



 Sontec Instruments®

THORACOSCOPIC

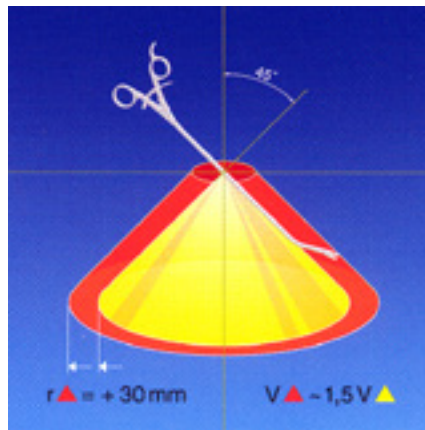
Important Information - Read Carefully

Advantages of Thoracoscopic Instrumentation

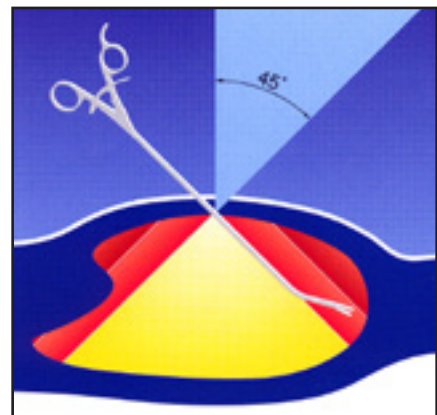
- **Touch Sensitivity:** Gives a "true feel" when grasping, clamping, and cutting.
- **Light Weight:** All instruments are incredibly light yet strong and stable.
- **Extensive Line:** The widest selection in the industry, including 30 different instrument tips, suction devices, retractors, mono- and 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

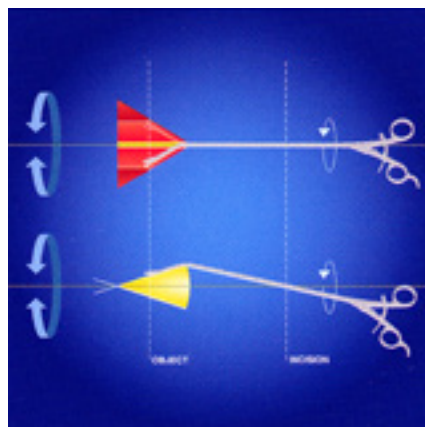
- **MICASEPT** is a new, patented and autoclavable membrane sealing system. The hermetic seal of the instrument channel allows for a constant, stable sliding motion.
- The **MICASEPT** system makes it unnecessary to assemble or dismantle the instrument.
- The **MICASEPT** system removes the problem of 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.



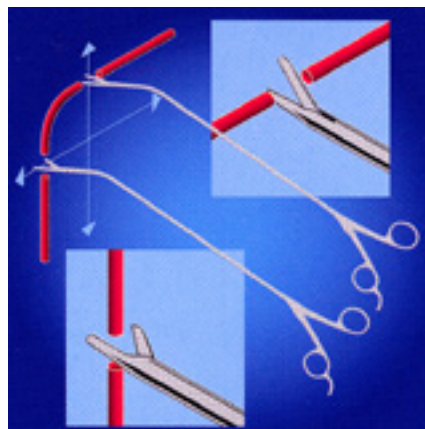
Larger working volume



Angled instruments for precise preparation inside the thorax



2 rotating axes



2 cutting planes

Indications/Operations for Thoracoscopic Instrumentation

- | Recurring pneumothorax
- Partial plurectomy / Bulla resection / Bulla coagulation / Adhesiolysis / Mechanical pleurodesis
- | Interstitial lung disease
- Wedge resection
- | Coin lesion
- Wedge resection / Enucleation
- | Pleural effusion
- Pleurectomy
- | 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
- | Bronchiectases
- 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.

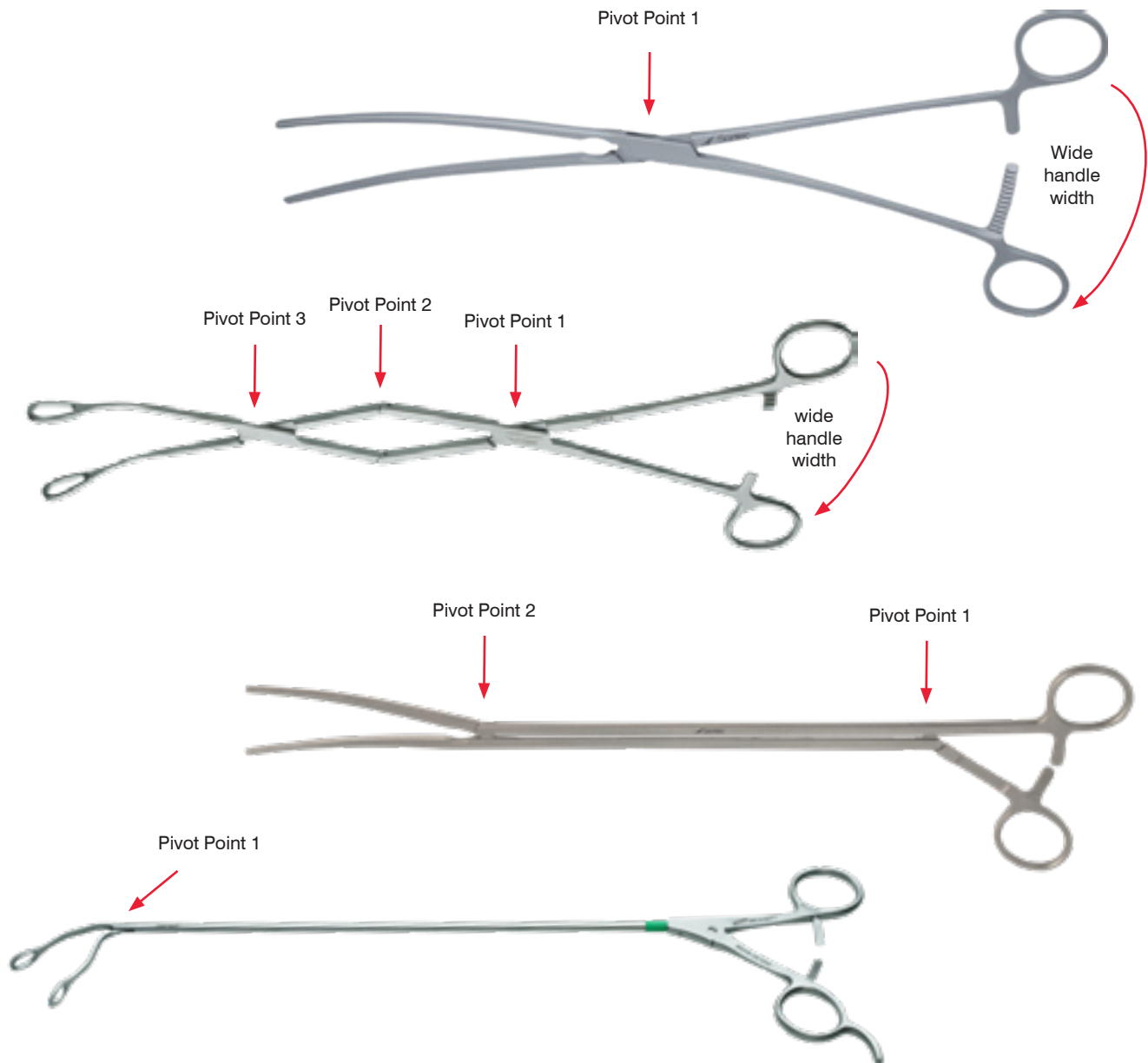
VATS 2-point pivot (3rd generation)

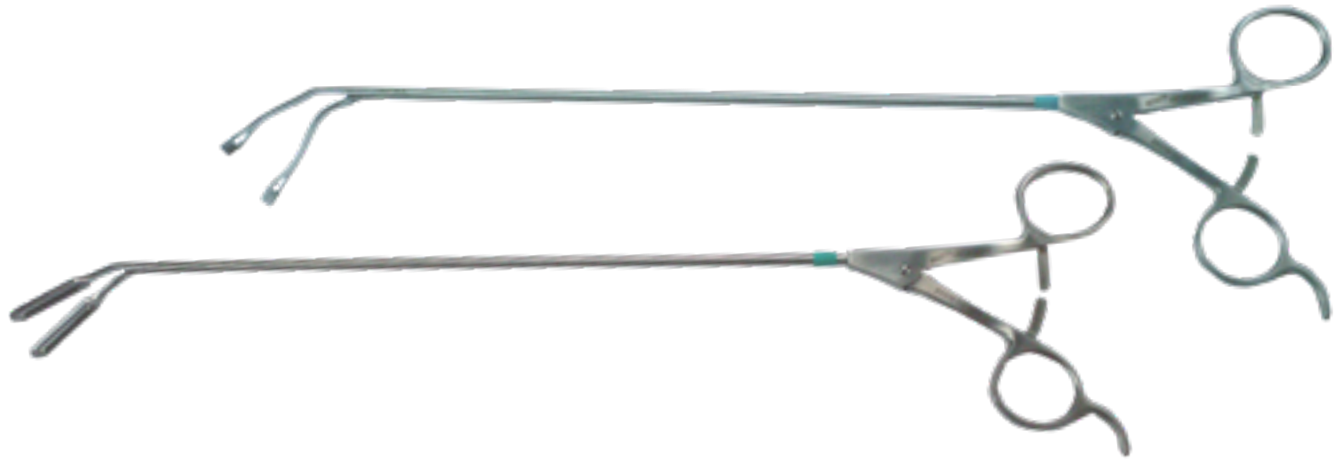
The VATS 2-point pivot uses a sliding shaft between the two points which, when open, is only 10 mm wide and can be used with a port or small incision without losing the full function of the jaws. This design is an improvement, but not ideal for true MIS Thoracoscopic surgery, as it is heavy and has limited 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, plerodesis 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



fenestrated



atraumatic

**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



20919-04-004

DeBakey Organ Grasping Forceps

6.8 mm / atraumatic / 30° curved down / 4.5 mm 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



