EVOLUTION IN VITREORETINAL INSTRUMENTS

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

Our vitreoretinal product line is a result of professional experience and manufacturing skills accumulated over many years. Following the latest trends of vitreoretinal surgery, we launched lines of **27 Ga instruments** and **disposable products for the posterior segment**.

If your surgical technique or professional preference require a custom-made instrument, we will create it for you.

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

Rumex International Co. manufactures vitreoretinal instruments for other well known brands. Please feel free to contact us if you are interested in **OEM business**.
FEATURED PRODUCT

REUSABLE INSTRUMENTS
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Universal End Grasping Forceps with Asymmetrical Branches

Universal End Grasping Forceps allows 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.

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.

Gripping Forceps with a ‘Crocodile’ Platform

Designed for the removal of epiretinal membranes. Blunt, atraumatic serration intensifies grasping capacity and prevents tissue shredding.
We offer various models of vitreoretinal tips that can be adjusted to Universal Handles (12-001T or 12-003T).*

### Outer Diameter

<table>
<thead>
<tr>
<th>Gauge</th>
<th>(inch)</th>
<th>(mm)</th>
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<tbody>
<tr>
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<tr>
<td>30 Ga</td>
<td>0.012</td>
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</table>

### Color Code System**

The new color code system has been introduced to facilitate the identification of vitreoretinal tips, their function and size.

### Manual Cleaning

Proper manual cleaning of the instrument is necessary to preserve its working condition. Rumex manufactures interchangeable microincisional and vitreoretinal instruments to help you clean the tips separately from the handle to expand its useful lifespan.

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*Handles are sold separately! **Colors of details may differ slightly from those displayed in this catalog.
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, 12-412

**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)

*Tips are sold separately!
SCISSORS*

Designed for cutting membranes and junction zones of the proliferative tissue

**MOST POPULAR**

**Vertical Scissors**
- 70 Degrees
- Sharp tips
- 12-202  20 Ga
- 12-202-23  23 Ga

**Klaus Lucke Retinotomy Scissors**
- With bulbous tip
- 12-2020  20 Ga

**Vertical Scissors**
- 45 Degrees
- 12-2029  25 Ga

**Straight Scissors**
- Blunt tips
- 12-211  20 Ga

**Side Curved Scissors**
- 12-215  20 Ga

**COMPATIBLE WITH 12-003T ONLY**

**Horizontal Scissors**
- 55 Degrees
- 12-206  20 Ga

**Horizontal Scissors**
- Angled
- 45 Degrees
- Regular blades (2.2 mm in the closed position)
- 12-208  20 Ga

**Horizontal Scissors**
- Angled
- 45 Degrees
- Short blades (1.7 mm in the closed position)
- 12-2085  20 Ga

**Must Popular**

**Curved Subretinal Scissors**
- Curvature radius 12 mm
- 12-209  20 Ga
- 12-209-23  23 Ga
- 12-2099  25 Ga

**Horizontal Scissors**
- Angled
- 45 Degrees
- With illumination
- 12-2084  20 Ga

Product images, including color, may slightly differ from actual product appearance due to the 3D effect applied.

*Handles are sold separately: 12-003T and 12-001T.
EPIRETINAL FORCEPS*

- Strong jaws for epiretinal membranes
- Gripping function is enhanced by diamondized / serrated platform or nail shaped jaws

