE' PLATFORM



Designed for the removal of epiretinal membranes. Blunt, atraumatic serration intensifies grasping capacity and prevents tissue shredding.



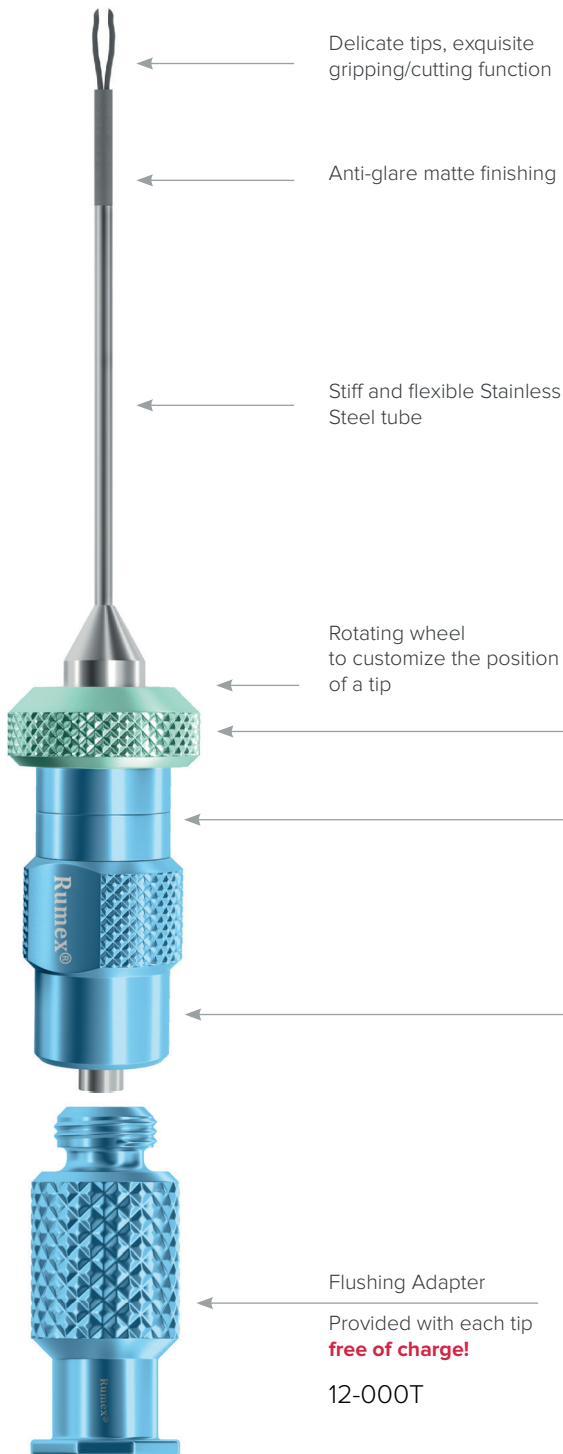
12-304 20 Ga  
12-304-23 23 Ga  
12-304-25 25 Ga  
Tip only



# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## VITREORETINAL INSTRUMENT TIPS: GAUGE CONVERSION CHART, COLOR CODE SYSTEM

We offer various models of vitreoretinal tips that can be adjusted to Universal Handles (12-001T or 12-003T)\*.



Gauge Conversion Chart		
Gauge	(inch)	(mm)
19 Ga	0.043	1.10
20 Ga	0.036	0.90
21 Ga	0.032	0.80
22 Ga	0.028	0.70
23 Ga	0.025	0.63
25 Ga	0.020	0.50
27 Ga	0.016	0.40

### Color Code System\*\*

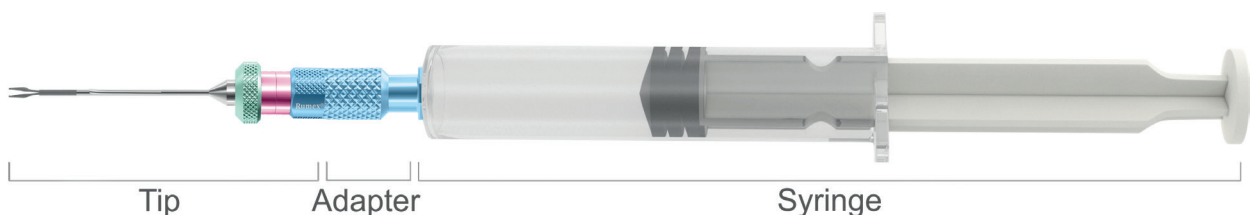
Color code system is used to indicate vitreoretinal tips, their function and size.

Function	
Pink	Scissors
Green	Forceps
Gauge	
Gray	17
Pink	20
Green	23
Blue	25
Yellow	27
COMPATIBILITY (adjustable to handles)	
Pink	12-001T
Blue	12-001T / 12-003T

### Manual Cleaning

Proper cleaning of the instrument is necessary to preserve its working condition.

RUMEX manufactures interchangeable microincisional and vitreoretinal instrument tips that can be cleaned with a regular syringe.



\*Handles are sold separately! \*\*Colors of details may differ slightly from those displayed in this catalog.  
Product design and/or features that do not influence its functionality and main parameters are subject to change.

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## HANDLES FOR VITREORETINAL INSTRUMENTS\*

RUMEX International Co is pleased to provide you with two models of Universal Handles that can be used with interchangeable tips.\*

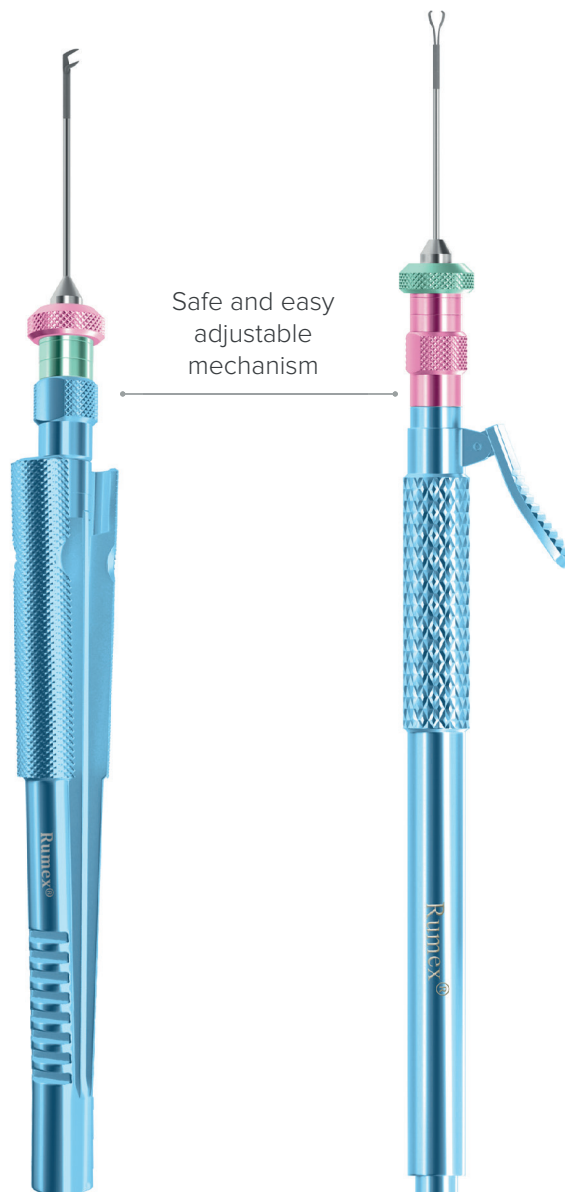
- Made of Titanium
- Corrosion resistant
- Can be used with tips of any gauge 20/23/25/27 (and other gauges)

### Ergonomic Model

Two Fingers Control  
Squeeze Handle

12-003T 

- Two fingers linear actuation
- Ergonomic handle with specially designed gripping area for amplified control over the instrument
- Optimal diameter round handle allows 360° rotation
- Non compatible with the following tips: 12-206, 12-313, 12-321, 12-335



### Classic Model

One Finger Control  
Handle

12-001T

- One finger linear actuation
- Classic design approved by decades of work
- Compatible with all models of tips

Adjustable screw mechanism (to customize the opening of branches before manipulation)

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## SCISSORS\*

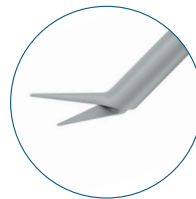
Designed for cutting membranes and junction zones of the proliferative tissue.



### Vertical Scissors

70°  
Sharp tips

12-202 20 Ga  
12-202-23 23 Ga



### Horizontal Scissors

55°

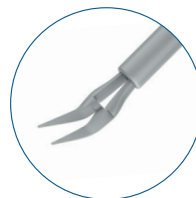
12-206\*\* 20 Ga



### Vertical Scissors

45°

12-2029 25 Ga

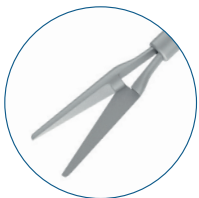


### Horizontal Scissors

Angled  
45°

Short blades (1.70 mm  
in the closed position)

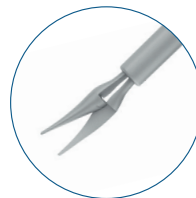
12-2085 20 Ga



### Straight Scissors

Blunt tips

12-211 20 Ga



### Curved Subretinal Scissors

Curvature radius 12.00 mm

12-209 20 Ga  
12-209-23 23 Ga   
12-2099 25 Ga



\*Tips are sold separately! \*\* Compatible with Universal Handle 12-001T Only  
Product design and/or features that do not influence its functionality and main parameters are subject to change.

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## INTERNAL LIMITING MEMBRANE (ILM) FORCEPS

Delicate branches for ILM peeling



### ILM



#### Asymmetrical End-Grasping Forceps

Standard tube, 28.00 mm

12-420-23 23 Ga  
12-420-25 25 Ga  
12-420-27 27 Ga

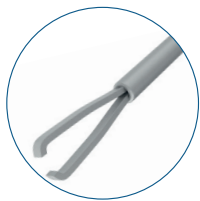
Designed for myopic eyes.  
Elongated tube, 30.00 mm

12-4202-23 23 Ga

Enhanced visualization!

