

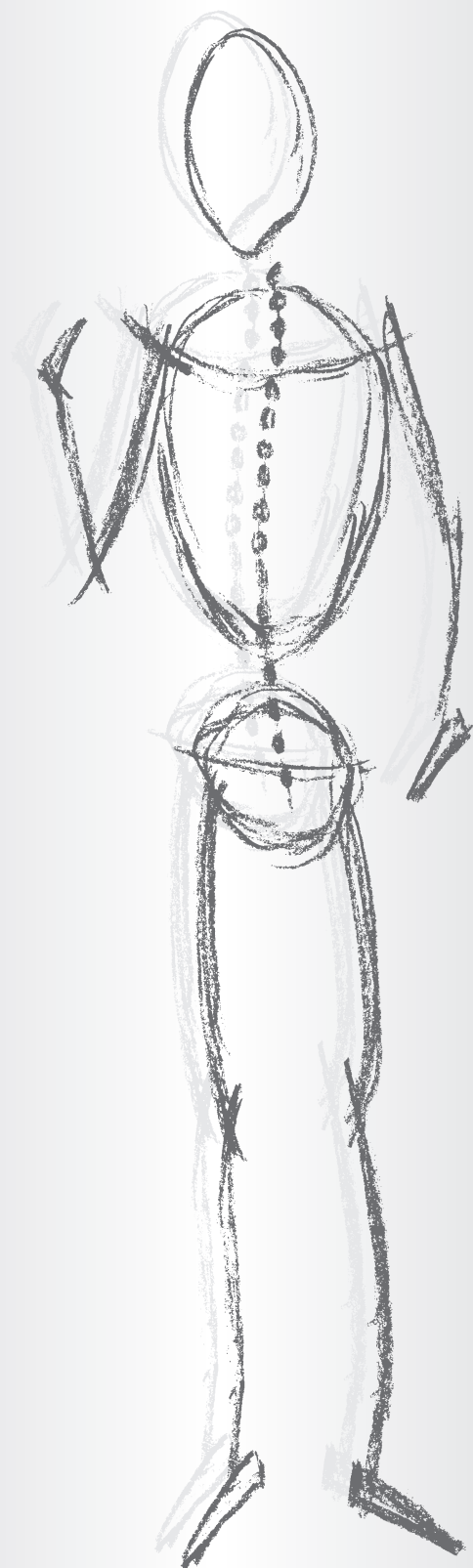


LAPAROSCOPY

**REDA**

STRUMENTE GMBH





|                                                   |           |
|---------------------------------------------------|-----------|
| <b>Laparoscopes</b>                               | <b>1</b>  |
| <b>Trocar sleeves and accessories</b>             | <b>2</b>  |
| <b>Forceps</b>                                    | <b>3</b>  |
| <b>Scissors and biopsy forceps</b>                | <b>4</b>  |
| <b>Needleholder and suture instruments</b>        | <b>5</b>  |
| <b>HF-Instruments and accessories</b>             | <b>6</b>  |
| <b>Suction-Irrigation-Systems and accessories</b> | <b>7</b>  |
| <b>Cholangiography</b>                            | <b>8</b>  |
| <b>Palpation and retractors</b>                   | <b>9</b>  |
| <b>Pediatric instruments</b>                      | <b>10</b> |
| <b>Thoracic instruments</b>                       | <b>11</b> |
| <b>Gynecology instruments</b>                     | <b>12</b> |
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| <b>Cameras and Light Sources</b>                  | <b>15</b> |
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## Preface

This is a short listing of the groups of medical devices at the different chapters.

The intended use of those product groups are description in the glossary.

## Laparoscopes

Containing Devices:: Laparoscope

## Trocar Sleeves and Accessories

Containing Devices:: Trocars  
Trocar sleeves

## Grasping Forceps

Containing Devices: Tube Shafts  
Forceps  
Clamps  
Handles with HF-connections

## Biopsie

Containing Devices: Handles with HF-connections  
Scissors

## Needle Holder

Containing Devices: Needle Holder  
Handles with HF-connections  
Forceps

## HF Instruments

Containing Devices: HF-electrodes  
Electrode handle  
Connecting Cables  
Connecting parts

## Suction- and Irrigation Instruments

Containing Devices: Suction and irrigation instruments containing

- Handle
- Tube
- Guide insert
- different needles

## Cholangiography

### Preface

For cholangiography tubes, guide probes, cholangiography-catheters and fixation clamps are used. This system is used for diagnosis in the biliary ducts.

Containing Devices: Tubes  
Guide Probes  
Cholangiography-Catheters  
Fixation Clamps

## Palpation and Retractors

Containing Devices: Palpations  
Retractors  
Specula

## Diagnostic and Pediatric

Containing Devices: Laparoscopes  
Trocars  
Forceps

Handles with HF-connection

HF-connectors

Cannulas

Suction and Irrigation Instruments

## Thorax

Containing Devices: Hysteroscopes  
Trocars  
Trocar Sleeves  
Clamps  
Forceps

## Gynecology

Containing Devices: Applicators  
Trocars  
Trocar Sleeves  
Clamps  
Forceps  
Myoma Drills  
Cannulas

## Urology

Containing Devices: Retractors

## Light Sources

Containing Devices: Light source

## Video System

In case of demand please contact us.

## Suction and Irrigation Devices

### Preface

The listed products are limited to accessories of suction and irrigation instruments. The respective instruments themselves are listed in chapter 7.

Containing Devices: Purgator  
Tubes  
Glasses / Cups  
Suction Lids

## CO<sup>2</sup>-Insufflator

Containing Devices: Devices for Insufflation  
Accessories for the Device

## Video Trollys

In case of demand please contact us.

## Annex

Chapters

**Glossary** containing the intended use of the products / product groups.

**Labels and Symbols** showing the labels for class I, class II and implantable class II devices according to 93/42/EC, annex IX.

**Explanation of the used Symbols** according to ISO 15233:2007.

| Device                                    | Intended Use                                                                                                                                            |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicators</b>                        | Application is the insert of material into the body. Applicators are supporting devices for hard accessible areas                                       |
| <b>CO<sup>2</sup>-Insuflator</b>          | Uncovering of the laparoscopy application field in the respective hollow organs by in insufflation of CO <sup>2</sup> gas                               |
| <b>HF-connections</b>                     | The HF connections prevent irritating pivoting motions aids well-balance handling                                                                       |
| <b>Hysteroscope</b>                       | optical devices for the gynaecological diagnoses and/or operation                                                                                       |
| <b>Instruments for HF-Surgery</b>         | cut and/or coagulate tissue by HF-voltage                                                                                                               |
| <b>Clamps</b>                             | clamps grasp different material like tissue or skin                                                                                                     |
| <b>Laparoscopes</b>                       | Laparoscopes are optical devices for diagnosis and surgical operations in abdominal and pelvic cavities                                                 |
| <b>Myoma Drill</b>                        | removal of myomas after a laparoscopic myomectomy                                                                                                       |
| <b>Needle Holder</b>                      | Needle holder grasp, hold and guide surgical needles during the suture                                                                                  |
| <b>Devices for Cholangiography</b>        | For cholangiography tubes, guide probes, cholangiography-catheters and fixation clamps are used. This system is used for diagnosis in the biliary ducts |
| <b>Retractors</b>                         | Spreading instruments to fix tissue or vessels etc. at surgical body orifice and wounds for free access to the operation area                           |
| <b>Suction and Irrigation Instruments</b> | Suction and irrigation instruments remove fluid out of the operation area during a biopsy                                                               |
| <b>Scissors</b>                           | Scissors are cutting instruments to separate materials like tissues, skin, suture and dressing material, plasters and/or bones.                         |
| <b>Cannulas</b>                           | Cannulas are diagnostic instruments used to examine and/or record body functions and/or structures                                                      |
| <b>Specula</b>                            | Spreading instruments to fix tissue or vessels etc. at surgical body orifice and wounds for free access to the operation area                           |
| <b>Palpations</b>                         | Palpations are used for diagnosis of body functions at areas with difficult access                                                                      |
| <b>Trocars</b>                            | Trocars are piercing the skin to enable access to the operating field                                                                                   |
| <b>Trocar Sleeves</b>                     | Trocar sleeves are used together with trocars and enable MIS at the operating field after removal of the trocar                                         |
| <b>Forceps</b>                            | Forceps grasp different material like tissue or skin                                                                                                    |
| <b>Light Source</b>                       | light cable with adapters for its connection to different endoscopes                                                                                    |

### 1. Form for Labels of Class I Products according to 93/42/EWG, Annex IX



Name : Kundenname  
 Customer : Kundennummer  
 Ordner No. : Bestellnummer  
 Conf. No. : Auftragsnummer  
**REF** : Katalognummer  
 Quantity : xx pcs **LOT**  
 Cust.-Art. : Kundenartikelnummer  
 Descript. : Kundenartikelbeschreibung



Etching



00277750022000020

LBL-001 Rev.01

### 2. Form for Labels of Products higher than Class I according to 93/42/EWG, Annex IX



Name : Kundenname  
 Customer : Kundennummer  
 Ordner No. : Bestellnummer  
 Conf. No. : Auftragsnummer  
**REF** : Katalognummer  
 Quantity : xx pcs **LOT**  
 Cust.-Art. : Kundenartikelnummer  
 Descript. : Kundenartikelbeschreibung



Etching



00277750022000020

LBL-002 Rev.01

### 3. Form for Labels of implantable Class II Products according to 93/42/EWG, Annex IX



Name : Kundenname  
 Customer : Kundennummer  
 Ordner No. : Bestellnummer  
 Conf. No. : Auftragsnummer  
**REF** : Katalognummer  
 Quantity : xx pcs **LOT**  
 Cust.-Art. : Kundenartikelnummer  
 Descript. : Kundenartikelbeschreibung



Etching



00277750022000020

LBL-003 Rev.01

### Explanation of the used Symbols



Explanation of the symbols can be seen in the accompanying document



Address of the manufacturer



Reference Number



Lot Number / Serial Number



Take account to the warnings in the accompanying document



Non-sterile



Single use produkt



CE-symbol for class I devices according to 93/42/EC, annex IX



CE-symbol for class I devices according to 93/42/EC, annex IX

## IMPORTANT INFORMATION CONCERNING PREPARING AND STERILIZING SURGICAL INSTRUMENTS

Dear Sirs,  
please read the following instructions very carefully before using the instruments.

### 1. INITIAL USE

All instruments which are being used for the first time must be thoroughly cleaned, rinsed and then sterilized before using.

### 2. TREATING INSTRUMENTS AFTER USAGE

- a.) The instruments might be immediately thoroughly cleaned and disinfected. Please follow the manufacturer's instructions when using cleaning agents and disinfectants.
- b.) Instruments which may be dismantled must be cleaned and disinfected after being taken apart.
- c.) Cleaning may be carried out either manually or with a machine. Care should be taken that only cleaning agents and disinfectants are used, which are changed daily.
- d.) Following chemical disinfection and manual cleaning, all instruments must always be thoroughly rinsed under running water.
- e.) The temperature of water used in a machine for cleaning should not exceed 45°C.
- f.) Whether cleaning is carried out manually or by machine, we especially ask you to ensure that the correct dosage for cleaning solutions or the correct combination of disinfectant and cleaning solution, is employed. Similar importance should be applied to the length of time the agents require to perform properly and to the temperature set.
- g.) Hinged instruments should be opened before cleaning.
- h.) Please ensure that the perforated instrument trays, when loaded, do not exceed 10 kg in weight.
- i.) Please take care that when instruments are being cleaned they are arranged proper in a manne that fluids can circulate freely.
- j.) Deposits remaining after the cleaning process must be completely removed in the first rinse which now follows. The optimum temperature for final rinsing has proved to be between 70° and 90° C. Please use only purified water in this final cleaning stage.
- k.) The instruments must be carefully dried after cleaning and rinsing is completed.
- l.) Moving parts and the cutting edges of shears and scissors must be treated with preservatives which are both suitable and physiologically safe.

### 3. TESTING FOR CORRECT FUNCTIONING

- a.) Instruments must be carefully and thoroughly checked before every occasion that they are used.
- b.) After each time they are cleaned, the instruments must be macroscopically clean, i.e., visibly free from proteinbased residues and other soiling.
- c.) Care should be taken so that cracks, breakages and corrosion are noticed.
- d.) Instruments with flecks should be separated and taken out for special treatment.

- e.) All moving parts as well as working tips and blades should be checked with special care.
- f.) Checking should be carried out according to the extent to which the instruments will be used.
- g.) Instruments which are in any way defective or damaged should be immediately sorted out from the others.

### 4. STERILIZATION

- a.) All stainless steel surgical instruments supplied by us may be sterilized in an autoclave.
- b.) Please follow the manufacturer's operating instructions when using autoclave. All machines used must comply with all current quality and other standards.
- c.) Instruments are being sterilized/ autoclaved at a temperature of 134°C.
- d.) Sterilization packing material must comply with all current standards.
- e.) Instruments with ratchets or self-retaining mechanisms should be sterilized opened or in the first ratchet position.
- f.) Please ensure that perforated instrument trays, when loaded do not exceed 10 kg in weight.

### 5. IN GENERAL

- a.) All surgical instruments supplied by us have been thoroughly inspected before dispatch and leave our factory in perfect condition. Damage which can arise as a result of transporting, cleaning, preserving, sterilizing or storing, must be prevented.
- b.) Please handle surgical instruments always with the utmost care.
- c.) Instruments must be stored in a clean and dry place.
- d.) If you have any queries or problems please contact us at any time:

We should like to point out that, if the above-mentioned directions are not followed or the instruments supplied by us are not properly used, all guarantee claims become void and any consequences must be borne by yourselves.

REV. 2005/01

Laparoscopes with integrated fiberoptic for illumination, autoclavable suitable for HD Systems



### Compatibility

|                             |                                                                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Light port adapter</b>   | ACMI®, Wolf®, Storz® / Olympus®                                                                                                          |
| <b>Eyepiece</b>             | Ocular according DIN 58105 threaded                                                                                                      |
| <b>Objective</b>            | Tension-free objective composed-objective                                                                                                |
| <b>Image transmission</b>   | CAD-designed rodence system for optimal sharpness, colorsync and resolution                                                              |
| <b>Light-guiding system</b> | High quality light fibers                                                                                                                |
| <b>Optical glass</b>        | Distal and proximal Sapphire                                                                                                             |
| <b>Biocompatibility</b>     | All materials that come in contact with the body are biocompatible.<br>All outside metal parts are made of high quality stainless steel. |

| Ø       | working length | direction of view      |                        |
|---------|----------------|------------------------|------------------------|
|         |                | 0°                     | 30°                    |
| 5,0 mm  | 302 mm         | <b>R010-050302-000</b> | <b>R010-050302-030</b> |
| 10,0 mm | 310 mm         | <b>R010-100309-000</b> | <b>R010-100309-030</b> |
| 10,0 mm | 350 mm         | <b>R010-100350-000</b> | <b>R010-100350-030</b> |



Operating-Laparoscopes with working channel, integrated fiberoptic for illumination Parallel eye piece (2 x 90°)



#### Compatibility

|                                        |                                                                                                                                          |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Light port adapter<br/>Eyepiece</b> | ACMI <sup>®</sup> -, Wolf <sup>®</sup> -, Storz <sup>®</sup> / Olympus <sup>®</sup><br>Ocular according DIN 58105 threaded               |
| <b>Objective</b>                       | Tension-free objective composed-objective                                                                                                |
| <b>Image transmission</b>              | CAD-designed rodence system for optimal sharpness, colorsync and resolution                                                              |
| <b>Light-guiding system</b>            | High quality light fibers                                                                                                                |
| <b>Optical glass</b>                   | Distal and proximal Sapphire                                                                                                             |
| <b>Biocompatibility</b>                | All materials that come in contact with the body are biocompatible.<br>All outside metal parts are made of high quality stainless steel. |

| Ø<br>outer tube | working length | working channel Ø | direction of view      |
|-----------------|----------------|-------------------|------------------------|
|                 |                |                   | 0°                     |
| 10,0 mm         | 266,3 mm       | 6,0 mm (18 Char.) | <b>R011-100273-060</b> |

Only instruments with min. 420 mm working length are convenable for use.

Operating-Laparoscopes with working channel, integrated fiberoptic for illumination 45° angled view



#### Compatibility

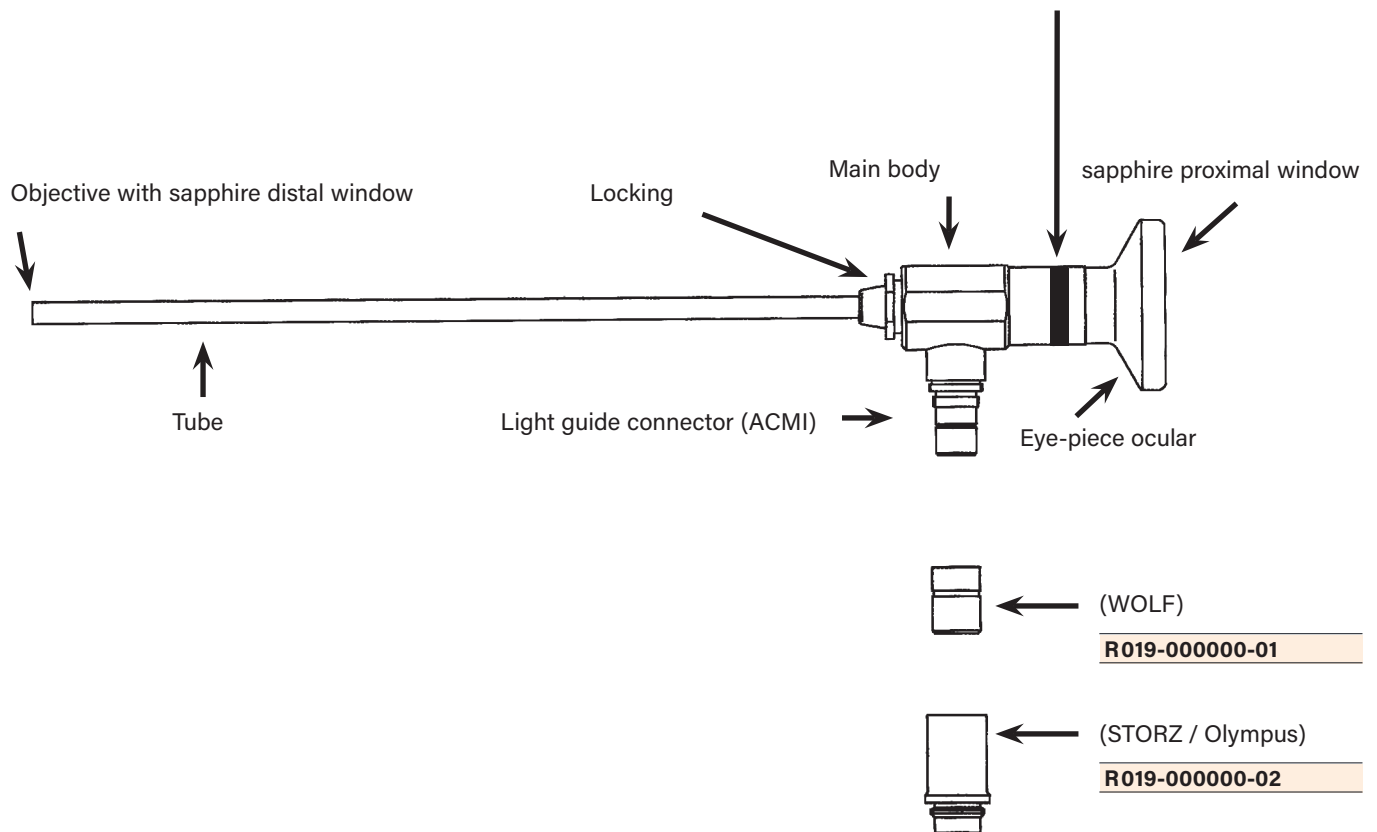
|                                        |                                                                                                                                          |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Light port adapter<br/>Eyepiece</b> | ACMI <sup>®</sup> -, Wolf <sup>®</sup> -, Storz <sup>®</sup> / Olympus <sup>®</sup><br>Ocular according DIN 58105 threaded               |
| <b>Objective</b>                       | Tension-free objective composed-objective                                                                                                |
| <b>Image transmission</b>              | CAD-designed rodence system for optimal sharpness, colorsync and resolution                                                              |
| <b>Light-guiding system</b>            | High quality light fibers                                                                                                                |
| <b>Optical glass</b>                   | Distal and proximal Sapphire                                                                                                             |
| <b>Biocompatibility</b>                | All materials that come in contact with the body are biocompatible.<br>All outside metal parts are made of high quality stainless steel. |

| Ø<br>outer tube | working length | working channel Ø | direction of view      |
|-----------------|----------------|-------------------|------------------------|
| 10,0 mm         | 266,3 mm       | 6,0 mm (18 Char.) | 0°                     |
|                 |                |                   | <b>R012-100273-060</b> |

Only instruments with min. 420 mm working length are convenable for use.

## Endoscope

Colour coding for indication of direction of view:  
green = 0°  
red = 30°





Anti Fog liquid Ultra Stop 25ml non sterile

**R019-000000-025**



Anti Fog liquid Ultra Stop sterile incision bottle 30ml

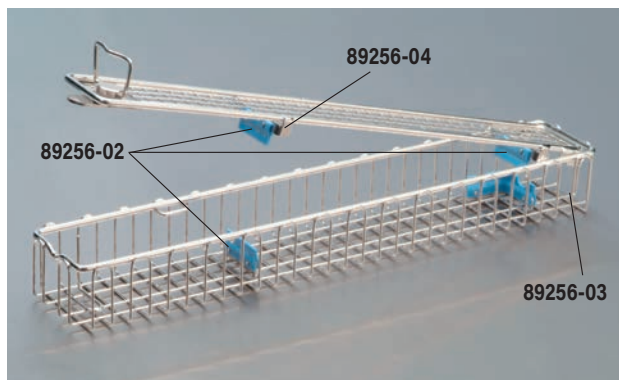
**R019-000000-030**



Cleaning paste, 6gr. f. distal and proximal windows and fiber optic port of endoscopes

**98002-06**

## Wire basket for endoscopes



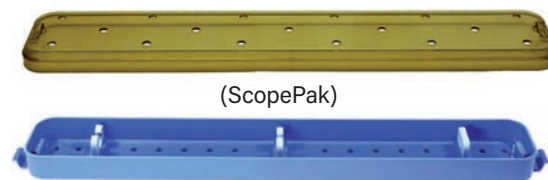
460 x 80 x 52 mm  
for 1 laparoscope or 1 hysteroscope or 1 cystoscope

**89256-46**

460 x 80 x 52 mm  
for 2 laparoscopes or 2 hysteroscopes or 2 cystoscopes

**89257-46**

## Container for Endoscopes



432 x 76 x 33 mm  
for 1 hysteroscope or 1 cystoscope

**R019-9317**

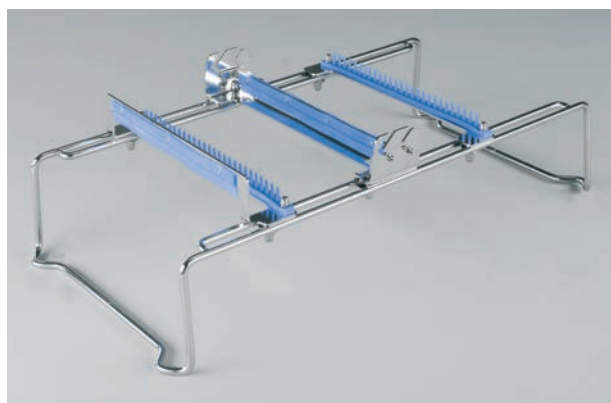
511 x 76 x 33 mm  
for 1 laparoscope

**R019-9321**

813 x 132 x 79 mm  
for 1 extra long endoscope

**R019-9331**

## Storage- and sterilization rack



470 x 250 x 125 mm  
5 / 10 mm Ø  
for 15 MIS instruments suitable for container R 110.20

**89258-47**

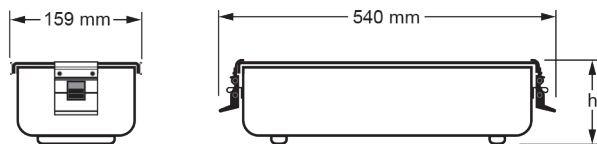
## Endoscope Basket (with stand)



Outside dimensions 500 x 135 x 50 mm

**89450-50**

## Containers for Endoscopy



540 x 159 x 80 mm

540 x 159 x 80 mm

|          |
|----------|
| R 614.08 |
| R 624.08 |
| R 634.08 |
| R 644.08 |
| R 654.08 |
| R 664.08 |

|          |
|----------|
| R 614.10 |
| R 624.10 |
| R 634.10 |
| R 644.10 |
| R 654.10 |
| R 664.10 |



## Containers for Endoscopes (with silicone stand, lock and label)

270 x 70 x 65 mm



475 x 80 x 65 mm



|          |
|----------|
| R 516.07 |
| R 526.07 |
| R 536.07 |
| R 546.07 |
| R 556.07 |
| R 566.07 |

|          |
|----------|
| R 517.07 |
| R 527.07 |
| R 537.07 |
| R 547.07 |
| R 557.07 |
| R 567.07 |



|          |
|----------|
| R 516.08 |
| R 526.08 |
| R 536.08 |
| R 546.08 |
| R 556.08 |
| R 566.08 |

|          |
|----------|
| R 517.08 |
| R 527.08 |
| R 537.08 |
| R 547.08 |
| R 557.08 |
| R 567.08 |





## S-retractor

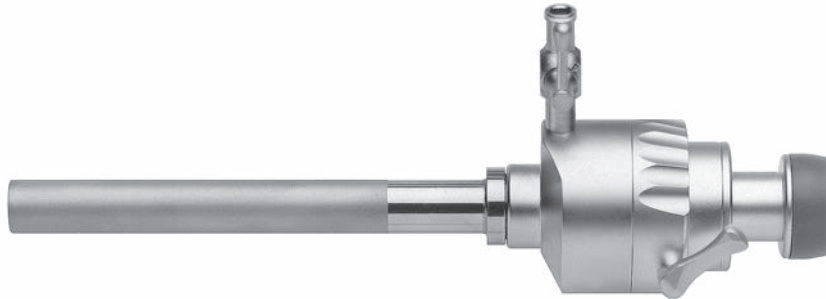


|                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|
| 7 mm / 2 pcs.          | 10 mm / 2 pcs.         | 13 mm / 2 pcs.         | 16 mm / 2 pcs.         |
| <b>R020-000000-007</b> | <b>R020-000000-010</b> | <b>R020-000000-013</b> | <b>R020-000000-016</b> |

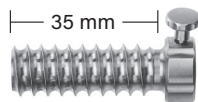
Ø 5 mm

Multi function trocar sleeve,  
valvehousing with thread lock

R025-050092-001



Trocar stop



R020-050035-001

Dilation set



5 < 10 mm

R027-050100-000

5 < 11 mm

R027-050110-000

Rubber washer for proximal instrument port suitable to lap. trocar sleeves / 10 pcs per box



Ø 5,0 mm

R020-050000-004

Spare part set consisting of 10 pcs per box



Ø 5,0 mm

R022-050000-000

Ø 5 mm

## Standard trocar



pyramidal

**R020-050092-001**

conical

**R020-050092-002**

## Standard trocar with hole, permeable



pyramidal

**R020-050092-051**

conical

**R020-050092-052**

## Safety trocar with automatic locking

with pyramidal grinding  
and rounded tip**R020-050092-011**with halfmoon grinding  
and oblique tip**R020-050092-016**

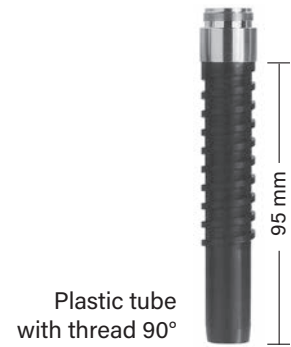
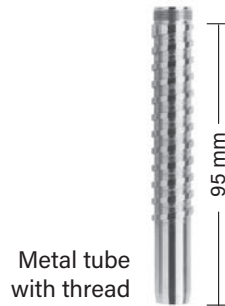
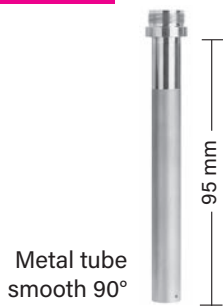
## Protection trocar

with halfmoon grinding  
and oblique tip**R020-050092-024**with halfmoon grinding  
and V-formed tip**R020-050092-025**

## Reducer sleeve 5 &gt; 4 mm

**R026-055030-003**

Ø 5,5 mm



#### Drap door valve trocar sleeve



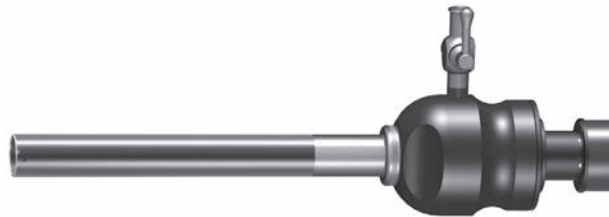
R022-055095-001

R022-055098-002

R022-055095-003

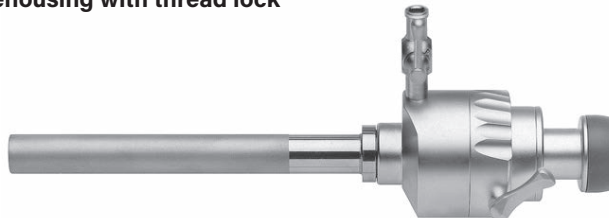
R022-055098-004

#### Silicone valve trocar sleeve



R024-055095-001

#### Multi function trocar sleeve, valvehousing with thread lock



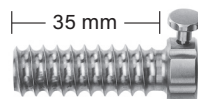
R025-055095-001

R025-055098-002

R025-055095-003

R025-055098-004

#### Trocar stop



R020-055035-001

#### Rubber washer for proximal instrument port suitable to lap. trocar sleeves / 10 pcs per box



Ø 5,5 mm

R020-050000-004

#### Spare part set consisting of 10 pcs per box



Ø 5,5 mm

R022-055000-000

Ø 5,5 mm

**Standard trocar**

pyramidal

**R020-055095-001**

conical

**R020-055095-002****Standard trocar with hole, permeable**

pyramidal

**R020-055095-051**

conical

**R020-055095-052****Safety trocar with automatic locking**with pyramidal grinding  
and rounded tip**R020-055095-011**with halfmoon grinding  
and oblique tip**R020-055095-016****Safety trocar with Knife**

Obturator tip "KNIFE DESIGN"

**R020-055095-028****Protection trocar**with halfmoon grinding  
and oblique tip**R020-055095-024**with halfmoon grinding  
and V-formed tip**R020-055095-025**

Ø 5,5 mm / 150 mm WL

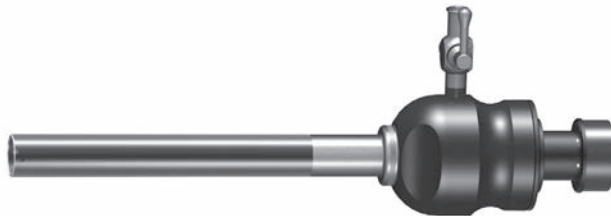
Drap door valve trocar sleeve

R022-055150-001



Silicone valve trocar sleeve

R024-055150-001



Multi function trocar sleeve,  
valvehousing with thread lock

R025-055150-001



Rubber washer for proximal instrument port suitable to lap. trocar sleeves / 10 pcs per box



Ø 5,5 mm

R020-050000-004

Spare part set consisting of 10 pcs per box



Ø 5,5 mm

R022-055000-000

Ø 5,5 mm / 150 mm WL

#### Standard trocar



pyramidal

**R020-055150-001**



conical

**R020-055150-002**

#### Standard trocar with hole, permeable



pyramidal

**R020-055150-051**



conical

**R020-055150-052**

#### Safety trocar with automatic locking



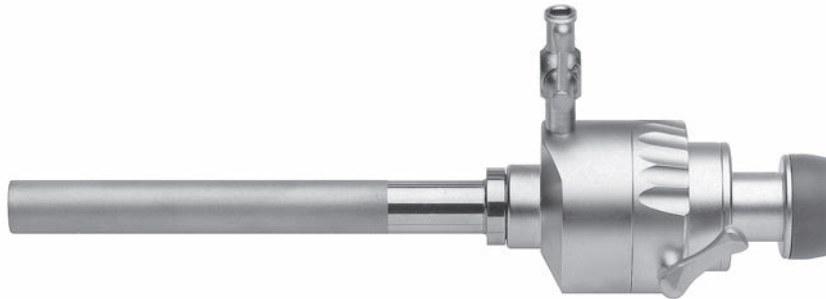
with pyramidal grinding  
and rounded tip

**R020-055150-011**

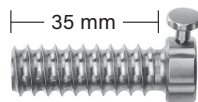
Ø 10 mm

Multi function trocar sleeve,  
valvehousing with thread lock

R025-100097-001



Trocar stop



R020-100035-001

Rubber washer for proximal instrument port suitable to lap. trocar sleeves / 10 pcs per box



Ø 10,0 mm

R020-100000-008

Spare part set consisting of 10 pcs per box



Ø 10,0 mm

R022-100000-000

Reducer sleeve 10 > 5,5 mm

Plastic reducer for multi function trocar sleeve only



190 mm

R026-100055-003



reducer with silicone latch

R026-100055-002



Ø 10 mm

## Standard trocar



pyramidal

**R020-100097-001**

conical

**R020-100097-002**

## Standard trocar with hole, permeable



pyramidal

**R020-100097-051**

conical

**R020-100097-052**

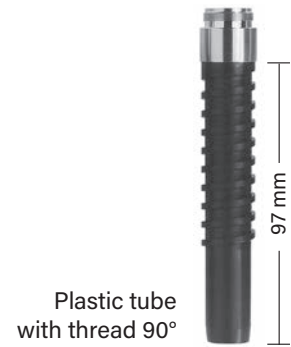
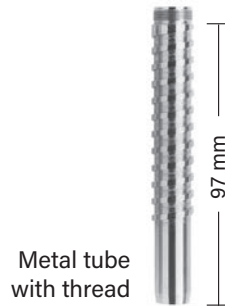
## Safety trocar with automatic locking

with pyramidal grinding  
and rounded tip**R020-100097-011**with halfmoon grinding  
and oblique tip**R020-100097-016**

## Protection trocar

with halfmoon grinding  
and oblique tip**R020-100097-024**with halfmoon grinding  
and V-formed tip**R020-100097-025**

Ø 11 mm



#### Drap door valve trocar sleeve



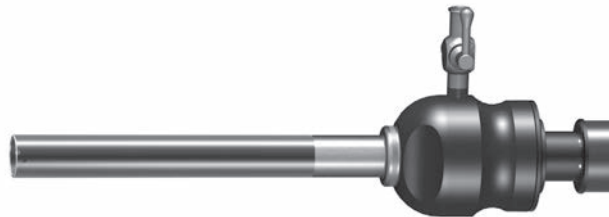
R022-110101-001

R022-110105-002

R022-110101-003

R022-110105-004

#### Silicone valve trocar sleeve



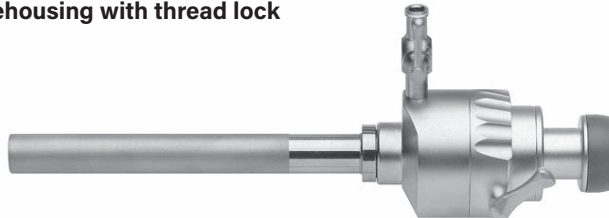
R024-110101-001

R024-110105-002

R024-110101-003

R024-110105-004

#### Multi function trocar sleeve, valvehousing with thread lock



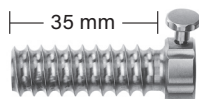
R025-110101-001

R025-110105-002

R025-110101-003

R025-110105-004

#### Trocar stop



R020-110035-001

#### Rubber washer for proximal instrument port suitable to lap. trocar sleeves / 10 pcs per box



Ø 11,0 mm

R020-110000-009

#### Spare part set consisting of 10 pcs per box



Ø 11,0 mm

R022-110000-000

Ø 11 mm

**Standard trocar**

pyramidal

**R020-110101-001**

conical

**R020-110101-002****Standard trocar with hole, permeable**

pyramidal

**R020-110101-051**

conical

**R020-110101-052****Safety trocar with automatic locking**with pyramidal grinding  
and rounded tip**R020-110101-011**with halfmoon grinding  
and oblique tip**R020-110101-016****Safety trocar with Knife**

Obturator tip "KNIFE DESIGN"

**R020-110101-028****Protection trocar**with halfmoon grinding  
and oblique tip**R020-110101-024**with halfmoon grinding  
and V-formed tip**R020-110101-025****Reducer sleeve 11 > 5,5 mm**

190 mm

**R026-110055-003****Plastic reducer for multi function trocar sleeve only**

reducer with silicone Latch

**R026-110055-002****R026-125055-004**

Ø 11 mm / 150 mm WL

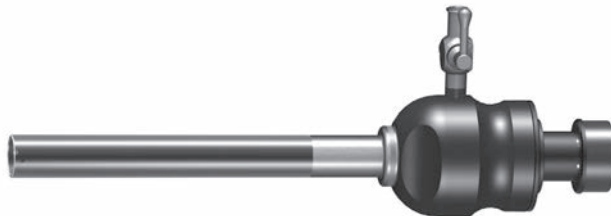
Drap door valve trocar sleeve

R022-110150-001



Silicone valve trocar sleeve

R024-110150-001

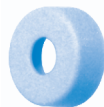


Multi function trocar sleeve,  
valvehousing with thread lock

R025-110150-001



Rubber washer for proximal instrument port suitable to lap. trocar sleeves / 10 pcs per box



Ø 11,0 mm

R020-110000-009

Spare part set consisting of 10 pcs per box



Ø 11,0 mm

R022-110000-000

Ø 11 mm / 150 mm WL

### Standard trocar



pyramidal

**R020-110150-001**



conical

**R020-110150-002**

### Standard trocar with hole, permeable



pyramidal

**R020-110150-051**



conical

**R020-110150-052**

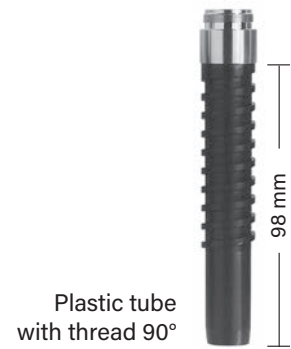
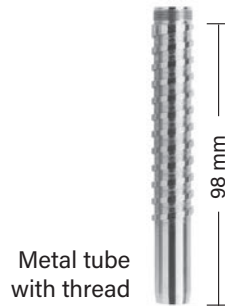
### Safety trocar with automatic locking



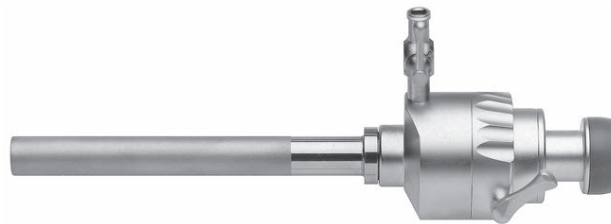
with pyramidal grinding  
and rounded tip

**R020-110150-011**

Ø 12,5 mm



**Multi function trocar sleeve, valvehousing with thread lock**



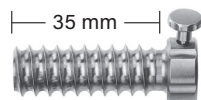
R025-125098-001

R025-125102-002

R025-125098-003

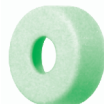
R025-125102-004

**Trocar stop**



R020-125035-001

**Rubber washer for proximal instrument port suitable to lap. trocar sleeves / 10 pcs per box**



Ø 12,5 mm

R020-125000-011

**Spare part set consisting of 10 pcs per box**



Ø 12,5 mm

R022-125000-000

**Reducer sleeve 12,5 > 5,5 mm**

**Plastic reducer for multi function trocar sleeve only**



190 mm

R026-125055-003



reducer with silicone latch



12,5 > 10 mm

R026-125100-002

R026-125100-004

12,5 > 5,5 mm

R026-125055-002

R026-125055-004

Ø 12,5 mm

## Standard trocar



pyramidal

**R020-125098-001**

conical

**R020-125098-002**

## Standard trocar with hole, permeable



pyramidal

**R020-125098-051**

conical

**R020-125098-052**

## Safety trocar with automatic locking

with pyramidal grinding  
and rounded tip**R020-125098-011**with halfmoon grinding  
and oblique tip**R020-125098-016**

## Safety trocar with Knife



Obturator tip "KNIFE DESIGN"

**R020-125098-028**

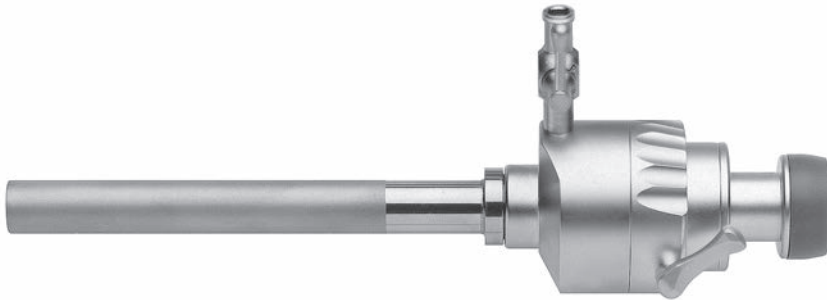
## Protection trocar

with halfmoon grinding  
and oblique tip**R020-125098-024**with halfmoon grinding  
and V-formed tip**R020-125098-025**

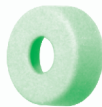
Ø 12,5 mm / 150 mm WL

Multi function trocar sleeve,  
valvehousing with thread lock

R025-125150-001



Rubber washer for proximal instrument port suitable to lap. trocar sleeves / 10 pcs per box



Ø 12,5 mm

R020-125000-011

Spare part set consisting of 10 pcs per box



Ø 12,5 mm

R022-125000-000



Ø 12,5 mm / 150 mm WL

### Standard trocar



pyramidal

**R020-125150-001**



conical

**R020-125150-002**

### Standard trocar with hole, permeable



pyramidal

**R020-125150-051**



conical

**R020-125150-052**

### Safety trocar with automatic locking

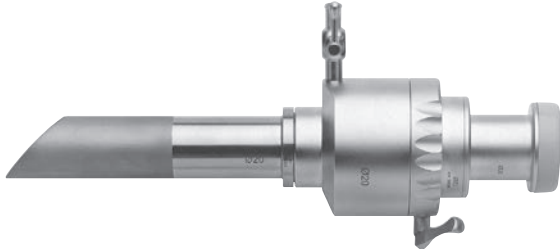


with pyramidal grinding  
and rounded tip

**R020-125150-011**

**Ø 15 mm** Automatic trocar sleeve with smooth metal tube, housing with winding locking and stopcock

**Trocar sleeve, smooth metal tube**



15 mm Ø / WL 110 mm

**R025-150095-011**

**Standard trocar 15 mm Ø**



pyramidal

**R020-150096-001**



conical

**R020-150096-002**

**Dilatation sleeve with guide rod**



Ø 5,0 mm - 15,0 mm

**R027-050150-000**

Ø 10,0 mm - 15,0 mm

**R027-110150-000**

**Rubber washer for proximal instrument port suitable to lap. trocar sleeves / 10 pcs per box**



Ø 15,0 mm

**R020-150000-013**

**Spare part set consisting of 10 pcs per box**



Ø 15,0 mm

**R022-150000-000**

**Reducer sleeve**



15 > 5,5 mm

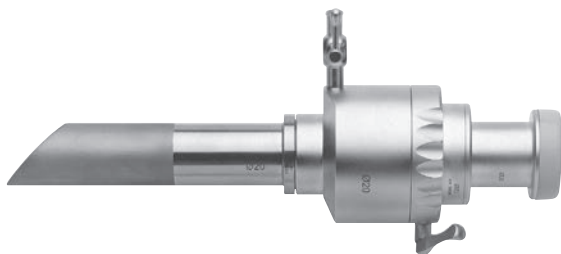
**R026-150055-003**

15 > 10 mm

**R026-150100-003**

**Ø 20 mm** Automatic trocar sleeve with smooth metal tube, housing with winding locking and stopcock

#### Trocar sleeve, smooth metal tube



20 mm Ø / WL 119 mm

**R025-200095-011**

#### Standard trocar 20 mm Ø



pyramidal

**R020-200096-001**



conical

**R020-200096-002**

#### Dilatation sleeve with guide rod



Ø 5,0 mm - 20,0 mm

**R027-050200-000**

Ø 10,0 mm - 20,0 mm

**R027-110200-000**

#### Rubber washer for proximal instrument port suitable to lap. trocar sleeves / 10 pcs per box



Ø 20,0 mm

**R020-200000-018**

#### Spare part set consisting of 10 pcs per box



Ø 20,0 mm

**R022-200000-000**

#### Reducer sleeve



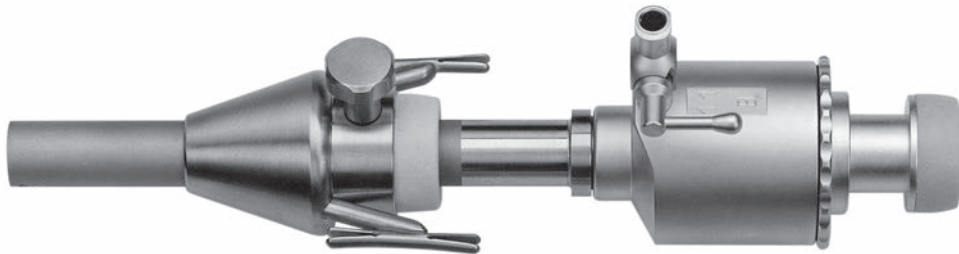
20 > 5,5 mm

**R026-200055-003**

20 > 10 mm

**R026-200100-003**

Hasson automatic trocar sleeve with stopcock, adjustable cone and suture holder at cone



| Ø       | Sleeve with Cone       | <br>Cone alone | <br>Cone alone |
|---------|------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 3,5 mm  |                        | <b>R020-035500-001</b>                                                                           |                                                                                                   |
| 5,5 mm  | <b>R028-055095-021</b> | <b>R020-055500-001</b>                                                                           |                                                                                                   |
| 11,0 mm | <b>R028-110101-021</b> | <b>R020-110500-001</b>                                                                           | <b>R020-110700-001</b>                                                                            |
| 12,5 mm | <b>R028-125098-021</b> | <b>R020-125500-001</b>                                                                           |                                                                                                   |

#### Standard trocar



conical blunt

|                        |           |
|------------------------|-----------|
| <b>R020-035070-003</b> | Ø 3,5 mm  |
| <b>R020-055095-003</b> | Ø 5,5 mm  |
| <b>R020-110101-003</b> | Ø 11,0 mm |
| <b>R020-125098-003</b> | Ø 12,5 mm |



Ø 5 und 10 mm



#### **Mechanical snap-action coupling !**

The Ø 5 and 10 mm modular REDA laparoscopic instruments have a unique snap-action coupling which, offering the combined advantage of the speediest possible assembly and a long service life.

The union of the working insert and sleeve shaft is achieved by simply inserting the components axially into each other. A simple click and you are ready!

The groove-and-tongue principle practically rules out the possibility of the locking mechanism coming undone, as is the case with conventional screw or bayonet connections.

REDA - simplicity is so clever !

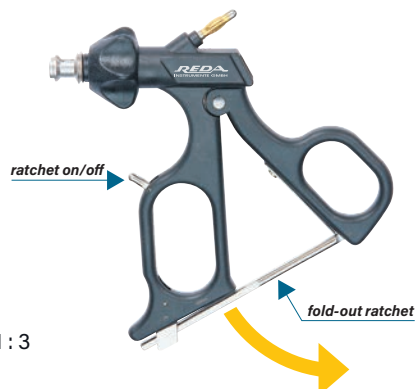


#### **Nut stopper**

An nut on the sleeve shaft of REDA modular instruments prevents bothersome slipping or even the loss of the union nut.

REDA - detail is the decisive factor !