**MOST POPULAR ERM**

Gripping Forceps
With a diamond dusted platform

| 12-301  | 20 Ga |
| 12-301-23 | 23 Ga |
| 12-3019  | 25 Ga |

**NEW**

End Gripping Forceps
With serrated micro jaws

| 12-400  | 20 Ga |

**ERM**

Lucke Multipurpose Forceps
With a “crocodile” Platform

| 12-3044  | 20 Ga |

**NEW**

End Gripping Forceps
With extended gripping area at the end of the tip

| 12-401  | 20 Ga |
| 12-4012 | 23 Ga |

**NEW**

Gripping Forceps
With nail shaped jaws

| 12-402  | 20 Ga |
| 12-402-23 | 23 Ga |
| 12-4089 | 25 Ga |
INTERNAL LIMITING MEMBRANE FORCEPS*

Delicate branches for ILM peeling

**Eckardt End Gripping Forceps**
- 12-410  20 Ga
- 12-410-23  23 Ga
- 12-410-25  25 Ga
- 12-410-27  27 Ga

**End Grasping Forceps**
- Expanded space between branches
- 12-4013  23 Ga
- Enhanced visualization!

**End Grasping Forceps**
- Standard branches, 28 mm tube (23 Ga)
- 12-420-23  23 Ga
- 12-420-25  25 Ga
- 12-420-27  27 Ga

- Elongated branches, 30 mm tube
- Designed for myopic eyes
- 12-4202-23  23 Ga
- Enhanced visualization!

**Tano Asymmetrical End Gripping Forceps**
- 12-411  20 Ga
- 12-411-23  23 Ga
- 12-411-25  25 Ga

**Tanaka Maculorhexis Forceps**
- 12-414  23 Ga

**Kawai ILM Forceps**
- 12-415  25 Ga

*Handles are sold separately: 12-003T and 12-001T
VITREORETINAL FORCEPS

**PICK / SUBRETINAL FORCEPS***

- **Pick Forceps**
  - 12-325: 20 Ga
  - 12-325-23: 23 Ga
  - 12-3259: 25 Ga

- **De Juan Pick Forceps**
  - 12-413: 20 Ga

- **Diamonized Angled Gripping Forceps**
  - 12-303: 20 Ga

- **Subretinal Forceps**
  - 3 mm tips
  - 12-343: 20 Ga

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**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

*Handles are sold separately: 12-003T and 12-001T. **Compatible with 12-001T only.
### Delicate Membrane Pick
- 13-097-23 23 Ga
- 13-097-25 25 Ga
- 13-097-27 27 Ga

### Membrane Scratcher
- 13-092 20 Ga

### Membrane Spatula
- 13-084 20 Ga

### Ogura PVD Spatula
- 13-1081-23 23 Ga

### BRVO Knife
- Designed for performing a lateral CRVO incision
- 13-1091 20 Ga
- 13-1091-23 23 Ga

Product images, including color, may slightly differ from actual product appearance due to the 3D effect applied.
23 GAUGE*

**MOST POPULAR ILM**

Eckardt End Gripping Forceps
12-410-23  23 Ga

**ILM**

End Grasping Forceps
Elongated branches, 30 mm
Designed for myopic eyes
12-4202-23  23 Ga
*Enhanced visualization!*

**ILM**

Tano Asymmetrical End Gripping Forceps
12-411-23  23 Ga

**ILM**

End Grasping Forceps
Expanded space between branches
12-4013  23 Ga
*Enhanced visualization!*

**ILM**

End Grasping Forceps
12-420-23  23 Ga
*Enhanced visualization!*

**ILM**

Spring Gripping Forceps
12-321-23  23 Ga

*Handles are sold separately: 12-003T and 12-001T*
23 GAUGE*

**Vertical Scissors**
- 70 Degrees
- Sharp tips
- 12-202-23 23 Ga

**Pick Forceps**
- 12-325-23 23 Ga

**Curved Subretinal Scissors**
- Curvature radius 12 mm
- 12-209-23 23 Ga

**End Gripping Forceps**
- With extended gripping area at the end of the tip
- 12-4012 23 Ga

**Gripping Forceps**
- With a diamond dusted platform
- 12-301-23 23 Ga

**End Gripping Forceps**
- With nail shaped jaws
- 12-402-23 23 Ga

**Gripping Forceps**
- With a “crocodile” platform
- 12-304-23 23 Ga

*Handles are sold separately: 12-003T and 12-001T

Product images, including color, may slightly differ from actual product appearance due to the 3D effect applied.
ONE-PIECE INSTRUMENTS: TIP WITH HANDLE

