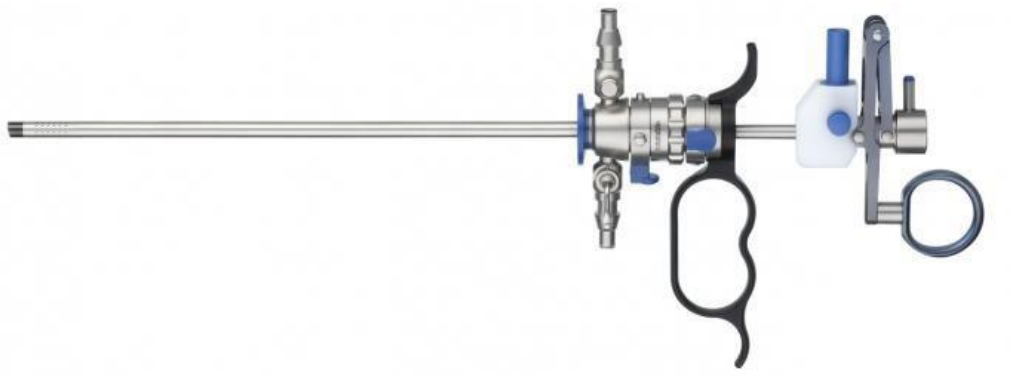
Ackermann©

Instructions for Use

Resectoscope Systems



CE
1984

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1. Monopolar/Universal and Laser Resectoscopes

1.1 Device Description

1.1.1 Intended Use

Ackermann Resectoscopes are intended for ablation, cutting, vaporization and coagulation of tissue in the following surgical fields:

- Urology – Resectoscopy
- Gynecology – Hysteroscopy

Carefully read these instructions before using Ackermann Instruments for Resectoscopy. Keep them in a safe place for future reference.

Please note, the laser fibers for Ackermann Laser Working Elements are not sold by Ackermann Instrumente.

1.1.2 Intended User

The products must be used only in medical facilities by trained and skilled medical personnel. The products must not be used if, according to a qualified physician, the general condition of the patient is not adequate or if the endoscopic methods are contraindicated.

1.1.3 Contraindications related to electrosurgical systems

Do not use the devices if one or more below reported conditions is present:

- Acute inflammation of the abdominal area
- Infection of the vagina
- Existing pregnancy
- Patient with pacemaker
- Presence of flammable or explosive substance
- The device has been already used to treat patients with suspected or verified BSE, CJK / vCJK diseases.

Surgical patients identified as at-risk for Creutzfeldt-Jakob disease (CJD) and related infections should be treated with single-use instruments. Therefore, devices that have been in use or suspected of use on a patient with CJD after surgery must be disposed according to current national recommendations.

Improper use can lead to hazardous situations

1.1.4 Side Effects and Residual Risks related to electrosurgical systems

- When direct or low-frequency current enters the body, electrolysis occurs at the electrode-tissue interface. The chemical effects of electrolysis disappear at higher frequencies
- Direct or low frequency current can depolarize cell membranes and cause neuromuscular excitation
- Electrosection results in more collateral tissue damage compared to scalpel surgery, creating some histologic distortion of surgical margins
- Thermal damage may cause carbonization at the excision margin, vessel thrombosis, and collagen denaturation. Therefore, careful evaluation of the advantages and suitability of the intended application is recommended

1.1.5 Warnings and Precautions related to electrosurgical systems

- Electrodes in combination with standard resectoscopes must only be used with a recovery peak voltage of **max. 2.0 kVp** throughout both standard cutting and coagulation mode
- The electrode tip may remain hot enough to cause burns after current is deactivated
- Inadvertent activation or movement of the electrode outside the field of vision may result in injury to the patient
- Endogenous risk of burns caused by critical current density in the patient's tissue. Probable causes: The patient has inadvertent contact with electrically conductive parts. In the event of direct contact between skin, HF cables and electrodes, capacitive currents may lead to burns
- Exogenous risk of burns caused by inflaming liquids or gases, as well as possible explosions. Probable causes: inflammation of skin cleansers, disinfectants or anaesthetic gases etc.
- Only activate HF current, if the electrode is in your field of view and in contact with tissue otherwise excessive heating of the irrigation medium may result and may cause patient injury.
- Do not bend, deform or tamper with the form of the electrode or the cutting wire
- Ensure that the electrode size corresponds to the size of the inner sheath in use
- To minimize the associated health hazards, specially designed smoke evacuation systems should be used where available and surgical filtration masks donned for all surgical procedures

For information such as contraindications and risks related to laser based surgical applications, please refer to the manufacturer's IFU for laser fibers.

