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**PRODUCTS S.R.L.**

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**PAJUNK®**

# *Plexus Anesthesia and Peripheral Nerve Blocks*

*One-Time or Continuous*



**Plexus**

Painless freedom of movement:

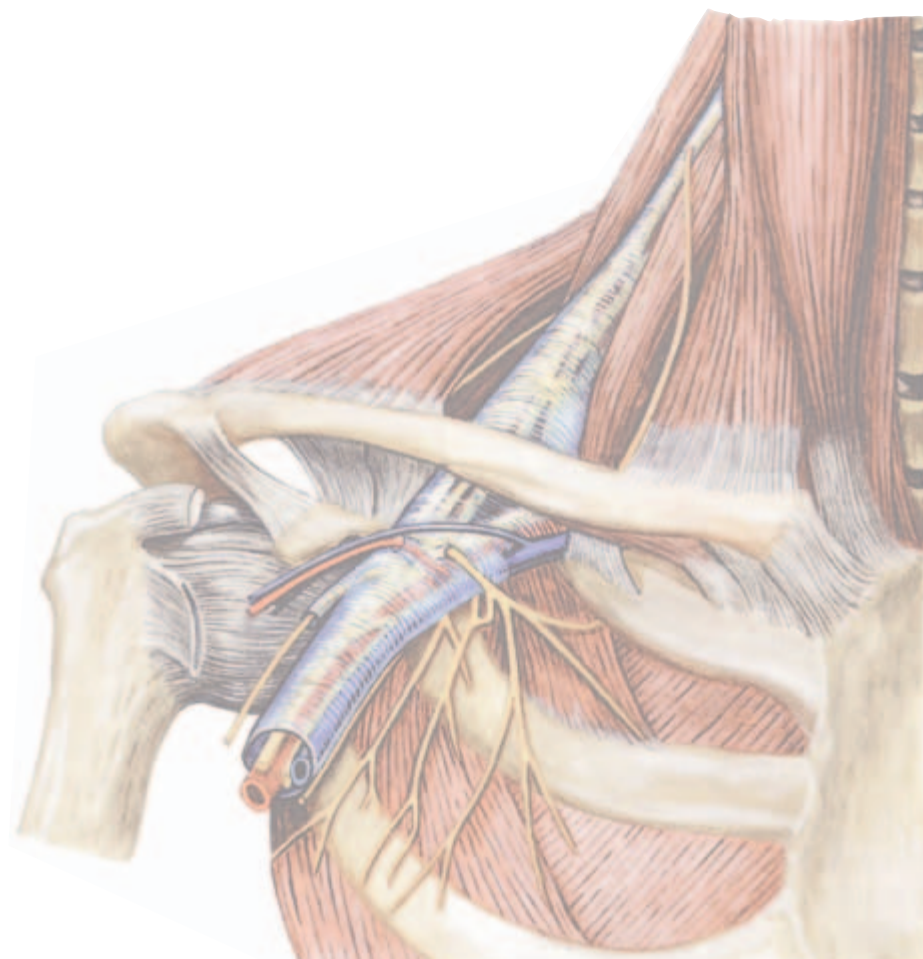
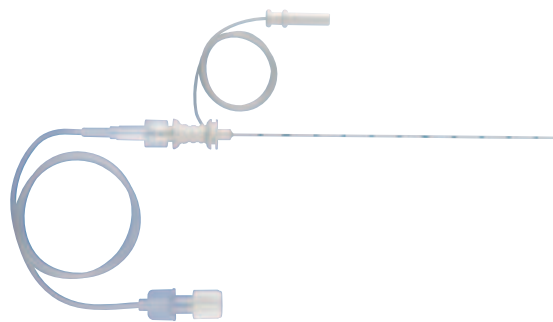
## *The Peripheral Nerve Block*

There are good reasons to decide in favour of peripheral nerve blocks. The burden imposed upon the patient is reduced to a minimum as the local anesthetic is injected as close as possible to the nerve. In addition painless mobilization training can commence immediately

post operatively when continuous block techniques are used, thus supporting and improving the blood circulation. This creates optimal conditions for a speedy healing process.

### One-time

UniPlex cannula



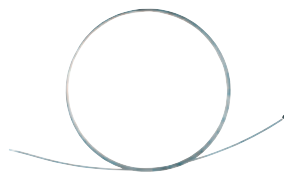
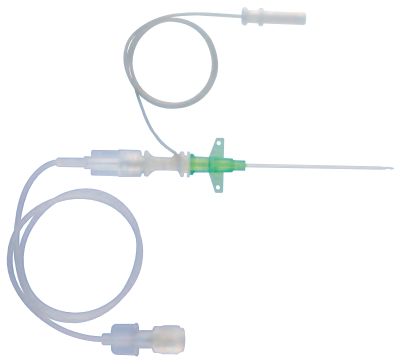
Peripheral nerve blocks have become indispensable as an alternative to general anaesthesia in many operative disciplines. High quality engineered instruments are a must in order to avoid incomplete blocks and nerve injuries.

PAJUNK has developed and produced instruments for a wide variety of techniques since 1965 in cooperation with many eminent physicians and clinics thus making PAJUNK a forerunner in the industry.

