

**PAJUNK®**

*SonoSystem –  
The Complete System for Ultrasound  
Guided Nerve Blocks*



Regional Anaesthesia

*Efficient and effective*

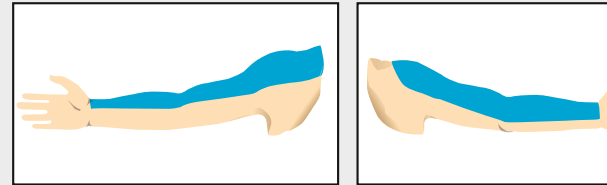
## **Peripheral nerve blocks**

Regional anaesthesia has become an integral part of daily surgical practice. Aside of the single shot techniques for the peripheral blocks during operational interventions, the continuous techniques additionally help to alleviate post-operative pain, to improve the operative result and to enhance patient comfort.

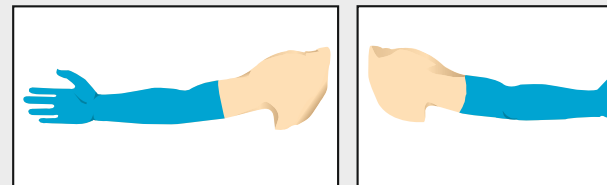
By providing a comprehensive programme for single shot and for continuous plexus anaesthesia, PAJUNK® supports the following applications with its catheter puncture kits:

### **Peripheral blocks**

#### **Upper extremities (brachial plexus)**

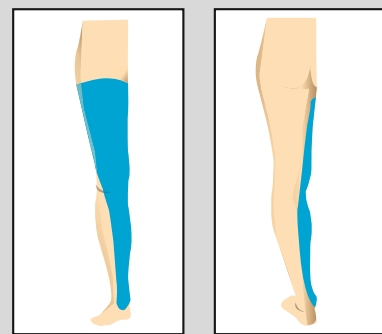


**Interscalene brachial plexus block**

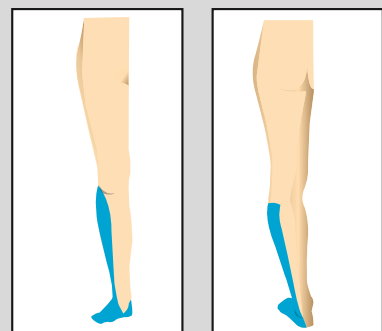


**Axillary brachial plexus block**

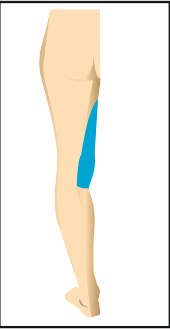
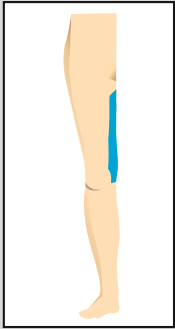
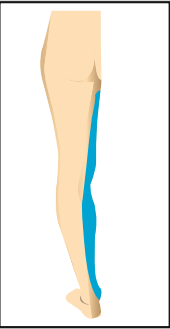
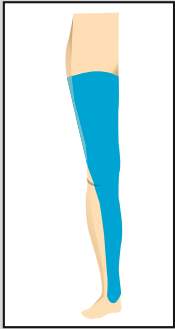
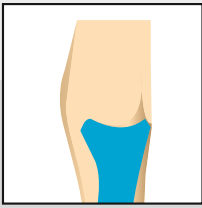
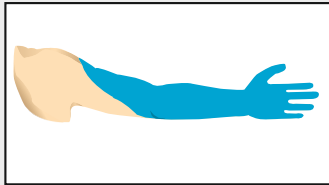
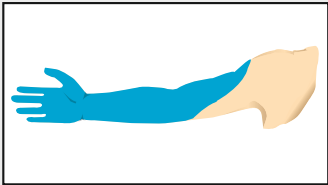
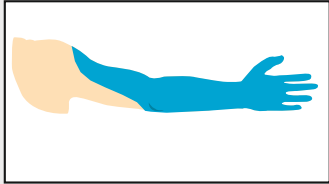
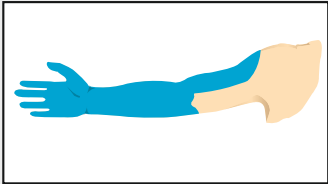
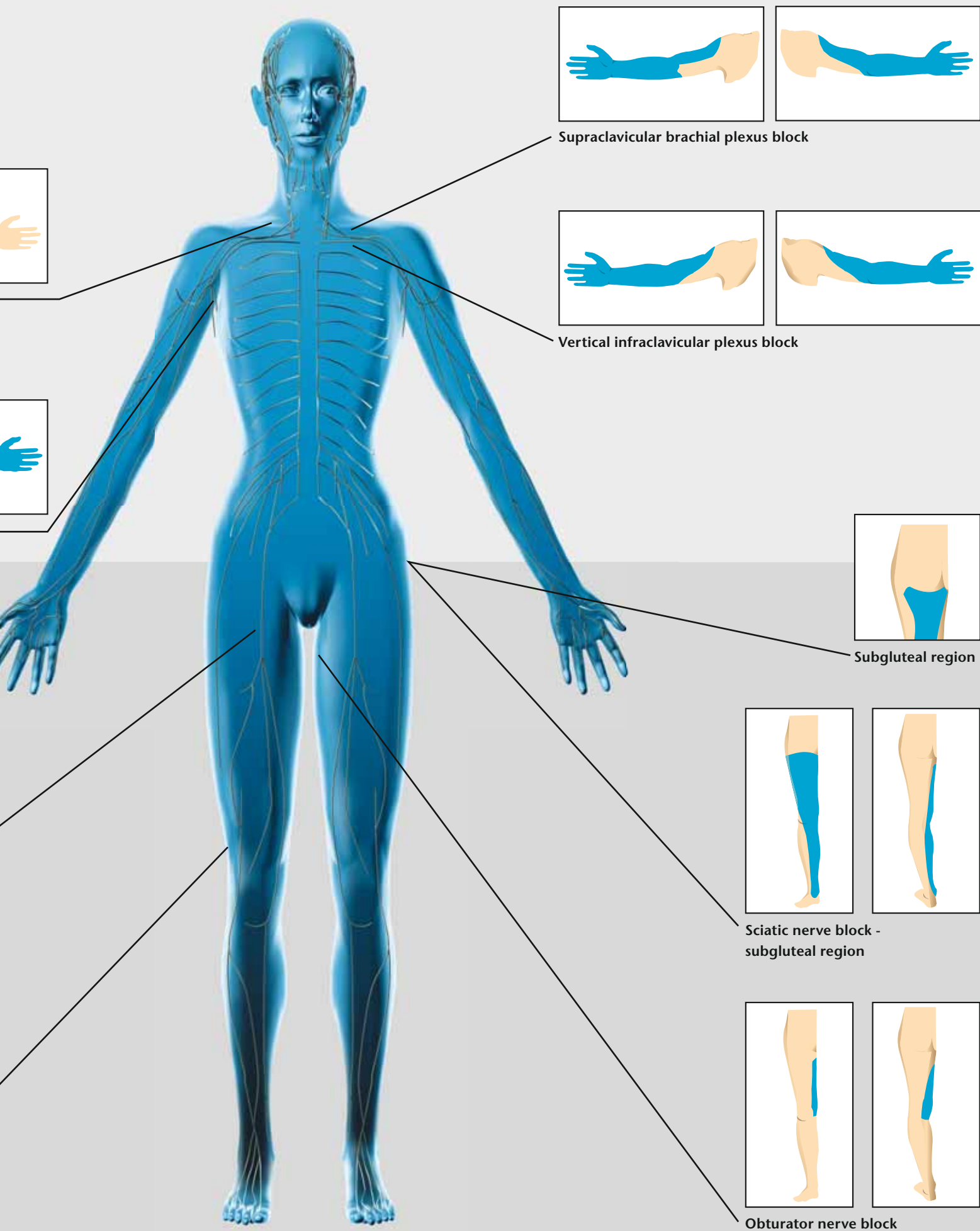
#### **Lower extremities (lumbosacral plexus)**



**Femoral nerve block**



**Sciatic nerve block**



Supraclavicular brachial plexus block

Vertical infraclavicular plexus block

Subgluteal region

Sciatic nerve block - subgluteal region

Obturator nerve block

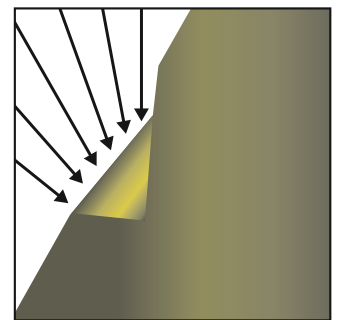
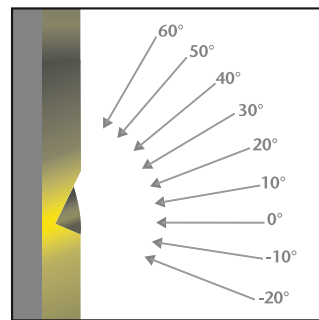
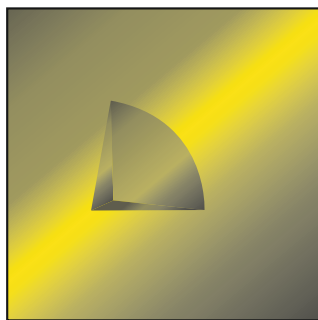
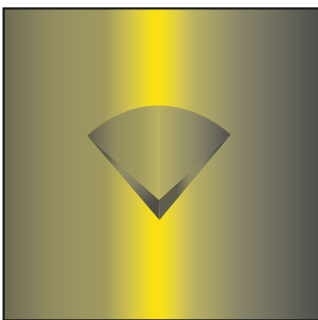
## SonoPlex cannulae

