



NEW INSTRUMENTS

+ Instruments Handling Manual



AFFORDABLE
INNOVATIONS

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HOW TO PLACE AN ORDER

All the orders can be easily placed and paid online according to your shipping location directly via one of RUMEX web stores or through your local RUMEX representatives.

 If your shipping country is USA you are welcome to order at rumex.us

 If your shipping country is within Europe please visit rumex.eu to make your order.

 For other regions visit rumex.com and find your local RUMEX representative.

Pricing

The pricing policy may vary from region to region. If you are an international customer, please ask your local distributor for the current prices.

Shipping

We provide our retail customers with two delivery options: via local distributor or by direct shipment from our warehouses. Purchasing with our company is simple and convenient. Processing orders quickly and efficiently is a matter of primary importance to us!

Warranty conditions

For all instruments, RUMEX provides a lifetime warranty against any manufacturing or material defects. After carrying out a due expert analysis, if the defect was not caused by the improper handling or misuse, we will provide you either a 100% compensation or a free of charge exchange of a defective instrument for a new one. In some cases when instruments are improperly used or mishandled this may lead to occurrence of non-manufacturing defects which are not covered by RUMEX lifetime warranty. To avoid such cases please read carefully and always follow our sterilization and care instructions or consult our customer service for proper handling instructions.

+1 727 535 9600 (for USA, Canada)

+371 6616 3182 (for Europe, Asia, Africa, Latin America)

EXPANDED RANGE OF STAINLESS STEEL INSTRUMENTS

MOST POPULAR INSTRUMENTS ARE NOW AVAILABLE IN STAINLESS STEEL!

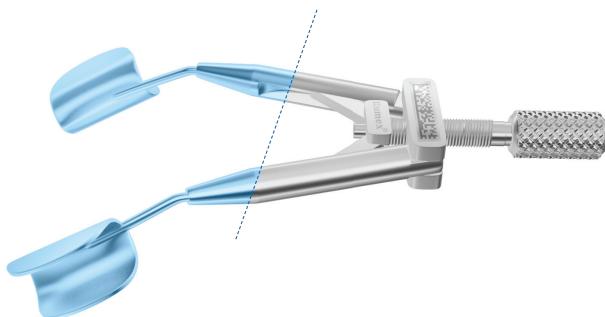
TITANIUM

- Immune to rust
- Resistant to mechanical, chemical, temperature stress
- Anti-magnetic
- Lightweight

STAINLESS STEEL

- High strength and resistance to brittle fracture
- Hardened by heat treatment – increased durability
- Best for blades and instrument tips – enhanced sharpness and accuracy

TITANIUM OR STAINLESS STEEL?



- FORCEPS
- NEEDLE HOLDERS
- SPECULUMS
- MARKERS
- GAUGES

• RUMEX UNIVERSAL HANDLE

AND A VARIETY OF OTHER INSTRUMENTS
CAN BE ORDERED IN STEEL!

**CHOOSE THE MATERIAL
YOU PREFER!**

SPECULUMS

14-045T

Lancaster Eye Speculum, Adjustable Mechanism with Locking Nut

Solid-shaped slightly curved blades fit orbital margin, keep eyelashes from the surgical area, and provide optimal view.

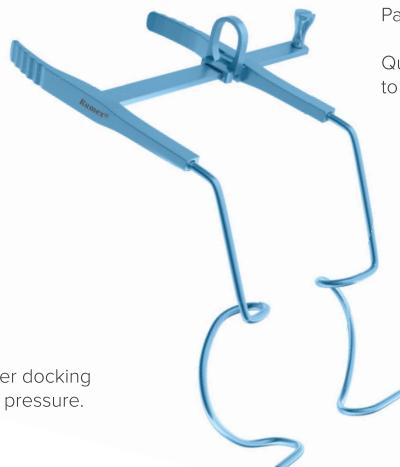


Spring-control with locking mechanism and stabilizing disk

Non-reflective finish eliminates reflection from the microscope

14-052T

Slade-Murdoch Speculum



Parallel retraction design

Quick installation and removal due to self-locking mechanism

Curved blades facilitate laser docking without increasing external pressure.