**ILM**
Eckardt End Gripping Forceps
12-410-23H  23 Ga

**ERM**
Gripping Forceps
With a diamond dusted platform
12-301-23H  23 Ga

**ILM**
Tano Asymmetrical End Gripping Forceps
12-411-23H  23 Ga

**ERM**
Gripping Forceps
With a “crocodile” platform
12-304-23H  23 Ga

**ILM**
End Grasping Forceps
12-420-23H  23 Ga

**ILM**
End Grasping Forceps
Expanded space between branches
12-4013H  23 Ga
Enhanced visualization!

**MOST POPULAR**
Curved Subretinal Scissors
Curvature radius 12 mm
12-209-23H  23 Ga

**ILM**
Pick Forceps
12-325-23H  23 Ga
**25 GAUGE**

Enhanced visualization!

**MOST POPULAR**

**ILM**

**Eckardt End Gripping Forceps**
- Model: 12-410-25
- Gauge: 25 Ga

**ERM**

**Gripping Forceps**
- With a diamond dusted platform
- Model: 12-3019
- Gauge: 25 Ga

**ILM**

**Tano Asymmetrical End Gripping Forceps**
- Model: 12-411-25
- Gauge: 25 Ga

**ERM**

**Gripping Forceps**
- With a “crocodile” platform
- Model: 12-304-25
- Gauge: 25 Ga

**ILM**

**End Grasping Forceps**
- Model: 12-420-25
- Gauge: 25 Ga

**Enhanced visualization!**

**Vertical Scissors**
- 45 Degrees
- Sharp tips
- Model: 12-2029
- Gauge: 25 Ga

**ILM**

**Curved Subretinal Scissors**
- Curvature radius 12 mm
- Model: 12-2099
- Gauge: 25 Ga

**MOST POPULAR**

**ILM**

**ERM**

**ILM**

**End Grippng Forceps**
- With nail shaped jaws
- Model: 12-4089
- Gauge: 25 Ga

**27 GAUGE***

**ILM**

**Eckardt End Gripping Forceps**
- Model: 12-410-27
- Gauge: 27 Ga

**ILM**

**End Grasping Forceps**
- Model: 12-420-27
- Gauge: 27 Ga

**Enhanced visualization!**

*Handles are sold separately: 12-003T and 12-001T

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REUSABLE TWO STEP TROCAR SYSTEM

Reusable Trocar System with closure valves
Package includes:
1. Trocar Cannula with closure valves – 3 pcs
2. Loading Forceps – 1 pc
3. Fixation Plate – 1 pc
4. Blunt Cannula Inserter – 3 pcs
5. Universal Infusion Line – 1 pc
6. Sterilizing Tray – 1 pc
12-5173-1 23 Ga

The best choice for the 23 Ga transconjunctival sutureless vitrectomy!

Loading Forceps
1 per box
12-5186 23 Ga

Instrument Cannula Inserter
1 per box
12-5187 23 Ga

Fixation Plate
1 per box
12-5188 23 Ga

MVR Knives
Multifacet Blade, sterile, 6 per box
VRS-19 19 Ga (straight)
VRS-20 20 Ga (straight)
VRS-23 23 Ga (straight)
VRA-19 19 Ga (angled)
VRA-20 20 Ga (angled)
VRA-23 23 Ga (angled)

Trocar Cannula Set
The set includes:
Instrument Cannula – 2 pcs
Cannula Plugs – 2 pcs
Sterile
12-5189 23 Ga – 1 set per box
12-5190 23 Ga – 5 sets per box

Scleral Plugs Forceps
Cross action mechanism reduces hand fatigue
12-5086S 20 Ga
DISPOSABLE TROCAR SYSTEMS

One Step Trocar System

Each package includes:
1. Trocar knife with preloaded trocar cannula – 3 pcs
2. Self-sealing trocar cannula (preloaded) – 3 pcs
3. Infusion line (for BSS) – 1 pc
Sterile, 5 sets per box

12-5229 23 Ga
12-5244 25 Ga

Trocar Knife
with preloaded cannulas

Self-Sealing Trocar Cannula
self-sealing silicone valves eliminating need for plugs