20 mm / rigid oval / lung grasper / fits only endo stapler trocar

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 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



20919-05-024

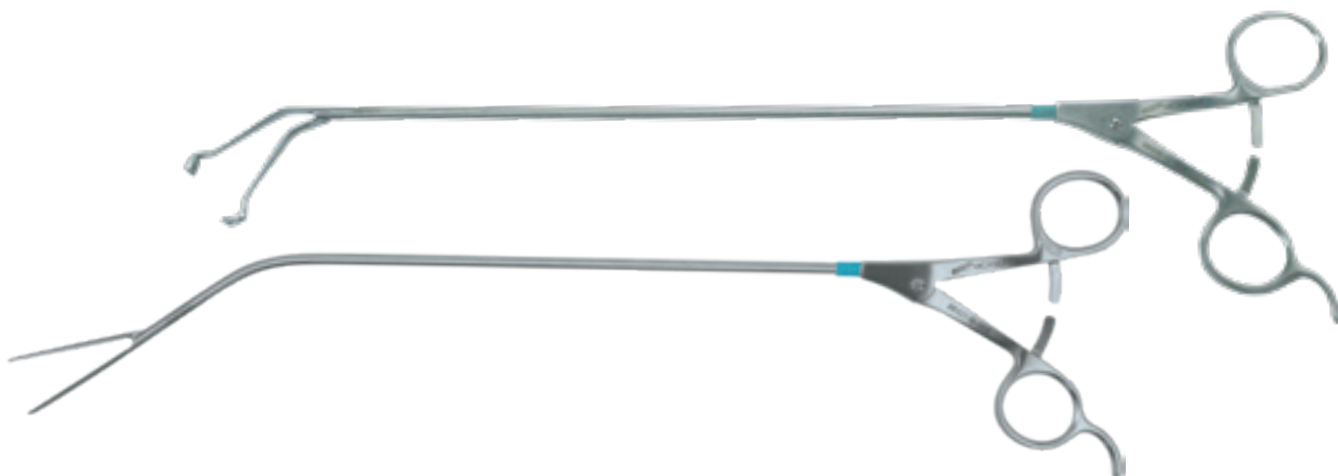
DeBakey Universal Ring Clamp

**13 mm / straight / 4.5 mm diameter / 300 mm
working length / fits 10.5 mm trocar**

20919-05-344



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

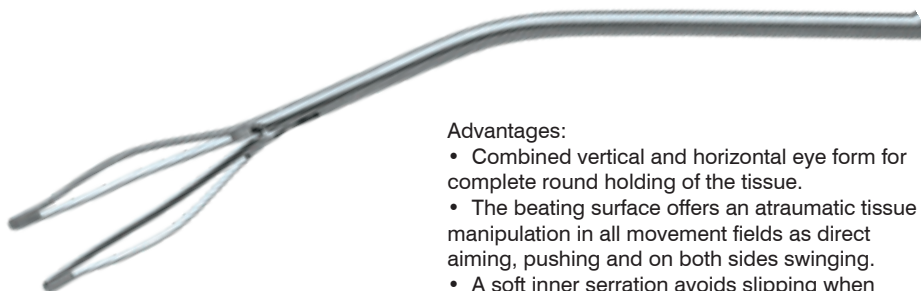


Atrauma Tissue Grasper

**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 beating 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.

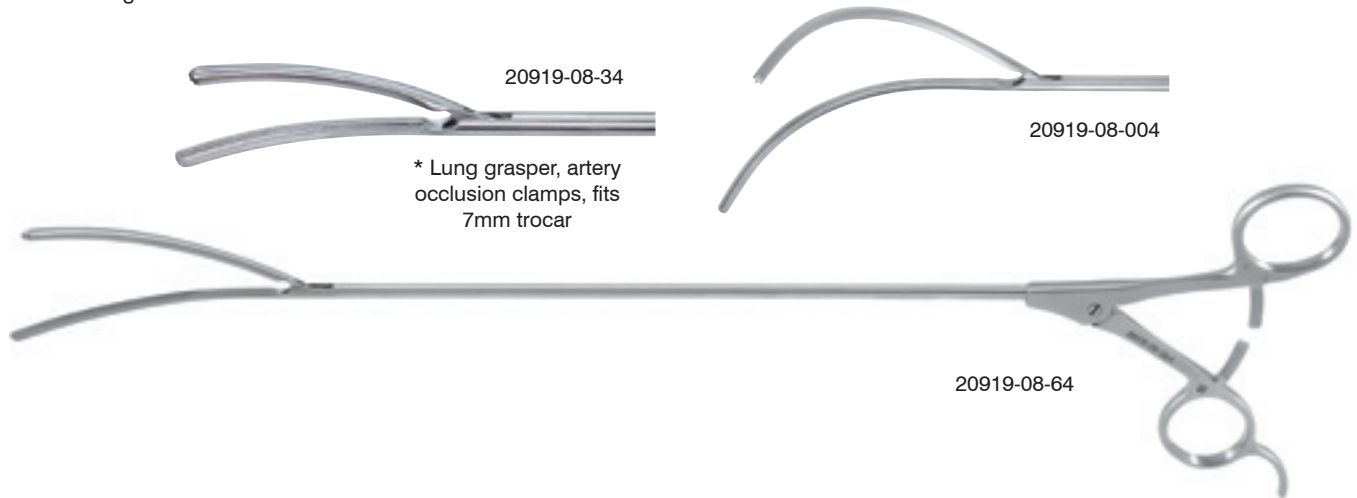
Debakey Galen Lobe Clamp

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 nodules
- Fits through MICTEC flexible Trocarsheets 7mm



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

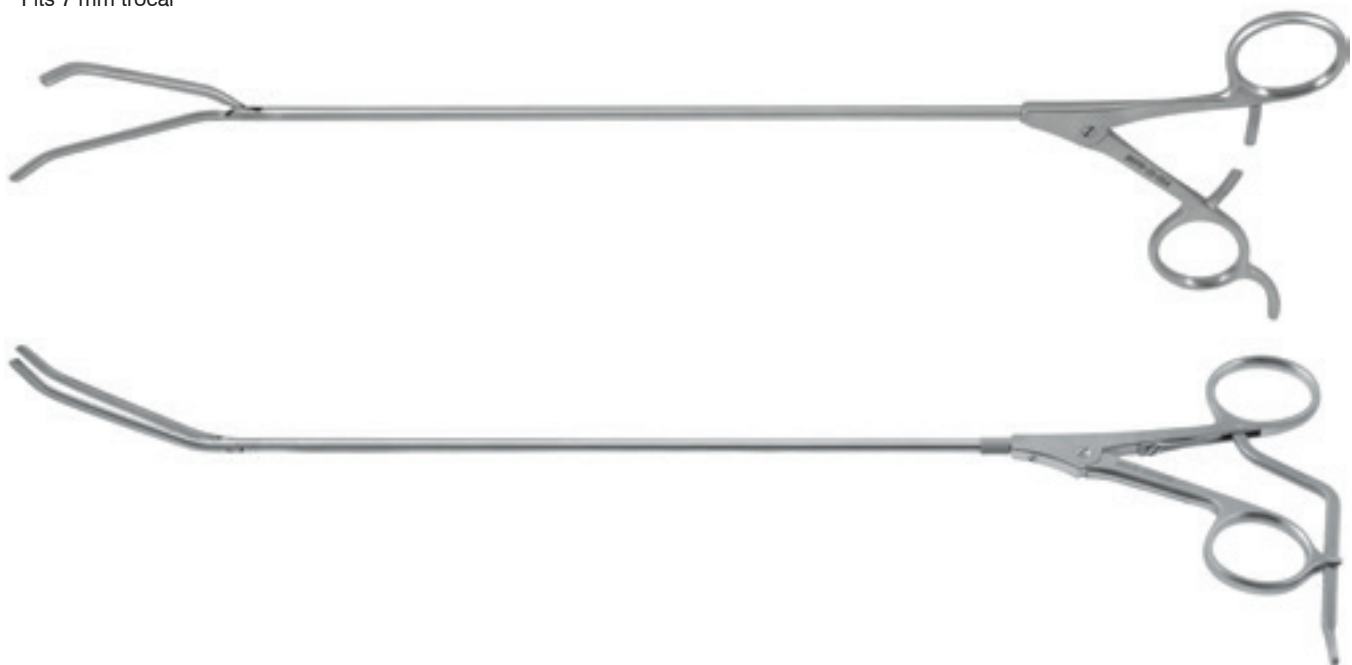


Parenchym (Satinsky Long)