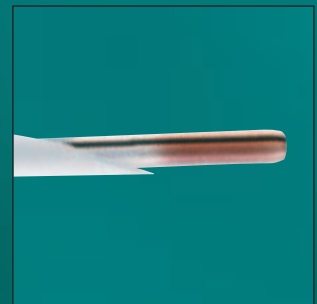
## Continuous

### UPK/Plexolong

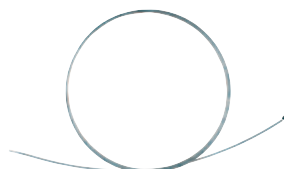
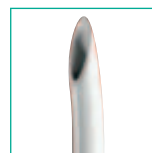
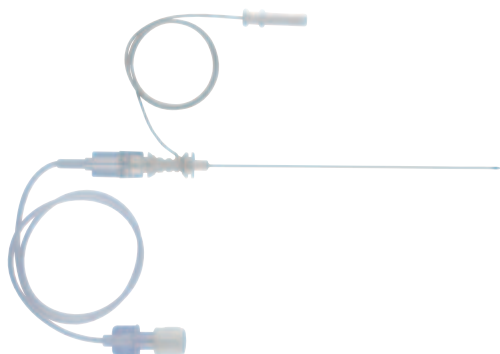
#### Plexus Mini-Set with permanent cannula



Catheter tip



#### Plexolong-Set



Also available with a stimulating catheter and a clamp-adaptor as Stimulong Plus-Set



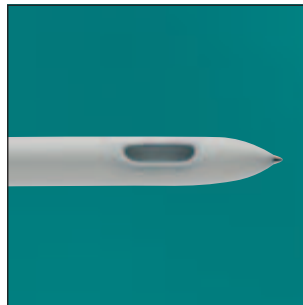
Stimulating catheter tip

Gentle technology for one-time application:

## *The UniPlex "Single Shot" Cannulae (UP/UPS)*

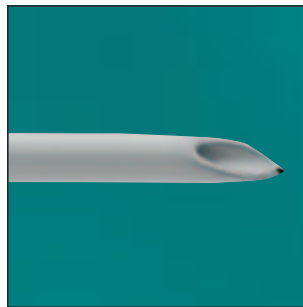
The UniPlex cannulae were developed by PAJUNK specifically for the Single Shot technique in peripheral nerve block anaesthesia.

They are two types available:



- **With Sprotte tip (UPS cannula)**

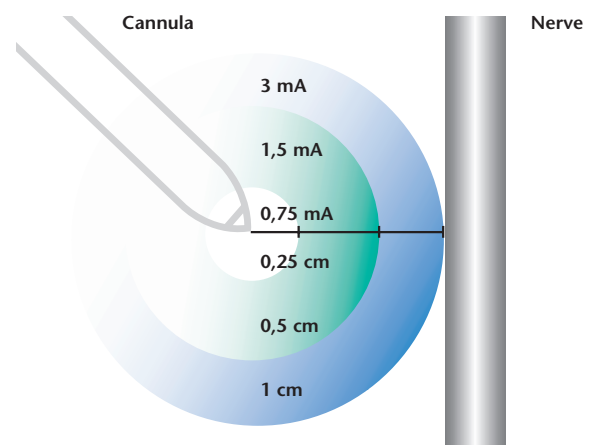
The Atraumatic tip of the UPS cannula displaces the tissue without injuring it in the process, and it permits the anaesthetist to localize the nerve precisely.

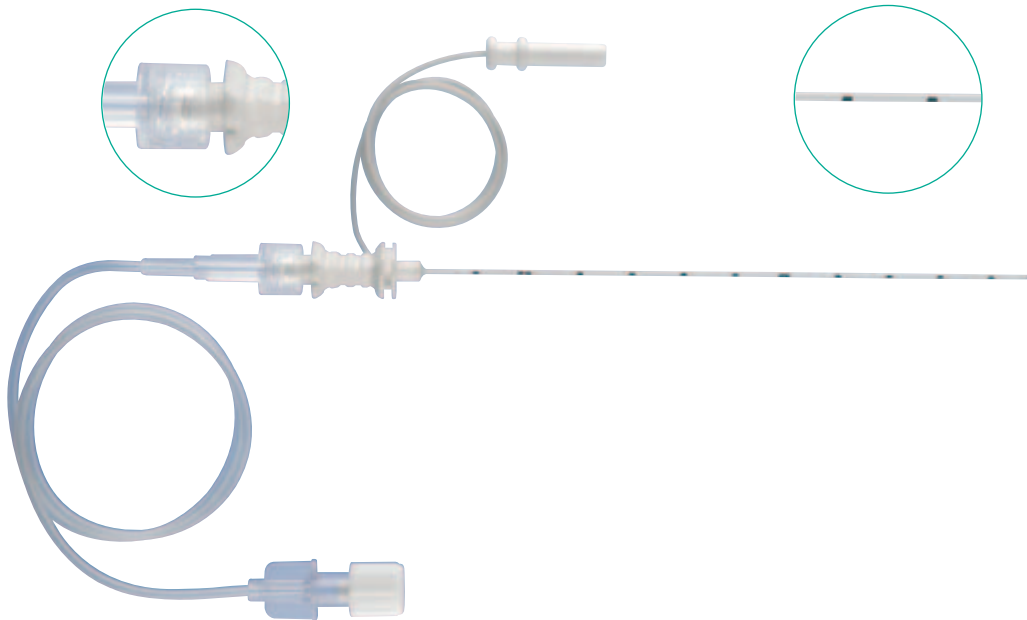


- **With Facet tip (UP cannula)**

With the special facet tip, the PAJUNK UP cannula reduces the risk of injury to a minimum in comparison with conventional sharp cannulae.