Trocar Cannula Inserter
the proximal end of the plastic handle (opposite to the knife) can be used as a caliper and a scleral marker (two dimensions, 3.0 and 4.0 mm)

Universal Infusion Line
universal infusion line for BSS
### REUSABLE: POSTERIOR

Sterile  
One per package

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<thead>
<tr>
<th>12-5100</th>
<th>AMO™</th>
<th>Gemini™</th>
<th>800 CPM</th>
<th>25 PSI</th>
<th>20 Ga</th>
<th>Without Irrigation Sleeve</th>
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<td>B&amp;L®</td>
<td>Premiere™, Millennium™, Daisy™</td>
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<td>Optikon®</td>
<td>Pulsar 2™, Assistant™</td>
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<td>Pentasys™</td>
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<td>VitMan™</td>
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### DISPOSABLE: ANTERIOR

Sterile  
One per package

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<td>Star Surgical®</td>
<td>Wave™</td>
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<td>Surgical Design®</td>
<td>Ocusystem™</td>
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<td>American Optisurgical®</td>
<td>Horizon™</td>
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<tr>
<td>Nidek®</td>
<td>CV-12000™, CV-6000™, CV-7000™</td>
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### DISPOSABLE: POSTERIOR

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<tr>
<td>Alcon®</td>
<td>Accurus™</td>
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<td>DORC®</td>
<td>Harmony Total TTC™</td>
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<td>800 CPM</td>
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<tr>
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<td>30 PSI</td>
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<td></td>
<td>20 Ga</td>
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<td></td>
<td>Without Irrigation Sleeve</td>
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</table>
BACKFLUSH HANDLES

Titanium Backflush Handle
Active Aspiration
12-6000

Titanium Backflush Handle
Passive Aspiration
12-6010

Backflush Handle
Active Aspiration
Sterile
5 per box
12-5196

Backflush Handle
Passive Aspiration
Sterile
5 per box
12-5197

Replacement Reservoir for Backflush Handle
Active
Sterile
10 per box
12-5159

Replacement Reservoir for Backflush Handle
Passive
Sterile
10 per box
12-5147
CANNULAS FOR BACKFLUSH INSTRUMENTS

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.
Disposable, 5 per box
12-5164 23 Ga

Brush Tip Cannulas
For atraumatic brushing of retina.
Disposable, 5 per box
12-5017 20 Ga
12-5162 23 Ga
12-5160 25 Ga

Soft Tip Cannulas
Flexible tip allows atraumatic entry through retinal or macular tears or holes and enables aspiration of subretinal fluid.
Disposable, 5 per box
12-5063 20 Ga
12-5161 23 Ga
12-5152 25 Ga

Diamond Dusted Soft Tip Cannulas
Designed for better cohesion and gentle sweeping of the membrane.
Disposable, 5 per box
12-5193 20 Ga
12-5192 23 Ga

DUAL BORE CANNULAS
For simultaneous infusion and aspiration of liquids.

Dual Bore PFC Cannula
Simultaneous infusion of heavy liquids and aspiration of intraocular fluids. Dual bore for constant control of intraocular pressure during injection.
Disposable, 5 per box
12-5203 23 Ga (0.60 mm)

Dual Bore BSS Injection Needle
Enables to control subretinal injection of BSS. Dual bore cannula combined with aspiration capability.
Disposable, 1 per box
12-5194 20 Ga / 41 Ga (0.10 mm) tip
ULTRA 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)

No risk of emulsification

SOLVENT FREE

<p>| | |</p>
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<tr>
<td>SmartSil 1000</td>
<td>1000 cSt</td>
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<tr>
<td>SmartSil 5000</td>
<td>5000 cSt</td>
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Physicochemical properties