Universal End-Grasping Forceps allow the performing of ILM peeling and safe removal of epiretinal membranes. Asymmetrical design of branches provides for ideal maneuverability and excellent visualization of the grasped tissue.

### ILM



#### End-Grasping Forceps

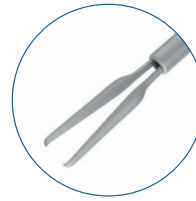
Expanded space between branches

12-4013 23 Ga

Enhanced visualization!

The special design of the tips promotes delicate, precise and safe ILM peeling. The strengthened jaws ensure enhanced gripping power. Expanded space between branches contributes to greater visualization of the grasped membrane in the macular area.

### ILM



#### Eckardt End-Gripping Forceps

12-410 20 Ga  
12-410-23 23 Ga  
12-410-25 25 Ga  
12-410-27 27 Ga



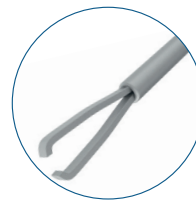
### ILM



#### Tano Asymmetrical End-Gripping Forceps

12-411 20 Ga  
12-411-23 23 Ga  
12-411-25 25 Ga

### ILM

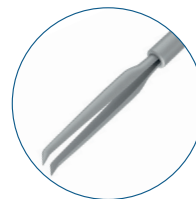


#### End-Grasping ILM Forceps with Texturized Outer Platform

- Increased friction between tissue and forceps
- Can be used as ILM elevator

12-450-23 23 Ga

Enhanced cohesion!



#### Tanaka Maculorhexis Forceps

12-414 23 Ga

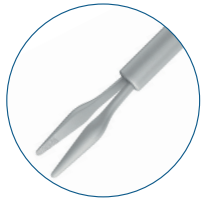


## EPIRETINAL (ERM) FORCEPS\*

- Strengthened jaws for the removal of epiretinal membranes
- Gripping function is enhanced by sandblasted/serrated platform or nail shaped jaws



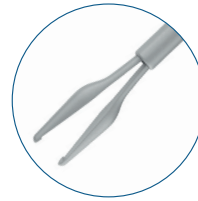
### ERM



#### Gripping Forceps

With a sandblasted platform

12-301-23 23 Ga  
12-3019 25 Ga



#### End-Gripping Forceps

With extended gripping area at the end of the tip

12-4012 23 Ga



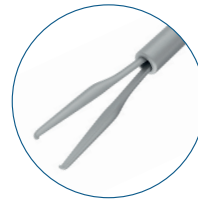
### ERM



#### Gripping Forceps

With a "crocodile" platform

12-304 20 Ga  
12-304-23 23 Ga  
12-304-25 25 Ga



#### End-Gripping Forceps

With nail-shaped jaws

12-402 20 Ga  
12-402-23 23 Ga  
12-4089 25 Ga

Designed for the removal of epiretinal membranes. Blunt, atraumatic serration intensifies grasping capacity and prevents tissue shredding.

\*Tips are sold separately!

Product design and/or features that do not influence its functionality and main parameters are subject to change.

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

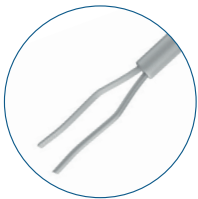
## PICK FORCEPS\*



### Pick Forceps

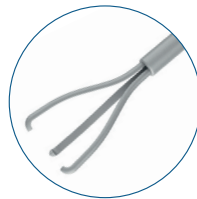
12-325-23 23 Ga  
12-3259 25 Ga

## FOREIGN BODY REMOVAL FORCEPS\*



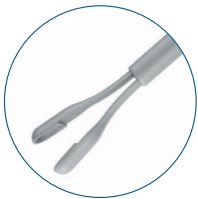
### Avci Foreign Body Forceps

12-412\*\*\* 17 Ga



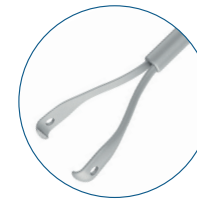
### Spring Gripping Forceps

12-321\*\* 20 Ga  
12-321-23\*\*\* 23 Ga



### Vitreoretinal Forceps

With cup jaws  
12-313\*\* 20 Ga



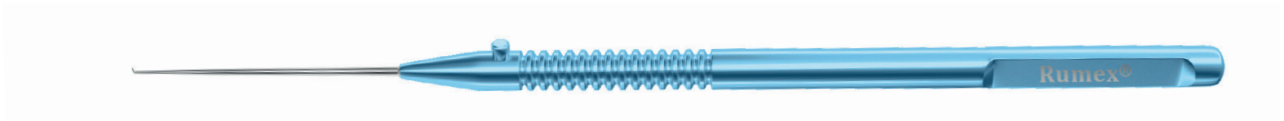
### Stolyarenko Forceps

For large foreign bodies  
12-335\*\* 20 Ga


\*Tip only. Handles are sold separately. \*\* Compatible with Universal Handle 12-001T only

\*\*\* Compatible with Universal Handles 12-001T and 12-003T

## MEMBRANE INSTRUMENTS



### Delicate Membrane Pick

13-097-23 23 Ga   
 13-0979 25 Ga  
 13-097-27 27 Ga

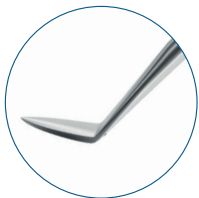
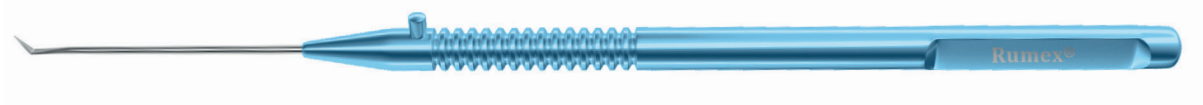
- Unique geometry of the tip for maximal effectiveness and minimal shredding of the tissue
- Jut on the handle identifies the tip orientation



### Membrane Scratcher

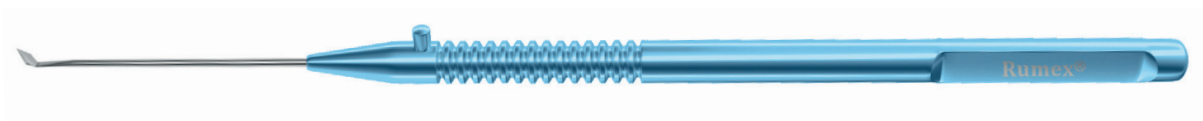
13-092 20 Ga

- Flat, thin instrument to remove tissue and fine membranes from retinal surface in early stages of PVR
- Useful for cleaning residual ERM or ILM
- Great for lifting of large membrane edges without shredding



### Ogura PVD Spatula

Overall length 132  
 13-1081-23 23 Ga



### BRVO Knife

Designed for performing a lateral CRVO incision.

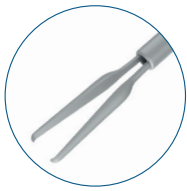
Overall length 135  
 13-1091-23 23 Ga

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## 23 GAUGE INSTRUMENTS\*

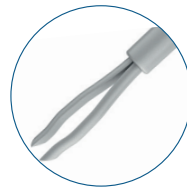


### ILM



Eckardt End-Gripping Forceps

12-410-23 23 Ga ♥



Asymmetrical End-Grasping Forceps

Designed for myopic eyes. Elongated tube, 30.00 mm

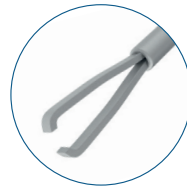
12-4202-23 23 Ga

Enhanced visualization!



Tano Asymmetrical End-Gripping Forceps

12-411-23 23 Ga



End-Grasping Forceps

Expanded space between branches

12-4013 23 Ga

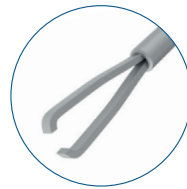
Enhanced visualization!



Asymmetrical End-Grasping Forceps

12-420-23 23 Ga

Enhanced visualization!



End-Grasping ILM Forceps with Texturized Outer Platform

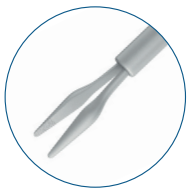
- Increased friction between tissue and forceps
- Can be used as ILM elevator

12-450-23 23 Ga

Enhanced cohesion



### ERM



Gripping Forceps

With a sandblasted platform

12-301-23 23 Ga



Gripping Forceps

With a "crocodile" platform

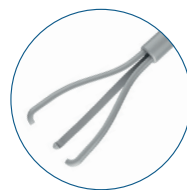
12-304-23 23 Ga ♥



Vertical Scissors

70°  
Sharp tips

12-202-23 23 Ga ♥



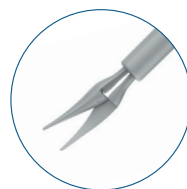
Spring Gripping Forceps

12-321-23 23 Ga ♥



Pick Forceps

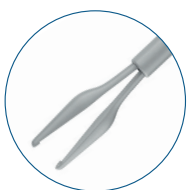
12-325-23 23 Ga



Curved Subretinal Scissors

Curvature radius 12.00 mm

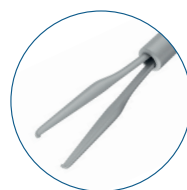
12-209-23 23 Ga ♥



End-Gripping Forceps

With extended gripping area at the end of the tip

12-4012 23 Ga



End-Gripping Forceps

With nail-shaped jaws

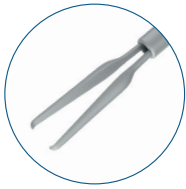
12-402-23 23 Ga

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## 25 GAUGE INSTRUMENTS\*



### ILM



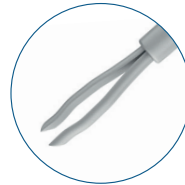
Eckardt End-Gripping Forceps

12-410-25 25 Ga



Tano Asymmetrical End-Gripping Forceps

12-411-25 25 Ga



Asymmetrical End-Grasping Forceps

12-420-25 25 Ga

Enhanced visualization!



