Advantages of Thoracoscopic Instrumentation

- **Touch Sensitivity**: Gives a “true feel” when grasping, clamping, and cutting.
- **Light Weight**: All instruments are incredibly light yet strong and stable.
- **Extensive Line**: The widest selection in the industry, including 30 different instrument tips, suction devices, retractors, mono- and bi-polar instruments, and flexible trocars.
- **Angled Shafts**: Reaches 40% more of the chest area with an angled tip. Also, all wedge clamps are available in 2 styles with various lengths, right or left angled.
- **Streamlined**: For safety and function, no sharp edges on tips. When inside the chest, nothing will scrape or cut the lung.
- **Double and Triple Use Instruments**: Satinsky type graspers can also be used as retractors. Mono-polar suction devices can also be used to coagulate and irrigate.
- **Variety**: We can create any length instrument you desire. In addition, 4 ratchet styles are available including Mathieu, Hagar, flip and traditional push. Pediatric instruments also available in diameters of 1 mm, 2.0 mm & 2.7 mm.
- **Easier Cleaning**: All instruments have a patented sealing system that alleviates the need to disassemble for cleaning and sterilization.

Philosophy of Sealed Instruments

- **MICASEPT** is a new, patented and autoclavable membrane sealing system. The hermetic seal of the instrument channel allows for a constant, stable sliding motion.
- **The MICASEPT system makes it unnecessary to assemble or dismantle the instrument.**
- **The MICASEPT system removes the problem of matching parts and tolerances.** No need to store any spare parts.
- **Function, safety and durability of MICASEPT system has been tested and confirmed by TÜV RHEINLAND, as well as further independent test/validation company SMP.**
- **MICASEPT instruments are made ready for standard sterile processing.** Hence, time savings in surgical practice.
- **The largely maintenance-free MICASEPT system lasts significantly longer and therefore reduces costs in the long run.**
- **Designed for long life and made with durable materials, the MICASEPT system meets the requirements of a modern environmental awareness.**

**Indications/Operations for Thoracoscopic Instrumentation**

- Recurring pneumothorax
- Partial pleurectomy / Bulla resection / Bulla coagulation / Adhesiolysis / Mechanical pleurodesis
- Interstitial lung disease
- Wedge resection
- Coin lesion
- Wedge resection / Enucleation
- Pleural effusion
- Pleurectomy
- Pleurodesis
- Hyperhidrosis
- Sympathectomy
- Mediastinal tumor / lymphoma
- Tumor resection / Tumor reduction
- Pleural empyema
- Debridement
- Bullous emphysema
- Bulla resection
- Pleural tumor
- Tumor resection
- Hematothorax
- Hemostasis
- Malignant pericardial effusion
- Pericardial fenestration
- Chylothorax
- Pleurodesis
- Bronchiectasis
- Lobectomy
Y-Grip Handle

Press Ratchet

Hegar Ratchet

French Style / Folding Ratchet

HF Cautery Handle
No Ratchet Handle
Sontec Instruments Single, Dual, and Triple Pivot Point Shaft Design

Conventional single pivot (1st generation)
When inserted through a port or very small incision, the function of a single pivot point greatly increases the opening of the shanks, which affects how far the jaws can open unless a larger incision is made.

Double Action 3-point pivot (2nd generation)
The double action gives greater strength at the tip and doubles the gripping force making it a slight improvement over conventional instruments. Like the conventional single point pivot, the 3-point pivot action greatly reduces the opening of the shanks, which affects the distance of the jaw opening making it usable for VATS procedures, but not ideal.

VATS 2-point pivot (3rd generation)
The VATS 2-point pivot uses a sliding shaft between the two points which, when open, is only 10 mm wide and can be used with a port or small incision without loosing the full function of the jaws. This design is an improvement, but not ideal for true MIS Thoracoscopic surgery, as it is heavy and has limited touch sensitivity for the operator. It is also difficult to use in conjunction with other instruments.

Micasept Thoracoscopic single pivot (4th generation)
The Micasept Thoracoscopic single-point pivot instruments are the best choice for true thoracoscopic procedures for many reasons. The shaft of the instruments are only 5.2mm wide so they can be used through a 7.5mm, 10.5mm or 13mm trocar or small incision. The size also allows the instruments to be easily used in conjunction with other instruments during surgery. The Micasept instruments are very strong, lightweight and gives the surgeon true touch sensitivity. They are ideal for node removal, lobectomies, pleurectomy and many other delicate thoracoscopic surgeries. Sontec Instruments provides the largest selection of Thoracoscopic instruments on the market. These instruments are true thoracoscopic instruments designed for the thoracic surgeon.
Lung Grasping Forceps

30˚ curved down / 4.5 mm in diameter / 300 mm working length / node grasper / fits 10.5 mm trocar
20919-00 round ratchet
20919-00-005 folding ratchet
20919-00-004 hegar ratchet

Organ Grasping Forceps

Fenestrated / 30˚ curved down / 4.5 mm in diameter / 300 mm working length / lung grasper / fits 10.5 mm trocar
20919-03 round ratchet
20919-03-004 hegar ratchet
20919-03-005 folding ratchet

Atraumatic / 30˚ curved down / 4.5 mm in diameter / 300 mm working length / node grasper / fits 10.5 mm Trocar
20919-04 round ratchet
20919-04-004 hegar ratchet
20919-04-005 folding ratchet
DeBakey Organ Grasping Forceps

7 mm / atraumatic / 30° curved down / 4.5 mm in diameter / 300 mm working length / * fits 7mm Trocar
20919-05-060  round ratchet
20919-05-064  hegar ratchet
20919-05-065  folding ratchet

10 mm / fits 10.5mm Trocar
20919-05-040  round ratchet
20919-05-055  folding ratchet
20919-05-044  hegar ratchet

13.5 mm / rigid oval / lung grasper / fits only endo stapler trocar / 14 x 24 mm diameter
20919-05  round ratchet
20919-05-004  hegar ratchet
20919-05-005  folding ratchet
20919-05-304  str w/Hegar ratchet

DeBakey Universal Ring Clamp

13 mm / 30° curved down / 4.5 mm in diameter / 300 mm working length / fits 10.5 mm trocar
20919-05-020  round ratchet
20919-05-024  hegar ratchet
20919-05-025  folding ratchet