Ø 3 / 5 / 10 mm



Ergonomic universal carbon handle with ratchet,  
Lever for active or unactive ratchet, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R033** - 000000 - 000



Ergonomic carbon handle with stepless ratchet,  
ratchet by finger press resolve, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R033P** - 000000 - 000



Ergonomic carbon handle,  
HF-connector Ø 4 mm male 45° lateral, rotating head 360°, autoclavable

**R034** - 000000 - 000



Ergonomic universal carbon handle with ratchet,  
Button for active or unactive ratchet, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

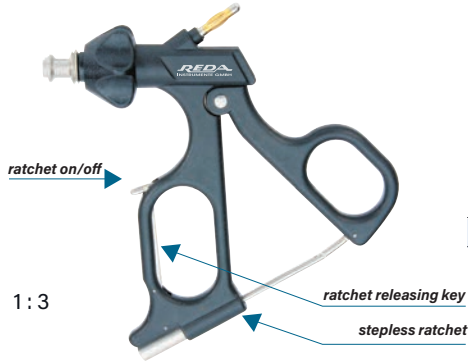
**R032M** - 000000 - 000



Laparoscopy -  
Carbon Handles for Ø 3 / 5 / 10 mm tube shafts



Ø 3 / 5 / 10 mm



Ergonomic carbon handle with stepless ratchet,  
ratchet activating / release lever, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R033M - 000000 - 000**



Protection cap for HF-connector Ø 4 mm

**R030 - 000000**

Ø 3 / 5 / 10 mm



Axial handle, v-shaped type with spreading spring and ratchet

**R038** - 000000 - 000



Axial handle, with spreading spring

**R048** - 000000 - 000



Axial handle with rings and ratchet

**R037** - 000000 - 000



Axial ring handle

**R047** - 000000 - 000



Axial handle, v-shaped angled, type with spreading spring and ratchet

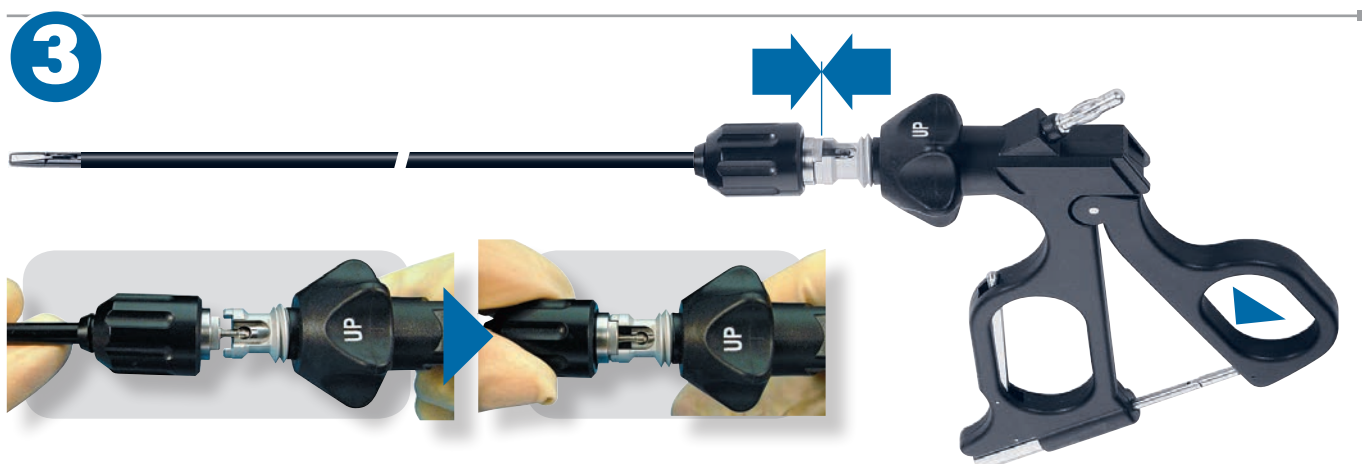
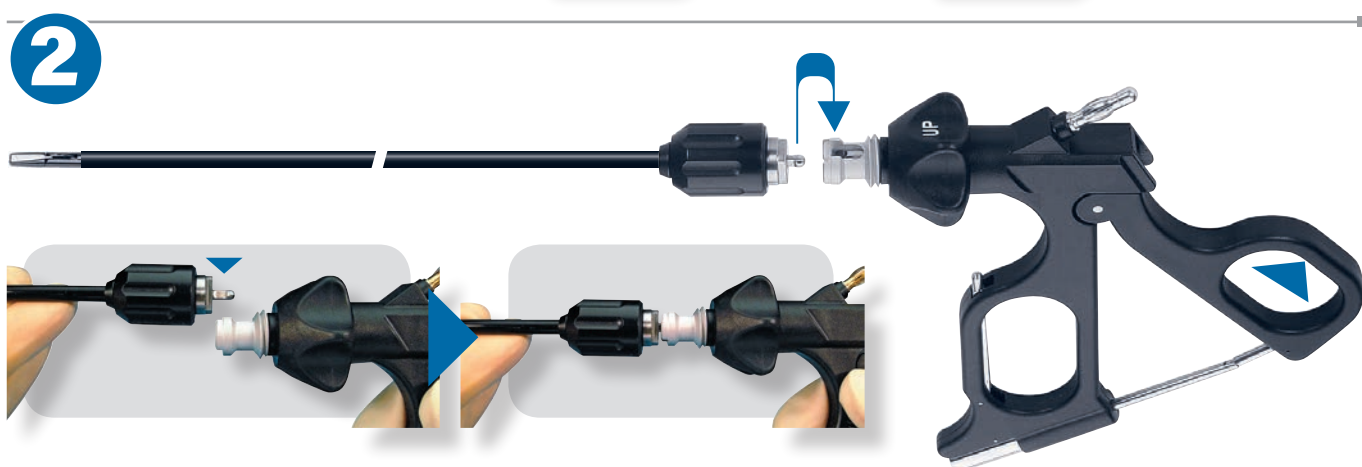
**R039** - 000000 - 000



Axial handle, angled, with spreading spring

**R040** - 000000 - 000

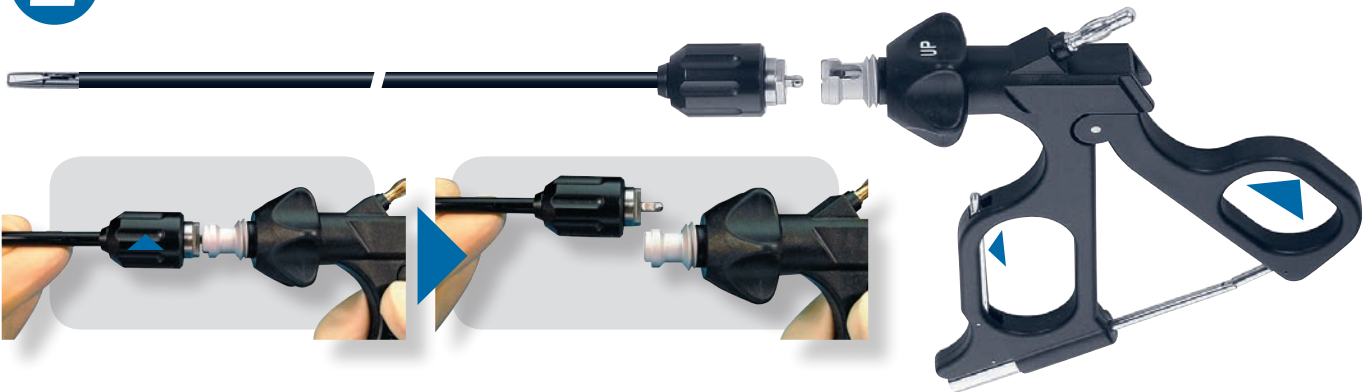




1



2

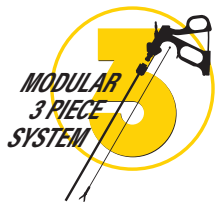


3



4

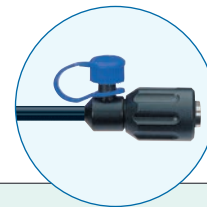




**Ø 5 mm**



|                            |                              |
|----------------------------|------------------------------|
| Tube Shaft, insulated      | shaft length: <b>330 mm</b>  |
| without LUER Lock          | with LUER Lock               |
| <b>R030 - 050330 - 000</b> | <b>R030 - 050330 - 000 L</b> |



|                            |                              |
|----------------------------|------------------------------|
| Tube Shaft, insulated      | shaft length: <b>360 mm</b>  |
| without LUER Lock          | with LUER Lock               |
| <b>R030 - 050360 - 000</b> | <b>R030 - 050360 - 000 L</b> |



|                            |                              |
|----------------------------|------------------------------|
| Tube Shaft, insulated      | shaft length: <b>450 mm</b>  |
| without LUER Lock          | with LUER Lock               |
| <b>R030 - 050450 - 000</b> | <b>R030 - 050450 - 000 L</b> |

**Ø 10 mm**



|                            |                              |
|----------------------------|------------------------------|
| Tube Shaft, insulated      | shaft length: <b>330 mm</b>  |
| cylindrical                | reduce to Ø 5 mm             |
| <b>R030 - 100330 - 000</b> | <b>R030 - 100330 - 000 5</b> |



|                                             |                              |
|---------------------------------------------|------------------------------|
| Tube Shaft, insulated, for adipose patients | shaft length: <b>360 mm</b>  |
| cylindrical                                 | reduce to Ø 5 mm             |
| <b>R030 - 100360 - 000</b>                  | <b>R030 - 100360 - 000 5</b> |



|                                             |                              |
|---------------------------------------------|------------------------------|
| Tube Shaft, insulated, for adipose patients | shaft length: <b>450 mm</b>  |
| cylindrical                                 | reduce to Ø 5 mm             |
| <b>R030 - 100450 - 000</b>                  | <b>R030 - 100450 - 000 5</b> |

### Carbon Handles

more details at the beginning of the chapter



R 033 - 000 000 - 000

R 033P - 000 000 - 000

R 034 - 000 000 - 000

R 032M - 000 000 - 000

Ø 5 mm



Universal grasping forceps, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-210</b> | <b>R033-050330-210</b> | <b>R033P-050330-210</b> | <b>R034-050330-210</b> | <b>R032M-050330-210</b> |
| <b>360 mm</b>  | <b>R030-050360-210</b> | <b>R033-050360-210</b> | <b>R033P-050360-210</b> | <b>R034-050360-210</b> | <b>R032M-050360-210</b> |
| <b>450 mm</b>  | <b>R030-050450-210</b> | <b>R033-050450-210</b> | <b>R033P-050450-210</b> | <b>R034-050450-210</b> | <b>R032M-050450-210</b> |



MARYLAND grasping and dissecting forceps, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-212</b> | <b>R033-050330-212</b> | <b>R033P-050330-212</b> | <b>R034-050330-212</b> | <b>R032M-050330-212</b> |
| <b>360 mm</b>  | <b>R030-050360-212</b> | <b>R033-050360-212</b> | <b>R033P-050360-212</b> | <b>R034-050360-212</b> | <b>R032M-050360-212</b> |
| <b>450 mm</b>  | <b>R030-050450-212</b> | <b>R033-050450-212</b> | <b>R033P-050450-212</b> | <b>R034-050450-212</b> | <b>R032M-050450-212</b> |



Dissecting forceps, fenestrated, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-213</b> | <b>R033-050330-213</b> | <b>R033P-050330-213</b> | <b>R034-050330-213</b> | <b>R032M-050330-213</b> |
| <b>360 mm</b>  | <b>R030-050360-213</b> | <b>R033-050360-213</b> | <b>R033P-050360-213</b> | <b>R034-050360-213</b> | <b>R032M-050360-213</b> |
| <b>450 mm</b>  | <b>R030-050450-213</b> | <b>R033-050450-213</b> | <b>R033P-050450-213</b> | <b>R034-050450-213</b> | <b>R032M-050450-213</b> |



Dissecting forceps, fenestrated, oval, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-214</b> | <b>R033-050330-214</b> | <b>R033P-050330-214</b> | <b>R034-050330-214</b> | <b>R032M-050330-214</b> |
| <b>360 mm</b>  | <b>R030-050360-214</b> | <b>R033-050360-214</b> | <b>R033P-050360-214</b> | <b>R034-050360-214</b> | <b>R032M-050360-214</b> |
| <b>450 mm</b>  | <b>R030-050450-214</b> | <b>R033-050450-214</b> | <b>R033P-050450-214</b> | <b>R034-050450-214</b> | <b>R032M-050450-214</b> |

**Carbon Handles**

more details at the beginning of the chapter

**R 033** - 000 000 - 000**R 033P** - 000 000 - 000**R 034** - 000 000 - 000**R 032M** - 000 000 - 000**Ø 5 mm**

Duck Bill-forceps, fenestrated, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-215</b> | <b>R033-050330-215</b> | <b>R033P-050330-215</b> | <b>R034-050330-215</b> | <b>R032M-050330-215</b> |
| <b>360 mm</b>  | <b>R030-050360-215</b> | <b>R033-050360-215</b> | <b>R033P-050360-215</b> | <b>R034-050360-215</b> | <b>R032M-050360-215</b> |
| <b>450 mm</b>  | <b>R030-050450-215</b> | <b>R033-050450-215</b> | <b>R033P-050450-215</b> | <b>R034-050450-215</b> | <b>R032M-050450-215</b> |



Dissecting grasping forceps, slim, fenestrated, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-216</b> | <b>R033-050330-216</b> | <b>R033P-050330-216</b> | <b>R034-050330-216</b> | <b>R032M-050330-216</b> |
| <b>360 mm</b>  | <b>R030-050360-216</b> | <b>R033-050360-216</b> | <b>R033P-050360-216</b> | <b>R034-050360-216</b> | <b>R032M-050360-216</b> |
| <b>450 mm</b>  | <b>R030-050450-216</b> | <b>R033-050450-216</b> | <b>R033P-050450-216</b> | <b>R034-050450-216</b> | <b>R032M-050450-216</b> |



Grasping forceps with 2 x 4 teeth cobra, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-218</b> | <b>R033-050330-218</b> | <b>R033P-050330-218</b> | <b>R034-050330-218</b> | <b>R032M-050330-218</b> |
| <b>360 mm</b>  | <b>R030-050360-218</b> | <b>R033-050360-218</b> | <b>R033P-050360-218</b> | <b>R034-050360-218</b> | <b>R032M-050450-218</b> |
| <b>450 mm</b>  | <b>R030-050450-218</b> | <b>R033-050450-218</b> | <b>R033P-050450-218</b> | <b>R034-050450-218</b> | <b>R032M-050450-218</b> |



Grasping forceps with 2 x 4 teeth cobra, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-219</b> | <b>R033-050330-219</b> | <b>R033P-050330-219</b> | <b>R034-050330-219</b> | <b>R032M-050330-219</b> |
| <b>360 mm</b>  | <b>R030-050360-219</b> | <b>R033-050360-219</b> | <b>R033P-050360-219</b> | <b>R034-050360-219</b> | <b>R032M-050360-219</b> |
| <b>450 mm</b>  | <b>R030-050450-219</b> | <b>R033-050450-219</b> | <b>R033P-050450-219</b> | <b>R034-050450-219</b> | <b>R032M-050450-219</b> |



### Carbon Handles

more details at the beginning of the chapter



R 033 - 000 000 - 000



R 033P - 000 000 - 000



R 034 - 000 000 - 000



R 032M - 000 000 - 000

Ø 5 mm



Grasping forceps with reservoir, tip blunt, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-220</b> | <b>R033-050330-220</b> | <b>R033P-050330-220</b> | <b>R034-050330-220</b> | <b>R032M-050330-220</b> |
| <b>360 mm</b>  | <b>R030-050360-220</b> | <b>R033-050360-220</b> | <b>R033P-050360-220</b> | <b>R034-050360-220</b> | <b>R032M-050360-220</b> |
| <b>450 mm</b>  | <b>R030-050450-220</b> | <b>R033-050450-220</b> | <b>R033P-050450-220</b> | <b>R034-050450-220</b> | <b>R032M-050450-220</b> |



Grasping forceps with reservoir, tip conical, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-222</b> | <b>R033-050330-222</b> | <b>R033P-050330-222</b> | <b>R034-050330-222</b> | <b>R032M-050330-222</b> |
| <b>360 mm</b>  | <b>R030-050360-222</b> | <b>R033-050360-222</b> | <b>R033P-050360-222</b> | <b>R034-050360-222</b> | <b>R032M-050360-222</b> |
| <b>450 mm</b>  | <b>R030-050450-222</b> | <b>R033-050450-222</b> | <b>R033P-050450-222</b> | <b>R034-050450-222</b> | <b>R032M-050450-222</b> |



Delphin grasping forceps, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-224</b> | <b>R033-050330-224</b> | <b>R033P-050330-224</b> | <b>R034-050330-224</b> | <b>R032M-050330-224</b> |
| <b>360 mm</b>  | <b>R030-050360-224</b> | <b>R033-050360-224</b> | <b>R033P-050360-224</b> | <b>R034-050360-224</b> | <b>R032M-050360-224</b> |
| <b>450 mm</b>  | <b>R030-050450-224</b> | <b>R033-050450-224</b> | <b>R033P-050450-224</b> | <b>R034-050450-224</b> | <b>R032M-050450-224</b> |



Delphin grasping forceps with reservoir, long, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-225</b> | <b>R033-050330-225</b> | <b>R033P-050330-225</b> | <b>R034-050330-225</b> | <b>R032M-050330-225</b> |
| <b>360 mm</b>  | <b>R030-050360-225</b> | <b>R033-050360-225</b> | <b>R033P-050360-225</b> | <b>R034-050360-225</b> | <b>R032M-050360-225</b> |
| <b>450 mm</b>  | <b>R030-050450-225</b> | <b>R033-050450-225</b> | <b>R033P-050450-225</b> | <b>R034-050450-225</b> | <b>R032M-050450-225</b> |

**Carbon Handles**

more details at the beginning of the chapter

**R 033** - 000 000 - 000**R 033P** - 000 000 - 000**R 034** - 000 000 - 000**R 032M** - 000 000 - 000**Ø 5 mm**

Fallopian tube grasping forceps, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-226</b> | <b>R033-050330-226</b> | <b>R033P-050330-226</b> | <b>R034-050330-226</b> | <b>R032M-050330-226</b> |
| <b>360 mm</b>  | <b>R030-050360-226</b> | <b>R033-050360-226</b> | <b>R033P-050360-226</b> | <b>R034-050360-226</b> | <b>R032M-050360-226</b> |
| <b>450 mm</b>  | <b>R030-050450-226</b> | <b>R033-050450-226</b> | <b>R033P-050450-226</b> | <b>R034-050450-226</b> | <b>R032M-050450-226</b> |



Grasping forceps crosswise teeth, jaw length 14 mm, conical, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-228</b> | <b>R033-050330-228</b> | <b>R033P-050330-228</b> | <b>R034-050330-228</b> | <b>R032M-050330-228</b> |
| <b>360 mm</b>  | <b>R030-050360-228</b> | <b>R033-050360-228</b> | <b>R033P-050360-228</b> | <b>R034-050360-228</b> | <b>R032M-050360-228</b> |
| <b>450 mm</b>  | <b>R030-050450-228</b> | <b>R033-050450-228</b> | <b>R033P-050450-228</b> | <b>R034-050450-228</b> | <b>R032M-050450-228</b> |



Grasping forceps crosswise teeth, jaw length 18 mm, conical, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-230</b> | <b>R033-050330-230</b> | <b>R033P-050330-230</b> | <b>R034-050330-230</b> | <b>R032M-050330-230</b> |
| <b>360 mm</b>  | <b>R030-050360-230</b> | <b>R033-050360-230</b> | <b>R033P-050360-230</b> | <b>R034-050360-230</b> | <b>R032M-050360-230</b> |
| <b>450 mm</b>  | <b>R030-050450-230</b> | <b>R033-050450-230</b> | <b>R033P-050450-230</b> | <b>R034-050450-230</b> | <b>R032M-050450-230</b> |



MAHNES grasping forceps, distal fine crosswise teeth, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-231</b> | <b>R033-050330-231</b> | <b>R033P-050330-231</b> | <b>R034-050330-231</b> | <b>R032M-050330-231</b> |
| <b>360 mm</b>  | <b>R030-050360-231</b> | <b>R033-050360-231</b> | <b>R033P-050360-231</b> | <b>R034-050360-231</b> | <b>R032M-050360-231</b> |
| <b>450 mm</b>  | <b>R030-050450-231</b> | <b>R033-050450-231</b> | <b>R033P-050450-231</b> | <b>R034-050450-231</b> | <b>R032M-050450-231</b> |

### Carbon Handles

more details at the beginning of the chapter



Ø 5 mm



MAHNES grasping forceps, distal fine crosswise teeth, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-232</b> | <b>R033-050330-232</b> | <b>R033P-050330-232</b> | <b>R034-050330-232</b> | <b>R032M-050330-232</b> |
| <b>360 mm</b>  | <b>R030-050360-232</b> | <b>R033-050360-232</b> | <b>R033P-050360-232</b> | <b>R034-050360-232</b> | <b>R032M-050360-232</b> |
| <b>450 mm</b>  | <b>R030-050450-232</b> | <b>R033-050450-232</b> | <b>R033P-050450-232</b> | <b>R034-050450-232</b> | <b>R032M-050450-232</b> |



Grasping forceps, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-234</b> | <b>R033-050330-234</b> | <b>R033P-050330-234</b> | <b>R034-050330-234</b> | <b>R032M-050330-234</b> |
| <b>360 mm</b>  | <b>R030-050360-234</b> | <b>R033-050360-234</b> | <b>R033P-050360-234</b> | <b>R034-050360-234</b> | <b>R032M-050360-234</b> |
| <b>450 mm</b>  | <b>R030-050450-234</b> | <b>R033-050450-234</b> | <b>R033P-050450-234</b> | <b>R034-050450-234</b> | <b>R032M-050450-234</b> |



REDDICK-OLSEN grasping forceps, strong, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-236</b> | <b>R033-050330-236</b> | <b>R033P-050330-236</b> | <b>R034-050330-236</b> | <b>R032M-050330-236</b> |
| <b>360 mm</b>  | <b>R030-050360-236</b> | <b>R033-050360-236</b> | <b>R033P-050360-236</b> | <b>R034-050360-236</b> | <b>R032M-050360-236</b> |
| <b>450 mm</b>  | <b>R030-050450-236</b> | <b>R033-050450-236</b> | <b>R033P-050450-236</b> | <b>R034-050450-236</b> | <b>R032M-050450-236</b> |



Grasping forceps, distal with a atraumatic row of teeth, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-238</b> | <b>R033-050330-238</b> | <b>R033P-050330-238</b> | <b>R034-050330-238</b> | <b>R032M-050330-238</b> |
| <b>360 mm</b>  | <b>R030-050360-238</b> | <b>R033-050360-238</b> | <b>R033P-050360-238</b> | <b>R034-050360-238</b> | <b>R032M-050360-238</b> |
| <b>450 mm</b>  | <b>R030-050450-238</b> | <b>R033-050450-238</b> | <b>R033P-050450-238</b> | <b>R034-050450-238</b> | <b>R032M-050450-238</b> |



**Carbon Handles**

more details at the beginning of the chapter



R 033 - 000 000 - 000



R 033P - 000 000 - 000



R 034 - 000 000 - 000



R 032M - 000 000 - 000

Ø 5 mm



MAHNES grasping forceps 1 x 2 teeth, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-240</b> | <b>R033-050330-240</b> | <b>R033P-050330-240</b> | <b>R034-050330-240</b> | <b>R032M-050330-240</b> |
| <b>360 mm</b>  | <b>R030-050360-240</b> | <b>R033-050360-240</b> | <b>R033P-050360-240</b> | <b>R034-050360-240</b> | <b>R032M-050360-240</b> |
| <b>450 mm</b>  | <b>R030-050450-240</b> | <b>R033-050450-240</b> | <b>R033P-050450-240</b> | <b>R034-050450-240</b> | <b>R032M-050450-240</b> |



Grasping forceps with mouseteeth, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-241</b> | <b>R033-050330-241</b> | <b>R033P-050330-241</b> | <b>R034-050330-241</b> | <b>R032M-050330-241</b> |
| <b>360 mm</b>  | <b>R030-050360-241</b> | <b>R033-050360-241</b> | <b>R033P-050360-241</b> | <b>R034-050360-241</b> | <b>R032M-050360-241</b> |
| <b>450 mm</b>  | <b>R030-050450-241</b> | <b>R033-050450-241</b> | <b>R033P-050450-241</b> | <b>R034-050450-241</b> | <b>R032M-050450-241</b> |



Claw grasping forceps, 3 x 2 teeth, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-242</b> | <b>R033-050330-242</b> | <b>R033P-050330-242</b> | <b>R034-050330-242</b> | <b>R032M-050330-242</b> |
| <b>360 mm</b>  | <b>R030-050360-242</b> | <b>R033-050360-242</b> | <b>R033P-050360-242</b> | <b>R034-050360-242</b> | <b>R032M-050360-242</b> |
| <b>450 mm</b>  | <b>R030-050450-242</b> | <b>R033-050450-242</b> | <b>R033P-050450-242</b> | <b>R034-050450-242</b> | <b>R032M-050450-242</b> |



„AGRESSIV“, Claw Grasping forceps, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-243</b> | <b>R033-050330-243</b> | <b>R033P-050330-243</b> | <b>R034-050330-243</b> | <b>R032M-050330-243</b> |
| <b>360 mm</b>  | <b>R030-050360-243</b> | <b>R033-050360-243</b> | <b>R033P-050360-243</b> | <b>R034-050360-243</b> | <b>R032M-050360-243</b> |
| <b>450 mm</b>  | <b>R030-050450-243</b> | <b>R033-050450-243</b> | <b>R033P-050450-243</b> | <b>R034-050450-243</b> | <b>R032M-050450-243</b> |

### Carbon Handles

more details at the beginning of the chapter



R 033 - 000 000 - 000



R 033P - 000 000 - 000



R 034 - 000 000 - 000



R 032M - 000 000 - 000

Ø 5 mm



Grasping forceps distal with DEBAKEY teeth, double action jaws

| Working length | Working insert alone | Complete instrument |                  |                 |                  |
|----------------|----------------------|---------------------|------------------|-----------------|------------------|
| 330 mm         | R030-050330-244      | R033-050330-244     | R033P-050330-244 | R034-050330-244 | R032M-050330-244 |
| 360 mm         | R030-050360-244      | R033-050360-244     | R033P-050360-244 | R034-050360-244 | R032M-050360-244 |
| 450 mm         | R030-050450-244      | R033-050450-244     | R033P-050450-244 | R034-050450-244 | R032M-050450-244 |



Extracting forceps with retrograd teeth, double action jaws

| Working length | Working insert alone | Complete instrument |                  |                 |                  |
|----------------|----------------------|---------------------|------------------|-----------------|------------------|
| 330 mm         | R030-050330-246      | R033-050330-246     | R033P-050330-246 | R034-050330-246 | R032M-050330-246 |
| 360 mm         | R030-050360-246      | R033-050360-246     | R033P-050360-246 | R034-050360-246 | R032M-050360-246 |
| 450 mm         | R030-050450-246      | R033-050450-246     | R033P-050450-246 | R034-050450-246 | R032M-050450-246 |



DORSEY (JOHANN) intestinal grasping forceps, jaw length 20 mm, double action jaws

| Working length | Working insert alone | Complete instrument |                  |                 |                  |
|----------------|----------------------|---------------------|------------------|-----------------|------------------|
| 330 mm         | R030-050330-248      | R033-050330-248     | R033P-050330-248 | R034-050330-248 | R032M-050330-248 |
| 360 mm         | R030-050360-248      | R033-050360-248     | R033P-050360-248 | R034-050360-248 | R032M-050360-248 |
| 450 mm         | R030-050450-248      | R033-050450-248     | R033P-050450-248 | R034-050450-248 | R032M-050450-248 |



DORSEY (JOHANN) intestinal grasping forceps, jaw length 20 mm, single action jaws

| Working length | Working insert alone | Complete instrument |                  |                 |                  |
|----------------|----------------------|---------------------|------------------|-----------------|------------------|
| 330 mm         | R030-050330-249      | R033-050330-249     | R033P-050330-249 | R034-050330-249 | R032M-050330-249 |
| 360 mm         | R030-050360-249      | R033-050360-249     | R033P-050360-249 | R034-050360-249 | R032M-050360-249 |
| 450 mm         | R030-050450-249      | R033-050450-249     | R033P-050450-249 | R034-050450-249 | R032M-050450-249 |

**Carbon Handles**

more details at the beginning of the chapter



R033 - 000 000 - 000



R033P - 000 000 - 000



R034 - 000 000 - 000



R032M - 000 000 - 000

Ø 5 mm



DAVIS &amp; GEEK grasping forceps with reservoir, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-250</b> | <b>R033-050330-250</b> | <b>R033P-050330-250</b> | <b>R034-050330-250</b> | <b>R032M-050330-250</b> |
| <b>360 mm</b>  | <b>R030-050360-250</b> | <b>R033-050360-250</b> | <b>R033P-050360-250</b> | <b>R034-050360-250</b> | <b>R032M-050360-250</b> |
| <b>450 mm</b>  | <b>R030-050450-250</b> | <b>R033-050450-250</b> | <b>R033P-050450-250</b> | <b>R034-050450-250</b> | <b>R032M-050450-250</b> |



DAVIS &amp; GEEK grasping forceps with reservoir, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-251</b> | <b>R033-050330-251</b> | <b>R033P-050330-251</b> | <b>R034-050330-251</b> | <b>R032M-050330-251</b> |
| <b>360 mm</b>  | <b>R030-050360-251</b> | <b>R033-050360-251</b> | <b>R033P-050360-251</b> | <b>R034-050360-251</b> | <b>R032M-050360-251</b> |
| <b>450 mm</b>  | <b>R030-050450-251</b> | <b>R033-050450-251</b> | <b>R033P-050450-251</b> | <b>R034-050450-251</b> | <b>R032M-050450-251</b> |



DAVIS &amp; GEEK grasping forceps with 3 x 2 teeth, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-252</b> | <b>R033-050330-252</b> | <b>R033P-050330-252</b> | <b>R034-050330-252</b> | <b>R032M-050330-252</b> |
| <b>360 mm</b>  | <b>R030-050360-252</b> | <b>R033-050360-252</b> | <b>R033P-050360-252</b> | <b>R034-050360-252</b> | <b>R032M-050360-252</b> |
| <b>450 mm</b>  | <b>R030-050450-252</b> | <b>R033-050450-252</b> | <b>R033P-050450-252</b> | <b>R034-050450-252</b> | <b>R032M-050450-252</b> |



MIXTER grasping forceps 90°, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-258</b> | <b>R033-050330-258</b> | <b>R033P-050330-258</b> | <b>R034-050330-258</b> | <b>R032M-050330-258</b> |
| <b>360 mm</b>  | <b>R030-050360-258</b> | <b>R033-050360-258</b> | <b>R033P-050360-258</b> | <b>R034-050360-258</b> | <b>R032M-050360-258</b> |
| <b>450 mm</b>  | <b>R030-050450-258</b> | <b>R033-050450-258</b> | <b>R033P-050450-258</b> | <b>R034-050450-258</b> | <b>R032M-050450-258</b> |

### Carbon Handles

more details at the beginning of the chapter



R 033 - 000 000 - 000

R 033P - 000 000 - 000

R 034 - 000 000 - 000

R 032M - 000 000 - 000

Ø 5 mm



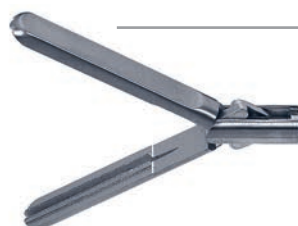
MIXTER grasping forceps 45°, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-259</b> | <b>R033-050330-259</b> | <b>R033P-050330-259</b> | <b>R034-050330-259</b> | <b>R032M-050330-259</b> |
| <b>360 mm</b>  | <b>R030-050360-259</b> | <b>R033-050360-259</b> | <b>R033P-050360-259</b> | <b>R034-050360-259</b> | <b>R032M-050360-259</b> |
| <b>450 mm</b>  | <b>R030-050450-259</b> | <b>R033-050450-259</b> | <b>R033P-050450-259</b> | <b>R034-050450-259</b> | <b>R032M-050450-259</b> |



DORSEY intestinal grasping forceps, jaw length 40 mm, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-262</b> | <b>R033-050330-262</b> | <b>R033P-050330-262</b> | <b>R034-050330-262</b> | <b>R032M-050330-262</b> |
| <b>360 mm</b>  | <b>R030-050360-262</b> | <b>R033-050360-262</b> | <b>R033P-050360-262</b> | <b>R034-050360-262</b> | <b>R032M-050360-262</b> |
| <b>450 mm</b>  | <b>R030-050450-262</b> | <b>R033-050450-262</b> | <b>R033P-050450-262</b> | <b>R034-050450-262</b> | <b>R032M-050450-262</b> |



DEBAKEY clamp, jaw length 30 mm, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-264</b> | <b>R033-050330-264</b> | <b>R033P-050330-264</b> | <b>R034-050330-264</b> | <b>R032M-050330-264</b> |
| <b>360 mm</b>  | <b>R030-050360-264</b> | <b>R033-050360-264</b> | <b>R033P-050360-264</b> | <b>R034-050360-264</b> | <b>R032M-050360-264</b> |
| <b>450 mm</b>  | <b>R030-050450-264</b> | <b>R033-050450-264</b> | <b>R033P-050450-264</b> | <b>R034-050450-264</b> | <b>R032M-050450-264</b> |



KELLY Grasping forceps, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-266</b> | <b>R033-050330-266</b> | <b>R033P-050330-266</b> | <b>R034-050330-266</b> | <b>R032M-050330-266</b> |
| <b>360 mm</b>  | <b>R030-050360-266</b> | <b>R033-050360-266</b> | <b>R033P-050360-266</b> | <b>R034-050360-266</b> | <b>R032M-050360-266</b> |
| <b>450 mm</b>  | <b>R030-050450-266</b> | <b>R033-050450-266</b> | <b>R033P-050450-266</b> | <b>R034-050450-266</b> | <b>R032M-050450-266</b> |

**Carbon Handles**

more details at the beginning of the chapter



R 033 - 000 000 - 000



R 033P - 000 000 - 000



R 034 - 000 000 - 000



R 032M - 000 000 - 000

Ø 5 mm



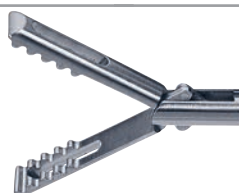
BABCOCK clamp, double action jaws

| Working length | Working insert alone | Complete instrument |                  |                 |                  |
|----------------|----------------------|---------------------|------------------|-----------------|------------------|
| <b>330 mm</b>  | R030-050330-270      | R033-050330-270     | R033P-050330-270 | R034-050330-270 | R032M-050330-270 |
| <b>360 mm</b>  | R030-050360-270      | R033-050360-270     | R033P-050360-270 | R034-050360-270 | R032M-050360-270 |
| <b>450 mm</b>  | R030-050450-270      | R033-050450-270     | R033P-050450-270 | R034-050450-270 | R032M-050450-270 |



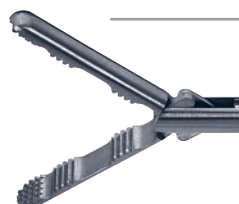
Grasping Forceps, straight, cross-serrated, jaw length 18 mm, single action jaws

|               |                 | Working length  | Working insert alone | Complete instrument |                  |
|---------------|-----------------|-----------------|----------------------|---------------------|------------------|
| <b>330 mm</b> | R030-050330-272 | R033-050330-272 | R033P-050330-272     | R034-050330-272     | R032M-050330-272 |
| <b>360 mm</b> | R030-050360-272 | R033-050360-272 | R033P-050360-272     | R034-050360-272     | R032M-050360-272 |
| <b>450 mm</b> | R030-050450-272 | R033-050450-272 | R033P-050450-272     | R034-050450-272     | R032M-050450-272 |



Grasping forceps „WAVE“, fenestrated, double action jaws

| Working length | Working insert alone | Complete instrument |                  |                 |                  |
|----------------|----------------------|---------------------|------------------|-----------------|------------------|
| <b>330 mm</b>  | R030-050330-274      | R033-050330-274     | R033P-050330-274 | R034-050330-274 | R032M-050330-274 |
| <b>360 mm</b>  | R030-050360-274      | R033-050360-274     | R033P-050360-274 | R034-050360-274 | R032M-050360-274 |
| <b>450 mm</b>  | R030-050450-274      | R033-050450-274     | R033P-050450-274 | R034-050450-274 | R032M-050450-274 |



Grasping forceps „MAXIGRIP“, double action jaws

| Working length | Working insert alone | Complete instrument |                  |                 |                  |
|----------------|----------------------|---------------------|------------------|-----------------|------------------|
| <b>330 mm</b>  | R030-050330-276      | R033-050330-276     | R033P-050330-276 | R034-050330-276 | R032M-050330-276 |
| <b>360 mm</b>  | R030-050360-276      | R033-050360-276     | R033P-050360-276 | R034-050360-276 | R032M-050360-276 |
| <b>450 mm</b>  | R030-050450-276      | R033-050450-276     | R033P-050450-276 | R034-050450-276 | R032M-050450-276 |

### Carbon Handles

more details at the beginning of the chapter

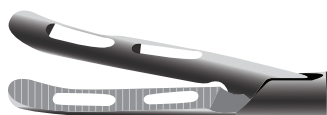


Ø 5 mm



Tenaculum forceps, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-284</b> | <b>R033-050330-284</b> | <b>R033P-050330-284</b> | <b>R034-050330-284</b> | <b>R032M-050330-284</b> |
| <b>360 mm</b>  | <b>R030-050360-284</b> | <b>R033-050360-284</b> | <b>R033P-050360-284</b> | <b>R034-050360-284</b> | <b>R032M-050360-284</b> |
| <b>450 mm</b>  | <b>R030-050450-284</b> | <b>R033-050450-284</b> | <b>R033P-050450-284</b> | <b>R034-050450-284</b> | <b>R032M-050450-284</b> |



CROCE-OLMI grasping forceps, atrumatic, fenestrated, curved

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-050330-217</b> | <b>R033-050330-217</b> | <b>R033P-050330-217</b> | <b>R034-050330-217</b> | <b>R032M-050330-217</b> |
| <b>360 mm</b>  | <b>R030-050360-217</b> | <b>R033-050360-217</b> | <b>R033P-050360-217</b> | <b>R034-050360-217</b> | <b>R032M-050360-217</b> |
| <b>450 mm</b>  | <b>R030-050450-217</b> | <b>R033-050450-217</b> | <b>R033P-050450-217</b> | <b>R034-050450-217</b> | <b>R032M-050450-217</b> |



**Carbon Handles**

more details at the beginning of the chapter

**R 033** - 000 000 - 000**R 033P** - 000 000 - 000**R 034** - 000 000 - 000**R 032M** - 000 000 - 000**Ø 10 mm**

Claw grasping forceps, 3 x 2 teeth, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-100330-610</b> | <b>R033-100330-610</b> | <b>R033P-100330-610</b> | <b>R034-100330-610</b> | <b>R032M-100330-610</b> |
| <b>360 mm</b>  | <b>R030-100360-610</b> | <b>R033-100360-610</b> | <b>R033P-100360-610</b> | <b>R034-100360-610</b> | <b>R032M-100360-610</b> |
| <b>450 mm</b>  | <b>R030-100450-610</b> | <b>R033-100450-610</b> | <b>R033P-100450-610</b> | <b>R034-100450-610</b> | <b>R032M-100450-610</b> |



MARYLAND grasping and dissecting forceps, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-100330-612</b> | <b>R033-100330-612</b> | <b>R033P-100330-612</b> | <b>R034-100330-612</b> | <b>R032M-100330-612</b> |
| <b>360 mm</b>  | <b>R030-100360-612</b> | <b>R033-100360-612</b> | <b>R033P-100360-612</b> | <b>R034-100360-612</b> | <b>R032M-100360-612</b> |
| <b>450 mm</b>  | <b>R030-100450-612</b> | <b>R033-100450-612</b> | <b>R033P-100450-612</b> | <b>R034-100450-612</b> | <b>R032M-100450-612</b> |



Grasping forceps distal with DEBAKEY teeth, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-100330-614</b> | <b>R033-100330-614</b> | <b>R033P-100330-614</b> | <b>R034-100330-614</b> | <b>R032M-100330-614</b> |
| <b>360 mm</b>  | <b>R030-100360-614</b> | <b>R033-100360-614</b> | <b>R033P-100360-614</b> | <b>R034-100360-614</b> | <b>R032M-100360-614</b> |
| <b>450 mm</b>  | <b>R030-100450-614</b> | <b>R033-100450-614</b> | <b>R033P-100450-614</b> | <b>R034-100450-614</b> | <b>R032M-100450-614</b> |

### Carbon Handles

more details at the beginning of the chapter



R 033 - 000 000 - 000



R 033P - 000 000 - 000



R 034 - 000 000 - 000



R 032M - 000 000 - 000

Ø 10 mm



BABCOCK grasping forceps, strong, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-100330-616</b> | <b>R033-100330-616</b> | <b>R033P-100330-616</b> | <b>R034-100330-616</b> | <b>R032M-100330-616</b> |
| <b>360 mm</b>  | <b>R030-100360-616</b> | <b>R033-100360-616</b> | <b>R033P-100360-616</b> | <b>R034-100360-616</b> | <b>R032M-100360-616</b> |
| <b>450 mm</b>  | <b>R030-100450-616</b> | <b>R033-100450-616</b> | <b>R033P-100450-616</b> | <b>R034-100450-616</b> | <b>R032M-100450-616</b> |



Grasping forceps, cross-serrated teeth, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-100330-642</b> | <b>R033-100330-642</b> | <b>R033P-100330-642</b> | <b>R034-100330-642</b> | <b>R032M-100330-642</b> |
| <b>360 mm</b>  | <b>R030-100360-642</b> | <b>R033-100360-642</b> | <b>R033P-100360-642</b> | <b>R034-100360-642</b> | <b>R032M-100360-642</b> |
| <b>450 mm</b>  | <b>R030-100450-642</b> | <b>R033-100450-642</b> | <b>R033P-100450-642</b> | <b>R034-100450-642</b> | <b>R032M-100450-642</b> |



MIXTER grasping forceps, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-100330-646</b> | <b>R033-100330-646</b> | <b>R033P-100330-646</b> | <b>R034-100330-646</b> | <b>R032M-100330-646</b> |
| <b>360 mm</b>  | <b>R030-100360-646</b> | <b>R033-100360-646</b> | <b>R033P-100360-646</b> | <b>R034-100360-646</b> | <b>R032M-100360-646</b> |
| <b>450 mm</b>  | <b>R030-100450-646</b> | <b>R033-100450-646</b> | <b>R033P-100450-646</b> | <b>R034-100450-646</b> | <b>R032M-100450-646</b> |



DORSEY intestinal grasping forceps, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-100330-648</b> | <b>R033-100330-648</b> | <b>R033P-100330-648</b> | <b>R034-100330-648</b> | <b>R032M-100330-648</b> |
| <b>360 mm</b>  | <b>R030-100360-648</b> | <b>R033-100360-648</b> | <b>R033P-100360-648</b> | <b>R034-100360-648</b> | <b>R032M-100360-648</b> |
| <b>450 mm</b>  | <b>R030-100450-648</b> | <b>R033-100450-648</b> | <b>R033P-100450-648</b> | <b>R034-100450-648</b> | <b>R032M-100450-648</b> |



**Carbon Handles**

more details at the beginning of the chapter



R 033 - 000 000 - 000



R 033P - 000 000 - 000



R 034 - 000 000 - 000



R 032M - 000 000 - 000

Ø 10 mm



KOCHER clamp, jaw length 30 mm, double action jaws

| Working length   | Working insert alone | Complete instrument |                  |                 |                  |
|------------------|----------------------|---------------------|------------------|-----------------|------------------|
| <b>330 mm</b>    | R030-100330-622      | R033-100330-622     | R033P-100330-622 | R034-100330-622 | R032M-100330-622 |
| <b>360 mm</b>    | R030-100360-622      | R033-100360-622     | R033P-100360-622 | R034-100360-622 | R032M-100360-622 |
| jaw length 40 mm |                      |                     |                  |                 |                  |
| <b>330 mm</b>    | R030-100330-623      | R033-100330-623     | R033P-100330-623 | R034-100330-623 | R032M-100330-623 |
| <b>360 mm</b>    | R030-100360-623      | R033-100360-623     | R033P-100360-623 | R034-100360-623 | R032M-100360-623 |
| jaw length 50 mm |                      |                     |                  |                 |                  |
| <b>330 mm</b>    | R030-100330-624      | R033-100330-624     | R033P-100330-624 | R034-100330-624 | R032M-100330-624 |
| <b>360 mm</b>    | R030-100360-624      | R033-100360-624     | R033P-100360-624 | R034-100360-624 | R032M-100360-624 |



DEBAKEY clamp, double teeth, jaw length 30 mm, double action jaws

| Working length   | Working insert alone | Complete instrument |                  |                 |                  |
|------------------|----------------------|---------------------|------------------|-----------------|------------------|
| <b>330 mm</b>    | R030-100330-631      | R033-100330-631     | R033P-100330-631 | R034-100330-631 | R032M-100330-631 |
| <b>360 mm</b>    | R030-100360-631      | R033-100360-631     | R033P-100360-631 | R034-100360-631 | R032M-100360-631 |
| jaw length 40 mm |                      |                     |                  |                 |                  |
| <b>330 mm</b>    | R030-100330-632      | R033-100330-632     | R033P-100330-632 | R034-100330-632 | R032M-100330-632 |
| <b>360 mm</b>    | R030-100360-632      | R033-100360-632     | R033P-100360-632 | R034-100360-632 | R032M-100360-632 |
| jaw length 50 mm |                      |                     |                  |                 |                  |
| <b>330 mm</b>    | R030-100330-633      | R033-100330-633     | R033P-100330-633 | R034-100330-633 | R032M-100330-633 |
| <b>360 mm</b>    | R030-100360-633      | R033-100360-633     | R033P-100360-633 | R034-100360-633 | R032M-100360-633 |

### Carbon Handles

more details at the beginning of the chapter



R 033 - 000 000 - 000

R 033P - 000 000 - 000

R 034 - 000 000 - 000

R 032M - 000 000 - 000

Ø 10 mm



BABCOCK grasping forceps fine, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-100330-618</b> | <b>R033-100330-618</b> | <b>R033P-100330-618</b> | <b>R034-100330-618</b> | <b>R032M-100330-618</b> |
| <b>360 mm</b>  | <b>R030-100360-618</b> | <b>R033-100360-618</b> | <b>R033P-100360-618</b> | <b>R034-100360-618</b> | <b>R032M-100360-618</b> |



COLLIN clamp, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-100330-620</b> | <b>R033-100330-620</b> | <b>R033P-100330-620</b> | <b>R034-100330-620</b> | <b>R032M-100330-620</b> |
| <b>360 mm</b>  | <b>R030-100360-620</b> | <b>R033-100360-620</b> | <b>R033P-100360-620</b> | <b>R034-100360-620</b> | <b>R032M-100360-620</b> |

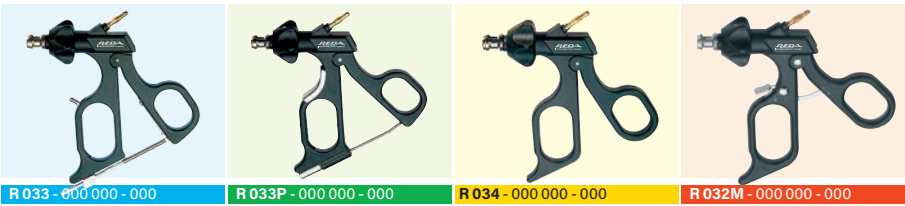


PENNINGTON clamp, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>330 mm</b>  | <b>R030-100330-650</b> | <b>R033-100330-650</b> | <b>R033P-100330-650</b> | <b>R034-100330-650</b> | <b>R032M-100330-650</b> |
| <b>360 mm</b>  | <b>R030-100360-650</b> | <b>R033-100360-650</b> | <b>R033P-100360-650</b> | <b>R034-100360-650</b> | <b>R032M-100360-650</b> |

**Carbon Handles**

more details at the beginning of the chapter



Ø 10 mm



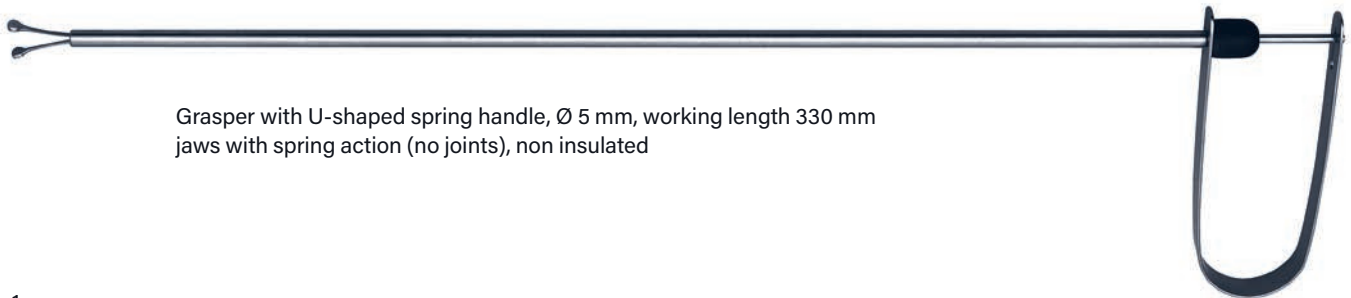
OVERHOLD clamp with fine teeth, curved, double action jaws

| Working length | Working insert alone | Complete instrument |                  |                 |                  |
|----------------|----------------------|---------------------|------------------|-----------------|------------------|
| 330 mm         | R030-100330-654      | R033-100330-654     | R033P-100330-654 | R034-100330-654 | R032M-100330-654 |
| 360 mm         | R030-100360-654      | R033-100360-654     | R033P-100360-654 | R034-100360-654 | R032M-100360-654 |



Tenaculum forceps, double action jaws

| Working length | Working insert alone | Complete instrument |                  |                 |                  |
|----------------|----------------------|---------------------|------------------|-----------------|------------------|
| 330 mm         | R030-100330-656      | R033-100330-656     | R033P-100330-656 | R034-100330-656 | R032M-100330-656 |
| 360 mm         | R030-100360-656      | R033-100360-656     | R033P-100360-656 | R034-100360-656 | R032M-100360-656 |



Grasper with U-shaped spring handle, Ø 5 mm, working length 330 mm  
jaws with spring action (no joints), non insulated

1:1



Atraumatic grasper

**R039 - 0533 - 001**



Bowl grasper, square pattern jaws

**R039 - 0533 - 002**



Bowl grasper, T-shaped jaws

**R039 - 0533 - 003**



Tissue and bowel grasper, ball and socket type

**R039 - 0533 - 004**



Fallopian tube grasper

**R039 - 0533 - 006**



1 x 2 teeth grasper slim

**R039 - 0533 - 007**



Bowel grasper, round

**R039 - 0533 - 010**



Atraumatic grasper, fenestrated

**R039 - 0533 - 013**

1:1



Tissue grasper, U-shaped jaws

**R039** - 0533 - 014



Grasper, blunt

**R039** - 0533 - 015



Falopian grasper, blunt

**R039** - 0533 - 016



| length, diameter |                 |
|------------------|-----------------|
| 480 mm, Ø 3 mm   | <b>96000-03</b> |
| 480 mm, Ø 5 mm   | <b>96000-05</b> |
| 480 mm, Ø 7 mm   | <b>96000-07</b> |
| 480 mm, Ø 12 mm  | <b>96000-12</b> |

## Scissors / Biopsy forceps



Ø 5 und 10 mm



#### **Mechanical snap-action coupling !**

The Ø 5 and 10 mm modular REDA laparoscopic instruments have a unique snap-action coupling which, offering the combined advantage of the speediest possible assembly and a long service life.

The union of the working insert and sleeve shaft is achieved by simply inserting the components axially into each other. A simple click and you are ready!

The groove-and-tongue principle practically rules out the possibility of the locking mechanism coming undone, as is the case with conventional screw or bayonet connections.

REDA - simplicity is so clever !