1.2 Available Models and Combination Products

1.2.1 Monopolar HF-electrodes

Monopolar Resectoscopes are to be used in combination with monopolar HF-electrodes for Resectoscopy. The corresponding sheaths and electrodes are color coded according to size as follows:

- 17Fr green
- 19Fr white
- 24Fr yellow
- 27Fr brown/black
- 11Fr green
- 13Fr red

1.2.2 Universal HF-Electrodes

Universal Resectoscopes are to be used in combination with universal HF-electrodes for Resectoscopy.
Universal (bipolar/saline) Electrodes are color coded with a double color code at the distal end:

- 17Fr green/blue
- 24Fr yellow/blue

1.2.3 Laser Fibers

Laser Resectoscopes are to be used in combination with laser fibers (not sold by Ackermann Instrumente).
For the accompanying compatibility matrix please refer to catalogue 32, section "Laser Surgery".

1.2.4 Cables

Monopolar and bipolar HF cables supplied by Ackermann Instrumente are compatible with all our working elements and electrodes. The type of HF generator in use determines which size of plug the cable should have at the generator end.

1.2.5 Generator

Electrical safety tests were conducted in combination with the HF Surgical Generator ME MB2. Comparable HF-Generators e.g. Ackermann HF-Generator 16-2000-700 can be used in combination with Ackermann´s products if it is ensured that maximum power outputs of max. 2.0 kVp are not exceeded and the connection with suitable cables is ensured.

Please refer to section "Attached Document" for further information

An incorrect combination of products can lead to injury for patients, users or third parts as well as product damage.

1.3 Reprocessing Instructions

Products are delivered in a Non-Sterile State and must be cleaned, disinfected and sterilized before the first and any other subsequent use

1.3.1 Warning and Precautions

Country-specific regulations and laws for cleaning medical products have to be observed.

- For patients with Creutzfeld-Jakob-Disease, CJK-on-spec or its possible variants, Bovine Spongiform Encephalopathy or Transmissible Spongiform Encephalopathy country-specific regulations and laws concerning cleaning of instruments have to be observed
- Do not use metal brushes, sponges, abrasive cleanser, hard or sharp tools to clean electrodes
- Do not bend or deform the electrode or the cutting wire

1.3.2 Limitation of Reprocessing

Ackermann´s devices are made out of different materials. These were chosen regarding their ability to withstand to several cleaning, disinfection and sterilization cycles and thus, the multiple high temperature application. There are no concerns regarding material resistance or any known sensitivity to process parameters during reprocessing (heat, cleaning agents etc.) which may affect the safety of our devices. Nevertheless, the ability of Ackermann devices to withstand several reprocessing cycles has been validated up to 20 times.

1.3.3 Machine Reprocessing

Manual Pre-Cleaning

- Brush the instruments under cold water until all visible contamination is removed.
- Rinsing with water jet pistol (static pressure above 4 bar) for a minimum time of 10 seconds.
- Use the water jet pistol to rinse holes, hinges, gaps and cavities.

Cleaning: (i.e. Niagara SI PCF - Medisafe)

Step	Process Step	Reagents	Time (min)	T (°C)
1	Pre-cleaning with pulsed activation of ultrasonic cleaning	Deionized water	3	25
2	Drain			
3	Cleaning with pulsed activation of ultrasonic cleaning	Deionized water, 0.35% enzymatic detergent M20029 3E-Zyme Scope Plus (Medisafe)	20	40
4	Drain			
5	Intermediate rinsing	Deionized water	2	25
6	Drain			
7	Rinsing	Deionized water	1	25

Disinfection

Thermal disinfection has been validated using the following parameters:

Time	Temperature
95 sec	95 °C

1.3.4 Sterilization

Sterilization of the products with fractional pre-vacuum procedure has been validated in accordance with ISO 17665.

Time of exposure (min)	Temperature (°C)	Drying Time (min)
4	132 ± 1	10

Packaging: The products are delivered non-sterile in sealed plastic or in a protective box/foam packaging. Transport packaging is not suitable for sterilization. Devices have to be packed into suitable sterilization packaging systems (e.g. STERICLIN pouch used during sterilization validation) acc. to ISO 11607 and/or AAMI / ANSI ST77:2006 in order to be sterilized.

1.3.5 Control and Testing

The resectoscope have to be visually examined for cleanliness after every cleaning and disinfection. They have to be macroscopically clean from visual residual and soil.

- If residue, liquids, impurities are visible, repeat cleaning process.
- The insulation and HF connector must be intact
- Plastic components should be checked before sterilization.
- The ceramic has to be checked if they are cracks or if it is broken.