CATARACT

16-2853

IOL Injector NaviJect™

For hydrophobic and hydrophilic
foldable single-piece IOLs

Titanium push-type IOL injector for easy
and efficient one-handed implantation of
single-piece foldable IOLs



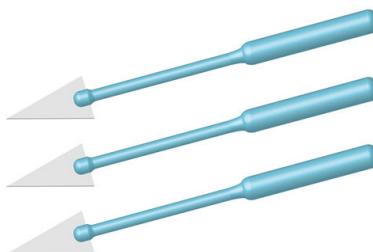
R2-40405

PVA Spears*

STERILE



Compressed lint-free PVA spears are ideal for controlling and absorbing fluid in and around the orbital area during cataract and refractive procedures.



CATARACT

4-033S

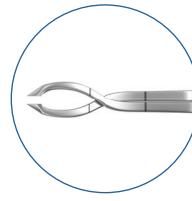
Small-Incision Capsulorhexis Forceps with Double Cross-Action and Scale

1.50 mm
incision

Double cross-action contributes to free movements in the anterior chamber, prevents the hyperextension of the incision.



Tungsten carbide coating at the tips
for better gripping of the capsule



View-port for better visualization

Cystotome tips allow to make the
first pinch.



2 engravings at 2.50 and 5.00 mm for
precise measurement of capsulorhexis

FEMTOCATARACT

7-149S

Escaf Prechopper

2.00 mm
incision



Designed in cooperation
with Luis Escaf MD, Colombia



Fractures cataract with hardness less than 4+.

Completes breakdown after Femtosecond or Ultrachopper use.

Tolerates capsulorhexis smaller than 5 mm in diameter without injuring the capsule edges.

The tip is truncated so as not to hurt the edge of capsulorhexis when it is small.

7-1167S

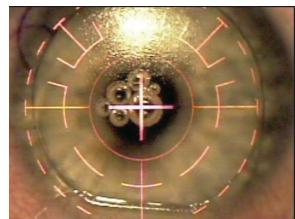
Crozafon Prechopper

2.00 mm
incision



Provides easy releasing of entrapped gas bubbles for safer hydrodissection.

Reduced thickness of the blades to use on shallow anterior chambers



REFRACTIVE

ICL

**4-21432
12-003T**

**Zaldivar - Kraff ICL Pacman Forceps, Tip Only
Vitreoretinal Instrument Handle, Squeeze Model**



4-21432*

12-003T

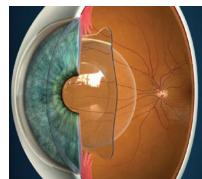
Two fingers linear actuation
Specially designed gripping area for amplified control
360° rotation



To load the ICL® inside the cartridge

Atraumatic ridges and the gentle curve
at the tips to grasp the ICL® without
damage

A view-port on the upper jaw for perfect
visualization

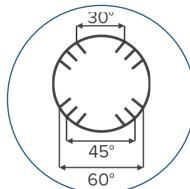
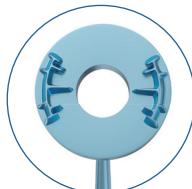


3-183T LRI Marker, Intra-Op



Low-profile for easy positioning of the marker

Central opening for better centration when marking



Thin beveled blades on the rotatable head
precisely locate arcuate marks along the axis
even without the use of ink.

30, 45 and 60 degree marks

No smear and running of ink

CORNEAL - DSEK, DSAEK, DMEK

3-0230

Abdullayev Scleral Marker for Keratoplasty



For corneas with large scleral rim

Developed in cooperation with
Eric Abdullayev, MD, MBA, CEBT, USA

Improves scleral rim trimming

3-0231

Abdullayev Corneal Marker for Keratoplasty



Central marking point

Developed in cooperation with
Eric Abdullayev, MD, MBA, CEBT, USA

Improves centration of cornea during DSAEK microkeratome preparation.