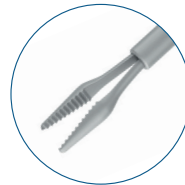
### ERM



Gripping Forceps

With a sandblasted platform

12-3019 25 Ga



Gripping Forceps

With a "crocodile" platform

12-304-25 25 Ga



Vertical Scissors

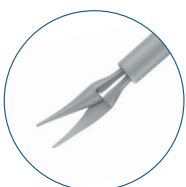
45°  
Sharp tips

12-2029 25 Ga



Pick Forceps

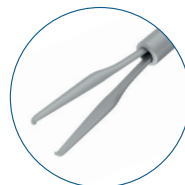
12-3259 25 Ga



Curved Subretinal Scissors

Curvature radius 12 mm

12-2099 25 Ga



End-Gripping Forceps

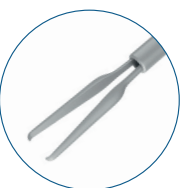
With nail-shaped jaws

12-4089 25 Ga

## 27 GAUGE INSTRUMENTS\*

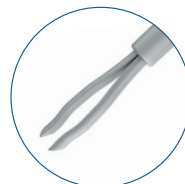


### ILM



Eckardt End-Gripping Forceps

12-410-27 27 Ga



Asymmetrical End-Grasping Forceps

12-420-27 27 Ga

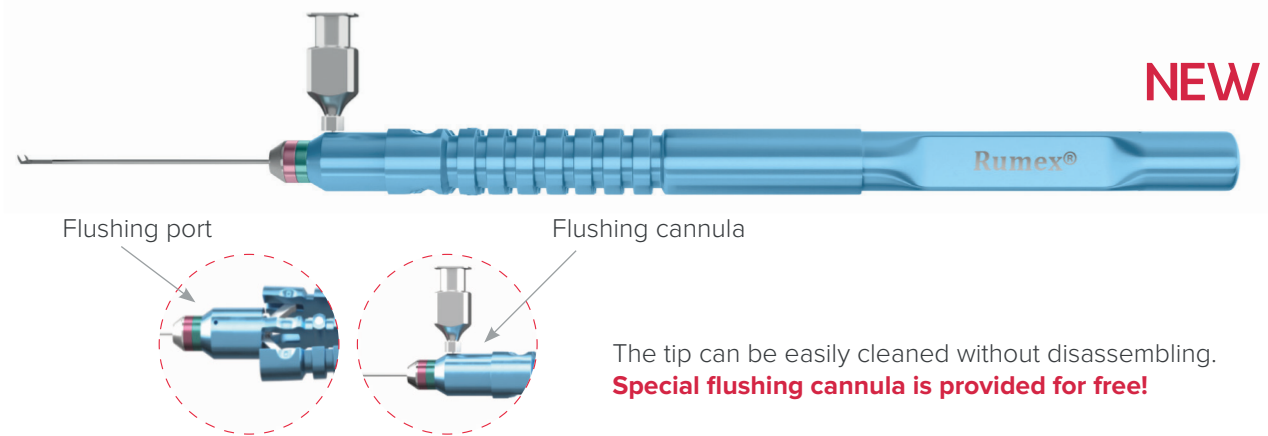
Enhanced visualization!

\*Tip only. Handles are sold separately.

Product design and/or features that do not influence its functionality and main parameters are subject to change.

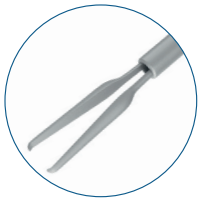
# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## ONE-PIECE VITREORETINAL INSTRUMENTS WITH FLUSHING SYSTEM

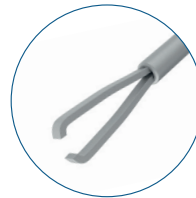


The tip can be easily cleaned without disassembling.  
**Special flushing cannula is provided for free!**

### ILM



- 12-410-23D
  - 12-410-23DP
  - 12-410-25D
  - 12-410-25DP
- Eckardt End-Grasping Forceps**  
 12-410-23H 23 Ga   
 12-410-25H 25 Ga



### End-Grasping Forceps

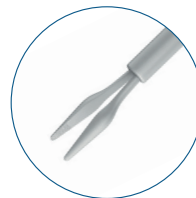
Expanded space  
between branches  
 12-4013H 23 Ga  
 12-4013-25H 25 Ga

Enhanced visualization!

### ERM

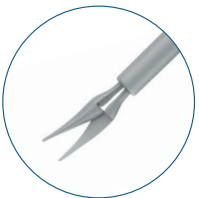


- 12-304-23D
  - 12-304-23DP
  - 12-304-25D
  - 12-304-25DP
- Gripping Forceps**  
 With a "crocodile" platform  
 12-304-23H 23 Ga  
 12-304-25H 25 Ga



### Gripping Forceps

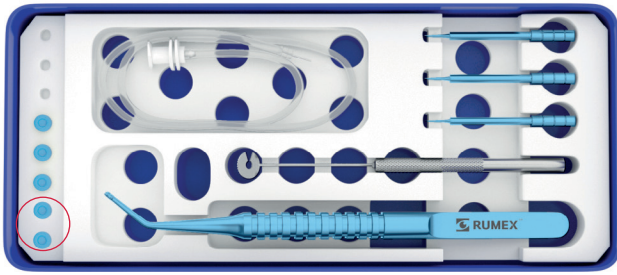
With a sandblasted platform  
 12-301-23H 23 Ga  
 12-301-25H 25 Ga



- 12-209-23D
  - 12-209-23DP
  - 12-209-25D
  - 12-209-25DP
- Curved Subretinal Scissors**  
 Curvature radius 12.00 mm  
 12-209-23H 23 Ga  
 12-209-25H 25 Ga



## REUSABLE TWO STEP TROCAR SYSTEMS



2 extra cannulas

MVR knives should be purchased separately

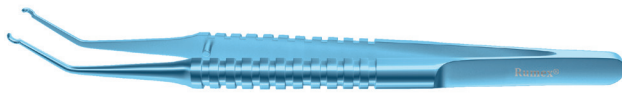
### Reusable Trocar System with Closure Valves

Package includes:

- Trocar cannula with closure valves – 5 pcs
- Loading forceps – 1 pc
- Fixation plate – 1 pc
- Cannula inserter – 3 pcs
- Universal infusion line – 1 pc
- Sterilization tray – 1 pc

12-5173-23 23 Ga

12-5173-25 25 Ga



### Loading Forceps

12-5186 23/25 Ga



### Instrument Cannula Inserter

12-5187 23 Ga

12-5187-25 25 Ga



### Fixation Plate

12-5188 23/25 Ga



### MVR Knives

Multifacet blade

**STERILE**

Straight

Angled

VRS-19 - 19 Ga

VRA-19 - 19 Ga

VRS-20 - 20 Ga

VRA-20 - 20 Ga

VRS-23 - 23 Ga

VRA-23 - 23 Ga

VRS-25 - 25 Ga

VRA-25 - 25 Ga



### Scleral Plugs Forceps

Cross-action mechanism reduces hand fatigue.

Overall length 106 mm

12-5086S 20 Ga



### Watzke Sleeve Spreading Forceps

Used to stretch the silicone sleeve placed around the eyeball.

Serrated tips aid in gripping the sleeve and allow for adjustable traction.

Overall length 110 mm

4-2201T

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## DISPOSABLE ONE-PIECE STAINLESS STEEL INSTRUMENTS

STERILE  

All stainless steel disposable instruments in 23 and 25 Ga are designed for precise manipulations during posterior segment surgeries.



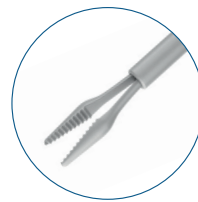
### ILM



Eckardt End-Gripping Forceps


12-410-23D 23 Ga   
12-410-25D 25 Ga 

### ERM



Gripping Forceps

With a "crocodile" platform

12-304-23D 23 Ga   
12-304-25D 25 Ga 

### ILM



Asymmetrical End-Grasping Forceps

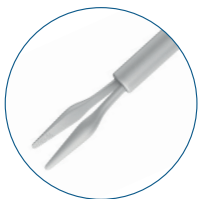
12-420-23D 23 Ga  
12-420-25D 25 Ga

Pick Forceps



12-325-23D 23 Ga  
12-325-25D 25 Ga

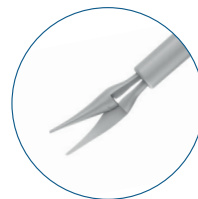
### ERM



Gripping Forceps

12-301-23D 23 Ga  
12-301-25D 25 Ga

Curved Scissors



12-209-23D 23 Ga   
12-209-25D 25 Ga 

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

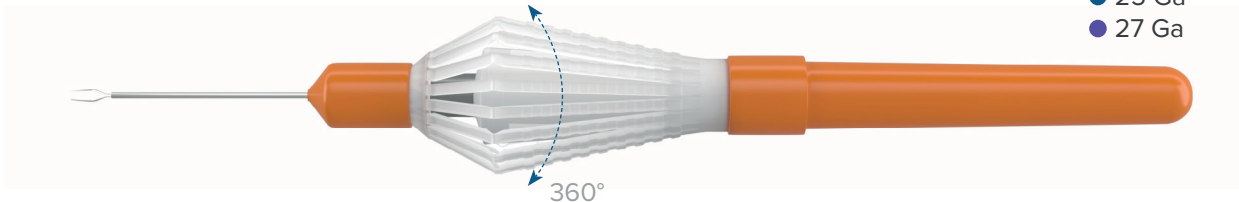
## DISPOSABLE INSTRUMENTS WITH PLASTIC HANDLE\*

STERILE 



360-degree handle design incorporates a unique rotatability, convenience and actuation. The instrument's weight is less than 8 grams. Lightweight plastic ergonomic handle especially valuable during hours-long surgeries.