<table>
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<tr>
<th>Property</th>
<th>Value</th>
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<tr>
<td>Interfacial tension at 37°C</td>
<td>43.2 mNm-1</td>
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<tr>
<td>Density</td>
<td>0.97 g/cm³</td>
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<tr>
<td>Viscosity</td>
<td>1000 cSt / 5000 cSt</td>
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<tr>
<td>Refractive index</td>
<td>1.404</td>
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<tr>
<td>Volatility</td>
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<td>Polydispersity</td>
<td>2.33</td>
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<tr>
<td>Elements potentially toxic</td>
<td>&lt; 3 ppm</td>
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| Low molecular weights           | D4 – D9: < 24 ppm  
                                        D10 – D20: 4 ≤ ppm  |

*Not available in the US
SILICONE OIL INFUSION SYSTEMS

Surgical System

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<thead>
<tr>
<th>Product Name</th>
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<tr>
<td>Ioltech® Pentasy®</td>
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<tr>
<td>Optikon® Antares®</td>
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<tr>
<td>Alcon® STTO®</td>
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<tr>
<td>Storz® Premiere®</td>
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<tr>
<td>DORC® Harmony Budget®</td>
<td>Reusable</td>
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<tr>
<td>DORC® Associate®</td>
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<tr>
<td>Alcon® Constellation®,</td>
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<td>Accurus®</td>
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<tr>
<td>B&amp;L® Millenium®,</td>
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<tr>
<td>Stellaris®</td>
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<tr>
<td>Oertli® Orbit®, Faros®, OS3®</td>
<td>Reusable</td>
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Surgical System

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Reusable/Disposable</th>
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<tbody>
<tr>
<td>Ioltech® Pentasy®</td>
<td>Disposable</td>
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<td>Optikon® Antares®</td>
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</tr>
<tr>
<td>Alcon® STTO®</td>
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<tr>
<td>Storz® Premiere®</td>
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<tr>
<td>DORC® Harmony Budget®</td>
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<td>DORC® Associate®</td>
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<tr>
<td>Alcon® Constellation®,</td>
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<tr>
<td>Accurus®</td>
<td>Disposable</td>
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<tr>
<td>B&amp;L® Millenium®,</td>
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<tr>
<td>Stellaris®</td>
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</tr>
<tr>
<td>Oertli® Orbit®, Faros®, OS3®</td>
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Viscous Fluid Injection Cannula

10 mm polyimide tip Allowing injection of viscous fluids such as silicone oil through 23Ga trocar cannula

Disposable, 5 per box

12-5248 23 Ga
### Bladd holders

<table>
<thead>
<tr>
<th>Reference</th>
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<tbody>
<tr>
<td>1-020S</td>
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<td>1-010T</td>
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### Calipers

<table>
<thead>
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<tr>
<td>2-010T</td>
<td>Castroviejo Caliper</td>
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<tr>
<td>2-100T (2-100S / 2-101T)</td>
<td>Braunstein Fixed Caliper</td>
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### Forceps

<table>
<thead>
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<tr>
<td>4-0600T / 4-0601T</td>
<td>Castroviejo Suturing Forceps</td>
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<tr>
<td>4-0607S</td>
<td>Bishop-Harmon Suturing Forceps</td>
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<tr>
<td>4-091S (4-092T)</td>
<td>Tying Forceps</td>
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<tr>
<td>4-2300T</td>
<td>Utility Forceps</td>
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<tr>
<td>4-1225 (4-123S)</td>
<td>Mosquito Forceps</td>
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### Hooks

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<tr>
<td>5-042</td>
<td>Muscle Hook</td>
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<tr>
<td>5-060</td>
<td>Retinal Detachment Hook</td>
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### Needle holders

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<tbody>
<tr>
<td>8-011T (8-025T / 8-031T)</td>
<td>Barraquer Needle Holder</td>
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<tr>
<td>8-045T (8-051T / 8-061T)</td>
<td>Barraquer Needle Holder, extra fine jaws</td>
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### Scissors

<table>
<thead>
<tr>
<th>Reference</th>
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<tr>
<td>11-040S (11-042S)</td>
<td>Westcott Tenotomy Scissors</td>
</tr>
<tr>
<td>11-044S (11-046S / 11-047S)</td>
<td>Westcott Stitch Scissors</td>
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<td>11-100S (11-101S)</td>
<td>Knapp Strabismus Scissors</td>
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### Speculums

