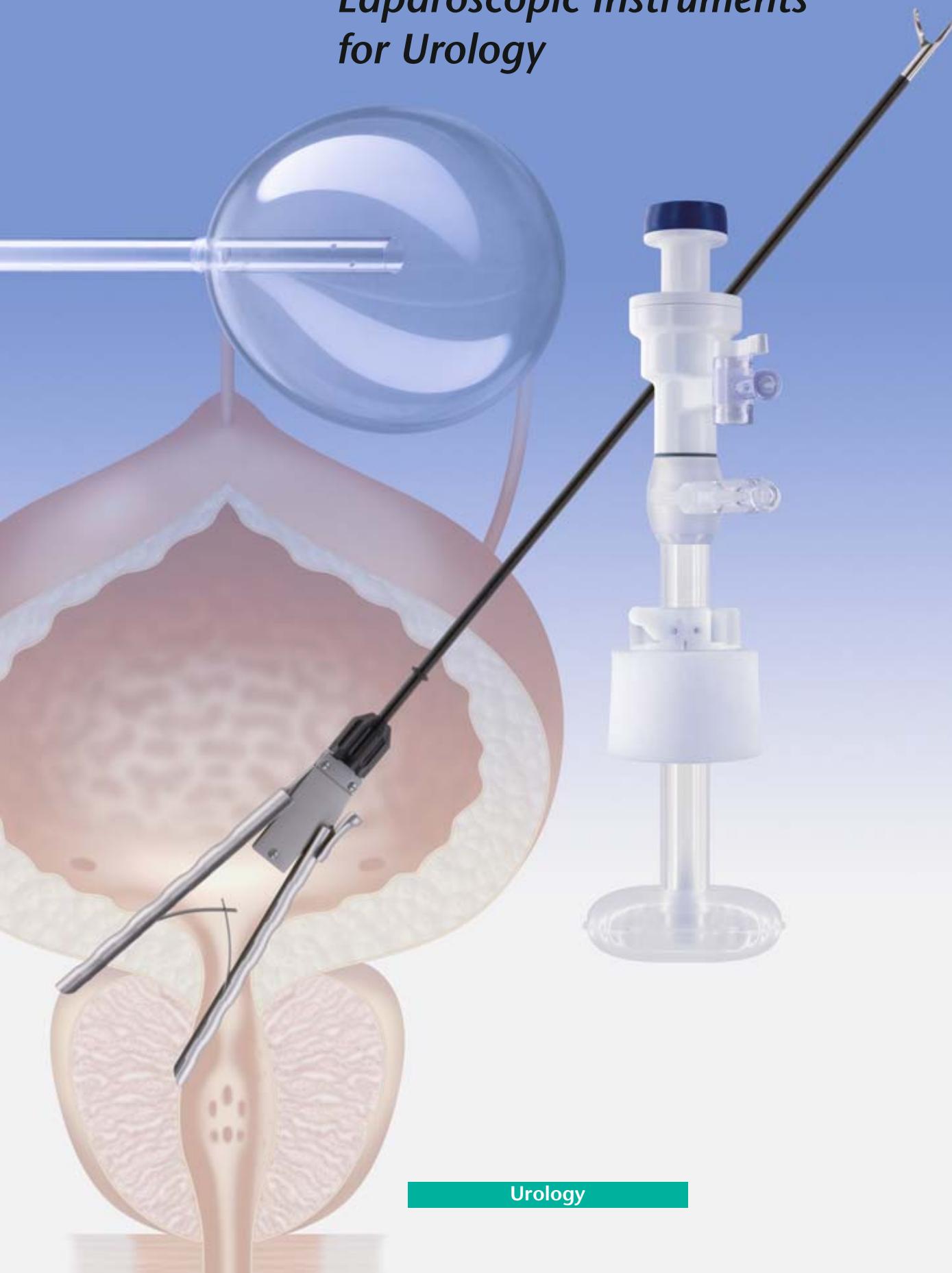


**PAJUNK®**

*Laparoscopic Instruments  
for Urology*



**Urology**

## *Growing importance*

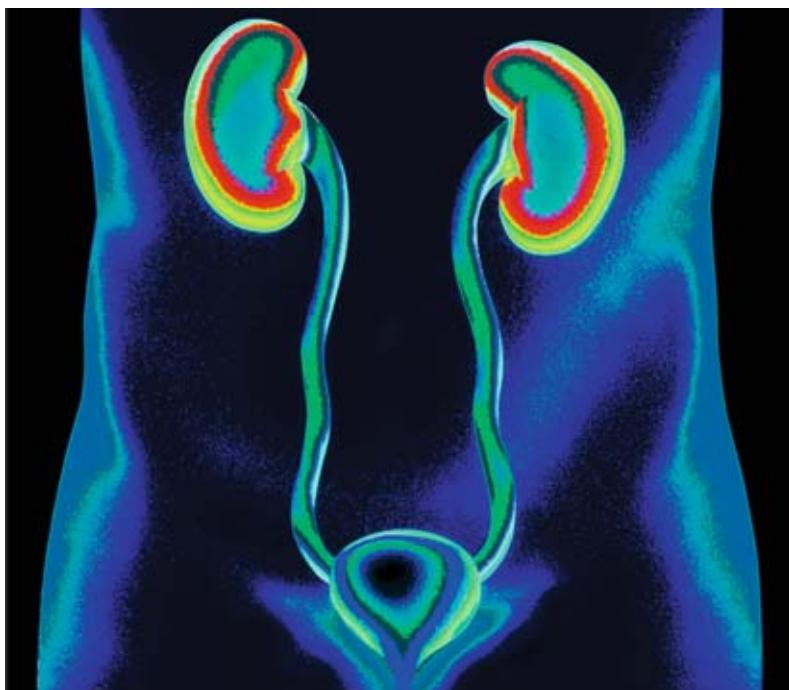
# **Laparoscopic Methods in Urology**

The laparoscopic method is increasingly gaining importance in the treatment of identified carcinomas in the area of the liver, the spleen, the prostate gland or the kidney. Because with the aid of such laparoscopic surgery, large abdominal incisions and the implications connected therewith can be avoided.

The advantages of the laparoscopic technique are convincing:

- The loss of blood during the operation is only minor, and the transfusion rate is accordingly low (0 to 1 %).
- The patient has the benefit of fast wound healing, resulting in a shorter stay in the hospital.
- Camera surveillance and monitor display provides for considerable improvement in the visualization of the operation field.
- Individual structures such as nerve fascicles of vessels can therefore be identified very well and can be spared.
- Small hemorrhages can be accurately identified and coagulated.

As a leading manufacturer of laparoscopic instruments for abdominal surgery, PAJUNK® also offers an instrument system especially adapted to the requirements of urology.