DeBakey Universal Ring Clamp

13 mm / straight / 4.5 mm in diameter / 300 mm working length / fits 10.5 mm trocar
20919-05-344
**Babcock Clamp**

Atraumatic / 30˚ curved down / 4.5 mm in diameter / 300 mm working length

- 20919-12    round ratchet
- 20919-12-004  hegar ratchet
- 20919-12-005  folding ratchet

* Node grasper, fits 10.5 mm Trocar

**Fenestrated Lobe Grasper**

30˚ curved down / 4.5 mm in diameter / 300 mm working length

- 20921-18    round ratchet
- 20921-18-004  hegar ratchet
- 20921-18-005  folding ratchet

**Atrauma Tissue Grasper**

30˚ curved / down opening / 4.5 mm in diameter / 300 mm working length

- 20919-06    round ratchet
- 20919-06-005  folding ratchet
- 20919-06-004  hegar ratchet

* Lung grasper, fits 10.5 mm Trocar

**Advantages:**
- Combined vertical and horizontal eye form for complete round holding of the tissue.
- The bearing surface offers an atraumatic tissue manipulation in all movement fields as direct aiming, pushing and on both sides swinging.
- A soft inner serration avoids slipping when grasping the tissue.
- A "DUCK-BILL" plateau tip secures protects the tissue against slipping out of the grasping field and enables a selective holding.
- Also, smaller encysted tumors can be grasped atraumatic and safe.
Debakey Galen Lobe Clamp

30° curved / 4.5 mm in diameter / 300 mm working length / all have hegar ratchets

20919-08-034  23 cm (small curve)
20919-08-064  27 cm (medium curve)
20919-08-004  27 cm (full curve)

Advantages:
• Acute curved, slim and long tip dimension for better exposure, visualization, easy long distance manipulation or repositioning of the lung
• Better access for dissection and safe artery occlusion at deep harder accessible areas around and on the lung which could be not reached before by which could be not reached before by Thoracoscopic technics
• Multi-purpose clamp f.e. usable also as ligature carrier clamp, bronchus clamp occlusion clamp, for bleedings and area restriction for small, capsulated, free gliding tumor noodles
• Fits through MICTEC flexible Trocarsheets 7mm

* Lung grasper, artery occlusion clamps, fits 7mm trocar
Debakey Peripheral Atrauma Vascular Clamp

2 x 3 / 7 mm in diameter / 100 mm jaw / 300 mm working length / all have hegar ratchets

20919-08-074  45°
20919-08-014  30°
Parenchym (Satinsky Short)

Atraumatic / 50 mm jaw length / 30° curved down / 4.5 mm in diameter / 300 mm working length

20919-22    round ratchet  right
20919-23    round ratchet  left
20919-22-004  hegar ratchet  right
20919-23-004  hegar ratchet  left
20919-22-005  folding ratchet  right
20919-23-005  folding ratchet  left

* Fits 7 mm trocar

Parenchym (Satinsky Long)

70 mm jaw length / 30° curved / 4.5 mm in diameter / 300 mm working length

20919-24    round ratchet  right
20919-25    round ratchet  left
20919-24-004  hegar ratchet  right
20919-25-004  hegar ratchet  left
20919-24-005  folding ratchet  right
20919-25-005  folding ratchet  left

* Fits 7 mm trocar
Overholt-Geissendorfer Dissector
4.5 mm in diameter / 300 mm working length
20920-20    round ratchet
20920-20-005 folding ratchet
20920-20-004 hegar ratchet

Pleuragrasping Forceps
30˚ curved down / 4.5 mm in diameter / 300 mm working length
20920-01    round ratchet
20920-01-005 folding ratchet
20920-09    without ratchet
20920-01-004 hegar ratchet
* Fits 7 mm trocar

Biopsy & Grasping Forceps
2 fangs / 4.5 mm in diameter / 300 mm working length
20920-06    round ratchet
20920-06-005 folding ratchet
20920-06-004 hegar ratchet
* Fits 7 mm trocar

Nelson Grasping Forceps
4.5 mm in diameter / 300 mm working length
20920-07    round ratchet
20920-07-005 folding ratchet
20920-07-004 hegar ratchet
* Fits 7 mm trocar
Atraumatic Allis Grasping Forceps
4.5 mm in diameter / 300 mm working length
20921-07 round ratchet
20921-07-005 folding ratchet
20921-07-004 hegar ratchet
* Fits 7 mm trocar

Atraumatic DeBakey Pleura Grasping Forceps
30˚ curved down / 4.5 mm in diameter / 300 mm working length
20921-01 round ratchet
20921-01-005 folding ratchet
20921-09 without ratchet
20921-01-004 hegar ratchet
* Fits 7 mm trocar

Ciradur DeBakey Dressing Forceps
Y-grip / 4.5 mm
27921-05-000 12" (30.5 cm)
Atraumatic DeBakey Grasping Forceps

30˚ curved down / 4.5 mm in diameter / 300 mm working length

- 20919-90 without ratchet side opening
- 20919-90-004 hegar ratchet side opening
- 20919-90-005 folding ratchet side opening
- 20919-92 round ratchet up opening
- 20919-92-005 folding ratchet up opening
- 20919-92-004 hegar ratchet up opening

* Fits 7 mm trocar

Extraction Forceps

10 mm in diameter / 350 mm working length / with pull rosette

- 26934-72 round ratchet
- 26934-72-005 folding ratchet
- 26934-72-004 hegar ratchet

* Fits 10.5 mm trocar

Dressing & Grasping Forceps

30˚ curved down / 4.5 mm in diameter / 300 mm working length

- 20921-28 duck-bill dissector without ratchet
- 20921-29 Kelly forcep without ratchet

* Dissectors, * fits 7 mm trocar
## Biopsy / Scissor Forceps

- **30° curved down**
- **4.5 mm in diameter**
- **300 mm working length**
- **works with 7mm trocar**