1.3.6 Recommended Power Setting

Excessive power setting can lead to significantly higher electrode wear. It is recommended to start with a low power setting gradually increasing until reaching the desired mode:

- Cutting Mode: 120-180 Watt
- Coagulation Mode: Max. 100 Watt

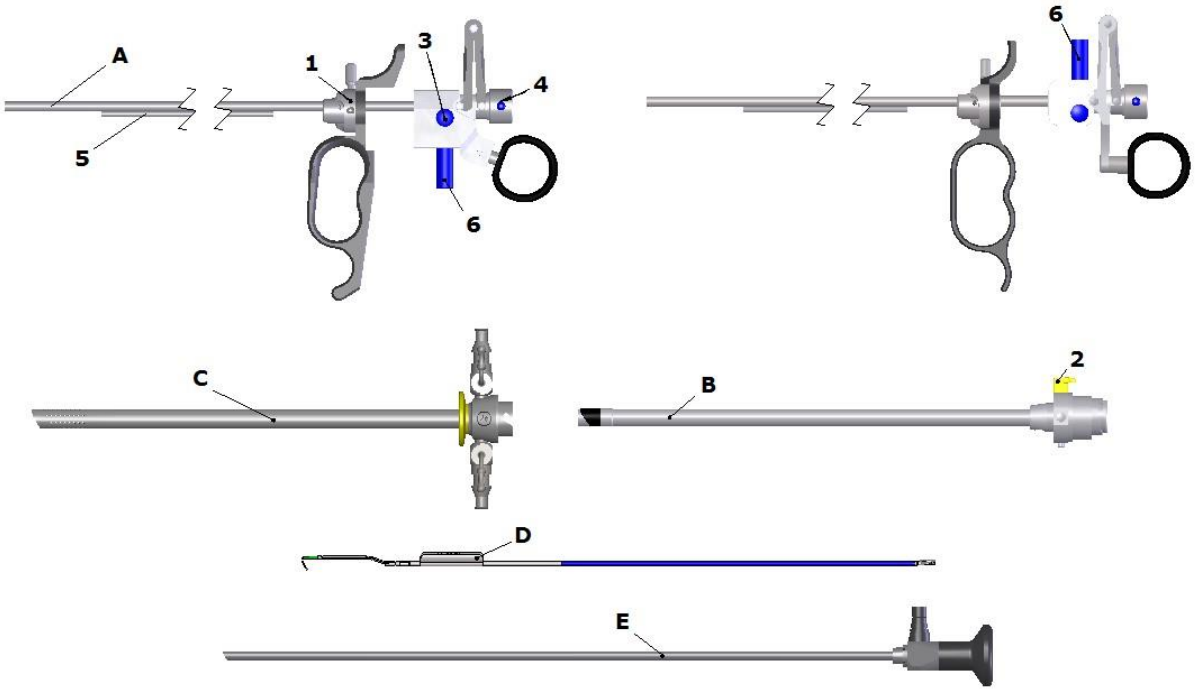
1.3.7 Mode of Application

According to the desired mode of action, the following solutions should be used:

- Monopolar Application with:
  - ➔ Irrigation fluid: Glycine, Purisole
  - ➔ Monopolar Cable
  - ➔ Neutral Electrode

- Universal (Bipolar/Saline) Application with:
  - ➔ Irrigation fluid: 0.9% NaCl solution
  - ➔ Bipolar Cable

1.4. Assembly and Disassembly



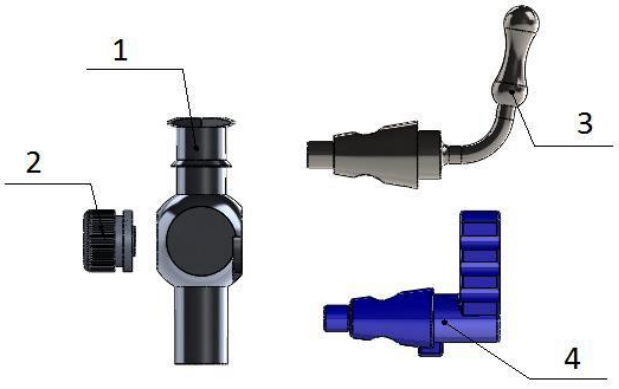
1.4.1 Assembly

- Insert HF electrode (D) through the small tube (5) of the working element (A) until the electrode clicks into place in the working element
- Insert working element (A) into inner sheath (B) and lock by turning locking lever (1)
- Insert assembled inner sheath/working element (A+B) into outer sheath (C) and lock by using push button (2)
- Insert endoscope (E) into working element (A) and lock by turning locking lever (4)

1.4.2 Disassembly

- Turn the locking mechanism (4), release the endoscope (E) and pull it out of the working element (A)
- Unlock outer sheath by using push-button (2) and remove outer sheath from inner sheath (B)
- Turn locking mechanism to unlock inner sheath (1) and remove from working element (A)
- Unlock HF electrode (D) by using push-button (3) and pull it out of the working element (A)

1.4.3 Sheaths with Stopcock



- Disassemble the stopcock from the housing (1) by un-screwing the thumbscrew (2) from the stop-cockplug (3-> stainless steel, 4 -> plastic)