#### **Nut stopper**

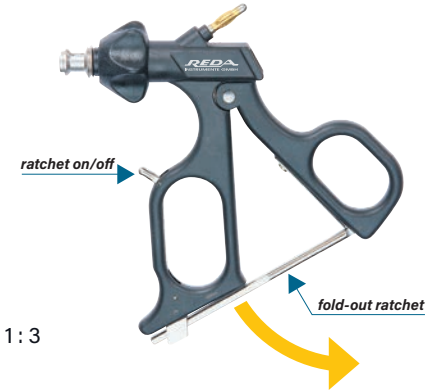
An nut on the sleeve shaft of REDA modular instruments prevents bothersome slipping or even the loss of the union nut.

REDA - detail is the decisive factor !





Ø 3 / 5 / 10 mm



Ergonomic universal carbon handle with ratchet,  
Lever for active or unactive ratchet, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R033** - 000000 - 000



Ergonomic carbon handle with stepless ratchet,  
ratchet by finger press resolve, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R033P** - 000000 - 000



Ergonomic carbon handle,  
HF-connector Ø 4 mm male 45° lateral, rotating head 360°, autoclavable

**R034** - 000000 - 000



Ergonomic universal carbon handle with ratchet,  
Button for active or unactive ratchet, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

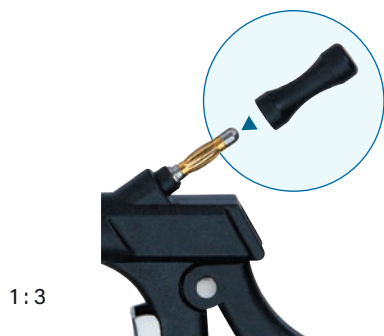
**R032M** - 000000 - 000

Ø 3 / 5 / 10 mm



Ergonomic carbon handle with stepless ratchet,  
ratchet activating / release lever, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R033M - 000000 - 000**



Protection cap for HF-connector Ø 4 mm

**R030 - 000000**



Laparoscopy -  
Handles for Ø 3 / 5 / 10 mm tube shafts



Ø 3 / 5 / 10 mm



Axial handle, v-shaped type with spreading spring and ratchet

**R038** - 000000 - 000

1:3



Axial handle, with spreading spring

**R048** - 000000 - 000

1:3



Axial handle with rings and ratchet

**R037** - 000000 - 000

1:3



Axial ring handle

**R047** - 000000 - 000

1:3



Axial handle, v-shaped angled, type with spreading spring and ratchet

**R039** - 000000 - 000



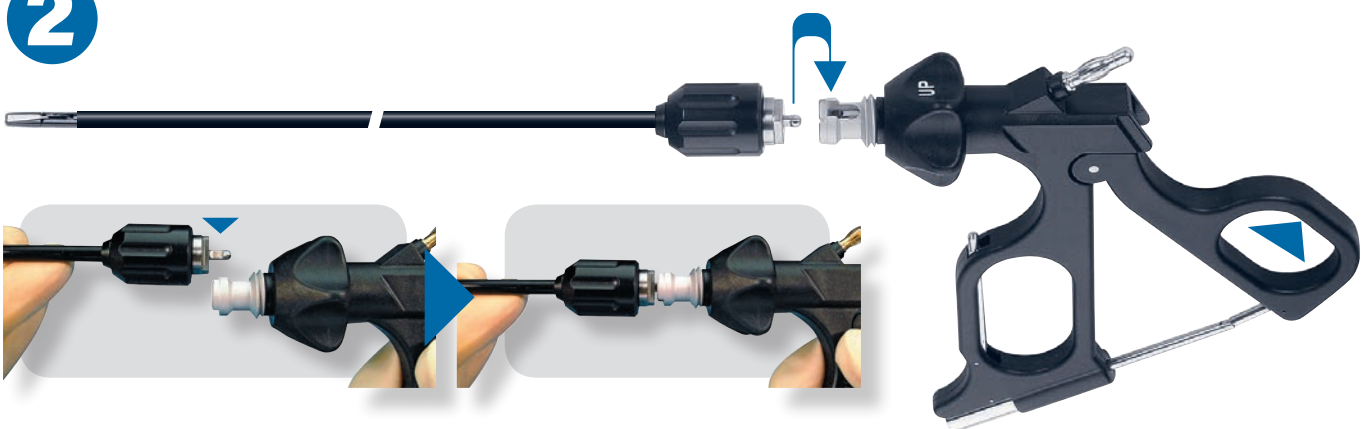
Axial handle, angled, with spreading spring

**R040** - 000000 - 000

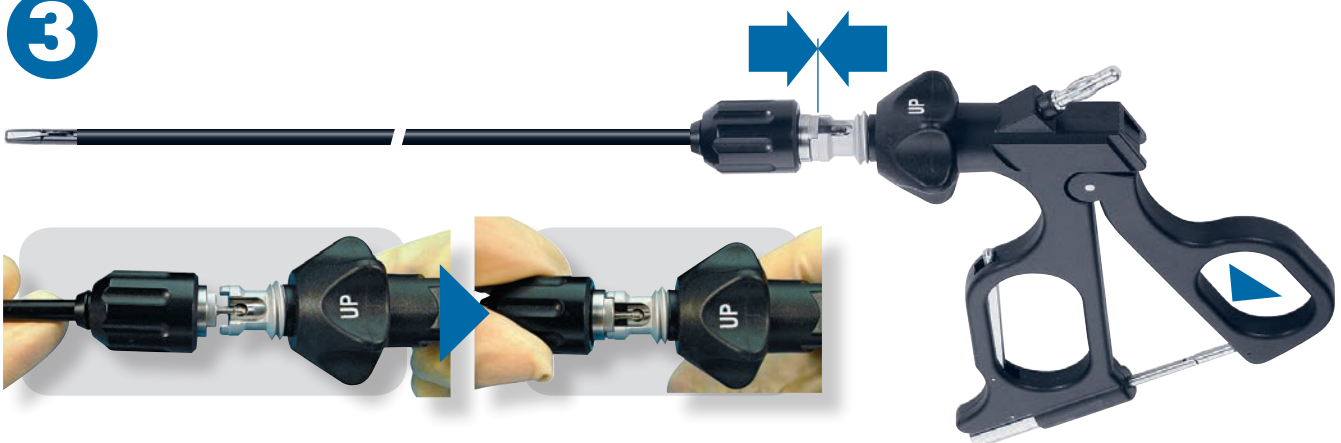
**1**



**2**

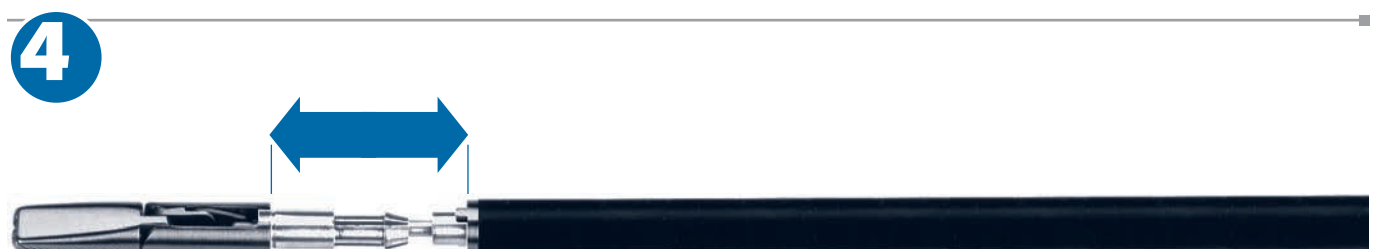
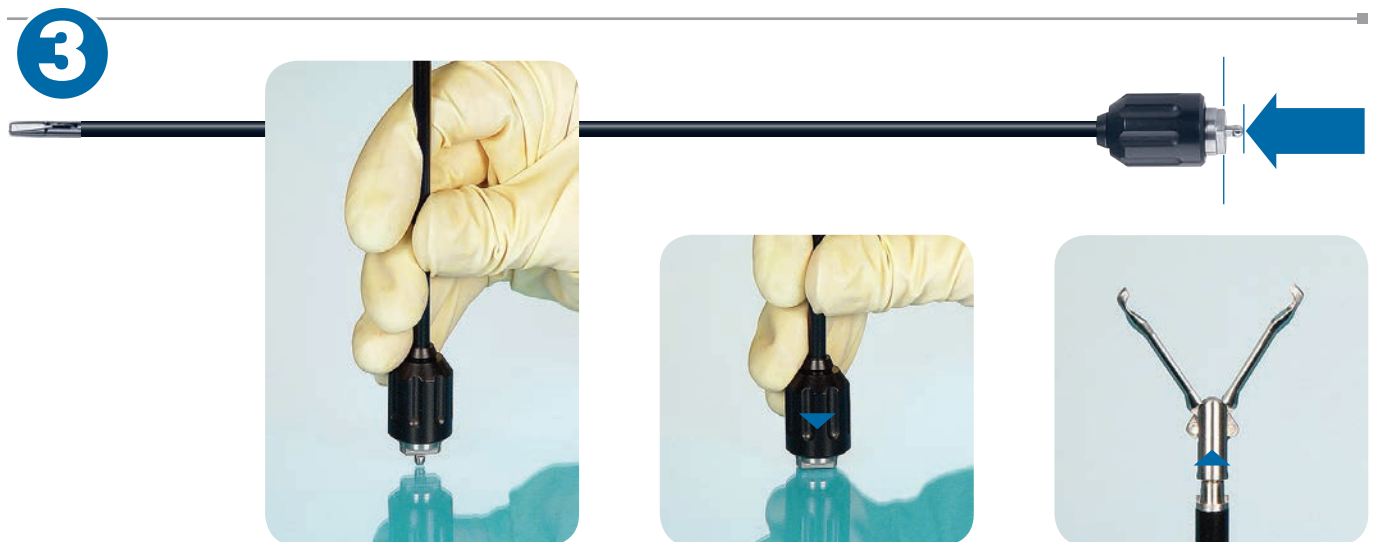
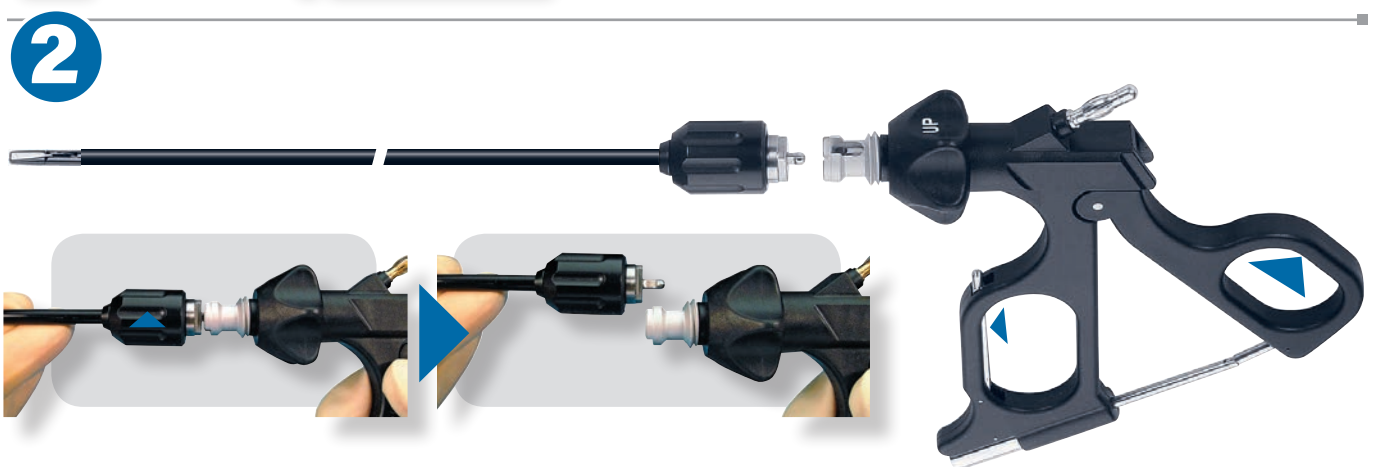
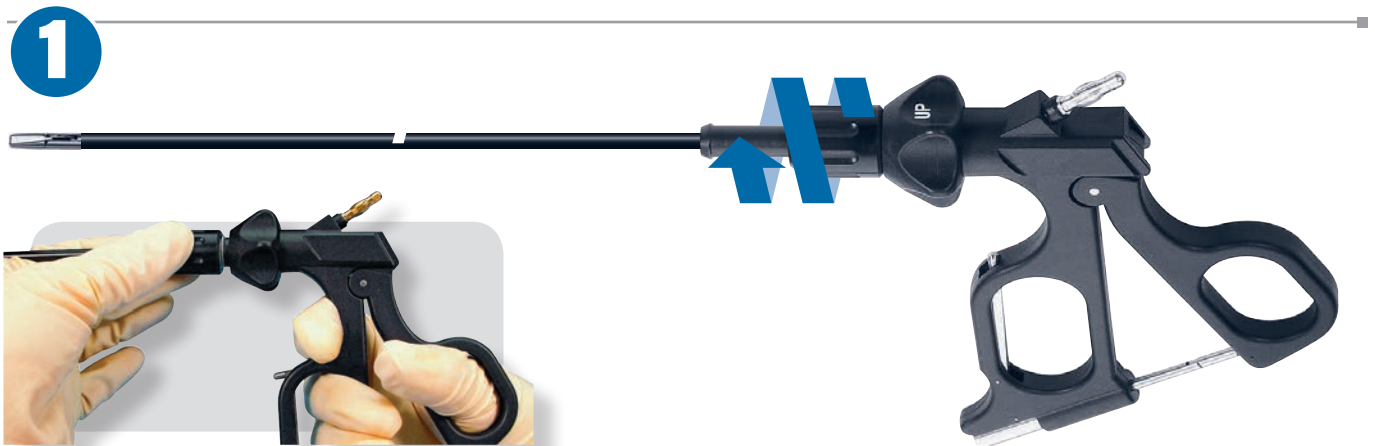


**3**

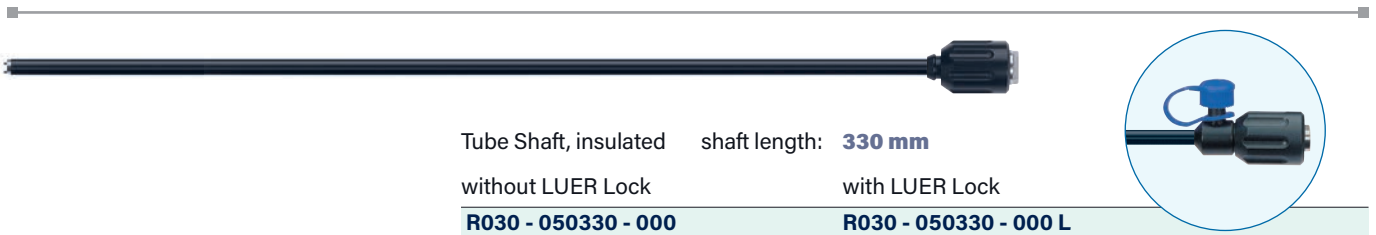


**4**

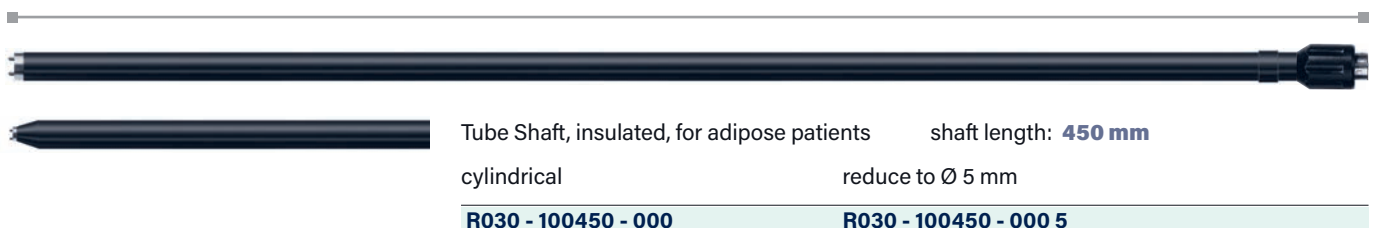
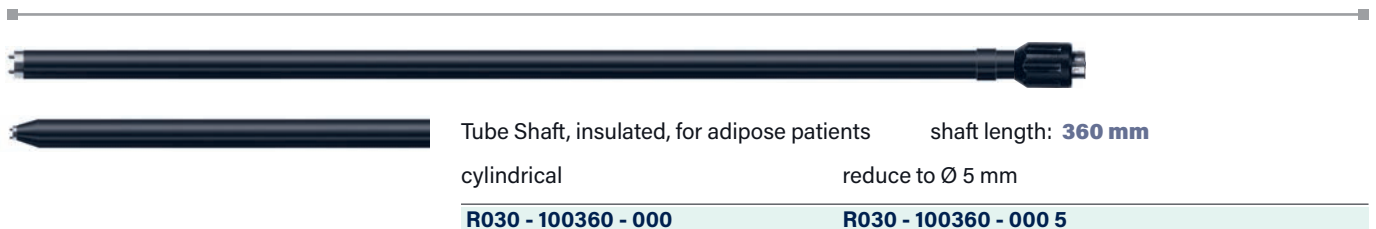




**Ø 5 mm**



**Ø 10 mm**





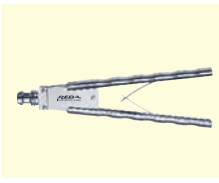
**Carbon Handles**

more details at the beginning of the chapter

**Stainless steel Handles**

more details at the beginning of the chapter

also available  
with angled  
handle



R 034 - 000 000 - 000

R 047 - 000 000 - 000

R 048 - 000 000 - 000

R 040 - 000 000 - 000

Ø 5 mm



METZENBAUM preparation scissors, straight, double action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-110</b> | <b>R044-050330-110</b> | <b>R057-050330-110</b> | <b>R058-050330-110</b> |
| <b>360 mm</b>  | <b>R040-050360-110</b> | <b>R044-050360-110</b> | <b>R057-050360-110</b> | <b>R058-050360-110</b> |
| <b>450 mm</b>  | <b>R040-050450-110</b> | <b>R044-050450-110</b> | <b>R057-050450-110</b> | <b>R058-050450-110</b> |



METZENBAUM preparation scissors, curved, double action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-112</b> | <b>R044-050330-112</b> | <b>R057-050330-112</b> | <b>R058-050330-112</b> |
| <b>360 mm</b>  | <b>R040-050360-112</b> | <b>R044-050360-112</b> | <b>R057-050360-112</b> | <b>R058-050360-112</b> |
| <b>450 mm</b>  | <b>R040-050450-112</b> | <b>R044-050450-112</b> | <b>R057-050450-112</b> | <b>R058-050450-112</b> |



Preparation scissors „WONDERCUT“, curved, double action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-113</b> | <b>R044-050330-113</b> | <b>R057-050330-113</b> | <b>R058-050330-113</b> |
| <b>360 mm</b>  | <b>R040-050360-113</b> | <b>R044-050360-113</b> | <b>R057-050360-113</b> | <b>R058-050360-113</b> |
| <b>450 mm</b>  | <b>R040-050450-113</b> | <b>R044-050450-113</b> | <b>R057-050450-113</b> | <b>R058-050450-113</b> |



METZENBAUM preparation scissors, strong version, serrated, curved, double action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-125</b> | <b>R044-050330-125</b> | <b>R057-050330-125</b> | <b>R058-050330-125</b> |
| <b>360 mm</b>  | <b>R040-050360-125</b> | <b>R044-050360-125</b> | <b>R057-050360-125</b> | <b>R058-050360-125</b> |
| <b>450 mm</b>  | <b>R040-050450-125</b> | <b>R044-050450-125</b> | <b>R057-050450-125</b> | <b>R058-050450-125</b> |



METZENBAUM preparation scissors, soft, curved, double action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-122</b> | <b>R044-050330-122</b> | <b>R057-050330-122</b> | <b>R058-050330-122</b> |
| <b>360 mm</b>  | <b>R040-050360-122</b> | <b>R044-050360-122</b> | <b>R057-050360-122</b> | <b>R058-050360-122</b> |
| <b>450 mm</b>  | <b>R040-050450-122</b> | <b>R044-050450-122</b> | <b>R057-050450-122</b> | <b>R058-050450-122</b> |

**Carbon Handles**

more details at the beginning of the chapter

**Stainless steel Handles**

more details at the beginning of the chapter

**also available  
with angled  
handle**

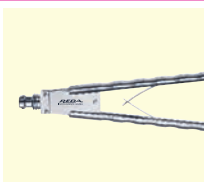
Ø 5 mm



R 034 - 000 000 - 000



R 047 - 000 000 - 000



R 048 - 000 000 - 000



R 040 - 000 000 - 000



Peritoneal scissors, serrated, straight, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-114</b> | <b>R044-050330-114</b> | <b>R057-050330-114</b> | <b>R058-050330-114</b> |
| <b>360 mm</b>  | <b>R040-050360-114</b> | <b>R044-050360-114</b> | <b>R057-050360-114</b> | <b>R058-050360-114</b> |
| <b>450 mm</b>  | <b>R040-050450-114</b> | <b>R044-050450-114</b> | <b>R057-050450-114</b> | <b>R058-050450-114</b> |



Hook scissors, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-116</b> | <b>R044-050330-116</b> | <b>R057-050330-116</b> | <b>R058-050330-116</b> |
| <b>360 mm</b>  | <b>R040-050360-116</b> | <b>R044-050360-116</b> | <b>R057-050360-116</b> | <b>R058-050360-116</b> |
| <b>450 mm</b>  | <b>R040-050450-116</b> | <b>R044-050450-116</b> | <b>R057-050450-116</b> | <b>R058-050450-116</b> |



Micro scissors, straight, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-118</b> | <b>R044-050330-118</b> | <b>R057-050330-118</b> | <b>R058-050330-118</b> |
| <b>360 mm</b>  | <b>R040-050360-118</b> | <b>R044-050360-118</b> | <b>R057-050360-118</b> | <b>R058-050360-118</b> |
| <b>450 mm</b>  | <b>R040-050450-118</b> | <b>R044-050450-118</b> | <b>R057-050450-118</b> | <b>R058-050450-118</b> |



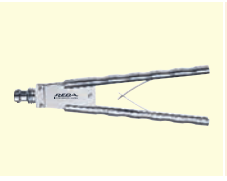
Micro scissors, curved, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-120</b> | <b>R044-050330-120</b> | <b>R057-050330-120</b> | <b>R058-050330-120</b> |
| <b>360 mm</b>  | <b>R040-050360-120</b> | <b>R044-050360-120</b> | <b>R057-050360-120</b> | <b>R058-050360-120</b> |
| <b>450 mm</b>  | <b>R040-050450-120</b> | <b>R044-050450-120</b> | <b>R057-050450-120</b> | <b>R058-050450-120</b> |



**Carbon Handles**  
more details at the beginning of the chapter

**Stainless steel Handles**  
more details at the beginning of the chapter



**Ø 10 mm**

R 034 - 000 000 - 000    R 047 - 000 000 - 000    R 048 - 000 000 - 000    R 040 - 000 000 - 000

also available with angled handle



MAYO operating scissors, single action jaws

| Working length | Working insert alone | Complete instrument |                 |                 |
|----------------|----------------------|---------------------|-----------------|-----------------|
| 330 mm         | R040-100330-710      | R044-100330-710     | R057-100330-710 | R058-100330-710 |
| 360 mm         | R040-100360-710      | R044-100360-710     | R057-100360-710 | R058-100360-710 |
| 450 mm         | R040-100450-710      | R044-100450-710     | R057-100450-710 | R058-100450-710 |

**Carbon Handles**

more details at the beginning of the chapter

**Stainless steel Handles**

more details at the beginning of the chapter

also available  
with angled  
handle

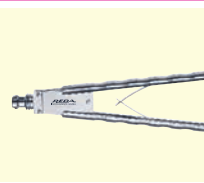
Ø 5 mm



R 034 - 000 000 - 000



R 047 - 000 000 - 000



R 048 - 000 000 - 000



R 040 - 000 000 - 000



BLAKESLEY tumor forceps, pointed, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-268</b> | <b>R044-050330-268</b> | <b>R057-050330-268</b> | <b>R058-050330-268</b> |
| <b>360 mm</b>  | <b>R040-050360-268</b> | <b>R044-050360-268</b> | <b>R057-050360-268</b> | <b>R058-050360-268</b> |
| <b>450 mm</b>  | <b>R040-050450-268</b> | <b>R044-050450-268</b> | <b>R057-050450-268</b> | <b>R058-050450-268</b> |



Biopsy cup, sharp, without thorn, double action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-310</b> | <b>R044-050330-310</b> | <b>R057-050330-310</b> | <b>R058-050330-310</b> |
| <b>360 mm</b>  | <b>R040-050360-310</b> | <b>R044-050360-310</b> | <b>R057-050360-310</b> | <b>R058-050360-310</b> |
| <b>450 mm</b>  | <b>R040-050450-310</b> | <b>R044-050450-310</b> | <b>R057-050450-310</b> | <b>R058-050450-310</b> |



Biopsy cup, sharp, with thorn, double action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-312</b> | <b>R044-050330-312</b> | <b>R057-050330-312</b> | <b>R058-050330-312</b> |
| <b>360 mm</b>  | <b>R040-050360-312</b> | <b>R044-050360-312</b> | <b>R057-050360-312</b> | <b>R058-050360-312</b> |
| <b>450 mm</b>  | <b>R040-050450-312</b> | <b>R044-050450-312</b> | <b>R057-050450-312</b> | <b>R058-050450-312</b> |



Alligator, cup, grasping and biopsy forceps, double action jaws

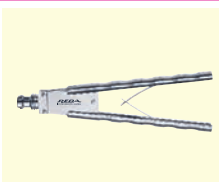
| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-314</b> | <b>R044-050330-314</b> | <b>R057-050330-314</b> | <b>R058-050330-314</b> |
| <b>360 mm</b>  | <b>R040-050360-314</b> | <b>R044-050360-314</b> | <b>R057-050360-314</b> | <b>R058-050360-314</b> |
| <b>450 mm</b>  | <b>R040-050450-314</b> | <b>R044-050450-314</b> | <b>R057-050450-314</b> | <b>R058-050450-314</b> |

**Carbon Handles**

more details at the beginning of the chapter

**Stainless steel Handles**

more details at the beginning of the chapter

**Ø 5 mm****R 034 - 000 000 - 000****R 047 - 000 000 - 000****R 048 - 000 000 - 000****R 040 - 000 000 - 000****also available  
with angled  
handle**

Biopsy cup, long, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-316</b> | <b>R044-050330-316</b> | <b>R057-050330-316</b> | <b>R058-050330-316</b> |
| <b>360 mm</b>  | <b>R040-050360-316</b> | <b>R044-050360-316</b> | <b>R057-050360-316</b> | <b>R058-050360-316</b> |
| <b>450 mm</b>  | <b>R040-050450-316</b> | <b>R044-050450-316</b> | <b>R057-050450-316</b> | <b>R058-050450-316</b> |



Biopsy cup, long, with thorn, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-318</b> | <b>R044-050330-318</b> | <b>R057-050330-318</b> | <b>R058-050330-318</b> |
| <b>360 mm</b>  | <b>R040-050360-318</b> | <b>R044-050360-318</b> | <b>R057-050360-318</b> | <b>R058-050360-318</b> |
| <b>450 mm</b>  | <b>R040-050450-318</b> | <b>R044-050450-318</b> | <b>R057-050450-318</b> | <b>R058-050450-318</b> |



Biopsy cup, tapering, fenestrated, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-320</b> | <b>R044-050330-320</b> | <b>R057-050330-320</b> | <b>R058-050330-320</b> |
| <b>360 mm</b>  | <b>R040-050360-320</b> | <b>R044-050360-320</b> | <b>R057-050360-320</b> | <b>R058-050360-320</b> |
| <b>450 mm</b>  | <b>R040-050450-320</b> | <b>R044-050450-320</b> | <b>R057-050450-320</b> | <b>R058-050450-320</b> |

also available  
with angled  
handle

**Carbon Handles**

more details at the beginning of the chapter

**Stainless steel Handles**

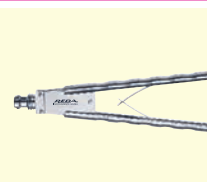
more details at the beginning of the chapter



R 034 - 000 000 - 000



R 047 - 000 000 - 000



R 048 - 000 000 - 000



R 040 - 000 000 - 000

Ø 5 mm



Biopsy punch without thorn, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-410</b> | <b>R044-050330-410</b> | <b>R057-050330-410</b> | <b>R058-050330-410</b> |
| <b>360 mm</b>  | <b>R040-050360-410</b> | <b>R044-050360-410</b> | <b>R057-050360-410</b> | <b>R058-050360-410</b> |
| <b>450 mm</b>  | <b>R040-050450-410</b> | <b>R044-050450-410</b> | <b>R057-050450-410</b> | <b>R058-050450-410</b> |

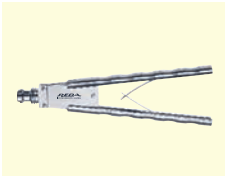


Biopsy punch with thorn, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R040-050330-412</b> | <b>R044-050330-412</b> | <b>R057-050330-412</b> | <b>R058-050330-412</b> |
| <b>360 mm</b>  | <b>R040-050360-412</b> | <b>R044-050360-412</b> | <b>R057-050360-412</b> | <b>R058-050360-412</b> |
| <b>450 mm</b>  | <b>R040-050450-412</b> | <b>R044-050450-412</b> | <b>R057-050450-412</b> | <b>R058-050450-412</b> |

**Carbon Handles**  
more details at the beginning of the chapter

**Stainless steel Handles**  
more details at the beginning of the chapter



**Ø 10 mm**

R 034 - 000 000 - 000

R 047 - 000 000 - 000

R 048 - 000 000 - 000

R 040 - 000 000 - 000

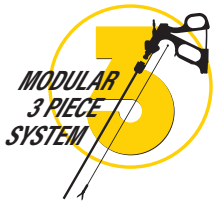
also available  
with angled  
handle



Cup forceps, big, sharp, without thorn, single action jaws

| Working length | Working insert alone | Complete instrument |                 |                 |
|----------------|----------------------|---------------------|-----------------|-----------------|
| 330 mm         | R040-100330-810      | R044-100330-810     | R057-100330-810 | R058-100330-810 |
| 360 mm         | R040-100360-810      | R044-100360-810     | R057-100360-810 | R058-100360-810 |
| 450 mm         | R040-100450-810      | R044-100450-810     | R057-100450-810 | R058-100450-810 |





Ø 5 und 10 mm



#### **Mechanical snap-action coupling !**

The Ø 5 and 10 mm modular REDA laparoscopic instruments have a unique snap-action coupling which, offering the combined advantage of the speediest possible assembly and a long service life.

The union of the working insert and sleeve shaft is achieved by simply inserting the components axially into each other. A simple click and you are ready!

The groove-and-tongue principle practically rules out the possibility of the locking mechanism coming undone, as is the case with conventional screw or bayonet connections.

REDA - simplicity is so clever !

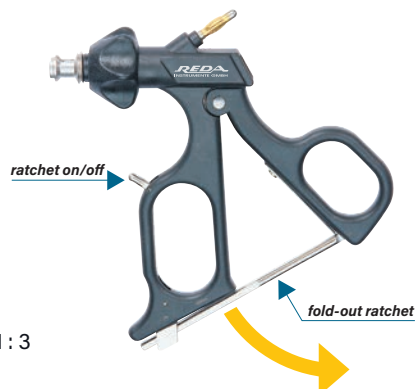


#### **Nut stopper**

An nut on the sleeve shaft of REDA modular instruments prevents bothersome slipping or even the loss of the union nut.

REDA - detail is the decisive factor !

Ø 3 / 5 / 10 mm



Ergonomic universal carbon handle with ratchet,  
Lever for active or unactive ratchet, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R033** - 000000 - 000



Ergonomic carbon handle with stepless ratchet,  
ratchet by finger press resolve, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R033P** - 000000 - 000



Ergonomic carbon handle,  
HF-connector Ø 4 mm male 45° lateral, rotating head 360°, autoclavable

**R034** - 000000 - 000



Ergonomic universal carbon handle with ratchet,  
Button for active or unactive ratchet, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R032M** - 000000 - 000

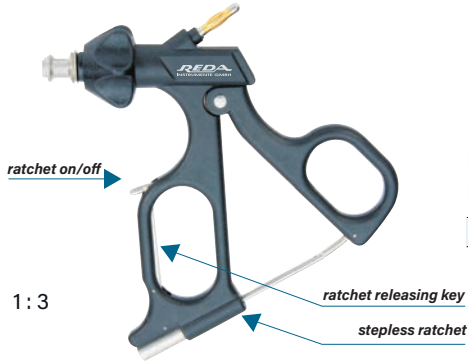




Laparoscopy -  
Carbon Handles for Ø 3 / 5 / 10 mm tube shafts

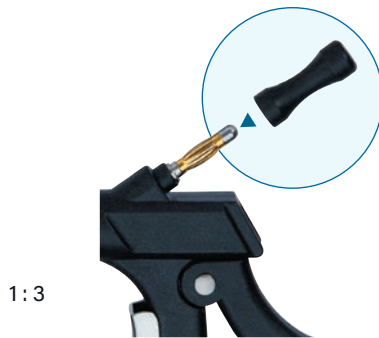


Ø 3 / 5 / 10 mm



Ergonomic carbon handle with stepless ratchet,  
ratchet activating / release lever, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R033M - 000000 - 000**



Protection cap for HF-connector Ø 4 mm

**R030 - 000000**

Ø 3 / 5 / 10 mm



1:3

Axial handle, v-shaped type with spreading spring and ratchet

**R038** - 000000 - 000



1:3

Axial handle, with spreading spring

**R048** - 000000 - 000



1:3

Axial handle with rings and ratchet

**R037** - 000000 - 000



1:3

Axial ring handle

**R047** - 000000 - 000



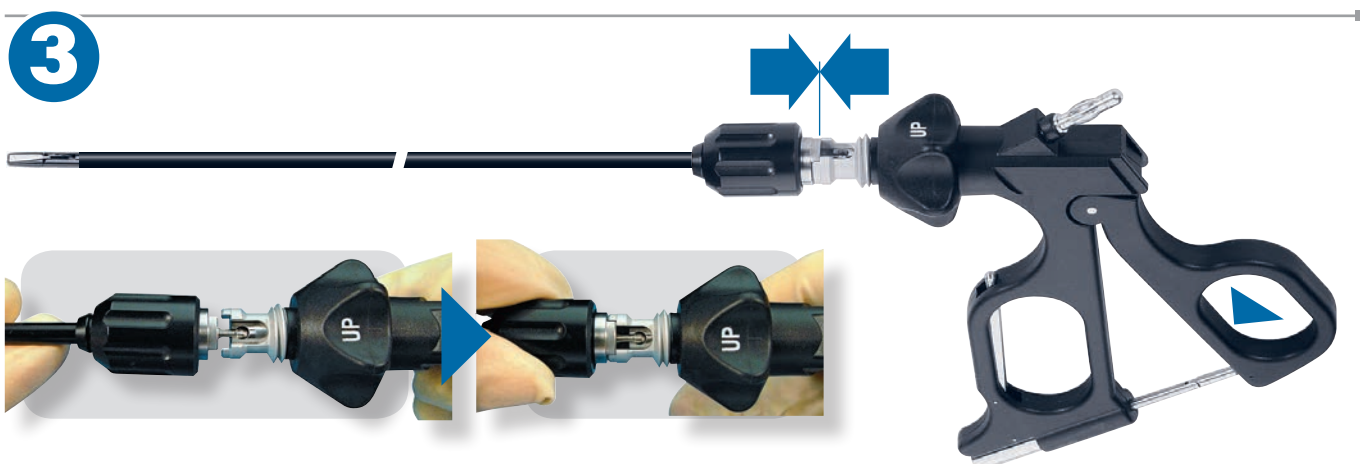
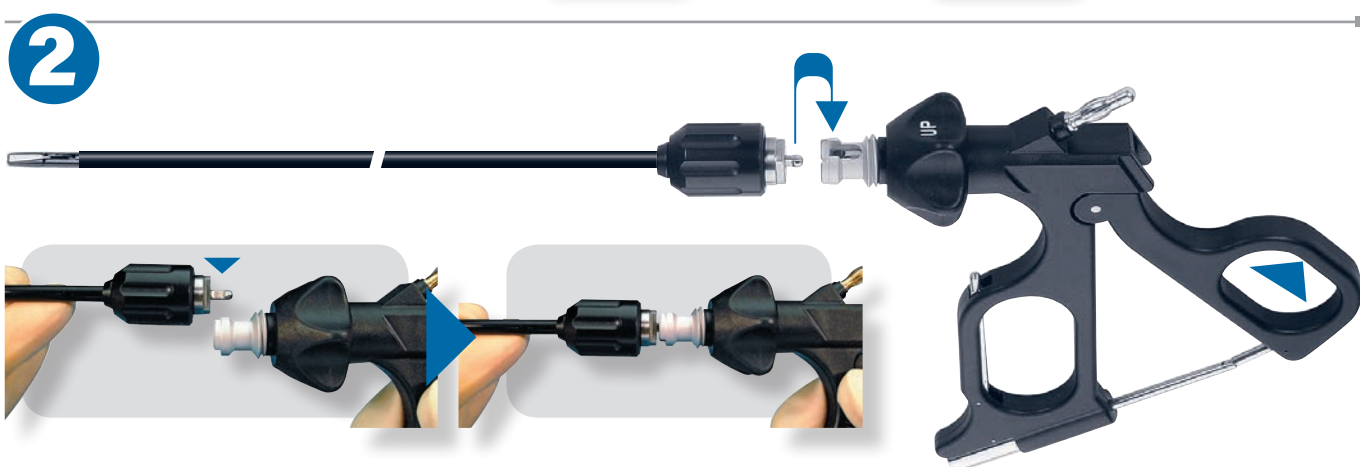
Axial handle, v-shaped angled, type with spreading spring and ratchet

**R039** - 000000 - 000



Axial handle, angled, with spreading spring

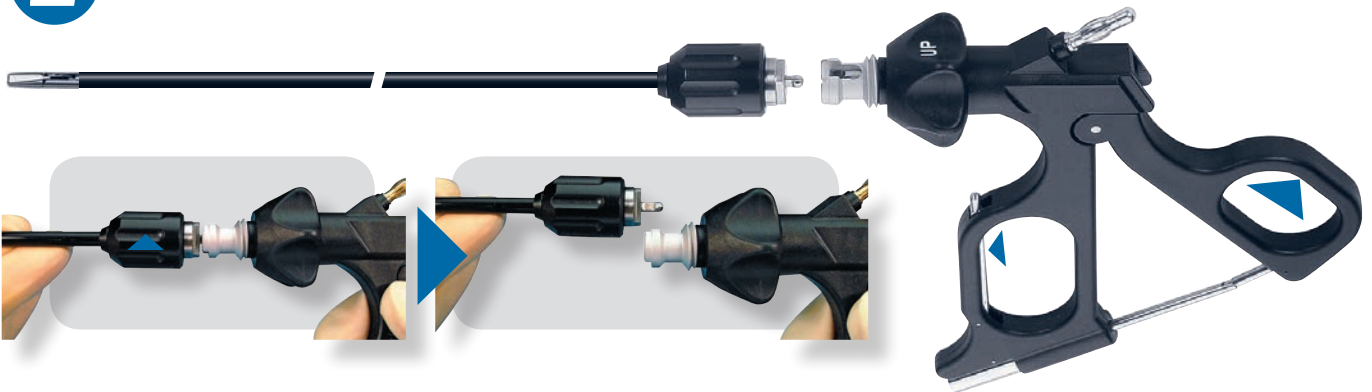
**R040** - 000000 - 000



1



2

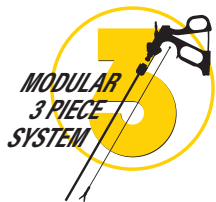


3



4





**Ø 5 mm**



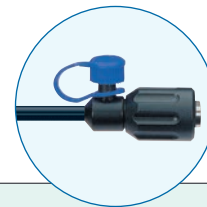
Tube Shaft, insulated    shaft length: **330 mm**

without LUER Lock

with LUER Lock

**R030 - 050330 - 000**

**R030 - 050330 - 000 L**



Tube Shaft, insulated    shaft length: **360 mm**

without LUER Lock

with LUER Lock

**R030 - 050360 - 000**

**R030 - 050360 - 000 L**



Tube Shaft, insulated    shaft length: **450 mm**

without LUER Lock

with LUER Lock

**R030 - 050450 - 000**

**R030 - 050450 - 000 L**

**Ø 10 mm**



Tube Shaft, insulated    shaft length: **330 mm**

cylindrical

reduce to Ø 5 mm

**R030 - 100330 - 000**

**R030 - 100330 - 000 5**



Tube Shaft, insulated, for adipose patients

shaft length: **360 mm**

cylindrical

reduce to Ø 5 mm

**R030 - 100360 - 000**

**R030 - 100360 - 000 5**



Tube Shaft, insulated, for adipose patients

shaft length: **450 mm**

cylindrical

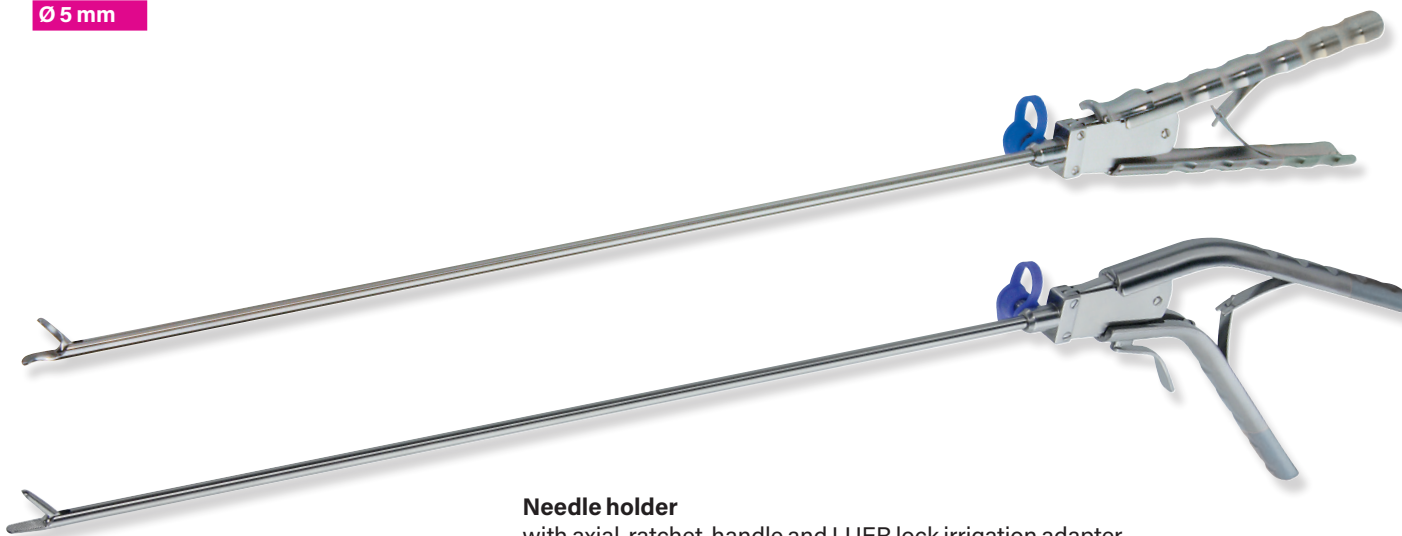
reduce to Ø 5 mm

**R030 - 100450 - 000**

**R030 - 100450 - 000 5**



Ø 5 mm

**Needle holder**

with axial-ratchet-handle and LUER lock irrigation adapter,  
Ø 5 mm, working length 330 mm - four jaw types available.



Needle holder, straight,  
with inserted tungsten carbide, crosswise teeth, single action jaws

| Working length | Handle, straight     | Handle, angled       |
|----------------|----------------------|----------------------|
| <b>330 mm</b>  | <b>R058-0533-350</b> | <b>R059-0533-350</b> |
| <b>450 mm</b>  | <b>R058-0545-350</b> | <b>R059-0545-350</b> |



Needle holder, curved left,  
with inserted tungsten carbide, crosswise teeth, single action jaws

| Working length | Handle, straight     | Handle, angled       |
|----------------|----------------------|----------------------|
| <b>330 mm</b>  | <b>R058-0533-352</b> | <b>R059-0533-352</b> |
| <b>450 mm</b>  | <b>R058-0545-352</b> | <b>R059-0545-352</b> |



Needle holder, curved right,  
with inserted tungsten carbide, crosswise teeth, single action jaws

| Working length | Handle, straight     | Handle, angled       |
|----------------|----------------------|----------------------|
| <b>330 mm</b>  | <b>R058-0533-354</b> | <b>R059-0533-354</b> |
| <b>450 mm</b>  | <b>R058-0545-354</b> | <b>R059-0545-354</b> |



Needle holder/-positioner, convex/concave shaped jaws, with fixation teeth,  
straight, with wolfram-carbide-coated tips, single action jaws

| Working length | Handle, straight     | Handle, angled       |
|----------------|----------------------|----------------------|
| <b>330 mm</b>  | <b>R058-0533-360</b> | <b>R059-0533-360</b> |



### Carbon Handles

more details at the beginning of the chapter



R 033 - 000 000 - 000

R 033P - 000 000 - 000

R 032M - 000 000 - 000

R 033M - 000 000 - 000

Ø 5 mm



Needleholder with inserted tungsten carbide, straight, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                        |
|----------------|------------------------|------------------------|-------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R050-050330-350</b> | <b>R053-050330-350</b> | <b>R053P-050330-350</b> | <b>R051-050330-350</b> | <b>R052-050330-350</b> |
| <b>360 mm</b>  | <b>R050-050360-350</b> | <b>R053-050360-350</b> | <b>R053P-050360-350</b> | <b>R051-050360-350</b> | <b>R052-050360-350</b> |
| <b>450 mm</b>  | <b>R050-050450-350</b> | <b>R053-050450-350</b> | <b>R053P-050450-350</b> | <b>R051-050450-350</b> | <b>R052-050450-350</b> |



Needleholder with inserted tungsten carbide, curved left, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                        |
|----------------|------------------------|------------------------|-------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R050-050330-352</b> | <b>R053-050330-352</b> | <b>R053P-050330-352</b> | <b>R051-050330-352</b> | <b>R052-050330-352</b> |
| <b>360 mm</b>  | <b>R050-050360-352</b> | <b>R053-050360-352</b> | <b>R053P-050360-352</b> | <b>R051-050360-352</b> | <b>R052-050360-352</b> |
| <b>450 mm</b>  | <b>R050-050450-352</b> | <b>R053-050450-352</b> | <b>R053P-050450-352</b> | <b>R051-050450-352</b> | <b>R052-050450-352</b> |



Needleholder with inserted tungsten carbide, curved right, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                        |
|----------------|------------------------|------------------------|-------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R050-050330-354</b> | <b>R053-050330-354</b> | <b>R053P-050330-354</b> | <b>R051-050330-354</b> | <b>R052-050330-354</b> |
| <b>360 mm</b>  | <b>R050-050360-354</b> | <b>R053-050360-354</b> | <b>R053P-050360-354</b> | <b>R051-050360-354</b> | <b>R052-050360-354</b> |
| <b>450 mm</b>  | <b>R050-050450-354</b> | <b>R053-050450-354</b> | <b>R053P-050450-354</b> | <b>R051-050450-354</b> | <b>R052-050450-354</b> |



Needleholder/-positioner insert, convex/concav shaped jaws with fixation-teeth, Wolfram-Karbit finish, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                        |
|----------------|------------------------|------------------------|-------------------------|------------------------|------------------------|
| <b>330 mm</b>  | <b>R050-050330-360</b> | <b>R053-050330-360</b> | <b>R053P-050330-360</b> | <b>R051-050330-360</b> | <b>R052-050330-360</b> |
| <b>360 mm</b>  | <b>R050-050360-360</b> | <b>R053-050360-360</b> | <b>R053P-050360-360</b> | <b>R051-050360-360</b> | <b>R052-050360-360</b> |
| <b>450 mm</b>  | <b>R050-050450-360</b> | <b>R053-050450-360</b> | <b>R053P-050450-360</b> | <b>R051-050450-360</b> | <b>R052-050450-360</b> |

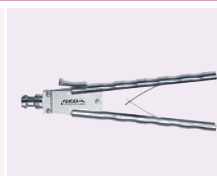


### Stainless steel Handles

more details at the beginning of the chapter



R 037 - 000 000 - 000



R 038 - 000 000 - 000



R 039 - 000 000 - 000

Ø 5 mm



Needleholder with inserted tungsten carbide, straight, single action jaws

Complete instrument

|                 |                 |                 | Working length<br>mm |
|-----------------|-----------------|-----------------|----------------------|
| R057-050330-350 | R058-050330-350 | R059-050330-350 | 330                  |
| R057-050360-350 | R058-050360-350 | R059-050360-350 | 360                  |
| R057-050450-350 | R058-050450-350 | R059-050450-350 | 450                  |



Needleholder with inserted tungsten carbide, curved left, single action jaws

Complete instrument

|                 |                 |                 | Working length<br>mm |
|-----------------|-----------------|-----------------|----------------------|
| R057-050330-352 | R058-050330-352 | R059-050330-352 | 330                  |
| R057-050360-352 | R058-050360-352 | R059-050360-352 | 360                  |
| R057-050450-352 | R058-050450-352 | R059-050450-352 | 450                  |



Needleholder with inserted tungsten carbide, curved right, single action jaws

Complete instrument

|                 |                 |                 | Working length<br>mm |
|-----------------|-----------------|-----------------|----------------------|
| R057-050330-354 | R058-050330-354 | R059-050330-354 | 330                  |
| R057-050360-354 | R058-050360-354 | R059-050360-354 | 360                  |
| R057-050450-354 | R058-050450-354 | R059-050450-354 | 450                  |



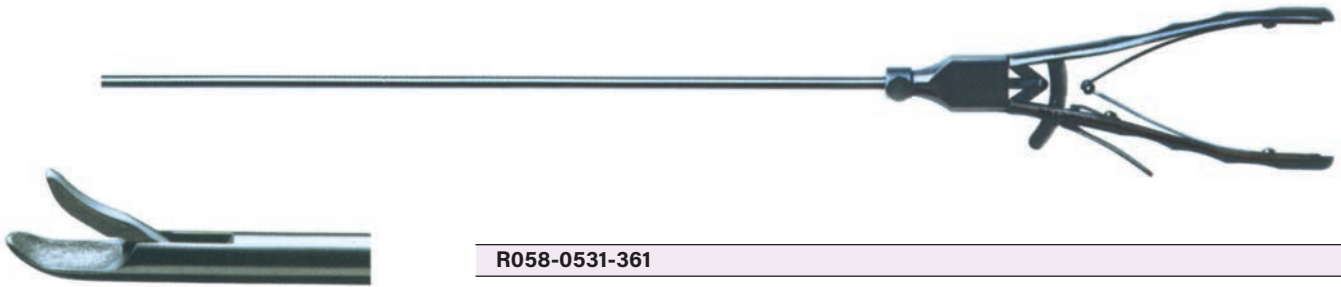
Needleholder/-positioner insert, convex/concav shaped jaws with fixation-teeth, Wolfram-Karbit finish, single action jaws

Complete instrument

|                 |                 |                 | Working length<br>mm |
|-----------------|-----------------|-----------------|----------------------|
| R057-050330-360 | R058-050330-360 | R059-050330-360 | 330                  |
| R057-050360-360 | R058-050360-360 | R059-050360-360 | 360                  |
| R057-050450-360 | R058-050450-360 | R059-050450-360 | 450                  |

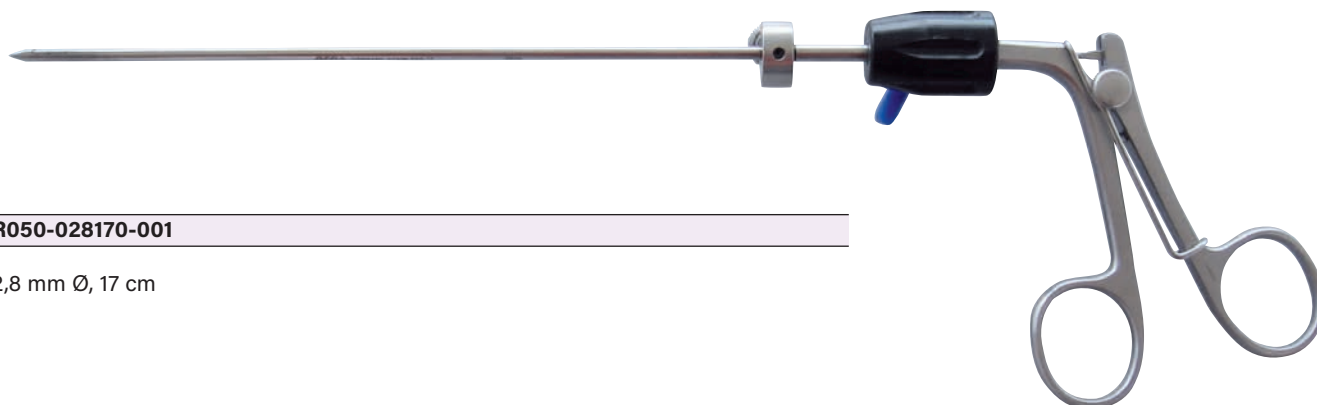
Ø 5 mm

Romeo needleholder convex/concav  
for optimum grasp of needles 5 mm Ø, 310 mm working length, axial handle open w. ratchet, LL-cleaning-port



R058-0531-361

Ø 2,8 mm



R050-028170-001

2,8 mm Ø, 17 cm

Ø 4 mm



**R050-050330-01**

Knot tier with eye 4 mm Ø, 330 mm working length



**R050-050330-02**

Knot guide with slot 4 mm Ø, 330 mm working length



**R050-050330-03**

Knot pusher with closed eye 4 mm Ø, 330 mm working length

Ø 2,3 mm



R050-050340-00

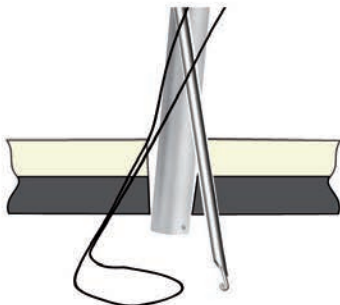
The fascia-suture assisting device („fsad”) 2,3 mm Ø, 140 mm working length

Pic. 1



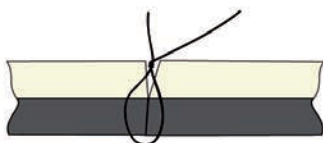
Push down the ring handle so that the needle is positioned outside the cannula. Set the thread into the „fsad” and make sure that the thread is positioned in the middle. Pull back the ring handle with your thumb so that the catcher hook will be retracted into the cannula.