Facilitates placement of donor corneas on to donor punch.

CORNEAL - DSEK, DSAEK, DMEK

3-024T

Abdullayev I & II Marker (for DSAEK/DMEK Grafts)



Developed in cooperation with
Eric Abdullayev, MD, MBA, CEBT, USA



Stable staining

1.50 mm straight I & II marks
at the very edge of the graft



No folding/unfolding step

CORNEAL - DSAEK

3-204T

John DSAEK Double-Ended Marker 8.00/9.00 mm



Used to mark recipient and donor cornea.

Combines popular diameters of 8.00 and 9.00 mm.

A circular mark on recipient's cornea serves as a guiding mark
for descemetorhexis.

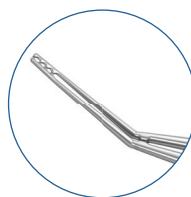
CORNEAL - DSEK, DSAEK, DMEK

4-254S

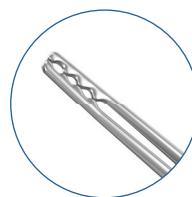
Lambright-Abdullayev Ultrathin DSAEK Grasping/Inserting Forceps



Developed in cooperation with
Eric Abdullayev, MD, MBA, CEBT, USA



For ultrathin grafts, 70 µm and less
120 µm space protects donor endothelial cells.
Wave-shaped serration for non-slip insertion



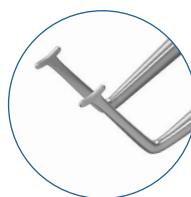
CORNEAL - DMEK

4-261S

Abdullayev DMEK Grasping Forceps



Developed in cooperation with
Eric Abdullayev, MD, MBA, CEBT, USA



Horizontal grasping platforms provide for controlled membrane holding during separation.

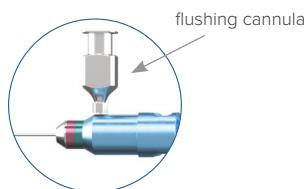
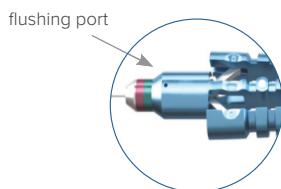
VITREORETINAL

ONE-PIECE VITREORETINAL INSTRUMENTS WITH RUMEX FLUSHING SYSTEM



The tip can be easily cleaned without disassembling

Special flushing cannula is provided for free



1. Insert the cannula into the flushing port as illustrated
2. Adjust a syringe to rinse with distilled water, alcohol, dry with air
3. Sterilize the instrument in the regular way

VITREORETINAL

Color code system



Exquisite gripping/cutting fuction
Anti-glare matte finishing

Two fingers linear actuation
Specially designed gripping area for amplified control
360° rotation

ILM



Eckardt End-Gripping
Forceps
12-410-23H 23 Ga
12-410-25H 25 Ga

ERM



Gripping Forceps
with a "crocodile" platform
12-304-23H 23 Ga
12-304-25H 25 Ga



Tano Asymmetrical
End-Gripping Forceps
12-411-23H 23 Ga
12-411-25H 25 Ga



Pick Forceps
12-325-23H 23 Ga
12-325-25H 25 Ga



Asymmetrical
End-Grasping Forceps
12-420-23H 23 Ga
12-420-25H 25 Ga



Gripping Forceps
with a sandblasted platform
12-301-23H 23 Ga
12-301-25H 25 Ga



End-Grasping Forceps
Expanded space
between branches
12-4013H 23 Ga
12-4013-25H 25 Ga
Enhanced visualization!