<table>
<thead>
<tr>
<th>Code</th>
<th>Item</th>
<th>Tips</th>
<th>Opening</th>
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<tr>
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<td>scissors</td>
<td>blunt/blunt</td>
<td>right opening</td>
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<tr>
<td>20925-06</td>
<td>scissors</td>
<td>blunt/b blunt</td>
<td>up opening</td>
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<tr>
<td>20928-01</td>
<td>metzenbaum scissors</td>
<td>curved left</td>
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<tr>
<td>20934-01</td>
<td>biopsy forceps</td>
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<tr>
<td>20934-02</td>
<td>intersecting PE-forceps</td>
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<tr>
<td>20934-03</td>
<td>PE-forceps</td>
<td>pointed</td>
<td>with ceramic coated tip</td>
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</table>

![Image of biopsy forceps and scissors]
Pulmonalis

70 mm jaw length / 30° curved / 4.5 mm in diameter / 300 mm working length

- 20919-32 without ratchet right
- 20919-33 without ratchet left
- 20919-34 round ratchet right
- 20919-35 round ratchet left
- 20919-34-005 folding ratchet right
- 20919-35-005 folding ratchet left
- 20919-34-004 hegar ratchet right
- 20919-35-004 hegar ratchet left

Debakey Pulmonalis

30° curved left / 4.5 mm in diameter / extended distal tip / 300 mm working length / hegar ratchet

- 20919-35-023
**Top Dur**

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>4.5 mm in diameter / 300 mm working length / straight</td>
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<td>mathieu-ratchet</td>
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<tr>
<td></td>
<td>20918-01-005</td>
<td>folding ratchet</td>
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<tr>
<td></td>
<td>20918-05</td>
<td>hegar ratchet</td>
</tr>
<tr>
<td></td>
<td>20918-09</td>
<td>without ratchet</td>
</tr>
<tr>
<td>4.5 mm in diameter / 300 mm working length / curved</td>
<td>20918-02</td>
<td>mathieu-ratchet</td>
</tr>
<tr>
<td></td>
<td>20918-06</td>
<td>hegar ratchet</td>
</tr>
<tr>
<td></td>
<td>20918-06-005</td>
<td>folding ratchet</td>
</tr>
<tr>
<td>4.5 mm in diameter / 300 mm working length / curved / short wide jaw</td>
<td>20918-08</td>
<td>hegar ratchet</td>
</tr>
<tr>
<td></td>
<td>20918-08-005</td>
<td>folding ratchet</td>
</tr>
<tr>
<td>4.5 mm in diameter / 300 mm working length / 30˚ curved / down opening / straight</td>
<td>20918-15</td>
<td>hegar ratchet</td>
</tr>
<tr>
<td></td>
<td>20918-15-005</td>
<td>folding ratchet</td>
</tr>
<tr>
<td>4.5 mm in diameter / 300 mm working length / 30˚ curved / up opening / curved / short wide jaw</td>
<td>20918-20</td>
<td>without ratchet</td>
</tr>
</tbody>
</table>
**Ciradur Needle Holder**

Straight / jaw convex / concave / 4.5 mm in diameter / 300 mm working length

- 20918-55-005  hegar ratchet
- 20918-55-025  folding ratchet

* fits 7mm Trocar

![Ciradur Needle Holder](image)

**Top Dur Needle Holder**

Straight / y-grip / with ratchet / short wide jaw / 15 1/2” (39.4 cm)

- 20918-55-005  hegar ratchet
- 20918-55-025  folding ratchet

![Top Dur Needle Holder](image)
**Tumor Feeler**

Clamp for feeling and spreading out / 30 deg. curved down / 4.5 mm in diameter / 300 mm working length

20919-07-000  access by 10.5 mm trocar sleeve

* Advantages:
  • used for diagnostic and operative VATS/Thorascopy
  • optimal tissue feeling of the dimension, position and degree of hardness
  • spreading out of tissue structures into desired direction is possible
  • for blunt, maximal atraumatic dissection in the deep

Your thumb and forefinger in the deep tissue manipulation of feeling and spreading out with the fingers is not necessary any longer

---

**Magnet Needle Catcher**

5 mm in diameter / 300 mm working length

20918-80

**Knot Pusher**

4.5 mm in diameter / 300 mm working length

20918-90

**ARCO Knot Pusher**

4.5 mm in diameter / 300 mm working length

20918-92
**Clip Applicator**

For titanium medium-large clips / rotating / with cleaning flush / 10 mm in diameter / 300 mm working length

20932-30

* Fits 10.5 mm trocar, clips sold separately from J&J Ethicon #LT300

---

**Clip Applicator**

For titanium small clips / 4.5 mm in diameter / 250 mm working length

27932-25

* Fits 7 mm trocar, Horizon clips small red cartridge sold separately from Pilling Weck Surgical #3200
Pleuraelevator

30° curved right / 4.5 mm in diameter / 300 mm working length
20942-03

* Fits 7 mm trocar

30° curved down / blunt with small round handles / 300 mm working length
20942-04

* Fits 7 mm trocar

---

Dissection Spatula

Semi-sharp / curved up / 300 mm working length
20942-10

* Fits 7 mm trocar

---

Nerve Protector

Curved left / 300 mm working length
20942-12

* Fits 7 mm trocar
**Vessel Spatula**

300 mm working length
20942-16

* Fits 7 mm trocar

---

**Pleura Abrader**

300 mm working length
20942-50
20942-51

* Fits 7 mm trocar

---

**Pediatric Double V-Style Retractor**

250 mm working length
27982-51-002

* Fits 7 mm trocar, with closed tip end for better tissue protection

---

**Adult Double V-Style Retractor**

20942-21

* Fits 7 mm trocar
Sontec Deluxe Fan Organ Retractor

5 blades / 10 mm wide / 340 mm working length / using one hand, blades & neck articulate to achieve desired shape

26942-43
Fan Retractor

Angleable 5 blades / 10 mm diameter / 370 mm working length

26942-42
3 Way Tap

With large Luer-Lock connection 5mm

- 26943-01 valve
- 20943-14 basket tip suction angled
- 20943-15 basket tip suction straight
- 20943-04 large central opening tube
- 20947-11 elephant foot suction electrode

*Required to use together but purchased separately.

Needed for suction tubes.