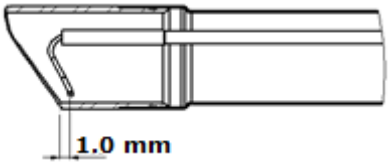
1.5 Visual and Functional Inspection-Check

New medical products have to be inspected thoroughly visually and functionally after delivery and prior to each use

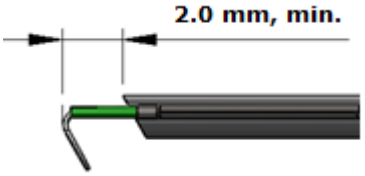
- Prior to subsequent use, products should be visually examined for bent, broken or loose parts, damaged insulation, fissures, scratches as well as worn out or cracked parts
- Check that function is as described in the instructions
- Damaged or faulty products should not be used and should be taken out of circulation immediately
- Damaged parts should be immediately replaced by original manufacturer parts

1.5.1 Electrode Position

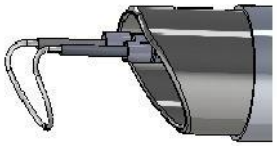
In resting position, the electrode loop has to remain approximately 1.0 mm behind the distal end of the sheath

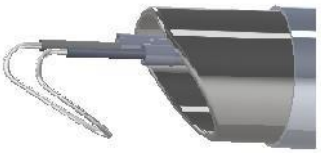


The distance between non-insulated tip of the electrode and the tip of the endoscope has to be at least 2mm. Also the wire loop should be parallel to the sheath and optic.



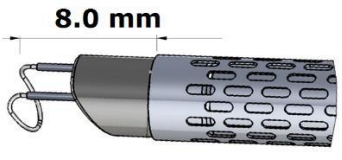
Never re-bend or tamper with the shape of the loop wire. It may damage the electrode and lead to hazards for both patient and user





Inadequate distance between HF conductive components and other conductive parts, may lead to unintentional damage of tissue and /or instruments.

During application of high frequency to the HF Electrodes, **a distance of at least 8mm** is required from the HF application tip (i.e. loop wire, ball, and knife) to the distal end of the endoscope or sheath.



2. Bipolar Resectoscope

2.1 Device Description

2.1.1 Intended Use

The Bipolar Resectocope was developed in particular for the transurethrale resection (TUR). The instrument used to ablation in layers and coagulate from tissue of the bladder or prostate gland. Using of suitable electrode (bipolar – see attached documents) tissue can be cut or coagulate.
Using of a Resectoscope sheath, continuously flow sheath or single flow sheath, bipolar working element is introduced. The cutting or coagulations results from electric energy, generated by HF generators for the electric surgery. The fully assembled instrument (if assembly is needed) has to be connected – with the appropriate cable - to the bipolar output of an HF generator.
Only the defined parameters must be used. When indicated, bipolar coagulation or cutting current can be selectively applied.

Please refer to corresponding section "Attached Document" for further information about compatibility between the parts.

Instruments for electrosurgery must only be used by persons who have been specially trained or instructed in this.

2.1.2 Intended User

The products must be used only in medical facilities by trained and skilled medical personnel. The products must not be used if, according to a qualified physician, the general condition of the patient is not adequate or if the endoscopic methods are contraindicated.

2.1.3 Contraindications

Transurethral resection should not be performed in the following cases:

No TURP for indications for adenectomy: very large adenomas (>75 ml), urinary bladder diverticula re-quiring surgery, urinary bladder stones, inguinal hernia with simultaneous planned treatment, complex urethral diseases (hypospadias surgery) and contraindication for lithotomy.
Further contraindications are low life expectancy, pathological blood coagulation and florid urinary tract infection.

2.1.4 Side Effects and Residual Risks

Incidents which have been reported in connection with the use of bipolar systems:

- Unintended activation with resulting tissue injury on the wrong spot and/ or damage to the equipment.
- Fire in connection with surgical drapes and other inflammable materials.
- Alternating current paths leading to burns on spots where the patient or user comes into contact with components without insulation.
- Explosions caused by sparks in the proximity of inflammable gases.
- Perforation of organs. Sudden severe bleedings.

2.1.5 Warnings and Precautions

- Non-observance of these use and safety instructions may lead to injuries, malfunctions or other unexpected incidents.
- Before initial use and any further use, all instruments must be completely cleaned, disinfected and sterilized and their function must be checked.
- It is very important to check every surgical instrument for visible damage and wear, such as cracks, breaks or insulation defects before each use. In particular areas such as blades, tips, notches, locking and blocking devices, as well as all movable parts, insulations and ceramic elements must be checked carefully.
- Never use damaged instruments.
- Never use the instruments in the presence of flammable or explosive substances.
- When temporarily not in use, the instrument must be placed electrically insulated from the patient.
- Resection may only be used in an electrically leading-capable physiologic salt solution.
- Activate electrosurgical current only if the contact areas are in full view and have good contact with the tissue that needs to be treated. Do not touch any other metallic instruments, trocar sleeves, optics or similar objects during

use.
- Electrodes must noticeably snap into the working element when inserted. Electrodes that are not fully inserted can cause electrical problems.
- Only use parameter settings suitable for the specific operation. If the standard output setting of the electrosurgical generator does not result in the desired effect, all components need to be inspected for correct connectivity or potential damages before the output setting is increased.
- If the electrode is located in an air- or gas bladder, do not activate electrosurgical current.
- Observe the use and safety instructions of the manufacturer of the high-frequency surgical device.