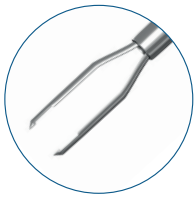
- 23 Ga
- 25 Ga
- 27 Ga



### ILM

#### Eckardt End-Gripping Forceps

- 12-410-23DP 23 Ga
- 12-410-25DP 25 Ga
- 12-410-27DP 27 Ga

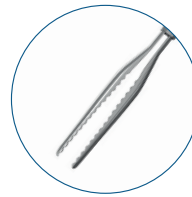


### ERM

#### Gripping Forceps

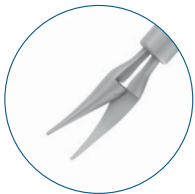
With a "crocodile" platform

- 12-304-23DP 23 Ga
- 12-304-25DP 25 Ga
- 12-304-27DP 27 Ga



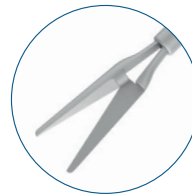
#### Curved Scissors

- 12-209-23DP 23 Ga
- 12-209-25DP 25 Ga
- 12-209-27DP 27 Ga



#### Straight Scissors

- 12-211-23DP 23 Ga
- 12-211-25DP 25 Ga
- 12-211-27DP 27 Ga



#### Vertical Scissors

- 45°
- 12-202-23DP 23 Ga
  - 12-202-25DP 25 Ga



## DISPOSABLE DIAMOND DUSTED RETRACTABLE ILM ELEVATORS\*\*

STERILE 



Designed to consistently create a precise edge to facilitate the ILM removal with forceps.

**SOFT SILICONE TIP** is safe for retinal surface.  
**DIAMOND DUSTED** finish provides an extreme grip.

**RETRACTABLE VERSION** enables easy insertion through the trocar cannula



- 12-7523 23 Ga
- 12-7525 25 Ga



# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## DISPOSABLE ONE STEP TROCAR SYSTEMS\*

STERILE  

Each set includes:

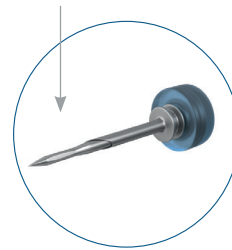
- Trocar knife with preloaded trocar cannula – 3 pcs
- Self-sealing trocar cannula (preloaded) – 3 pcs
- Universal infusion line – 1 pc

12-5229	23 Ga	●
12-5244	25 Ga	●
12-5227	27 Ga	●



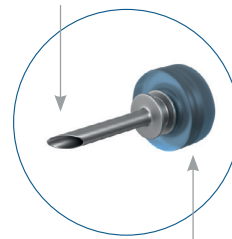
### Sharp MVR Blade

Helps to create a smooth incision and promotes low-pressure insertion and superior sealing.



### Trocar Cannula

Innovative beveled design of the cannula contributes to unstoppable smooth trocar insertion.



### Silicone Closure Valves

Removable self-sealing valves ensure maintenance of the desired intraocular pressure throughout the case and eliminate the need for plugs.

### Trocar Cannula Inserter

The tip of the plastic handle serves as a caliper/scleral marker (2 dimensions: 3.00 and 4.00 mm).

### Universal Infusion Line for BSS

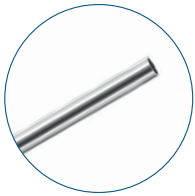
# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## DISPOSABLE BACKFLUSH INSTRUMENTS\*

STERILE  

One-piece instrument combines a handle and a soft, brush or blunt tip cannula. Used for intraocular fluids and debris aspiration during vitreoretinal surgery.

- 23 Ga
- 25 Ga
- 27 Ga



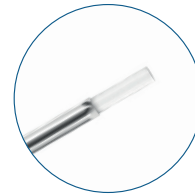
with **Blunt Tip**

- 12-5164H 23 Ga x 34 mm
- 12-5156H 25 Ga x 34 mm
- 12-5492H 27 Ga x 34 mm



with **Silicone Brush Tip**

- 12-5162H 23 Ga x 34 mm
- 12-5160H 25 Ga x 34 mm
- 12-5167H 27 Ga x 34 mm



with **Silicone Soft Tip**



- 12-5161H 23 Ga x 34 mm
- 12-5152H 25 Ga x 34 mm
- 12-5491H 27 Ga x 34 mm

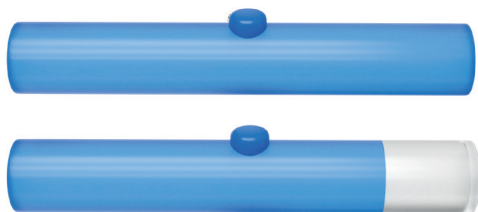
## BACKFLUSH HANDLES AND RESERVOIRS



Reusable Backflush Handle



Titanium

- 12-6000 Active aspiration 
- 12-6010 Passive aspiration 



STERILE  

Disposable Replacement Reservoir for Backflush Handle\*

- 12-5159 Active aspiration 
- 12-5147 Passive aspiration 

\*Not available in Europe

Product design and/or features that do not influence its functionality and main parameters are subject to change.

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## VITREORETINAL CANNULAS

### Disposable Backflush Cannulas\*


STERILE

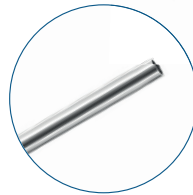


Designed for efficient and safe manipulations in the posterior segment. Used with the backflush handle.

### Charles Flute Cannulas



Designed to aspirate blood and debris from the posterior segment. Smooth, finished tip provides atraumatic entry and reduces risk of trauma to surrounding tissue.

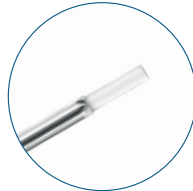
12-5164 23 Ga x 34 mm   
12-5156 25 Ga x 34 mm  
12-5492 27 Ga x 34 mm



### Soft Tip Cannulas

Flexible silicone tip allows atraumatic entry through retinal or macular tears or holes and enables aspiration of subretinal fluid.

12-5161 23 Ga x 34 mm   
12-5152 25 Ga x 34 mm   
12-5491 27 Ga x 34 mm



### Brush Tip Cannulas

The soft silicone brush tip cannula designed for atraumatic brushing of retina.

12-5162 23 Ga x 34 mm  
12-5160 25 Ga x 34 mm  
12-5167 27 Ga x 34 mm



### Dual Bore Cannulas\*

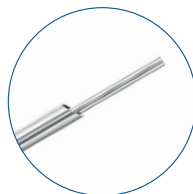
STERILE



### Dual Bore PFC Cannulas

Simultaneous infusion of heavy liquids and aspiration of intraocular fluids.

12-5203 23 Ga x 33 mm  
12-5205 25 Ga x 33 mm





## SILICONE OIL

### SmartSil 1000/5000\*

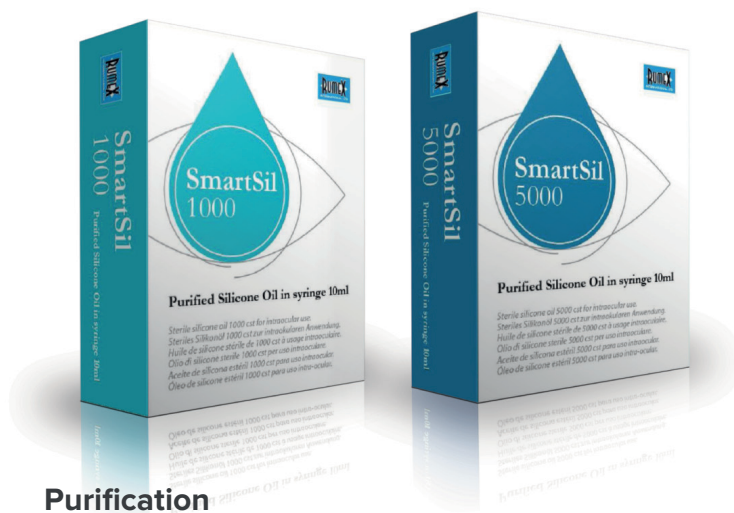
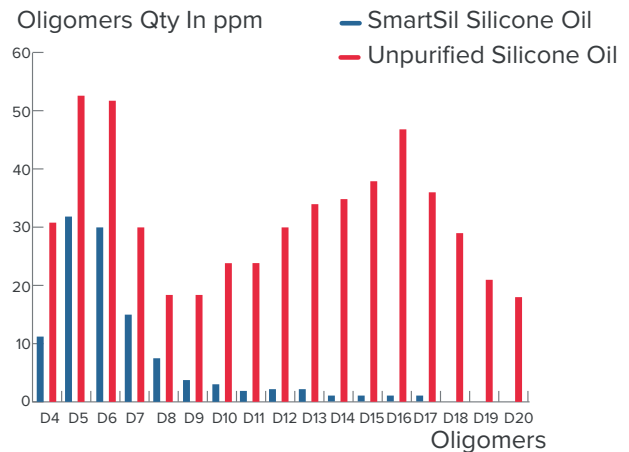
Purified Silicone Oil for Vitreoretinal Surgery

- Maximum interfacial tension and minimum interactions between tissues, cells and endo-tamponades media
- Optimal combination of specific gravity, refractive index and surface tension
- Different viscosity indexes enable easy injection (1000 cSt) and stable temporary tamponade (5000 cSt)
- Vacuum molecular distillation solvent-free purification - **no risk of emulsification**

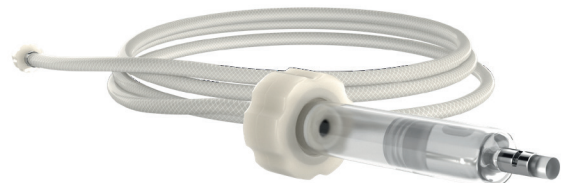
### Physico-chemical properties

Interfacial tension	≥ 40 mNm <sup>-1</sup> at 37°C
Density	0.97
Viscosity	1000/5000 cSt
Refractive index	1.40
Volatility	< 1%
Polydispersity	< 2.80
Volume of oil	10 ml
Syringe	20 ml
Shelf Life	3 years

### GC



**Silicone Oil Infusion System is sold separately**



### Purification

- Vacuum molecular distillation solvent-free purification
- Potentially toxic low molecular weight oligomers (D4 to D20) extraction
- Residual volatile components extraction (water, ethanol, etc.)

### Indication

SmartSil 1000/5000 is used for prolonged tamponade after surgical treatment for severe retinal detachment (RD), especially:

- RD with proliferative vitreal retinopathy
- RD with diabetic retinopathy complications
- RD with giant tears
- Traumatic RD
- Secondary RD with viral retinitis



\*Not available in the US \*To be used with Silicone Oil Infusion System

Product design and/or features that do not influence its functionality and main parameters are subject to change.