# The system for more visibility and safety under ultras

The method of ultrasound monitoring is increasingly gaining importance in regional anaesthesia. Today even the finest anatomical structures including peripheral nerves can be identified in detail and anaesthetised selectively under viewing using modern high-resolution ultrasound scanners. This method supports the traditional procedure by means of nerve stimulation.

But daily practice has shown, that it is not at all that easy to identify the cannula tip definitely and clearly on the viewing screen of the ultrasonic device. Before this background, PAJUNK® has developed the CornerStone reflectors in cooperation with Dr. Chris Mitchell and has thereby launched a new cannula generation, with a 100%-reflection-guarantee under ultrasound monitoring.

### Ultrasound marker with 100 % reflection guarantee



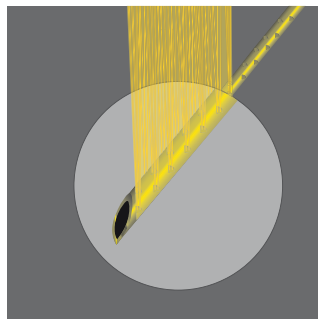
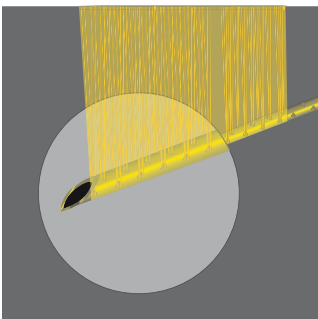
The „Corner Stone“ reflectors developed by Dr Chris Mitchell are structured so that all ultrasound waves are reflected without losses.

➔ This provides optimal visibility of the cannula tip and it can be identified with absolute certainty.

10 mm



### Visibility – regardless of the puncture angle.



The nature of the „CornerStone“-reflectors renders optimal reflection properties.

➔ The reflective behaviour at this optimal performance level is warranted at steep puncture angles, and at flat puncture angle as well.

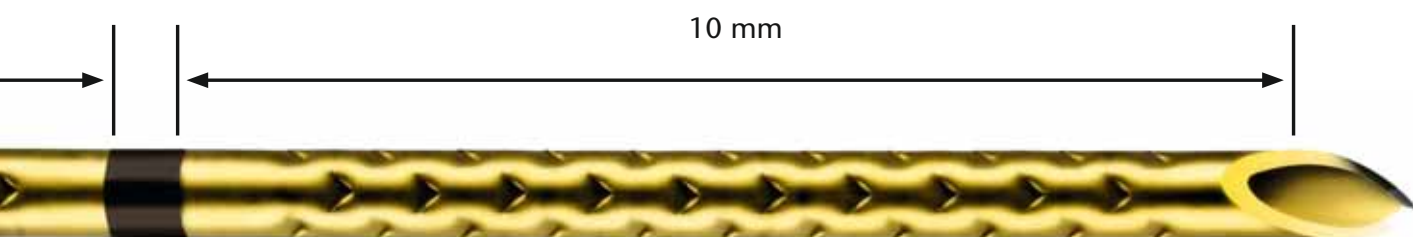
# ound monitoring

## Perfect gliding qualities and coating



The cannulae are coated using the innovative NanoLine-technology.

➡ This guarantees for perfect gliding qualities, it increases visibility under ultrasound-monitoring, and it permits precise stimulation through the uncoated tip.

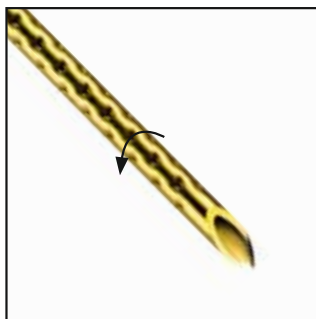


## Clear identification



The distal end is supplied with two pattern-embossed sections, both 10 mm long.

➡ So the reflection of the ultrasonic waves occurs along a total length of 20 mm.