The cannula shaft is coated along its complete length except for the dot-like conductive contact surface at the very tip of the cannula. This leads to a higher density of the electric current in the proximate vicinity of the cannula tip. Even minimal current pulses can trigger a depolarization. The distance of the cannula tip to the nerve can therefore be exactly derived from the current intensity necessary to stimulate the nerve.





The adaptable injecting tube permits simultaneous aspiration and injection. It can also be removed by the anaesthetist any time. The unique special coating developed by PAJUNK

allows the cannula to gently glide through the tissue. For precise localization, the UniPlex cannulae of 100 cm and longer are marked with centimetre graduations.



## MultiStim VARIO

Precise localization: The intensity of the stimulation current is monitored by this state-of-the-art device. The ergonomic design of the MultiStim VARIO permits one-handed oper-

ation. PAJUNK also offers a re-sterilizable patient connecting cable which creates a sterile bridge between the stimulator and the cannula.



Minimal limitation of motoricity and mobility:

## *The Continuous Techniques for Effective Pain Therapy*



Continuous techniques are becoming more and more prevalent in regional anaesthesia as they offer the most effective results in pain therapy. The post operative application for pain alleviation or elimination is highly valued for physiotherapeutic treatment.

PAJUNK offers three types of sets for continuous techniques:

- Plexus Mini-Set
- Plexolong-Set
- Stimulong Plus

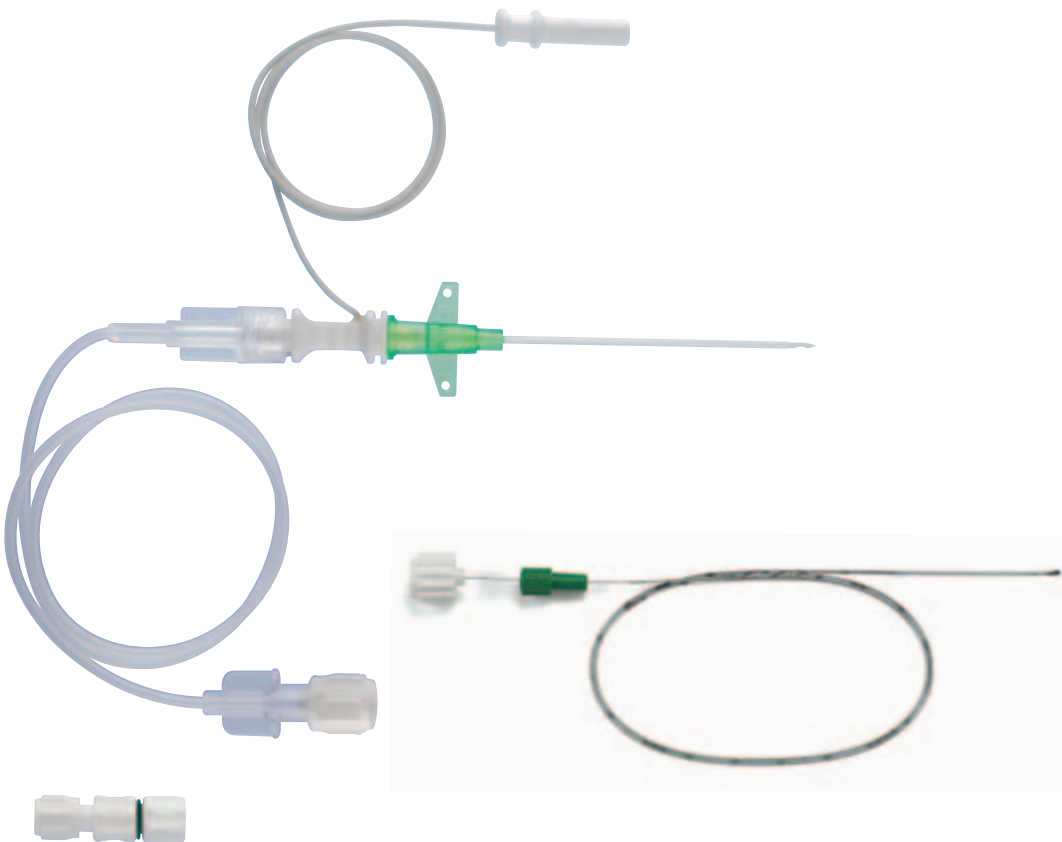


Continuous technique with permanent cannula:

## *Plexus Mini-Set "Catheter Technology" (UPK/UPKS)*

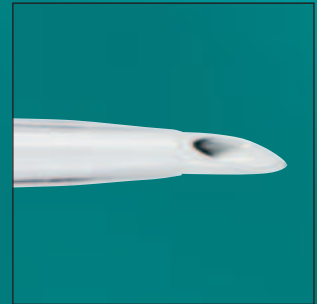
The UniPlex cannulae UPK and UPKS of the Plexus Mini-Set permit the perineural placement of a permanent cannula. This permanent cannula has good gliding features due to the taper of the front end, which creates a fluent and flush transition between the cannula and permanent cannula. It is both flexible and

sturdy – prerequisites for simple and safe handling. In this technique, the operative anaesthesia and the post operative analgesia is conducted with a flexible plexus catheter. The UniPlex cannulae themselves have the same diameter as the catheter which makes leakage virtually impossible.



The placement of the catheter via the permanent cannula is usually conducted only after the injection of the local anaesthetic as experience has shown that the catheter can then be positioned easier. The catheter is usually

extended 3 to 5 cm beyond the distal end of the cannula. If the cannula needs to be repositioned catheter can be retracted to the original stimulation depth.