* 7mm trocar
**HF Suction Electrode**

7 mm diameter / 300 mm working length / suction irrigation connection / with connector for 10 mm 3-way-tap / 3-way-tap not included but needed

- 20947-11-001 30° down w/ hole
- 20947-11-002 30° down w/ basket and hole
- 20947-11-003 30° down w/ basket
- 20947-11-012 straight suction adapter

3-way tap not necessary for use

**Suction-Irrigation Tube Set**

With plunger valve / 300 mm working length

- 20943-13 set includes 5mm & 10mm tubes and valve.
- 04-11001-00 valve
- 04-11012-05 10 mm tube
- 04-11012-04 5 mm tube

**HF-Cable**

Hexagon inside / 4 m long

- 26944-01 connection: Erbe T-seris 4 mm diameter
- 26944-02 connection: Erbe ACC ICC 5 mm diameter
- 26944-03 connection: Valleylab
- 26944-04 connection: Martin, Berchtold

NEW! straight suction adapter. No three way tap needed! Call Sontec for more information
**Thoracic Suction Tube**

**With Yankauer handle**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tr>
<td>180-429</td>
<td>straight (5 mm)</td>
<td>18 1/4”</td>
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<tr>
<td>180-431</td>
<td>straight (10 mm)</td>
<td>17”</td>
<td></td>
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<tr>
<td>180-429C</td>
<td>curved (5mm)</td>
<td>18 1/4”</td>
<td></td>
</tr>
<tr>
<td>180-429CB</td>
<td>curved (5mm) with basket</td>
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<td></td>
</tr>
<tr>
<td>180-431C</td>
<td>curved (10mm)</td>
<td>17”</td>
<td></td>
</tr>
</tbody>
</table>
Metzenbaum Power Cut® Ciradur Scissors
Curved left / shaft straight / 6 mm / long 30 mm blades
20927-00-000 12" (30.5 cm)

Metzenbaum Power Cut® Ciradur Scissors
Curved left / with y-grip / 8" (20.3 cm) / 20 mm blades
27928-01-000

Metzenbaum Mini Power Cut® Ciradur Scissors
Straight / y-handle / 6 1/2" (16.5 cm) / 10 mm blades
27925-01-000
**HF-Ciradur Scissors**

Monopolar / blunt/blunt / 4.5 mm diameter / 300 mm working length

- 20925-56 30° curved down up opening
- 20925-53 30° curved down side opening

Metzenbaum / monopolar / curved left / 4.5 mm diameter / 300 mm working length

- 20928-51 30° curved down up opening
- 20928-53 30° side opening side opening

* 7 mm trocar

**Hook Electrode**

4.7 mm diameter / 300 mm working length

- 20945-01 30° down curved upward
- 20945-03 30° down curved upward-hook curved left
- 20945-04 30° down curved upward-hook curved right

* 7 mm trocar

**Bipolar Dissector**

Curved / 5 mm diameter / 340 mm working length

- 26950-05 insert only: article no. 04-02735-07
**Bipolar Kleppinger Forceps**

5 mm diameter / 340 mm working length

26950-06  insert only: article no. 04-02735-08

---

**Bipolar Grasping Forceps**

5 mm diameter / 340 mm working length

26950-01  Hirsch  insert only: article no. 04-02735-02
26950-02  3 mm wide  insert only: article no. 04-02735-03
26950-03  dressing tip  insert only: article no. 04-02735-04

---

**Bipolar Scissors**

Curved / 5 mm diameter / 340 mm working length

26950-04  insert only: article no. 04-02735-06

---

**Connection Cable**

For bipolar instuments / 3 m long

26954-30  connection: Erbe
26954-31  connection: Martin, Berchtold, Aesculap
26954-32  connection: Valleylab, Bircher, Bovie, Bard
**Bipolar Double Electrode**

5 mm diameter / 340 mm / working length / 30° curved upward

20945-50  ring
20945-51  hook

* Fits 7 mm trocar

**Injection Cannula**

30° curved / 4.5 mm diameter / 300 mm working length

20941-30  large luer-lock
20941-01  standard luer-lock
**Endoscope Fixation**

- When developing this product the requirements to an improved using of a free fixation were optimally solved.
- Sontec offers a simple handing and a quick, precise positioning of the endoscope without any other energy source.
- 9 free stages grant the best movement around all axles and angles.
- The stageless adjustable endoscope connection is designed for all sizes from 2.0mm to 11 mm
- The free accessible endoscope connection and the clamp slide facilitate a quick locking
- All hinges are pre-strained. Therefore, a falling down of the mechanism when releasing the clamps will be avoided.
- A fine regulation of the endoscope connection grants an exact adjustment of the position and avoids a displacement when the tip of the endoscope is touched accidentally.
- All hinges are made of high-grade steal.
- The instrument is foldable to a minimal size and can be autoclaved completely.
- For fixation of the instrument, an existing standard rod clamp for round piece connections can be used.
- Rod clamp not included!
Talcum Spray Nozzle Set

With bellow for Talkum powder / incl. tube connector / 5 mm diameter / 300 mm working length

20943-60  reusable bottle included

Set includes (all these parts can be purchased separately):
15-11181-20  O-ring lower seal 18 x 12 mm
12-06110-06  luer lock
20943-61  double angled tube
20943-54  spray nozzle body part rotable
04-11020-03  talkum spray glass bottle
04-11020-10  bellow black with ventil & connection M8

* Fits 7 mm trocar
## Flexible Trocar Set

<table>
<thead>
<tr>
<th>Code</th>
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## Flexible Trocar Sleeve

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<td>15-16100-76</td>
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<tr>
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<td>10.5 mm</td>
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<td>15-16171-02</td>
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<td>100 mm</td>
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## Stretch Pin

<table>
<thead>
<tr>
<th>Code</th>
<th>For Flexible Sleeves</th>
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<tbody>
<tr>
<td>15-30116-05</td>
<td>10.5 mm</td>
</tr>
<tr>
<td>15-30116-07</td>
<td>7 mm</td>
</tr>
<tr>
<td>15-30116-08</td>
<td>13 mm</td>
</tr>
</tbody>
</table>
Oval Trocar