2.2 Available Models and Combination Products

2.2.1 Bipolar HF-Electrodes

Bipolar Resectoscopes are to be used in combination with bipolar HF-electrodes for Resectoscopy. The corresponding sheaths and electrodes are color coded according to size as follows:

– 24Fr yellow

2.2.2 Cables

The HF cable 13-1461UR especially supplied by Ackermann Instrumente is compatible with our bipolar working elements and electrodes. The type of HF generator in use determines which size of plug the cable should have at the generator end.

2.2.3 Generator

Electrical safety tests were conducted in combination with the HF Surgical Generator ME MB2. Comparable HF-Generators e.g. Ackermann HF-Generator 16-2000-700 can be used in combination with Ackermann´s products if it is ensured that maximum output voltage Umax 800 Vp are not exceeded and the connection with suitable cables is ensured.

2.3 Reprocessing Instructions

2.3.1 Warning and Precautions

Products are delivered in a Non-Sterile State and must be cleaned, disinfected and sterilized before the first and any other subsequent use

Due to the product design, the raw materials used and the intended purpose it is not possible to determine a precise limit with regard to the maximum possible number of reprocessing cycles. The serviceable life of the instruments is determined by their function as well as by a careful handling.
Instruments for electrosurgery are by nature subject to increased wear depending on the type and time of use.

Preparation and Transport

Remove coarse dirt from the instruments immediately after each use. Do not use fixation agents or hot water (>40°C). Storage and transport of the instruments to the reprocessing location must be ensured in a sealed container.
Complex instruments must be taken apart for cleaning and disinfection in accordance with pictogram.

2.3.2 Machine Reprocessing

Manual Pre-Cleaning

- Immerse the instrument in cold water for 5 minutes. If possible disassemble the instruments and clean with a soft brush under cold water until all visible impurities are removed. In cavities, holes and threads flush with a water jet pistol at least for 10 sec. (pulsed process).
- Place the instruments in an ultrasonic bath with a 0.5% alkaline-enzymatic cleaning detergent.
  Ultrasound must be applied for 15 minutes at 40°C/104°F. Make sure that the instruments are completely wet.
- Remove the instrument and rinse them completely with cold water to remove the cleaning detergent.

Cleaning

Place the instruments in a basket on the insert module or on the inserts of the MIS module and start the cleaning process.

- Prerinse for 1 min. with cold water
- Discharging
- Prerinse for 3 min. with cold water
- Discharging
- Wash for 5 min. at 55°C with a 0.5% alkaline or at 45°C with an enzymatic cleaning agent.
- Discharging
- Neutralize for 3 min. with warm tap water (>40°C) and a neutralizing agent.
- Discharging
- Rinse for 2 min. with warm tap water (>40°C).
- Discharging

Disinfection

Machine operated thermal disinfection has to be carried out in consideration of the national requirements with regard to the A0 value (see ISO 15883).

Drying

Dry the outside of the instruments by carrying out a drying cycle of the cleaning/disinfection machine.
If necessary, manual drying may additionally be carried out using a lint free cloth. Dry cavities by blowing with sterile compressed air.

Manual reprocessing

Cannot be applied for this instrument.

Functional test and packaging

Perform visual inspection for cleanliness and integrity.; if required, perform an assembly and functional test according to the operating instructions.
If necessary, repeat the reprocessing process until the instrument is optically clean.
Perform an assembly and functional test. Packaging has to comply with ISO 11607 and EN 868 standards for packaging for sterilized instruments.

2.3.3 Sterilization

Sterilization of the products with fractional pre-vacuum procedure (in accordance with ISO 13060 / ISO 17665) under observation of the respective national requirements.

- pre-vacuum phases with a pressure of at least 60 mbar.
- Heating up to a sterilization temperature of min. 132°C and max. 137°C
- Exposure time: at least 3 min.
- Drying time: at least 10 min.

2.3.4 Control and Testing

The resectoscope have to be visually examined for cleanliness after every cleaning and disinfection. They have to be macroscopically clean from visual residual and soil.

- If residue, liquids, impurities are visible, repeat cleaning process.
- The insulation and HF connector must be intact
- Plastic components should be checked before sterilization.
- The ceramic has to be checked if they are cracks or if it is broken.