UPK and UPKS cannulae from PAJUNK:  
The Single Shot technique permits the performance of the puncture with particularly thin cannulae. The PAJUNK UniPlex cannulae are available in various gauges and lengths with two different tips: Sprotte (UPKS) and Facet tip (UPK).





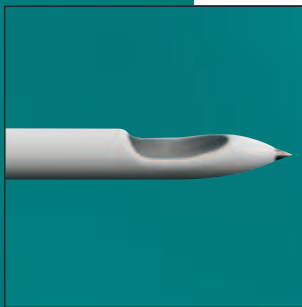
Extensive range:

## *Plexolong-Set according to Meier*

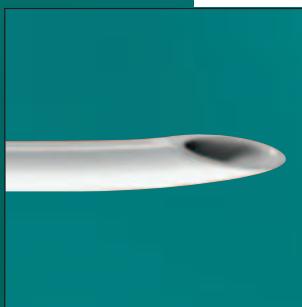
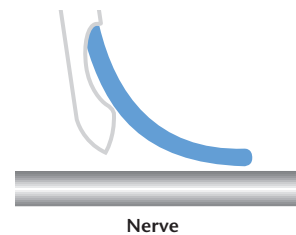
This patented plexus catheter set was developed in cooperation with Dr. Meier especially for the continuous peripheral techniques used in regional anaesthesia and in pain therapy. PAJUNK offers this puncture set with 3 types of cannulae:

- Insulated Special Sprotte cannula
- Insulated Tuohy cannula
- Insulated Facet tip cannula

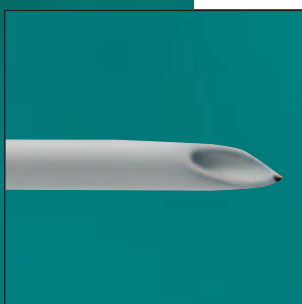
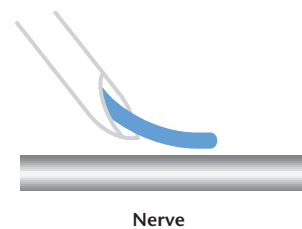
The Facet tip is used when positioning the catheter parallel to the nerve, whereas the Special Sprotte cannula and the Tuohy cannula are suitable for all cases where the introduction of the catheter is made at an angle to the nerve.



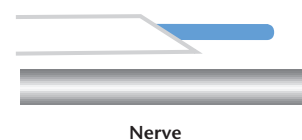
The **Special Sprotte cannula** is equipped with a lateral eye with specially rounded and polished edges so that shearing of the catheter or damage to it can be excluded. Its atraumatic tip as well as its special surface coating provide for good maneuverability of the cannula during the puncture.



The **Tuohy cannula** is a proven and established cannula variant used in epidural anaesthesia. As an insulated UniPlex cannula it is particularly suitable for psoas-compartment blocks.



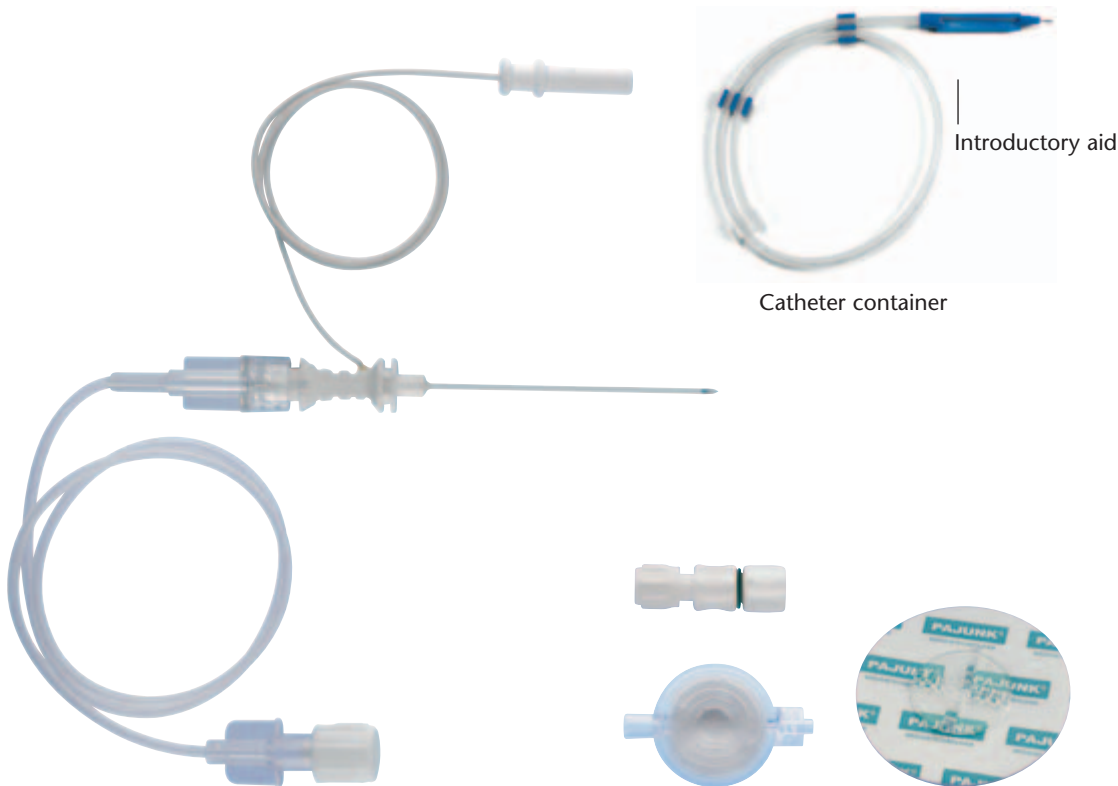
The insulated **cannula with Facet tip** is used in those cases where it can be positioned parallel to the nerve.