Pic. 3



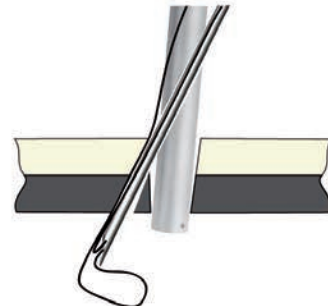
Now penetrate the „fsad” on the other side of the Trocar (Pic. 2). - Please make sure again that the catcher hook is retracted during this procedure. When you have come through the subcutaneous tissue push down the ring handle so that the catcher hook comes out. Take the loose end of the thread by making use of the catcher-hook.

Pic. 5



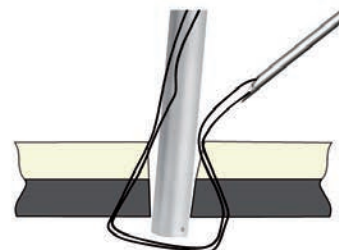
Knot the thread tightly in the subcutaneous tissue. This ensures an easy and safe handling of the abdominal wall closure.

Pic. 2



Penetrate the „fsad” through the subcutaneous tissue (using the incision of the trocar) in the abdominal wall. Make sure that the catcher hook is always retracted during this procedure. After that, push down the ring handle so that the catcher hook comes out of the cannula. Now you can release the thread. Then retract the catcher hook by pulling the ring handle and extract the „fsad”

Pic. 4



Pull the ring handle to retract the catcher hook again. Then remove the „fsad” with the thread followed by the extraction of the trocar sleeve.

Ø 5 mm

Clip applying forceps, 5 mm Ø, 330 mm working length, detachable (3-parts), 360° rotatable, for TITAN-Clips



| for Clips-Type   | Forceps complete      | Insert alone          | Handle alone          | Shaft tube alone      |
|------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Ethicon - small  | <b>R056-050330-01</b> | <b>R056-050000-01</b> | <b>R056-050000-00</b> | <b>R056-050330-00</b> |
| Ethicon - medium | <b>R056-050330-02</b> | <b>R056-050000-02</b> |                       |                       |
| Weck - small     | <b>R056-050330-11</b> | <b>R056-050000-11</b> |                       |                       |
| Weck - medium    | <b>R056-050330-12</b> | <b>R056-050000-12</b> |                       |                       |
| Pilling - small  | <b>R056-050330-21</b> | <b>R056-050000-21</b> |                       |                       |
| Pilling - medium | <b>R056-050330-22</b> | <b>R056-050000-22</b> |                       |                       |
| Horizon - small  | <b>R056-050330-41</b> | <b>R056-050000-41</b> |                       |                       |
| Horizon - medium | <b>R056-050330-42</b> | <b>R056-050000-42</b> |                       |                       |

Ø 10 mm

Clip applying forceps, 10 mm Ø, 330 mm working length, 360° rotatable, with LL-rinsing channel, for TITAN-Clips

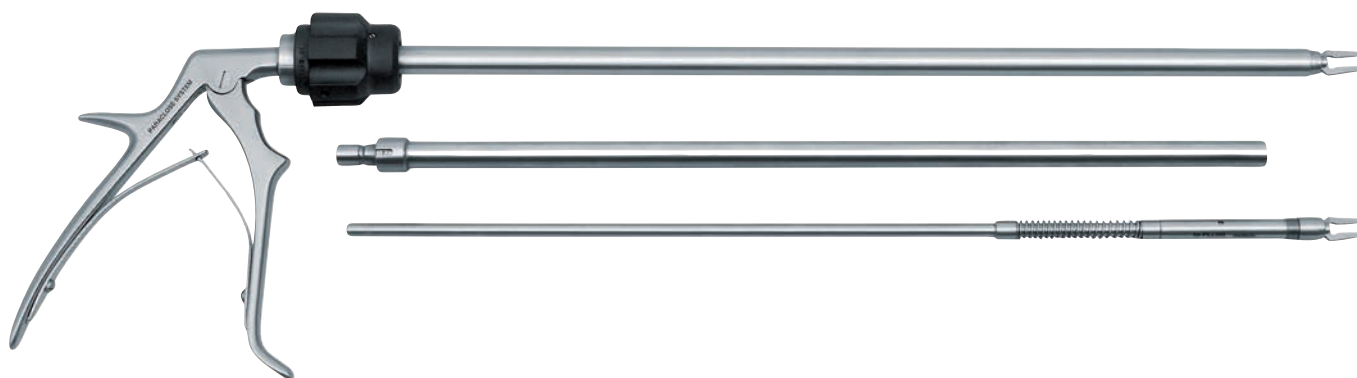


| for Clips-Type         |                       |
|------------------------|-----------------------|
| Ethicon - small        | <b>R055-100330-01</b> |
| Ethicon - medium       | <b>R055-100330-02</b> |
| Ethicon - medium-large | <b>R055-100330-03</b> |
| Ethicon - large        | <b>R055-100330-04</b> |
| Weck - small           | <b>R055-100330-11</b> |
| Weck - medium          | <b>R055-100330-12</b> |
| Weck - medium-large    | <b>R055-100330-13</b> |
| Pilling - small        | <b>R055-100330-21</b> |
| Pilling - medium       | <b>R055-100330-22</b> |
| Pilling - medium-large | <b>R055-100330-23</b> |

| for Clips-Type         |                       |
|------------------------|-----------------------|
| SLS - small            | <b>R055-100330-31</b> |
| SLS - medium           | <b>R055-100330-32</b> |
| SLS - medium-large     | <b>R055-100330-33</b> |
| SLS - large            | <b>R055-100330-34</b> |
| Horizon - small        | <b>R055-100330-41</b> |
| Horizon - medium       | <b>R055-100330-42</b> |
| Horizon - medium-large | <b>R055-100330-43</b> |
| Horizon - large        | <b>R055-100330-44</b> |

Ø 10 mm

Clip applying forceps, 10 mm Ø, 330 mm working length, detachable (3-parts), 360° rotatable, for TITAN-Clips



| for Clips-Type         | Forceps complete | Insert alone   | Handle alone   | Shaft tube alone |
|------------------------|------------------|----------------|----------------|------------------|
| Ethicon - small        | R056-100330-01   | R056-100000-01 | R056-100000-00 | R056-100330-00   |
| Ethicon - medium       | R056-100330-02   | R056-100000-02 |                |                  |
| Ethicon - medium-large | R056-100330-03   | R056-100000-03 |                |                  |
| Ethicon - large        | R056-100330-04   | R056-100000-04 |                |                  |
| Weck - small           | R056-100330-11   | R056-100000-11 |                |                  |
| Weck - medium          | R056-100330-12   | R056-100000-12 |                |                  |
| Weck - medium-large    | R056-100330-13   | R056-100000-13 |                |                  |
| Weck - large           | R056-100330-14   | R056-100000-14 |                |                  |
| Pilling - small        | R056-100330-21   | R056-100000-21 |                |                  |
| Pilling - medium       | R056-100330-22   | R056-100000-22 |                |                  |
| Pilling - medium-large | R056-100330-23   | R056-100000-23 |                |                  |
| SLS - small            | R056-100330-31   | R056-100000-31 |                |                  |
| SLS - medium           | R056-100330-32   | R056-100000-32 |                |                  |
| SLS - medium-large     | R056-100330-33   | R056-100000-33 |                |                  |
| SLS - large            | R056-100330-34   | R056-100000-34 |                |                  |
| Horizon - small        | R056-100330-41   | R056-100000-41 |                |                  |
| Horizon - medium       | R056-100330-42   | R056-100000-42 |                |                  |
| Horizon - medium-large | R056-100330-43   | R056-100000-43 |                |                  |



Ø 10 mm

Endoscopic bulldog clamp applier, 10 mm Ø, 330 mm working length, 360° rotatable, with LL-rinsing channel



| Bulldog clamps                                                                                            | Jaws length | Straight           | Curved             |
|-----------------------------------------------------------------------------------------------------------|-------------|--------------------|--------------------|
| <br><b>2 x 3 Teeth</b> | 17 mm       | <b>R059-100-17</b> | <b>R059-101-17</b> |
|                                                                                                           | 25 mm       | <b>R059-100-25</b> | <b>R059-101-25</b> |
|                                                                                                           | 45 mm       | <b>R059-100-45</b> | <b>R059-101-45</b> |
|                                                                                                           | 60 mm       | <b>R059-100-60</b> | <b>R059-101-60</b> |

| Bulldog clamps (Satinsky) 2 x 3 teeth                                                                                                                                                            | Jaws length | Curved             | Angled upwards     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|--------------------|
| <br><br><b>2 x 3 Teeth</b> | 60 mm       | <b>R059-102-01</b> | <b>R059-103-01</b> |



## Ø 5 mm

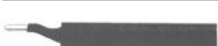
Monopolar electrode with small handle, HF-connector 5 mm male



|                                                                                   | Type                  | Working length 330 mm  | Working length 450 mm  |
|-----------------------------------------------------------------------------------|-----------------------|------------------------|------------------------|
|  | Button type electrode | <b>R062-050330-001</b> | <b>R062-050450-001</b> |
|  | J-hook electrode      | <b>R062-050330-002</b> | <b>R062-050450-002</b> |
|  | 90°-hook electrode    | <b>R062-050330-003</b> | <b>R062-050450-003</b> |
|  | Spatula electrode     | <b>R062-050330-004</b> | <b>R062-050450-004</b> |
|  | Needle electrode      | <b>R062-050330-005</b> | <b>R062-050450-005</b> |

Monopolar electrode with small handle, HF-connector 5 mm male



|                                                                                     | Type                  | Working length 330 mm  | Working length 450 mm  |
|-------------------------------------------------------------------------------------|-----------------------|------------------------|------------------------|
|  | Button type electrode | <b>R060-050330-001</b> | <b>R060-050450-001</b> |
|  | J-hook electrode      | <b>R060-050330-002</b> | <b>R060-050450-002</b> |
|  | L-hook electrode      | <b>R060-050330-003</b> | <b>R060-050450-003</b> |
|  | Spatula electrode     | <b>R060-050330-004</b> | <b>R060-050450-004</b> |
|  | Needle electrode      | <b>R060-050330-005</b> | <b>R060-050450-005</b> |


**R060-000000-000**  
 Safety handle

Ø 5 mm

Monopolar electrode with large handle, HF-connector 5 mm male



|                                                                                  | Type              | Working length 340 mm  | Working length 450 mm  |
|----------------------------------------------------------------------------------|-------------------|------------------------|------------------------|
|  | J-hook electrode  | <b>R061-050340-002</b> | <b>R061-050450-002</b> |
|  | L-hook electrode  | <b>R061-050340-003</b> | <b>R061-050450-003</b> |
|  | Spatula electrode | <b>R061-050340-004</b> | <b>R061-050450-004</b> |
|  | Needle electrode  | <b>R061-050340-005</b> | <b>R061-050450-005</b> |

Ø 5 mm

Monopolar electrode with trumpet valve and LL-adaptor, HF-connector 5 mm male



|                                                                                   | type                  | Working length 330 mm  | Working length 450 mm  |
|-----------------------------------------------------------------------------------|-----------------------|------------------------|------------------------|
|  | Button type electrode | <b>R063-050330-001</b> | <b>R063-050450-001</b> |
|  | J-hook electrode      | <b>R063-050330-002</b> | <b>R063-050450-002</b> |
|  | L-hook electrode      | <b>R063-050330-003</b> | <b>R063-050450-003</b> |
|  | Spatula electrode     | <b>R063-050330-004</b> | <b>R063-050450-004</b> |
|  | Needle electrode      | <b>R063-050330-005</b> | <b>R063-050450-005</b> |

Ø 5 mm

Monopolar electrode modular, adaptable on handles (see page 6/5, LL-connector)



|                                                                                   | type                  | Working length 330 mm  |
|-----------------------------------------------------------------------------------|-----------------------|------------------------|
|  | Button type electrode | <b>R064-050330-001</b> |
|  | J-hook electrode      | <b>R064-050330-002</b> |
|  | L-hook electrode      | <b>R064-050330-003</b> |
|  | Spatula electrode     | <b>R064-050330-004</b> |
|  | Needle electrode      | <b>R064-050330-005</b> |



**Electrode handle** ergonomic design,  
with 2-way-valve

**R064-050000-001**



**Adapter** for electrode handle for connecting monopolar  
electrodes modular

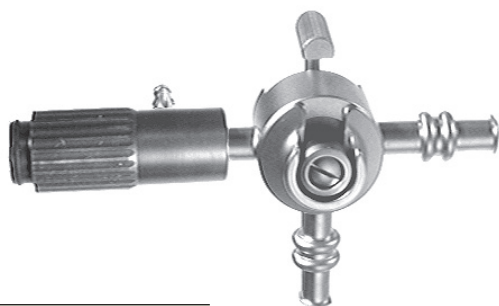
**R064-050000-002**



R064-050000-006

**Pistol Handle with Sliding Valve**

for exchangeable electrodes, with rotatable adapter and sidewise HF-Connector two combined Luer-Lock / Tube Connectors



R064-050000-010

**Suction-Irrigation-Sliding Valve with Electrode Adapter**

for exchangeable electrodes, with rotatable adapter and side HF-Connector combined Luer-Lock / Tube Connector



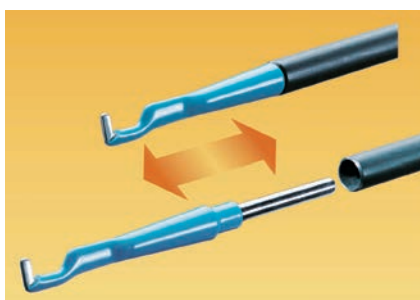
R064-050000-011

**Trumpet Valve with Electrode Adapter**

for exchangeable electrodes, with rotatable adapter and side HF-Connector combined Luer-Lock / Tube Connector

Ø 5 mm

Monopolar electrodes with exchangeable tip, dismountable 5 mm Ø, 320 mm working length



Handle alone

**R062-050320-000**

Outer tube insulated

**R062-050320-099**



Ball electrode

**complete**

**assembly alone**

**R062-050320-001**

**R062-050000-001**



J-hook electrode

**R062-050320-002**

**R062-050000-002**



L-hook electrode

**R062-050320-003**

**R062-050000-003**



Spatula electrode

**R062-050320-004**

**R062-050000-004**



Needle electrode

**R062-050320-005**

**R062-050000-005**



Lanzette electrode

**R062-050320-006**

**R062-050000-006**



## Monopolar

### Unit side

### Instrument side

|                                                                                                                                            | Cable length<br>Meter | female 4 mm Ø<br> |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------|
| Erbe / Storz 5 mm Ø<br>                                 | 3                     | <b>R060-050040-003</b>                                                                              |
|                                                                                                                                            | 5                     | <b>R060-050040-005</b>                                                                              |
| Aesculap / Martin /<br>Berchtold 4 mm Ø<br>             | 3                     | <b>R060-040040-003</b>                                                                              |
|                                                                                                                                            | 5                     | <b>R060-040040-005</b>                                                                              |
| Valleylab / Conmed / Soering Bowa /<br>Bovie 8 mm Ø<br> | 3                     | <b>R060-080040-003</b>                                                                              |
|                                                                                                                                            | 5                     | <b>R060-080040-005</b>                                                                              |
| Eschmann / Erbe T-Serie<br>alte Geräte / old units<br>  | 3                     | <b>R060-040040-203</b>                                                                              |
|                                                                                                                                            | 5                     | <b>R060-040040-205</b>                                                                              |



**BIPOLAR**



Ø 5 mm



Bipolar electrodes 340 mm working length



Ball electrode

**R067-050340-001**



J-hook electrode

**R067-050340-002**



L-hook electrode

**R067-050340-003**



Spatula electrode

**R067-050340-004**



Plate electrode

**R067-050340-005**

Ø 3 mm



Bipolar electrodes 3 mm Ø, 340 mm working length for fine coagulation of tissue and vessels



L-hook electrode

**R068-030340-003**



Needle electrode

**R068-030340-010**



V-shaped electrode

**R068-030340-012**

Ø 5 mm

For use in laparoscopy for grasping or cutting tissue during bipolar coagulation. This instrument is for connecting to the bipolar output of HF-generators with maximum power output 60 Watt. The electrode is 360° rotatable, there is no receding of the jaws when closing. This allows precise grasping or cutting of the tissue.

Standard handle  
R066-000000-500



Ring handle  
R066-000000-600



HIRSCH



| Working length | Working insert alone | complete with handle | complete with handle |
|----------------|----------------------|----------------------|----------------------|
| 200 mm         | R066-000200-501      | R066-050200-501      | R066-050200-601      |
| 340 mm         | R066-000340-501      | R066-050340-501      | R066-050340-601      |
| 450 mm         | R066-000450-501      | R066-050450-501      | R066-050450-601      |

Micro



| Working length | Working insert alone | complete with handle | complete with handle |
|----------------|----------------------|----------------------|----------------------|
| 200 mm         | R066-000200-507      | R066-050200-507      | R066-050200-607      |
| 340 mm         | R066-000340-507      | R066-050340-507      | R066-050340-607      |
| 450 mm         | R066-000450-507      | R066-050450-507      | R066-050450-607      |

Ø 5 mm

Standard handle  
R066-000000-500Ring handle  
R066-000000-600**KLEPPINGER**

| Working length | Working insert alone | complete with handle | complete with handle |
|----------------|----------------------|----------------------|----------------------|
| 200 mm         | R066-000200-508      | R066-050200-508      | R066-050200-608      |
| 340 mm         | R066-000340-508      | R066-050340-508      | R066-050340-608      |
| 450 mm         | R066-000450-508      | R066-050450-508      | R066-050450-608      |

**Atraumatic 3 mm smooth**

| Working length | Working insert alone | complete with handle | complete with handle |
|----------------|----------------------|----------------------|----------------------|
| 200 mm         | R066-000200-503      | R066-050200-503      | R066-050200-603      |
| 340 mm         | R066-000340-503      | R066-050340-503      | R066-050340-603      |
| 450 mm         | R066-000450-503      | R066-050450-503      | R066-050450-603      |

**METZENBAUM** scissors curved

| Working length | Working insert alone | complete with handle | complete with handle |
|----------------|----------------------|----------------------|----------------------|
| 200 mm         | R066-000200-509      | R066-050200-509      | R066-050200-609      |
| 340 mm         | R066-000340-509      | R066-050340-509      | R066-050340-609      |
| 450 mm         | R066-000450-509      | R066-050450-509      | R066-050450-609      |

Ø 5 mm

Standard handle  
R066-000000-500



Ring handle  
R066-000000-600



**METZENBAUM** scissors curved TC blades



| Working length | Working insert alone | complete with handle | complete with handle |
|----------------|----------------------|----------------------|----------------------|
| 200 mm         | R066-000200-510      | R066-050200-510      | R066-050200-610      |
| 340 mm         | R066-000340-510      | R066-050340-510      | R066-050340-610      |
| 450 mm         | R066-000450-510      | R066-050450-510      | R066-050450-610      |

**MARYLAND**



| Working length | Working insert alone | complete with handle | complete with handle |
|----------------|----------------------|----------------------|----------------------|
| 200 mm         | R066-000200-521      | R066-050200-521      | R066-050200-621      |
| 340 mm         | R066-000340-521      | R066-050340-521      | R066-050340-621      |
| 450 mm         | R066-000450-521      | R066-050450-521      | R066-050450-621      |



**Outer shaft tube**

| Working length |                        |
|----------------|------------------------|
| 200 mm         | <b>R066-050200-001</b> |
| 340 mm         | <b>R066-050340-001</b> |
| 450 mm         | <b>R066-050450-001</b> |

**Inner shaft tube**

| Working length |                        |
|----------------|------------------------|
| 200 mm         | <b>R066-050200-000</b> |
| 340 mm         | <b>R066-050340-000</b> |
| 450 mm         | <b>R066-050450-000</b> |



Adapter for european flat plug

**R066-000000-002**

Adapter for US-cables

**R066-000000-012**

Ø 5 mm

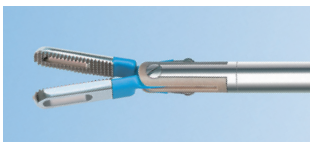


Handle  
**R067-000000-700**



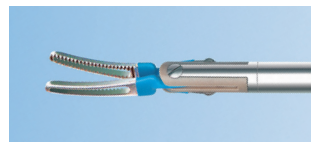
Shaft  
**R067-050340-700**

## Insert alone



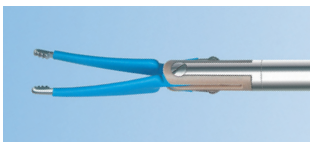
Large grasping forceps

**R067-000340-713**



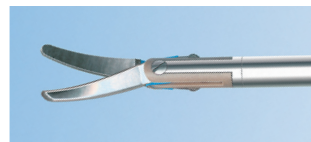
Grasping forceps, curved

**R067-000340-724**



Forceps, curved

**R067-000340-722**



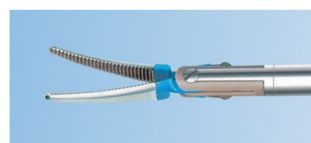
Scissors, curved

**R067-000340-709**



Delta Grasper

**R067-000340-723**



MARYLAND dissector, curved

**R067-000340-721**

## Bipolar

### Unit / Equipment side

### Instrument side

|                                                                                                                                      | Cable length<br>Meter | Europe flat plug                                                                  |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                                                                                      |                       |  |  |
| Erbe / Storz 12,5 mm Ø<br>                         | 3                     | R065-040125-003                                                                   | R065-040125-103                                                                     |
|                                                                                                                                      | 5                     | R065-040125-005                                                                   | R065-040125-105                                                                     |
| Martin / Berchtold 8 mm Ø<br>AESCULAP<br>Wolf<br> | 3                     | R065-020080-003                                                                   | R065-020080-103                                                                     |
|                                                                                                                                      | 5                     | R065-020080-005                                                                   | R065-020080-105                                                                     |
| Valleylab / Lamidey / EMC<br>                     | 3                     | R065-040285-003                                                                   | R065-040285-103                                                                     |
|                                                                                                                                      | 5                     | R065-040285-005                                                                   | R065-040285-105                                                                     |
| 2-Pin U.S. Standard<br>Eschmann<br>               | 3                     | R065-040000-003                                                                   | R065-040000-103                                                                     |
|                                                                                                                                      | 5                     | R065-040000-005                                                                   | R065-040000-105                                                                     |



**Bipolar forceps with rotating handle**

This new innovative design provides the surgeon with comfortable ergonomic handling in all working positions.

The handles rotate independently of the shaft, so the instrument can be controlled in a relaxed natural way, reducing fatigue and enabling precise handling and control during surgery.

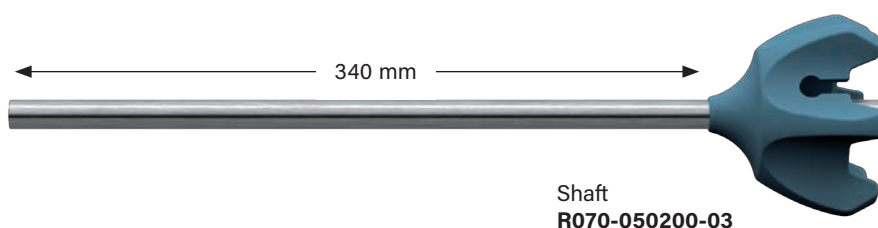
Ø 5 mm

bipolar forceps with rotatable handle



Handle  
R070-050200-01

Handle, lockable  
R070-050200-02



Shaft  
R070-050200-03

### Insert alone



Large grasping forceps  
R070-050200-04



Scissors, curved  
R070-050200-05



Grasping forceps,  
fenestrated, curved  
R070-050200-06



MARYLAND dissector, curved  
R070-050200-07



**Ø 5,0 mm**

Suction-Irrigation-Cannula  
with Sliding Valve and Roundhole  
Sucker with Handle and 4 Holes



| working length | complete |
|----------------|----------|
|----------------|----------|

|               |                          |
|---------------|--------------------------|
| <b>330 mm</b> | <b>R072-050330-004 D</b> |
|---------------|--------------------------|

|                           |  |
|---------------------------|--|
| Handle with Sliding Valve |  |
|---------------------------|--|

|                        |  |
|------------------------|--|
| <b>R072-000000-000</b> |  |
|------------------------|--|

|                                              |  |
|----------------------------------------------|--|
| Roundhole Sucker with 4 Drillings and Handle |  |
|----------------------------------------------|--|

|                          |  |
|--------------------------|--|
| <b>R070-050330-004 D</b> |  |
|--------------------------|--|

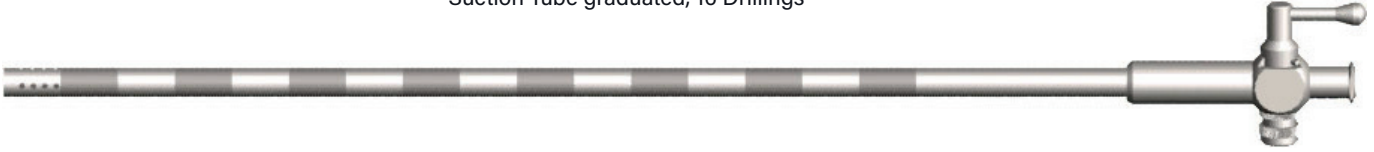
Ø 5,0 mm

### Suction-Irrigation-Cannula

Roundhole Sucker

with Luer-Lock-Connection and Stop Cock

Suction Tube graduated, 16 Drillings



working length

**450 mm** R074-050450-016

working length

**330 mm** R074-050330-016

### Suction-Irrigation-Tube

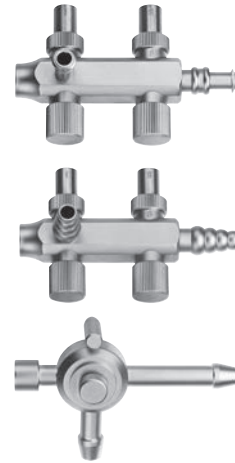
with Luer-Lock-Connection, 4 Drillings



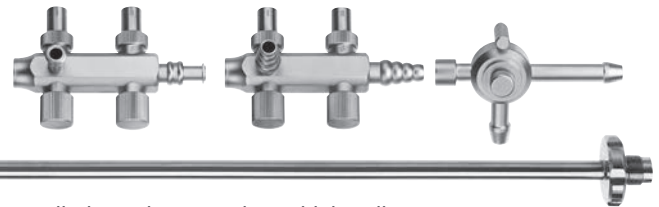
working length

**330 mm** R075-050330-004



**Ø 5,0 mm**Suction-Irrigation-Handle  
with Luer-Lock-Connection**R073-000000-000**Suction-Irrigation-Handle  
with Tube Connection**R071-000000-000**Suction-Irrigation-Handle  
with Sliding Valve and  
Tube Connection**R072-000000-000****Ø 5 / 10 mm**

Suction-Irrigation-Tubes



| working length | Shaft tube alone       |                       | Roundhole Sucker, complete with handle                 |
|----------------|------------------------|-----------------------|--------------------------------------------------------|
| <b>330 mm</b>  | <b>R070-050330-004</b> | 4 Drillings, Ø 5 mm   | <b>R073-050330-004 R071-050330-004 R072-050330-004</b> |
| <b>330 mm</b>  | <b>R070-050330-016</b> | 16 Drillings, Ø 5 mm  | <b>R073-050330-016 R071-050330-016 R072-050330-016</b> |
| <b>330 mm</b>  | <b>R070-050330-032</b> | 32 Drillings, Ø 10 mm | <b>R073-050330-032 R071-050330-032 R072-050330-032</b> |

| working length | Shaft tube alone       |                      | Roundhole-Bee Hive Sucker, complete with handle        |
|----------------|------------------------|----------------------|--------------------------------------------------------|
| <b>330 mm</b>  | <b>R070-050330-048</b> | 48 Drillings, Ø 5 mm | <b>R073-050330-048 R071-050330-048 R072-050330-048</b> |

| working length | Shaft tube alone       |                      | Stump Bee Hive Sucker, complete with handle            |
|----------------|------------------------|----------------------|--------------------------------------------------------|
| <b>330 mm</b>  | <b>R070-050330-049</b> | 48 Drillings, Ø 5 mm | <b>R073-050330-049 R071-050330-049 R072-050330-049</b> |
| <b>500 mm</b>  | <b>R070-050500-049</b> | 48 Drillings, Ø 5 mm | <b>R073-050500-049 R071-050500-049 R072-050500-049</b> |

| working length | Shaft tube alone       |        | Punction Needle Sucker, complete with handle           |
|----------------|------------------------|--------|--------------------------------------------------------|
| <b>330 mm</b>  | <b>R070-050330-002</b> | Ø 5 mm | <b>R073-050330-002 R071-050330-002 R072-050330-002</b> |

| working length | Shaft tube alone       |        | Aqua Dissector Cannula, complete with handle           |
|----------------|------------------------|--------|--------------------------------------------------------|
| <b>330 mm</b>  | <b>R070-050330-001</b> | Ø 5 mm | <b>R073-050330-001 R071-050330-001 R072-050330-001</b> |

| working length | Shaft tube alone       |                      | Stump Sucker, complete with handle                     |
|----------------|------------------------|----------------------|--------------------------------------------------------|
| <b>330 mm</b>  | <b>R070-050330-012</b> | 12 Drillings, Ø 5 mm | <b>R073-050330-012 R071-050330-012 R072-050330-012</b> |

Ø 3,5 / 5 / 10 mm

### Suction-Irrigation-Handle

with color-coding

- **20% less weight**
- **less individual parts**
- **color-coding**  
blue - irrigation  
green - suction



with large Tube-Connection and sidewise Tube-Luer-Lock-Connection

**R078-000000-100** Handle

complete with both Suction-Irrigation-Tubes    complete with Tube-Set Ø 5 mm    / 10 mm

**R078-000000-199**    **R078-050330-116**    **R078-100330-116**

- **two in one**  
**sidewise Tube-Luer-Lock-Connection**



with small Tube-Connection and sidewise Tube-Luer-Lock-Connection

**R079-000000-100** Handle

complete with both Suction-Irrigation-Tubes    complete with Tube-Set Ø 5 mm    / 10 mm

**R079-000000-199**    **R079-050330-116**    **R079-100330-116**



working length

|               |                        |          |
|---------------|------------------------|----------|
| <b>240 mm</b> | <b>R070-035240-116</b> | Ø 3,5 mm |
| <b>330 mm</b> | <b>R070-050330-116</b> | Ø 5 mm   |
| <b>330 mm</b> | <b>R070-100330-116</b> | Ø 10 mm  |
| <b>450 mm</b> | <b>R070-050450-116</b> | Ø 5 mm   |
| <b>450 mm</b> | <b>R070-100450-116</b> | Ø 10 mm  |

### Suction-Irrigation-Handle with 1 trumpet valve

R076-000000-200



### Suction-Irrigation-Pistol-Handle with sliding valve for exchangeable shafts, two combined Luer-Lock, Tube Connectors

R079-000000-200



Ø 3,0 mm

### Suction-Irrigation-Tubes



working length Shaft tube alone

complete with 4 sidewise drillings

340 mm R070-030340-204

R076-030340-204

R079-030340-204

complete with 16 sidewise drillings

340 mm R070-030340-216

R076-030340-216

R079-030340-216

Ø 5,0 mm



working length Shaft tube alone

complete with 4 sidewise drillings

340 mm R070-050340-204

R076-050340-204

R079-050340-204

complete with 16 sidewise drillings

340 mm R070-050340-216

R076-050340-216

R079-050340-216

Ø 10 mm



working length Shaft tube alone

complete with 4 sidewise drillings

340 mm R070-100340-204

R076-100340-204

R079-100340-204

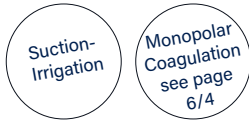
complete with 16 sidewise drillings

340 mm R070-100340-216

R076-100340-216

R079-100340-216

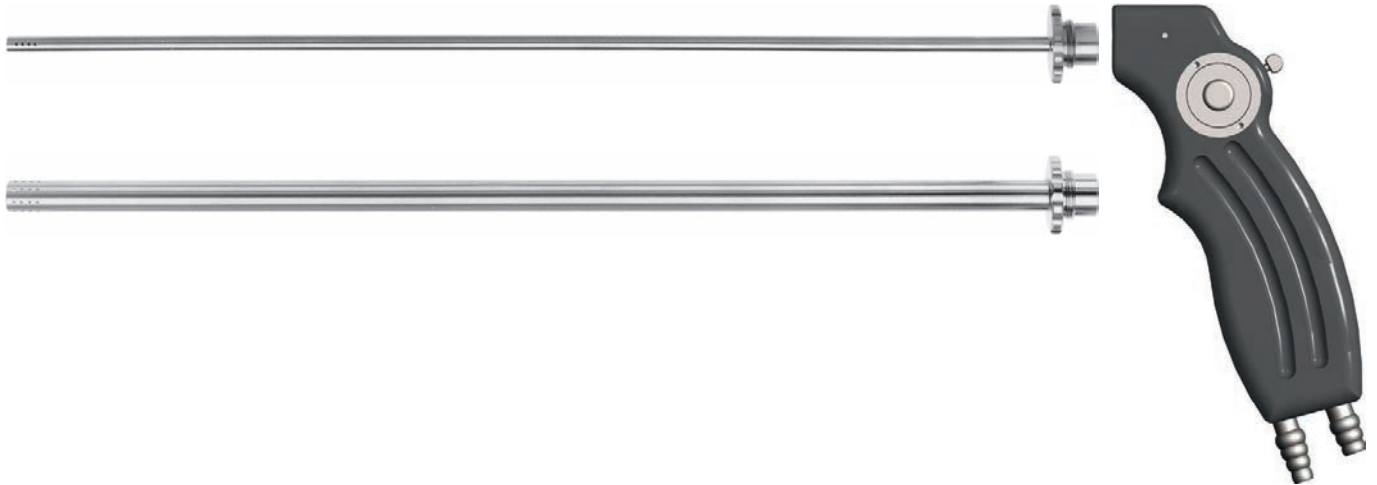
**1 Handle**  
**2 Functions**



**Suction-Irrigation-Pistol-Handle**

with two-way sliding valve and tube connections

- **ergonomic handle design**
- **enlarged suction channel**
- **straight passages for suction-irrigation liquid**
- **comfortable operation due to short swivel movement of sliding valve**



Handle

**R064-050000-001**

**Ø 3 / 5 / 10 mm**

**Suction-Irrigation-Tubes**

| working length | Shaft tube alone       | complete with Tube Ø 3,0 m with distal 4x4 hole  |
|----------------|------------------------|--------------------------------------------------|
| <b>330 mm</b>  | <b>R070-030330-416</b> | <b>R079-030330-416</b>                           |
|                |                        | complete with Tube Ø 5,0 mm with distal 4x4 hole |
| <b>330 mm</b>  | <b>R070-050330-416</b> | <b>R079-050330-416</b>                           |
|                |                        | complete with Tube Ø 10 mm with distal 4x4 hole  |
| <b>330 mm</b>  | <b>R070-100330-416</b> | <b>R079-100330-416</b>                           |

Ø 5 mm



**R075-050340-000**

Complete set



**R075-050340-016**

Suction-Irrigation Tube 5 mm Ø with 2 lateral trumpet valves with LL-adapters, 340 mm working length, distal 4x1 hole, proximal with LL-adapter for laser fiber guide insert



**R075-020390-000**

Laser fiber guide insert alone, 391 mm

**Ø 5 mm**

Puncture- and Injection Needle 5 mm Ø distal with needle, proximal with LL-adapter



| Needle Ø | 330 mm working length  | 450 mm working length  |
|----------|------------------------|------------------------|
| 0,7 mm   | <b>R075-050330-007</b> |                        |
| 0,9 mm   | <b>R075-050330-009</b> |                        |
| 1,2 mm   | <b>R075-050330-012</b> | <b>R075-050450-012</b> |
| 1,4 mm   | <b>R075-050330-014</b> | <b>R075-050450-014</b> |
| 1,5 mm   | <b>R075-050330-015</b> | <b>R075-050450-015</b> |
| 1,8 mm   | <b>R075-050330-018</b> | <b>R075-050450-018</b> |

**Ø 6 mm**

Puncture Tube for NaCl - Fluid, 6 mm Ø

Luer-Lock = Pressure



Tube = Suction

| working length |                      |
|----------------|----------------------|
| 160 mm         | <b>R940-5130-160</b> |
| 190 mm         | <b>R940-5130-190</b> |
| 235 mm         | <b>R940-5130-235</b> |

**Ø 2 mm**

Insufflation cannula 2 mm Ø, with LL-adapter



Needle working length

|        |                 |
|--------|-----------------|
| 55 mm  | R075-020055-001 |
| 70 mm  | R075-020070-001 |
| 80 mm  | R075-020080-001 |
| 100 mm | R075-020100-001 |
| 120 mm | R075-020120-001 |
| 130 mm | R075-020130-001 |
| 140 mm | R075-020140-001 |
| 150 mm | R075-020150-001 |
| 170 mm | R075-020170-001 |
| 180 mm | R075-020180-001 |
| 200 mm | R075-020200-001 |
| 230 mm | R075-020230-001 |

**Ø 2,7 mm**

High-Flow insufflation cannula 2,7 mm Ø, with LL-adapter



Needle working length

|        |                 |
|--------|-----------------|
| 100 mm | R075-027100-001 |
| 120 mm | R075-027120-001 |
| 150 mm | R075-027150-001 |
| 170 mm | R075-027170-001 |

**Ø 2 mm**

Insufflation cannula acc. to Veress with stopcock and Luer-Lock-Connection **Stainless Steel**, 2 mm Ø



|                |                 |
|----------------|-----------------|
| working length |                 |
| 100 mm         | R080-020100-001 |
| 120 mm         | R080-020120-001 |
| 150 mm         | R080-020150-001 |

**Ø 2,7 mm**

Insufflation cannula acc. to Veress **High-Flow**, stopcock and Luer-Lock-Connection **Stainless Steel**, 2,7 mm Ø



|                |                 |
|----------------|-----------------|
| working length |                 |
| 100 mm         | R080-027100-001 |
| 120 mm         | R080-027120-001 |
| 150 mm         | R080-027150-001 |



Ø 6 FR



Cholangiography-catheter, 600 mm long

**R080-020600-201**

Ø 5 mm

Cholangiography fixation clamp with ratchet 5 mm Ø, with working channel, 330 mm working length



R081-050330-001

Ø 5 mm

Palpation probe graduated 5 mm Ø

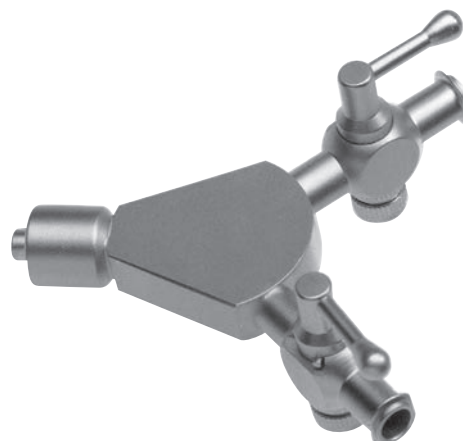


working length

|        |                        |
|--------|------------------------|
| 330 mm | <b>R090-050330-001</b> |
| 450 mm | <b>R090-050450-001</b> |

Two-Way-Stopcock for Contrast Medium

**R070-000040-003**

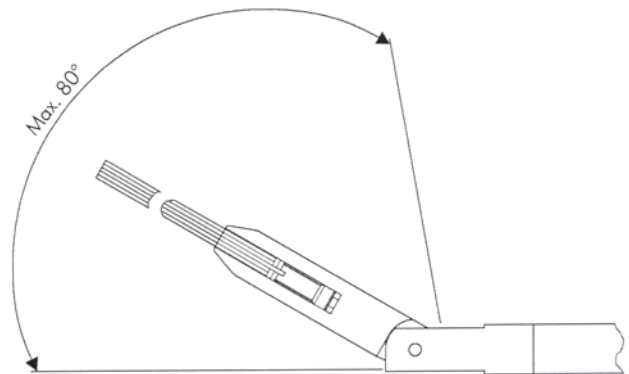
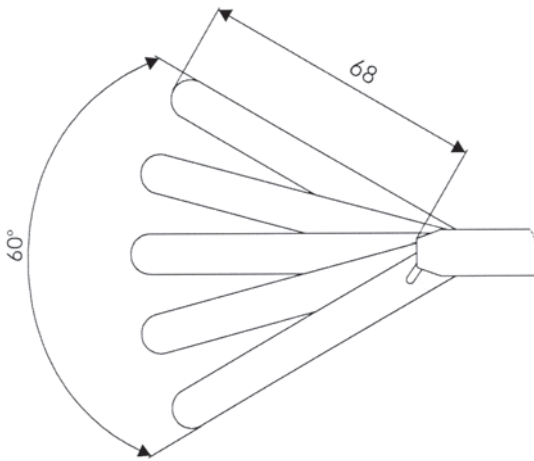


Ø 10 mm

Lever retractor 5-fingers spreadable, distal 80° movable, 10 mm Ø, 330 mm working length



R091-100330-005



Endo-Retractor for elastic abdominal bands, blunt fenestrated tip, adjustable, 360 mm working length, LL-adapter for cleaning



Ø 5 mm



R094-050360-001

Ø 10 mm



R094-100360-001

**Ø 5 mm**

Endo-Retractor 5 mm Ø with 3 fingers spreadable 340 mm working length, LL-adapter for cleaning

**R091-050340-003**

adjustable

**R092-050340-003****Ø 10 mm**

Endo-Retractor 10 mm Ø with 5 fingers spreadable 380 mm working length, LL-adapter for cleaning

**R091-100380-005**

adjustable

**R092-100380-005**

Ø 5 mm

Endo-Retractor 5 mm Ø with 5 fingers spreadable, 340 mm working length rigid, 42 mm spreader, LL-adapter for cleaning



R091-050340-005

Endo-Retractor 5 mm Ø with 5 fingers spreadable a. adjustable, 340 mm working length, 55 mm spreader, LL-adapter for cleaning



R092-050340-005

Ø 5 mm



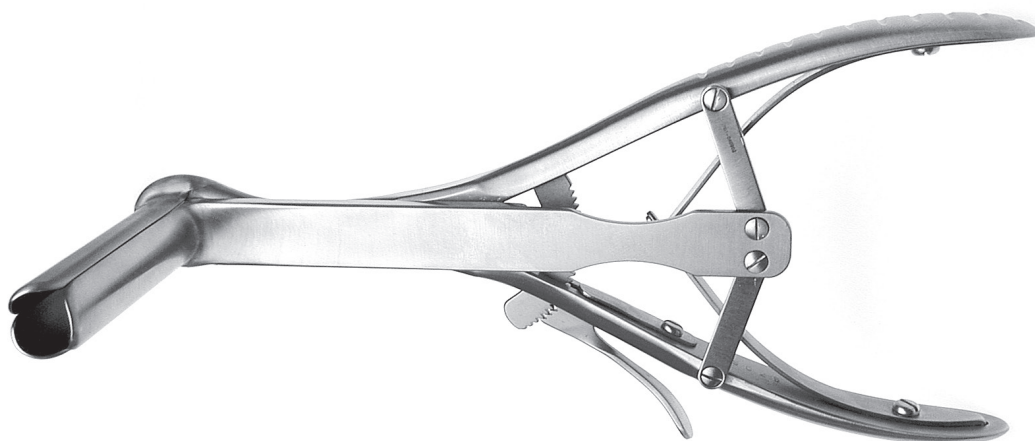
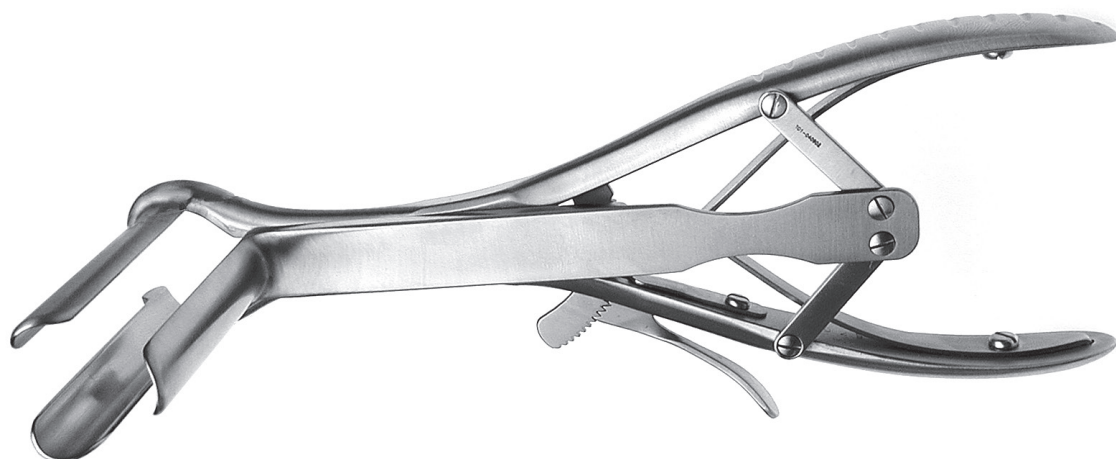
R093-050550-001



R093-050470-001

Speculum retractor, 3 blades for gall bladder extraction

R099-000250-003





Ø 2,0

Laparoscopes with integrated fiberoptic  
for illumination, autoclavable



| diameter | working length | direction of view 0° |
|----------|----------------|----------------------|
| Ø 2,0 mm | 187,5 mm       | R010-020187-000      |

Ø 3,5 mm

Multi function valve trocar sleeve



| diameter | working length | Art. No.        |
|----------|----------------|-----------------|
| Ø 3,5 mm | 70 mm          | R023-035070-001 |

Standard trocar



| diameter | for tube length | pyramidal       | conical         | conical blunt   |
|----------|-----------------|-----------------|-----------------|-----------------|
| Ø 3,5 mm | 70 mm           | R020-035070-001 | R020-035070-002 | R020-035070-003 |

Safety trocar

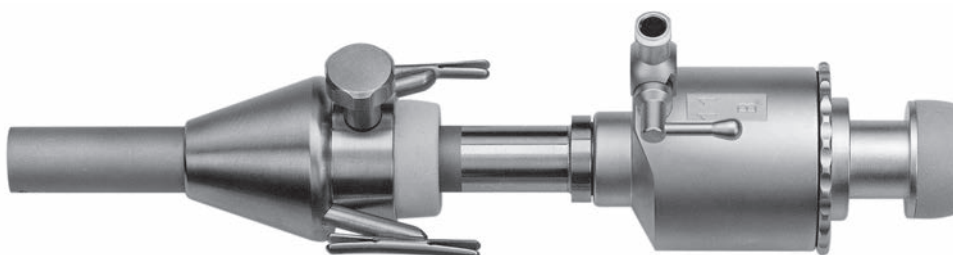
oblique end, conical blunt



| diameter | for tube length | Art. No.        |
|----------|-----------------|-----------------|
| Ø 3,5 mm | 70 mm           | R020-035070-023 |

**Ø 3,5 mm**

HASSON automatic trocar sleeve with stopcock,  
adjustable cone and suture holder at cone



|        |                        |
|--------|------------------------|
| Ø      | Cone alone             |
| 3,5 mm | <b>R020-035500-001</b> |

Standard trocar  
conical blunt

**R020-035070-003**

Ø 3,5 mm



Ø 3 mm



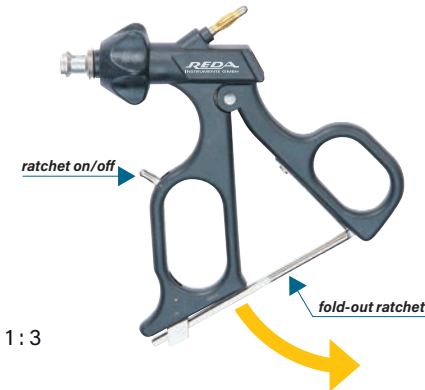
**The working insert and tube shaft form a single component. Namely the Working Part with a LUER lock irrigation adapter**

The working insert and tube shaft form a single component in 3 mm instruments, contrary to the arrangement in modular 5 and 10 mm REDA tube shaft instruments.