For Endo-Stapler / 70 mm long

- 20913-18 waved 13 mm / 18 mm diameter
- 20913-24 smooth 14 mm / 24 mm diameter
- T20913-24 smooth 14 mm / 24 mm diameter titanium
Thermal Plastic Tray

Includes rack and middle tray
(instruments sold as sets, see following 2 pages)

20700-00 thermal tray
## Complete Thoracoscopic Deluxe Set

20906-2615  Call for individual & set pricing

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>QTY</th>
<th>Description</th>
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<tr>
<td>26942-43</td>
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<td>10 MM Deluxe Fan, articulating</td>
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<tr>
<td>26941-42</td>
<td>1</td>
<td>Endo Injection Needle</td>
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<tr>
<td>20919-22-004</td>
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<td>20919-25-004</td>
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<td>DeBakey Satinsky Clamp, 70 mm jaw angle left w/ hegar</td>
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<td>20934-03</td>
<td>1</td>
<td>PE-Forceps pointed 30 degrees cvd (no ratchet)</td>
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<tr>
<td>20919-91</td>
<td>1</td>
<td>DeBakey Forceps, cvd down 30 degrees w/ hegar (no ratchet)</td>
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<td>20920-20-004</td>
<td>1</td>
<td>Overholt-Geibendorfer w/ hegar hatchet</td>
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<td>20918-55-005</td>
<td>1</td>
<td>Ciradur Needle Holder, TC w/ hegar ratchet</td>
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<tr>
<td>20919-03-004</td>
<td>1</td>
<td>Waffle grasper down 30 degrees w/ hegar ratchet</td>
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<td>20919-12-004</td>
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<td>Babcock clamp, cvd down w/ hegar ratchet</td>
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<td>Pulmonalis clamp w hegar ratchet angled down</td>
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<td>Large DeBakey Ring Grasper w/ hegar ratchet</td>
</tr>
<tr>
<td>20919-05-044</td>
<td>1</td>
<td>Sm Debakey Ring Clamp serr cvd down w/ hegar ratchet 10mm</td>
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<td>20919-02</td>
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<td>DeBakey Clamp 100mm jaw med curve w/ hegar</td>
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<td>20919-08-004</td>
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<td>DeBakey Clamp 60mm full curve w/ hegar</td>
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<td>26942-41</td>
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<td>5 mm Fan articulating</td>
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<td>1</td>
<td>Pleura Elevator 30 degrees curved right</td>
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<td>1</td>
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<td>HF Suction Electrode</td>
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<td>Pleura Abrader, angle down</td>
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<tr>
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<td>Knot Pusher Arco type</td>
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<td>20921-78</td>
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<td>3 way Luer lock connector</td>
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<td>20943-14</td>
<td>1</td>
<td>Suction Tube with w basket</td>
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<td>20945-04</td>
<td>1</td>
<td>Hook Electrode 30 degrees curved down</td>
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<tr>
<td>20907-17</td>
<td>2</td>
<td>7.5 mm x 70 mm Trocar Set</td>
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<td>2</td>
<td>10.5mm x 70 mm Trocar Set</td>
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<tr>
<td>20910-15</td>
<td>1</td>
<td>10.5mm x 50 mm Trocar Set</td>
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<tr>
<td>20913-17</td>
<td>1</td>
<td>Trocar Set 13 x 70 mm</td>
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<tr>
<td>15-30116-05</td>
<td>1</td>
<td>Stretch Pin for 10.5 mm Flexible sleeves</td>
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<tr>
<td>15-30116-07</td>
<td>1</td>
<td>Stretch Pin for 7 mm Flexible Sleeves</td>
</tr>
<tr>
<td>20943-13</td>
<td>1</td>
<td>Suction-irrigation tube set with large 3 way tap</td>
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<tr>
<td>20943-50</td>
<td>1</td>
<td>Spray nozzle with bellow for talcum powder</td>
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<tr>
<td>20700-00</td>
<td>1</td>
<td>Thermal tray, w/ rack and insert for access.</td>
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<tr>
<td>26944-03</td>
<td>1</td>
<td>HF Monopolar Cord, w/ valley lab connector</td>
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<td>20928-51</td>
<td>1</td>
<td>Ciradur Scissors Metz curved left</td>
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## Dr. Todd Demmy’s Suggested Thoracoscopic Set

<table>
<thead>
<tr>
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<tr>
<td>20919-03-005</td>
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<td>Organ Grasping Forcep cvd down 30 deg w/ folding ratchet</td>
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<td>20919-05-044</td>
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<td>Sm Debakey Ring Grasper serr cvd down w/ hegar ratchet 10mm</td>
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<tr>
<td>20919-05-004</td>
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<td>Large DeBakey Ring Grasper w/ hegar ratchet</td>
</tr>
<tr>
<td>20919-92-004</td>
<td>1</td>
<td>Atraumatic Debakey Grasper cvd down 30 deg w/ hegar ratchet</td>
</tr>
<tr>
<td>20919-07-000</td>
<td>1</td>
<td>Tumor Feeler cvd down 30 deg down opening</td>
</tr>
</tbody>
</table>
Suction- Irrigation Valve Disassembly

Step 1: press cap inward while turning counter clockwise to unscrew.

Step 2: using your thumbs, firmly push inside of valve to release.

Reassembly: reassembly is opposite of the disassembly. Make sure that the notch lines up with the notch on the valve.
Fan Retractor Disassembly

Step 1: Unscrew cap and pull off.

Step 2: Turn top dial counter clockwise and pull off shaft.

Step 3: Turn top piece clockwise to pull out of shaft.

Step 4: All instrument parts can be hand cleaned with a soft brush. Instrument parts must be fully immersed in order to not damage any coating. Jointed part must opened. Take special care to rinse hollow spaces.

Step 5: Reassembly is opposite of the disassembly. Make sure that notch A lines up with the bottom notch on shaft.