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## SILICONE OIL INFUSION SYSTEMS

Silicone Oil Infusion Systems are used to connect RUMEX silicone oil syringe to the vitreoretinal surgical equipment.



Surgical System	Reusable
Ioltech® Pentasys™ Optikon® Antares™ Alcon® STTO™ Storz® Premiere™ DORC® Harmony Budget™	12-RTUB-1
Reusable Tubing System for the Infusion Of Silicone Oil, Caprolone Adapter Adjustable To DORC® Associate™, EVA™, EVA NEXUS™; Alcon® Constellation™, Accurus™	12-RTUB-2
B&L® Millenium™, Stellaris™	12-RTUB-3
Oertli® Orbit™, Faros™, OS3™ Optikon® R-Evolution®	12-RTUB-4

**STERILE**  

### Disposable Viscous Fluid Injection Cannulas\*

Allow injection of viscous fluids such as silicone oil through a 23 Ga or 25 Ga trocar cannula

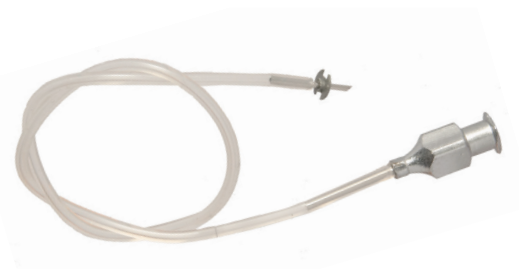


- 12-5248 23 Ga x 4 mm
- 12-5258 25 Ga x 4 mm

### Infusion Cannula

#### Reusable Infusion Cannula

- 12-026 20 Ga  
Self-retaining hub of 6.00 mm
- 12-025 20 Ga  
Self-retaining hub of 4.00 mm

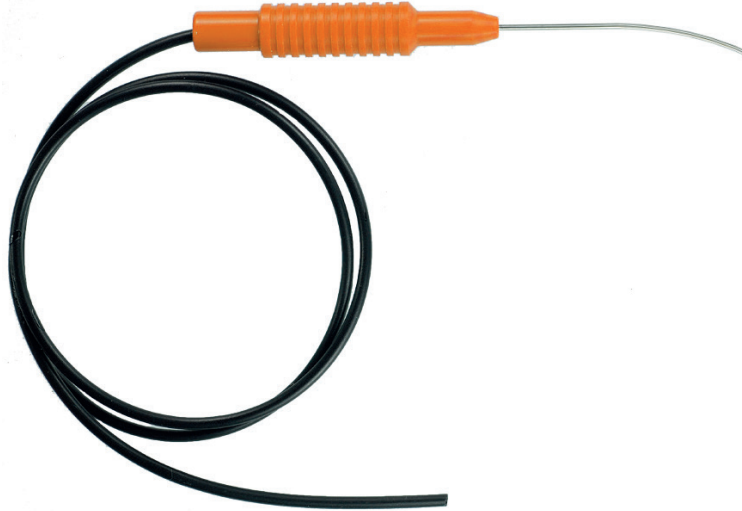


**COMING SOON\***

## DISPOSABLE LASER PROBES

STERILE 

Designed to perform endo-ocular laser photocoagulation treatment



- 23 Ga
- 25 Ga
- 27 Ga

Surgical system/type of the probe	Straight		Curved		Extensible	
SMA 905 Connector: Alcon®, Zeiss®, COHERENT®, Ellex®	RLS-23AZ	23 Ga	RLC-23AZ	23 Ga	RLEX-23AZ	23 Ga
	RLS-25AZ	25 Ga	RLC-25AZ	25 Ga	RLEX-25AZ	25 Ga
	RLS-27AZ	27 Ga	RLC-27AZ	27 Ga		
DORC®	RLS-23D	23 Ga	RLC-23D	23 Ga	RLEX-23D	23 Ga
	RLS-25D	25 Ga	RLC-25D	25 Ga	RLEX-25D	25 Ga
	RLS-27D	27 Ga	RLC-27D	27 Ga		

\*Products in the process of development and certification

Product design and/or features that do not influence its functionality and main parameters are subject to change.

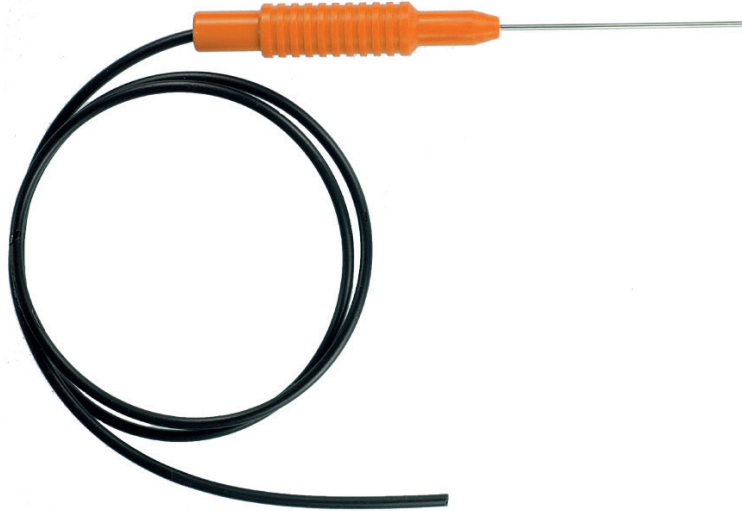
# VITREORETINAL INSTRUMENTS AND CONSUMABLES

**COMING SOON\***


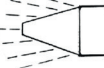

## DISPOSABLE FIBER OPTIC PROBES

Used to illuminate the interior of the eye

STERILE  



- 23 Ga
- 25 Ga
- 27 Ga

Surgical system/type of illumination	Standard		Wide-angle		Shielded	
						
Alcon®	12-5177	23 Ga	12-5178	23 Ga	12-5625	23 Ga
	12-5135	25 Ga	12-3625	25 Ga	12-5627	25 Ga
	12-5927	27 Ga				
B&L®	12-5179	23 Ga	12-5180	23 Ga	12-5725	23 Ga
	12-5125	25 Ga	12-5427	25 Ga	12-5727	25 Ga
	12-5127	27 Ga				
Oertli®	12-4123	23 Ga	12-5463	23 Ga	12-5853	23 Ga
	12-4125	25 Ga	12-5465	25 Ga	12-5855	25 Ga
	12-4127	27 Ga				
BVI® (OPTIKON)	12-9123	23 Ga	12-5453	23 Ga	12-5843	23 Ga
	12-9125	25 Ga	12-5455	25 Ga	12-5845	25 Ga
	12-9127	27 Ga				

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

**COMING SOON\***

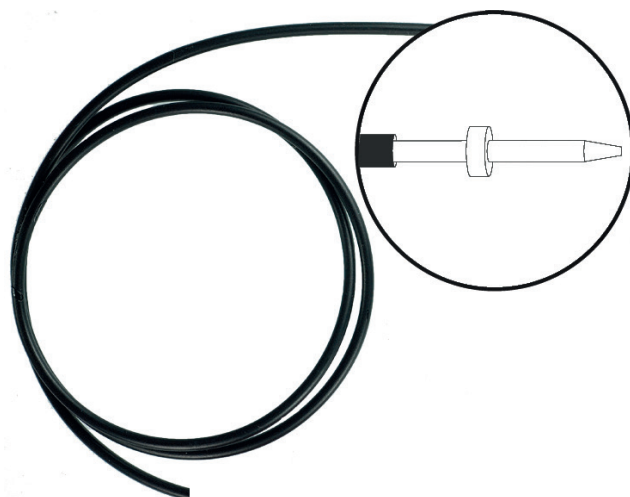
## DISPOSABLE CHANDELIER FIBER OPTIC PROBES


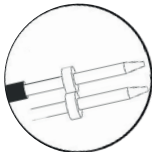


Enable bimanual vitreoretinal surgery

Allow for diffuse illumination to enhance visualization

Facilitate the recording of surgical videos by providing consistent lighting

STERILE  



Surgical system/type of the probe	Standard		Dual Fiber		with preloaded Trocar and Inserter	
						
Alcon®	12-4563	23 Ga			12-5223	23 Ga
			12-4526	25 Ga	12-5225	25 Ga
					12-6327	27 Ga
B&L®	12-4573	23 Ga				
			12-4545	25 Ga		
Oertli®	12-4593	23 Ga			12-5543	23 Ga
			12-4543	25 Ga	12-5545	25 Ga
BVI® (OPTIKON)	12-4583	23 Ga			12-5533	23 Ga
			12-4535	25 Ga	12-5535	25 Ga
Synergetics®	12-4553	23 Ga				
			12-4525	25 Ga		

\* Products in the process of development and certification  
Product design and/or features that do not influence its functionality and main parameters are subject to change.