3 mm instruments have been developed principally for use in pediatrics and diagnostic laparoscopy and are fitted with a LUER lock irrigation adapter which achieves optimum cleansing results.

REDA - uncompromising safety !

Ø 3 / 5 / 10 mm



Ergonomic universal carbon handle with ratchet,  
Lever for active or unactive ratchet, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R033** - 000000 - 000



Ergonomic carbon handle with stepless ratchet,  
ratchet by finger press resolve, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R033P** - 000000 - 000



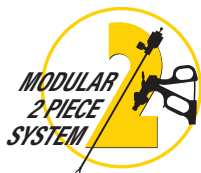
Ergonomic carbon handle,  
HF-connector Ø 4 mm male 45° lateral, rotating head 360°, autoclavable

**R034** - 000000 - 000



Ergonomic universal carbon handle with ratchet,  
Button for active or unactive ratchet, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

**R032M** - 000000 - 000



Ø 3 / 5 / 10 mm



Ergonomic carbon handle with stepless ratchet,  
ratchet activating / release lever, HF-connector Ø 4 mm male 45° lateral,  
rotating head 360°, autoclavable

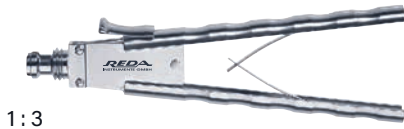
**R033M - 000000 - 000**



Protection cap for HF-connector Ø 4 mm

**R030 - 000000**

Ø 3 / 5 / 10 mm



Axial handle, v-shaped type with spreading spring and ratchet

**R038** - 000000 - 000



Axial handle, with spreading spring

**R048** - 000000 - 000



Axial handle with rings and ratchet

**R037** - 000000 - 000



Axial ring handle

**R047** - 000000 - 000



Axial handle, v-shaped angled, type with spreading spring and ratchet

**R039** - 000000 - 000



Axial handle, angled, with spreading spring

**R040** - 000000 - 000



### Carbon Handles

more details at the beginning of the chapter



Ø 3 mm



Universal grasping forceps, straight, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>180 mm</b>  | <b>R100-030180-210</b> | <b>R103-030180-210</b> | <b>R103P-030180-210</b> | <b>R104-030180-210</b> | <b>R102M-030180-210</b> |
| <b>210 mm</b>  | <b>R100-030210-210</b> | <b>R103-030210-210</b> | <b>R103P-030210-210</b> | <b>R104-030210-210</b> | <b>R102M-030210-210</b> |
| <b>330 mm</b>  | <b>R100-030330-210</b> | <b>R103-030330-210</b> | <b>R103P-030330-210</b> | <b>R104-030330-210</b> | <b>R102M-030330-210</b> |



MARYLAND grasping forceps, curved, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>180 mm</b>  | <b>R100-030180-212</b> | <b>R103-030180-212</b> | <b>R103P-030180-212</b> | <b>R104-030180-212</b> | <b>R102M-030180-212</b> |
| <b>210 mm</b>  | <b>R100-030210-212</b> | <b>R103-030210-212</b> | <b>R103P-030210-212</b> | <b>R104-030210-212</b> | <b>R102M-030210-212</b> |
| <b>330 mm</b>  | <b>R100-030330-212</b> | <b>R103-030330-212</b> | <b>R103P-030330-212</b> | <b>R104-030330-212</b> | <b>R102M-030330-212</b> |



Dissections forceps, fenestrated, oval, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>180 mm</b>  | <b>R100-030180-214</b> | <b>R103-030180-214</b> | <b>R103P-030180-214</b> | <b>R104-030180-214</b> | <b>R102M-030180-214</b> |
| <b>210 mm</b>  | <b>R100-030210-214</b> | <b>R103-030210-214</b> | <b>R103P-030210-214</b> | <b>R104-030210-214</b> | <b>R102M-030210-214</b> |
| <b>330 mm</b>  | <b>R100-030330-214</b> | <b>R103-030330-214</b> | <b>R103P-030330-214</b> | <b>R104-030330-214</b> | <b>R102M-030330-214</b> |



Grasping forceps with reservoir, tip blunt, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>180 mm</b>  | <b>R100-030180-220</b> | <b>R103-030180-220</b> | <b>R103P-030180-220</b> | <b>R104-030180-220</b> | <b>R102M-030180-220</b> |
| <b>210 mm</b>  | <b>R100-030210-220</b> | <b>R103-030210-220</b> | <b>R103P-030210-220</b> | <b>R104-030210-220</b> | <b>R102M-030210-220</b> |
| <b>330 mm</b>  | <b>R100-030330-220</b> | <b>R103-030330-220</b> | <b>R103P-030330-220</b> | <b>R104-030330-220</b> | <b>R102M-030330-220</b> |

**Stainless steel Handles**  
more details at the beginning of the chapter



R 037 - 000 000 - 000

R 038 - 000 000 - 000

Ø 3 mm



Universal grasping forceps, straight, double action jaws

| Complete instrument |                 | Working length<br>mm |
|---------------------|-----------------|----------------------|
| R107-030180-210     | R108-030180-210 | 180                  |
| R107-030210-210     | R108-030210-210 | 210                  |
| R107-030330-210     | R108-030330-210 | 330                  |



MARYLAND grasping forceps, curved, double action jaws

| Complete instrument |                 | Working length<br>mm |
|---------------------|-----------------|----------------------|
| R107-030180-212     | R108-030180-212 | 180                  |
| R107-030210-212     | R108-030210-212 | 210                  |
| R107-030330-212     | R108-030330-212 | 330                  |



Dissections forceps, fenestrated, oval, double action jaws

| Complete instrument |                 | Working length<br>mm |
|---------------------|-----------------|----------------------|
| R107-030180-214     | R108-030180-214 | 180                  |
| R107-030210-214     | R108-030210-214 | 210                  |
| R107-030330-214     | R108-030330-214 | 330                  |



Grasping forceps with reservoir, tip blunt, double action jaws

| Complete instrument |                 | Working length<br>mm |
|---------------------|-----------------|----------------------|
| R107-030180-220     | R108-030180-220 | 180                  |
| R107-030210-220     | R108-030210-220 | 210                  |
| R107-030330-220     | R108-030330-220 | 330                  |

**Carbon Handles**

more details at the beginning of the chapter

**Ø 3 mm****R 033 - 000 000 - 000****R 033P - 000 000 - 000****R 034 - 000 000 - 000****R 032M - 000 000 - 000**

Grasping forceps with reservoir, tip conical, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>180 mm</b>  | <b>R100-030180-222</b> | <b>R103-030180-222</b> | <b>R103P-030180-222</b> | <b>R104-030180-222</b> | <b>R102M-030180-222</b> |
| <b>210 mm</b>  | <b>R100-030210-222</b> | <b>R103-030210-222</b> | <b>R103P-030210-222</b> | <b>R104-030210-222</b> | <b>R102M-030210-222</b> |
| <b>330 mm</b>  | <b>R100-030330-222</b> | <b>R103-030330-222</b> | <b>R103P-030330-222</b> | <b>R104-030330-222</b> | <b>R102M-030330-222</b> |



Delphin grasping forceps with reservoir, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>180 mm</b>  | <b>R100-030180-224</b> | <b>R103-030180-224</b> | <b>R103P-030180-224</b> | <b>R104-030180-224</b> | <b>R102M-030180-224</b> |
| <b>210 mm</b>  | <b>R100-030210-224</b> | <b>R103-030210-224</b> | <b>R103P-030210-224</b> | <b>R104-030210-224</b> | <b>R102M-030210-224</b> |
| <b>330 mm</b>  | <b>R100-030330-224</b> | <b>R103-030330-224</b> | <b>R103P-030330-224</b> | <b>R104-030330-224</b> | <b>R102M-030330-224</b> |



Grasping forceps, crosswise teeth, jaw length 14 mm, conical, double action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>180 mm</b>  | <b>R100-030180-230</b> | <b>R103-030180-230</b> | <b>R103P-030180-230</b> | <b>R104-030180-230</b> | <b>R102M-030180-230</b> |
| <b>210 mm</b>  | <b>R100-030210-230</b> | <b>R103-030210-230</b> | <b>R103P-030210-230</b> | <b>R104-030210-230</b> | <b>R102M-030210-230</b> |
| <b>330 mm</b>  | <b>R100-030330-230</b> | <b>R103-030330-230</b> | <b>R103P-030330-230</b> | <b>R104-030330-230</b> | <b>R102M-030330-230</b> |



Claw grasping forceps, 3 x 2 teeth, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |                         |
|----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| <b>180 mm</b>  | <b>R100-030180-242</b> | <b>R103-030180-242</b> | <b>R103P-030180-242</b> | <b>R104-030180-242</b> | <b>R102M-030180-242</b> |
| <b>210 mm</b>  | <b>R100-030210-242</b> | <b>R103-030210-242</b> | <b>R103P-030210-242</b> | <b>R104-030210-242</b> | <b>R102M-030210-242</b> |
| <b>330 mm</b>  | <b>R100-030330-242</b> | <b>R103-030330-242</b> | <b>R103P-030330-242</b> | <b>R104-030330-242</b> | <b>R102M-030330-242</b> |

**Stainless steel Handles**  
more details at the beginning of the chapter



R 037 - 000 000 - 000

R 038 - 000 000 - 000

Ø 3 mm



Grasping forceps with reservoir, tip conical, double action jaws

| Complete instrument |                 | Working length<br>mm |
|---------------------|-----------------|----------------------|
| R107-030180-222     | R108-030180-222 | 180                  |
| R107-030210-222     | R108-030210-222 | 210                  |
| R107-030330-222     | R108-030330-222 | 330                  |



Delphin grasping forceps with reservoir, double action jaws

| Complete instrument |                 | Working length<br>mm |
|---------------------|-----------------|----------------------|
| R107-030180-224     | R108-030180-224 | 180                  |
| R107-030210-224     | R108-030210-224 | 210                  |
| R107-030330-224     | R108-030330-224 | 330                  |



Grasping forceps, crosswise teeth, jaw length 14 mm, conical, double action jaws

| Complete instrument |                 | Working length<br>mm |
|---------------------|-----------------|----------------------|
| R107-030180-230     | R108-030180-230 | 180                  |
| R107-030210-230     | R108-030210-230 | 210                  |
| R107-030330-230     | R108-030330-230 | 330                  |



Claw grasping forceps, 3 x 2 teeth, single action jaws

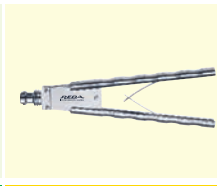
| Complete instrument |                 | Working length<br>mm |
|---------------------|-----------------|----------------------|
| R107-030180-242     | R108-030180-242 | 180                  |
| R107-030210-242     | R108-030210-242 | 210                  |
| R107-030330-242     | R108-030330-242 | 330                  |

**Carbon Handles**

more details at the beginning of the chapter

**Stainless steel Handles**

more details at the beginning of the chapter

**R 034 - 000 000 - 000****R 047 - 000 000 - 000****R 048 - 000 000 - 000****Ø 3 mm**

METZENBAUM scissors, straight, double action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>180 mm</b>  | <b>R100-030180-110</b> | <b>R104-030180-110</b> | <b>R147-030180-110</b> | <b>R148-030180-110</b> |
| <b>210 mm</b>  | <b>R100-030210-110</b> | <b>R104-030210-110</b> | <b>R147-030210-110</b> | <b>R148-030210-110</b> |
| <b>330 mm</b>  | <b>R100-030330-110</b> | <b>R104-030330-110</b> | <b>R147-030330-110</b> | <b>R148-030330-110</b> |



METZENBAUM scissors, curved, double action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>180 mm</b>  | <b>R100-030180-112</b> | <b>R104-030180-112</b> | <b>R147-030180-112</b> | <b>R148-030180-112</b> |
| <b>210 mm</b>  | <b>R100-030210-112</b> | <b>R104-030210-112</b> | <b>R147-030210-112</b> | <b>R148-030210-112</b> |
| <b>330 mm</b>  | <b>R100-030330-112</b> | <b>R104-030330-112</b> | <b>R147-030330-112</b> | <b>R148-030330-112</b> |



Peritoneal scissors, serrated, straight, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>180 mm</b>  | <b>R100-030180-114</b> | <b>R104-030180-114</b> | <b>R147-030180-114</b> | <b>R148-030180-114</b> |
| <b>210 mm</b>  | <b>R100-030210-114</b> | <b>R104-030210-114</b> | <b>R147-030210-114</b> | <b>R148-030210-114</b> |
| <b>330 mm</b>  | <b>R100-030330-114</b> | <b>R104-030330-114</b> | <b>R147-030330-114</b> | <b>R148-030330-114</b> |

### Carbon Handles

more details at the beginning of the chapter

### Stainless steel Handles

more details at the beginning of the chapter

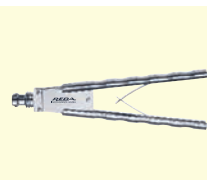
Ø 3 mm



R 034 - 000 000 - 000



R 047 - 000 000 - 000



R 048 - 000 000 - 000



Hook scissors, straight, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>180 mm</b>  | <b>R100-030180-116</b> | <b>R104-030180-116</b> | <b>R147-030180-116</b> | <b>R148-030180-116</b> |
| <b>210 mm</b>  | <b>R100-030210-116</b> | <b>R104-030210-116</b> | <b>R147-030210-116</b> | <b>R148-030210-116</b> |
| <b>330 mm</b>  | <b>R100-030330-116</b> | <b>R104-030330-116</b> | <b>R147-030330-116</b> | <b>R148-030330-116</b> |



Micro scissors, straight, single action jaws

| Working length | Working insert alone   | Complete instrument    |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|
| <b>180 mm</b>  | <b>R100-030180-118</b> | <b>R104-030180-118</b> | <b>R147-030180-118</b> | <b>R148-030180-118</b> |
| <b>210 mm</b>  | <b>R100-030210-118</b> | <b>R104-030210-118</b> | <b>R147-030210-118</b> | <b>R148-030210-118</b> |
| <b>330 mm</b>  | <b>R100-030330-118</b> | <b>R104-030330-118</b> | <b>R147-030330-118</b> | <b>R148-030330-118</b> |

**Carbon Handles**

more details at the beginning of the chapter



R 034 - 000 000 - 000

Ø 3 mm



Biopsy cup, sharp, without thorn, double action jaws

| Working length | Working insert alone   | Complete instrument    |
|----------------|------------------------|------------------------|
| <b>180 mm</b>  | <b>R100-030180-310</b> | <b>R104-030180-310</b> |
| <b>210 mm</b>  | <b>R100-030210-310</b> | <b>R104-030210-310</b> |
| <b>330 mm</b>  | <b>R100-030330-310</b> | <b>R104-030330-310</b> |



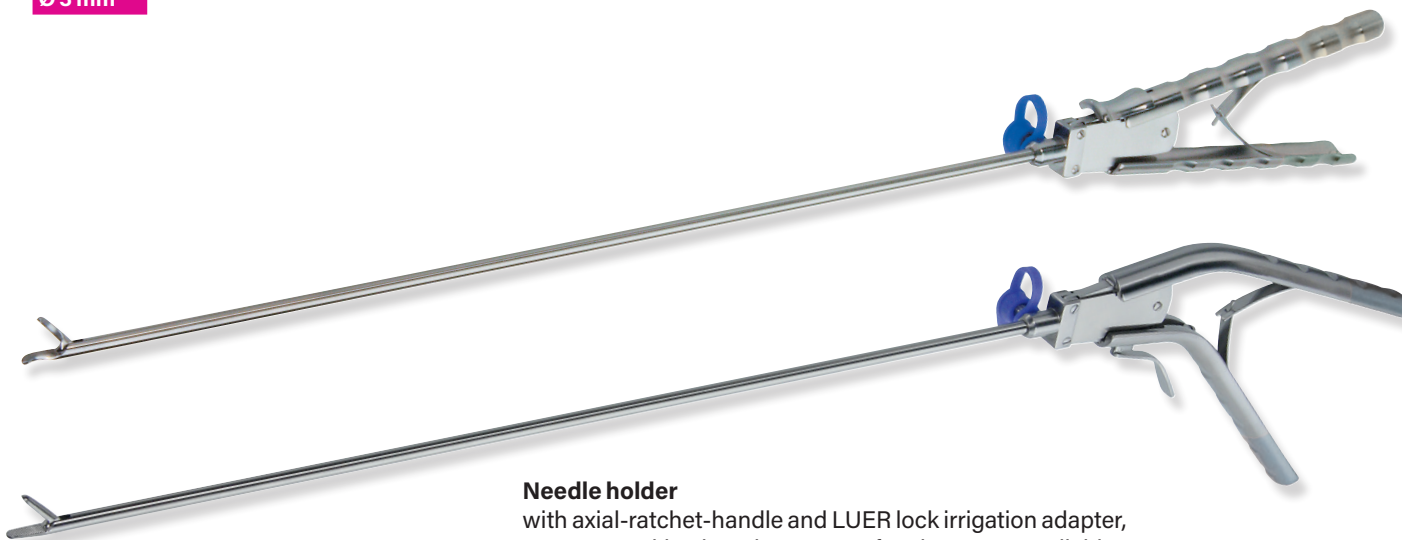
Biopsy cup, sharp, with thorn, double action jaws

| Working length | Working insert alone   | Complete instrument    |
|----------------|------------------------|------------------------|
| <b>180 mm</b>  | <b>R100-030180-312</b> | <b>R104-030180-312</b> |
| <b>210 mm</b>  | <b>R100-030210-312</b> | <b>R104-030210-312</b> |
| <b>330 mm</b>  | <b>R100-030330-312</b> | <b>R104-030330-312</b> |





Ø 3 mm

**Needle holder**

with axial-ratchet-handle and LUER lock irrigation adapter,  
 Ø 3 mm, working length 330 mm - four jaw types available.



Needle holder, straight,  
 with inserted tungsten carbide, crosswise teeth, single action jaws

| Handle | straight             | angled               |
|--------|----------------------|----------------------|
|        | <b>R158-0533-350</b> | <b>R159-0533-350</b> |



Needle holder, curved left,  
 with inserted tungsten carbide, crosswise teeth, single action jaws

| Handle | straight             | angled               |
|--------|----------------------|----------------------|
|        | <b>R158-0533-352</b> | <b>R159-0533-352</b> |



Needle holder, curved right,  
 with inserted tungsten carbide, crosswise teeth, single action jaws

| Handle | straight             | angled               |
|--------|----------------------|----------------------|
|        | <b>R158-0533-354</b> | <b>R159-0533-354</b> |



Needle holder/-positioner, convex/concave shaped jaws, with fixation teeth,  
 straight, with wolfram-carbide-coated tips, single action jaws

| Handle | straight             | angled               |
|--------|----------------------|----------------------|
|        | <b>R158-0533-360</b> | <b>R159-0533-360</b> |

### Carbon Handles

more details at the beginning of the chapter



R 033 - 000 000 - 000

R 033P - 000 000 - 000

R 032M - 000 000 - 000

Ø 3 mm



Needleholder with inserted tungsten carbide, straight, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |
|----------------|------------------------|------------------------|-------------------------|------------------------|
| <b>210 mm</b>  | <b>R150-030210-350</b> | <b>R153-030210-350</b> | <b>R153P-030210-350</b> | <b>R151-030210-350</b> |
| <b>330 mm</b>  | <b>R150-030330-350</b> | <b>R153-030330-350</b> | <b>R153P-030330-350</b> | <b>R151-030330-350</b> |



Needleholder with inserted tungsten carbide, curved left, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |
|----------------|------------------------|------------------------|-------------------------|------------------------|
| <b>210 mm</b>  | <b>R150-030210-352</b> | <b>R153-030210-352</b> | <b>R153P-030210-352</b> | <b>R151-030210-352</b> |
| <b>330 mm</b>  | <b>R150-030330-352</b> | <b>R153-030330-352</b> | <b>R153P-030330-352</b> | <b>R151-030330-352</b> |



Needleholder with inserted tungsten carbide, curved right, single action jaws

| Working length | Working insert alone   | Complete instrument    |                         |                        |
|----------------|------------------------|------------------------|-------------------------|------------------------|
| <b>210 mm</b>  | <b>R150-030210-354</b> | <b>R153-030210-354</b> | <b>R153P-030210-354</b> | <b>R151-030210-354</b> |
| <b>330 mm</b>  | <b>R150-030330-354</b> | <b>R153-030330-354</b> | <b>R153P-030330-354</b> | <b>R151-030330-354</b> |

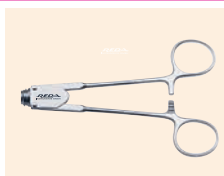


Needleholder/-positioner insert, convex/concave with teeth, TC

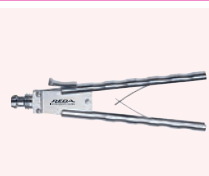
| Working length | Working insert alone   | Complete instrument    |                         |                        |
|----------------|------------------------|------------------------|-------------------------|------------------------|
| <b>210 mm</b>  | <b>R150-030210-360</b> | <b>R153-030210-360</b> | <b>R153P-030210-360</b> | <b>R151-030210-360</b> |
| <b>330 mm</b>  | <b>R150-030330-360</b> | <b>R153-030330-360</b> | <b>R153P-030330-360</b> | <b>R151-030330-360</b> |

### Stainless steel Handles

more details at the beginning of the chapter



R 037 - 000 000 - 000



R 038 - 000 000 - 000



R 039 - 000 000 - 000

Ø 3 mm



Needleholder with inserted tungsten carbide, straight, single action jaws

| Complete instrument |                 |                 | Working length<br>mm |
|---------------------|-----------------|-----------------|----------------------|
| R157-030210-350     | R158-030210-350 | R159-030210-350 | 210                  |
| R157-030330-350     | R158-030330-350 | R159-030330-350 | 330                  |



Needleholder with inserted tungsten carbide, curved left, single action jaws

| Complete instrument |                 |                 | Working length<br>mm |
|---------------------|-----------------|-----------------|----------------------|
| R157-030210-352     | R158-030210-352 | R159-030210-352 | 210                  |
| R157-030330-352     | R158-030330-352 | R159-030330-352 | 330                  |



Needleholder with inserted tungsten carbide, curved right, single action jaws

| Complete instrument |                 |                 | Working length<br>mm |
|---------------------|-----------------|-----------------|----------------------|
| R157-030210-354     | R158-030210-354 | R159-030210-354 | 210                  |
| R157-030330-354     | R158-030330-354 | R159-030330-354 | 330                  |



Needleholder/-positioner insert, convex/concave with teeth, TC

| Complete instrument |                 |                 | Working length<br>mm |
|---------------------|-----------------|-----------------|----------------------|
| R157-030210-360     | R158-030210-360 | R159-030210-360 | 210                  |
| R157-030330-360     | R158-030330-360 | R159-030330-360 | 330                  |

Ø 2,8 mm

Monopolar electrode with small handle,  
Ø 2,8 mm



|                                                                                     | Type                  | working length  |                 |
|-------------------------------------------------------------------------------------|-----------------------|-----------------|-----------------|
|                                                                                     |                       | 330 mm          | 250 mm          |
|    | Button type electrode | R060-028330-001 | R060-028250-001 |
|    | J-hook electrode      | R060-028330-002 | R060-028250-002 |
|    | L-hook electrode      | R060-028330-003 | R060-028250-003 |
|   | Spatula electrode     | R060-028330-004 | R060-028250-004 |
|  | Needle electrode      | R060-028330-005 | R060-028250-005 |

Ø 2,8 mm

Palpation probe  
Ø 2,8 mm

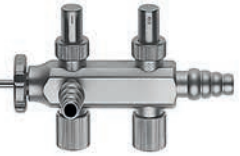


working length

|        |                 |
|--------|-----------------|
| 330 mm | R090-028330-001 |
| 250 mm | R090-028250-001 |

Ø 2,8 mm

**Suction-Irrigation-Cannula**  
with Tube Connection  
roundhole Sucker with 8 drillings



working length    complete with handle

**330 mm    R071-028330-008**

**250 mm    R071-028250-008**

Handle with trumpet valve

**R071-000000-000**

working length    roundhole Sucker with 8 drillings

**330 mm    R070-028330-008**

**250 mm    R070-028250-008**

**Suction-Irrigation-Cannula**  
with sliding valves  
and tube with 8 drillings



working length    complete with handle

**330 mm    R072-028330-008**

**250 mm    R072-028250-008**

Handle with sliding valve

**R072-000000-000**

working length    roundhole Sucker with 8 drillings

**330 mm    R070-028330-008**

**250 mm    R070-028250-008**

**Ø 2,8 mm****Suction-Irrigation-Cannula**with trumpet valves  
and Square Handle

working length

|        |                 |
|--------|-----------------|
| 330 mm | R075-028330-016 |
| 250 mm | R075-028250-016 |

**Ø 1,2 mm****Puncture- and Injection Needle**distal with needle,  
proximal with LL-adaptor

working length    Nadel / Needle

|        |                 |
|--------|-----------------|
| 330 mm | R075-028330-012 |
| 250 mm | R075-028250-012 |

Valve with Adapter for Tubes  
with large Luer-Lock-Connection

Suction-Irrigation-Handle  
with sliding valve and turnable  
adapter for large Luer-Lock  
Tube connection  
two combined Luer-Lock /  
Tube Connectors



**R076-000000-300**

**Ø 3,0 mm**

Exchangeable Suction-Irrigation-Tube  
with large Luer-Lock-Connection



working length 4 sidewise drillings

**340 mm R070-030340-304**

working length 16 sidewise drillings

**340 mm R070-030340-316**



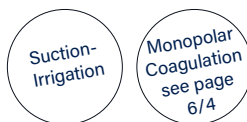
**Ø 3,5 mm****Suction-Irrigation-Handle**

with color-coding

- **20% less weight**
- **less individual parts**
- **color-coding**  
blue - irrigation  
green - suction
- **two in one**  
**sidewise Tube-Luer-Lock-Connection**

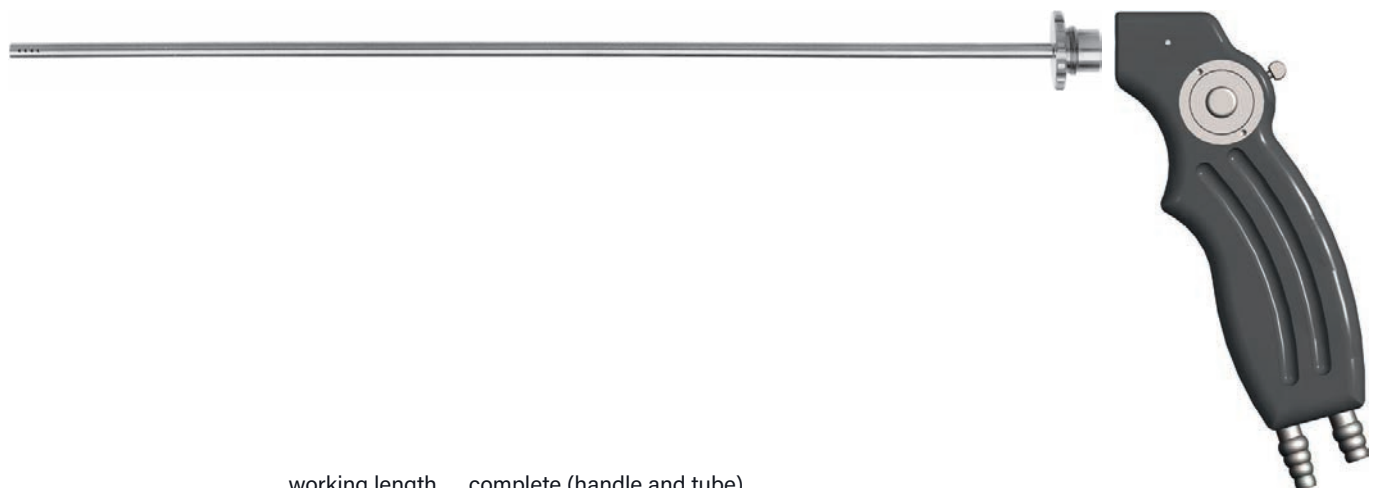
**Suction-Irrigation-Handle 10 mm**

with large Tube-Connection and sidewise Tube-Luer-Lock-Connection

**R 078-000000-100**working length **Tube for 10 mm Suction-Irrigation-Handle, Ø 3,5 mm****240 mm R 070-035240-116****Ø 3 mm**
**1 Handle**  
**2 Functions**
**Suction-Irrigation-Handle**

with two-way sliding valve and tube connections

- **ergonomic handle design**
- **enlarged suction channel**
- **straight passages for suction-irrigation liquid**
- **comfortable operation due to short swivel movement of the valve**

working length **complete (handle and tube)****330 mm R 079-030330-416**

Handle with sliding valve

**R 064-050000-001**

Tube only Ø 3,0 mm

**R 070-030330-416**

## Valve Handle for Shaft M8 x 1

### Suction-Irrigation-Handle with Trumpet Valve

for exchangeable shafts with threads M8 x 1  
combined Luer-Lock / Tube connector

**R076-000000-200**



### Suction-Irrigation-Pistol-Handle with Sliding Valve

for exchangeable shafts with threads M8 x 1  
two combined Luer-Lock / Tube connector

**R079-000000-200**



**Ø 3,0 mm**

### Exchangeable Suction-Irrigation-Tube with threads M8 x 1



working length 4 side drill holes

**340 mm R070-030340-204**

working length 16 side drill holes

**340 mm R070-030340-216**

Ø 10 mm

**Thoracoscope with integrated fiberoptic**  
for illumination, autoclavable



| diameter  | working length | direction of view      |
|-----------|----------------|------------------------|
| Ø 10,0 mm | 180 mm         | 30°<br>R110-100178-030 |

Ø 6 / 11 / 13 mm

**Thorax trocar sleeve rigid,**  
metal tube with thread



| diameter | working length | Trocar sleeve only | Obturator only  |
|----------|----------------|--------------------|-----------------|
| Ø 6 mm   | 50 mm          | R111-060050-006    | R111-060050-003 |
| Ø 11 mm  | 50 mm          | R111-110050-006    | R111-110050-003 |
| Ø 13 mm  | 50 mm          | R111-130050-006    | R111-130050-003 |

**Thorax trocar sleeve flexible,**  
plastic tube with thread, exchangeable



| diameter | working length | Trocar sleeve only | Obturator only  | flexible silicon tubes<br>5 pcs. / pack |
|----------|----------------|--------------------|-----------------|-----------------------------------------|
| Ø 6 mm   | 100 mm         | R112-060100-006    | R112-060100-003 | R112-060100-606                         |
| Ø 6 mm   | 70 mm          | R112-060070-006    | R112-060070-003 | R112-060070-606                         |
| Ø 11 mm  | 100 mm         | R112-110100-006    | R112-110100-003 | R112-110100-606                         |
| Ø 11 mm  | 70 mm          | R112-110070-006    | R112-110070-003 | R112-110070-606                         |

**DENNIS** dissector

Working length: 9" (23 cm)

Total length: 13 1/4" (33.5 cm)



Serrated jaws

7 mm shaft



**R119-93527-04**

Working length: 9 1/2" (24 cm)  
Total length: 13 1/4" (33.5 cm)



sliding shaft  
10 mm, straight

**R119-93527-17**



sliding shaft  
slim 7 mm, curved

**R119-93527-16**

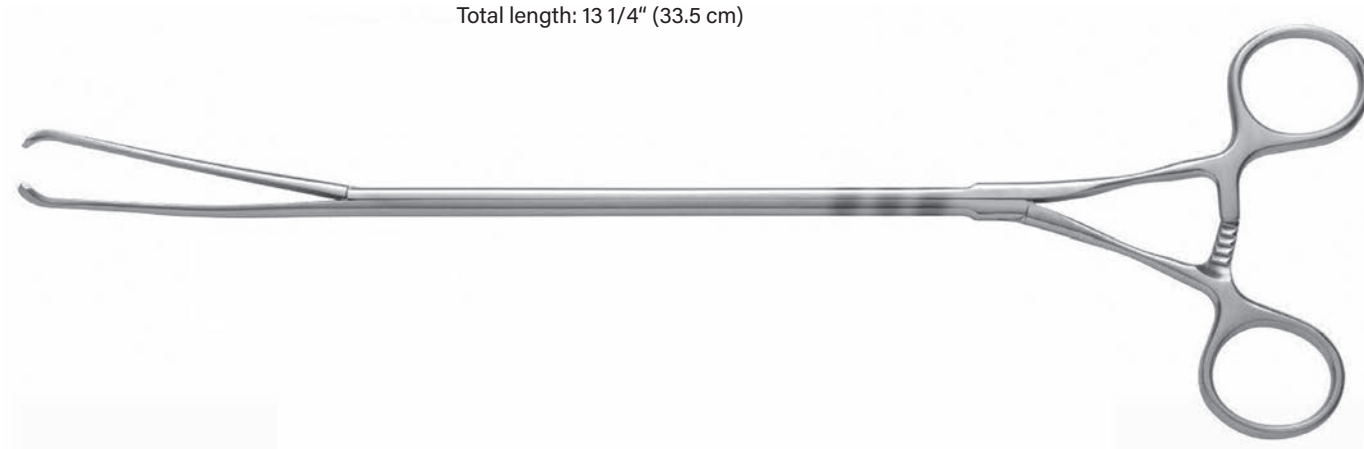
sliding shaft  
regular 10 mm, curved

**R119-93527-01**

**ALLIS forceps**

Working length: 9" (23 cm)

Total length: 13 1/4" (33.5 cm)



6 mm width jaws

7 mm shaft



**R119-93527-13**

**STERN** chest tube passer

Working length: 6 7/8" (17.5 cm)

Total length: 9 3/4" (24.8 cm)



without ratchet  
10 mm shaft

**R119-93527-21**

**STERN** chest tube passer

Working length: 11" (28 cm)

Total length: 14" (35.6 cm)



with ratchet  
10 mm shaft

**R119-93527-18**

without ratchet  
10 mm shaft

**R119-93527-19**



**DEBAKEY COOLEY** forceps

Working length: 9 1/2" (24 cm)

Total length: 13 1/2" (34 cm)



without ratchet  
DeBakey Cooley jaws  
10 mm shaft

**R119-93527-06**

with ratchet  
DeBakey Cooley jaws  
10 mm shaft

**R119-93527-10**

**HARKEN** clamps

Working length: 9 7/8" (24.8 cm)

Total length: 14" (35.5 cm)



without ratchet  
HARKEN #1  
DEBAKEY jaws  
10 mm shaft



**R119-93527-14**

without ratchet  
HARKEN #2  
DEBAKEY jaws  
10 mm shaft



**R119-93527-15**

**DEBAKEY** clamps

Working length: 10" (25.4 cm)

Total length: 14 1/4" (36 cm)



6.5 cm jaw length  
1 x 2 DEBAKEY jaws  
10 mm shaft

**R119-93527-05**



10 cm jaw length  
1 x 2 DEBAKEY jaws  
10 mm shaft

**R119-93527-12**



10 cm jaw length  
2 x 3 DEBAKEY jaws  
10 mm shaft

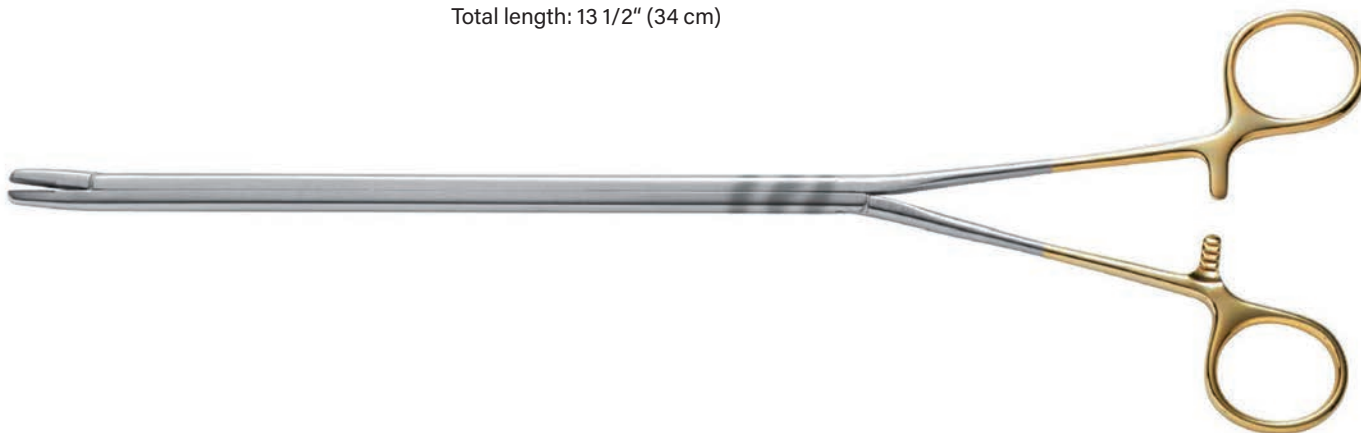
**R119-93527-11**



### Needle Holders for 2-0 Suture

Working length: 8 1/4" (21 cm)

Total length: 13 1/2" (34 cm)



2-0 and smaller suture  
Straight, Carbon-inlay jaws  
10 mm shaft

**R119-93527-07**



2-0 and smaller suture  
Curved, Carbon-inlay jaws  
10 mm shaft

**R119-93527-08**

**DUVAL clamps**

Working length: 9 1/4" (23.5 cm)

Total length: 13 1/2" (34 cm)



DUVAL clamp  
2.5 cm width jaws  
10 mm shaft

**R119-93527-20**

Ø 5,0 mm

**Monopolar thoracic electrode,**  
30° curved, HF-connector Ø 4 mm male



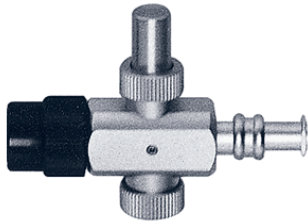
|                                                                                   | type              | working length  |
|-----------------------------------------------------------------------------------|-------------------|-----------------|
|                                                                                   | Ø 5 mm            | 330 mm          |
|  | L-hook electrode  | R116-050330-003 |
|  | Spatula electrode | R116-050330-004 |

**Monopolar thoracic electrode,**  
30° curved, with suction/irrigation channel, Electrode assembly alone without handle



|                                                                                     | type             | working length  |
|-------------------------------------------------------------------------------------|------------------|-----------------|
|                                                                                     | Ø 5 mm           | 330 mm          |
|  | L-hook electrode | R116-050330-103 |

Handles see next page



**Suction-irrigation handle**

1 trumpet valve with LL-adaptor

R118-000000-500

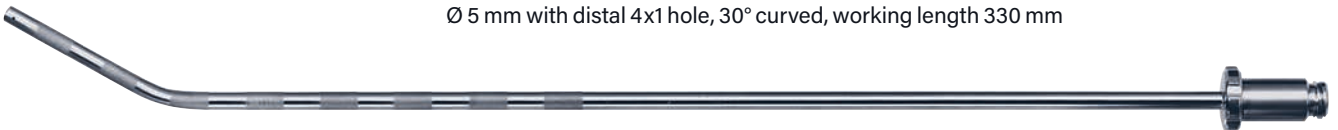


**Suction-irrigation handle**

2-way-valves

R117-000000-500

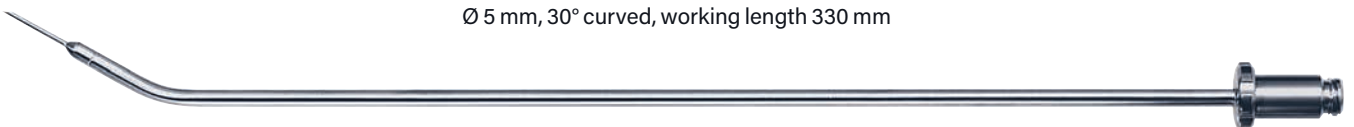
Ø 5 mm



**Suction-irrigation tube**

Ø 5 mm with distal 4x1 hole, 30° curved, working length 330 mm

R117-050330-504



**Injection needle**

Ø 5 mm, 30° curved, working length 330 mm

R117-050330-501





## Hysteroscopes

with integrated fiberoptic for illumination, autoclavable



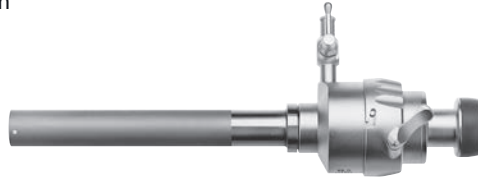
### Compatibility

|                             |                                                                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Light port adapter</b>   | ACMI-, Wolf-, Storz / Olympus                                                                                                            |
| <b>Eyepiece</b>             | Ocular according DIN 58105 threaded                                                                                                      |
| <b>Objective</b>            | Tension-free objective composed-objective                                                                                                |
| <b>Image transmission</b>   | CAD-designed rodence system for optimal sharpness, colorsync and resolution                                                              |
| <b>Light-guiding system</b> | High quality light fibers                                                                                                                |
| <b>Optical glass</b>        | Distal and proximal Sapphire                                                                                                             |
| <b>Biocompatibility</b>     | All materials that come in contact with the body are biocompatible.<br>All outside metal parts are made of high quality stainless steel. |

| Ø      | working length | direction of view      |                        |
|--------|----------------|------------------------|------------------------|
|        |                | 0°                     | 30°                    |
| 4,0 mm | 302 mm         | <b>R300-040302-000</b> | <b>R300-040302-030</b> |

Ø 7,0 mm

Multi function valve trocar sleeve,  
metal sleeve, smooth



working length

95 mm R023-070095-001

Standard trocar



working length pyramidal

95 mm R020-070095-001

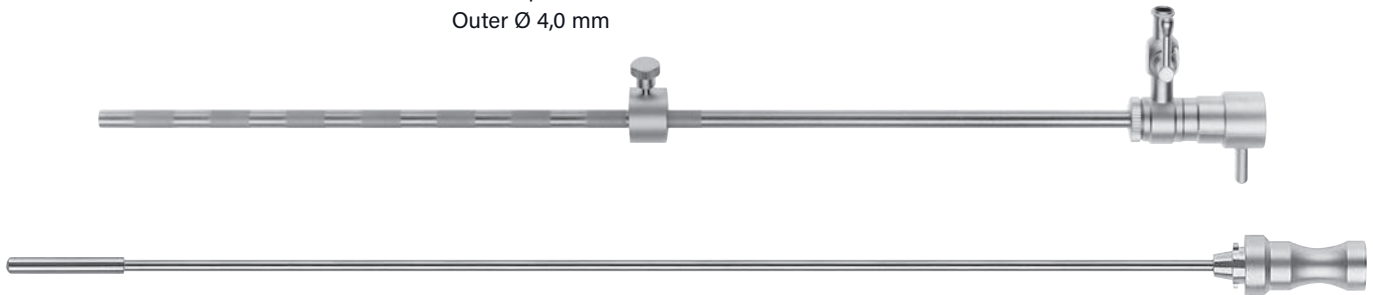


working length conical

95 mm R020-070095-002

### Diagnostic Sheaths

For Scope Ø 2,7 mm  
Outer Ø 4,0 mm



| Stopcock, fixed |                                                                           | Stopcock, rotating |                        |
|-----------------|---------------------------------------------------------------------------|--------------------|------------------------|
| working length  |                                                                           | working length     |                        |
| 281 mm          | 0° with Distance-Holder<br><b>R210-040281-000</b>                         | 274 mm             | <b>R211-040281-000</b> |
| 281 mm          | 30° complete with Obturator and Distance-Holder<br><b>R210-040281-130</b> | 274 mm             | <b>R211-040281-130</b> |
| 281 mm          | 30° with Distance-Holder<br><b>R210-040281-030</b>                        | 274 mm             | <b>R211-040281-030</b> |
|                 | Obturator only<br><b>R210-040305-00</b>                                   |                    |                        |
|                 | Distance-Holder only<br><b>R210-040306-00</b>                             |                    |                        |

### Diagnostic Sheaths

For Scope Ø 4,0 mm  
Outer Ø 5,0 mm

| Stopcock, fixed |                                                                           | Stopcock, rotating |                        |
|-----------------|---------------------------------------------------------------------------|--------------------|------------------------|
| working length  |                                                                           | working length     |                        |
| 281 mm          | 0° complete with Obturator and Distance-Holder<br><b>R210-050281-001</b>  | 274 mm             | <b>R211-050274-001</b> |
| 281 mm          | 0° with Distance-Holder<br><b>R210-050274-000</b>                         | 274 mm             | <b>R211-050274-000</b> |
| 281 mm          | 30° complete with Obturator and Distance-Holder<br><b>R210-050274-130</b> | 274 mm             | <b>R211-050274-130</b> |
| 281 mm          | 30° with Distance-Holder<br><b>R210-050274-030</b>                        | 274 mm             | <b>R211-050274-030</b> |
|                 | Obturator only<br><b>R210-050305-00</b>                                   |                    |                        |
|                 | Distance-Holder only<br><b>R210-050306-00</b>                             |                    |                        |

Operation Sheaths with 1 Working Channel

For Scope Ø 4,0 mm

Outer Ø 7,5 mm



|                |                 | Sheath with 1 rotating stopcock | Sheath with 2 rotating stopcocks |
|----------------|-----------------|---------------------------------|----------------------------------|
| working length | working channel | 30° OP - Sheath                 |                                  |
| 211 mm         | 7 CH.           | R 211-075211-030                | R 212-075211-030                 |

### Continuous-Flow-Sheaths

For Scope Ø 2,7 mm

Outer Ø 6,0

These sheaths have a separate Irrigation- and Working Channel.

The Outer Tube is detachable.