The cannula segments have respectively been provided with a circumferential array of „CornerStone“ reflectors arranged in 60°-angles.

➡ The perfect identification of the cannula is therefore ensured in every position.

## *SonoPlex cannulae*

# *Single shot peripheral nerve block anaesthesia under*

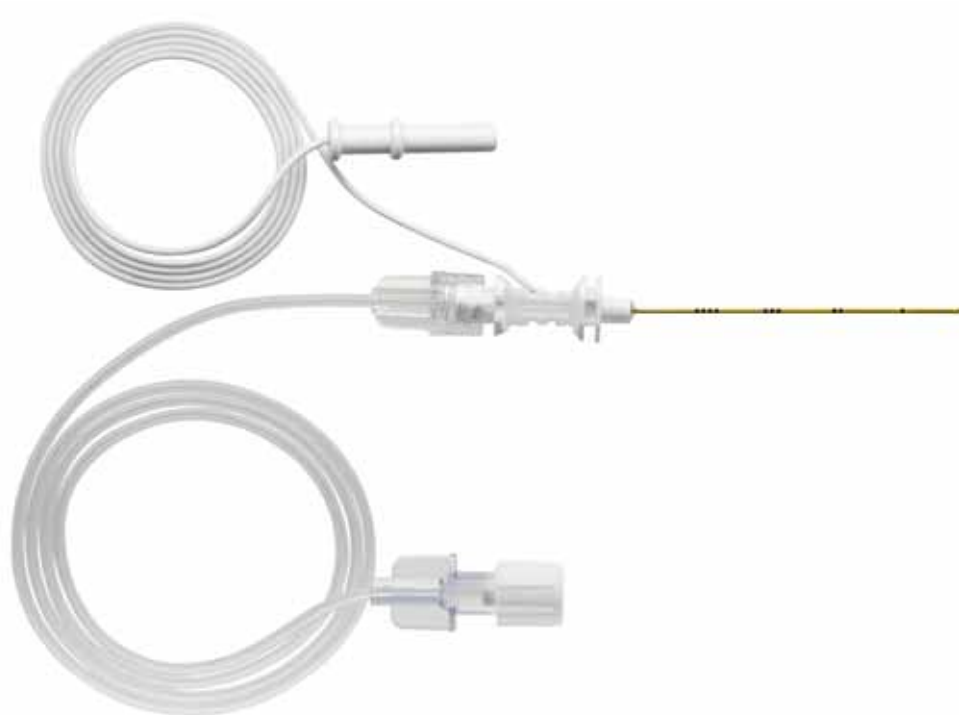
The SonoPlex cannulae were developed by PAJUNK® especially for the single shot application, to be used in peripheral nerve block anaesthesia.

They are alternatively available in the following versions:

### **SonoPlex cannulae with NanoLine coating, without connector cable**



### **SonoPlex cannulae with NanoLine coating and with connector cable for stimulation**



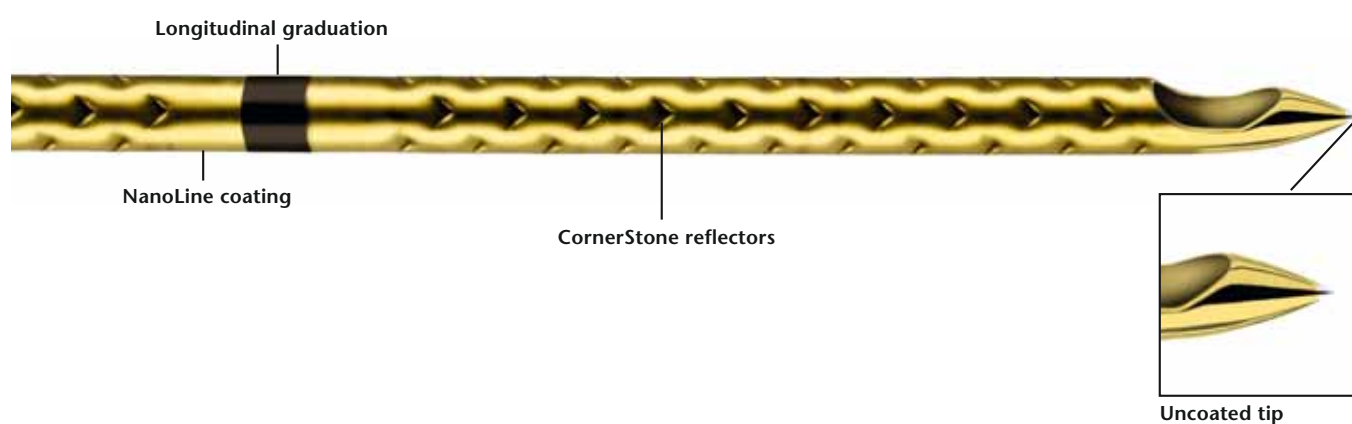
The adaptable injecting tube permits simultaneous aspiration and injection.  
It can be removed by the anaesthetist at any time, if it gets in the way during work.