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

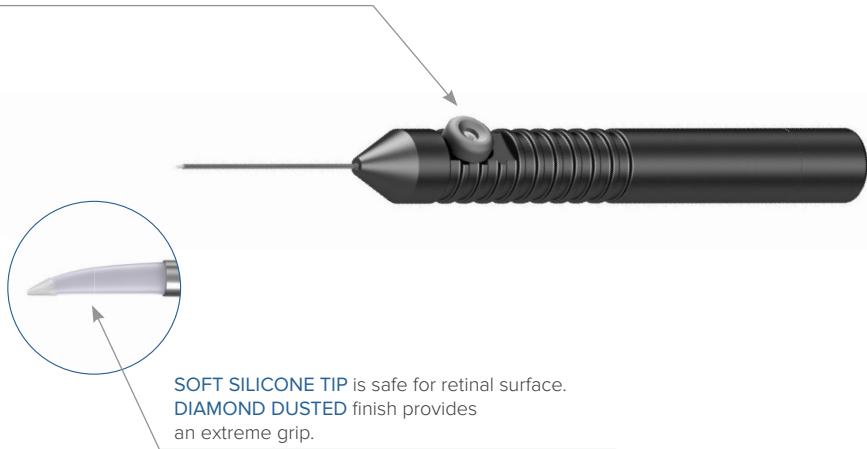
Disposable Diamond Dusted ILM Elevators*

12-7523, 23 GA
12-7525, 25 GA

STERILE



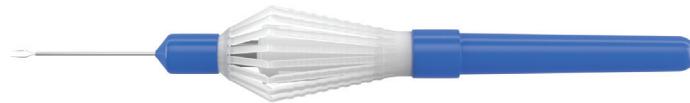
RETRACTABLE VERSION helps to adjust the length of the tip and provides an easy insertion through the trocar cannula.



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

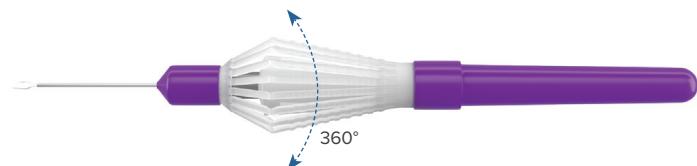
The shape of the tip helps to create a precise edge to facilitate ILM removal.

DISPOSABLE INSTRUMENTS WITH PLASTIC HANDLE*



Color code system

- 23 Ga
- 25 Ga
- 27 Ga



360° lightweight handle is ideal for precise hours-long surgeries.

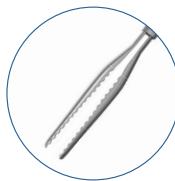
ILM



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 BACKFLUSH ONE-PIECE INSTRUMENTS*

STERILE



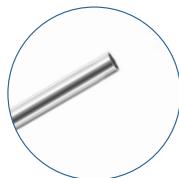
Color code system

- 23 Ga
- 25 Ga
- 27 Ga



Ergonomic handle is combined with soft, brush or blunt tip cannula into one instrument.

Two connectors for either active or passive aspiration



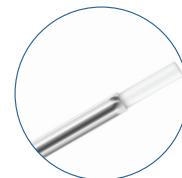
with Blunt Tip

- 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

DISPOSABLE ONE STEP TROCAR SYSTEMS*

Each set includes:

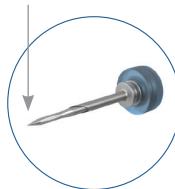
- Trocars knife with preloaded trocar cannula – 3 pcs
- Self-sealing trocar cannula (preloaded) – 3 pcs
- Universal infusion line – 1 pc

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



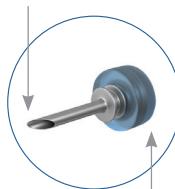
Sharp MVR Blade

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



Trocars Cannula

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



Silicone Closure Valves

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

Trocars 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



STERILIZATION TRAYS

ALUMINUM STERILIZATION TRAYS

- Manufactured from an anodized aluminum alloy to prevent corrosion and ensure long-term use
- Faster drying due to high thermal conductivity of alloy
- Lightweight for easy transportation and handling

AUTOCLAVE
STEAM
DRY HEAT
CHEMICAL



18-319

155×65×20 mm
6.0×2.5×0.80'



18-322

200×110×20 mm
7.75×4.25×0.80'



18-325

260×160×40 mm
10.25×6.25×1.5'



18-326

Double level
260×160×40 mm
10.25×6.25×1.5'



18-335

390×265×40 mm
15.5×10.5×1.5'



18-336

Double level
390×265×40 mm
15.5×10.5×1.5'



OTHER SIZES ARE AVAILABLE!