#### Sheath complete with 2 separate rotating stopcocks

| working length             | working channel | 0° Continuous-Flow-Sheath |
|----------------------------|-----------------|---------------------------|
| <b>193 mm</b>              | <b>5 CH.</b>    | <b>R214-060193-000</b>    |
| 30° Continuous-Flow-Sheath |                 |                           |
| <b>193 mm</b>              | <b>5 CH.</b>    | <b>R214-060193-030</b>    |

### Continuous-Flow-Sheaths

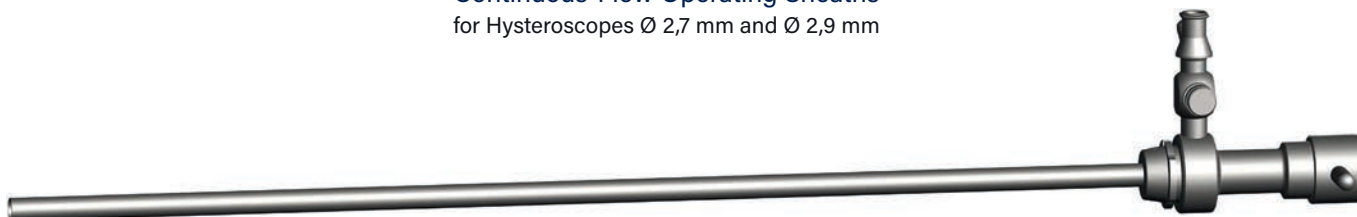
For Scope Ø 4,0 mm

Outer Ø 8,0 mm

#### Sheath complete with 2 separate rotating stopcocks

| working length             | working channel | 0° Continuous-Flow-Sheath |
|----------------------------|-----------------|---------------------------|
| <b>193 mm</b>              | <b>7 CH.</b>    | <b>R214-080193-000</b>    |
| 30° Continuous-Flow-Sheath |                 |                           |
| <b>193 mm</b>              | <b>7 CH.</b>    | <b>R214-080193-030</b>    |

Continuous-Flow Operating Sheaths  
for Hysteroscopes Ø 2,7 mm and Ø 2,9 mm



**Diagnostic-Continuous-Flow-Inner Sheath, 1 stopcock, rigid**

| working length | 0° - 300 mm            | Outer Ø |
|----------------|------------------------|---------|
| <b>260 mm</b>  | <b>R213-037260-000</b> | 4,0     |
|                | 30° - 300 mm           |         |
| <b>260 mm</b>  | <b>R213-037260-030</b> | 4,0     |



**Diagnostic-Continuous-Flow-Outer Sheath, 1 stopcock, rigid**

| working length | 0°, 30° - 300 mm, suitable for R213-037260-000, R213-037260-030 | Outer Ø |
|----------------|-----------------------------------------------------------------|---------|
| <b>240 mm</b>  | <b>R213-050260-000</b>                                          | 5,0     |



**Obturator**

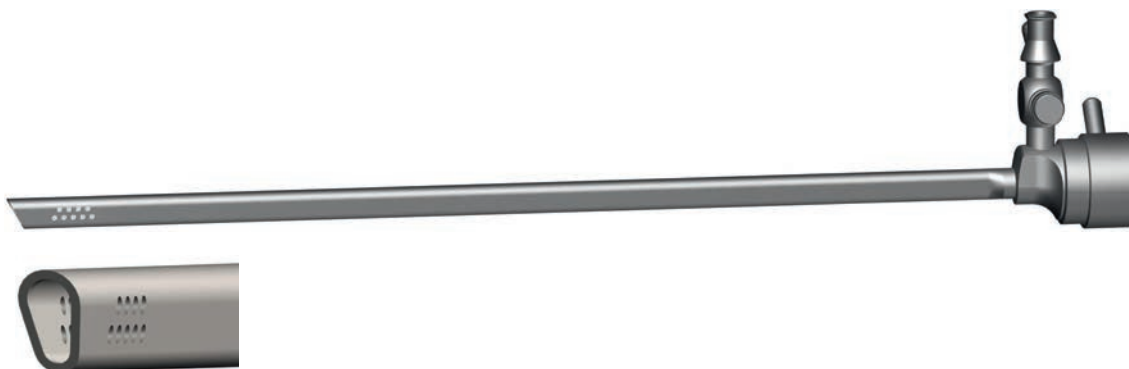
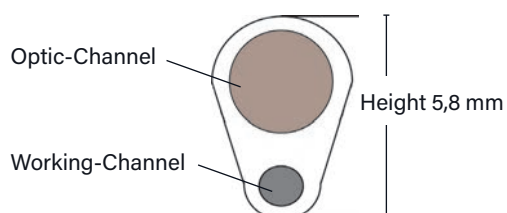
suitable for R213-050260-000

**R213-050300-000**

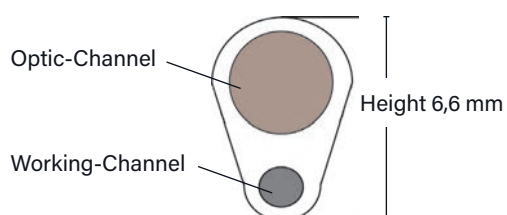
### Continuous-Flow Operating Sheaths for Hysteroscopes Ø 2,7 mm and Ø 2,9 mm



| 1 Instrument Port |                 |                        |
|-------------------|-----------------|------------------------|
| working length    | working channel | 30° - 300 mm           |
| <b>228 mm</b>     | <b>5 CH.</b>    | <b>R212-038300-000</b> |



| Diagnostic-Continuous-Flow-Outer Sheath, 1 stopcock, rigid |                                            |  |
|------------------------------------------------------------|--------------------------------------------|--|
| working length                                             | 30° - 300 mm, suitable for R212-038300-000 |  |
| <b>215 mm</b>                                              | <b>R212-040300-000</b>                     |  |

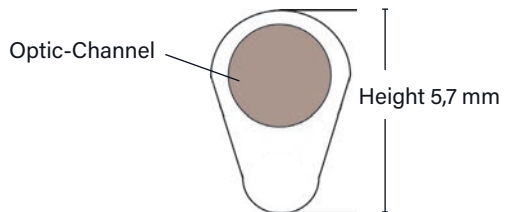


Hysteroscopy - Operating Sheaths  
for Hysteroscopes Ø 2,7 mm and Ø 2,9 mm



**1 Instrument Port, 2 stopcock, rigid**

|                |                 |                        |
|----------------|-----------------|------------------------|
| working length | working channel | 30° - 300 mm           |
| <b>222 mm</b>  | <b>5 CH.</b>    | <b>R212-035248-101</b> |





### Continuous-Flow Operating Sheaths for Hysteroscopes Ø 4,0 mm



#### Diagnostic-Continuous-Flow-Inner Sheath, 1 stopcock, rigid

| working length |                        | Outer Ø |
|----------------|------------------------|---------|
| 0° - 300 mm    |                        |         |
| <b>260 mm</b>  | <b>R213-054260-000</b> | 5,3     |
| 30° - 300 mm   |                        |         |
| <b>260 mm</b>  | <b>R213-054260-030</b> | 5,3     |



#### Diagnostic-Continuous-Flow-Outer Sheath, 1 stopcock, rigid

| working length                                                   |                        | Outer Ø |
|------------------------------------------------------------------|------------------------|---------|
| 0°, 30° - 300 mm, suitable for R213-054260-000, R213-0542600-030 |                        |         |
| <b>240 mm</b>                                                    | <b>R213-065250-030</b> | 6,5     |



#### Obturator

suitable for R213-065250-030

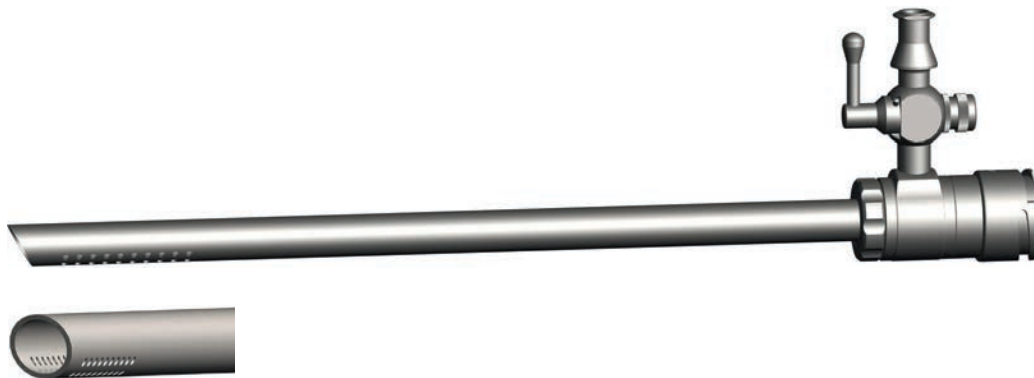
**R213-065300-000**

Continuous-Flow Operating Sheaths  
for Hysteroscopes Ø 4,0 mm



**1 Instrument Port**

| working length | working channel | 30° - 300 mm           | Outer Ø |
|----------------|-----------------|------------------------|---------|
| <b>175 mm</b>  | <b>7 CH.</b>    | <b>R214-070000-030</b> | 5,4     |



**Diagnostic-Continuous-Flow-Outer Sheath, 1 stopcock, rigid**

| working length | 30° - 300 mm, suitable for R214-070000-030 | Outer Ø |
|----------------|--------------------------------------------|---------|
| <b>155 mm</b>  | <b>R214-070200-030</b>                     | 7,6     |



**Obturator**

suitable for R214-070200-030

**R214-070000-000**

WL 41 cm

Hysteroscopy Forceps,  
semi-rigid


Ø 5 [Char]

Ø 7 [Char]



Grasping Forceps, cup serrated

R292-017400-003



Cutting Biopsy Punch

R292-017400-002

R292-023400-002



PE-Forceps, cup, sharp

R292-017400-001

R292-023400-001



Alligator Forceps

R292-017400-011

R292-023400-011



Scissors, pointed tips

R292-017400-022

R292-023400-022



Grasping Forceps, cup serrated

R292-017400-004

R292-023400-004



Scissors, blunt tips

R292-017400-021

R292-023400-021

### Ring Applicator

with advanced handling: more safety for the user due to 3-Positions-System.

Position 0 = **Safety**

Position 1 = 1st ring

Position 2 = 2nd ring

Simplified assembly and disassembly due to **Click**-mechanism on the sliding bar.

Ø 6,0 mm

### First Incision

For use with Operating-Laparoscope



working length

Complete with Loading Device and Conus suitable for OP-Laparoscope: STANDARD

327 mm

R120-060330-001



Loading Device

R120-060000-002



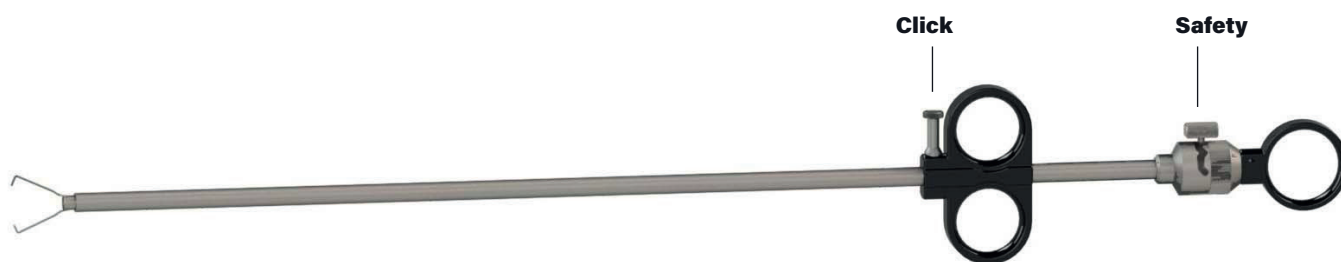
Conus Piece

R120-060000-001

Ø 6,5 mm

### Second Incision

For use with a regular Trocar Sleeve



working length

Complete with Loading Device

300 mm

R120-065340-001



Loading Device

R120-060000-002



Conus Piece

R120-060000-001

**Ø 5 / 10 mm**

Myoma Drill



working length    Ø 5,0 mm

**330 mm    R121-050320-01**

Ø 10,0 mm

**330 mm    R121-100330-01**

**COHEN Intra Uterine Cannula**

with spring-loaded fixation, one large and one small cone



working length    Complete

**170 mm    R122-250170-000**

Cone alone, Ø 19 mm, small

**R122-190056-000**

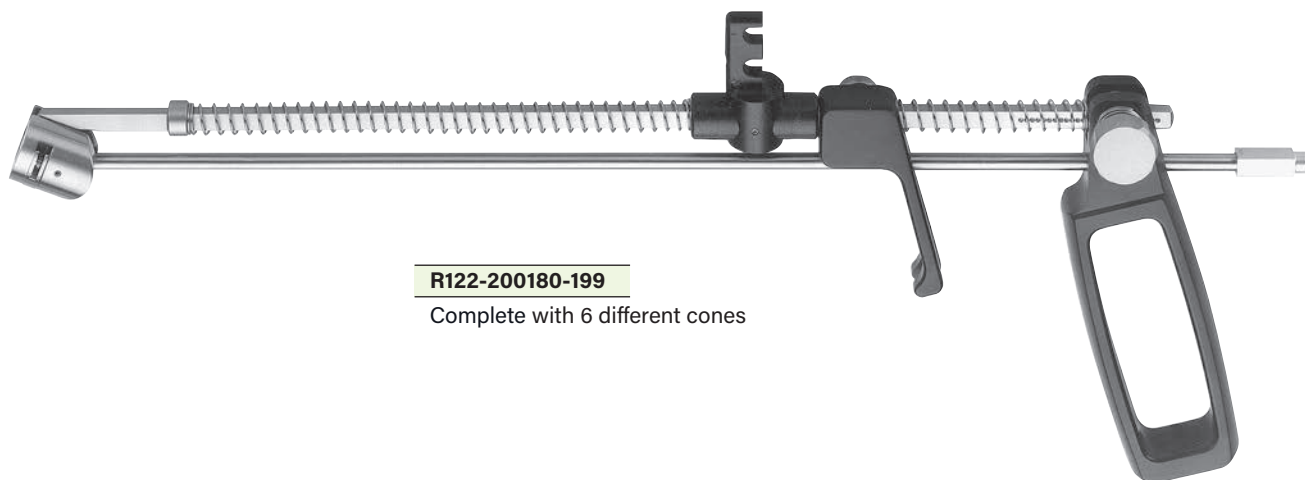
Cone alone, Ø 25 mm, large

**R122-250056-000**

Uterine Cannula allone

**R122-250170-001**

## Uterus Manipulator

**R122-200180-199**

Complete with 6 different cones

|                                                                                     | working length | Ø     |                                                                      |
|-------------------------------------------------------------------------------------|----------------|-------|----------------------------------------------------------------------|
|  | 45 mm          | 3 mm  | Uterus obturator, thin, short<br><b>R122-030045-000</b>              |
|  | 55 mm          | 3 mm  | Uterus obturator, thin, long<br><b>R122-030055-000</b>               |
|  | 80 mm          | 8 mm  | Uterus obturator, medium, long<br><b>R122-080080-000</b>             |
|  | 100 mm         | 10 mm | Uterus obturator, thick, extra long<br><b>R122-100100-000</b>        |
|  | 60 mm          | 25 mm | Cone, with short thorn<br><b>R122-250060-000</b>                     |
|  | 70 mm          | 25 mm | Cone, with long thorn<br><b>R122-250070-000</b>                      |
|                                                                                     |                |       | <b>Manipulator</b><br>alone, without cones<br><b>R122-200180-000</b> |

Coagulation electrodes, flexible, monopolar  
470 mm

Ball end



Ø 5 [Char]

R395-017450-001

Ø 7 [Char]

R395-023450-001

Ø 9 [Char]

R395-030450-001

Needle type



R395-017450-021

R395-023450-021

Loop



R395-023450-011

Bipolar electrodes, flexible  
360 mm



Ball end



Ø 5 [Char]

R396-000360-001

Needle type



Ø 5 [Char]

R396-000360-002



Ø 7,0 mm

### LOWSLEY retractor

for manipulation of the bladder  
for perineal prostatectomy



working length

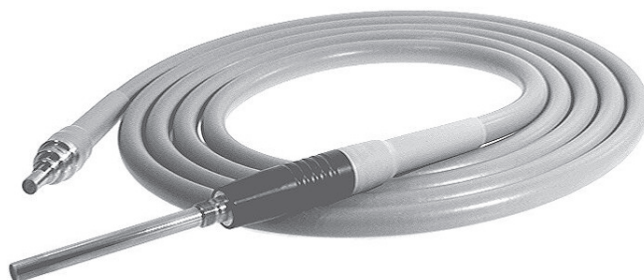
**210 mm** R139-070210-001 straight



working length

**300 mm** R139-070300-011 curved





| bonded for<br>Halogen Light | Ø   | length cm | fused for<br>Xenon Light |
|-----------------------------|-----|-----------|--------------------------|
| <b>R900-035180-00</b>       | 3,5 | 180       | <b>R901-035180-00</b>    |
| <b>R900-035230-00</b>       | 3,5 | 230       | <b>R901-035230-00</b>    |
| <b>R900-035300-00</b>       | 3,5 | 300       | <b>R901-035300-00</b>    |
| <b>R900-035350-00</b>       | 3,5 | 350       | <b>R901-035350-00</b>    |
|                             |     |           |                          |
| <b>R900-048180-00</b>       | 4,8 | 180       | <b>R901-048180-00</b>    |
| <b>R900-048230-00</b>       | 4,8 | 230       | <b>R901-048230-00</b>    |
| <b>R900-048250-00</b>       | 4,8 | 250       | <b>R901-048250-00</b>    |
| <b>R900-048300-00</b>       | 4,8 | 300       | <b>R901-048300-00</b>    |
| <b>R900-048350-00</b>       | 4,8 | 350       | <b>R901-048350-00</b>    |

Other lengths available on demand.



IN



**R900-000000-01**

Storz / Aesculap



**R900-000000-03**

Wolf / Henke Sass /  
Dyonics / Medicon /  
Comeg



**R900-000000-05**

ACM / British / Codman



**R900-000000-07**

Olympus



**R900-000000-09**

Pentax



**R900-000000-11**

Fuji



**R900-000000-13**

Heine-Optotechnik



**R900-000000-15**

Winter+IBE



**R900-000000-16**

Stryker



**R900-000000-21**

MLW



**R900-000000-31**

Volpi / Schöilly / RFO

Endoscope-side



OUT



**R900-000000-02**

Storz / Winter+IBE /  
Aesculap



**R900-000000-04**

Wolf



**R900-000000-06**

ACM / British / Codman



**R900-000000-08**

Olympus

# FULL HD-Camera



## Full HD-Camera

**What matters today: Full HD resolution,  
impressive handling, good economical solution**

- Full HD-Camera
- Integrated LED-Light-Source
- Photo and video documentation in Full HD

What the players in the field of minimally invasive medicine expect today from a camera is the combination of great resolution, natural color reproduction, high quality manufacturing, and the greatest ease of use possible. The Full HD-Camera is the result of all these requirements. It produces sharp, true-color images, and is characterized by a high degree of user-friendliness. The Full HD-Camera provides targeted profiles that enable the diagnosis and treatment of the most important medical applications: laparoscopy, arthroscopy, hysteroscopy and urology.

The 3-in-1 solution, combining camera, light source and HD capturing, means only one device is needed. This saves space in the operating room and relieves budget pressures. Rounding out the benefits of the Full HD-Camera is a contemporary, sophisticated design. The compelling, reliable technology makes the Full HD-Camera the perfect choice for demanding target groups.

We offer services worldwide for the Full HD-Camera.



The right product for  
the right market.

## Full HD-Camera

The Camera head features an ergonomic design and is ideally suited for all indications. The pre-set application profiles make the camera a plug and play device. The brilliant image quality makes it the perfect camera for the main endoscopic applications. However, the user has the possibility to adjust the image as desired.



## LED-Light Source

The LED-Light Source has a universal fiber optic cable receptacle compatible with Storz, Olympus, ACMI, and Wolf light cable adapters. The intensity of the Light Source is adjustable. The light intensity is 1,400 lumens. After an operating time of 10,000 hours, We guarantees a minimum light output of at least 90 %.



## HD-Capturing

The capture unit comes with a USB flash/hard drive interface in which images and videos are recorded in Full HD quality. An external keyboard is used to conveniently input patient data. In addition, every image and video has a time stamp as well as the patient data on it. Through the "New Patient" function it is easy to separate cases and to summarize all videos and photos.



## HD-Camera

**The one for all cases: high quality, easy to use,  
best cost**

- HD-Camera
- Integrated LED-Light-Source
- Photo and video documentation in HD

The classic three-in-one HD Camera for cost-sensitive markets in proven quality. New customer demands require new solutions. In fast growing markets, device costs can be adjusted flexibly to the individual circumstances of the hospital or doctor's practice.

The new HD-Camera does exactly this. It is suitable for the fields of laparoscopy, arthroscopy, hysteroscopy and urology. The three-in-one solution: HD-Camera, LED-Light Source and HD-Capturing are available in one device. The HD-Camera, however, is still user friendly and intuitive to use. The picture quality is brilliant.

The device is approved worldwide and service is available globally.



Three connections for three devices in one, easily aligned for quick set up.



## HD-Camera

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## HD-Capturing

An SD storage card interface is available when selecting the capture option to record camera and video images. Photos and videos are saved in HD quality. The amount of memory needed and the speed of saving the data are reduced with an optimal image quality.



## Zoom coupler

- Focal length: 16-34 mm
- Image size from circular to full size
- C-Mount camera connection
- Sterilization methods: autoclavation



## Keyboard

- Medical keyboard (english)  
for patient data input
- Housing material: Silicon
- Interface: PS/2
- Color: grey



## HD-Capturing

- Autoclavable
- Flexible
- Light weighted
- Bend protected



## Accessories

### Devices

| Item No.            | Description                                                 |
|---------------------|-------------------------------------------------------------|
| <b>RHDC1100-L04</b> | Full HD-Camera Head                                         |
| <b>RHDC1100-L01</b> | Full HD-Camera Control Unit, LED-Light Source, HD-Capturing |
| <b>RHDC1000-L04</b> | HD-Camera Head                                              |
| <b>RHDC1000-L01</b> | HD-Camera Control Unit, LED-Light Source, HD-Capturing      |

### Accessories

| Part No.              | Description                                                                              |
|-----------------------|------------------------------------------------------------------------------------------|
| <b>RZOOM-L01</b>      | Videocoupler Zoom, Focal length = 16-34 mm<br>(LAP, ARTHRO, HYS, URO, ENT), autoclavable |
| <b>RURO-L01</b>       | URO-Videocoupler 18 mm, 90°                                                              |
| <b>RKeyboard-L01</b>  | Medical Keyboard (EN)                                                                    |
| <b>R900-000000-07</b> | Adapter for light cable, Light Source, Olympus                                           |
| <b>R900-000000-01</b> | Adapter for light cable, Light Source, Storz                                             |
| <b>R900-000000-03</b> | Adapter for light cable, Light Source, Wolf                                              |
| <b>R900-000000-02</b> | Adapter for light cable, endoscope, Storz/Olympus                                        |
| <b>R900-000000-04</b> | Adapter for light cable, endoscope, Wolf                                                 |
| <b>R900-000000-06</b> | Adapter for light cable, endoscope, ACMI                                                 |
| <b>R900-048180-00</b> | Light cable, 1.8 m, Ø 4.8 mm                                                             |
| <b>R900-048230-00</b> | Light cable, 2.3 m, Ø 4.8 mm                                                             |
| <b>R900-048300-00</b> | Light cable, 3.0 m, Ø 4.8 mm                                                             |

Power supply cord and further accessories available upon request.

| Technical Data                                           | Full HD-Camera                                                                               | HD-Camera                                   |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------|
| Frame rate                                               | 60 Hz                                                                                        | 60 Hz                                       |
| Image sensor                                             | 1/3" CMOS-Chip                                                                               | 1/3" CMOS-Chip                              |
| Resolution (h x v)                                       | 1920 x 1080 pixels, output                                                                   | 1280 x 720 pixels, output                   |
| Dimensions                                               | Ø = 39.5 mm, L = 123.5 mm                                                                    | Ø = 39.5 mm, L = 123.5 mm                   |
| Weight                                                   | 300 g/10.5 oz (incl. cable)                                                                  | 300 g/10.5 oz (incl. cable)                 |
| Coupling mechanism                                       | C-mount                                                                                      | C-mount                                     |
| Cable length                                             | 3 m/9.8 ft                                                                                   | 3 m/9.8 ft                                  |
| Disinfection/Sterilization                               | Soakable, STERRAD®                                                                           | Soakable, STERRAD®                          |
| Power supply                                             | 100-240 V~                                                                                   | 100-240 V~                                  |
| Power consumption                                        | 148 VA                                                                                       | 148 VA                                      |
| Outputs                                                  | HDMI, DVI for Full HD, S-Video for ext. capture/printers, PC interface USB 2.0, PS/2, Remote | 2x HDMI, PC interface USB 2.0, PS/2, Remote |
| LED-Light Source                                         |                                                                                              |                                             |
| Lamp                                                     | LED                                                                                          | LED                                         |
| Color temperature                                        | 6.500 K                                                                                      | 6.500 K                                     |
| Lumen maintenance                                        | 90 % after 10,000 hours                                                                      | 90 % after 10,000 hours                     |
| Size                                                     | Optimized for light guides 4.8 mm                                                            | Optimized for light guides Ø 4.8 mm         |
| Adapter compatibility                                    | Storz, Olympus, Wolf, ACMI                                                                   | Storz, Olympus, Wolf, ACMI                  |
| HD-Capturing                                             |                                                                                              |                                             |
| Memory interface                                         | Records to USB fl ash drive and/ or external USB hard drive                                  | SD memory card                              |
| Image format                                             | JPEG                                                                                         | JPEG                                        |
| Video Codec                                              | MPEG-4, H.264                                                                                | MPEG-4, H.264                               |
| Resolution                                               | 1920 x 1080 pixels                                                                           | 1920 x 1080 pixels                          |
| Complete system                                          |                                                                                              |                                             |
| Operating conditions                                     | 10-40 °C/50-104 °F                                                                           | 10-40 °C/50-104 °F                          |
| Protection against electrical shock                      | Body Float                                                                                   | Body Float                                  |
| Video Codec Means of protection against electrical shock | Class I                                                                                      | Class I                                     |
| Dimensions (w x h x d)                                   | 381 x 149 x 379 mm                                                                           | 381 x 149 x 379 mm                          |
| Weight                                                   | 5.8 kg                                                                                       | 5.8 kg                                      |

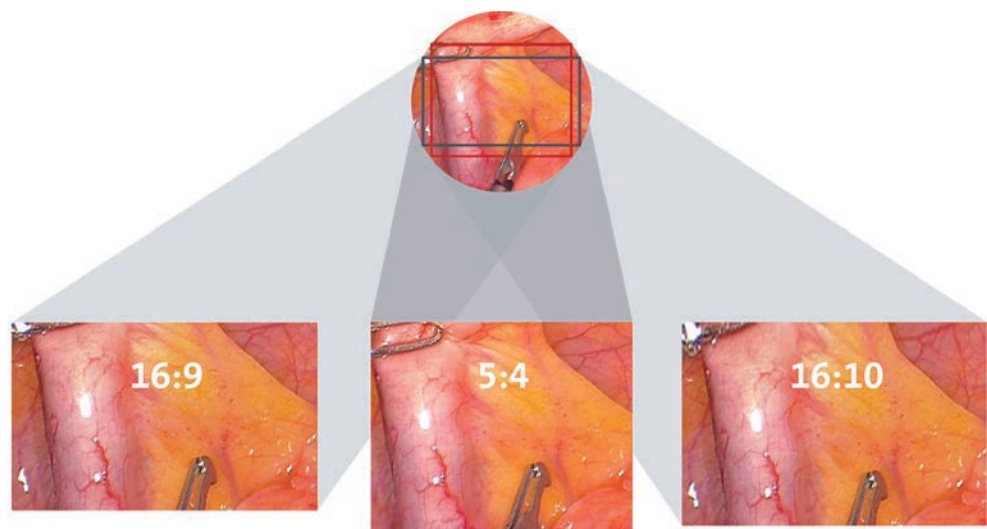
# HD CAMERAs

## Classic Line



## Choose your HD format

In terms of image resolution High Definition video technology has been established in the field of Minimally Invasive Surgery. The switch from the classic 5:4 monitor format to the latest 16:9 or 16:10 widescreen monitors is ongoing. Thus customers find different HD video formats on the market, each with individual benefits and pitfalls for endoscopic imaging. The Cameras offer all formats, so users are free to select their personally preferred format.



**1080p/1080i**

1920 x 1080 pixels

**SXGA**

1280 x 1024 pixels

**WUXGA**

1920 x 1200 pixels

**16:9 – format with the highest impact on the video market HD video standards 1080p and 1080i**

**5:4 – the ideal video format for Minimally Invasive Surgery**

**16:10 – optimum format for latest medical grade monitors  
HD video standard WUXGA (1920 x 1200 pixels)**



Further information: [www.Medical-HD.com](http://www.Medical-HD.com)

## Video modes

The HDC907optimum supports 1080i and 1080p.

**Progressive scan (p)** is a method transmitting moving images in which all the lines of each frame are drawn in sequence. Benefits of this technology are higher vertical resolution video images.

It is the ideal mode for LCD monitors, but unfortunately not supported by current HD capture systems, which are limited to 1080i.

With the interlace (i) technology only every second horizontal line per frame is transmitted.

Two serial complementary images in sequence deliver the necessary visual information needed for a complete video image. Pitfalls of this technology are several "interlaced" effects, e. g. motion artifacts, interline twitter and blurring.



Interlace

Progressive scan

## Intuitive user guidance via optimized on screen display

- Appropriate for all MIS applications guaranteeing excellent image quality
- Seven selectable application-optimized camera settings
- Ten individually adjustable user settings



## Latest output options

- Digital output of image data for modern capture systems and clinical networks
- 2x HDMI/1x HDMI\*, 1x DVI, 1x HD-SDI

\*depends on model variation

## From input to output: the HD chain



## Videocoupler Zoom

- Focal length: 16-34 mm
- Parfocal\*
- Brilliant optic
- Quick coupler
- Waterproof
- Autoclavable
- C-mount
- Ergonomic Design



Videocoupler Zoom

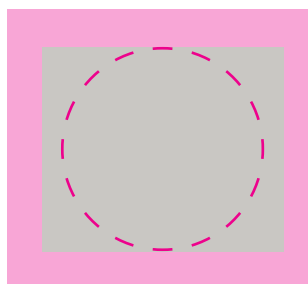
## One coupler for optimum indication settings



LAP



ENT



ARTHRO, HYS, URO

\*A parfocal lens is a lens that stays in focus when magnification/focal length is changed



## HDC907optimum

### 3CCD Medical-HD® Camera

- Fully digital 3CCD Camera Head
- Optional: autoclavable Camera Head
- Moderate operating temperature
- Exchangeable camera cable
- C-mount thread for easy coupler exchange and free choice of couplers



#### Devices

| Item No.    | Description                                              |
|-------------|----------------------------------------------------------|
| RHDC907-L01 | HDC907optimum Control Unit                               |
| RHDC907-L02 | HDC907optimum Camera Head PAL or NTSC (non-autoclavable) |
| RHDC907-L03 | HDC907optimum Camera Head PAL or NTSC (autoclavable)     |

#### Accessories

| Part No.  | Description                                                                            |
|-----------|----------------------------------------------------------------------------------------|
| RZOOM-L01 | Videocoupler Zoom, Focal length = 16-34 mm, (LAP, ARTHRO, HYS, URO, ENT), autoclavable |
| RURO-L01  | URO-Videocoupler, 18 mm, 90°                                                           |
| RCCB-L02  | Camera cable, black                                                                    |

Power supply cord and further accessories available upon request.

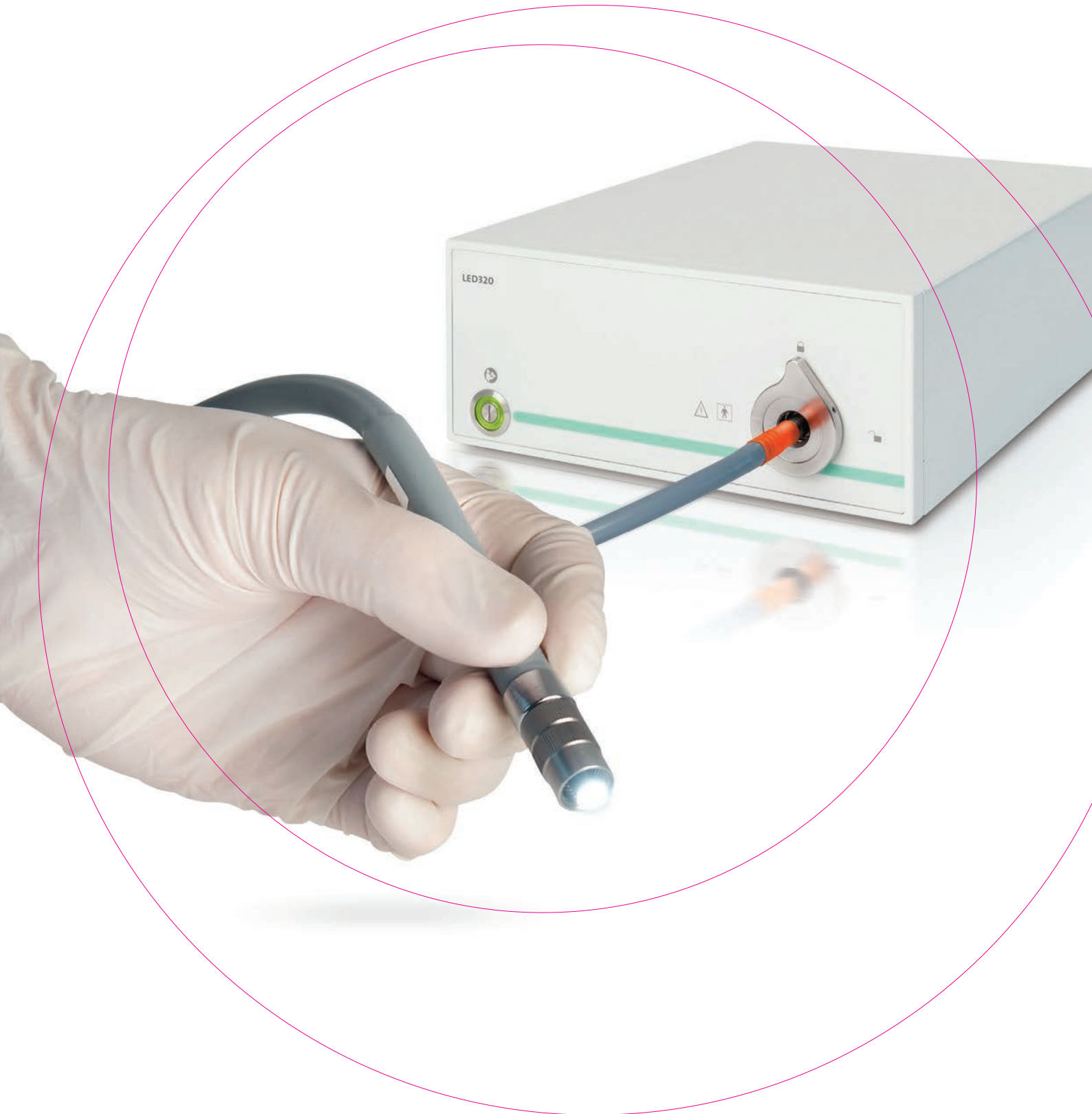


| Technical Data            |                                                                                                                                                                                                                                                                                                                                                     | HDC907optimum |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Camera Head Unit (CHU)    | Medical-HD® 1080p 3CCD Camera Head                                                                                                                                                                                                                                                                                                                  |               |
| Video standards           | SXGA 1280 (H) x 1024 (V), horizontal resolution 1024 lines<br>WUXGA 1920 (H) x 1200 (V), horizontal resolution 1200 lines<br>1080p 1920 (H) x 1080 (V), horizontal resolution 1080 lines                                                                                                                                                            |               |
| Sensitivity               | 1.5 lux                                                                                                                                                                                                                                                                                                                                             |               |
| Minimum illumination      | 3 x 0.9 lux                                                                                                                                                                                                                                                                                                                                         |               |
| AGC-Max                   | +18 dB                                                                                                                                                                                                                                                                                                                                              |               |
| Operation                 | 2 programmable remote head keys<br>(user defined settings with 10 variable key functions)                                                                                                                                                                                                                                                           |               |
| Safety                    | Waterproofed according to IEC529, classification IPX7, completely soakable with attached EFO and camera cable (with screwed on sealing cap), Classification CF (Degree of protection against electric shock: applied part of type CF), Isolation resistance test max 500 V DC between applied part and CCU housing, autoclavable                    |               |
| Dimension                 | Ø 40 mm, L = 120 mm/Ø 1.57 in, L = 4.72 in (length incl. zoom and quick coupling)                                                                                                                                                                                                                                                                   |               |
| Weight                    | 210 g/7.4 oz (incl. zoom and quick coupling)                                                                                                                                                                                                                                                                                                        |               |
| URO-Videocoupler          | f = 18 mm, easy focusing – focus ring can be operated from left or right                                                                                                                                                                                                                                                                            |               |
| Zoom objective            | f = 16-34 mm                                                                                                                                                                                                                                                                                                                                        |               |
| Digital zoom              | 2 x                                                                                                                                                                                                                                                                                                                                                 |               |
| Quick coupling            | Fits rigid endoscopes (ocular), ISO eye piece compatible (ISO 8600-1)                                                                                                                                                                                                                                                                               |               |
| Camera cable              | 3 m/9.8 ft highly flexible special cable, waterproof, replaceable w/o special tools short circuit proof                                                                                                                                                                                                                                             |               |
| Camera Control Unit (CCU) | Digital signal process, +6 dB with interference suppression, continuous shutter: 1/50 to 1/16000 s, automatic signal amplification up to 400 %, automatic system check routine, setup menu for all settings, automatic white balance with digital long time memory. COLORAMA color adjustments, measuring areas SPOT and INTEGRAL, adjustable video |               |
| Signal/Noise ratio        | > 62 dB                                                                                                                                                                                                                                                                                                                                             |               |
| Horizontal resolution     | 1024 lines (SXGA), 1080 (1080i/1080p), 1200 (WUXGA)                                                                                                                                                                                                                                                                                                 |               |
| Operation                 | Easy operation with membrane key: ON/OFF, WHITE BALANCE, 3 measuring areas selectable (SPOT large/small, INTEGRAL), test pattern, video level, manual COLORAMA color fine balance                                                                                                                                                                   |               |
| Outputs                   | 1x HD-DVI, 2x HDMI/1x HDMI*, 1x HD-SDI, 2x BNC (FBAS), 2x Y/C (S-VHS)                                                                                                                                                                                                                                                                               |               |
| Interfaces                | PC Interface RS 232 C, Remote (3.5 mm/1/8 in stereo jack)                                                                                                                                                                                                                                                                                           |               |
| Mains                     | Medical global power adapter 100-240 V AC +/-10 %, 50-60 Hz                                                                                                                                                                                                                                                                                         |               |
| Current consumption       | Max. 400 mA                                                                                                                                                                                                                                                                                                                                         |               |
| Classifications           | Protection Class I, Type CF, IP 20                                                                                                                                                                                                                                                                                                                  |               |
| Fuses                     | 2 x 250 V, T 0.8 A                                                                                                                                                                                                                                                                                                                                  |               |
| Dimensions (w x h x d)    | 267 x 69 x 360 mm/10.5 x 2.7 x 14.2 in                                                                                                                                                                                                                                                                                                              |               |
| Weight                    | 3.9 kg/8.6 lb                                                                                                                                                                                                                                                                                                                                       |               |

\*depends on model variation

# LIGHT SOURCE

## Classic Line





## LED320

**LED320** is a high brightness single white light LED Light Source for Minimally Invasive Medicine. It's lumen output surpasses 180 W Xenon-Light Sources. Due to its extremely long life expectancy (up to 10 years) the cost intensive bulb replacements as known from Xenon-Light Sources are no longer necessary.

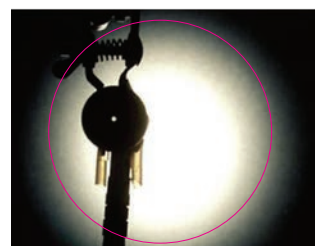
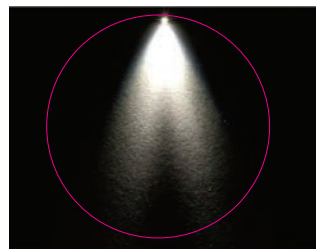
The **LED320** exceeds the light output of 180 W Xenon-Light Sources without emitting UV or IR light. This leads to less heat transmission to the endoscope and reduces the risk of burning tissue. Additional advantages of the LED320 are the uniformly distributed illumination and the bright and more homogeneous light spot.

The **LED320** is instantly ready for use as no warm up or cool down is necessary. The multi light cable socket enables the use of light cables from different manufacturers.

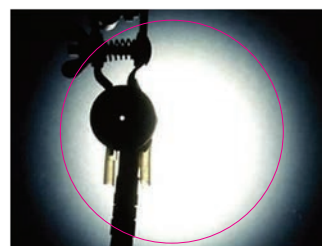
**LED320** has not only reduced the need for service while increasing performance, additionally it also contributes to saving the environment as no Lead (Pb) or Mercury (Hg) is used.

### LED vs. Xenon

- LED light spot is brighter and more homogeneous than Xenon
- Brighter and whiter light; optimized for CCD and CMOS sensors
- Uniformly distributed illumination
- Reduced heat transmission to the endoscope due to the elimination of UV and IR light



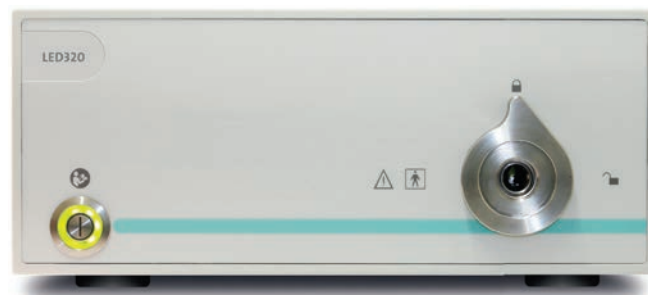
180 W Xenon



LED320

## High performance endoscopic LED-Light Source

- High lumen output (superior to 180 W Xenon)
- Cost savings due to extremely long life expectancy and power saving
- No annual bulb change is necessary
- Instant ON/OFF (no warm up or cool down)
- Applicable for all endoscopic indications
- Up to 10 years of bulb life



### Accessories

| Part No.        | Description                                       |
|-----------------|---------------------------------------------------|
| <b>RLED-L01</b> | Light Source LED320 with multi light cable socket |

Power supply cord and further accessories available upon request.

## Ease of use

- Multi light cable socket enables use of light cables from different manufacturers (Storz, Wolf, ACMI, Olympus)
- Single-handed exchange of light cable



### Technical Data

|                        |                                                                                      |
|------------------------|--------------------------------------------------------------------------------------|
| Lamp                   | LED                                                                                  |
| Color temperature      | 6.500 K                                                                              |
| Lumen maintenance      | 90 % after 10.000 h                                                                  |
| Operation              | Power switch ON/OFF                                                                  |
| Mains                  | Medical world power supply, 100 to 120 V AC and 220 to 240 V AC $\pm$ 10 %, 47/63 Hz |
| Power consumption      | 175 VA                                                                               |
| Current consumption    | 115 V: 1.4 A<br>230 V: 0.8 A                                                         |
| Fuse designation       | T 4.0 AH, 250 V, UL-recognized                                                       |
| Classifications        | Protection Class I, Type BF, IP 20                                                   |
| Dimensions (w x h x d) | 268 x 122 x 370 mm                                                                   |
| Weight                 | 4.9 kg                                                                               |

## XL300

Top performance endoscopic Xenon-Light Source  
with micro processor control and LCD display

- 300 W Xenon lamp
- Lamp-Life LCD display and electronic lamp change indicator
- Multi standard exchangeable light cable socket
- Easy lamp replacement
- Brightness control



### Devices

| Item No.   | Description                                 |
|------------|---------------------------------------------|
| RXL300-L01 | Light Source with light cable socket, Storz |
| RXL300-L03 | Light Source with light cable socket, Wolf  |

### Accessories

| Part No.       | Description                                          |
|----------------|------------------------------------------------------|
| R900-000000-07 | Adapter for light cable, Light Source, Olympus       |
| R900-000000-01 | Adapter for light cable, Light Source, Storz         |
| R900-000000-03 | Adapter for light cable, Light Source, Wolf          |
| R900-000000-02 | Adapter for light cable, endoscope, Storz/Olympus    |
| R900-000000-04 | Adapter for light cable, endoscope, Wolf             |
| R900-000000-06 | Adapter for light cable, endoscope, ACMI             |
| R901-048180-00 | Light cable for Xenon light sources, 1.8 m, Ø 4.8 mm |
| R901-048230-00 | Light cable for Xenon light sources, 2.3 m, Ø 4.8 mm |
| R901-048300-00 | Light cable for Xenon light sources, 3.0 m, Ø 4.8 mm |
| RXBO-L03       | Replacement lamp module XL300                        |

Power supply cord and further accessories available upon request.

### Technical Data

|                        |                                                                                                                          |
|------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Lamp                   | Cermax Xenon LX 300 BF 300 W                                                                                             |
| Color temperature      | 5.600 K                                                                                                                  |
| Service life           | Min. 600 h                                                                                                               |
| Operation              | Membrane keys OFF Xenon (ON)                                                                                             |
| Mains                  | Medical world power supply, (AVS: automatic voltage switch),<br>100 to 120 V AC and 220 to 240 V AC $\pm$ 10 %, 50/60 Hz |
| Current consumption    | 4.8 to 2 A (at the end of the Xenon lamp lifespan up to 6 to 2.7 A)                                                      |
| Peak current           | Max. 10 to 5 A (on ignition)                                                                                             |
| Fuses                  | 2 x 250 V T 6.3 A (SB)                                                                                                   |
| Classifications        | Protection Class I, Type CF, IP 20                                                                                       |
| Dimensions (w x h x d) | 267 x 138 x 360 mm/10.5 x 5.4 x 14.2 in                                                                                  |
| Weight                 | 7.8 kg/17.2 lb                                                                                                           |

## Combination example

| Light Source                                                                        | Light Cable                                                                         | Endoscope                                                                             |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |
| <b>R900-000000-07, Olympus</b>                                                      |                                                                                     | <b>R900-000000-06, ACMI</b>                                                           |
|  |  |  |
| <b>R900-000000-01, Storz</b>                                                        |                                                                                     | <b>R900-000000-02, Storz</b>                                                          |
|  |  |  |
| <b>R900-000000-03, Wolf</b>                                                         |                                                                                     | <b>R900-000000-04, Wolf</b>                                                           |



## LED 3000

### HIGH INTENSITY LIGHTSOURCE

- PHASER® Technology Included
- Turret multi connector (optional)
- Low noise, low heat conduction
- Pure daylight quality

#### Devices

| Item No.         | Description                                                 |
|------------------|-------------------------------------------------------------|
| <b>RLED3000S</b> | Storz (standard) adapter, automatic light intensity control |
| <b>RLED3000W</b> | Wolf adapter, automatic light intensity control             |
| <b>RLED3000O</b> | Olympus adapter, automatic light intensity control          |
| <b>RLED3000T</b> | Turret adapter, automatic light intensity control           |



#### Turret, multi connector (optional):

|         |  |
|---------|--|
| Olympus |  |
| ACMI    |  |
| Wolf    |  |
| Storz   |  |

#### Multi connector option



#### Technical Data

|                                               |                                                             |
|-----------------------------------------------|-------------------------------------------------------------|
| Lamp                                          | Daylight quality, 6000 K (+/-500 K)<br>Lifetime: ≤30.000 hr |
| Voltage range (current consumption)           | 100-240 V (130 VA)                                          |
| Frequency                                     | 50-60 Hz                                                    |
| Device protection                             | 2x T6, 3 A                                                  |
| Video In                                      | 1x Video                                                    |
| Protection class (acc. to IEC 60601-1)        | I                                                           |
| Safety class                                  | BF                                                          |
| IP Code                                       | 20                                                          |
| Standard                                      | IEC 60601-1-2                                               |
| Device classification (acc. to MDD 93/42/EEC) | I                                                           |
| Dimensions (w x h x d)                        | 355 x 120 x 340 mm                                          |
| Weight                                        | approx. 10 kg                                               |
| Delivery contains                             | Light source, mains cable, user manual,<br>BNC cable        |



Light guide connection  
Storz, (standard)



## LED 1000

### HIGH INTENSITY LIGHTSOURCE

- Low noise, low heat conduction
- Electronical light control via buttons
- Pure daylight quality
- Waterproof touch control panel

#### Devices

| Item No.         | Description                                                 |
|------------------|-------------------------------------------------------------|
| <b>RLED1000S</b> | Storz (standard) adapter, automatic light intensity control |
| <b>RLED1000W</b> | Wolf adapter, automatic light intensity control             |
| <b>RLED1000O</b> | Olympus adapter, automatic light intensity control          |



#### Technical Data

|                                               |                                                              |
|-----------------------------------------------|--------------------------------------------------------------|
| Lamp                                          | Daylight quality, 6500 K<br>Lifetime: > 20.000 hr            |
| Light guide connection                        | Storz, Wolf adapter                                          |
| Voltage range (current consumption)           | 100-240 V (130 VA)                                           |
| Frequency                                     | 50-60 Hz                                                     |
| Device protection                             | 2x T3, 15 A                                                  |
| Video In                                      | 1x Video                                                     |
| Protection class (acc.to IEC 60601-1)         | I                                                            |
| Safety class                                  | BF                                                           |
| IP code                                       | 20                                                           |
| Standard                                      | IEC 60601-1-2                                                |
| Device classification (acc. to MDD 93/42/EEC) | I                                                            |
| Dimensions (w x h x d)                        | 355 x 103 x 253 mm                                           |
| Weight                                        | approx. 4,5 kg                                               |
| Delivery contains                             | Light source, mains cable, user manual, BNC cable (optional) |

## HALOGEN HL 150

- Small compact design
- Exchangeable lightguide adapter
- Mechanical diaphragm
- Low heat conduction

### Devices

| Item No. | Description              |
|----------|--------------------------|
| RHL150   | Storz (standard) adapter |



### Technical Data

|                                               |                                                                                                                                       |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Lamp                                          | 150 W (1 Halogen reflector lamp), 15 V                                                                                                |
| Light guide connection                        | Storz (standard), Wolf, Olympus, ACMI                                                                                                 |
| Intensity control                             | Stepless, mechanical diaphragm                                                                                                        |
| System                                        | Power supply: 115/230 V (+/- 10%) switchable<br>Fine fuses: 5x20mm (230 V: T1,6 A   115 V: T3,15 A)<br>Power consumption: max. 190 VA |
| Protection class (acc. to IEC 60601-1)        | I                                                                                                                                     |
| Safety class                                  | BF                                                                                                                                    |
| IP Code                                       | 20                                                                                                                                    |
| Standard                                      | IEC 60601-1-2                                                                                                                         |
| Device classification (acc. to MDD 93/42/EEC) | I                                                                                                                                     |
| Dimensions (w x h x d)                        | 175 x 82,5 x 202 mm                                                                                                                   |
| Weight                                        | approx. 2,5 kg                                                                                                                        |
| Delivery contains                             | Light source, mains cable, user manual,<br>BNC cable                                                                                  |

# PUMP SYSTEM

## Multi - Indication Pump



## Multi-Indication Pump

### Thinking ahead: Four devices in one

4 in 1

- Laparoscopy
- Arthroscopy
- Hysteroscopy
- Urology

### Resource-saving, simple, innovative

Different Pump Systems have been used for each indication up until now. This means hospitals increasingly face problems pertaining to training time and effort, as well as logistics.

The Multi-Indication Pump facilitates everyday routine hospital activities. The ingenious device combines a streamlined design, easy operation, and maximum safety. Key parameters are seen at a glance, allowing for quick and correct actions by personnel. Clinical tests have shown that the device – and with all four indications – can be operated with confidence after just one training session.

Stringent safety measures reliably prevent overpressure in the application area. Each device is the culmination of over 40 years of expertise and experience in the field of developing pumps.



Innovative: The Pump head is integrated in the housing and allows easy insertion of the tube.