## Simple handling

When using the Plexolong Catheter Set according to Meier, the catheter is advanced directly through the cannula after nerve stimulation and the injection of the anaesthetic. The Plexolong Sets are equipped with a cassette via which the catheter can be introduced into the cannula. The flexible catheter is stabilized

with a steel stylet which is removed automatically when the catheter is fed out of the cassette. If the catheter needs to be repositioned PAJUNK recommends using a Special Sprotte cannula to prevent shearing. The catheter is retracted and then the cannula position can be altered by slight movements/rotations.



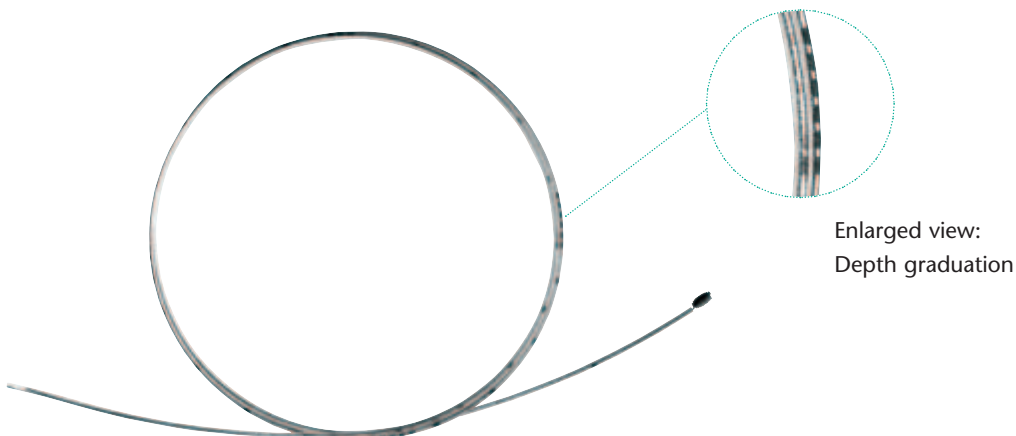
Introductory aid

Catheter container

## Good orientation

PAJUNK offers the catheters in lengths of 50 cm or 90 cm. The catheter itself is equipped with ascending depth graduations with intervals of 5 cm up to a length of 30 cm. With these

depth graduations the position of the catheter can be exactly determined at any time. A marker at the end of the catheter indicates how deep the catheter can be introduced.



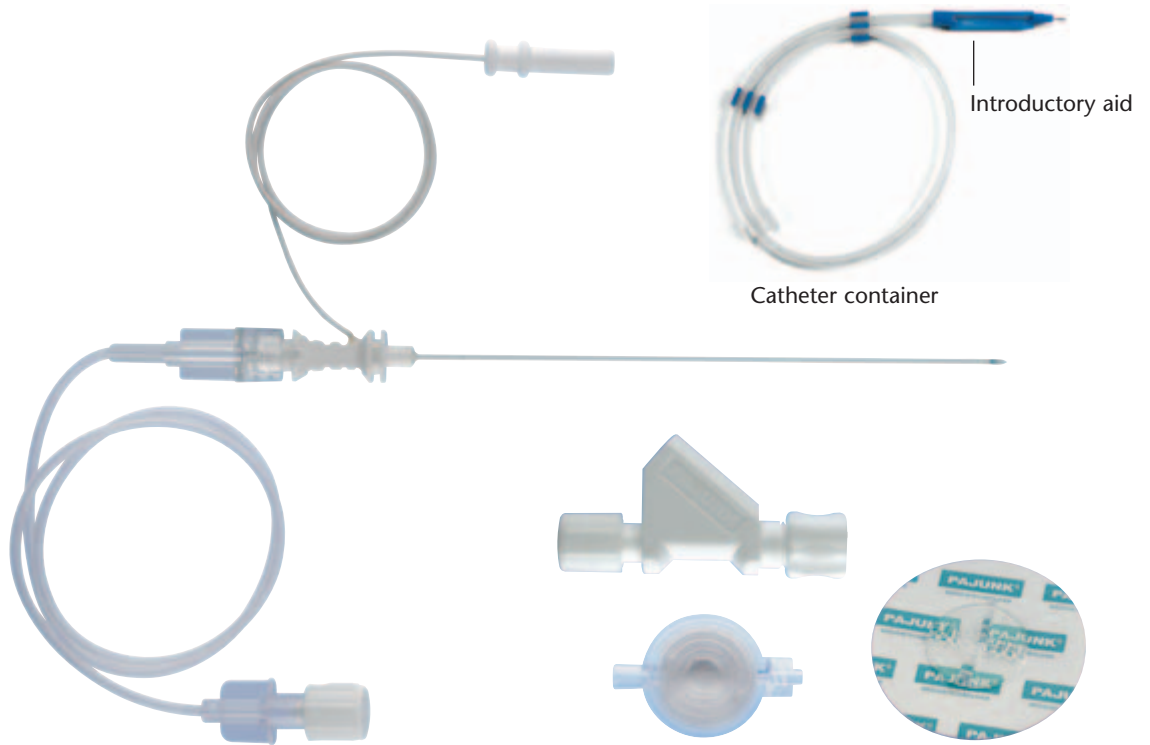
Enlarged view:  
Depth graduation



The Radiopaque catheter is equipped with a central opening which ensures good passage of the anaesthetic.