CARE AND CLEANING INSTRUCTIONS

INSTRUCTIONS FOR USE

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 enlarged.

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

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: DESINFECTION

Soaking

1. For effective cleaning of instruments it is recommended to start pre-treatment as soon as possible, no later than 30 minutes after surgery is completed. The cleaning/disinfection should be carried out within the next two hours.
2. Use **distilled/demineralized water** to prepare the working solution.
3. Water temperature should be as specified in the manufacturer's instructions. Water layer above the instruments should be no less than 1 cm (.39 inches).
4. Make sure the disinfectant is free of **aldehydes, glutaraldehydes**. Stainless steel tools must not be exposed for a long time to media which can promote corrosion (for example, chloride or iodine ions). This also applies to the vapors of the substances mentioned.

Do not immerse stainless steel instruments in an isotonic solution (e.g. physiological saline solution) as stress corrosion cracking and pitting may occur.

5. Carry out disinfection according to the mode, indicated in the instructions of product manufacturer. Disinfectant solution should not foam.
6. Instruments with hinges and joints must be handled open.

Rinsing

1. Place the products in a container with distilled/demineralized water and wash off the remaining solution with thorough rinsing of all lumens for 5 minutes.
2. Then rinse with distilled water.

Stage 2: 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.

MANUAL CLEANING

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 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.

Steps of manual cleaning in solution

1. Use **distilled/demineralized water** to prepare the working solution. Use chemicals with non-protein fixing process and with/without anti-microbial effects. Prepare the solution according to the manufacturer's instructions.
2. The detachable products should be disassembled prior to be immersed into the solution. Products with locks should be immersed open with preliminary several working movements done inside the solution for its better penetration into hard-to-reach areas of the instruments. Make sure that there are no air bubbles in the cavities and all the inner surfaces are affected.
3. Soak according to the mode, indicated in the instructions of product manufacturer. **We recommend soaking instruments in a detergent with pH level between 6-9 for 10 min at 40°C/104°F. Disinfection agent should be aldehyde-free.**
4. Wash each product with a brush or a cotton-gauze sponge. Use a syringe to wash the lumens of the instruments. Remove all macroscopically visible dirt.

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.

5. Place the products in a container with distilled/demineralized water and wash off the remaining solution with thorough rinsing of all lumens for 5 minutes. Repeat the procedure if necessary.
6. Then rinse with distilled water to prevent spotting. Instruments with lumens should be flushed out at least five times at the beginning and at the end of the cleaning (10 ml/0.34 fl.oz distilled or deionized water to be used each time).
7. Dry instruments carefully before sterilization with a hot air blower or lint-free cloth. Compressed air is preferred. Sterile compressed air should be used to insufflate cavities of the instruments.
8. The cleaning results must be visually inspected. The instruments must be visibly clean.

ULTRASONIC CLEANING

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 into the equipment. A five to ten minutes cycle in the ultrasonic cleaner should be sufficient.

The following rules should be followed:

1. Fill the bath with room temperature water. The temperature higher than 45°C (113°F) can lead to encrustation due to denaturation of the protein.
2. Use detergent to soak the instruments. A distilled/demineralized water should be used to prepare the working solution. Make it according to the manufacturer's instructions. Newly prepared cleaning solutions require degassing prior to the first use.
3. Place instruments next to each other without stacking them.
4. When carrying out ultrasonic cleaning, all parameters specified by the manufacturer of the cleaning agent, such as exposure time and concentration, must be observed.
5. The use of ultrasonic baths and strong cleaning fluids (alkaline pH> 9 or acid pH <5) can shorten the lifespan of the products. Make sure the appropriate agents are chosen for performing the procedure.
6. Place the instruments on silicone fingertip mat, previously put into the ultrasonic bath with the solution. When using deionized water or cleaning solution fully submerge the instruments. Change the ultrasonic solution from ultrasound cleaner after each use.