## Patient safety

The Pump can be used with up to four indications. Each indication can be unlocked individually as well as combined with one another. The automatic instrument recognition optimally adjusts the Pump to the instrument to be used. A transponder in the tube ensures the highest level of patient safety and maximizes pump output. The device is also equipped with a vacuum pump for suction, a 5.7" touch screen display, and an optional foot switch. The Pump is designed for more than 15 languages.



An original tube set with transponder protection.

### Accessories

| Part No.     | Description |
|--------------|-------------|
| RAPUH302-L01 | Pump        |

### Accessories

| Part No.  | Description                                       |
|-----------|---------------------------------------------------|
| RT0505-01 | Tube set for Irrigation, disposable               |
| RT0506-01 | Tube set for Irrigation, reusable, 20 uses        |
| RT0500-01 | Day patient tube set for Irrigation, disposable*  |
| RT0501-01 | Day tube for Irrigation, disposable*              |
| RT0502-01 | Tube set for Suction, disposable                  |
| RT0503-01 | Tube set for Suction, 2 connectors, disposable    |
| RT0504-01 | Tube set for Vacuum, incl. Filter, disposable     |
| RT0550-01 | Transponder, Indications LAP, ARTHRO, HYS and URO |
| RT0551-01 | Transponder, Indication LAP                       |
| RT0552-01 | Transponder, Indication ARTHRO                    |
| RT0553-01 | Transponder, Indication HYS                       |
| RT0554-01 | Transponder, Indication URO                       |
| RZ0223-01 | Differential volume scale for HYS and URO         |



Tube set for Irrigation, disposable  
(RT0505-01)



Tube set for Irrigation, reusable, 20 uses  
(RT0506-01)



Transponder



Differential volume scale  
(RZ0223-01)

\*Indications LAP, ARTHRO

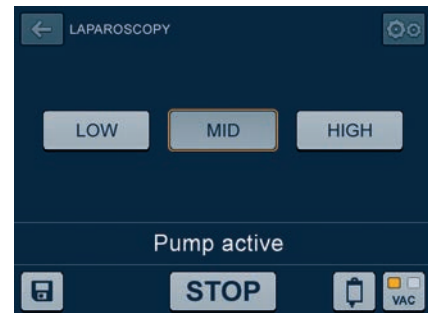
Power supply cord and further accessories available upon request.

**Technical Data**

|                        |                                                                                                                   |
|------------------------|-------------------------------------------------------------------------------------------------------------------|
| Pressure range         | Laparoscopy: not adjustable<br>Arthroscopy: 5-150 mmHg<br>Hysteroscopy: 15-150 mmHg<br>Urology: 15-150 mmHg       |
| Flow range             | Laparoscopy: 1.0-1.8 l/min<br>Arthroscopy: 0.1-1.8 l/min<br>Hysteroscopy: 50-500 ml/min<br>Urology: 50-500 ml/min |
| Suction capacity       | Max. 2 l/min (depending on outflow cannula)                                                                       |
| Power supply           | 100-240 V~                                                                                                        |
| Frequency              | 50-60 Hz                                                                                                          |
| Power consumption      | 80 VA                                                                                                             |
| Current consumption    | 100 V: 0.8 A<br>240 V: 0.3 A                                                                                      |
| Classifications        | Protection Class I, Type BF, IP 41                                                                                |
| Dimensions (w x h x d) | 381 x 149 x 379 mm                                                                                                |
| Weight                 | 6.3 kg                                                                                                            |

## Laparoscopy

All functions required of the Pump can be adjusted via the touch screen with easy to use controls. Unambiguousness ensures maximum safety during surgery.



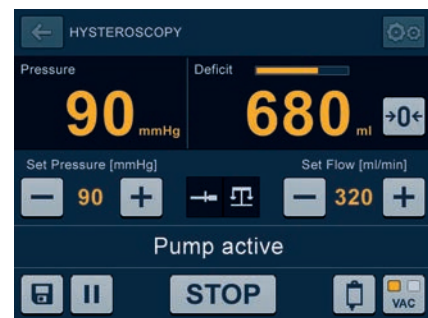
## Arthroscopy

The clearly arranged and intuitive graphical user interface makes it possible to see all key parameters at a glance. The wash function optimizes the visual conditions in the joint. Flow and pressure are adjustable. Highly stringent safety standards prevent overpressure within the joint.



## Hysteroscopy

Pressure and flow are controlled intuitively via setting keys. A scale to measure the deficit is an available option. The display prominently depicts the status of the fluid deficit.



## Urology

Security is the alpha and omega in the field of Minimally Invasive Surgery. The display design optimally supports handling of the Pump. Important data immediately catch the eye and action prompts facilitate proper operation of the Pump, thereby increasing safety considerably. A deficit measurement is an available option.







# PUMP Systems



## A127

### Pump for arthroscopy

- 1.5 l/min max. flow
- Optimized flow regulation done by automatic instrument detection and software control
- Wash function to improve visibility
- within the joint
- Flexible use due to pole mounting
- Highest patient safety due to transponder protected tube set



#### Accessories

| Part No.  | Description          |
|-----------|----------------------|
| RA127-L01 | Pump for arthroscopy |

#### Accessories

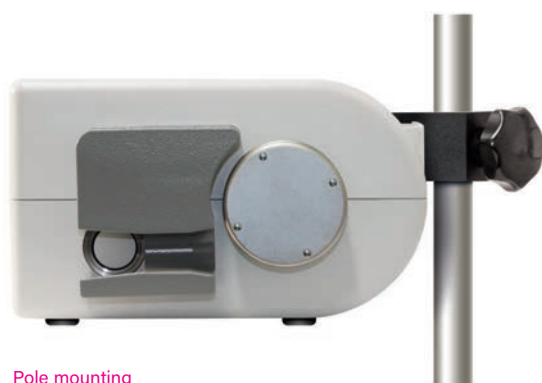
| Part No.  | Description                                                                                                               |
|-----------|---------------------------------------------------------------------------------------------------------------------------|
| RT0449-01 | Tube set with Spike and Luer-Lock connector male: Disposable, only Inflow, transponder protection (1 packaging = 10 pcs.) |
| RT0454-01 | Reusable tube set, only inflow, 20 uses, transponder protection                                                           |

Power supply cord and further accessories available upon request.

#### Technical Data

|                         |                                                    |
|-------------------------|----------------------------------------------------|
| Pressure range          | 5-150 mmHg                                         |
| Max. flow               | 1.5 l/min $\pm$ 10 %                               |
| Mains                   | Medical world power supply, 100-240 V AC, 50-60 Hz |
| Power consumption       | 60 VA                                              |
| Current consumption     | 100 V: 1.2 A<br>240 V: 0.6 A                       |
| Fuse designation        | 2x T 3.15 AH, 250 V                                |
| Classifications         | Protection class I, Type BF, IP 41                 |
| Dimensions (w x h x d)* | 240 x 103 x 221 mm                                 |
| Weight                  | 2.8 kg                                             |

\*without toggle screw



Pole mounting

## A106

### Pump for arthroscopy

- Easy set up
- Automatic instrument calibration
- Clear visualization of operating site
- High safety standards avoid overpressure in the joint
- Remote control from sterile field

**Note:** The automatic instrument calibration finds the perfect set-up for each instrument.



#### Accessories

| Part No.         | Description          |
|------------------|----------------------|
| <b>RA106-L01</b> | Pump for arthroscopy |

#### Accessories

| Part No.         | Description                                                                          |
|------------------|--------------------------------------------------------------------------------------|
|                  | Tube set with pressure chamber, Irrigation, with Spike and Luer-Lock connector male: |
| <b>RZ0449-01</b> | Disposable, sterile (1 packaging = 10 pcs.)                                          |
| <b>RZ0454-01</b> | Reusable, 20 uses, incl. 10 membranes                                                |
| <b>RZ1424-01</b> | Disposable, sterile, Safe-Lock (1 packaging = 10 pcs.)                               |
| <b>RZ0106-01</b> | Foot pedal for Irrigation Pump for arthroscopy                                       |
| <b>RZ0545-01</b> | Cable remote control                                                                 |

**Note:** Wash function only available when remote control or foot pedal is connected.

#### Technical Data

|                        |                                    |
|------------------------|------------------------------------|
| Pressure range         | 0-200 mmHg                         |
| Flow range             | 0.1-1.5 l/min                      |
| High pressure safety   | 300 mmHg                           |
| Power supply           | 100-240 V~                         |
| Frequency              | 50-60 Hz                           |
| Power consumption      | 75 VA                              |
| Current consumption    | 100 V: 1.0 A<br>240 V: 0.2 A       |
| Classifications        | Protection Class I, Type BF, IP 20 |
| Dimensions (w x h x d) | 265 x 137 x 390 mm                 |
| Weight                 | 7.1 kg                             |

Power supply cord and further accessories available upon request.

## P101

### Pump for laparoscopy

- Simple set up and operation
- Easy to load tube set
- Vacuum suction included



#### Accessories

| Part No.  | Description                                   |
|-----------|-----------------------------------------------|
| RP101-L01 | Pump for laparoscopy, power supply: 220-240 V |
| RP101-L02 | Pump for laparoscopy, power supply: 110-115 V |

#### Accessories

| Part No.  | Description                                                                          |
|-----------|--------------------------------------------------------------------------------------|
|           | Tube set with pressure chamber, Irrigation, with Spike and Luer-Lock connector male: |
| RZ0449-01 | Disposable, sterile (1 packaging = 10 pcs.)                                          |
| RZ0454-01 | Reusable, 20 uses, incl. 10 membranes                                                |
| RZ1425-01 | Tube set, suction, reusable, 20 uses                                                 |
| RZ1426-01 | Tube set, vacuum, reusable, 20 uses                                                  |
| RZ0553-01 | Wire Hoop for Bemis Container                                                        |
| RZ0554-01 | Bemis Container, 3 L, disposable (1 packaging = 2 pcs.)                              |
| RZ0555-01 | Bemis Container, 3 L, disposable (1 packaging = 36 pcs.)                             |
| RZ0556-01 | Filter P06, sterile                                                                  |

#### Technical Data

|                           |                                    |
|---------------------------|------------------------------------|
| Max. Flow Rate Irrigation | 1.8 l/min ( $\pm 10\%$ )           |
| Suction                   | 1.8 l/min (+ 0.4/- 0.1 l/min)      |
| Max. Pump Capacity        | 400 mmHg ( $\pm 50$ mmHg)          |
| Suction                   | Between -50 kpa and -60 kpa        |
| Power Supply              | 100 V~/110-115 V~/220-240 V~       |
| Frequency                 | 50-60 Hz                           |
| Power consumption         | 55 VA                              |
| Current consumption       | 100 V: 0.5 A<br>230 V: 0.3 A       |
| Classifications           | Protection Class I, Type BF, IP 41 |
| Dimensions (w x h x d)    | 280 x 137 x 408 mm                 |
| Weight                    | 5.9 kg                             |

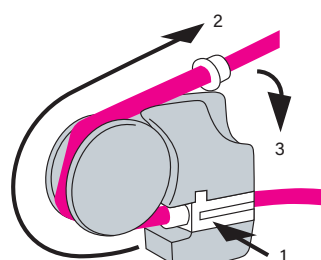
Power supply cord and further accessories available upon request.



## UP100

### Pump for urology

- Easy set up
- Automatic instrument calibration
- Precise control and regulation of pressure
- Clear visualization of operating site



Easy to load tube set in three steps.

#### Accessories

| Part No.          | Description          |
|-------------------|----------------------|
| <b>RUP100-L01</b> | Pump for arthroscopy |

#### Accessories

| Part No.         | Description                                                                                                                      |
|------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>RZ0449-01</b> | Tube set with pressure chamber, Irrigation, with Spike and Luer-Lock connector male: Disposable, sterile (1 packaging = 10 pcs.) |
| <b>RZ0454-01</b> | Reusable, 20 uses, incl. 10 membranes                                                                                            |
| <b>RZ1406-01</b> | Tube set, outflow, disposable, sterile (1 packaging = 10 pcs.)                                                                   |

Power supply cord and further accessories available upon request.

#### Technical Data

|                        |                                    |
|------------------------|------------------------------------|
| Pressure range         | 15-150 mmHg                        |
| Flow range             | 30-500 ml/min                      |
| High pressure safety   | 200 mmHg                           |
| Power supply           | 100-240 V~                         |
| Frequency              | 50-60 Hz                           |
| Power consumption      | 82 VA                              |
| Current consumption    | 100 V: 0.9 A<br>240 V: 0.3 A       |
| Classifications        | Protection Class I, Type BF, IP 41 |
| Dimensions (w x h x d) | 360 x 130 x 305 mm                 |
| Weight                 | 6.3 kg                             |

## H108

### Pump for hysteroscopy

- Easy set up and quickest start-up time
- Automatic instrument calibration
- Advanced safety for pressure and flow meeting highest international standards
- Optional fluid deficit monitoring



#### Accessories

| Part No.         | Description           |
|------------------|-----------------------|
| <b>RH108-L01</b> | Pump for hysteroscopy |

#### Accessories

| Part No.         | Description                                                                          |
|------------------|--------------------------------------------------------------------------------------|
|                  | Tube set with pressure chamber, Irrigation, with Spike and Luer-Lock connector male: |
| <b>RZ0449-01</b> | Disposable, sterile (1 packaging = 10 pcs.)                                          |
| <b>RZ1424-01</b> | Disposable, sterile, Safe-Lock (1 packaging = 10 pcs.)                               |
| <b>RZ0454-01</b> | Reusable, 20 uses, incl. 10 membranes                                                |
| <b>RZ1406-01</b> | Tube set, outflow, disposable, sterile (1 packaging = 10 pcs.)                       |
| <b>RZ0123-01</b> | Bottle scale                                                                         |
| <b>RZ0554-01</b> | Bemis Container, 3 L, disposable (1 packaging = 2 pcs.)                              |
| <b>RZ0555-01</b> | Bemis Container, 3 L, disposable (1 packaging = 36 pcs.)                             |

#### Technical Data

|                        |                                    |
|------------------------|------------------------------------|
| Pressure range         | 15-150 mmHg                        |
| Flow range             | 30-500 ml/min                      |
| High pressure safety   | 200 mmHg                           |
| Power supply           | 100-240 V~                         |
| Frequency              | 50-60 Hz                           |
| Power consumption      | 45 VA                              |
| Current consumption    | 100 V: 0.3 A<br>240 V: 0.2 A       |
| Classifications        | Protection Class I, Type BF, IP 41 |
| Dimensions (w x h x d) | 265 x 137 x 390 mm                 |
| Weight                 | 4 kg                               |

Power supply cord and further accessories available upon request.

## HM4

### Fluid Management System for hysteroscopy

- Optimized flow using FluidMatic
- Easy use and patient safety
- Large deficit and volume display for precise monitoring of fluid loss
- Several bag hooks and container holder
- Easy bag and container change

#### Accessories

| Part No.        | Description                                             |
|-----------------|---------------------------------------------------------|
| <b>RHM4-L01</b> | RHM4 (RH100 – Name of Pump, RM100 – Name of scale unit) |

#### Accessories

| Part No.         | Description                                                                          |
|------------------|--------------------------------------------------------------------------------------|
|                  | Tube set with pressure chamber, Irrigation, with Spike and Luer-Lock connector male: |
| <b>RZ0449-01</b> | Disposable, sterile (1 packaging = 10 pcs.)                                          |
| <b>RZ0454-01</b> | Reusable, 20 uses, incl. 10 membranes                                                |
| <b>RZ1406-01</b> | Tube set, outflow, disposable, sterile (1 packaging = 10 pcs.)                       |
| <b>RZ0553-01</b> | Wire Hoop for Bemis Container                                                        |
| <b>RZ0554-01</b> | Bemis Container, 3 L, disposable (1 packaging = 2 pcs.)                              |
| <b>RZ0555-01</b> | Bemis Container, 3 L, disposable (1 packaging = 36 pcs.)                             |

Power supply cord and further accessories available upon request.



#### Technical Data

|                        |                                                          |
|------------------------|----------------------------------------------------------|
| Pressure range         | 15-150 mmHg                                              |
| Flow range             | 30-500 ml/min                                            |
| High pressure safety   | 200 mmHg                                                 |
| Power supply           | 100-240 V~                                               |
| Frequency              | 50-60 Hz                                                 |
| Power consumption      | 82 VA                                                    |
| Current consumption    | 100 V: 0.9 A<br>240 V: 0.3 A                             |
| Classifications        | Protection Class 1, Type BF, IP 41 (pump), IP 21 (scale) |
| Dimensions (w x h x d) | 710 x 1400 x 810 mm                                      |
| Weight                 | 27 kg                                                    |



Accessories available for **A106, P101, UP100, H108 and HM4**

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Tube set with pressure chamber, Irrigation,  
with Spike and Luer-Lock connector male,  
disposable, sterile  
**(RZ0449-01)**



Tube set with pressure chamber, Irrigation,  
with Spike and Luer-Lock connector male\*,  
reusable, 20 uses, incl. 10 membranes  
**(RZ0454-01)**

Accessories **A127**

---



Tube set with Spike and Luer-Lock connector male,  
disposable, only Inflow, transponder protection  
**(RT0449-01)**



Tube set with Spike and Luer-Lock connector male,  
reusable, only inflow, 20 uses, transponder protection\*  
**(RT0454-01)**

\* Spikes, Luer-Lock and membranes as separate spareparts available  
Further accessories available upon request.



### Accessories **HM4, H108, P101**

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Bottle scale (**RZ0123-01**, for **RH108** only)  
and Bemis Container  
(disposable, **RZ0554-01** / **RZ0555-01**)



Filter, sterile  
(**RZ0556-01**, for **RP101** only)

### Accessories **A106**

---



Cable remote control  
(**RZ0545-01**)



Foot pedal for Irrigation  
Pump for arthroscopy  
(**RZ0106-01**)

**Note:** Wash function only available when remote control or foot pedal is connected.

Further accessories available upon request.



# INSUFFLATOR

50L - Insufflator



## 50 L-Insufflator

### Multi-mode Powerhouse

50 L

- Three additional modes –  
Bariatric, Pediatric and Vessel Harvesting
- High-end performance
- Gas heating – reusable and disposable

### Higher performance enhances safety in the operating room

The new **50 L-Insufflator** adds even more safety during minimally invasive surgeries delivering the performance needed – even under extreme conditions such as obesity of the patient to maintain a stable pneumoperitoneum.

In pediatric or vessel harvesting mode, the insufflator optimally controls according to the different anatomical requirements.

Another plus for all surgical procedures is its ease of use. The **50 L-Insufflator** has a color touchscreen for a high degree of user-friendliness.



A connector for standard insufflation tube sets. Disposable and autoclavable tube sets available.

## Accessories



Tube set, insufflation and gas heating, reusable, 100 uses  
(**RZ0280**)



High pressure hose CO<sub>2</sub>, gas connection, bottle DIN/device US (**RZ5044-01**)



CO<sub>2</sub> gas connector, angled  
(**RZ5077-01**)



NIST adapter for universal gas connector (**RZ5074-01**)

The gas port can be connected with all major gas supply systems. Various adapters and supply hoses are available for this purpose. Opening the device is not required.

## Devices

| Item No.          | Description      |
|-------------------|------------------|
| <b>RFM134-L01</b> | 50 L-Insufflator |

## Accessories

| Part No.         | Description                                                      |
|------------------|------------------------------------------------------------------|
| <b>RZ0452-01</b> | Tube set, insufflation, reusable, 20 uses                        |
| <b>RZ0280</b>    | Tube set, insufflation and gas heating, reusable, 100 uses       |
| <b>RZ0293</b>    | Tube set, insufflation with filter, disposable, sterile          |
| <b>RZ0260</b>    | Tube set, insufflation and gas heating, disposable, sterile      |
| <b>RZ0536</b>    | Filter, single use, sterile, ISO-ISO                             |
| <b>RZ5044-01</b> | Hose for CO <sub>2</sub> gas bottle DIN/US, 1.5 m                |
| <b>RZ0499-01</b> | Hose for CO <sub>2</sub> gas bottle Pin/US, 1.5 m                |
| <b>RZ5030-01</b> | Hose for CO <sub>2</sub> central gas DIN/NIST, 3 m               |
| <b>RZ5031-01</b> | Hose for CO <sub>2</sub> central gas DIN/NIST, 5 m               |
| <b>RZ5074-01</b> | NIST adapter for universal gas connector (central gas supply EU) |
| <b>RZ5077-01</b> | CO <sub>2</sub> gas connector, angled                            |
| <b>RZ5072-01</b> | Sinter filter for universal gas connector (5 pcs.)               |

## Technical Data

|                        |                                    |
|------------------------|------------------------------------|
| Insufflation medium    | Med. CO <sub>2</sub>               |
| Max. gas flow          | 50 l/min                           |
| Pressure range         | 1-30 mmHg                          |
| Power supply           | 100-240 V~                         |
| Frequency              | 50-60 Hz                           |
| Power consumption      | 150 VA                             |
| Current consumption    | 100 V: 0.8 A<br>240 V: 0.3 A       |
| Classifications        | Protection Class I, Type BF, IP 21 |
| Dimensions (w x h x d) | 406 x 150 x 395 mm                 |
| Weight                 | 10 kg                              |

Power supply cord and further accessories available upon request.



# INSUFFLATOR

30L - Insufflator



## 30 L-Insufflator

### Safe technology that adapts to the patient

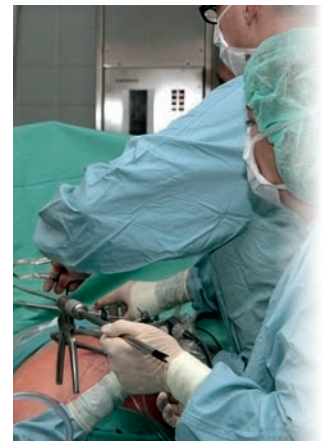
30 L

- Reliable base unit
- Highest safety
- Mature technology

### Easy to use, universal, efficient

A highly reliable device for demand of daily hospital routines. Easy to use by the staff and comprehensive safety components to protect patients.

The maximum flow capacity is 30 liters per minute. The start settings for flow and pressure are customized individually. The Insufflator has a reliable venting system that safely reduces excess pressure in the abdomen. A exchangeable gas filter protects the device from gas supply contamination.



A connector for almost all standard insufflation tubes. Disposable and autoclavable tube sets available.



## Accessories



Tube set, insufflation and gas heating, reusable, 100 uses  
(RZ1422-01)



High pressure hose CO<sub>2</sub>, gas connection, bottle DIN/ device US (RZ5044-01)



Gas connector, angled  
(RZ5071-01)



NIST adapter for universal gas connector (RZ5074-01)

The gas port can be connected with all major gas supply systems. Various adapters and supply hoses are available for this purpose. Opening the device is not required.

## Devices

| Item No.  | Description      |
|-----------|------------------|
| RF128-L01 | 30 L-Insufflator |

## Accessories

| Part No.  | Description                                                      |
|-----------|------------------------------------------------------------------|
| RZ0452-01 | Tube set, insufflation, reusable, 20 uses                        |
| RZ1422-01 | Tube set, insufflation with filter, disposable, sterile          |
| RZ0536    | Filter, single use, sterile, ISO-ISO                             |
| RZ5044-01 | Hose for CO <sub>2</sub> gas bottle DIN/US, 1.5 m                |
| RZ0499-01 | Hose for CO <sub>2</sub> gas bottle Pin/US, 1.5 m                |
| RZ5030-01 | Hose for CO <sub>2</sub> central gas DIN/NIST, 3 m               |
| RZ5031-01 | Hose for CO <sub>2</sub> central gas DIN/NIST, 5 m               |
| RZ5074-01 | NIST adapter for universal gas connector (central gas supply EU) |
| RZ5071-01 | Gas connector, angled                                            |
| RZ5072-01 | Sinterfilter for universal gas connector (5 pcs.)                |

## Technical Data

|                        |                                    |
|------------------------|------------------------------------|
| Insufflation medium    | Med. CO <sub>2</sub>               |
| Max. gas flow          | 30 l/min                           |
| Pressure range         | 1-30 mmHg                          |
| Power supply           | 100-240 V~                         |
| Frequency              | 50-60 Hz                           |
| Power consumption      | 150 VA                             |
| Current consumption    | 100 V: 0.5 A<br>240 V: 0.2 A       |
| Classifications        | Protection Class I, Type BF, IP 41 |
| Dimensions (w x h x d) | 381 x 149 x 379 mm                 |
| Weight                 | 7.5 kg                             |

Power supply cord and further accessories available upon request.



# INSUFFLATOR

## Classic Line



## F102

### Insufflator for laparoscopy

- 20 l/min flow
- Easy set up
- High safety
- ISO standard at patient exit
- User-programmable



#### Accessories

| Item No.  | Description                                                      |
|-----------|------------------------------------------------------------------|
| RF102-L04 | Insufflator for laparoscopy, gas connection CO <sub>2</sub> , US |

#### Accessories

| Part No.  | Description                                                                                       |
|-----------|---------------------------------------------------------------------------------------------------|
| RZ0452-01 | Tube set, insufflation, reusable, 20 uses                                                         |
| RZ1422-01 | Tube set, insufflation with fi lter, disposable, sterile                                          |
| RZ0536    | Filter, single use only, sterile, ISO-ISO                                                         |
| RZ5044-01 | High pressure hose CO <sub>2</sub> , Bottle connection: DIN, Device connection: US, Length: 1.5 m |
| RZ5030-01 | High pressure hose CO <sub>2</sub> for central gas supply, 3 m, NIST/DIN                          |
| RZ5031-01 | High pressure hose CO <sub>2</sub> for central gas supply, 5 m, NIST/DIN                          |
| RZ5010-01 | Connector CO <sub>2</sub> NIST for central gas supply (EU standard)                               |
| RZ5020-01 | Connector CO <sub>2</sub> DISS for central gas supply (US standard)                               |
| RZ5070-01 | Gas connector US, angled standard (F102/F104)                                                     |
| RZ5072-01 | Sinter fi lter for universal gas connection (1 packaging = 5 pcs.)                                |

#### Technical Data

|                        |                                    |
|------------------------|------------------------------------|
| Insufflation medium    | Med. CO <sub>2</sub>               |
| Max. gas fl ow         | 20 l/min                           |
| Pressure range         | 1-30 mmHg                          |
| Power supply           | 100-240 V~                         |
| Frequency              | 50-60 Hz                           |
| Power consumption      | 75 VA                              |
| Current consumption    | 100 V: 0.7 A<br>240 V: 0.3 A       |
| Classifications        | Protection Class I, Type BF, IP 41 |
| Dimensions (w x h x d) | 267 x 138 x 410 mm                 |
| Weight                 | 7 kg                               |

Power supply cord and further accessories available upon request.

**Note:** The use of non-medical CO<sub>2</sub> may damage the device.  
Always use sterile fi lter when operating with reusable tube set.

## F104

### Insufflator for laparoscopy

- 40 l/min flow
- High safety
- Easy set up
- Large text display (multi-lingual)
- User-programmable
- Integrated gas heating
- Pressure relief system and integrated fluid sensor



#### Accessories

##### Item No. Description

- RF104-L01** Insufflator for laparoscopy, gas connection CO<sub>2</sub>, US  
**Language:** English, German, French, Spanish
- RF104-L02** Insufflator for laparoscopy, gas connection CO<sub>2</sub>, US  
**Language:** Italian, Greek, Danish, Dutch

#### Accessories

##### Part No. Description

- RZ0452-01** Tube set, insufflation, reusable, 20 uses
- RZ1422-01** Tube set, insufflation with filter, disposable, sterile
- RZ1415-01** Tube set, insufflation and gas heating, reusable, 100 uses
- RZ0536** Filter, single use only, sterile, ISO-ISO
- RZ5044-01** High pressure hose CO<sub>2</sub>, Bottle connection: DIN, Device connection: US, Length: 1.5 m
- RZ5030-01** High pressure hose CO<sub>2</sub> for central gas supply, 3 m, NIST/DIN
- RZ5031-01** High pressure hose CO<sub>2</sub> for central gas supply, 5 m, NIST/DIN
- RZ5010-01** Connector CO<sub>2</sub>, NIST for central gas supply (EU standard)
- RZ5020-01** Connector CO<sub>2</sub>, DISS for central gas supply (US standard)
- RZ5070-01** Gas connector US, angled standard (F102/F104)
- RZ5072-01** Sinterfilter for universal gas connection (1 packaging = 5 pcs.)

#### Technical Data

|                        |                                    |
|------------------------|------------------------------------|
| Insufflation medium    | Med. CO <sub>2</sub>               |
| Max. gas flow          | 40 l/min                           |
| Pressure range         | 1-30 mmHg                          |
| Power supply           | 100-240 V~                         |
| Frequency              | 50-60 Hz                           |
| Power consumption      | 145 VA                             |
| Current consumption    | 110 V: 1.3 A*<br>230 V: 0.6 A*     |
| Classifications        | Protection Class I, Type BF, IP 40 |
| Dimensions (w x h x d) | 267 x 138 x 410 mm                 |
| Weight                 | 7 kg                               |

\*with reusable heater tubing

Power supply cord and further accessories available upon request.

## Tube sets and filter

---



Tube set, insufflation with filter,  
disposable, sterile  
**(RZ1422-01)**



Tube set, insufflation,  
reusable, 20 uses  
**(RZ0452-01)**



Tube set, insufflation and gas  
heating, reusable, 100 uses  
**(RZ1415-01)**



Filter, single use only,  
sterile, ISO-ISO  
**(RZ0536)**

**Note:** Always use sterile filter when operating with reusable tube set.

Further accessories available upon request.

## Gas connectors and high pressure tubes



Connector CO<sub>2</sub>, US  
(broad standard)  
**(RZ0175-01)**



Connector CO<sub>2</sub>, NIST for central  
gas supply (EU standard)  
**(RZ5010-01)**



Connector CO<sub>2</sub>, DISS for central  
gas supply (US standard)  
**(RZ5020-01)**



High pressure hose CO<sub>2</sub>,  
bottle connection: DIN/  
device connection: US,  
length: 1.5 m  
**(RZ5044-01)**



High pressure hose CO<sub>2</sub>  
for central gas supply,  
NIST/DIN, length: 3 m  
**(RZ5030-01)**

Further accessories available upon request.





# MEDICAL Monitors



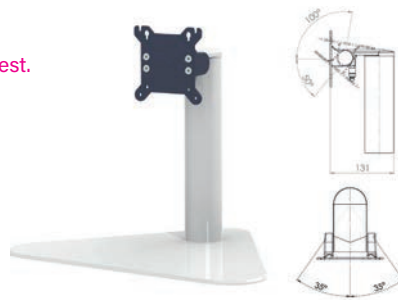
## Medical Monitors

### The solution you are looking for

- TFT-Displays with wide-screen-format
- Display with all-round viewing angle
- Hygienic design with full glass front

Due to the completely closed metal housing, hygienic optimized design and the anti-reflective coated safety glass, these displays provide you with the ability to easily disinfect the monitor as well as offering perfect protection for the high-performance hardware inside.

Monitor stand available upon request.



MD-32



MD-27



MD-23

| Technical Data                | RMD-23                                                                                                                                                                       | RMD-27-Slim                         | RMD-32                     |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------|
| Design                        | 23" TFT-widescreen display                                                                                                                                                   | 27" TFT-widescreen display          | 32" TFT-widescreen display |
| Protective pane               | integrated (touchscreen/in planning*)                                                                                                                                        |                                     |                            |
| Dimensions (w x h x d)        | ca. 557 x 357 x 60 mm                                                                                                                                                        | ca. 655 x 432 x 60 mm               | ca. 770 x 510 x 70 mm      |
| Mounting                      | Built-in VESA-100 interface extensive mounting solutions available as accessories                                                                                            |                                     |                            |
| Weight                        | 7.4 kg (without accessory)                                                                                                                                                   | 10.5 kg (without accessory)         | 17 kg (without accessory)  |
| Power supply unit             |                                                                                                                                                                              | 100-240 V/ 50-60 Hz intern 80 W     |                            |
| Front keypad                  |                                                                                                                                                                              | ON/OFF button, six controls for OSD |                            |
| Display module                |                                                                                                                                                                              |                                     |                            |
| Active area                   | 509 x 286 mm                                                                                                                                                                 | 597 x 335 mm                        | 698.4 x 392.9 mm           |
| Native resolution             | 1920 x 1080 pixel                                                                                                                                                            | 1920 x 1080 pixel                   | 1920 x 1080 pixel          |
| Brightness                    | 250 cd/m²                                                                                                                                                                    | 350 cd/m²                           | 400 cd/m²                  |
| Contrast                      |                                                                                                                                                                              | 1000:1                              | 1300:1                     |
| Viewing angle (h/v)           |                                                                                                                                                                              | 178°/178°                           |                            |
| Response time                 | < 14 ms (G-to-G)                                                                                                                                                             | 8 ms (G-to-G)                       | 8 ms (G-to-G)              |
| Colors                        |                                                                                                                                                                              | 16.7 millions                       |                            |
| Interface                     |                                                                                                                                                                              |                                     |                            |
| Analog                        | VGA D-SUB-15                                                                                                                                                                 |                                     |                            |
| Digital                       | DVI-I                                                                                                                                                                        |                                     | DVI-D                      |
| S-Video                       | 4-pole mini DIN                                                                                                                                                              |                                     |                            |
| Composite Video               | RCA (PAL/NTSC)                                                                                                                                                               |                                     |                            |
| OSD                           |                                                                                                                                                                              |                                     |                            |
| Language selection            | German (English, French, Italian, Spanish, Polish*)                                                                                                                          |                                     |                            |
| VGA                           | Size and position, clock and phase                                                                                                                                           |                                     |                            |
| Viewing settings              | Brightness, contrast, color temperature, gamma, input signal                                                                                                                 |                                     |                            |
| Scope of delivery             |                                                                                                                                                                              |                                     |                            |
| Device                        | MD-23                                                                                                                                                                        | MD-27                               | MD-32                      |
| Cable kit                     | DVI-D (VGA, Component Video, S-Video, Composite-Video*)                                                                                                                      |                                     |                            |
| Acceptable ambient conditions |                                                                                                                                                                              |                                     |                            |
| Temperature                   | 0 to +60 °C/+5 to +35 °C when stored/in operation                                                                                                                            |                                     |                            |
| Relative humidity             | 5 % to 95 %/ 20 % to 80 % non-condensing when stored/in operation                                                                                                            |                                     |                            |
| Supplementary standard        |                                                                                                                                                                              |                                     |                            |
| DIN EN 60601-1: 2007          | Medical electrical equipment: General requirements for basic safety and essential performance                                                                                |                                     |                            |
| DIN EN 60601-1-2: 2007        | Medical electrical equipment: General requirements for basic safety and essential performance<br>Collateral standard: Electromagnetic compatibility – Requirements and tests |                                     |                            |

\*optional

## PP Trolley

### PROFESSIONAL POWER TROLLEY

#### Basic structure

The **PROFESSIONAL POWER** trolley is made up of:

- Base made of steel sheets coated with baked RAL 7035 epoxy powder
- Shelf-holder columns made of aluminum painted with RAL 7035 epoxy powder, with colored stripes
- Cables holder column, made of aluminum, coated with baked epoxy powder, RAL 7035, equipped with removable closure for cables allocation and their easy inspection
- Shelves made of steel sheet coated with baked epoxy powder, suitably shaped in order to avoid accidental falls of objects
- Shelves can be easily mounted and adjusted at different heights (step 2.5 cm), according to the Customer's needs
- Handle with anti-slip grip for a better mobility
- No. 4 twinned wheels with a diameter of 125 mm (2 with brake) anti-noise and anti-tracking

The **PROFESSIONAL POWER** trolley can be enriched with many accessories, due to the specific use of the trolley (keyboard holder shelves, mouse pad, drawers, infusion stand holder, endoscope holder, cylinders holder, monitor holder, swiveling arms, etc.).



#### Devices

| Item No.  | Description |
|-----------|-------------|
| RPP600 RI | OR Trolley  |

#### Technical Data

|                        |                     |
|------------------------|---------------------|
| Dimensions (w x h x d) | 745 x 691 x 1479 mm |
| 1 Shelf                | 600 x 300 mm        |
| 4 Shelves              | 600 x 500 mm        |
| 1 Drawer               | 600 x 500 mm        |
| 1 Oxygen bottle holder | Ø 150 mm            |
| 1 Keyboard holder      |                     |
| 1 Monitor holder       |                     |

#### SET/9500004: Standard Laparoscopic Instruments Set

|    |                 |                                                                                                                                                         |
|----|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1x | R010-100309-000 | Laparoscope 10 mm Ø, 0°, autoclavable intergrated fiber optic for illumination 316 mm working length                                                    |
| 2x | R025-110101-001 | Multi function trocarsleeve 11 mm Ø, Insufflation stop cock, interchangeable metal tube smooth 101 mm working length                                    |
| 2x | R020-110101-024 | Safetytrocar 11 mm Ø oblique end f. trocar sleeve w. 101 mm working length                                                                              |
| 3x | R020-055095-024 | Safetytrocar 5,5 mm Ø oblique end f. trocar sleeve w. 95 mm working length                                                                              |
| 3x | R025-055095-001 | Multi function trocarsleeve 5,5 mm Ø, Insufflation stop cock, interchangeable metal tube smooth 95 mm working length                                    |
| 1x | R026-110055-002 | Reducing adapter w. silicon drape 11 > 5,5 mm                                                                                                           |
| 1x | R027-050110-000 | Dilation set 5 < 11 mm guide probe and dilation sleeve                                                                                                  |
| 1x | R033-050330-236 | Reddick-Olsen Grasping forceps 5 mm Ø, 330 mm lg., ergo uni ratchet handle w. HF rotatable, dismantable, mod. lap. inst.                                |
| 1x | R034-050330-250 | Davis & Geak forceps w. reservoir, 5 mm Ø, 330 mm working length, ergo handle w. HF rotatable, dismantable, mod. lap. inst.                             |
| 1x | R033-050330-212 | MARYLAND dissector curved 5 mm Ø, atraum. 330 mm lg., ergo uni ratchet handle w. HF rotatable, dismantable, mod. lap. inst.                             |
| 1x | R044-050330-116 | Hook scissors straight, 5 mm Ø, 330 mm lg., ergo handle w. HF dismantable, rotatable, mod. lap. Inst.                                                   |
| 1x | R044-050330-112 | Metzenbaum scissors left curved, 5 mm Ø, 330 mm lg., ergo handle w. HF dismantable, rotatable, mod. lap. Inst.                                          |
| 1x | R044-050330-120 | Micro scissors curved, 5 mm Ø, 330 mm lg., ergo handle w. HF dismantable, rotatable, mod. lap. Inst.                                                    |
| 1x | R064-050000-006 | Suction-irrigation handle ergonomic 2-way stop-cock, HF-connector 4 mm male LL-connector for adaptable elektrodes                                       |
| 1x | R064-050330-003 | L-hook-electrode-shaft assembly, monopolar 5 mm Ø, 330 mm working length, adaptable on valvehandles of serie R064-                                      |
| 1x | R060-050330-001 | Button electrode monopolar 5 mm Ø, 340 mm working length handle small HF-connector male                                                                 |
| 1x | R060-080040-003 | Monopolar HF-connecting cable, 3 mtr. lg. 8 mm PIN for US HF-units 4 mm socket instrument side                                                          |
| 1x | R066-050340-601 | Bipolar grasper Hirsch 5 mm Ø, 340 mm working length, jaws fenestrated wave wire, ring plastic handle, modular instrument system rotatable, dismantable |
| 1x | R067-050340-003 | Hook electrode L-shaped, 5 mm Ø, bipolar, 340 mm working length small handle, HF-connector european                                                     |
| 1x | R065-040000-003 | Bipolar connecting cable 3 m lg. 2 banana plugs f. US generators, euro flat plug round f. bipolar instruments with protection                           |
| 1x | R081-050330-001 | Cholangiography fixation clamp 5 mm Ø, channel for 6 Fr. catheters, 330 mm working length, handle with ratchet                                          |
| 1x | R080-020600-201 | Cholangiographiy-Catheter 2 mm Ø, 60 cm long LL-connector female                                                                                        |
| 1x | R058-050330-361 | Needleholder/-positioner str.serrated, 5 mm Ø, 330 mm lg., axial ratchet handle o. HF dismantable, rotatable, mod. lap. inst.                           |
| 1x | R058-050330-352 | Needle holder left curved, w. TC, 5 mm Ø, 330 mm lg., axial ratchet handle o. HF dismantable, rotatable, mod. lap. inst.                                |
| 1x | R050-050330-01  | Knot tier with eye 5 mm Ø, 330 mm working length                                                                                                        |
| 1x | R056-100330-03  | Clip Applier for Ethicon Titan Clips LT300 medium/large, "Paraclose-system", 10 mm Ø, 330 mm working length 360° rotatable, dismantable ( 3-parts )     |
| 1x | R078-000000-199 | Irrigation-suction set 5 / 10 mm Ø, 330 mm long handle w. 2 large trumpet valves tubes 5 + 10 mm Ø, 4 x 4 holes                                         |
| 1x | R090-050330-001 | Palpation Probe graduated 5 mm Ø, 330 mm working length                                                                                                 |
| 1x | R092-100380-005 | Endo -Retractor 10 mm Ø with 5 fingers spreadable and angleable, 340 mm working length, LL-adapter for cleaning                                         |
| 1x | R099-000250-003 | Speculum retractor, 3 blades 60 mm working length, f. gall bladder extraction suitable for 11 mm trocar sleeve                                          |
| 1x | R050-028170-001 | Suture instrument for subcutaneous facial closure, 2,8 mm Ø, 17 cm                                                                                      |

### SET/9502000: Set for gynaecology

|    |                 |                                                                                                                              |
|----|-----------------|------------------------------------------------------------------------------------------------------------------------------|
| 1x | R075-020120-001 | Insufflations-needle acc. to Veress 2,00 x 120 mm                                                                            |
| 1x | R010-100309-030 | Laparoscope 10 mm Ø, 30°, autoclavable integrated fiber optic for illumination 316 mm working length                         |
| 2x | R025-110101-001 | Multi function trocarsleeve 11 mm Ø, Insufflation stop cock, interchangeable metal tube smooth 101 mm working length         |
| 2x | R020-110101-001 | Trocar pyramidal tip 11 mm Ø, f. trocar sleeve w. 101 mm working length                                                      |
| 2x | R025-055095-001 | Multi function trocarsleeve 5,5 mm Ø, Insufflation stop cock, interchangeable metal tube smooth 95 mm working length         |
| 2x | R020-055095-011 | Safetytrocar pyramidal tip, 5,5 mm Ø, autom. cutting protection w. obturator, f. trocar sleeve w. 95 mm working length       |
| 1x | R075-050330-014 | Puncture- and injection needle 5 mm Ø, 330 mm working length, LL-adapter proximal distal needle 1,4 mm ( 17G) Ø 330 mm       |
| 2x | R026-110055-001 | Reducing adapter 11 > 5,5 mm                                                                                                 |
| 1x | R033-050360-240 | Mahnes-Grasping forceps, w. mouse teeth 360 mm lg., ergo uni ratchet handle w. HF rotatable, dismantable, mod. lap. inst.    |
| 1x | R033-050360-242 | Claw grasper 3 x 2 teeth, 5 mm Ø, 360 mm lg., ergo uni ratchet handle w. HF rotatable, dismantable, mod. lap. inst.          |
| 1x | R033-050360-243 | Claw grasper long 3 x 2 teeth, 5 mm Ø, 360 mm lg., ergo uni ratchet handle w. HF rotatable, dismantable, mod. lap. inst.     |
| 1x | R033-050360-216 | Dissecting frcps fenestrated, slim 5 mm Ø, 360 mm lg., ergo uni ratchet handle w. HF rotatable, dismantable, mod. lap. inst. |
| 1x | R033-050360-212 | MARYLAND dissector curved 5 mm Ø, atraum. 360 mm lg., ergo uni ratchet handle w. HF rotatable, dismantable, mod. lap. inst.  |
| 1x | R033-050360-225 | DOLPHIN grasper, bottle nose, 5 mm Ø, 360 mm lg., ergo uni ratchet handle w. HF rotatable, dismantable, mod. lap. inst.      |
| 1x | R044-050360-114 | Peritoneal scsr serrated straight, 5 mm Ø, 360 mm lg., ergo handle w. HF dismantable, rotatable, mod. lap. Inst.             |
| 1x | R044-050360-112 | Metzenbaum scissors left curved, 5 mm Ø, 360 mm lg., ergo handle w. HF dismantable, rotatable, mod. lap. Inst.               |
| 1x | R044-050360-410 | Biopsy punch without thorn, 5 mm Ø, 360 mm lg., ergo handle w. HF dismantable, rotatable, mod. lap. Inst.                    |
| 1x | R044-100360-710 | MAYO Large OP- Scissors, 10 mm Ø, 360 mm lg., ergo handle w. HF dismantable, rotatable, mod. lap. Inst.                      |
| 1x | R067-000000-700 | Ringhandle for bipolar laparoscopic instruments, handle alone w/o accessories POWERGRIP                                      |
| 1x | R067-050340-700 | Shaft tube 5 mm Ø, 340 mm working length f. Powergrip bipolar forceps                                                        |
| 1x | R067-000340-713 | Bipolare forceps fenestrated 5 mm Ø, 340 mm working length insert alone POWERGRIP                                            |
| 1x | R065-040125-005 | Bipolar connecting cable 5 mtr. long for Erbe / Storz HF-generators european plug for instruments                            |
| 1x | R061-050340-003 | Hook electrode L-shaped, 5 mm Ø, monopolar, 340 mm working length HF-connector male                                          |
| 1x | R061-050340-004 | Spatula electrode monopolar 5 mm Ø, 340 mm working length HF-connector male                                                  |
| 1x | R079-050340-204 | Suction-irrigation set 5 mm Ø, 340 mm lg. pistol handle w. 2-way valve, olives shaft w. 4 holes                              |
| 1x | R079-100340-204 | Suction-irrigation set 10 mm Ø, 340 mm lg. pistol handle w. 2-way valve, olives shaft w. 4 holes                             |
| 1x | R090-050330-001 | Palpation Probe graduated 5 mm Ø, 330 mm working length                                                                      |
| 1x | R099-000250-003 | Speculum retractor, 3 blades 60 mm working length, f. gall bladder extraction suitable for 11 mm trocar sleeve               |
| 1x | R058-050360-360 | Needleholder/-positioner straight, 5 mm Ø, 330 mm lg., axial ratchet handle o. HF dismantable, rotatable, mod. lap. inst.    |
| 1x | R050-028170-001 | Suture instrument for subcutaneous facial closure, 2,8 mm Ø, 17 cm                                                           |
| 1x | R050-050330-01  | Knot tier with eye 5 mm Ø, 330 mm working length                                                                             |
| 1x | R050-050340-00  | Fascia Closure Device 2,3 mm Ø, 140 mm working length                                                                        |