Information on the validation of the reconditioning

The following testing instructions, materials and equipment have been used for validation:

Cleaning agents (for machine use): Neodisher FA by Dr. Weigert (alkaline)
Endozime by Ruhof (enzymatic)

Cleaning agents (manual cleaning): Enzol Enzym, detergent by Johnson&Johnson

Disinfectants (manual disinfection): Cidex OPA, Johnson&Johnson

Neutralizing agent: Neodisher Z by Dr. Weigert

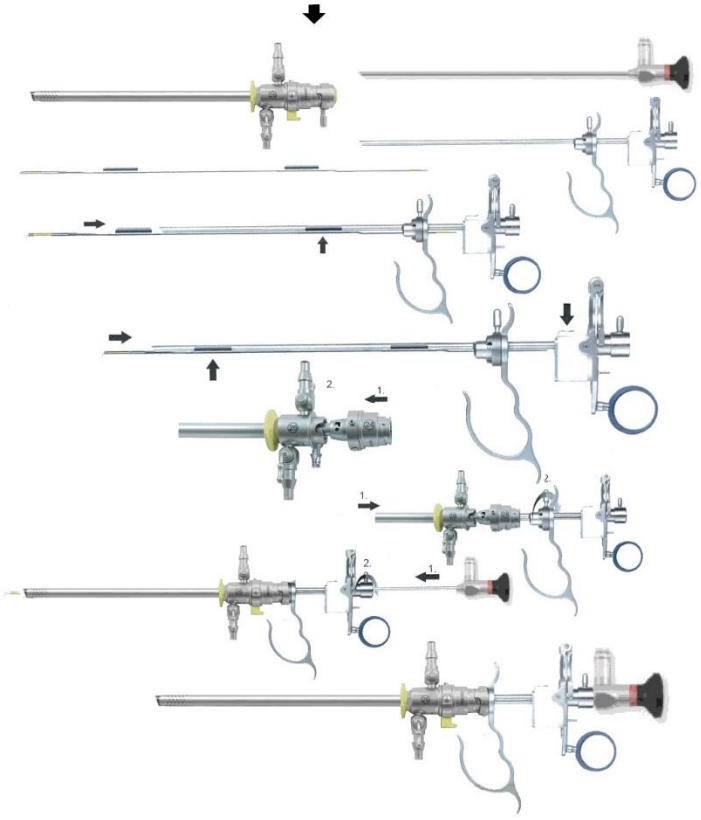
Cleaning and disinfection device: Miele G 7736 CD
Miele insert module E 327-06
Miele MIS module E 450

If the chemicals and machines described above are not available, the user has to validate the used process accordingly.

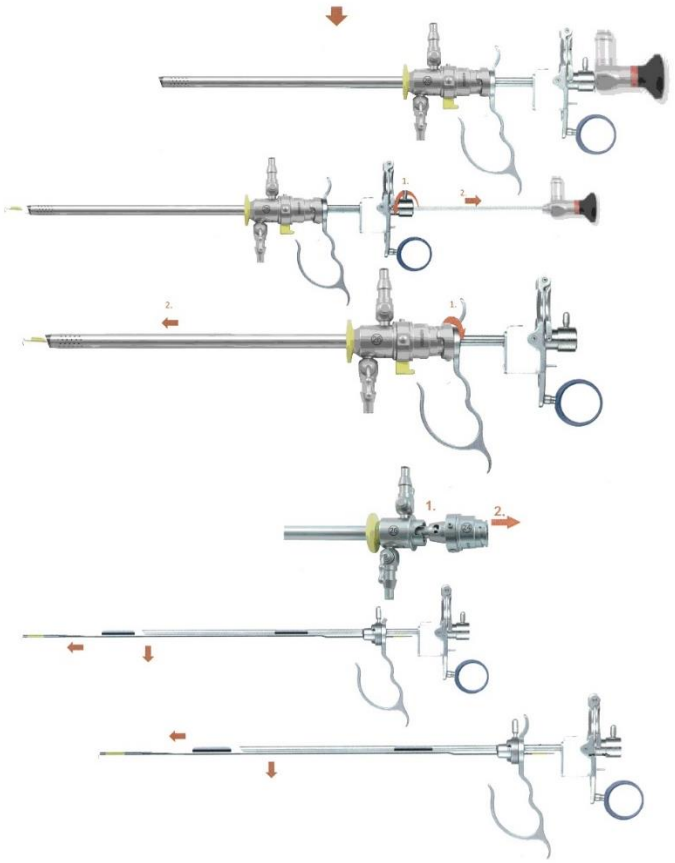
2.4. Assembly and Disassembly

For assembly and disassembly of the instrument follow the pictogram in these instructions. During assembly pay attention to complete insertion of the electrodes, otherwise this can lead to sparking.
When assembled correctly, the instrument can be held in both the right and left hand. With operate of the handle the electrode is moved. When indicated, monopolar or accordingly bipolar coagulation or cutting current can be selectively applied.