Step 6: Reverse order to reassemble. * On Step 2 top dial turns opposite direction

To avoid coagulation of proteins, the rinse water temperature must be below 45 degrees C. Fan Retractor must be cleaned carefully with a soft brush and taken apart. Three way tap must be taken apart for cleaning also. Lift edge of cap, slide off, then push valve out. Re-assembles the same way in reverse. Use proper amount of cleaning solutions as per instructions of manufacturer. Ultrasound Cleaning is preferred to mechanical cleaning, especially for sensitive laparoscopic instruments. All instruments are autoclavable including electric cables and flexible trocars.
Fan Retractor Disassembly For the Sontec Deluxe 5mm Fan

Step 1: Unscrew handle. Gently push fan blades forward with finger.

Step 2: After unscrewing, carefully disconnect handle from ball joint by tilting handle down, and set handle aside.

Step 3: Push fan blades down grasp fan below blades and gently twist counter-clockwise to unscrew shaft. Remove shaft from assembly.

We recommend disassembly for occasional ultrasonic cleaning and removal of debris. For all other cleaning, use flush valve.

Reassembly: Reassembly is opposite of disassembly. • Inset the shaft into the assembly and screw on clockwise. • Gently tilt fan tip up with finger. • Insert ball into ball joint in handle. • Push tip of fan down and screw on handle. • Check fan to make sure ball joint is connected and is operating correctly.
Important directions for Thoracoscopic Instruments

Please read carefully before you start using the instruments!

The following instructions must be followed to assure the functionality and safety of these instruments.

First using of new instruments

All instruments from Dufner Instrumente GmbH will be delivered non-sterile unless otherwise labeled. Sterilize before use.

Sterilization

All instruments that come with these instructions can be autoclaved. Instruments with plastic parts cannot be sterilized by exposure to plasma, gamma radiation or hot air. It would destroy the plastic.

- time: 25 minutes max
  - gravity steam (wrapped) / 132º C/ 270º F / 15 minutes
  - Prevac (wrapped) / 132º C / 270º F / 4 minutes
  - Gravity Steam (unwrapped/ Flash) / 132ºC/ 270º F / 10 minutes

Notice: Cold Soak Sterilization is not recommended

Testing results indicate that cold soak sterilization is not adequate for this product. Manufacturer’s recommended cycle times DO NOT always provide a 105 sterility assurance level.

Safety control and Inspection

Before each use instruments should be visually inspected for scratched, broken or malfunctioning parts. Above all, check critical parts of the instrument: tips, cutting edges and ratchets.

Cleaning and Care of the instruments

Instruments should be washed and disinfected immediately after use. Special attention should be given to critical parts such as ratchets, cutting edges, slits and other difficult to reach areas. (See ultrasonic cleaning discussed below.) Instruments that can be taken apart must be cleaned while dismantled.

Instruments should be dried immediately after washing and rinsing.

After every washing and before sterilization, instruments must be treated with oil that is appropriate and physiologically neutral.

Ultrasound cleaning:

Ultrasound cleaning is preferable to mechanical cleaning. This is especially true for the sensitive instruments used for endoscopies.

- Instruments must be completely immersed in cleaning solution.
- Instruments must be cleaned for at least 3 minutes at a frequency of 35 KHz
- Instruments can be rinsed either mechanically or by hand; rinsing must be thorough and if possible with desalinated water.

With minimally invasive instruments, especially MICASEPT instruments, one must be sure to clean the moveable jaw tips sufficiently in the ultrasonic bath. During cleaning the jaws should be opened and closed repeatedly. Unless this is done immediately after the operation, residues can form in the front part of the jaws and prevent seals from functioning properly.

Follow the manufacture’s instructions for the ultrasonic unit.

Handling

Always handle surgical instruments with care. Take measures to protect instruments against damage during transport, cleaning, sterilization and storage. Do not allow instruments to come into contact with corrosive substances such as acids or caustic cleaning detergents, which could lead to rust formation. Such damage could make instruments useless.

Warning: Please read manufacturer’s instructions for all detergents and disinfectants.

Storage

Instruments should be stored dry and not in metal containers (with the exception of refined steel and aluminum containers). Direct exposure to sunlight is to be avoided.

MICASEPT-Instruments

The tightness of seals on MICASEPT instruments must be factory inspected and recon-
Cleaning: Thoracoscopic Flextrocar Cleaning

Take the trocar apart into its three parts: (1) titanium head (2) obturator (3) flexible tube

- Place Parts for cleaning into ultrasound bath (Manufacturer strongly recommends ultrasound cleaning)
- Instrument parts must be covered completely by the cleaning during cleaning procedure
- The cleaning time should be at least 3 minutes at a frequency of 35 Khz
- Rinse completely with desalinated water

Flexible tubing may shrink during autoclaving. It can be returned to exact size using appropriate size stretch pin (10.5mm or 7mm) pictured here and on pg. 33

When cleaning mechanically please take care that rinse water temperature does not exceed 45 degrees Celsius to avoid coagulation of any proteins that may still adhere to instrument.

Before autoclaving, all three parts must be cleaned, either mechanically or manually

When cleaning manually:
- Use a soft cleaning brush.
- Use enzymatic cleaners to release blood, proteins etc.

• After cleaning and rinsing, the instrument parts must be dried.
• All trocar parts can be sterilized in autoclave steam sterilization.

Pressure max. 2 bar
• time: 25 minutes max
  - gravity steam (wrapped) / 132º C/ 270º F / 15 minutes
  - Prevac (wrapped) / 132º C / 270º F / 4 minutes
  - Gravity Steam (unwrapped/ Flash) / 132ºC/ 270º F / 10 minutes

Notice: Cold Soak Sterilization is not recommended

Testing results indicate that cold soak sterilization is not adequate for this product. Manufacturer’s recommended cycle times DO NOT always provide a 105 sterility assurance level.

Temperature: 134 degree Celsius corresponds to 273 degrees Fahrenheit.

Gamma-, hotair- and plasma sterilization is not recommended for the flexible, disposable trocar shafts as these methods could cause damage to trocar.