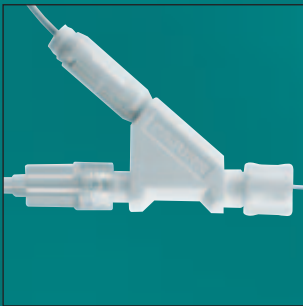
Continuous control:

## *Stimulong Plus has Everything Under Control*

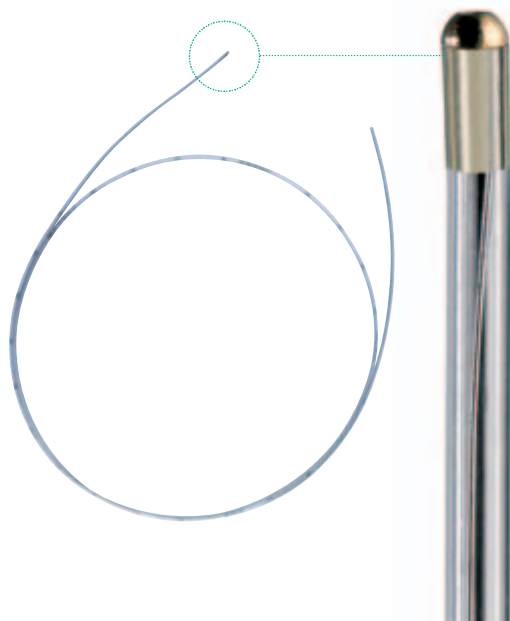


This unique product, developed by PAJUNK, solves a great problem in continuous nerve block anaesthesia by allowing the anaesthetist to precisely determine the position of the catheter via the Nerve Stimulator. In cooperation with Dr. Ottmar Kick, PAJUNK has developed a stimulating catheter – the Stimulong Plus. This catheter has a stimulating tip with a conductive steel stylet built into the wall of the catheter. The specially developed and patented Stimulong Plus adapter simultaneously establishes an electrically conductive

connection to the stimulating catheter tip. The patient cable of the nerve stimulator is plugged into the integrated connecting jack of the Stimulong Plus adapter. This permits direct stimulation of the nerve via the catheter, and the exact determination of the position of the catheter tip. Stimulation and injection can also be conducted simultaneously. Stimulong Plus is available in a set containing three types of cannulae for continuous nerve block anaesthesia: Insulated Facet Tip, Insulated Tuohy Tip or Insulated Special Sprotte Tip.



The especially developed and patented clamp adapter with its integrated stimulation connector permits safe and quick connection with the nerve stimulator.



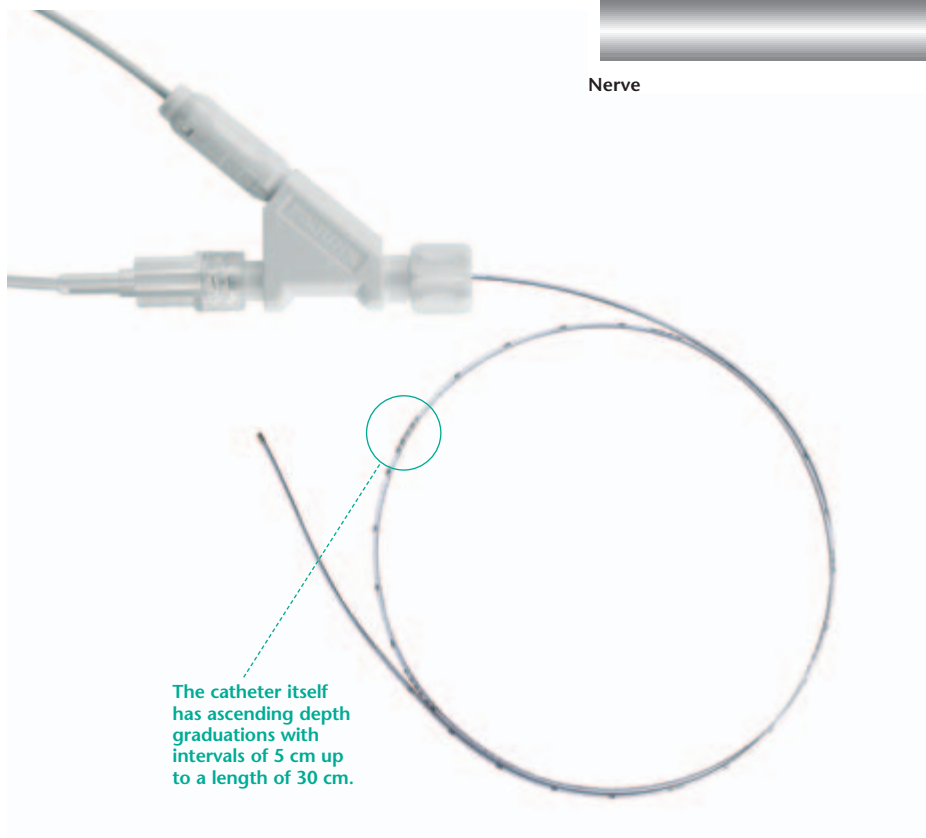
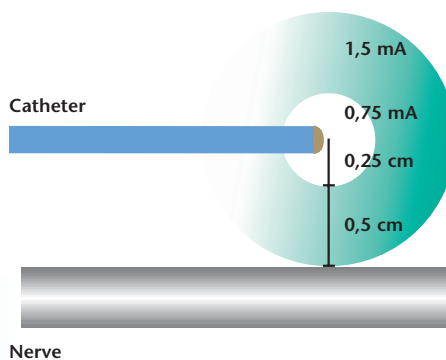
The Gold Plated atraumatic rounded tip of the Stimulong Plus catheter provides excellent stimulating properties.