2.4.1 Assembly



2.4.2 Disassembly



2.5 Visual and Functional Inspection-Check

New medical products have to be inspected thoroughly visually and functionally after delivery and prior to each use

- Prior to subsequent use, products should be visually examined for bent, broken or loose parts, damaged insulation, fissures, scratches as well as worn out or cracked parts
- Check that function is as described in the instructions
- Damaged or faulty products should not be used and should be taken out of circulation immediately
- Damaged parts should be immediately replaced by original manufacturer parts

3. Handling

During transport, cleaning, care, sterilization and storage, all surgical instruments should be handled with maximum care. This applies particularly to blades, fine tips and other sensitive areas.

4. Storage

The Resectoscope must be stored until subsequent use in a suitable sterilization container for steam sterilization according to the standards.


Keep away from sunlight


Keep dry


Read carefully the reprocessing instructions

The storage room has to be dust-free, of low microbiological contamination, dark and free of temperature fluctuations.

5. Repairs

In spite of application in compliance with intended use, medical products are subject to variable wear and tear depending on the intensity of the application. Wear is technically inevitable.

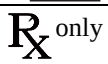
- Do not repair. Service and repairs must be carried out by the manufacturer or by authorized personnel
- Medical products have to be cleaned, disinfected and sterilized prior to sending for repair. Soiled or contaminated medical products should not be shipped.

6. Warranty

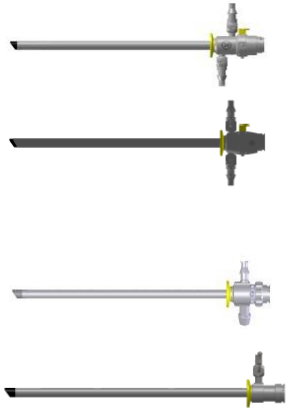
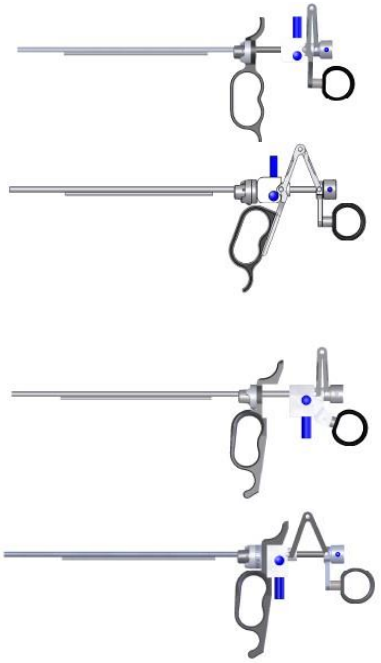
This product is guaranteed against defects in workmanship and material. In the event of defects under guarantee, the product will be repaired, replaced or the charges refunded at the manufacturer's discretion.

Repairs, attempted repairs, alterations or other tampering of this product carried out by unauthorized personnel renders the guarantee invalid.

7. Used Symbols

Symbol	Description		
	Symbol for "Manufacturer"	Legal Manufacturer: **Ackermann Instrumente GmbH** Eisenbahnstr. 65-67 78604 Rietheim-Weilheim Germany	Tel.: +49 (0) 7461 966 17 0 Fax: +49 (0) 7461 966 17 70 Email: info@ackermanninstrumente.de Website: www.ackermanninstrumente.de
	Symbol for "Year of manufacture"		
	Symbol for "Catalog number"		
	Symbol for "Batch code"		
	Symbol for "Prescription use only"		
	Symbol for "Do not use if package is opened or damaged"		
	Symbol for "Consult the instruction for use"		
	Conformity to the essential requirements with notified body number of KIWA		
	Symbol for "Non-sterile"		
	Symbol for "Caution, consult accompanying documents"		
	Symbol for "Keep dry"		
	Symbol for "Keep away from sunlight"		

8. Attached Documents

Electrodes	Sheath	Guide	Working Element	Obturator	Cable
					

8.1 Compatibility Matrix: Universal Resectoscope 17,5 and 24 Fr

Electrodes	Sheaths				Obturators only	Working Elements	Cables
	Incl. Obturator	*Sheath complete*	*Inner Sheath*	*Outer Sheath*			
REF 32-4235U 32-4240U 32-4245U 32-4250U 32-4255U 32-4265U 32-4266U 32-4284U 32-4286U 32-4287U 32-4288U 32-4289U	32-4205 32-4205RR 32-4222 32-4205CV 32-4281 32-4282RR 32-4283	32-4222S 32-4283S	32-4205IS 32-4205RRIS 32-4281IS 32-4282RRIS	32-4205OS 32-4205RROS 32-4281OS 32-4282RROS	32-4226 32-4227 32-4228 32-4228-6 32-4344 32-4342-17	32-4216U 32-4220U 32-4275U	13-1641U