Important directions for the Trocars

Colorado, USA / 1.800.821.7496 / www.SontecInstruments.com
Important directions for Thoracoscopic Instruments

Thoracoscopic Flex Trocar Cleaning Instructions

- Disassemble trocar into its separate parts: titanium head, obturator and flexible tube.
- Clean all parts according to manufacturers’ instructions provided with your ultrasonic machine.
- All parts should be completely immersed in cleaning fluid.
- Clean for three minutes at a frequency of 35 Khz.
- Use only distilled water for rinsing whether manual or ultrasonic.
- To avoid coagulation of any proteins that may still adhere to parts, the water temperature must not exceed 113d F (45d C).
- If you are cleaning by hand, use a soft brush.
- If you are using an ultrasonic machine use a good enzymatic cleaner as suggested by the manufacturer to release the blood and other organic proteins.
- After cleaning and rinsing, all parts must be thoroughly dried.

Sterilization

- Reassemble parts before sterilizing - Trocar must remain complete with obturator inserted.
- All trocar parts can be sterilized in a steam autoclave only.
- Gamma, hot air and plasma sterilization methods cannot be used as these methods could cause damage to trocar.
- Maximum pressure .2 bar
- time: 25 minutes max

Gravity steam (wrapped) / 132º C / 270º F / 15 minutes

Prevac (wrapped) / 132º C / 270º F / 4 minutes

Gravity Steam (unwrapped/ Flash) / 132ºC / 270º F / 10 minutes

Notice: Cold Soak Sterilization is not recommended

Testing results indicate that cold soak sterilization is not adequate for this product. Manufacturer’s recommended cycle times DO NOT always provide a 105 sterility assurance level.
- Temperature: 273 deg. Fahrenheit (134d C)
- If not reassembled before sterilizing and you need to assemble under sterile conditions in the operating room:
  - If the diameter of the flexible sleeve is smaller than the outer diameter of obturator, we recommend that you use the correct size stretching tool (sterilized).
  - Take hold of the obturator head with middle, index finger and thumb.
  - Tip must be in upward position.
  - Take the titanium trocar head at the thread and turn it to attach.
  - Insert Obturator through the titanium trocar head.
  - Take up the flexible plastic sleeve at the blunt tip end and use the blunt obturator to position the sleeve at the head of the fixation screw.
  - Turn until all parts are screwed tight together.
1.0 General information

- Please read directions before using this instrument.
- MICTEC HF-instruments function with the following HF units:
  - Erbe: Erbotom ACC430/450, ACC 410, ACC450T, ACC450Z, ACC 451; Endoscopy; T 50 B, T130, T175E; ICC350, ICC 300, ICC 200
  - Martin: ME 50, 80, 200, 400, MIC, 60, 70, Elektrotom; 80B, 80, 200, 390, 400
  - Berchtold: Elektrotom 80, 80B, 200, 390, 400, 505, 540
  - Valley Lab: Force 1, 2, 10, 20, 30, 40, 40S, 10A, 20A, 30A, 40A, 40AS
  - Olympus: UES, UES-2, UES-10, PSD-2, PSD-3, PSD-10
  - Aesculap: GN 350, 60; GK 170, 450, 455, 20, 50, 55
  - Further units on demand

- Following HF cables are approved for MICTEC HF instruments:
  - monopolar HF cable, 4 m long, 4 mm connection plug for Erbe T-series/Wolf/Stroz art.no.26944-01
  - monopolar HF cable, 4 m long, 5 mm connection plug for Erbe ACC, ICC art.no.26944-02
  - monopolar HF cable, 4 m long for Valley Lab art. no.26944-03
  - monopolar HF cable, 4 m long for Martin/Berchtold/Aesculap units art.no.26944-33

2.0 Sterilisation

- New instruments must be washed, rinsed, dried, inspected and sterilized before using, as described below.

2.1 Steam sterilization

- Before sterilizing, individual components must be cleaned following the instructions under point 4.0 below.
- All components can be steam sterilized under the following conditions:
  - Regular sterilization: pressure: max 2 bar, time: 25 min.
  - Flash sterilization (for faster turnaround):
    - Pressure: max. 2.5 bar
    - Time: 10 min. with 134ºC

Warning! Follow the manufacturer’s instructions for the steam sterilizer!

2.2 Gas sterilization (ETO)

- Before sterilizing, individual components must be cleaned following the instructions under point 4.0 below.
- All components can be sterilized with gas

Warning! Follow the manufacturer’s instructions for the gas sterilizer!

2.3 Disinfection

- Before sterilizing, individual components must be cleaned following the instructions under point 4.0 below.
- All components can be immersed in disinfectant solutions that have been approved by the disinfectant manufacturer for endoscopic instruments.

Warning! Follow the manufacturer’s instructions for the sterilizer.

3.0 Inspect before every operational use!

3.1 Inspection of the insulation

- Inspect instrument carefully for damage to plastic coating on hooks, scissors, suction irrigation tubes.

Any instrument found to be damaged must be removed from service and returned for repair or replacement.

3.2 Function tests

Check:
- Is the instrument functional?
- Can the valve be opened and closed?
- Is the valve complete?
- Is the piston oiled and sealed?

Warning! If any irregularity is found during the inspection, the defect must be corrected before using the instrument.

3.3 Directions for use

3.4 Attaching to suction/irrigation unit

- Connect the silicon suction tube to the longitudinally directed tube connector as in illustration on page 43.
- Connect the silicon irrigation tube to the transverse directed tube connector as in illustration on page 43.

Be sure to use the appropriate tube diameter to prevent the tube from slipping off connector.

4.0 Care and Cleaning of individual components

4.1 Cleaning instrument parts

Mechanical cleaning:
- All parts can be cleaned by machine.
- Parts must be placed in machine so that coating is not damaged.
- Be sure all hollow spaces are also washed and rinsed.
- Water temperature must not go above 45ºC to avoid protein coagulation and sticking to valve.
- Follow instructions given by manufacturer for proper amount of detergent.

Warning! MICTEC® 3 – Way – Valves must be taken apart for cleaning. All tubes must be removed from valve!

Ultrasound cleaning:

Ultrasonic cleaning is preferable to mechanical cleaning. This is especially true for the sensitive instruments used for endoscopies.
- Instruments must be completely immersed in cleaning solution.
- Instruments must be cleaned for at least 3 minutes at a frequency of 35 KHz.
- Instruments can be rinsed either mechanically or by hand, but rinsing must be thorough and if possible with desalinated water.

Follow the manufacturer’s instructions for the ultrasonic unit.