## A

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| R030-050360-213..... | 3/8  | R030-050450-243..... | 3/13 | R032M-050330-212..... | 3/8            | R032M-050360-243..... | 3/13 |
| R030-050360-214..... | 3/8  | R030-050450-244..... | 3/14 | R032M-050330-213..... | 3/8            | R032M-050360-244..... | 3/14 |
| R030-050360-215..... | 3/9  | R030-050450-246..... | 3/14 | R032M-050330-214..... | 3/8            | R032M-050360-246..... | 3/14 |
| R030-050360-216..... | 3/9  | R030-050450-248..... | 3/14 | R032M-050330-215..... | 3/9            | R032M-050360-248..... | 3/14 |
| R030-050360-217..... | 3/18 | R030-050450-249..... | 3/14 | R032M-050330-216..... | 3/9            | R032M-050360-249..... | 3/14 |
| R030-050360-218..... | 3/9  | R030-050450-250..... | 3/15 | R032M-050330-217..... | 3/18           | R032M-050360-250..... | 3/15 |
| R030-050360-219..... | 3/9  | R030-050450-251..... | 3/15 | R032M-050330-218..... | 3/9            | R032M-050360-251..... | 3/15 |
| R030-050360-220..... | 3/10 | R030-050450-252..... | 3/15 | R032M-050330-219..... | 3/9            | R032M-050360-252..... | 3/15 |
| R030-050360-222..... | 3/10 | R030-050450-258..... | 3/15 | R032M-050330-220..... | 3/10           | R032M-050360-258..... | 3/15 |
| R030-050360-224..... | 3/10 | R030-050450-259..... | 3/16 | R032M-050330-222..... | 3/10           | R032M-050360-259..... | 3/16 |
| R030-050360-225..... | 3/10 | R030-050450-262..... | 3/16 | R032M-050330-224..... | 3/10           | R032M-050360-262..... | 3/16 |
| R030-050360-226..... | 3/11 | R030-050450-264..... | 3/16 | R032M-050330-225..... | 3/10           | R032M-050360-264..... | 3/16 |
| R030-050360-228..... | 3/11 | R030-050450-266..... | 3/16 | R032M-050330-226..... | 3/11           | R032M-050360-266..... | 3/16 |
| R030-050360-230..... | 3/11 | R030-050450-270..... | 3/17 | R032M-050330-228..... | 3/11           | R032M-050360-270..... | 3/17 |
| R030-050360-231..... | 3/11 | R030-050450-272..... | 3/17 | R032M-050330-230..... | 3/11           | R032M-050360-272..... | 3/17 |
| R030-050360-232..... | 3/12 | R030-050450-274..... | 3/17 | R032M-050330-231..... | 3/11           | R032M-050360-274..... | 3/17 |
| R030-050360-234..... | 3/12 | R030-050450-276..... | 3/17 | R032M-050330-232..... | 3/12           | R032M-050360-276..... | 3/17 |
| R030-050360-236..... | 3/12 | R030-050450-284..... | 3/18 | R032M-050330-234..... | 3/12           | R032M-050360-284..... | 3/18 |
| R030-050360-238..... | 3/12 | R030-100330-610..... | 3/19 | R032M-050330-236..... | 3/12           | R032M-050450-210..... | 3/8  |
| R030-050360-240..... | 3/13 | R030-100330-612..... | 3/19 | R032M-050330-238..... | 3/12           | R032M-050450-212..... | 3/8  |
| R030-050360-241..... | 3/13 | R030-100330-614..... | 3/19 | R032M-050330-240..... | 3/13           | R032M-050450-213..... | 3/8  |
| R030-050360-242..... | 3/13 | R030-100330-616..... | 3/20 | R032M-050330-241..... | 3/13           | R032M-050450-214..... | 3/8  |
| R030-050360-243..... | 3/13 | R030-100330-618..... | 3/22 | R032M-050330-242..... | 3/13           | R032M-050450-215..... | 3/9  |
| R030-050360-244..... | 3/14 | R030-100330-620..... | 3/22 | R032M-050330-243..... | 3/13           | R032M-050450-216..... | 3/9  |
| R030-050360-246..... | 3/14 | R030-100330-622..... | 3/21 | R032M-050330-244..... | 3/14           | R032M-050450-217..... | 3/18 |

|                       |      |                       |                        |                       |      |                        |                        |
|-----------------------|------|-----------------------|------------------------|-----------------------|------|------------------------|------------------------|
| R032M-050450-218..... | 3/9  | R032M-100360-633..... | 3/21                   | R033-050360-217 ..... | 3/18 | R033-050450-249 .....  | 3/14                   |
| R032M-050450-219..... | 3/9  | R032M-100360-642..... | 3/20                   | R033-050360-218 ..... | 3/9  | R033-050450-250 .....  | 3/15                   |
| R032M-050450-220..... | 3/10 | R032M-100360-646..... | 3/20                   | R033-050360-219 ..... | 3/9  | R033-050450-251 .....  | 3/15                   |
| R032M-050450-222..... | 3/10 | R032M-100360-648..... | 3/20                   | R033-050360-220 ..... | 3/10 | R033-050450-252 .....  | 3/15                   |
| R032M-050450-224..... | 3/10 | R032M-100360-650..... | 3/22                   | R033-050360-222 ..... | 3/10 | R033-050450-258 .....  | 3/15                   |
| R032M-050450-225..... | 3/10 | R032M-100360-654..... | 3/23                   | R033-050360-224 ..... | 3/10 | R033-050450-259 .....  | 3/16                   |
| R032M-050450-226..... | 3/11 | R032M-100360-656..... | 3/23                   | R033-050360-225 ..... | 3/10 | R033-050450-262 .....  | 3/16                   |
| R032M-050450-228..... | 3/11 | R032M-100450-610..... | 3/19                   | R033-050360-226 ..... | 3/11 | R033-050450-264 .....  | 3/16                   |
| R032M-050450-230..... | 3/11 | R032M-100450-612..... | 3/19                   | R033-050360-228 ..... | 3/11 | R033-050450-266 .....  | 3/16                   |
| R032M-050450-231..... | 3/11 | R032M-100450-614..... | 3/19                   | R033-050360-230 ..... | 3/11 | R033-050450-270 .....  | 3/17                   |
| R032M-050450-232..... | 3/12 | R032M-100450-616..... | 3/20                   | R033-050360-231 ..... | 3/11 | R033-050450-272.....   | 3/17                   |
| R032M-050450-234..... | 3/12 | R032M-100450-642..... | 3/20                   | R033-050360-232 ..... | 3/12 | R033-050450-274.....   | 3/17                   |
| R032M-050450-236..... | 3/12 | R032M-100450-646..... | 3/20                   | R033-050360-234 ..... | 3/12 | R033-050450-276 .....  | 3/17                   |
| R032M-050450-238..... | 3/12 | R032M-100450-648..... | 3/20                   | R033-050360-236 ..... | 3/12 | R033-050450-284 .....  | 3/18                   |
| R032M-050450-240..... | 3/13 | R033-000000-000.....  | 3/2, 4/3,<br>5/2, 10/6 | R033-050360-238 ..... | 3/12 | R033-100330-610.....   | 3/19                   |
| R032M-050450-241..... | 3/13 | R033-050330-210 ..... | 3/8                    | R033-050360-240 ..... | 3/13 | R033-100330-612.....   | 3/19                   |
| R032M-050450-242..... | 3/13 | R033-050330-212 ..... | 3/8                    | R033-050360-241 ..... | 3/13 | R033-100330-614.....   | 3/19                   |
| R032M-050450-243..... | 3/13 | R033-050330-213 ..... | 3/8                    | R033-050360-242 ..... | 3/13 | R033-100330-616.....   | 3/20                   |
| R032M-050450-244..... | 3/14 | R033-050330-214 ..... | 3/8                    | R033-050360-243 ..... | 3/13 | R033-100330-618.....   | 3/22                   |
| R032M-050450-246..... | 3/14 | R033-050330-215 ..... | 3/9                    | R033-050360-244 ..... | 3/14 | R033-100330-620 .....  | 3/22                   |
| R032M-050450-248..... | 3/14 | R033-050330-216 ..... | 3/9                    | R033-050360-246 ..... | 3/14 | R033-100330-622 .....  | 3/21                   |
| R032M-050450-249..... | 3/14 | R033-050330-217 ..... | 3/18                   | R033-050360-248 ..... | 3/14 | R033-100330-623 .....  | 3/21                   |
| R032M-050450-250..... | 3/15 | R033-050330-218 ..... | 3/9                    | R033-050360-249 ..... | 3/14 | R033-100330-624 .....  | 3/21                   |
| R032M-050450-251..... | 3/15 | R033-050330-219 ..... | 3/9                    | R033-050360-250 ..... | 3/15 | R033-100330-631.....   | 3/21                   |
| R032M-050450-252..... | 3/15 | R033-050330-220 ..... | 3/10                   | R033-050360-251 ..... | 3/15 | R033-100330-632 .....  | 3/21                   |
| R032M-050450-258..... | 3/15 | R033-050330-222 ..... | 3/10                   | R033-050360-252 ..... | 3/15 | R033-100330-633 .....  | 3/21                   |
| R032M-050450-259..... | 3/16 | R033-050330-224 ..... | 3/10                   | R033-050360-258 ..... | 3/15 | R033-100330-642 .....  | 3/20                   |
| R032M-050450-262..... | 3/16 | R033-050330-226 ..... | 3/10                   | R033-050360-259 ..... | 3/16 | R033-100330-646.....   | 3/20                   |
| R032M-050450-264..... | 3/16 | R033-050330-228 ..... | 3/11                   | R033-050360-262 ..... | 3/16 | R033-100330-648.....   | 3/20                   |
| R032M-050450-266..... | 3/16 | R033-050330-230 ..... | 3/11                   | R033-050360-264 ..... | 3/16 | R033-100330-650.....   | 3/22                   |
| R032M-050450-270..... | 3/17 | R033-050330-231 ..... | 3/11                   | R033-050360-266 ..... | 3/16 | R033-100330-654.....   | 3/23                   |
| R032M-050450-272..... | 3/17 | R033-050330-232.....  | 3/12                   | R033-050360-270 ..... | 3/17 | R033-100330-656.....   | 3/23                   |
| R032M-050450-274..... | 3/17 | R033-050330-234.....  | 3/12                   | R033-050360-272.....  | 3/17 | R033-100360-610.....   | 3/19                   |
| R032M-050450-276..... | 3/17 | R033-050330-236.....  | 3/12                   | R033-050360-274.....  | 3/17 | R033-100360-612.....   | 3/19                   |
| R032M-050450-284..... | 3/18 | R033-050330-238.....  | 3/12                   | R033-050360-276.....  | 3/17 | R033-100360-614.....   | 3/19                   |
| R032M-100330-610..... | 3/19 | R033-050330-240.....  | 3/13                   | R033-050360-284.....  | 3/18 | R033-100360-616.....   | 3/20                   |
| R032M-100330-612..... | 3/19 | R033-050330-241.....  | 3/13                   | R033-050450-210.....  | 3/8  | R033-100360-618.....   | 3/22                   |
| R032M-100330-614..... | 3/19 | R033-050330-242.....  | 3/13                   | R033-050450-212.....  | 3/8  | R033-100360-620.....   | 3/22                   |
| R032M-100330-616..... | 3/20 | R033-050330-243.....  | 3/13                   | R033-050450-213.....  | 3/8  | R033-100360-622.....   | 3/21                   |
| R032M-100330-618..... | 3/22 | R033-050330-244.....  | 3/14                   | R033-050450-214.....  | 3/8  | R033-100360-623.....   | 3/21                   |
| R032M-100330-620..... | 3/22 | R033-050330-246.....  | 3/14                   | R033-050450-215.....  | 3/9  | R033-100360-624.....   | 3/21                   |
| R032M-100330-622..... | 3/21 | R033-050330-248.....  | 3/14                   | R033-050450-216.....  | 3/9  | R033-100360-631.....   | 3/21                   |
| R032M-100330-623..... | 3/21 | R033-050330-249.....  | 3/14                   | R033-050450-217.....  | 3/18 | R033-100360-632.....   | 3/21                   |
| R032M-100330-624..... | 3/21 | R033-050330-250.....  | 3/15                   | R033-050450-218.....  | 3/9  | R033-100360-633.....   | 3/21                   |
| R032M-100330-631..... | 3/21 | R033-050330-251.....  | 3/15                   | R033-050450-219.....  | 3/9  | R033-100360-642.....   | 3/20                   |
| R032M-100330-632..... | 3/21 | R033-050330-252.....  | 3/15                   | R033-050450-220.....  | 3/10 | R033-100360-646.....   | 3/20                   |
| R032M-100330-633..... | 3/21 | R033-050330-258.....  | 3/15                   | R033-050450-222.....  | 3/10 | R033-100360-648.....   | 3/20                   |
| R032M-100330-642..... | 3/20 | R033-050330-259.....  | 3/16                   | R033-050450-224.....  | 3/10 | R033-100360-650.....   | 3/22                   |
| R032M-100330-646..... | 3/20 | R033-050330-262.....  | 3/16                   | R033-050450-225.....  | 3/10 | R033-100360-654.....   | 3/23                   |
| R032M-100330-648..... | 3/20 | R033-050330-264.....  | 3/16                   | R033-050450-226.....  | 3/11 | R033-100360-656.....   | 3/23                   |
| R032M-100330-650..... | 3/22 | R033-050330-266.....  | 3/16                   | R033-050450-228.....  | 3/11 | R033-100450-610.....   | 3/19                   |
| R032M-100330-654..... | 3/23 | R033-050330-270.....  | 3/17                   | R033-050450-230.....  | 3/11 | R033-100450-612.....   | 3/19                   |
| R032M-100330-656..... | 3/23 | R033-050330-272.....  | 3/17                   | R033-050450-231.....  | 3/11 | R033-100450-614.....   | 3/19                   |
| R032M-100360-610..... | 3/19 | R033-050330-274.....  | 3/17                   | R033-050450-232.....  | 3/12 | R033-100450-616.....   | 3/20                   |
| R032M-100360-612..... | 3/19 | R033-050330-276.....  | 3/17                   | R033-050450-234.....  | 3/12 | R033-100450-642.....   | 3/20                   |
| R032M-100360-614..... | 3/19 | R033-050330-284.....  | 3/18                   | R033-050450-236.....  | 3/12 | R033-100450-646.....   | 3/20                   |
| R032M-100360-616..... | 3/20 | R033-050360-210.....  | 3/8                    | R033-050450-238.....  | 3/12 | R033-100450-648.....   | 3/20                   |
| R032M-100360-618..... | 3/22 | R033-050360-212.....  | 3/8                    | R033-050450-240.....  | 3/13 | R033M-000000-000 ..... | 3/2,<br>4/3, 5/3, 10/7 |
| R032M-100360-620..... | 3/22 | R033-050360-213.....  | 3/8                    | R033-050450-241.....  | 3/13 | R033P-000000-000 ..... | 3/2,<br>4/3, 5/2, 10/6 |
| R032M-100360-622..... | 3/21 | R033-050360-214.....  | 3/8                    | R033-050450-242.....  | 3/13 | R033P-050330-210.....  | 3/8                    |
| R032M-100360-623..... | 3/21 | R033-050360-215.....  | 3/9                    | R033-050450-243.....  | 3/13 | R033P-050330-212.....  | 3/8                    |
| R032M-100360-624..... | 3/21 | R033-050360-216.....  | 3/9                    | R033-050450-244.....  | 3/14 | R033P-050330-213.....  | 3/8                    |
| R032M-100360-631..... | 3/21 |                       |                        | R033-050450-246.....  | 3/14 |                        |                        |
| R032M-100360-632..... | 3/21 |                       |                        | R033-050450-248.....  | 3/14 |                        |                        |

|                        |      |                        |      |                        |                |                       |      |
|------------------------|------|------------------------|------|------------------------|----------------|-----------------------|------|
| R033P-050330-214 ..... | 3/8  | R033P-050360-244 ..... | 3/14 | R033P-100330-620 ..... | 3/22           | R034-050330-243 ..... | 3/13 |
| R033P-050330-215 ..... | 3/9  | R033P-050360-246 ..... | 3/14 | R033P-100330-622 ..... | 3/21           | R034-050330-244 ..... | 3/14 |
| R033P-050330-216 ..... | 3/9  | R033P-050360-248 ..... | 3/14 | R033P-100330-623 ..... | 3/21           | R034-050330-246 ..... | 3/14 |
| R033P-050330-217 ..... | 3/18 | R033P-050360-249 ..... | 3/14 | R033P-100330-624 ..... | 3/21           | R034-050330-248 ..... | 3/14 |
| R033P-050330-218 ..... | 3/9  | R033P-050360-250 ..... | 3/15 | R033P-100330-631 ..... | 3/21           | R034-050330-249 ..... | 3/14 |
| R033P-050330-219 ..... | 3/9  | R033P-050360-251 ..... | 3/15 | R033P-100330-632 ..... | 3/21           | R034-050330-250 ..... | 3/15 |
| R033P-050330-220 ..... | 3/10 | R033P-050360-252 ..... | 3/15 | R033P-100330-633 ..... | 3/21           | R034-050330-251 ..... | 3/15 |
| R033P-050330-222 ..... | 3/10 | R033P-050360-258 ..... | 3/15 | R033P-100330-642 ..... | 3/20           | R034-050330-252 ..... | 3/15 |
| R033P-050330-224 ..... | 3/10 | R033P-050360-259 ..... | 3/16 | R033P-100330-646 ..... | 3/20           | R034-050330-258 ..... | 3/15 |
| R033P-050330-225 ..... | 3/10 | R033P-050360-262 ..... | 3/16 | R033P-100330-648 ..... | 3/20           | R034-050330-259 ..... | 3/16 |
| R033P-050330-226 ..... | 3/11 | R033P-050360-264 ..... | 3/16 | R033P-100330-650 ..... | 3/22           | R034-050330-262 ..... | 3/16 |
| R033P-050330-228 ..... | 3/11 | R033P-050360-266 ..... | 3/16 | R033P-100330-654 ..... | 3/23           | R034-050330-264 ..... | 3/16 |
| R033P-050330-230 ..... | 3/11 | R033P-050360-270 ..... | 3/17 | R033P-100330-656 ..... | 3/23           | R034-050330-266 ..... | 3/16 |
| R033P-050330-231 ..... | 3/11 | R033P-050360-272 ..... | 3/17 | R033P-100360-610 ..... | 3/19           | R034-050330-270 ..... | 3/17 |
| R033P-050330-232 ..... | 3/12 | R033P-050360-274 ..... | 3/17 | R033P-100360-612 ..... | 3/19           | R034-050330-272 ..... | 3/17 |
| R033P-050330-234 ..... | 3/12 | R033P-050360-276 ..... | 3/17 | R033P-100360-614 ..... | 3/19           | R034-050330-274 ..... | 3/17 |
| R033P-050330-236 ..... | 3/12 | R033P-050360-284 ..... | 3/18 | R033P-100360-616 ..... | 3/20           | R034-050330-276 ..... | 3/17 |
| R033P-050330-238 ..... | 3/12 | R033P-050450-210 ..... | 3/8  | R033P-100360-618 ..... | 3/22           | R034-050330-284 ..... | 3/18 |
| R033P-050330-240 ..... | 3/13 | R033P-050450-212 ..... | 3/8  | R033P-100360-620 ..... | 3/22           | R034-050360-210 ..... | 3/8  |
| R033P-050330-241 ..... | 3/13 | R033P-050450-213 ..... | 3/8  | R033P-100360-622 ..... | 3/21           | R034-050360-212 ..... | 3/8  |
| R033P-050330-242 ..... | 3/13 | R033P-050450-214 ..... | 3/8  | R033P-100360-623 ..... | 3/21           | R034-050360-213 ..... | 3/8  |
| R033P-050330-243 ..... | 3/13 | R033P-050450-215 ..... | 3/9  | R033P-100360-624 ..... | 3/21           | R034-050360-214 ..... | 3/8  |
| R033P-050330-244 ..... | 3/14 | R033P-050450-216 ..... | 3/9  | R033P-100360-631 ..... | 3/21           | R034-050360-215 ..... | 3/9  |
| R033P-050330-246 ..... | 3/14 | R033P-050450-217 ..... | 3/18 | R033P-100360-632 ..... | 3/21           | R034-050360-216 ..... | 3/9  |
| R033P-050330-248 ..... | 3/14 | R033P-050450-218 ..... | 3/9  | R033P-100360-633 ..... | 3/21           | R034-050360-217 ..... | 3/18 |
| R033P-050330-249 ..... | 3/14 | R033P-050450-219 ..... | 3/9  | R033P-100360-642 ..... | 3/20           | R034-050360-218 ..... | 3/9  |
| R033P-050330-250 ..... | 3/15 | R033P-050450-220 ..... | 3/10 | R033P-100360-646 ..... | 3/20           | R034-050360-219 ..... | 3/9  |
| R033P-050330-251 ..... | 3/15 | R033P-050450-222 ..... | 3/10 | R033P-100360-648 ..... | 3/20           | R034-050360-220 ..... | 3/10 |
| R033P-050330-252 ..... | 3/15 | R033P-050450-224 ..... | 3/10 | R033P-100360-650 ..... | 3/22           | R034-050360-222 ..... | 3/10 |
| R033P-050330-258 ..... | 3/15 | R033P-050450-225 ..... | 3/10 | R033P-100360-654 ..... | 3/23           | R034-050360-224 ..... | 3/10 |
| R033P-050330-259 ..... | 3/16 | R033P-050450-226 ..... | 3/11 | R033P-100360-656 ..... | 3/23           | R034-050360-225 ..... | 3/10 |
| R033P-050330-262 ..... | 3/16 | R033P-050450-228 ..... | 3/11 | R033P-100450-610 ..... | 3/19           | R034-050360-226 ..... | 3/11 |
| R033P-050330-264 ..... | 3/16 | R033P-050450-230 ..... | 3/11 | R033P-100450-612 ..... | 3/19           | R034-050360-228 ..... | 3/11 |
| R033P-050330-266 ..... | 3/16 | R033P-050450-231 ..... | 3/11 | R033P-100450-614 ..... | 3/19           | R034-050360-230 ..... | 3/11 |
| R033P-050330-270 ..... | 3/17 | R033P-050450-232 ..... | 3/12 | R033P-100450-616 ..... | 3/20           | R034-050360-231 ..... | 3/11 |
| R033P-050330-272 ..... | 3/17 | R033P-050450-234 ..... | 3/12 | R033P-100450-642 ..... | 3/20           | R034-050360-232 ..... | 3/12 |
| R033P-050330-274 ..... | 3/17 | R033P-050450-236 ..... | 3/12 | R033P-100450-646 ..... | 3/20           | R034-050360-234 ..... | 3/12 |
| R033P-050330-276 ..... | 3/17 | R033P-050450-238 ..... | 3/12 | R033P-100450-648 ..... | 3/20           | R034-050360-236 ..... | 3/12 |
| R033P-050330-284 ..... | 3/18 | R033P-050450-240 ..... | 3/13 | R034-000000-000 .....  | 3/2,           | R034-050360-238 ..... | 3/12 |
| R033P-050360-210 ..... | 3/8  | R033P-050450-241 ..... | 3/13 | .....                  | 4/3, 5/2, 10/6 | R034-050360-240 ..... | 3/13 |
| R033P-050360-212 ..... | 3/8  | R033P-050450-242 ..... | 3/13 | R034-050330-210 .....  | 3/8            | R034-050360-241 ..... | 3/13 |
| R033P-050360-213 ..... | 3/8  | R033P-050450-243 ..... | 3/13 | R034-050330-212 .....  | 3/8            | R034-050360-242 ..... | 3/13 |
| R033P-050360-214 ..... | 3/8  | R033P-050450-244 ..... | 3/14 | R034-050330-213 .....  | 3/8            | R034-050360-243 ..... | 3/13 |
| R033P-050360-215 ..... | 3/9  | R033P-050450-246 ..... | 3/14 | R034-050330-214 .....  | 3/8            | R034-050360-244 ..... | 3/14 |
| R033P-050360-216 ..... | 3/9  | R033P-050450-248 ..... | 3/14 | R034-050330-215 .....  | 3/9            | R034-050360-246 ..... | 3/14 |
| R033P-050360-217 ..... | 3/18 | R033P-050450-249 ..... | 3/14 | R034-050330-216 .....  | 3/9            | R034-050360-248 ..... | 3/14 |
| R033P-050360-218 ..... | 3/9  | R033P-050450-250 ..... | 3/15 | R034-050330-217 .....  | 3/18           | R034-050360-249 ..... | 3/14 |
| R033P-050360-219 ..... | 3/9  | R033P-050450-251 ..... | 3/15 | R034-050330-218 .....  | 3/9            | R034-050360-250 ..... | 3/15 |
| R033P-050360-220 ..... | 3/10 | R033P-050450-252 ..... | 3/15 | R034-050330-219 .....  | 3/9            | R034-050360-251 ..... | 3/15 |
| R033P-050360-222 ..... | 3/10 | R033P-050450-258 ..... | 3/15 | R034-050330-220 .....  | 3/10           | R034-050360-252 ..... | 3/15 |
| R033P-050360-224 ..... | 3/10 | R033P-050450-259 ..... | 3/16 | R034-050330-222 .....  | 3/10           | R034-050360-258 ..... | 3/15 |
| R033P-050360-225 ..... | 3/10 | R033P-050450-262 ..... | 3/16 | R034-050330-224 .....  | 3/10           | R034-050360-259 ..... | 3/16 |
| R033P-050360-226 ..... | 3/11 | R033P-050450-264 ..... | 3/16 | R034-050330-225 .....  | 3/10           | R034-050360-262 ..... | 3/16 |
| R033P-050360-228 ..... | 3/11 | R033P-050450-266 ..... | 3/16 | R034-050330-226 .....  | 3/11           | R034-050360-264 ..... | 3/16 |
| R033P-050360-230 ..... | 3/11 | R033P-050450-270 ..... | 3/17 | R034-050330-228 .....  | 3/11           | R034-050360-266 ..... | 3/16 |
| R033P-050360-231 ..... | 3/11 | R033P-050450-272 ..... | 3/17 | R034-050330-230 .....  | 3/11           | R034-050360-270 ..... | 3/17 |
| R033P-050360-232 ..... | 3/12 | R033P-050450-274 ..... | 3/17 | R034-050330-231 .....  | 3/11           | R034-050360-272 ..... | 3/17 |
| R033P-050360-234 ..... | 3/12 | R033P-050450-276 ..... | 3/17 | R034-050330-232 .....  | 3/12           | R034-050360-274 ..... | 3/17 |
| R033P-050360-236 ..... | 3/12 | R033P-050450-284 ..... | 3/18 | R034-050330-234 .....  | 3/12           | R034-050360-276 ..... | 3/17 |
| R033P-050360-238 ..... | 3/12 | R033P-100330-610 ..... | 3/19 | R034-050330-236 .....  | 3/12           | R034-050360-284 ..... | 3/18 |
| R033P-050360-240 ..... | 3/13 | R033P-100330-612 ..... | 3/19 | R034-050330-238 .....  | 3/12           | R034-050450-210 ..... | 3/8  |
| R033P-050360-241 ..... | 3/13 | R033P-100330-614 ..... | 3/19 | R034-050330-240 .....  | 3/13           | R034-050450-212 ..... | 3/8  |
| R033P-050360-242 ..... | 3/13 | R033P-100330-616 ..... | 3/20 | R034-050330-241 .....  | 3/13           | R034-050450-213 ..... | 3/8  |
| R033P-050360-243 ..... | 3/13 | R033P-100330-618 ..... | 3/22 | R034-050330-242 .....  | 3/13           | R034-050450-214 ..... | 3/8  |



|                      |      |                      |                        |                      |      |                      |                        |
|----------------------|------|----------------------|------------------------|----------------------|------|----------------------|------------------------|
| R034-050450-215..... | 3/9  | R034-100360-624..... | 3/21                   | R040-050360-314..... | 4/12 | R044-050360-410..... | 4/14                   |
| R034-050450-216..... | 3/9  | R034-100360-631..... | 3/21                   | R040-050360-316..... | 4/13 | R044-050360-412..... | 4/14                   |
| R034-050450-217..... | 3/18 | R034-100360-632..... | 3/21                   | R040-050360-318..... | 4/13 | R044-050450-110..... | 4/9                    |
| R034-050450-218..... | 3/9  | R034-100360-633..... | 3/21                   | R040-050360-320..... | 4/13 | R044-050450-112..... | 4/9                    |
| R034-050450-219..... | 3/9  | R034-100360-642..... | 3/20                   | R040-050360-410..... | 4/14 | R044-050450-113..... | 4/9                    |
| R034-050450-220..... | 3/10 | R034-100360-646..... | 3/20                   | R040-050360-412..... | 4/14 | R044-050450-114..... | 4/10                   |
| R034-050450-222..... | 3/10 | R034-100360-648..... | 3/20                   | R040-050450-110..... | 4/9  | R044-050450-116..... | 4/10                   |
| R034-050450-224..... | 3/10 | R034-100360-650..... | 3/22                   | R040-050450-112..... | 4/9  | R044-050450-118..... | 4/10                   |
| R034-050450-225..... | 3/10 | R034-100360-654..... | 3/23                   | R040-050450-113..... | 4/9  | R044-050450-120..... | 4/10                   |
| R034-050450-226..... | 3/11 | R034-100360-656..... | 3/23                   | R040-050450-114..... | 4/10 | R044-050450-122..... | 4/9                    |
| R034-050450-228..... | 3/11 | R034-100450-610..... | 3/19                   | R040-050450-116..... | 4/10 | R044-050450-125..... | 4/9                    |
| R034-050450-230..... | 3/11 | R034-100450-612..... | 3/19                   | R040-050450-118..... | 4/10 | R044-050450-268..... | 4/12                   |
| R034-050450-231..... | 3/11 | R034-100450-614..... | 3/19                   | R040-050450-120..... | 4/10 | R044-050450-310..... | 4/12                   |
| R034-050450-232..... | 3/12 | R034-100450-616..... | 3/20                   | R040-050450-122..... | 4/9  | R044-050450-312..... | 4/12                   |
| R034-050450-234..... | 3/12 | R034-100450-642..... | 3/20                   | R040-050450-125..... | 4/9  | R044-050450-314..... | 4/12                   |
| R034-050450-236..... | 3/12 | R034-100450-646..... | 3/20                   | R040-050450-268..... | 4/12 | R044-050450-316..... | 4/13                   |
| R034-050450-238..... | 3/12 | R034-100450-648..... | 3/20                   | R040-050450-310..... | 4/12 | R044-050450-318..... | 4/13                   |
| R034-050450-240..... | 3/13 | R037-000000-000..... | 3/4,<br>4/5, 5/4, 10/8 | R040-050450-312..... | 4/12 | R044-050450-320..... | 4/13                   |
| R034-050450-241..... | 3/13 | R038-000000-000..... | 3/4,<br>4/5, 5/4, 10/8 | R040-050450-314..... | 4/12 | R044-050450-410..... | 4/14                   |
| R034-050450-242..... | 3/13 | R039-0533-001.....   | 3/24                   | R040-050450-316..... | 4/13 | R044-050450-412..... | 4/14                   |
| R034-050450-243..... | 3/13 | R039-0533-002.....   | 3/24                   | R040-050450-318..... | 4/13 | R044-100330-710..... | 4/11                   |
| R034-050450-244..... | 3/14 | R039-0533-003.....   | 3/24                   | R040-050450-320..... | 4/13 | R044-100330-810..... | 4/15                   |
| R034-050450-246..... | 3/14 | R039-0533-004.....   | 3/24                   | R040-050450-410..... | 4/14 | R044-100360-710..... | 4/11                   |
| R034-050450-248..... | 3/14 | R039-0533-006.....   | 3/24                   | R040-050450-412..... | 4/14 | R044-100360-810..... | 4/15                   |
| R034-050450-249..... | 3/14 | R039-0533-007.....   | 3/24                   | R040-100330-710..... | 4/11 | R044-100450-710..... | 4/11                   |
| R034-050450-250..... | 3/15 | R039-0533-010.....   | 3/24                   | R040-100330-810..... | 4/15 | R044-100450-810..... | 4/15                   |
| R034-050450-251..... | 3/15 | R039-0533-013.....   | 3/24                   | R040-100360-710..... | 4/11 | R047-000000-000..... | 3/4,<br>4/5, 5/4, 10/8 |
| R034-050450-252..... | 3/15 | R039-0533-014.....   | 3/25                   | R040-100360-810..... | 4/15 | R048-000000-000..... | 3/4,<br>4/5, 5/4, 10/8 |
| R034-050450-258..... | 3/15 | R039-0533-015.....   | 3/25                   | R040-100450-710..... | 4/11 | R050-028170-001..... | 5/13                   |
| R034-050450-259..... | 3/16 | R039-0533-016.....   | 3/25                   | R040-100450-810..... | 4/15 | R050-050330-01.....  | 5/14                   |
| R034-050450-262..... | 3/16 | R040-000000-000..... | 3/4,<br>4/5, 5/4, 10/8 | R044-050330-110..... | 4/9  | R050-050330-02.....  | 5/14                   |
| R034-050450-264..... | 3/16 | R040-050330-110..... | 4/9                    | R044-050330-112..... | 4/9  | R050-050330-03.....  | 5/14                   |
| R034-050450-266..... | 3/16 | R040-050330-112..... | 4/9                    | R044-050330-113..... | 4/9  | R050-050330-05.....  | 5/10                   |
| R034-050450-270..... | 3/17 | R040-050330-113..... | 4/9                    | R044-050330-114..... | 4/10 | R050-050330-350..... | 5/10                   |
| R034-050450-272..... | 3/17 | R040-050330-114..... | 4/10                   | R044-050330-116..... | 4/10 | R050-050330-352..... | 5/10                   |
| R034-050450-274..... | 3/17 | R040-050330-116..... | 4/10                   | R044-050330-118..... | 4/10 | R050-050330-354..... | 5/10                   |
| R034-050450-276..... | 3/17 | R040-050330-118..... | 4/10                   | R044-050330-120..... | 4/10 | R050-050330-360..... | 5/10                   |
| R034-050450-284..... | 3/18 | R040-050330-120..... | 4/10                   | R044-050330-122..... | 4/9  | R050-050340-00.....  | 5/15                   |
| R034-100330-610..... | 3/19 | R040-050330-122..... | 4/10                   | R044-050330-125..... | 4/9  | R050-050360-350..... | 5/10                   |
| R034-100330-612..... | 3/19 | R040-050330-125..... | 4/9                    | R044-050330-268..... | 4/12 | R050-050360-352..... | 5/10                   |
| R034-100330-614..... | 3/19 | R040-050330-126..... | 4/9                    | R044-050330-310..... | 4/12 | R050-050360-354..... | 5/10                   |
| R034-100330-616..... | 3/20 | R040-050330-128..... | 4/9                    | R044-050330-312..... | 4/12 | R050-050360-360..... | 5/10                   |
| R034-100330-618..... | 3/22 | R040-050330-130..... | 4/9                    | R044-050330-314..... | 4/12 | R050-050450-350..... | 5/10                   |
| R034-100330-620..... | 3/22 | R040-050330-132..... | 4/12                   | R044-050330-316..... | 4/13 | R050-050450-352..... | 5/10                   |
| R034-100330-622..... | 3/21 | R040-050330-134..... | 4/12                   | R044-050330-318..... | 4/13 | R050-050450-354..... | 5/10                   |
| R034-100330-623..... | 3/21 | R040-050330-136..... | 4/12                   | R044-050330-320..... | 4/13 | R050-050450-356..... | 5/10                   |
| R034-100330-624..... | 3/21 | R040-050330-138..... | 4/13                   | R044-050330-410..... | 4/14 | R051-050330-350..... | 5/10                   |
| R034-100330-631..... | 3/21 | R040-050330-140..... | 4/13                   | R044-050330-412..... | 4/14 | R051-050330-352..... | 5/10                   |
| R034-100330-632..... | 3/21 | R040-050330-142..... | 4/13                   | R044-050360-110..... | 4/9  | R051-050330-354..... | 5/10                   |
| R034-100330-633..... | 3/21 | R040-050330-144..... | 4/14                   | R044-050360-112..... | 4/9  | R051-050330-356..... | 5/10                   |
| R034-100330-642..... | 3/20 | R040-050330-146..... | 4/14                   | R044-050360-114..... | 4/10 | R051-050330-360..... | 5/10                   |
| R034-100330-646..... | 3/20 | R040-050330-148..... | 4/14                   | R044-050360-116..... | 4/10 | R051-050360-350..... | 5/10                   |
| R034-100330-648..... | 3/20 | R040-050330-150..... | 4/9                    | R044-050360-118..... | 4/10 | R051-050360-352..... | 5/10                   |
| R034-100330-650..... | 3/22 | R040-050330-152..... | 4/9                    | R044-050360-120..... | 4/10 | R051-050360-354..... | 5/10                   |
| R034-100330-654..... | 3/23 | R040-050330-154..... | 4/9                    | R044-050360-122..... | 4/9  | R051-050360-360..... | 5/10                   |
| R034-100330-656..... | 3/23 | R040-050330-156..... | 4/10                   | R044-050360-125..... | 4/9  | R051-050450-350..... | 5/10                   |
| R034-100360-610..... | 3/19 | R040-050330-158..... | 4/10                   | R044-050360-268..... | 4/12 | R051-050450-352..... | 5/10                   |
| R034-100360-612..... | 3/19 | R040-050330-160..... | 4/10                   | R044-050360-310..... | 4/12 | R051-050450-354..... | 5/10                   |
| R034-100360-614..... | 3/19 | R040-050330-162..... | 4/9                    | R044-050360-312..... | 4/12 | R051-050450-360..... | 5/10                   |
| R034-100360-616..... | 3/20 | R040-050330-164..... | 4/9                    | R044-050360-314..... | 4/12 | R052-050330-350..... | 5/10                   |
| R034-100360-618..... | 3/22 | R040-050330-166..... | 4/9                    | R044-050360-316..... | 4/13 | R052-050330-352..... | 5/10                   |
| R034-100360-620..... | 3/22 | R040-050330-168..... | 4/12                   | R044-050360-318..... | 4/13 | R052-050330-354..... | 5/10                   |
| R034-100360-622..... | 3/21 | R040-050330-170..... | 4/12                   | R044-050360-320..... | 4/13 | R052-050330-360..... | 5/10                   |
| R034-100360-623..... | 3/21 | R040-050330-172..... | 4/12                   |                      |      | R052-050360-350..... | 5/10                   |

|                       |      |                      |      |                      |      |                      |      |
|-----------------------|------|----------------------|------|----------------------|------|----------------------|------|
| R052-050360-352.....  | 5/10 | R056-050330-22.....  | 5/16 | R057-050360-112..... | 4/9  | R058-050330-320..... | 4/13 |
| R052-050360-354.....  | 5/10 | R056-050330-41.....  | 5/16 | R057-050360-113..... | 4/9  | R058-050330-350..... | 5/11 |
| R052-050360-360.....  | 5/10 | R056-050330-42.....  | 5/16 | R057-050360-114..... | 4/10 | R058-050330-352..... | 5/11 |
| R052-050450-350.....  | 5/10 | R056-100000-00.....  | 5/18 | R057-050360-116..... | 4/10 | R058-050330-354..... | 5/11 |
| R052-050450-352.....  | 5/10 | R056-100000-01.....  | 5/18 | R057-050360-118..... | 4/10 | R058-050330-360..... | 5/11 |
| R052-050450-354.....  | 5/10 | R056-100000-02.....  | 5/18 | R057-050360-120..... | 4/10 | R058-050330-410..... | 4/14 |
| R052-050450-360.....  | 5/10 | R056-100000-03.....  | 5/18 | R057-050360-122..... | 4/9  | R058-050330-412..... | 4/14 |
| R053-050330-350.....  | 5/10 | R056-100000-04.....  | 5/18 | R057-050360-125..... | 4/9  | R058-050360-110..... | 4/9  |
| R053-050330-352.....  | 5/10 | R056-100000-11.....  | 5/18 | R057-050360-268..... | 4/12 | R058-050360-112..... | 4/9  |
| R053-050330-354.....  | 5/10 | R056-100000-12.....  | 5/18 | R057-050360-310..... | 4/12 | R058-050360-113..... | 4/9  |
| R053-050330-360.....  | 5/10 | R056-100000-13.....  | 5/18 | R057-050360-312..... | 4/12 | R058-050360-114..... | 4/10 |
| R053-050360-350.....  | 5/10 | R056-100000-14.....  | 5/18 | R057-050360-314..... | 4/12 | R058-050360-116..... | 4/10 |
| R053-050360-352.....  | 5/10 | R056-100000-21.....  | 5/18 | R057-050360-316..... | 4/13 | R058-050360-118..... | 4/10 |
| R053-050360-354.....  | 5/10 | R056-100000-22.....  | 5/18 | R057-050360-318..... | 4/13 | R058-050360-120..... | 4/10 |
| R053-050360-360.....  | 5/10 | R056-100000-23.....  | 5/18 | R057-050360-320..... | 4/13 | R058-050360-122..... | 4/9  |
| R053-050450-350.....  | 5/10 | R056-100000-31.....  | 5/18 | R057-050360-350..... | 5/11 | R058-050360-125..... | 4/9  |
| R053-050450-352.....  | 5/10 | R056-100000-32.....  | 5/18 | R057-050360-352..... | 5/11 | R058-050360-268..... | 4/12 |
| R053-050450-354.....  | 5/10 | R056-100000-33.....  | 5/18 | R057-050360-354..... | 5/11 | R058-050360-310..... | 4/12 |
| R053-050450-360.....  | 5/10 | R056-100000-34.....  | 5/18 | R057-050360-360..... | 5/11 | R058-050360-312..... | 4/12 |
| R053P-050330-350..... | 5/10 | R056-100000-41.....  | 5/18 | R057-050360-410..... | 4/14 | R058-050360-314..... | 4/12 |
| R053P-050330-352..... | 5/10 | R056-100000-42.....  | 5/18 | R057-050360-412..... | 4/14 | R058-050360-318..... | 4/13 |
| R053P-050330-354..... | 5/10 | R056-100000-43.....  | 5/18 | R057-050450-110..... | 4/9  | R058-050360-320..... | 4/13 |
| R053P-050330-360..... | 5/10 | R056-100330-00.....  | 5/18 | R057-050450-112..... | 4/9  | R058-050360-350..... | 5/11 |
| R053P-050360-350..... | 5/10 | R056-100330-01.....  | 5/18 | R057-050450-113..... | 4/9  | R058-050360-352..... | 5/11 |
| R053P-050360-352..... | 5/10 | R056-100330-02.....  | 5/18 | R057-050450-114..... | 4/10 | R058-050360-354..... | 5/11 |
| R053P-050360-354..... | 5/10 | R056-100330-03.....  | 5/18 | R057-050450-116..... | 4/10 | R058-050360-360..... | 5/11 |
| R053P-050360-360..... | 5/10 | R056-100330-04.....  | 5/18 | R057-050450-118..... | 4/10 | R058-050360-410..... | 4/14 |
| R053P-050450-350..... | 5/10 | R056-100330-11.....  | 5/18 | R057-050450-120..... | 4/10 | R058-050360-412..... | 4/14 |
| R053P-050450-352..... | 5/10 | R056-100330-12.....  | 5/18 | R057-050450-122..... | 4/9  | R058-050450-110..... | 4/9  |
| R053P-050450-354..... | 5/10 | R056-100330-13.....  | 5/18 | R057-050450-125..... | 4/9  | R058-050450-112..... | 4/9  |
| R053P-050450-360..... | 5/10 | R056-100330-14.....  | 5/18 | R057-050450-268..... | 4/12 | R058-050450-113..... | 4/9  |
| R055-100330-01.....   | 5/17 | R056-100330-21.....  | 5/18 | R057-050450-310..... | 4/12 | R058-050450-114..... | 4/10 |
| R055-100330-02.....   | 5/17 | R056-100330-22.....  | 5/18 | R057-050450-312..... | 4/12 | R058-050450-116..... | 4/10 |
| R055-100330-03.....   | 5/17 | R056-100330-23.....  | 5/18 | R057-050450-314..... | 4/12 | R058-050450-118..... | 4/10 |
| R055-100330-04.....   | 5/17 | R056-100330-31.....  | 5/18 | R057-050450-316..... | 4/13 | R058-050450-120..... | 4/10 |
| R055-100330-11.....   | 5/17 | R056-100330-32.....  | 5/18 | R057-050450-318..... | 4/13 | R058-050450-122..... | 4/9  |
| R055-100330-12.....   | 5/17 | R056-100330-33.....  | 5/18 | R057-050450-320..... | 4/13 | R058-050450-125..... | 4/9  |
| R055-100330-13.....   | 5/17 | R056-100330-34.....  | 5/18 | R057-050450-350..... | 5/11 | R058-050450-268..... | 4/12 |
| R055-100330-21.....   | 5/17 | R056-100330-41.....  | 5/18 | R057-050450-352..... | 5/11 | R058-050450-310..... | 4/12 |
| R055-100330-22.....   | 5/17 | R056-100330-42.....  | 5/18 | R057-050450-354..... | 5/11 | R058-050450-312..... | 4/12 |
| R055-100330-23.....   | 5/17 | R056-100330-43.....  | 5/18 | R057-050450-360..... | 5/11 | R058-050450-314..... | 4/12 |
| R055-100330-31.....   | 5/17 | R057-050330-110..... | 4/9  | R057-050450-410..... | 4/14 | R058-050450-316..... | 4/13 |
| R055-100330-32.....   | 5/17 | R057-050330-112..... | 4/9  | R057-050450-412..... | 4/14 | R058-050450-318..... | 4/13 |
| R055-100330-33.....   | 5/17 | R057-050330-113..... | 4/9  | R057-100330-710..... | 4/11 | R058-050450-320..... | 4/13 |
| R055-100330-34.....   | 5/17 | R057-050330-114..... | 4/10 | R057-100330-810..... | 4/15 | R058-050450-350..... | 5/11 |
| R055-100330-41.....   | 5/17 | R057-050330-116..... | 4/10 | R057-100360-710..... | 4/11 | R058-050450-352..... | 5/11 |
| R055-100330-42.....   | 5/17 | R057-050330-118..... | 4/10 | R057-100360-810..... | 4/15 | R058-050450-354..... | 5/11 |
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| R055-100330-44.....   | 5/17 | R057-050330-122..... | 4/9  | R057-100450-810..... | 4/15 | R058-050450-410..... | 4/14 |
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| R056-050000-11.....   | 5/16 | R057-050330-312..... | 4/12 | R058-050330-114..... | 4/10 | R058-0533-352.....   | 5/9  |
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| R056-050000-21.....   | 5/16 | R057-050330-316..... | 4/13 | R058-050330-118..... | 4/10 | R058-0533-360.....   | 5/9  |
| R056-050000-22.....   | 5/16 | R057-050330-318..... | 4/13 | R058-050330-120..... | 4/10 | R058-0545-350.....   | 5/9  |
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| R056-050330-00.....   | 5/16 | R057-050330-352..... | 5/11 | R058-050330-268..... | 4/12 | R058-100330-710..... | 4/11 |
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| R056-050330-02.....   | 5/16 | R057-050330-360..... | 5/11 | R058-050330-312..... | 4/12 | R058-100360-710..... | 4/11 |
| R056-050330-11.....   | 5/16 | R057-050330-410..... | 4/14 | R058-050330-314..... | 4/12 | R058-100360-810..... | 4/15 |
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| R059-050330-352..... | 5/11  | R061-050450-005..... | 6/2       | R066-000000-500..... | 6/12 | R066-050450-601.....  | 6/12       |
| R059-050330-354..... | 5/11  | R062-050000-001..... | 6/6       | R066-000000-600..... | 6/12 | R066-050450-603.....  | 6/13       |
| R059-050330-360..... | 5/11  | R062-050000-002..... | 6/6       | R066-000200-501..... | 6/12 | R066-050450-607.....  | 6/12       |
| R059-050360-350..... | 5/11  | R062-050000-003..... | 6/6       | R066-000200-503..... | 6/13 | R066-050450-608.....  | 6/13       |
| R059-050360-352..... | 5/11  | R062-050000-004..... | 6/6       | R066-000200-507..... | 6/12 | R066-050450-609.....  | 6/13       |
| R059-050360-354..... | 5/11  | R062-050000-005..... | 6/6       | R066-000200-508..... | 6/13 | R066-050450-610.....  | 6/14       |
| R059-050360-360..... | 5/11  | R062-050000-006..... | 6/6       | R066-000200-509..... | 6/13 | R066-050450-621.....  | 6/14       |
| R059-050450-350..... | 5/11  | R062-050320-000..... | 6/6       | R066-000200-510..... | 6/14 | R067-000000-700.....  | 6/16       |
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| R059-050450-354..... | 5/11  | R062-050320-002..... | 6/6       | R066-000340-501..... | 6/12 | R067-000340-713.....  | 6/16       |
| R059-050450-360..... | 5/11  | R062-050320-003..... | 6/6       | R066-000340-503..... | 6/13 | R067-000340-721.....  | 6/16       |
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| R059-0533-354.....   | 5/9   | R062-050320-006..... | 6/6       | R066-000340-509..... | 6/13 | R067-000340-724.....  | 6/16       |
| R059-0533-360.....   | 5/9   | R062-050320-099..... | 6/6       | R066-000340-510..... | 6/14 | R067-050340-001.....  | 6/10       |
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| R059-0545-352.....   | 5/9   | R062-050330-002..... | 6/1       | R066-000450-501..... | 6/12 | R067-050340-003.....  | 6/10       |
| R059-0545-354.....   | 5/9   | R062-050330-003..... | 6/1       | R066-000450-503..... | 6/13 | R067-050340-004.....  | 6/10       |
| R059-100-17.....     | 5/19  | R062-050330-004..... | 6/1       | R066-000450-507..... | 6/12 | R067-050340-005.....  | 6/10       |
| R059-100-25.....     | 5/19  | R062-050330-005..... | 6/1       | R066-000450-508..... | 6/13 | R067-050340-700.....  | 6/16       |
| R059-100-45.....     | 5/19  | R062-050450-001..... | 6/1       | R066-000450-509..... | 6/13 | R068-030340-003.....  | 6/11       |
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| R059-101-17.....     | 5/19  | R062-050450-003..... | 6/1       | R066-000450-521..... | 6/14 | R068-030340-012.....  | 6/11       |
| R059-101-25.....     | 5/19  | R062-050450-004..... | 6/1       | R066-050200-000..... | 6/15 | R070-000040-003.....  | 9/1        |
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| R060-028250-003..... | 10/20 | R063-050450-003..... | 6/3       | R066-050200-601..... | 6/12 | R070-030340-304.....  |            |
| R060-028250-004..... | 10/20 | R063-050450-004..... | 6/3       | R066-050200-603..... | 6/13 | .....                 | 7/6, 10/24 |
| R060-028250-005..... | 10/20 | R063-050450-005..... | 6/3       | R066-050200-607..... | 6/12 | R070-030340-316.....  |            |
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| R060-028330-004..... | 10/20 | R064-050000-002..... | 6/4       | R066-050200-610..... | 6/14 | .....                 | 7/4, 10/25 |
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| R060-040040-205..... | 6/7   | R064-050330-002..... | 6/4       | R066-050340-503..... | 6/13 | R070-050200-05.....   | 6/19       |
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| R060-050040-005..... | 6/7   | R064-050330-004..... | 6/4       | R066-050340-508..... | 6/13 | R070-050200-07.....   | 6/19       |
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| R060-050330-002..... | 6/1   | R065-020080-003..... | 6/17      | R066-050340-510..... | 6/14 | R070-050330-002.....  | 7/3        |
| R060-050330-003..... | 6/1   | R065-020080-005..... | 6/17      | R066-050340-521..... | 6/14 | R070-050330-004.....  | 7/3        |
| R060-050330-004..... | 6/1   | R065-020080-103..... | 6/17      | R066-050340-601..... | 6/12 | R070-050330-004D..... | 7/1        |
| R060-050330-005..... | 6/1   | R065-020080-105..... | 6/17      | R066-050340-603..... | 6/13 | R070-050330-012.....  | 7/3        |
| R060-050450-001..... | 6/1   | R065-040000-003..... | 6/17      | R066-050340-607..... | 6/12 | R070-050330-016.....  | 7/3        |
| R060-050450-002..... | 6/1   | R065-040000-005..... | 6/17      | R066-050340-608..... | 6/13 | R070-050330-032.....  | 7/3        |
| R060-050450-003..... | 6/1   | R065-040000-103..... | 6/17      | R066-050340-609..... | 6/13 | R070-050330-048.....  | 7/3        |
| R060-050450-004..... | 6/1   | R065-040000-105..... | 6/17      | R066-050340-610..... | 6/14 | R070-050330-049.....  | 7/3        |
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| R073-050330-004.....  | 7/3        | R079-000000-100.....  | 7/4        | R100-030210-222.....  | 10/11 | R103-030330-220.....   | 10/9  |
| R073-050330-012.....  | 7/3        | R079-000000-199.....  | 7/4        | R100-030210-224.....  | 10/11 | R103-030330-222.....   | 10/11 |
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| R074-050330-016.....  | 7/2        | R079-030340-216.....  | 7/5        | R100-030330-112.....  | 10/13 | R103P-030180-214.....  | 10/9  |
| R074-050450-016.....  | 7/2        | R079-050330-116.....  | 7/4        | R100-030330-114.....  | 10/13 | R103P-030180-220.....  | 10/9  |
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Container Steriltechnik  
Container sterilization technique

HERCULES Drahtkneifzange  
HERCULES Wire Cutters

Neurochirurgie  
Neuro surgery

Orthopädie  
Orthopedic



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