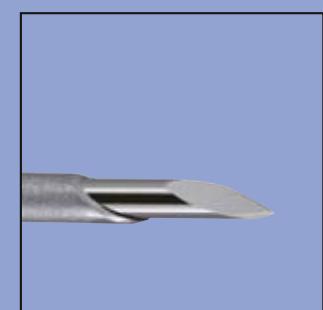
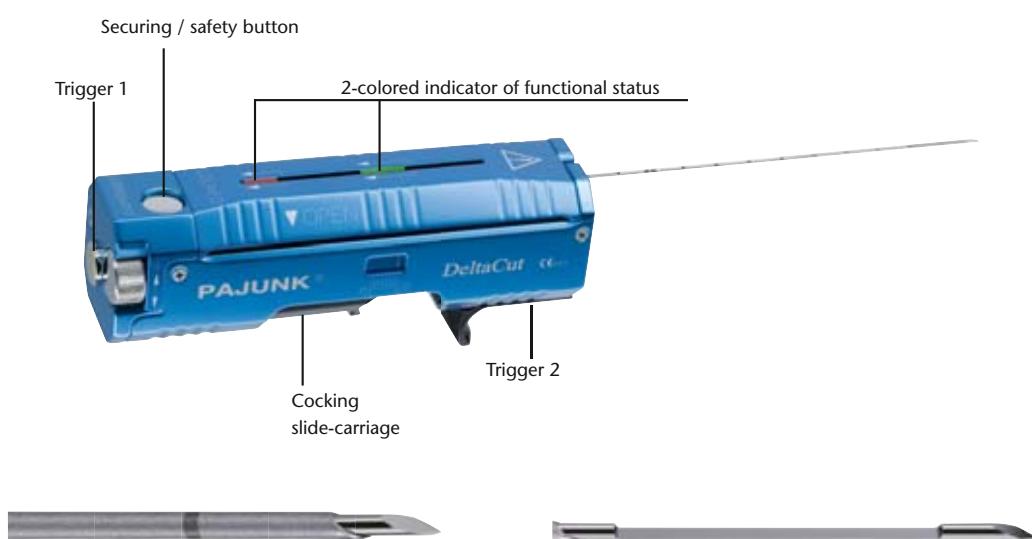
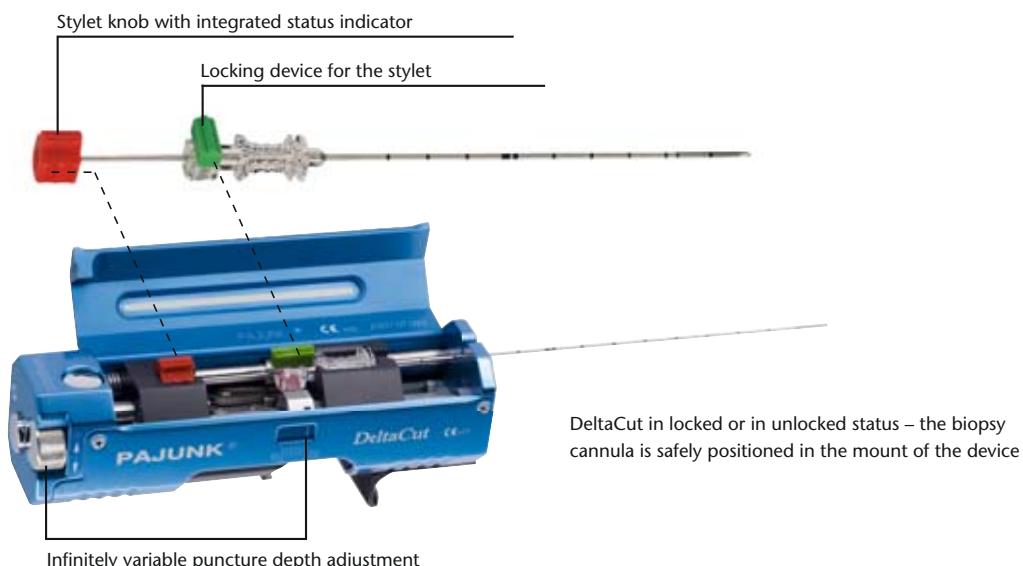
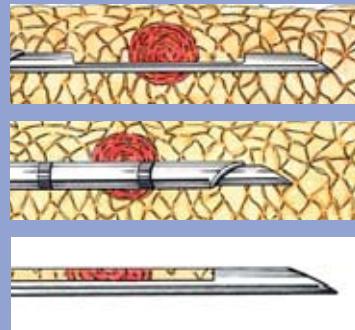
Precise, on-target diagnostics

## The DeltaCut Biopsy System

PAJUNK® already supports urology-requirements in diagnostics with a cannula system, which was developed especially for the extraction of single or multiple biopsies of soft tissue of the prostate gland, of the liver and the kidney. This system can be applied reliably, precisely and fast. First, the inner cannula shoots out forwards and is

filled with tissue. Then the cutting cannula is immediately slipped forward, covering the biopsy chamber and protecting the biopsy material from contaminations.

In case of multiple biopsies, the biopsy material is carefully removed and this process is repeated correspondingly.