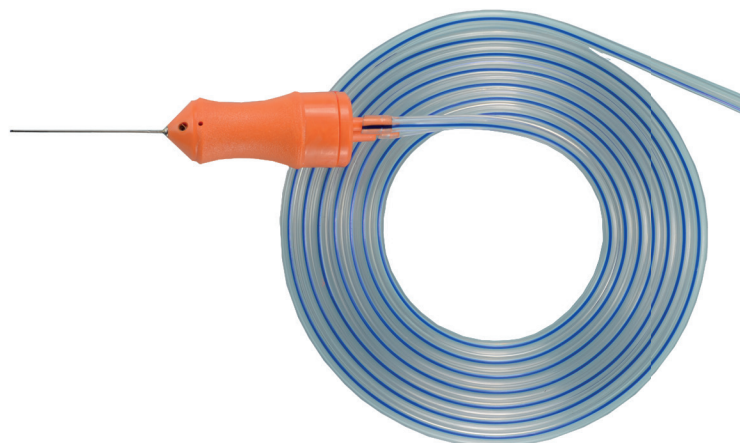
# VITREORETINAL INSTRUMENTS AND CONSUMABLES

**COMING SOON\***

## DISPOSABLE VITRECTOMY CUTTERS

Help to efficiently cut and aspirate vitreous

STERILE 



- 23 Ga
- 25 Ga
- 27 Ga

Surgical system/type of the cutter	Single Cut	Speed/Pressure	Double Cut	Speed/Pressure
Alcon®: Accurus®DORC®: Associate®	RV-23AC 23 Ga	Speed: 2000 CPM Pressure: 42 PSI		
	RV-25AC 25 Ga			
B&L®: Stellaris®	RV-23BF 23 Ga	Speed: 5000 CPM Pressure: 42 PSI	RV-23BFd 23 Ga	Speed: 10000 CPM Pressure: 42 PSI
	RV-25BF 25 Ga		RV-25BFd 25 Ga	
	RV-27BF 27 Ga			
Oertli®: OS4®	RV-23OS 23 Ga	Speed: 5000 CPM Pressure: 35-37 PSI		
	RV-25OS 25 Ga			
	RV-27OS 27 Ga			
BVI® (OPTIKON): R-Evo Smart® CR	RV-23OB 23 Ga	Speed: 5000 CPM Pressure: 30 PSI	RV-23OBd 23 Ga	Speed: 10000 CPM Pressure: 30 PSI
	RV-25OB 25 Ga			
	RV-27OB 27 Ga			
BVI® (OPTIKON): R-Evolution® CRZEISS®: VISALIS®	RV-23OZ 23 Ga	Speed: 6000 CPM Pressure: 43 PSI	RV-23OZd 23 Ga	Speed: 12000 CPM Pressure: 43 PSI
	RV-25OZ 25 Ga			
	RV-27OZ 27 Ga			
DORC®: EVA®	RV-23GC 23 Ga	Speed: 8000 CPM Pressure: 42 PSI		
	RV-25GC 25 Ga			
	RV-27GC 27 Ga			



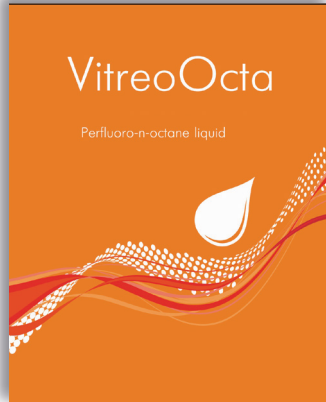
## COMING SOON\*

### PFO LIQUID

#### VitreOocta

Perfluorooctane liquid for vitreoretinal surgery (PFO)

STERILE  



An ideal intraoperative tool to improve the efficiency and safety of vitreoretinal surgical procedures.

#### Indicated to treat:

- Retinal detachments
- Giant tears
- Ocular trauma
- Removal of dislocated lenses and foreign bodies from vitreous

#### Product features:

- High vapor pressure and specific gravity
- Low surface tension
- Low viscosity
- Non toxic, absolutely safe

### EYE DYES

#### VitreOblue

Trypan blue 0.15% solution for ILM and ERM staining during vitreoretinal surgery

STERILE  

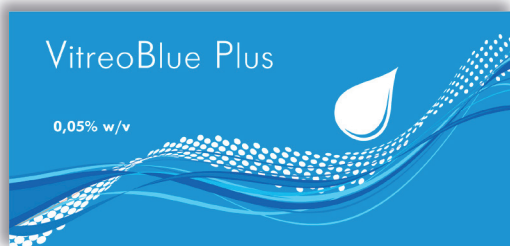


- Facilitates tissue removal and reduces the risk of retinal damage
- Distinguishes between new and old PVR membranes
- Helps to identify and facilitate removal of posterior hyaloids remnants in tractional diabetic retinopathy

#### VitreObluePlus

Brilliant Blue Solution 0.05 % for ILM staining during vitreoretinal surgery

STERILE  



- Selectively stains and visualizes Internal Limiting Membrane
- Facilitates complete peeling during retinal surgery to repair macula holes
- Reduces the risk of retinal damage

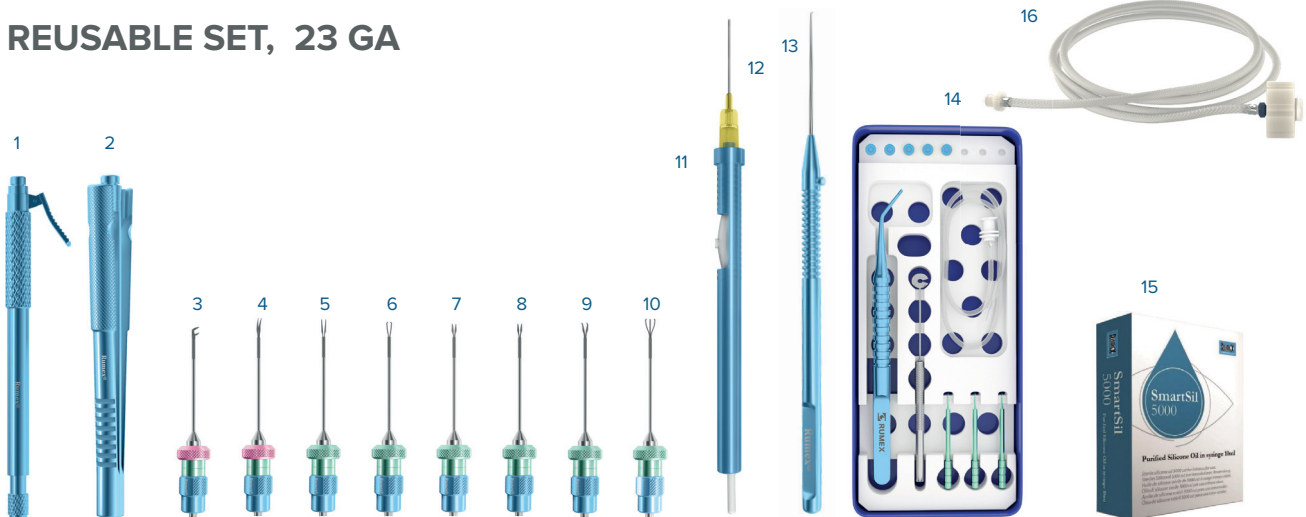
\* Products in the process of development and certification

Product design and/or features that do not influence its functionality and main parameters are subject to change.

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## FEATURED SETS 23/25 GAUGE

### REUSABLE SET, 23 GA



Reference	Key	Description
12-001T	1	Universal Instrument Handle, One Finger Control
12-003T	2	Universal Instrument Handle, Squeeze Model, Two Fingers Control
12-202-23	3	Vertical Vitreoretinal Scissors, 23 Ga, Tip only
12-209-23	4	Curved Subretinal Scissors, 23 Ga, Tip only
12-410-23	5	Eckardt End-Gripping Forceps, 23 Ga, Tip only
12-4013	6	End-Grasping Forceps, Expanded Space between Branches, 23 Ga, Tip only
12-301-23	7	Vitreoretinal Forceps with a Sandblasted Platform, 23 Ga, Tip only
12-304-23	8	Vitreoretinal Forceps with a "Crocodile" Platform, 23 Ga, Tip only

\*not shown

Reference	Key	Description
12-325-23	9	Pick Vitreoretinal Forceps, 23 Ga, Tip only
12-321-23	10	Spring Gripping Forceps, 23 Ga, Tip only
12-6000	11	Titanium Backflush Handle, Active Aspiration
12-5161	12	Soft Tip Cannula, 23 Ga, Disposable, 5 per Box
13-097-23	13	Delicate Membrane Pick, 23 Ga
12-5173-23	14	Reusable Trocar System, 23 Ga
SmartSil5000	15	Purified Silicone Oil for Retinal Endotamponade, 5000 cSt
12-RTUB-2	16	Reusable Tubing System for the Infusion Of Silicone Oil, Caprolone Adapter Adjustable To DORC® Associate™, EVA™, EVA NEXUS™, Alcon® Constellation™, Accurus™

18-305\*

### DISPOSABLE SET, 23 GA



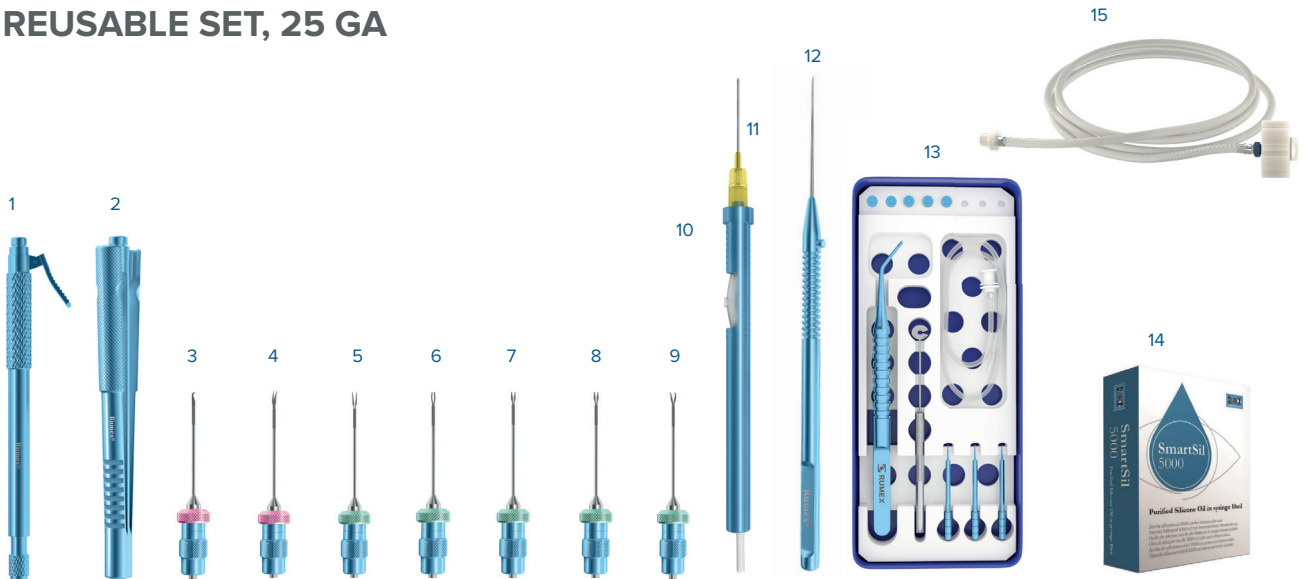
1	12-5229	Disposable One Step Trocar System 23 Ga, 6 per Box
2	12-5161H	Backflush Instrument with Soft Tip, 23 Ga, 6 per Box
3	12-7523	Disposable Diamond Dusted Retractable ILM Elevator, 23 Ga, 5 per Box
4	12-209-23D	Disposable Curved Scissors, 23 Ga, Stainless Steel, 6 per Box
	12-209-23DP*	Disposable Vitreoretinal Curved Scissors, 23 Ga, Plastic Handle 360°, 6 per Box
5	12-410-23D	Disposable Eckardt End-Gripping Forceps, 23 Ga, Stainless Steel, 6 per Box
	12-410-23DP*	Disposable Vitreoretinal Eckardt End-Gripping Forceps, 23 Ga, Plastic Handle 360°, 6 per Box
6	12-304-23DP	Disposable Vitreoretinal Gripping Forceps with a "Crocodile Platform", 23 Ga, Plastic Handle 360°, 6 per Box
	12-304-23D*	Disposable Gripping Forceps with a "Crocodile" Platform, 23 Ga, Stainless Steel, 6 per Box