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



Fenestrated Grasping Rhombic Forceps

With ratchet / parallel shaft / 360 mm working length

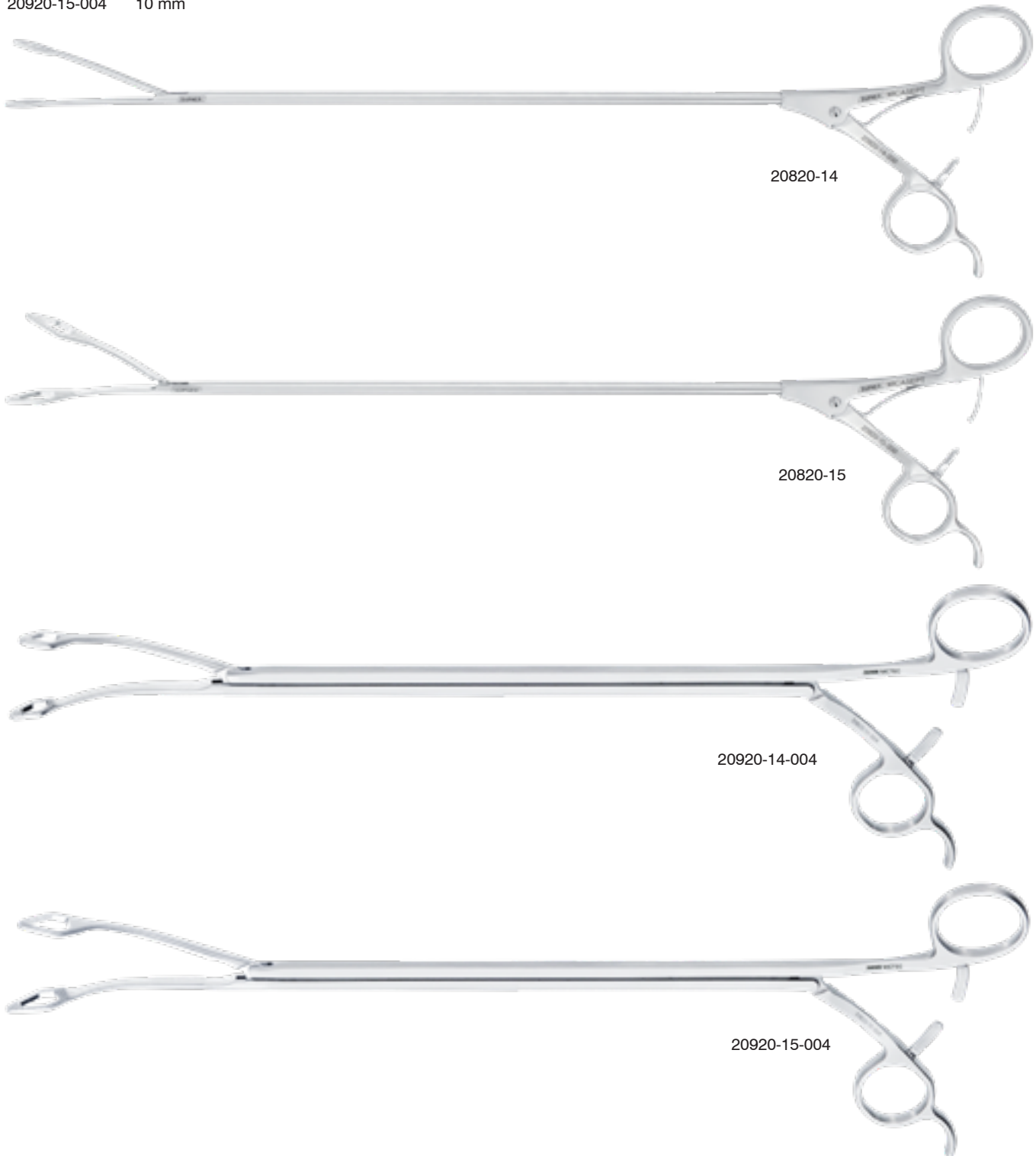
20820-14 7 mm

20820-15 10 mm

Curved left / with clamp ratchet / Ø 4.5 mm / 300 mm working length

20920-14-004 7 mm

20920-15-004 10 mm



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

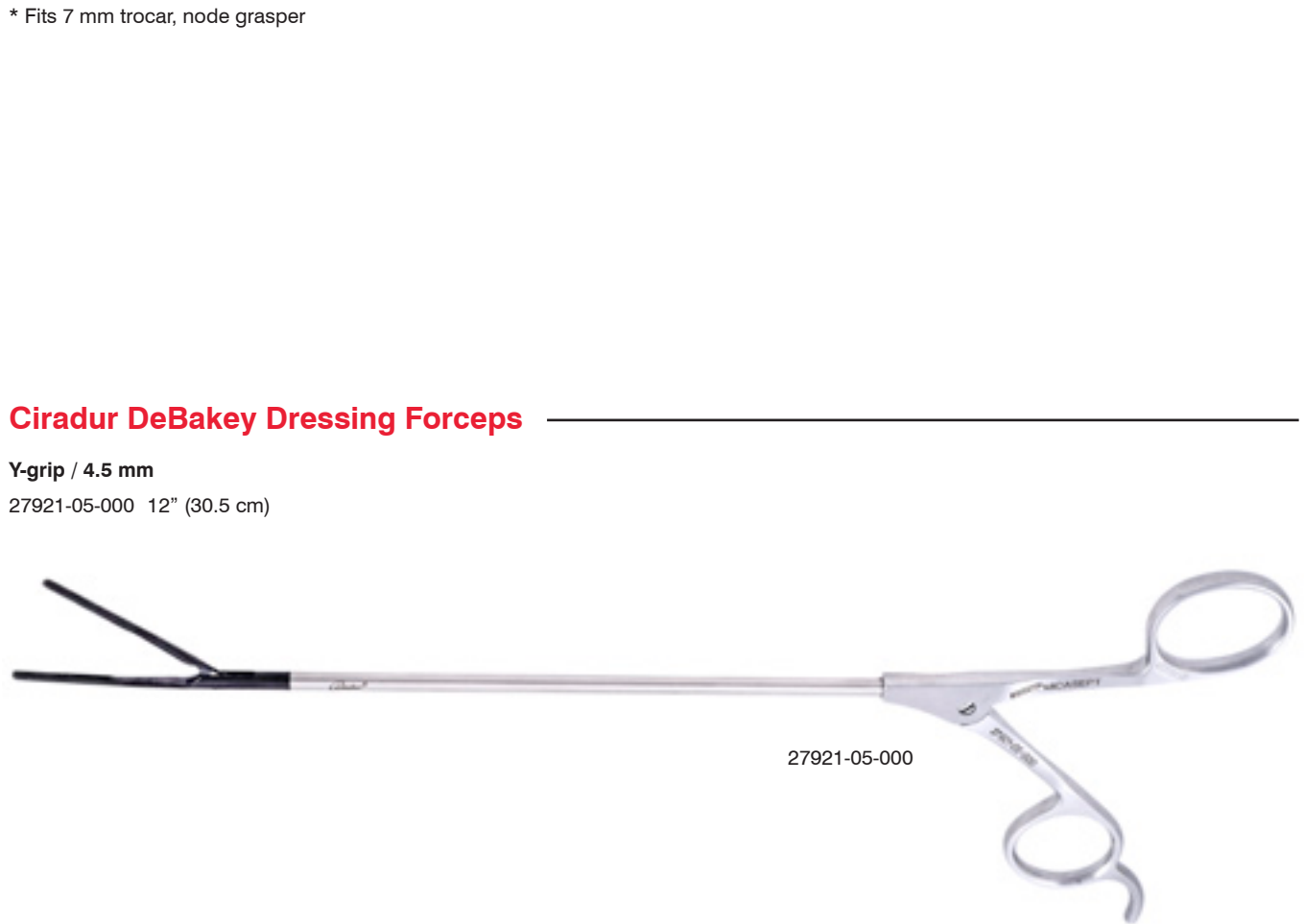


Atraumatic Allis Grasping Forceps

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, node grasper



Ciradur DeBakey Dressing Forceps

Y-grip / 4.5 mm

27921-05-000 12" (30.5 cm)



MICTEC Ciradur Atraumatic DeBakey Dressing Forceps

Straight / pen handle / Ø 4.5 mm / 300 mm working length

20919-93-659



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

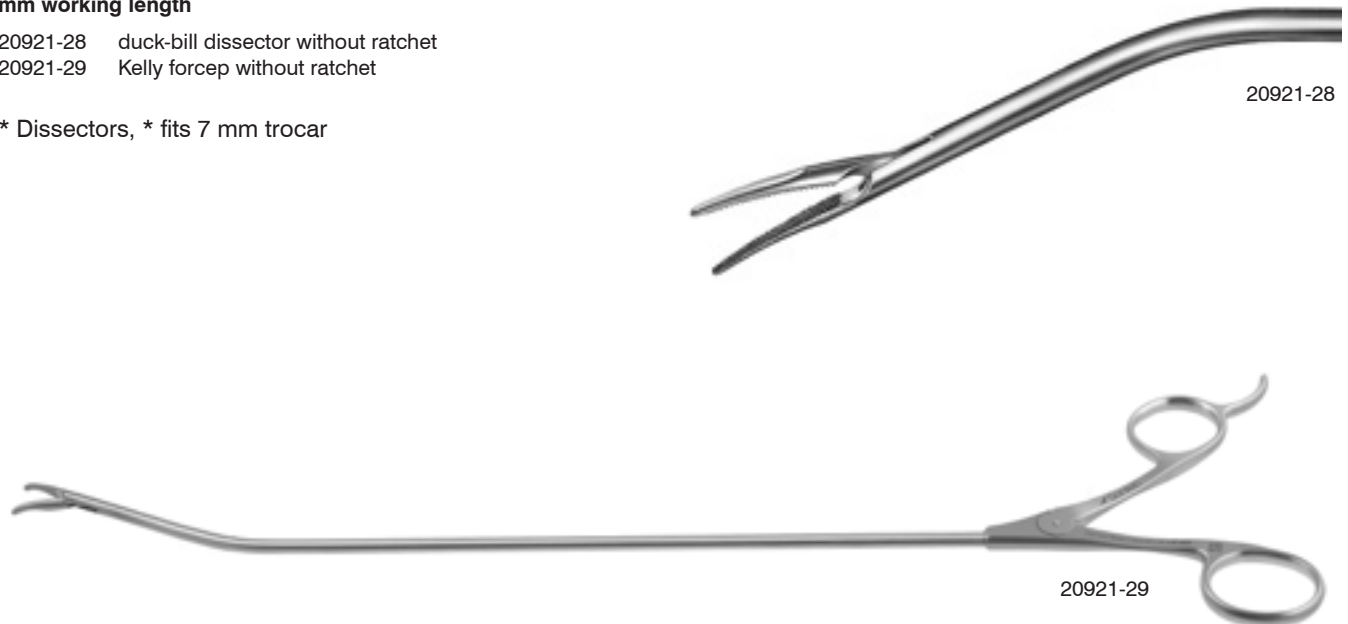


Dressing & Grasping Forceps

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



DeBakey Bulldog Forceps and Applicator

For robotic-endo application

20919-35-353	DeBakey bulldog forceps	46 mm serration	curved left		
20919-35-354	DeBakey bulldog forceps	46 mm serration	straight		
26932-60	MICASEPT applicator for DeBakey bulldog forceps	with ratchet	Ø10 mm	350 mm WL	angle holding
26932-62	MICASEPT applicator for DeBakey bulldog forceps	with ratchet	Ø10 mm	350 mm WL	straight holding