4.2 Care of valve

After cleaning and drying, all moveable parts such as the rotation
adaptor and joints must be treated with an appropriate paraffin oil based preservative.

Warning! The rotation adapter and sliding surface of the piston must be greased with our special care lubricant. (Art. No. 26905-00)

5.0 Assembly and inspection

The valve is to be put back together and tested in the same way as described in 3.2.

6.0 Maintenance

Should any serious damage to the coating appear on any part of the valve please send the valve to us for repair.

7.0 Hints for avoiding of mistakes

• Be sure that the power paths between neutral electrode and MICTEC HF instruments are as short as possible.
• The power path must not cross through the body and absolutely never across the thorax.
• The HF cable and the HF instrument must not be allowed to lay directly on the patient’s skin, as this could lead to burns caused by capacitive currents.
• The HF cable must not be allowed to coil or lay in a coil as this could result in dangerous inductive currents.
• Completely insulate the patient from any contact with any other conductive surfaces.
• Ground the operation table!
• Avoid skin-to-skin contacts on arms and legs of the patient, for example by wrapping in dry gauze.
• Switch on HF power only when the HF instrument is in contact with the tissue that is to be coagulated.
• The tissue to be coagulated must not be in touch with any part of other tissue surfaces, since it could lead to unwanted coagulations.
• Cord or band shaped tissue parts may be coagulated only at the thinnest part.
• The coagulating HF instrument tip must be at least 10 mm from other surgical instruments.
• When using gas, for example insufflation gas, make sure that only non-inflammable gas is used, otherwise explosions and oxygen burns could result.
• The size of the neutral electrode must be appropriate for the power of the HF used, as it could lead to burns on the wrong place.

8.0 Interactions with other apparatus

When using electrical cardiograms (ECG) the following points must be observed.

• Connect neutral ECG cable to the neutral HF electrode.
• The distance between active HF electrode and ECG electrodes must be at least 150 mm.
• Do not use ECG needle electrodes.
• All ECG electrodes must have HF choke or protective circuitry.

Cardiac Pacemaker:

• Cardiac pacemakers could be damaged by HF power.
• Before using please consult a cardiologist.
• Never make ambulant operations on patients with cardiac pacemakers.
Directions for use for Thoracoscopic 3-Way-Tap

1.0 General information
• Please read these directions carefully before using the instrument.
• New instruments must be washed, rinsed, dried, inspected and sterilized before using, as described below.

2.0 Sterilization

2.1 Steam sterilization
• Before sterilizing, individual components are to be cleaned following the instructions under point 4.3 below.
• All components can be steam sterilized under following conditions:
  - Pressure: max. 2 bar
  - Time: 25 minutes max
  - Gravity steam (wrapped) / 132°C / 270°F / 15 minutes
  - Prevac (wrapped) / 132°C / 270°F / 4 minutes
  - Gravity Steam (unwrapped/ Flash) / 132°C / 270°F / 10 minutes

Notice: Cold Soak Sterilization is not recommended

Testing results indicate that cold soak sterilization is not adequate for this product. Manufacturer’s recommended cycle times DO NOT always provide a 105 sterility assurance level.

Warning! Follow the manufacturer’s instructions for the sterilizer

2.2 Gas sterilization (ETO)
• Before sterilizing, individual components are to be cleaned following the instructions under point 4.0 below.
• All components can be sterilized with gas.

Warning! Follow the manufacturer’s instructions for the sterilizer

2.3 Disinfecting
• Before sterilizing, individual components are to be cleaned following the instructions under point 4.3 below.
• All components can be immersed in disinfectant solutions that have been approved by the disinfectant manufacturer for endoscopic instruments.

Warning! Follow the manufacturer’s instructions for the sterilizer

3.0 Inspect before each use

3.0.1 Inspect chrome plating
• Inspect instrument carefully for damage to chrome plating.
Remove any instrument found to be damaged.

3.0.2 Function tests
Check:
• Is the instrument functional?
• Can the valve be opened and closed?
• Is the valve complete?
• Is the piston oiled and sealed?

Warning! If any irregularity is found during the inspection, the defect must be corrected before using the instrument

3.1 Directions for use

3.1.1 Attaching to suction/irrigation unit
• Connect the silicone tube to the longitudinally directed tube connector as in illustration.
• Connect the silicone tube to the transverse directed tube connector as in illustration.
• Be sure to use the appropriate tube diameter to prevent the tube from slipping off connector

4.0 Care and Cleaning of individual components

4.1 Components

4.2 Dismantling the instrument
• Hold the valve body, lift the closing plate and slide it to the side.
• Then push the piston out of the body of the valve using your thumb.

4.3 Cleaning instrument parts

MICTEC 3-way-Valves must be taken apart for cleaning, as described under point 4.2 above. All tubes must be removed from valve!

Machine washing:
• All parts can be cleaned in a machine
• Parts must be placed in machine so that coating is not damaged.
• Be sure all hollow spaces are also washed and rinsed.
• Water temperature must not go above 45°C to avoid protein coagulation and sticking to the valve.
• Follow instructions given by manufacturer for proper amount of detergent.
• Follow manufacturer’s instructions for use of machine.
Ultrasound cleaning:

The ultrasound cleaning is to prefer to mechanical cleaning. This is especially true for the sensitive instruments used for endoscopies.

- Instruments must be completely immersed in cleaning solution.
- Instruments must be cleaned for at least 3 minutes at a frequency of 35 KHz.
- Instruments can be rinsed either mechanically or by hand but rinsing must be thorough and if possible with desalinated water.
- Follow the manufacture’s instructions for the ultrasonic unit.
- After cleaning instrument parts must be clean to visual inspection. After cleaning parts must be sufficiently dried.

4.4 Care of valve

After cleaning and drying, all moveable parts such as the rotation adaptor and joints must be treated with an appropriate preservation based on paraffin oil.

Warning! The rotation adapter and sliding surface of the piston must be greased with our special care lubricant. (Art. No. 26905-00)

4.5 Assembly

The valve is to be put back together by reversing the order of operations described in point 4.2

Then test the valve in the same way as described in 3.0.1 and 3.0.2

5.0 Maintenance

Should any serious damage to the coating appear on any part of the valve please send the valve to us for repair.