## Application of Stimulong Plus

At first the selected nerve is identified with the aid of the Plexolong or the UPK-cannula. The Stimulong Plus catheter is then advanced through the cannula under nerve stimulation. The location of the nerve can be identified precisely via the stimulating tip of the catheter. The distance between the nerve and the

catheter can be derived from the minimum intensity of the current necessary for stimulation. Further stimulation is allowed via the stimulating tip to verify the positioning of the catheter to allow intermittent post operative pain therapy

Stimulong permits both the stimulation of the cannula and the catheter (see illustration). The position of the Stimulong catheter tip can be determined precisely again and again.

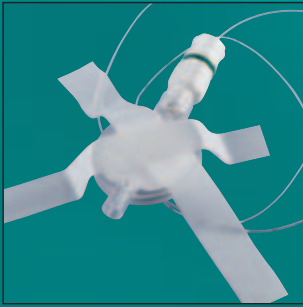


The catheter itself has ascending depth graduations with intervals of 5 cm up to a length of 30 cm.



An everyday-problem leads to a world novelty:

## *Protected freedom of movement with Fixolong*



Conventional method

Until now the way of fastening catheters and filters to the patient has been left up to the anaesthetist – the catheter can be inadvertently pulled out if the patient moves or the supply of the anaesthetic can be obstructed by an unfavorable position.

PAJUNK has recognized the need for freedom of movement, while at the same time guaranteeing safe and secure fixation, and can now offer the perfect solution for catheters of the sizes 19 and 20 G.

Step by step progress towards more freedom of movement:



1. The PAJUNK adhesive circular pad with the fixated catheter cross is fastened near to the catheter exit.



2. The catheter is snapped onto the fastening clips. This guarantees maximum freedom of movement while simultaneously fixing the catheter.



3. The filter adapter is plugged onto the catheter cross in a certain position.



4. The flat filter is locked in position on the filter adapter.

**The result: protected freedom of movement during all continuous applications**

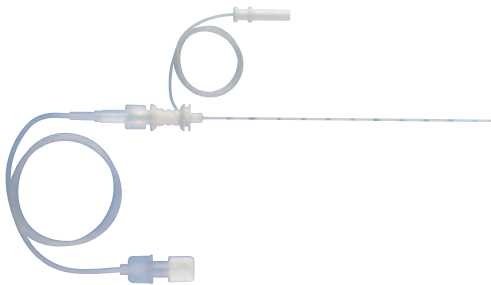
Plexus anaesthesia in one bundle:

## A comprehensive overview

PAJUNK offers you a complete program of cannulae, catheters and other accessories for peripheral nerve blocks. You can always trust the

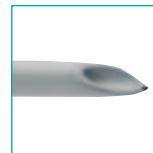
quality of all the sets and components bearing the PAJUNK CE-label.

### UniPlex cannulae

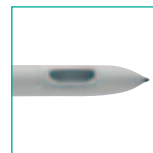


All UniPlex cannulae (UP/UPS) are available with injecting tube and connecting cable.

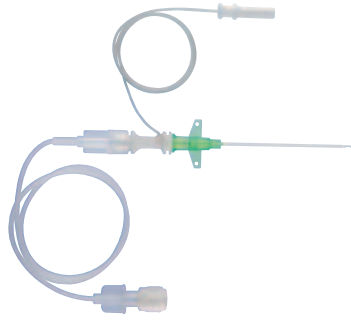
Product	Size	Length (mm)	Item no.
<b>UniPlex cannulae UP with Facet tip</b>			
UP 5/35	25 G	0.50 x 35	001153-80
UP 5/50	25 G	0.50 x 50	001153-81
UP 3/25	24 G	0.55 x 25	001153-75
UP 3/40	22 G	0.70 x 40	001153-70
UP 3/50	22 G	0.70 x 50	001153-74
UP 3/80	22 G	0.70 x 80	001153-71
UP 3/100	21 G	0.80 x 100	001153-77
UP 3/120	22 G	0.70 x 120	001153-82
UP 3/120	20 G	0.90 x 120	001153-72
UP 3/150	20 G	0.90 x 150	001153-76
UP 3/180	20 G	0.90 x 180	001153-73
UP 3/40	22 G – 45° angle	0.70 x 40	001151-70
UP 3/80	22 G – 45° angle	0.70 x 80	001151-71



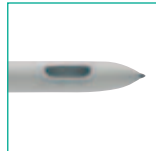
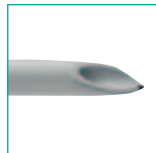
<b>UniPlex cannulae UPS with Sprotte tip</b>			
UPS 3/25	25 G	0.50 x 25	001151-29A
UPS 3/35	25 G	0.50 x 35	001151-27A
UPS 3/50	25 G	0.50 x 50	001151-29G
UPS 3/40	24 G	0.55 x 40	001151-30G
UPS 3/70	24 G	0.55 x 70	001151-30H
UPS 3/90	24 G	0.55 x 90	001151-30J
UPS 3/50	22 G	0.70 x 50	001151-31G
UPS 3/70	22 G	0.70 x 70	001151-31H
UPS 3/90	22 G	0.70 x 90	001151-31J
UPS 3/150	22 G	0.70 x 150	001151-28L
UPS 3/180	22 G	0.70 x 180	001151-30K



## Plexus Mini-Sets

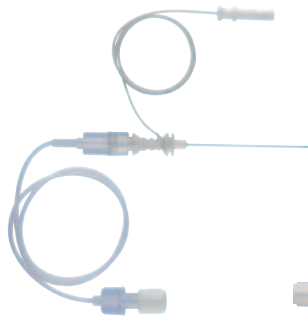


The PAJUNK Plexus Mini-Sets are available with cannula, permanent cannula, plexus catheter 20 G x 50 cm, steel stylet and clamp-adaptor.