20919-35-353



20919-35-354

These unique bulldogs can also be used with a robotic bulldog applying clamp arm



26932-60



26932-62



26932-60

DeBakey Mixer Dissection Forceps

60° curved / 4.5 mm in diameter / 300 mm working length
/ with Hegar ratchet

20920-11-034

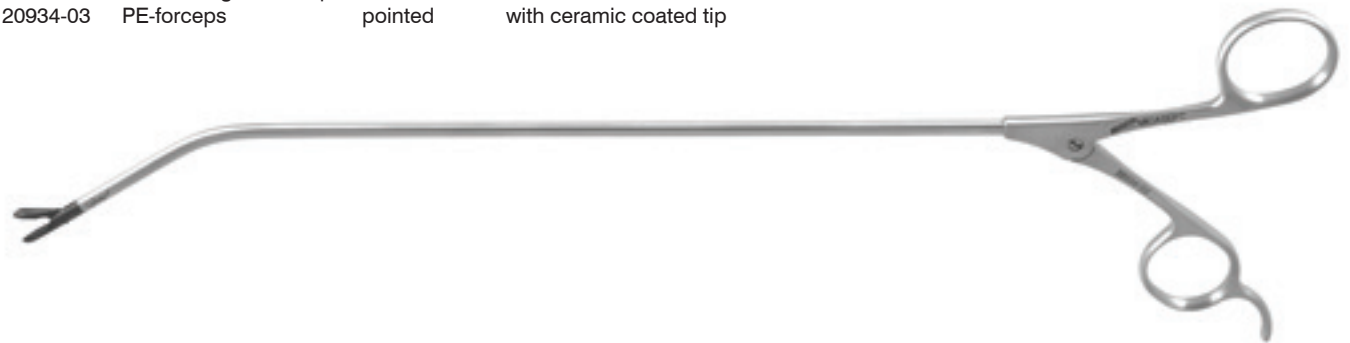


20920-11-034

Biopsy / Scissor Forceps

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

20925-03	scissors	blunt/blunt	right opening
20925-06	scissors	blunt/ blunt	up opening
20928-01	metzenbaum scissors		curved left
20934-01	biopsy forceps		
20934-02	intersecting PE-forceps		
20934-03	PE-forceps	pointed	with ceramic coated tip



20934-01

20934-02

20934-03



20925-03

20925-06

20928-01

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

4.5 mm in diameter / 300 mm working length / straight

20918-01	mathieu-ratchet
20918-01-005	folding ratchet
20918-05	hegar ratchet
20918-09	without ratchet



4.5 mm in diameter / 300 mm working length / curved

20918-02	mathieu-ratchet
20918-06	hegar ratchet
20918-06-005	folding ratchet



4.5 mm in diameter / 300 mm working length / curved / short wide jaw

20918-08	hegar ratchet
20918-08-005	folding ratchet



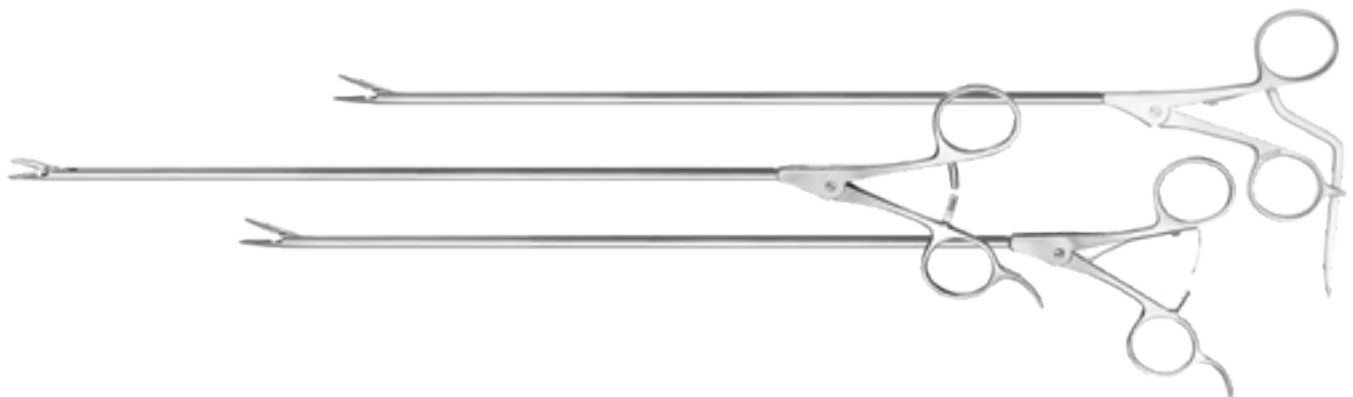
4.5 mm in diameter / 300 mm working length / 30° curved / down opening / straight

20918-15	hegar ratchet
20918-15-005	folding ratchet



4.5 mm in diameter / 300 mm working length / 30° curved / up opening / curved / short wide jaw

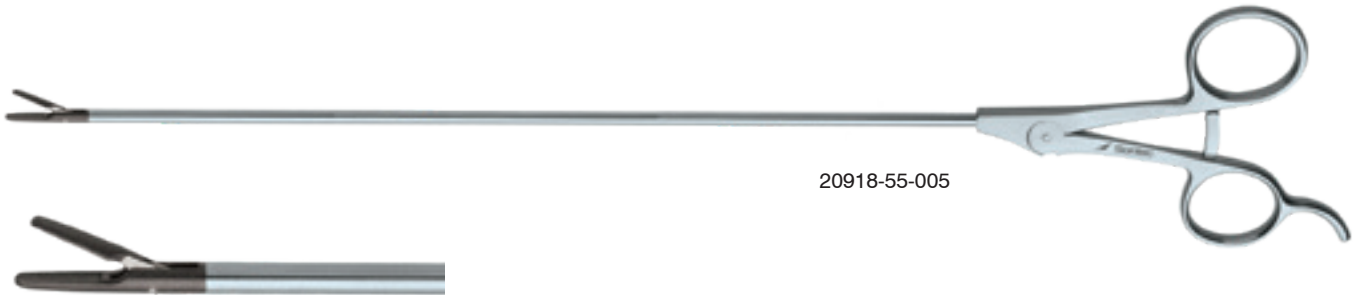
20918-20	without ratchet
----------	-----------------



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



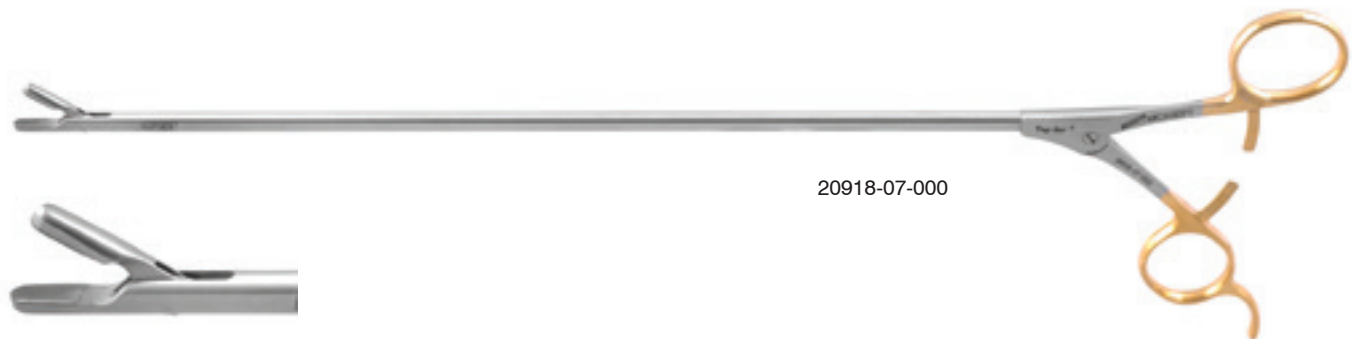
20918-55-005

* fits 7mm Trocar

Top Dur Needle Holder

**Straight / y-grip / with ratchet / short wide jaw
/ 6 mm shaft**

20918-07-000 15 1/2" (39.4 cm)



20918-07-000

TOP DUR Needle Holder

Straight / y-grip / with ratchet / short wide jaw / 6 mm shaft Ø

20918-07-301



20918-07-301

TOP DUR Needle Holder

Curved / y-grip / with ratchet / wide jaw / 6 mm shaft Ø

20918-07-302 11" (280 mm) shaft

20918-07-303 11 3/4" (300 mm) shaft



Knot Pusher

4.5 mm in diameter / 300 mm working length / y-grip handle

20918-93



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



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

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
seperatly 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