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<tr>
<td>14-040T</td>
<td>Liberman Temporal Speculum</td>
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<tr>
<td>14-022S (14-023S)</td>
<td>Barraquer Wire Speculum</td>
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### Other

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<tr>
<td>16-081S</td>
<td>Towl Forceps</td>
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<tr>
<td>15-301/303</td>
<td>Silicone Bulb With Adapter</td>
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### Sterilization trays

<table>
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<tr>
<td>18-304</td>
<td>Plastic Sterilization Tray (single level)</td>
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<td>18-305</td>
<td>Plastic Sterilization Tray (double level)</td>
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<tr>
<td>18-307</td>
<td>Mini Sterilization Tray With Silicone Matt</td>
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## 20/23/25/27 Ga

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<th>Category</th>
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<td>Scissors</td>
<td>Vertical Scissors*</td>
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<td>12-202-23</td>
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<td>Curved Subretinal Scissors*</td>
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<td>12-209-23</td>
<td>12-2099</td>
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<td>ERM Forceps</td>
<td>Gripping Forceps with a &quot;Diamond Dusted Platform&quot;*</td>
<td>12-301</td>
<td>12-301-23</td>
<td>12-3019</td>
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<td>Tano Asymmetrical Forceps*</td>
<td>12-411</td>
<td>12-411-23</td>
<td>12-411-25</td>
<td>12-411-27</td>
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<td>End Grasping Forceps*</td>
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<td>End Grasping Forceps, Asymmetrical Model*</td>
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<td>Pick Forceps</td>
<td>Pick Forceps with Sharp Tips*</td>
<td>12-325</td>
<td>12-325-23</td>
<td>12-3259</td>
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<td>Membrane Scratchers</td>
<td>Membrane Scratcher</td>
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<td>Membrane Pick</td>
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<td><strong>Disposable Products</strong></td>
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<tr>
<td>MVR Knives</td>
<td>MVR Knife, Straight Multifacet Blade</td>
<td>VRS-20</td>
<td>VRS-23</td>
<td>VRS-23</td>
<td>VRS-23</td>
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<td>Trocar Systems</td>
<td>One Step Disposable Trocar System</td>
<td>12-529</td>
<td>12-529</td>
<td>12-5244</td>
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<tr>
<td>Vitrectomy Cutters</td>
<td>Vitrectomy Cutters, Posterior, Disposable</td>
<td>12-5064</td>
<td>12-5064</td>
<td>12-5172</td>
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<tr>
<td>Cannulas</td>
<td>Brush Tip Cannulas for Backflush Handles</td>
<td>12-5017</td>
<td>12-5017</td>
<td>12-5162</td>
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<td>Silicone Oil**</td>
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<td>Silicone Oil Infusion Systems</td>
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*To be used with a Universal Handle 12-003T

**Not available in the US
STERILIZATION AND CARE

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.

Care and handling

Intraocular tips have a delicate precision mechanism. Intraocular fluids will enter inside the tube of the instrument during surgery. If these fluids are not promptly and properly cleaned out, it will lead to corrosion or clogs and the possibility of instrument malfunction. Proteins may also accumulate inside of the mechanism. Make sure the cleaning procedure is implemented after each surgery — warranty shall not extend to instruments that have not been handled in the proper way.

Cleaning

1. Unscrew the tip from the handle, then attach flushing adapter 12-000T;
2. Flush the tip with distilled or deionized water by connecting 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;
5. Force special thermoresistant instrument milk through the tip, as in No 2 above;
6. Dry with air as in No 4 above;
7. Handle should be soaked in distilled or deionized water for two minutes;
8. Dry with surgical sponge;
9. Lubricate joints in handle with instrument milk and work the mechanism by pressing the key.

Instrument detergents and/or cleaners

Only detergents and cleaners specially designed for use on surgical stainless steel or titanium instruments are acceptable for use in the cleaning process. The cleaning guidelines of the solution manufacturer and your institution should be observed.