8.2 Compatibility Matrix: Monopolar Resectoscope 11 Fr

Electrodes	Sheaths		Obturators only	Working Elements	Cables
	Incl. Obturator	*Sheath only*			
REF 32-4311 32-4312 32-4313 32-4314 32-4313WOB	32-4520	32-4520S	32-4520O 32-4221	32-4530 32-4531	11-1260UR

8.3 Compatibility Matrix: Monopolar Resectoscope 13 Fr

Electrodes	Sheaths		Obturators only	Working Elements	Cables
	Incl. Obturator	*Sheath only*			
REF 32-4301 32-4302 32-4303 32-4304 32-4303WOB	32-4297	32-4297S	32-4297O	32-4365 32-4295 32-4296	11-1260UR

8.4 Compatibility Matrix: Monopolar Resectoscope 17,5 Fr

Electrodes	Sheaths				Obturators only	Working Elements	Cables
	Incl. Obturator	*Sheath complete*	*Inner Sheath*	*Outer Sheath*			
REF 32-4286 32-4287 32-4288 32-4289 32-4284	32-4281 32-4282RR 32-4283	32-4283S	32-4281IS 32-4282RRIS	32-4281OS 32-4282RROS	32-4344 32-4342-17	32-4275 32-4275QL 32-4285	11-1260UR

8.5 Compatibility Matrix: Monopolar Resectoscope 19 Fr

Electrodes	Sheaths				Obturators only	Working Elements	Cables
	Incl. Obturator	*Sheath complete*	*Inner Sheath*	*Outer Sheath*			
REF 32-4276 32-4277 32-4278 32-4279 32-4273 32-4274	32-4290 32-4292RR 32-4291	32-4291S	32-4290IS 32-4292RRIS	32-4290OS 32-4292RROS	32-4341 32-4342	32-4275 32-4275QL 32-4285	11-1260UR

8.6 Compatibility Matrix: Monopolar Resectoscope 24 Fr

Electrodes	Sheaths				Obturators only	Working Elements	Cables
	Incl. Obturator	*Sheath complete*	*Inner Sheath*	*Outer Sheath*			
REF 32-4235 32-4235D 32-4240 32-4240D 32-4245 32-4245D 32-4250 32-4250D 32-4260 32-4261 32-4262 32-4260D 32-4255 32-4255D 32-4256 32-4256D 32-4258 32-4258D 32-4265 32-4265D 32-4266 32-4266D 32-4268 32-4271 32-4271D	32-4205 32-4205RR 32-4222 32-4205CV	32-4222S	32-4205IS 32-4205RRIS	32-4205OS 32-4205RROS	32-4226 32-4227 32-4228 32-4228-6 32-4281 32-4282RR 32-4283 32-4344 32-4342-17	32-4216 32-4216QL 32-4220 32-4220QL	11-1260UR

8.7 Compatibility Matrix: Monopolar Resectoscope 27 Fr

Electrodes	Sheaths				Obturators only	Working Elements	Cables
	Incl. Obturator	*Sheath complete*	*Inner Sheath*	*Outer Sheath*			
REF 32-4295 32-4300 32-4310 32-4315 32-4325 32-4320 32-4257 32-4330 32-4267 32-4259 32-4272	32-4221 32-4221RR 32-4225 32-4221CV	32-4225S	32-4221IS 32-4221RRIS	32-4221OS 32-4221RROS	32-4229 32-4231 32-4240 32-4240-9 32-4240VO	32-4216 32-4216QL 32-4220 32-4220QL	11-1260UR

8.8 Compatibility Matrix: Laser-guiding Working Elements

Electrodes	Sheath	Obturators only	Working Elements and Guides	Accessories
REF none	32-4600	32-4600O 32-4601	32-4602 32-4603 32-4604 32-4605 32-4606 32-4609 32-4609-100 32-4609-100R 32-4609-200 32-4609-200R 32-4609-300 32-4609-300R 32-4609-400 32-4609-400R 32-4610	32-4607 32-4608

8.9 Compatibility Matrix: Bipolar Resectoscope 24 Fr

Electrodes	Sheaths				Obturators only	Working Elements	Cables
	Incl. Obturator	*Sheath complete*	*Inner Sheath*	*Outer Sheath*			
REF 32-4235BP 32-4240BP 32-4245BP 32-4250BP 32-4265BP 32-4266BP	32-4205 32-4205RR 32-4222 32-4205CV	32-4222S	32-4205IS 32-4205RRIS	32-4205OS 32-4205RROS	32-4226 32-4227 32-4228 32-4228-6 32-4281 32-4282RR 32-4283 32-4344 32-4342-17	32-4216BP 32-4220BP	13-1641UR