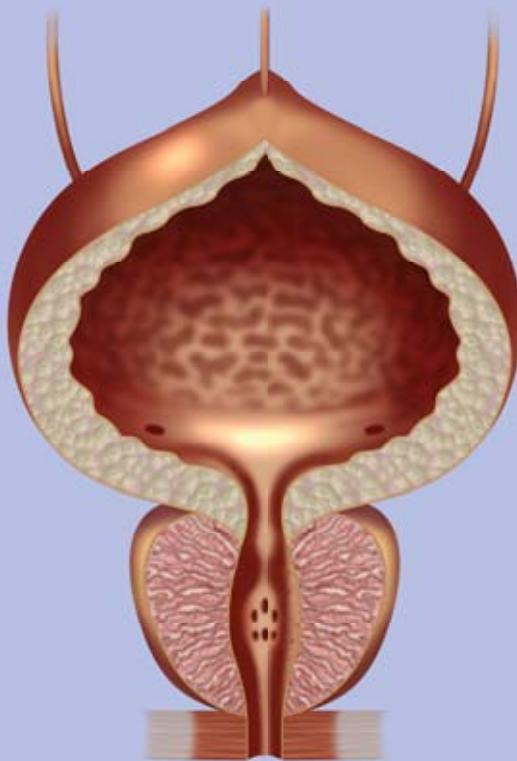
Facet tip

*Small opening – large sphere of activity*

## **Laparoscopic, Extraperitoneal Radical Prostatectomy (LERP)**

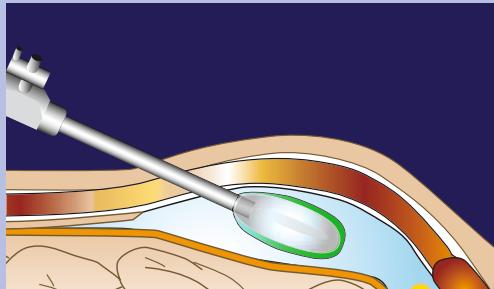
Laparoscopic surgery for the removal of the prostate gland is used exclusively for those patients, whose tumor is limited to the prostate gland. No metastases can be detected in these cases. Aside of the advantages of laparoscopic interventions already explained, there are several further beneficial features to be added which especially apply to this field of usage:

- Laparoscopic extraperitoneal radical prostatectomy permits the performance of an exact ureterovesical anastomosis (new connection between urethra and bladder)
- In comparison with the open method, the urologists can see the operation area in manifold magnification – this improves the avoidance of urinary incontinence caused by nerve injury.

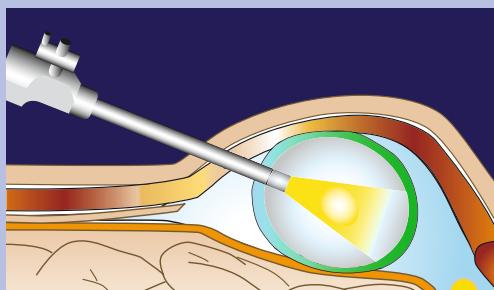


In comparison with the open operation, laparoscopic radical prostatectomy requires other instruments and special training for the operating urologist.

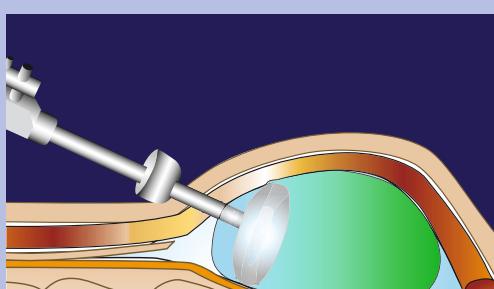
## *Step by step: The Minimally Invasive Removal of the Prostate Gland*



The dilatation balloon is introduced below the umbilicus between the peritoneum and the abdominal wall by means of a blunt obturator, and is then advanced forward between the posterior fascia and the rectus muscle up to the pubic bone. The obturator is removed and replaced by a scope which permits good viewing of the operation field.



The layers are separated under viewing control by means of pneumatic dilation, and an extra-peritoneal space is established. Microscopic hemorrhages are immediately calmed by the pressure of the balloon. The route to the prostate gland is open and accessible through the cavity created in this manner.



A structure- or ring-anchor balloon system is then introduced and the extra-peritoneal space will be inflated with carbon dioxide, so that it will be maintained unchanged during the operation. Through this procedure, the extra-peritoneal space will be maintained during the complete operation.

Five working-trocars are introduced into this extra-peritoneal working space in the abdomen. They are intended to facilitate the introduction of the required instruments. First the seminal ducts and the seminal vesicles are exposed and removed via these ways of access, followed by the prostate gland. Hemostasis is achieved by means of bipolar coagulation and anastomosis is performed applying direct suture. Finally, the prostate gland is placed into an retrieval bag and is removed at the end of the operation.

Here the balloon system provides for convenient access and for safe anchoring of the working-access.