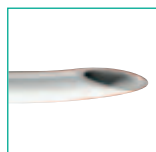
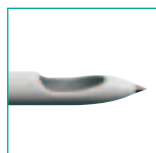
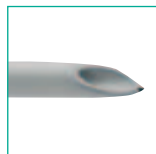


Product	Size	Permanent Cannula	Item no.
<b>UPK with facetted tip</b>			
UPK	21 G x 64 mm	18 G x 51 mm	201151-30E
UPK	21 G	18 G x 75 mm	211151-30E
<b>UPKS with Sprotte tip</b>			
UPKS	21 G x 66 mm	18 G x 51 mm	301151-30E

## Plexolong-Sets according to Meier



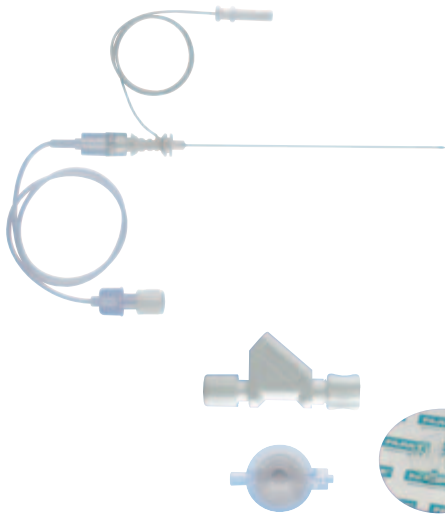
All Plexolong-Sets are supplied with the following: Luer-Lock and electrical cable connection, adaptable injecting tube 40 cm, catheter 20 G with a central opening, steel stylet 0.25 mm, 30 cm graduation, adapter, lancet, Fixolong.



Product	Size	Catheter 50 cm	Catheter 90 cm
<b>UP with Facet tip</b>			
	19.5 G x 30 mm	541151-31A	
	19.5 G x 50 mm	531151-31A	
	19.5 G x 100 mm	521151-31A	
	19.5 G x 150 mm	511151-31A	
<b>Special Sprotte tip</b>			
	19.5 G x 60 mm	511151-31B	
	19.5 G x 120 mm	521151-31B	
<b>Tuohy tip</b>			
	18 G x 150 mm	511151-31C	511151-33C
	18 G x 100 mm	521151-31C	521151-33C
	18 G x 50 mm	531151-31C	531151-33C



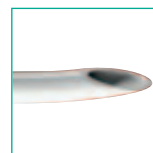
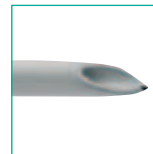
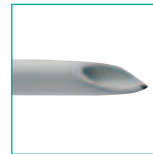
## Stimulong Plus Catheter-Sets



The Stimulong Plus Catheter Set is available with three types of cannulae. All sets include the Stimulong Plus Catheter 20 G x 50 or 90 cm with lateral opening, electrically conductive stylet and gold plated tip, Stimulong adaptor, injecting tube 40 cm, Fixolong.

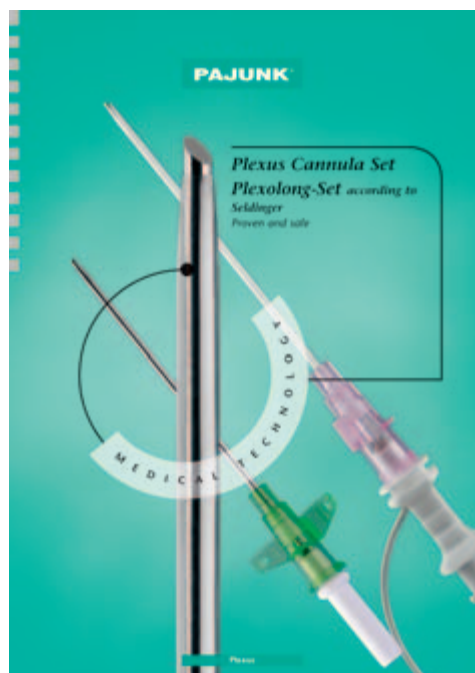


Product	Size	Permanent Cannula	Art.-Nr.
<b>UPK cannula according to Kick</b>			
with indwelling cannula protruding 5 mm	21 G	18 G x 75	221151-30E
	21 G x 64 mm	18 G x 51	231151-30E
<b>Plexolong cannula with Facet tip</b>			
	19.5 G x 50 mm		531151-32A
	19.5 G x 100 mm		521151-32A
	19.5 G x 150 mm		511151-32A
<b>Plexolong cannula with Special Sprotte tip</b>			
	19.5 G x 60 mm		511151-32B
<b>Plexolong cannula with Tuohy tip</b>			
	18 G x 100 mm		521151-32C
	18 G x 50 mm		531151-32C
	18 G x 110 mm	90 cm catheter	551151-32C



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