Pleuraelevatorium

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



20942-03



20942-03

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



20942-50



20942-51

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

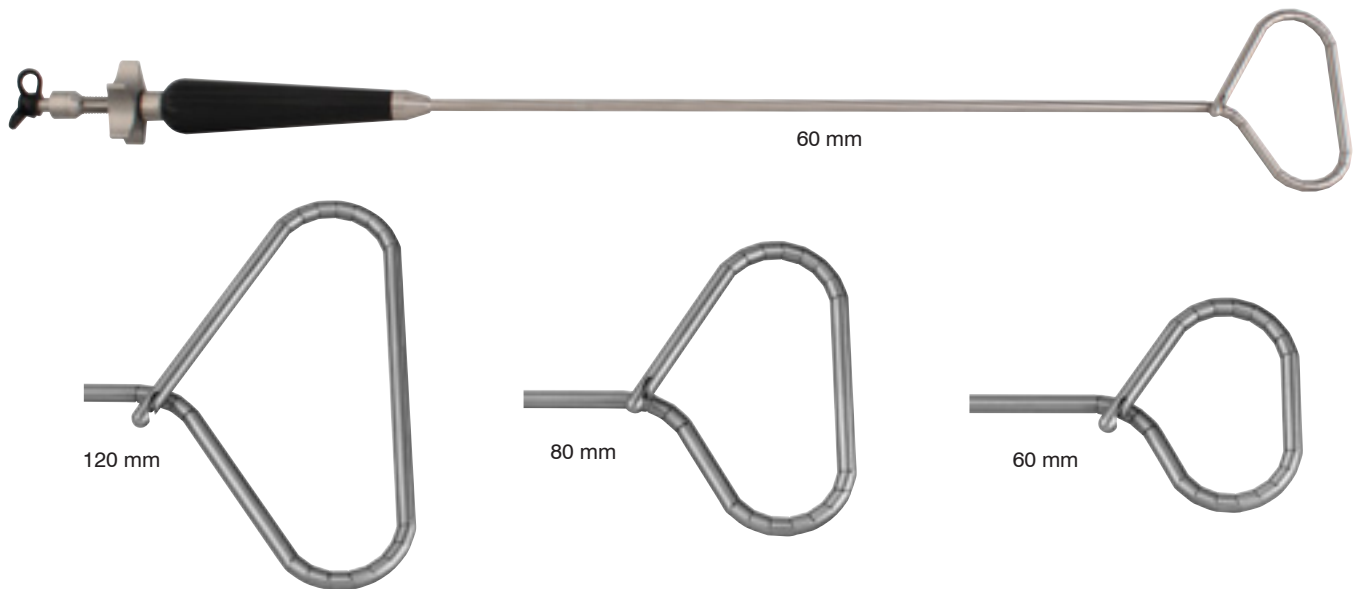
* Fits 7 mm trocar



Liver Retractor

Straight triangle / 5-star rotary knob / Ø 5.0 mm

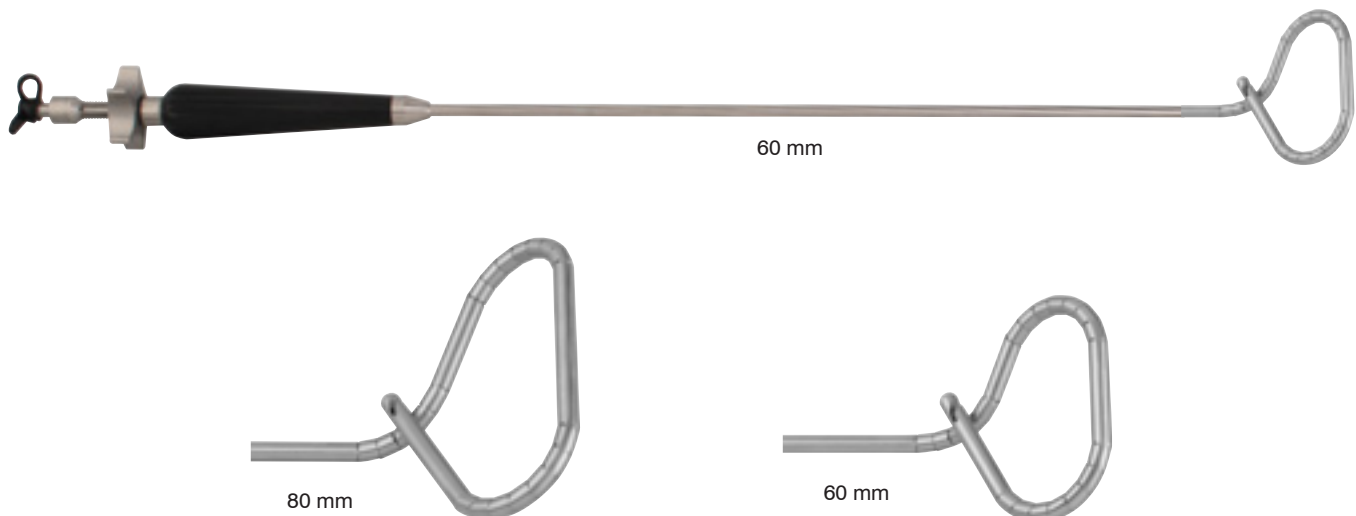
2901-400	60 mm triangle	38 cm length
2901-400L	60 mm triangle	45 cm length
2901-405	80 mm triangle	38 cm length
2901-405L	80 mm triangle	45 cm length
2901-410	120 mm triangle	38 cm length
2901-410L	120 mm triangle	45 cm length



Liver Retractor

Straight triangle / 5-star rotary knob / Ø 5.0 mm

2901-415	60 mm triangle	38 cm length
2901-415L	60 mm triangle	45 cm length
2901-420	80 mm triangle	38 cm length
2901-420L	80 mm triangle	45 cm length



Liver Retractor

Hook / 5-star rotary knob / Ø 5.0 mm

2901-425	90° curved left	38 cm length
2901-425L	90° curved left	45 cm length
2901-430	90° curved right	38 cm length
2901-430L	90° curved right	45 cm length
2901-435	45° curved left	38 cm length
2901-435L	45° curved left	45 cm length
2901-440	45° curved right	38 cm length
2901-440L	45° curved right	45 cm length



90° curved left



90° curved right



45° curved left



45° curved right

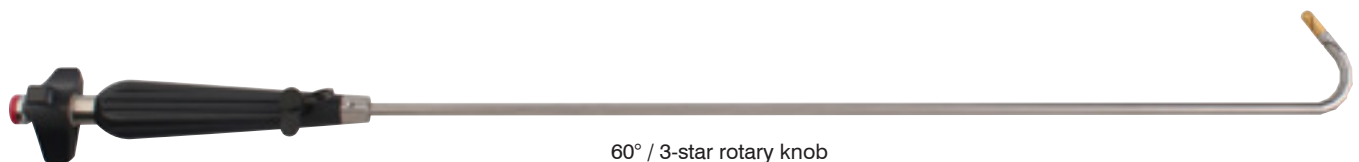


45° curved left

Goldfinger Liver Retractor

Finger / Ø 5.0 mm

2901-445-3S	60°	38 cm length	3-star rotary knob
2901-450L-3S	90°	43 cm length	3-star rotary knob
2901-450L	90°t	43 cm length	5-star rotary knob



60° / 3-star rotary knob



90° / 5-star rotary knob

Liver Retractor

Round 40 mm / 5-star rotary knob / Ø 5.0 mm

2901-455	straight	38 cm length
2901-455L	straight	45 cm length
2901-460	curved	38 cm length
2901-460L	curved	45 cm length



straight



curved



60 mm

Sontec Fan Organ Retractor

5 blades / 10 mm wide / 350 mm working length

26942-42



26942-42

Esophageal Retractor

1 finger

2901-500 Ø 5 mm 33 cm length

2901-500L Ø 5 mm 45 cm length

2901-501 Ø 10 mm 33 cm length

2901-501L Ø 10 mm 45 cm length



Ø 5 mm



Ø 10 mm

Sontec Fan Organ Retractor

5 blades / 5 mm wide / 330 mm working length / using one hand, blades & neck articulate to achieve desired shape

26942-41



26942-41

Sontec Deluxe Fan Organ Retractor

5 blades / 10 mm wide / 380 mm working length / using one hand, blades & neck articulate to achieve desired shape

26942-43



26942-43

3 Way Tap

With large Luer-Lock connection 5mm

26943-00	valve	
20943-14	basket tip suction	angled
26943-06	suction tube	straight
20943-04	large central opening tube	
20947-11	elephant foot suction electrode	

Needed for
suction tubes.