Instruments with hinges and joints must be handled open to minimize the obscured surface areas. The detachable products should be disassembled prior to be immersed into the solution.

Products with locks should be immersed open with preliminary several working movements done inside the solution for its better penetration into hard-to-reach areas of the instruments.

Large instruments should be placed vertically in order not to create acoustic shadows.

WARNING! 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.

7. Carry out the cleaning procedure. Turn on ultrasonic bath. 3 minutes exposure at frequencies of around 35 kHz would be sufficient. Use soft bristled nylon brush to clean all the parts of the instrument, inside and outside.
8. Place the products in a container with distilled/demineralized water and wash off the remaining solution with thorough rinsing of all lumens for 5 minutes. Repeat the procedure if necessary.
9. Then rinse with distilled water to avoid water spots.
10. Dry the instruments before sterilization. A lint free cloth may be used for manual drying. Sterile compressed air should be used to insufflate cavities of the instruments.

WARNING! DO NOT apply ultrasonic cleaning to diamond knives or instruments with delicate tips (e.g. vitreoretinal and microincisional tips, choppers, hooks, manipulators and etc.)

AUTOMATED CLEANING

1. Baskets in the form of nets with large holes are recommended to be used in special washing equipment. Be sure to use tool holders in the basket. Place instruments inside them without overloading.
2. Make sure that the large instruments don't obscure other ones and don't create spray shadows.
3. Sort tools by similar metals, avoiding contact between dissimilar ones. This type of contact can cause galvanic corrosion.
4. Use a solution suitable for washing equipment with low foaming property.
5. Use a neutralizer, which not only neutralizes alkali, but also reduces surface tension of the liquid during drying, accelerating it, and minimizing stains.
6. Set the program for the cleaning step. The chosen program must be suitable for the products and include the appropriate number of rinsing cycles.

For automated cleaning and disinfection thermal and chemo-thermal disinfection options are available.

During **thermal processes** disinfection is carried out at temperatures above 65°C (149°F). A reprocessing program may include the following steps:

1. Pre-wash with cold water to remove dirt and foaming substances.
2. Cleaning is performed with use of suitable pH-neutral or alkaline products added to hot or cold distilled water at temperatures of 40-60°C (104-140°F) for at least 5 minutes.
3. Intermediate rinse in hot or cold distilled water with acidic neutralizer added in order to facilitate the removal of remaining alkaline disinfectants.
4. Second intermediate rinse in hot or cold distilled water without additives should follow.
5. Thermal disinfection and final rinse is performed at temperatures of 80-95°C (176-203°F).
6. Drying might be carried out in washer/disinfector or in other possible ways. Sterile compressed air should be used to insufflate cavities of the instruments.

Chemo-thermal disinfection is suitable for heat-sensitive products. The temperature is limited in all rinsing stages and during the step of drying.

Cleaning is performed normally at < 65°C (149°F). A reprocessing program may include the following steps:

1. Pre-wash with cold water to remove dirt and foaming substances.
2. Cleaning is performed with use of suitable pH-neutral or alkaline products added to hot or cold distilled water at temperatures of 40-60°C (104-140°F) for at least 5 minutes.
3. Intermediate rinse in hot or cold distilled water followed by chemo-thermal disinfection. Special cleaning agent, compatible with machine-disinfection, is used.
4. Intermediate rinse in hot or cold distilled water without additives.
5. Final rinsing with distilled water at higher temperature.
7. Drying might be carried out in washer/disinfector or in other possible ways. Sterile compressed air should be used to insufflate cavities of the instruments.
8. The cleaning device must be regularly maintained, checked and validated in accordance with internal and manufacturer requirements.