## *Further fields of application*

# **Laparoscopic Extraperitoneal Radical Nephrectomy (LERN)**

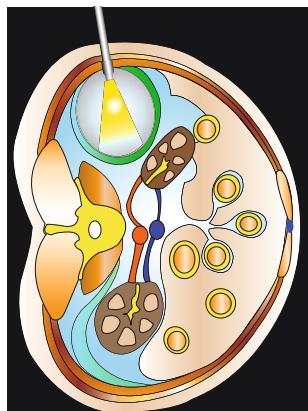
Within the last few years, laparoscopic nephrectomy has developed into a standard method in cases of symptomatic benign renal pathologies, as well as for renal cell carcinomas with a diameter of at most 6 cm.

At the same frequency of intra- and perioperative complications, as well as with identical oncological long-time results, this method has proven a significantly lower morbidity as compared with open nephrectomy.

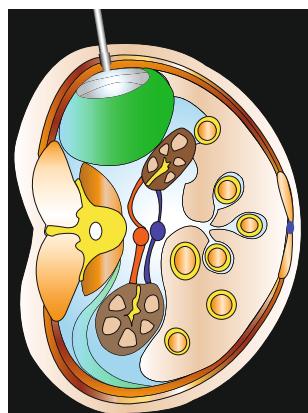
It may be performed via transperitoneal and via extraperitoneal access and is dependent on the personal preferences or experience of the surgeon.

The advantages of the extraperitoneal approach:

- Fast and safe access to the renal artery
- Possibly occurring hematomas and seromas remain strictly extraperitoneal



The dilatation balloon is introduced after incision at the tip of the 12th rib and pre-dilatation using the finger. The layers are separated by means of pneumatic dilatation, and an extraperitoneal space is established. Microscopic hemorrhages are immediately calmed by the pressure of the balloon. The optical system and the deflated balloon are then removed.



A ring-anchor balloon system developed especially for urology is introduced, so that the created extraperitoneal space will be maintained during the operation. The extraperitoneal space in the proximity of the kidney is then insufflated.

After identification of the vessel-hilus and longitudinal incision of Gerota's fascia, the ureter is identified and divided by sharp abscission after the positioning of two clips. The renal artery is thereupon dissected free and divided after clip positioning. The vein is divided after dissection

and the positioning of staples. The adrenal/suprarenal gland is resected by means of bipolar coagulation of the phrenic vessels. Now the kidney can be removed by means of a retrieval bag.

# *Well equipped –* **With the PAJUNK®-Instruments for Urology**

The ring-anchor balloon especially developed for urology is so flat, that it will not interfere with the effective radius of the introduced instruments, and it is wide enough, so that safe and gastight fixation is ensured.

Thanks to its special tip geometry, the new TrocaSys PROTECT trocar permits theatraumatic-

dilating placement of the trocar system without a cutting tip.

To extend the operation field, the peritoneum is held back with the angulated retractor.



Retractor



Unilateral dilation balloon  
extra large



URO-Ring-anchor  
balloon system



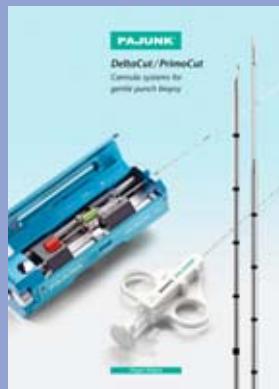
Trocars systems  
(TrocASys)

Dilation balloons for the establishment of extraperitoneal space in urology are available in various sizes.

PAJUNK® offers all the appropriate instruments required in laparoscopic extraperitoneal urology:

- Single- and multiple-use dilation-balloons
- Single- and multiple-use ring-anchor balloon systems
- Single- and multiple-use trocar systems
- Handle instruments
- Single- and multiple-use scissor systems
- Needle holders
- Retractors
- Suction-/ irrigation instruments
- Laparoscopes
- Retrieval bags