26943-06

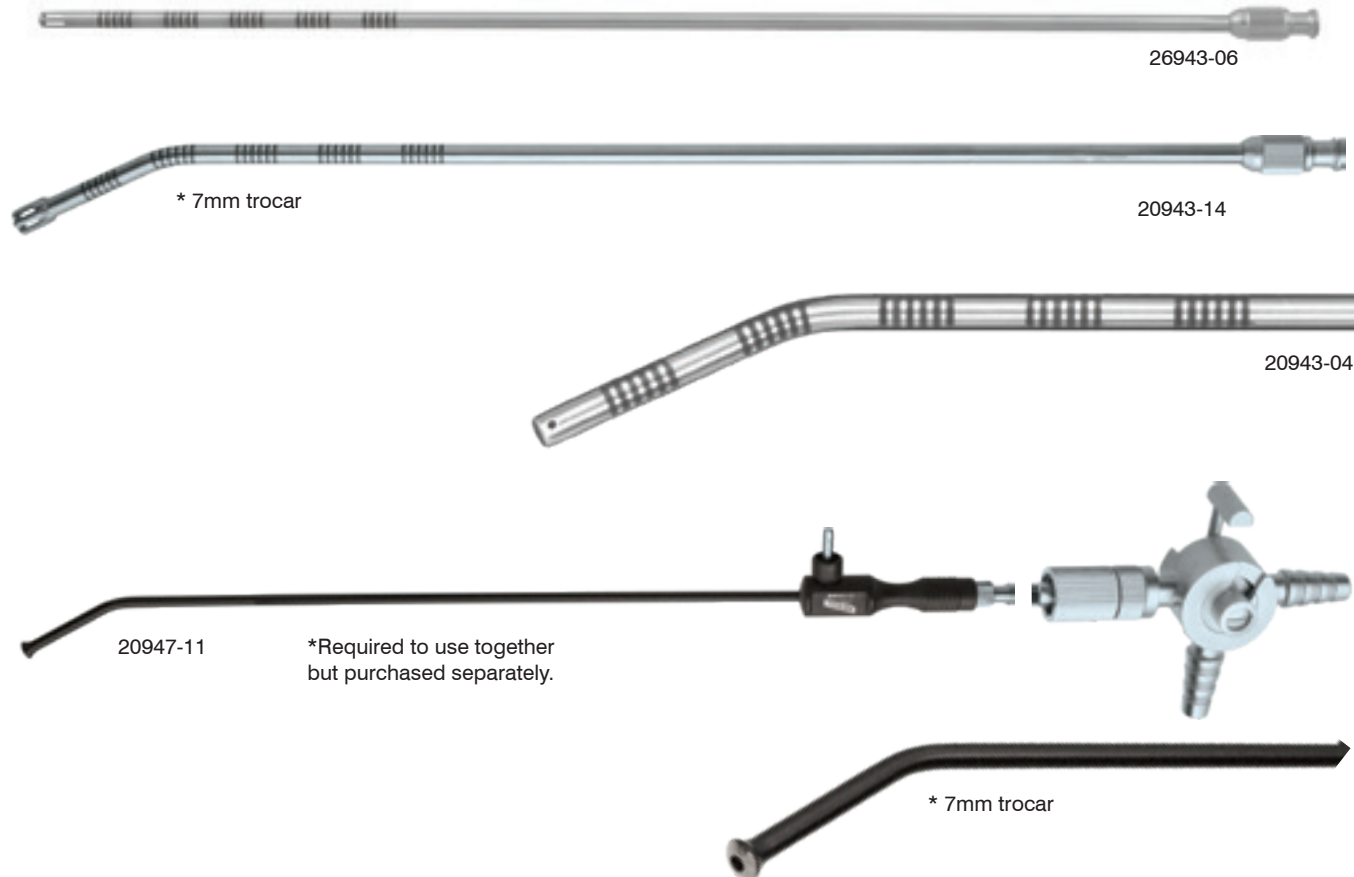
20943-14

20943-04

20947-11

*Required to use together
but purchased separately.

* 7mm trocar



HF-Cable

Hexagon inside / 4 m long

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



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

3-way tap not included but necessary for use



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



20947-11-012



20947-11-001



20947-11-002



20947-11-003

Suction-Irrigation Tube Set

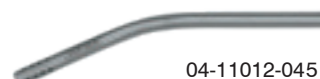
With plunger valve / 300 mm working length

20943-13	set includes 5mm & 10mm tubes and tap
04-11001-00	3 way tap
04-11012-05	10 mm tube
04-11012-04	5 mm tube

04-11001-00



04-11012-05



04-11012-045

Thoracic Suction Tube

With flat handle / straight / 5 mm tube / 18 1/4" (46.4 cm)

180-429F

With Pynchon handle / 5 mm tube / 17 1/4" (43.8 cm)

180-429F straight with flat handle 18 1/4" (46.4 cm)

180-429 straight

180-4291 straight without thumb hole

180-429C angled

180-429B straight with basket tip

180-429CB angled with basket tip

With Pynchon handle / 10 mm tube

180-431 straight 18 3/4" (47.6 cm)

180-4311 straight 18 3/4" (47.6 cm) without thumb hole

180-431C angle 18 1/2" (47 cm)



Metzenbaum Power Cut® Ciradur Scissors

Cvd 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



MICTEC Ciradur Metzenbaum Scissors

Double-X / curved left / pen handle / without ratchet / Ø 5 mm / 300 mm working length

20926-12-609



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

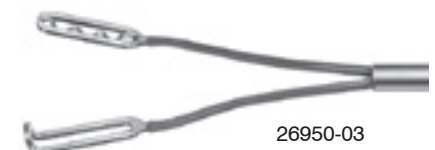
Bipolar Grasping Forceps

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 instruments / 3 m long

26954-30 connection: Erbe

26954-31 connection: Martin, Berchtold, Aesculap

26954-32 connection: Valleylab, Bircher, Bovie, Bard



Bipolar Cable

4 meters / flat plug generator end / U20-plug

2695-107



Bipolar Double Electrode

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

20945-50 ring
20945-51 hook

* Fits 7 mm trocar



20945-50



20945-51

Injection Cannula

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

20941-30 large luer-lock
20941-01 standard luer-lock



20941-30



20941-01

Talcum Spray Nozzle Set

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

20943-60-SET

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 rotatable
- 04-11020-03 talcum spray glass bottle
- 04-11020-10 bellow blue with ventil & connection M8

* Fits 7 mm trocar



12-06110-06



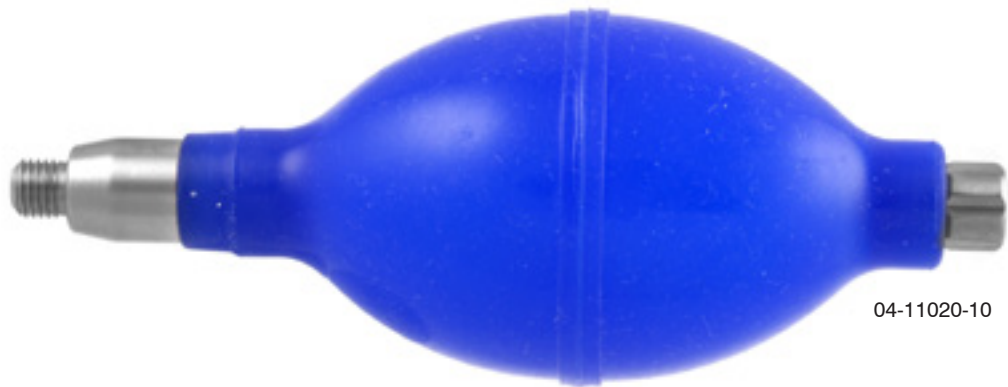
20943-60-SET



20943-61



15-11181-20



04-11020-10



04-11020-03

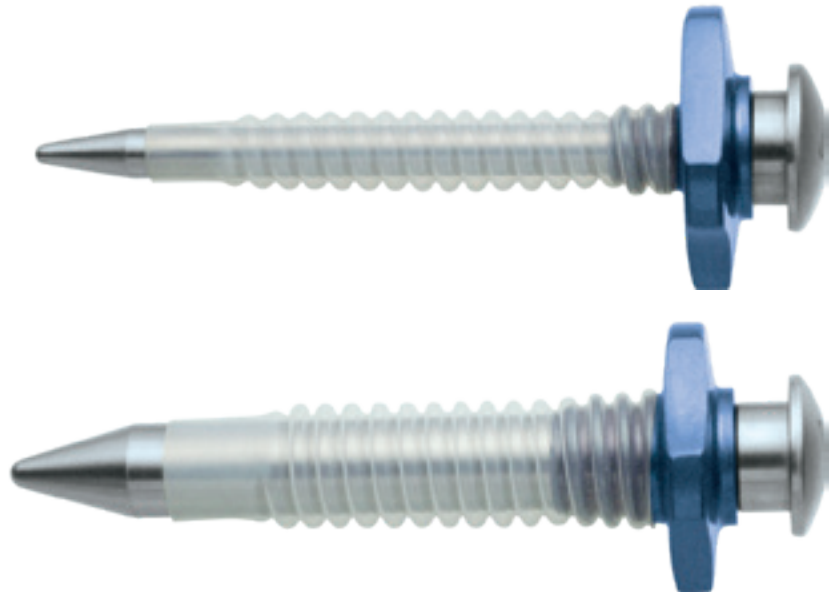


20943-54

Flexible Trocar Set

Titanium

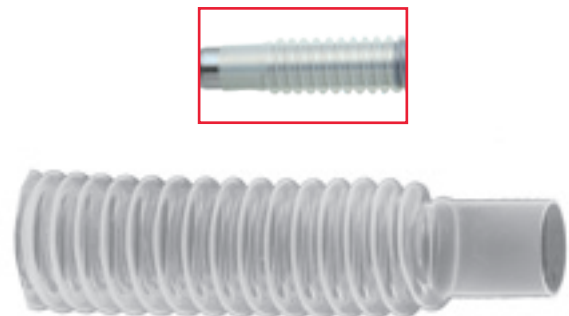
20907-15	7 mm diameter	50 mm long
20907-17	7 mm diameter	70 mm long
20907-20	7 mm diameter	100 mm long
20910-15	10.5 mm diameter	50 mm long
20910-17	10.5 mm diameter	70 mm long
20910-20	10.5 mm diameter	100 mm long
20913-17	13 mm diameter	70 mm long
20913-20	13 mm diameter	100 mm long



Flexible Trocar Sleeve

12 pieces

15-16100-74	7 mm diameter	50 mm long
15-16100-75	7 mm diameter	70 mm long
15-16100-76	7 mm diameter	100 mm long
15-16141-04	10.5 mm diameter	50 mm long
15-16141-05	10.5 mm diameter	70 mm long
15-16141-06	10.5 mm diameter	100 mm long
15-16171-01	13 mm diameter	70 mm long
15-16171-02	13 mm diameter	100 mm long



Stretch Pin

15-30116-06	for 10.5 mm flexible sleeves
15-30116-07	for 7 mm flexible sleeves
15-30116-08	for 13 mm flexible sleeves