7	12-202-23DP	Disposable Vitreoretinal Vertical Scissors, 23 Ga, Plastic Handle 360°, 6 per Box
8	12-5203	Dual Bore PFC Cannula, 23 Ga, 5 per Box
9	12-5248	Viscous Fluid Injection Cannula, 23 Ga, 4 mm Tip, 5 per Box
10	SmartSil5000	Purified Silicone Oil for Retinal Endotamponade, 5000 cSt
	SmartSil1000*	Purified Silicone Oil for Retinal Endotamponade, 1000 cSt
11	RLC-23AZ	Disposable Laser Probe, Curved, 23 Ga - SMA 905 Connector: Alcon®, Zeiss®, COHERENT®, Ellex®, 6 per box
12	12-5180	Disposable Wide Angle Fiber Optic Probe, 23 Ga - B&L®, 6 per box
13	12-4573	Disposable Chandelier Fiber Optic Probe, 23 Ga - B&L®, 6 per box
14	RV-23BFd	Disposable Posterior Vitrectomy Cutter, Double Cut, 23 Ga, 6 per box B&L®: Stellaris® Speed: 10000 CPM Pressure: 42 PSI

\*not shown

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

## REUSABLE SET, 25 GA



Reference	Key	Description
12-001T	1	Universal Instrument Handle, One Finger Control
12-003T	2	Universal Instrument Handle, Squeeze Model, Two Fingers Control
12-2029	3	Vertical Vitreoretinal Scissors, 25 Ga, Tip only
12-2099	4	Curved Subretinal Scissors, 25 Ga, Tip only
12-410-25	5	Eckardt End-Gripping Forceps, 25 Ga, Tip only
12-420-25	6	Asymmetrical End-Grasping Forceps, 25 Ga, Tip Only
12-3019	7	Vitreoretinal Forceps with a Sandblasted Platform, 25 Ga, Tip only
12-304-25	8	Vitreoretinal Forceps with a "Crocodile" Platform, 25 Ga, Tip only

\*not shown

Reference	Key	Description
12-3259	9	Pick Vitreoretinal Forceps, 25 Ga, Tip only
12-6000	10	Titanium Backflush Handle, Active Aspiration
12-5152	11	Soft Tip Cannula, 25 Ga, Disposable, 5 per Box
13-0979	12	Delicate Membrane Pick, 25 Ga
12-5173-25	13	Reusable Trocar System, 25 Ga
SmartSil5000	14	Purified Silicone Oil for Retinal Endotamponade, 5000 cSt
12-RTUB-2	15	Reusable Tubing System for the Infusion Of Silicone Oil, Caprolone Adapter Adjustable To DORC® Associate™, EVA™, EVA NEXUS™, Alcon® Constellation™, Accurus™
18-305*		Plastic Sterilization Tray with Silicone Finger Mat, Double Level, Extra Large

## DISPOSABLE SET, 25 GA



1	12-5244	Disposable One Step Trocar System 25 Ga, 6 per Box
2	12-5152H	Backflush Instrument with Soft Tip, 25 Ga, 6 per Box
3	12-7525	Disposable Diamond Dusted Retractable ILM Elevator, 25 Ga, 5 per Box
4	12-209-25D	Disposable Curved Scissors, 25 Ga, Stainless Steel, 6 per Box
	12-209-25DP*	Disposable Vitreoretinal Curved Scissors, 25 Ga, Plastic Handle 360°, 6 per Box
5	12-410-25D	Disposable Eckardt End-Gripping Forceps, 25 Ga, Stainless Steel, 6 per Box
	12-410-25DP*	Disposable Vitreoretinal Eckardt End-Gripping Forceps, 25 Ga, Plastic Handle 360°, 6 per Box
6	12-304-25DP	Disposable Vitreoretinal Gripping Forceps with a "Crocodile Platform", 25 Ga, Plastic Handle 360°, 6 per Box
	12-304-25D*	Disposable Gripping Forceps with a "Crocodile" Platform, 25 Ga, Stainless Steel, 6 per Box

7	12-202-25DP	Disposable Vitreoretinal Vertical Scissors, 25 Ga, Plastic Handle 360°, 6 per Box
8	12-5205	Dual Bore PFC Cannula, 25 Ga, 5 per Box
9	12-5258	Viscous Fluid Injection Cannula, 25 Ga, 4 mm Tip, 5 per Box
10	SmartSil5000	Purified Silicone Oil for Retinal Endotamponade, 5000 cSt
	SmartSil1000*	Purified Silicone Oil for Retinal Endotamponade, 1000 cSt
11	RLC-25AZ	Disposable Laser Probe, Curved, 25 Ga - SMA 905 Connector: Alcon®, Zeiss®, COHERENT®, Ellex®, 6 per box
12	12-5427	Disposable Wide Angle Fiber Optic Probe, 25 Ga - B&L®, 6 per box
13	12-4545	Disposable Chandelier Fiber Optic Probe, Dual Fiber, 25 Ga - B&L®, 6 per box
14	RV-25BFd	Disposable Posterior Vitrectomy Cutter, Double Cut, 25 Ga, 6 per box

\*not shown

## HANDLING OF VITREORETINAL AND MICROINCISIONAL INSTRUMENTS

We at RUMEX guarantee our instruments against manufacturing defects, but the lifespan of reusable instruments lies within proper handling and care. To help your instruments preserve their initial conditions, we strongly recommend you to read the instructions below carefully before use.

A common misconception that “stainless steel” or “titanium” have extreme durability and are indestructible is in need of correction: these metals still might be affected by chemical, mechanical, thermal attacks and etc. However, if you are aware of metal characteristics and understand how to handle them, the lifespan of the instruments may be extended.

A particular care should be taken after microsurgical instruments as they have very delicate working tips. These instructions are being general recommendations, cleaning guidelines of the solutions, equipment manufacturer and your institution, especially those regarding temperature, time of exposure and concentration, should be observed.

### APPLICATION

RUMEX Instruments (ophthalmic scissors and forceps for vitreoretinal and microincisional surgery) are designed for various applications in ophthalmic surgery. It is essential that the instrument is cleaned and sterilized before initial use and after each surgery, following as outlined in this instruction brochure.

### CARE AND HANDLING

The intraocular tips have a delicate precision mechanism inside. Intraocular fluids will enter this mechanism during surgery. Proteins may also accumulate inside of the mechanism. If these fluids are not promptly and properly cleaned out, it will lead to corrosion or clogs and the possibility of instrument malfunction. Ensure the cleaning procedure is implemented after each surgery — warranty shall not extend to instruments that have been improperly handled. One-piece and two-piece vitreoretinal instruments are cleaned by use of special adapter and cannula.

### INSPECTION

It is essential that the instrument is inspected before use. Please conduct this inspection under a microscope or magnification lens. If a problem is detected, notify us immediately. Once the instrument is examined and accepted, IT SHOULD BE CLEANED BEFORE PLACING IT IN THE STERILIZATION TRAY.

## Stage 1: PRE-STERILIZATION CLEANING

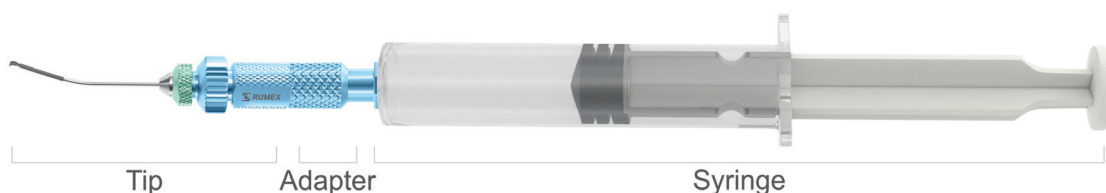
Never skip this cleaning stage as residues on instruments such as care agents and the ones of package materials may form stains and depositions in course of sterilization.

It is imperative to follow the rules:

1. As much moisture as possible must be eliminated from all instrument's parts since moisture promotes corrosion.
2. Only detergents and cleaners specially designed for use on surgical stainless steel or titanium instruments are acceptable for use in all the cleaning process. Cleaning guidelines of the solution manufacturer and your institution should be observed.
3. Thorough cleaning immediately after use is essential for the longevity of the instrument. We recommend that the established surgical instrument cleaning procedures of your institution be followed using these instructions as a guideline.
4. The cleaning/disinfecting solutions should be exchanged daily.