# The Complete Urology System in Summary



## DeltaCut

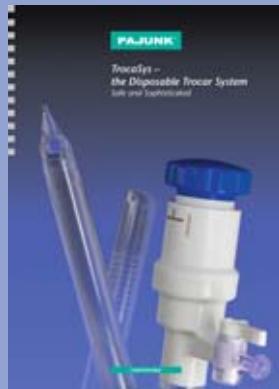


Product	Size	Item no.	PU
DeltaCut Biopsy System		304B0000001	1

## Biopsy cannulas



Product	Size	Length	Item no.	PU
DeltaCut biopsy cannula	0.95 mm	100 mm	315S095100	10
DeltaCut biopsy cannula	0.95 mm	150 mm	315S095150	10
DeltaCut biopsy cannula	0.95 mm	200 mm	315S095200	10
DeltaCut biopsy cannula	1.2 mm	100 mm	315S120100	10
DeltaCut biopsy cannula	1.2 mm	150 mm	315S120150	10
DeltaCut biopsy cannula	1.2 mm	200 mm	315S120200	10
DeltaCut biopsy cannula	1.2 mm	250 mm	315S120250	10
DeltaCut biopsy cannula	1.2 mm	280 mm	315S120280	10
DeltaCut biopsy cannula	1.4 mm	150 mm	315S140150	10
DeltaCut biopsy cannula	1.4 mm	200 mm	315S140200	10
DeltaCut biopsy cannula	1.6 mm	100 mm	315S160100	10
DeltaCut biopsy cannula	1.6 mm	150 mm	315S160150	10
DeltaCut biopsy cannula	1.6 mm	200 mm	315S160200	10
DeltaCut biopsy cannula	2.1 mm	100 mm	315S210100	10
DeltaCut biopsy cannula	2.1 mm	150 mm	315S210150	10



## Disposable trocar

TrocaSys – the disposable trocar system consisting of:



Product	Size	Item no.	PU
Disposable trocar system with blunt obturator and			
- smooth guide tube, sterile	Ø 5.5 mm	1289-02-55	5
- smooth guide tube, sterile	Ø 11 mm	1289-02-11	5
- corrugated guide tube, sterile	Ø 5.5 mm	1289-12-55	5
- corrugated guide tube, sterile	Ø 11 mm	1289-12-11	5



Product	Size	Item no.	PU
TrocaSys PROTECT			
Disposable trocar system with dilating trocar and			
- smooth guide tube, sterile	Ø 5.5 mm	1289-03-55	5
- smooth guide tube, sterile	Ø 11 mm	1289-03-11	5
- corrugated guide tube, sterile	Ø 5.5 mm	1289-13-55	5
- corrugated guide tube, sterile	Ø 11 mm	1289-13-11	5

## Reusable trocar systems



Product	Size	Item no.	PU
TrocaPort with smooth guide tube	Ø 5.5 mm	1287-21-55	1
TrocaPort with smooth guide tube	Ø 11 mm	1287-21-11	1



„Hasson“-obturator, reusable	Ø 5.5 mm	1287-94-55	1
„Hasson“-obturator, reusable	Ø 11 mm	1287-94-11	1



Product	Size	Item no.	PU
TrocaTec with smooth guide tube	Ø 5.5 mm	1287-13-55	1
TrocaTec with smooth guide tube	Ø 11 mm	1287-13-11	1



Trocar with pyramidal tip, reusable	Ø 5.5 mm	1287-92-55	1
Trocar with pyramidal tip, reusable	Ø 11 mm	1287-92-11	1



## Disposable balloon system

To be used alternatively:



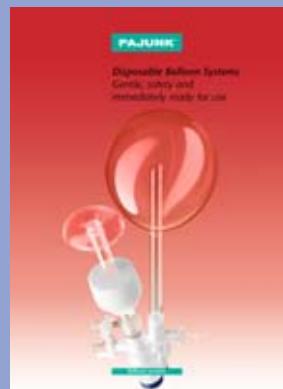
Product	Size	Item no.	PU
Unilateral, disposable dilation balloon, extra large	Ø 11 mm	1284-60-11	5



URO-Ring-anchor balloon system	Ø 11 mm	1284-70-11S	5
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URO-Ring-anchor balloon system, short	Ø 11 mm	1284-75-11S	5
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## Reusable balloon system



Unilateral, double balloon set with dilation balloon, extra large and URO-Ring-anchor balloon system, sterile	Ø 11 mm	1285-60-28S	5
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Blunt obturator for dilation balloon	Ø 11 mm	1285-94-11	1
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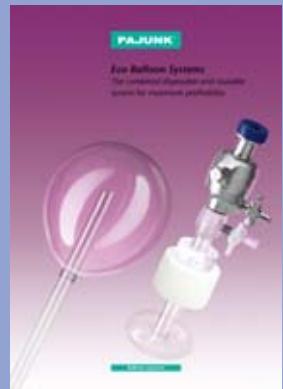
Blunt obturator for ring-anchor balloon system	Ø 11 mm	1285-96-11	1
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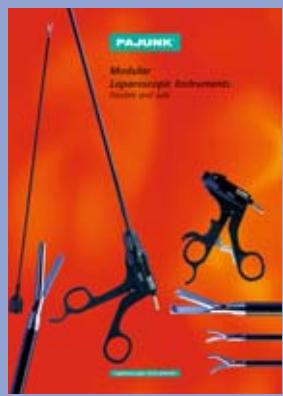