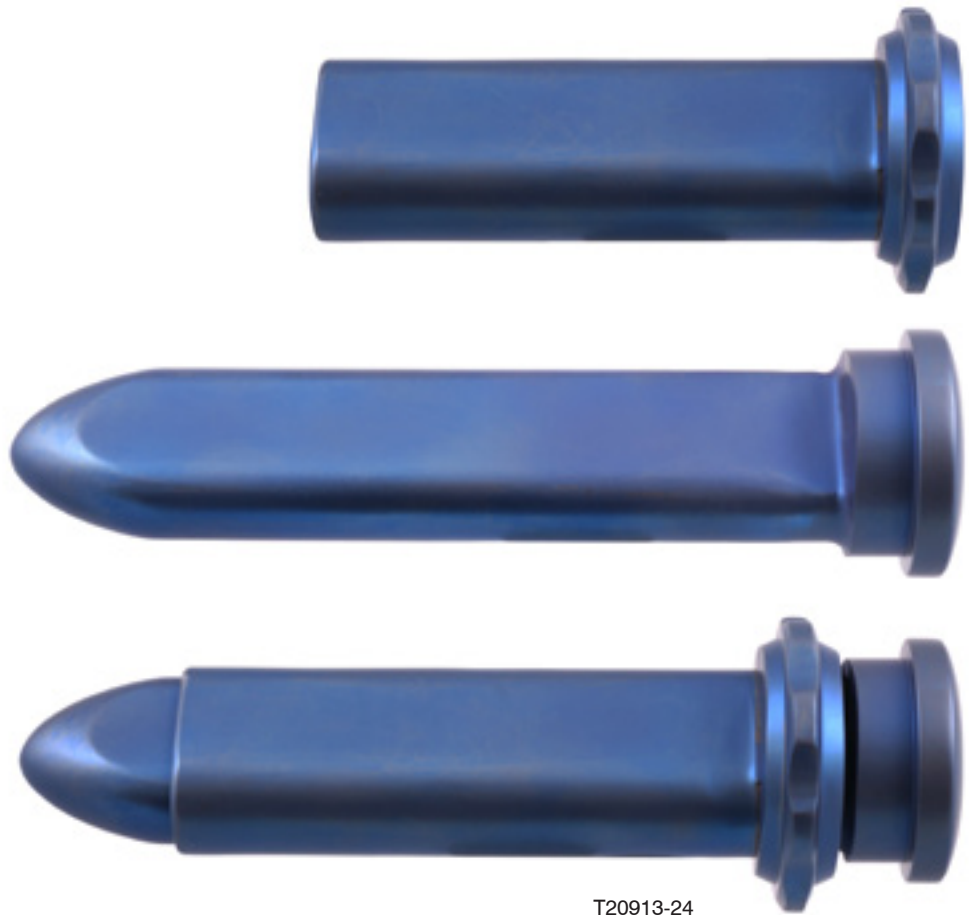


Oval Trocar

For Endo-Stapler / 70 mm long

20913-24 smooth 14 mm / 24 mm diameter

T20913-24 smooth 14 mm / 24 mm diameter titanium



T20913-24

Oval Trocar

For Endo-Stapler / 70 mm long

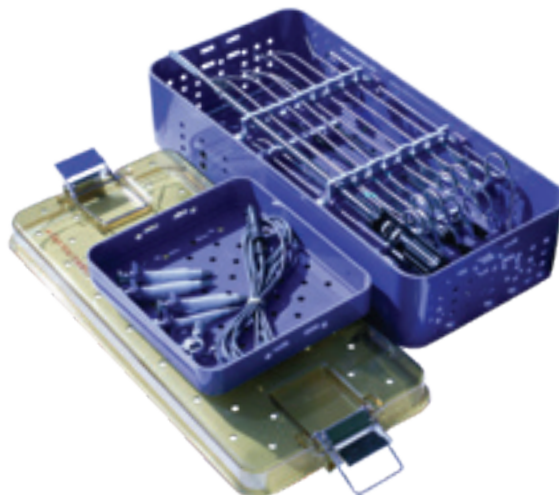
20913-18 waved 13 mm / 18 mm diameter



Complete Thoracoscopic Deluxe Set

20906-2615 Call for individual & set pricing

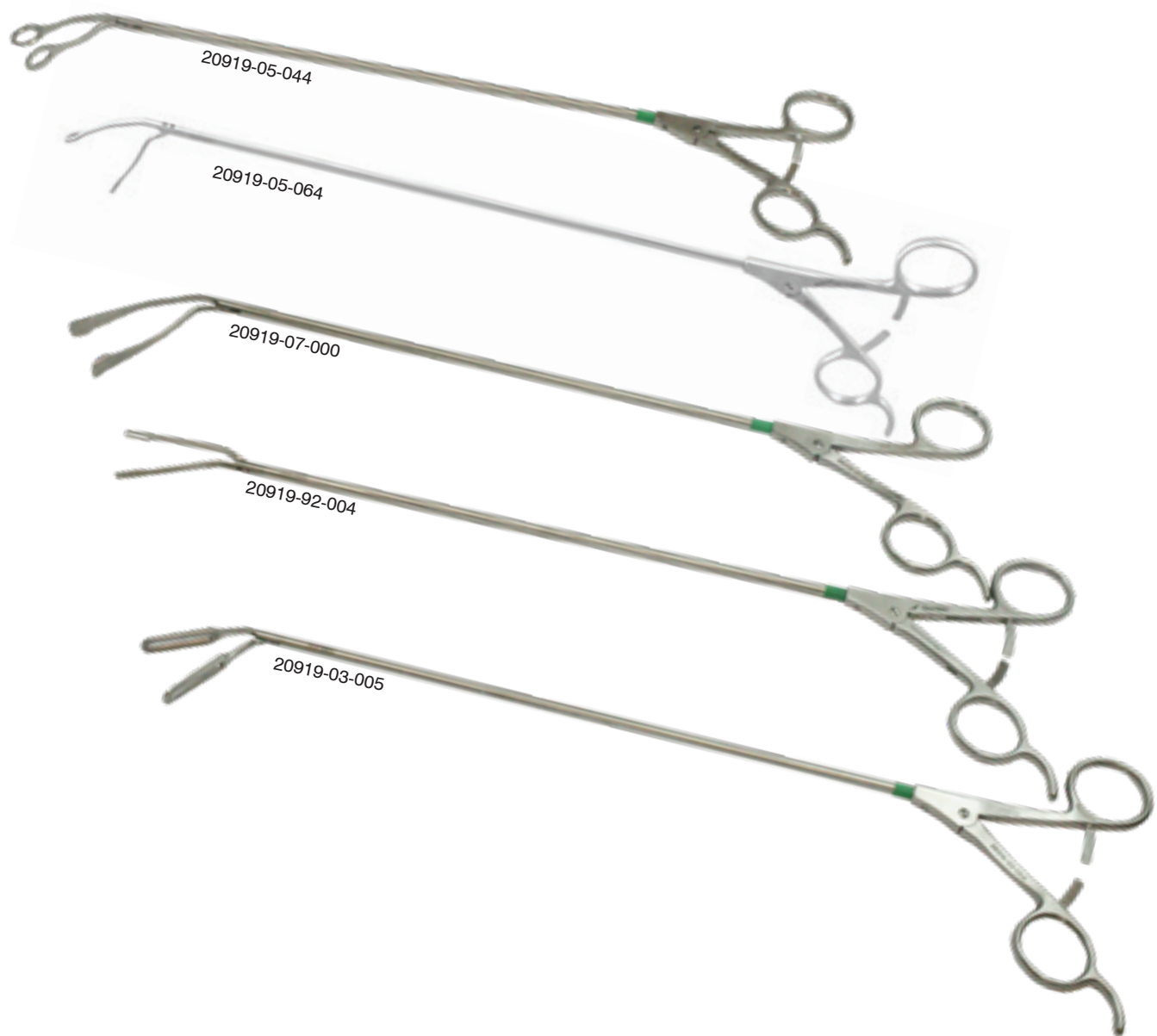
Catalog #	QTY	Description
26942-43	1	10 MM Deluxe Fan, articulating
26941-42	1	Endo Injection Needle
20919-22-004	1	DeBakey Satinsky Clamp, 50 mm jaw angle right w/ hegar
20919-25-004	1	DeBakey Satinsky Clamp, 70 mm jaw angle left w/ hegar
20934-03	1	PE-Forceps pointed 30 degrees cvd (no ratchet)
20919-91	1	DeBakey Forceps, cvd down 30 degrees w/ hegar (no ratchet)
20920-20-004	1	Overholt-Geibendorfer w/ hegar hatchet
20918-55-005	1	Ciradur Needle Holder, TC w/ hegar ratchet
20919-03-004	1	Waffle grasper down 30 degrees w/ hegar ratchet
20919-12-004	1	Babcock clamp, cvd down w/ hegar ratchet
20919-34-004	1	Pulmonalis clamp w hegar ratchet angled down
20919-05-004	1	Large DeBakey Ring Grasper w/ hegar ratchet
20919-05-044	1	Sm DeBakey Ring Clamp serr cvd down w/ hegar ratchet 10mm
20919-02	1	Duval Lung Grasper w/ hegar ratchet
20921-07-004	1	Atraumatic allis Grasping forceps w/ hegar ratchet
20919-08-034	1	DeBakey Clamp 50mm jaw w/ hegar ratchet
20919-08-064	1	DeBakey Clamp 100mm jaw med curve w/ hegar
20919-08-004	1	DeBakey Clamp 60mm full curve w/ hegar
26942-41	1	5 mm Fan articulating
20942-03	1	Pleura Elevator 30 degrees curved right
26947-21	1	Mictec Hook Electrode w/ suction insulated
20947-11	1	HF Suction Electrode
20942-50	1	Pleura Abrader, angle down
20918-92	1	Knot Pusher Arco type
20921-78	1	HF Dressing grasping forceps monopolar
26943-00	1	3 way Luer lock connector
20943-14	1	Suction Tube with w basket
20945-04	1	Hook Electrode 30 degrees curved down
20907-17	2	7.5 mm x 70 mm Trocar Set
20910-20	2	10.5mm x 70 mm Trocar Set
20910-15	1	10.5mm x 50 mm Trocar Set
20913-17	1	Trocar Set 13 x 70 mm
15-30116-05	1	Stretch Pin for 10.5 mm Flexible sleeves
15-30116-07	1	Stretch Pin for 7 mm Flexible Sleeves
20943-13	1	Suction-irrigation tube set with large 3 way tap
20943-50	1	Spray nozzle with bellow for talkum powder
26944-03	1	HF Monopolar Cord, w/ valley lab connector
20928-51	1	Ciradur Scissors Metz curved left



Dr. Todd Demmy's Suggested Thoracoscopic Set

20906-1526

20919-03-005	1	Organ Grasping Forcep cvd down 30 deg w/ folding ratchet
20919-05-044	1	Sm Debakey Ring Grasper serr cvd down w/ hegar ratchet 10mm
20919-05-004	1	Large DeBakey Ring Grasper w/ hegar ratchet
20919-92-004	1	Atraumatic Debakey Grasper cvd down 30 deg w/ hegar ratchet
20919-07-000	1	Tumor Feeler cvd down 30 deg down opening



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.