9. When processing the ophthalmic instruments we recommend using the additional intermediate rinsing with water in the washing programs before the final rinse.

Additional rinsing outside the washing equipment is not required.

A combination of processing stages 1 and 2 is allowed.

WARNING! Tools with blind holes, long narrow tips (e.g. tips, cannulas, handpieces and etc), hinges (3-joint instruments) need more attention during cleaning process. The temperature at all stages of the process should not exceed 170°C (338°F).

Aspiration speculums require additional cleaning of silicone tubes prior to be sterilized.

First, soak the instrument in the soap solution at temperature of 50°C (122°F) and keep it there for 15 min. After that wash the instrument with brush and cotton/gauze pad. Take the instrument out of soap bath and wash it under streaming water for 3 min. Rinse the instrument with distilled or deionized water. Then attach a syringe filled with warm water into the luer lock and rinse the silicone tubes of the instrument. Finally, blow them with air by forcing one or two syringes full of air through the tubes.

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.

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

Surgical instruments should be stored at room temperature in dry rooms in the sterilizing trays of proper size and lined with soft silicone mats. Instruments should not touch each other. We recommend using protective tips made of soft silicone tubing of the proper size and thickness. Do not use rubber or plastic protective tips, as they can melt during autoclaving and cause damage of instruments.

WARNING! Never store the instruments close to the chemicals.

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, handpieces) the gravity procedure is not suitable!

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

WARNING! ETO method is not recommended for diamond knives sterilization.

	Steam Autoclaving		“Flash” Autoclaving	
Sterilizer Type	Gravity Displacement	Prevacuum	Gravity Displacement	Prevacuum
Sample Config.	wrapped	wrapped	unwrapped	unwrapped
Temperature°C	+132°C	+132°C	+132°C	+132°C
Temperature°F	+270°F	+270°F°	+270°F	+270°F
Exposure Time	34 minutes	3 minutes	10 minutes	3 minutes
Drying Cycle	min. 10 minutes	min. 10 minutes	min. 10 minutes	min. 10 minutes

WARNING! The sterilization steam must not contain any impurities.

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.

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

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).

RECOMMENDED PRODUCTS FOR CARE AND CLEANING

Product name, Manufacturer	Description	Composition	Processing stage	Compatibility
SEKUSEPT Activ, Ecolab Deutschland GmbH	Disinfectant for automatic and manual processing of tools	≥ 30% oxygen-based bleaching agents; <5% non-ionic surfactants, phosphonates; 50% sodium perborate monohy- drate; 25% tetraacetylenediamine; active antimicrobial components, nonionic surfactants, corrosion inhibitor; pH of 2% solution: 7.4-8.4	Disinfection; Pre-sterilization cleaning; Sterilization	Compatible. Discoloration of metal, residual detergent or water film formation may occur.
Neodisher MediClean Forte, Dr. Weigert GmbH & Co.	Detergent for automatic and manual cleaning of surgical instruments. Prevents reprecipitation of protein residues.	< 5% non-ionic and anionic surfactants; enzymes; pH: 10.4-10.8	Pre-sterilization cleaning	Compatible. Discoloration of metal, residual detergent or water film formation may occur.
Neodisher MediKlar, Dr. Weigert GmbH & Co.	Rinser 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-isothi- azol-3-one [EC-no.247-500-7] and 2-Methyl-2H-isothiazol-3-one; pH: 5.9-6.9	Pre-sterilization cleaning	Compatible
ERIZYME, Kiiltoclean FARMOS Oy	Detergent 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; pH: 7.5	Pre-sterilization cleaning	Compatible
ERISAN OXY+, Kiiltoclean FARMOS Oy	Disinfectant in disposable sachets	sodium percarbonate 30 - <50%; citric acid 15 - <30%; tartaric acid 5 - <15%; pH: 5.9-6.9	Disinfection; Pre-sterilization cleaning; Sterilization	Compatible

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.

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