TrocaPort valve housing	Ø 11 mm	1285-21-11	1
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TrocaTec valve	Ø 11 mm	1285-13-11	1
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## Modular handle instruments

Maxi-Grip grasping forceps:

Product	Size	Item no.	PU
Plastic handle with switchable detent function		1292-10-30	1
Guidance tube, insulated, 330 mm working length	Ø 5 mm	1292-13-05	1
MAXI GRIP grasping forceps – insert Working length 330 mm	Ø 5 mm	1292-53-31	1

Mouse-tooth-type grasping forceps, consisting of:

Product	Size	Item no.	PU
Plastic handle with detent function		1292-10-20	1
Guidance tube, insulated, 330 mm working length	Ø 5 mm	1292-13-05	1
Mouse-tooth-type grasping forceps, with 2 x 4 teeth, double action Working length 330 mm	Ø 5 mm	1292-53-16	1

Dissection- and grasping forceps „Mixter”, consisting of:

Product	Size	Item no.	PU
Plastic handle with tilt-down detent		1292-10-40	1
Guidance tube, insulated, 330 mm working length	Ø 10 mm	1292-13-10	1
MIXTER dissection- and grasping forceps – insert Working length 330 mm	Ø 10 mm	1292-63-21	1

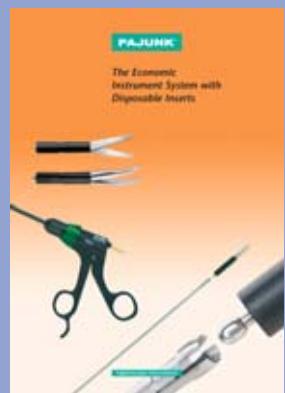
## Modular handle instruments

Scissors with disposable scissors tip, consisting of:



Product	Size	Item no.	PU
Modular handle with HF connection		1293-10-00	1

Connecting rod with snap-on mechanism 330mm working length	Ø 5 mm	1293-17-05	1
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Shaft tube, insulated 330mm working length	Ø 5 mm	1293-15-05	1
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Disposable scissors – insert, curved METZENBAUM, medium, sterile	Ø 5 mm	1293-93-02	1
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or alternatively, completely reusable scissors-system



Product	Size	Item no.	PU
Free-moving handle		1292-10-00	1

Guidance tube, insulated, 330mm working length	Ø 5 mm	1293-13-05	1
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Dissecting scissors Metzenbaum, curved, double action	Ø 5 mm	1292-93-14	1
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## Needle holders

Needle holder, consisting of:

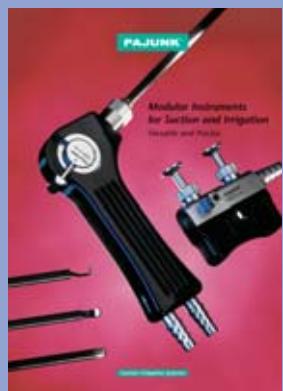


Product	Size	Item no.	PU
Axial handle with detent		1292-20-30	1

Guidance tube, insulated, 330mm working length	Ø 5 mm	1292-13-05	1
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Needle holder, straight, with needle rectifier 330mm working length	Ø 5 mm	1292-95-10	1
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## Further instruments

Suction-/ irrigation system, consisting of:

Product	Size	Item no.	PU
	Pistol handle for suction and irrigation	1298-61-00	1
	Adaptable suction-/ irrigation tube with 4x4 lateral drill-holes	Ø 5 mm	1298-00-06
	Retractor with angular adjustment 347 mm working length	Ø 10 mm	1294-50-10
	Wide-angle laparoscope 30°	Ø 10 mm	502-380030
	Self-opening extraction bag Volume 200 ml for 10 mm trocar, sterile	Ø 10 mm	1284-00-10
	Self-opening extraction bag Volume 800 ml for 10 mm trocar, sterile	Ø 10 mm	1284-00-11
	Hook electrode	2000-01-12	

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