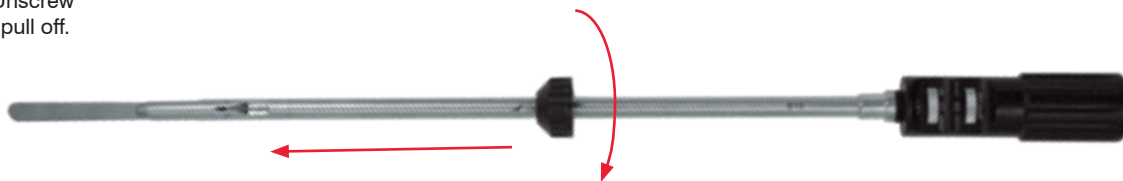


Reassembly: reassembly is opposite of the disassembly. Make sure that the notch lines up with the notch on the valve.

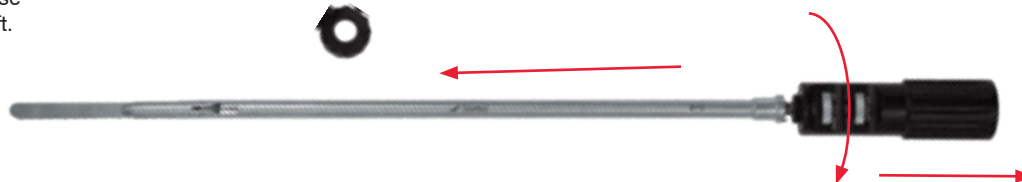


Fan Retractor Disassembly

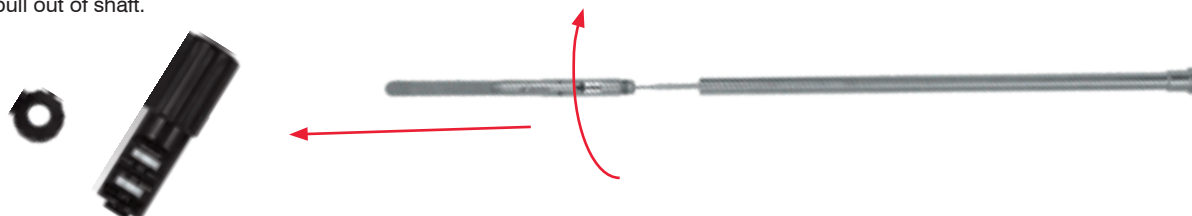
Step 1: Unscrew cap and pull off.



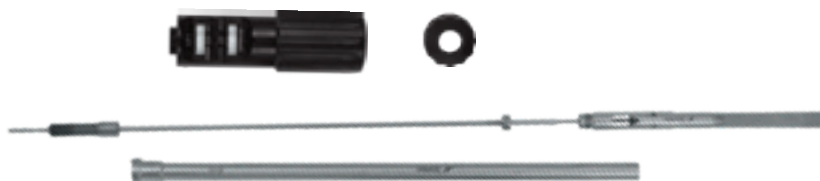
Step 2: Turn top dial counter clockwise and pull off shaft.



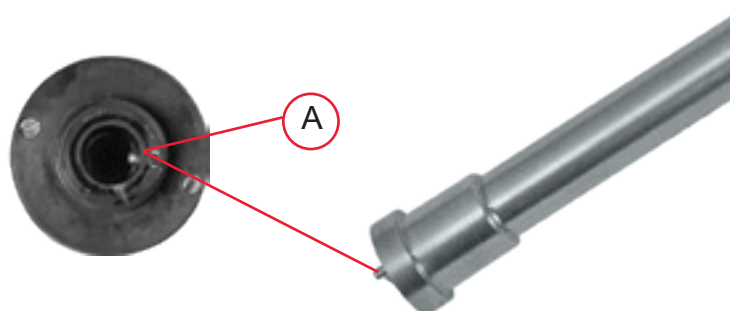
Step 3: Turn top piece clockwise to pull out of shaft.



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 be 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

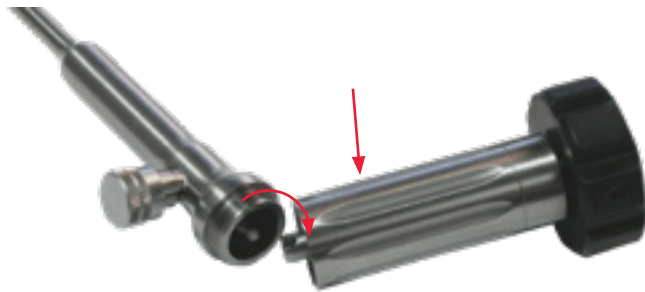
mechanical cleaning, especially for sensitive laparoscopic instruments. All instruments are autoclavable including electric cables and flexible trocars.

Fan Retractor Disassembly For the Sontec Deluxe 5mm Fan

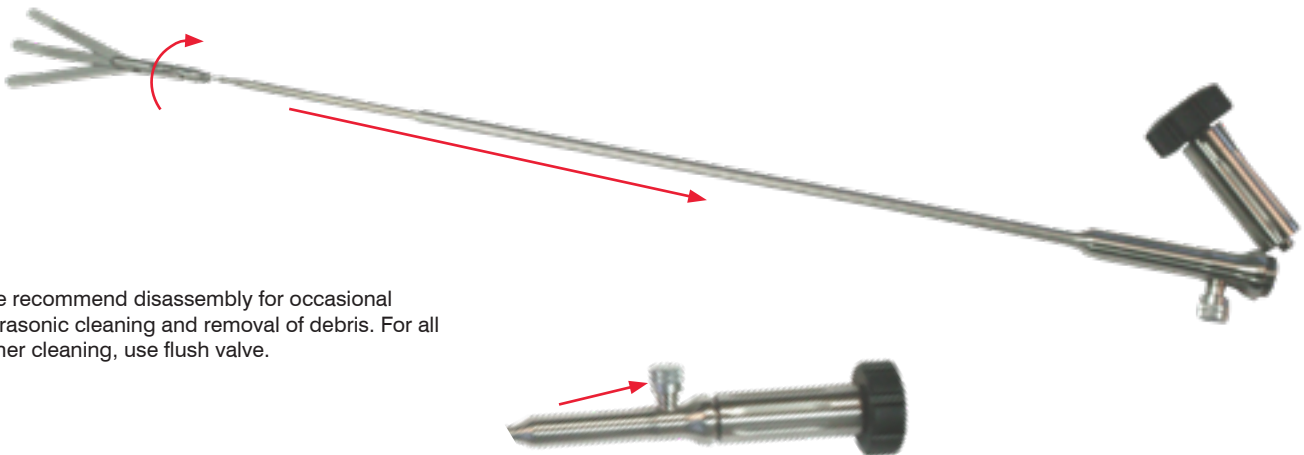
Step 1: Unscrew handle. Gently push fan blades forward with finger.



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) / 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

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:

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; 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-

ditioned by DUFNER at least once every two years.

Lack of proper handling, proper use and routine care of instruments obtained from Dufner supplied by Sontec Instruments GmbH voids all warranty claims.

Pay close attention

Sign description:

Important directions for the Trocars

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



1. titanium head



2. obturator



3. flexible tube



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) / 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.

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 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) / 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.

- 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.



Direction for use of Thoracoscopic HF Electrodes and instruments

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

Olumpus: 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 Sterilization

- 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 134°C

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 to 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 45°C 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 manufacture's instructions for the ultrasonic unit.

4.2 Care of valve

After cleaning and drying, all moveable parts such as the rotation

Direction for use of Thoracoscopic HF Electrodes and instruments

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

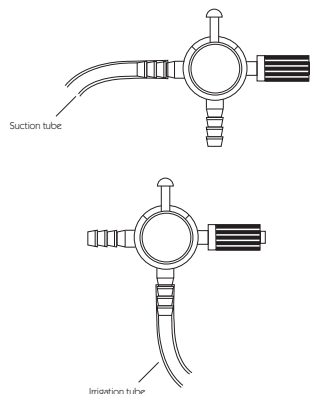
Check:

- 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

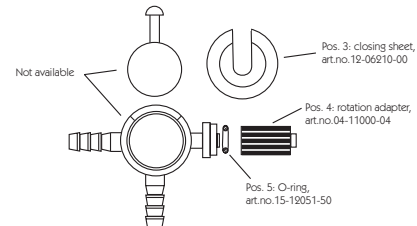
3.1.1 Attaching to suction/irrigation unit



- 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

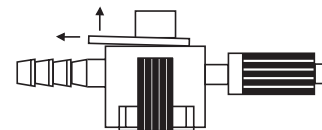
4.0 Care and Cleaning of individual components

4.1 Components

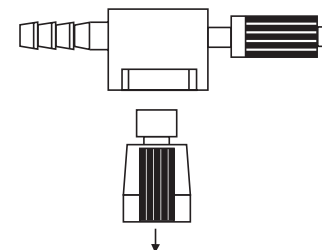


4.2 Dismantling the instrument

- 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)

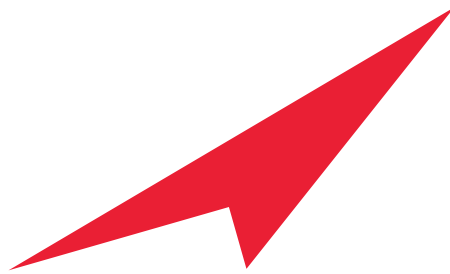
4.5 Assembly

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.



Sontec Instruments®

A TRADITION OF FINE SURGICAL INSTRUMENTS

Sontec Instruments, Inc.
7248 South Tucson Way
Centennial, Colorado 80112 USA
Toll-free / 800.821.7496
Local / 303.790.9411
Fax / 303.792.2606

SontecInstruments.com