**WARNING! Never use abrasive powders or steel wool to remove stubborn stains – these can damage the superfine finish of an instrument and can actually help cause corrosion of stainless instruments.**

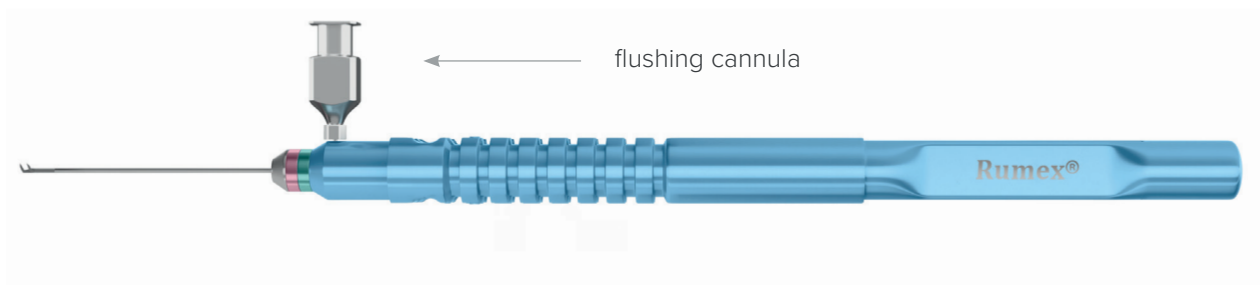
### CLEANING OF TWO-PIECE VITREORETINAL INSTRUMENTS



# VITREORETINAL INSTRUMENTS AND CONSUMABLES

1. Unscrew the tip from the handle, then attach flushing adapter 12-000T.
2. Flush the tip with distilled or demineralized water by connecting a syringe filled with water to adapter.
3. Flush the tip with alcohol - this will remove the water and facilitate drying.
4. Dry the tip by forcing one or two syringes full of air through tip. Pressurized air is recommended, as it flushes out debris and fluid more efficiently than syringe forced air. Thoroughly dry handle, tip and cup.
5. Handle should be soaked in distilled or demineralized water for two minutes.
6. Dry with surgical sponge.
7. Lubricate joints in handle with instrument milk and work the mechanism by pressing the key.

## CLEANING OF ONE-PIECE VITREORETINAL INSTRUMENTS



1. Put the instrument into PTFE protector (provided).
2. Soak it in the soap solution at temperature of 50°C (122°F) and keep it there for 15 min.
3. Wash the handle with brush and cotton/gauze pad.
4. Take the instrument out of soap bath and wash it under streaming water for 3 min.
5. Rinse the instrument with distilled or demineralized water.
6. After that flush the instrument with alcohol solution. It will remove water and contribute to drying.
7. Next, adjust the cannula on the luer of the syringe and fill the syringe with distilled or demineralized water.
8. A tube of the cannula then should be inserted into the port, situated at the base of the barrel near the colored wheels.
9. Flush the tube of the instrument and the tip with distilled or demineralized water by forcing syringe plunger. Then repeat the procedure with use of alcohol solution.
10. Finally, blow the air inside the tube by forcing it from the syringe into the port of the instrument. Pressurized air is recommended, as it flushes out debris and fluid more efficiently than syringe forced air.

**WARNING! DO NOT apply ultrasonic cleaning to vitreoretinal and microincisional tips.**

## RECOMMENDED PRODUCTS FOR CARE AND CLEANING

Product name, Manufacturer	Description	Composition	Compatibility
<b>SEKUSEPT Activ</b> , Ecolab Deutschland GmbH	<b>Disinfectant</b> for automatic and manual processing of tools	≥ 30% oxygen-based bleaching agents; <5% non-ionic surfactants, phosphonates; 50% sodium perborate monohydrate; 25% tetraacetylenediamine; active antimicrobial components, nonionic surfactants, corrosion inhibitor; <b>pH of 2% solution: 7.4-8.4</b>	Compatible. Discoloration of metal, residual detergent or water film formation may occur.
<b>Neodisher MediClean Forte</b> , Dr. Weigert GmbH & Co.	<b>Detergent</b> for automatic and manual cleaning of surgical instruments. Prevents reprecipitation of protein residues.	< 5% non-ionic and anionic surfactants; enzymes; <b>pH: 10.4-10.8</b>	Compatible. Discoloration of metal, residual detergent or water film formation may occur.



# VITREORETINAL INSTRUMENTS AND CONSUMABLES

Product name, Manufacturer	Description	Composition	Compatibility
<b>Neodisher MediKlar,</b> Dr. Weigert GmbH & Co.	<b>Rinser</b> for automatic and manual cleaning of surgical instruments. Recommended for use with MediClean forte. Prevents reprecipitation of protein residues.	< 5% anionic surfactants, polycarboxylates; 5 - 15% non-ionic surfactants also preservatives; 2-octyl-2H-isothiazol-3-one, a mixture of: 5-Chloro-2-methyl-2h-isothiazol-3-one [EC-no.247-500-7] and 2-Methyl-2H-isothiazol-3-one; <b>pH: 5.9-6.9</b>	Compatible
<b>ERIZYME,</b> KiiltoClean FARMOS Oy	<b>Detergent</b> for hand treatment, washer disinfectors and ultrasonic treatment	non-ionic surfactants (< 5%); amphoteric surfactants (< 5%); complexing agent (5-15%); monopropylene glycol (15-30%); anti-foaming agent; enzymes; <b>pH: 7.5</b>	Compatible
<b>ERISAN OXY+,</b> KiiltoClean FARMOS Oy	<b>Disinfectant</b> in disposable sachets	sodium percarbonate 30 - <50%; citric acid 15 - <30%; tartaric acid 5 - <15%; <b>pH: 5.9-6.9</b>	Compatible. Discoloration of metal, residual detergent or water film formation may occur.

**Fully demineralized water for rinsing and correct loading must be used to prevent staining!**

**WARNING! Hydrogen peroxide H2O2 may discolor titanium instruments.**

The color of titanium instruments may change due to development of different properties of oxide layers. Such discoloration does not bring a safety risk, as well as water stains on the surface of the instruments. They don't affect the biocompatibility, functionality, and lifetime of the instruments. However, discoloration may affect the visual inspection of the tools (e.g. determining residual dirt). To prevent the color change of titanium instruments, use only neutral or mild alkaline cleaning agents. While using them, do not exceed a temperature of 70 °C (158 °F).

## LUBRICATION

Moving parts and working mechanisms of the Rumex instruments should be lubricated occasionally with a medical grade instrument lubricant (especially after an ultrasonic bath) to ensure the smooth operation of the working mechanism. The lubricant must be biocompatible, suitable for steam sterilization and vapor-permeable. No silicone oil should be applied. The paraffin/white oil based lubricants are allowed to be used.

The following products are recommended - Neodisher IP Spray, Miltex-Integra Spray Lube Instrument Lubricant, Sterilit® i lubricant.

After cleaning process let the instruments cool down to room temperature prior to their actuation, as otherwise metal abrasion may develop when the details of the tools rub against each other. This may destroy the instruments' functionality.

The recommended directions of the instrument lubricant manufacturer and your institution should be observed.

## Stage 3: STERILIZATION

Stainless steel and titanium instruments can be sterilized via steam autoclaving, chemical disinfectants, ethylene oxide gas, or even dry hot air. Gas and dry chemical sterilization are the best methods for stainless steel instruments, but it takes a lengthy time period to accomplish the desired result. The most practical method of sterilization is heat or steam, which require less time, however, these methods can be damaging to delicate instruments. Please, be sure that you and the members of your staff have read and understood the instructions supplied by the manufacturer of your particular sterilizer.

## STERILIZATION CYCLES

Finally, the instrument should be sterilized prior to the next surgical procedure.

**WARNING! Only clean and disinfected products can be sterilized.**

**For lumen instruments (e.g. tips, cannulas) the gravity procedure is not suitable!**

# VITREORETINAL INSTRUMENTS AND CONSUMABLES

RUMEX instruments can be sterilized using any of the following methods:

## 100% ETO cycles

Concentration ETO	850±50mg/l
Temperature	37-47°C (99-117°F)
Exposure time	3–4 hours
Humidity	70% RH minimum
Drying Cycle	1 hour

	Steam Autoclaving	“Flash” Autoclaving
Sterilizer Type	Prevacuum	Prevacuum
Sample Config.	wrapped	unwrapped
Temperature°C	+132°C	+132°C
Temperature°F	+270°F	+270°F
Exposure Time	4 minutes	3 minutes
Drying Cycle	20-30 minutes	10 minutes

**WARNING! Sterilization steam must not contain any impurities.**  
Autoclave drying cycle should be used to avoid oxidation.

**Gas plasma sterilization is not recommended as delicate instruments might be physically damaged when exposed to low pressure.**

The above-mentioned sterilization cycles represent the industry standards and should be capable of producing a sterile device. Due to variations in sterilization equipment and device bioburden in clinical use, RUMEX International Co. is not able to provide specific cycle parameters. It is the responsibility of each user to perform the validation and verification of the sterilization cycle to ensure an adequate sterility assurance level for our products.

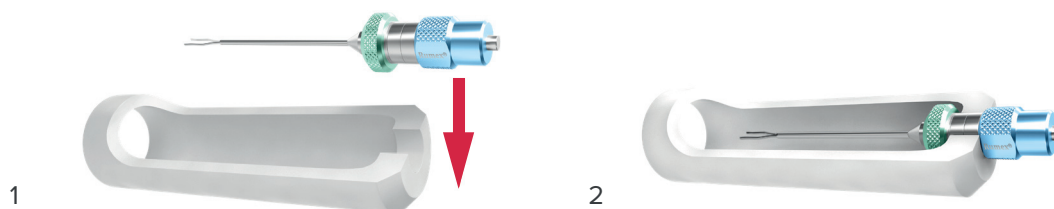
**WARNING! Follow the guidelines of the processing times. The rapid sterilization process should be reserved for emergency processing only and should not be used for routine instrument sterilization. Longer sterilization period and higher temperatures can lead to premature aging of instruments.**

## AT THE END OF THE SURGICAL DAY

Instruments should be washed clean of all residues, dried and inspected after each use. Be sure to inspect every microsurgical instrument at the end of your surgical day. Please conduct this inspection under a microscope or magnification lens. If a damaged instrument is detected, repair or replace it. Washing, drying and inspecting the instrument under magnification helps to ensure that the instrument is kept in proper condition for the next surgical procedure.

## STORAGE

Surgical instruments should be stored in the sterilizing trays of proper size lined with soft silicone mats. Instruments should not touch each other. We recommend using safety protectors made of PTFE, which are autoclavable. The photos below illustrate the way to fix a tip in a protector. Please insert the tips into PTFE protectors as shown in the picture:



1. Match the nut indicating the gauge with the hub, press the tip gently. Make sure the branches do not touch the protector.
2. The tips in their final position — safely fixed by the protector.

Note: the tips should be sterilized in the protector to avoid any contact with other instruments.

**WARNING! Never store the instruments close to the chemicals.**





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