Ultrasonic cleaning equipment

An ultrasonic cleaner could also be used in the instrument cleaning process, but not as the sole cleaning method. The instrument should, at the very least, be flushed with distilled water prior to being placed in the ultrasonic cleaner. A five to ten minutes cycle in the ultrasonic cleaner should be sufficient. The instrument must be secured on a silicone finger mat during the ultrasonic cleaning procedure. Special care should be taken to make certain that the tip of the instrument does not come into contact with the sides of the ultrasonic container, as this could damage the instrument.
Lubrication

Moving parts and working mechanisms of Rumex instruments should be lubricated occasionally with a medical grade instrument lubricant (especially after an ultrasonic bath) to ensure smooth operation of the working mechanism. The recommended directions of the instrument lubricant manufacturer should be observed.

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 teflon, which is autoclavable. Rumex International Co. designed two models of safety protectors. The photos below illustrate the way to fix a tip in a protector.

Please insert the tips into teflon protectors as shown in the picture:

- Match the nut indicating the gauge with the hub, press the tip gently
- Make sure the branches do not touch the protector

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.

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 they take 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.

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

<table>
<thead>
<tr>
<th>Sterilizer Type</th>
<th>Gravity Displacement</th>
<th>Prevacuum</th>
<th>Gravity Displacement</th>
<th>Prevacuum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Config.</td>
<td>wrapped</td>
<td>wrapped</td>
<td>unwrapped</td>
<td>unwrapped</td>
</tr>
<tr>
<td>Temperature</td>
<td>121 °C – 123 °C</td>
<td>132 °C – 135 °C</td>
<td>132 °C</td>
<td>132 °C</td>
</tr>
<tr>
<td>250 °F – 253 °F</td>
<td>270 °F – 275 °F</td>
<td>270 °F</td>
<td>270 °F</td>
<td>270 °F</td>
</tr>
<tr>
<td>Exposure time</td>
<td>15 to 30 minutes</td>
<td>3 to 4 minutes</td>
<td>3 minutes</td>
<td>3 minutes</td>
</tr>
</tbody>
</table>

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 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 Rumex products.

Inspection

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.
TERMS & CONDITIONS

1. Orders
Please contact local Rumex representatives to place an order. The list of representatives can be found at www.rumex.com.

2. Prices
Prices are subject to change without notice. Ask your local distributor for the current price list.

3. Shipping
Orders are shipped via express carrier. The carrier is indicated at the time the order is placed.

4. Warranty
All Rumex instruments have lifetime guarantee from manufacturing and material defects, if they are properly use and taken care of in accordance with recommended procedures. If a defect is detected, Rumex will replace or repair the instrument at no charge.

Please always follow Care and Cleaning Instructions provided by Rumex International Co. or the warranty shall be null and void.

5. Credit Policy
Any instrument may be returned within 30 days and no restocking charge will be applied if the instrument is in its original undamaged condition. No refunds are permitted. You will receive a company credit towards future purchases. No returns will be accepted after 30 days. Damaged instruments are subject to a repair charge.

No credit will be issued for:
• Sterile and disposable products;
• Instruments damaged beyond repair;
• Special or custom orders.

6. Return
Merchandise should be carefully packaged, insured and shipped (prepaid) to the Rumex office (or your local office internationally) together with a copy of your original invoice or packing list, stating your name, address, contact numbers and email address. Please enclose detailed explanation of the reason for return. Custom made instruments cannot be returned. Please call customer service at +1 (727) 535 9600 (USA, Canada) or +371 6616 3182 (Europe, Asia, Africa, Latin America) to obtain a Return Authorization Number prior to returning instrument(s). Please sterilize the instrument(s) before shipping. Unopened and unused instruments should not be sterilized. Customers will be credited the cost of the instrument(s) but will be responsible for all freight charges for the original order.

7. Repair
To provide our partners and direct customers with prompt after sale service and minimize the risk of breakage of branches during a surgery we exchange a broken tip for a brand new instrument. The cost of the service is 60% of the retail price.