# ultrasonic monitoring

Depending on personal preferences of the anaesthetist, the SonoPlex cannula is available in two types of tip geometries

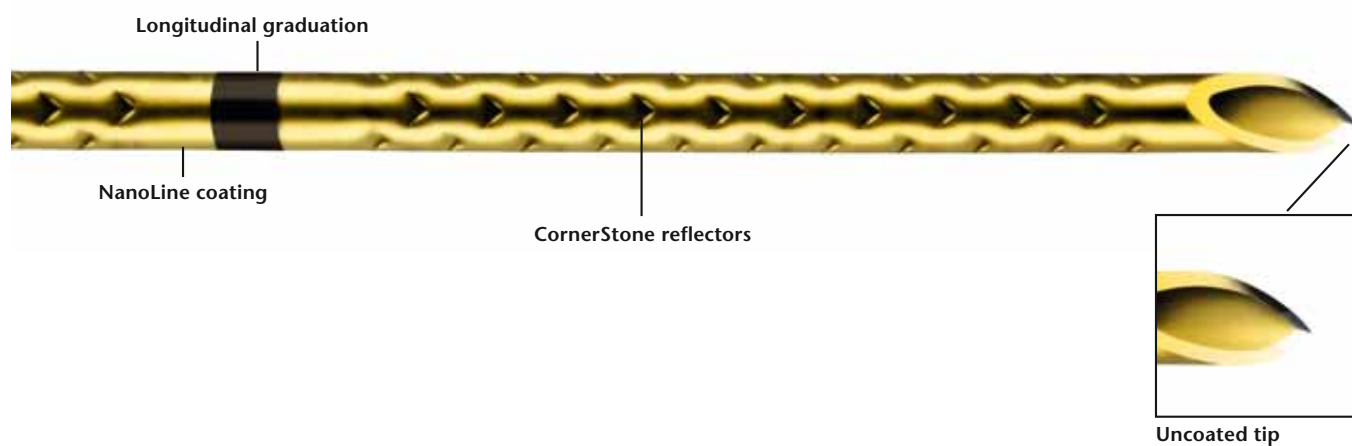
## The SonoPlex cannula with SPROTTE® tip

The closed tip of this cannula assists the anaesthetist in the atraumatically precise localization of the nerve.



## The SonoPlex cannula with facet tip

This special facet tip reduces the risk of injury to a minimum, in comparison with conventional, sharp cannulae.



## SonoLong kit

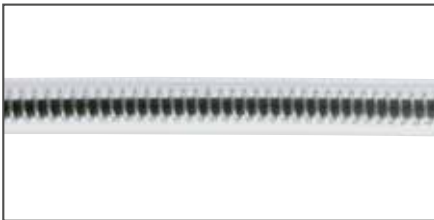
# For continuous peripheral nerve block anaesthesia under

With the PlexoLong NanoLine kit according to Meier, PAJUNK® has, as the first and the only manufacturer, initiated a system, by which the catheter is introduced in sterile condition directly from a container through the cannula, and the anaesthetic is injected through the catheter. This patented technique has established itself successfully on the market and has aroused a great response and recognition in the professional world.

Now, in the next evolutionary step, the cannulae of the PlexoLong kit are equipped with CornerStone reflectors. This SonoLong kit is excellently suitable for the performance of the continuous techniques under ultrasonic monitoring.

The kit consists of:

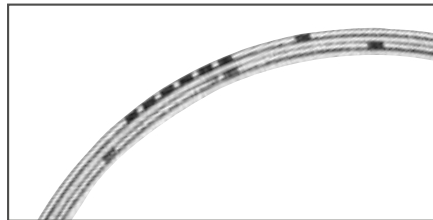
- SonoLong cannula with CornerStone reflectors – optionally available with SPROTTE®-SPECIAL cannula, Tuohy cannula and cannula with facet tip
- Catheter in the catheter cassette
- FixoLong system
- Colour coded adapter



### Steel stylet

The catheter of the SonoLong kit has been provided with a steel stylet, which is locked in place in the introductory aid at its end, and is removed together with the container after the application of the catheter.

➡ This gives the catheter maximum stability.



### Ascending depth graduation

The catheter with a length of 50 cm has been provided with an ascending depth graduation up to a length of 30 cm in intervals of 5 cm.

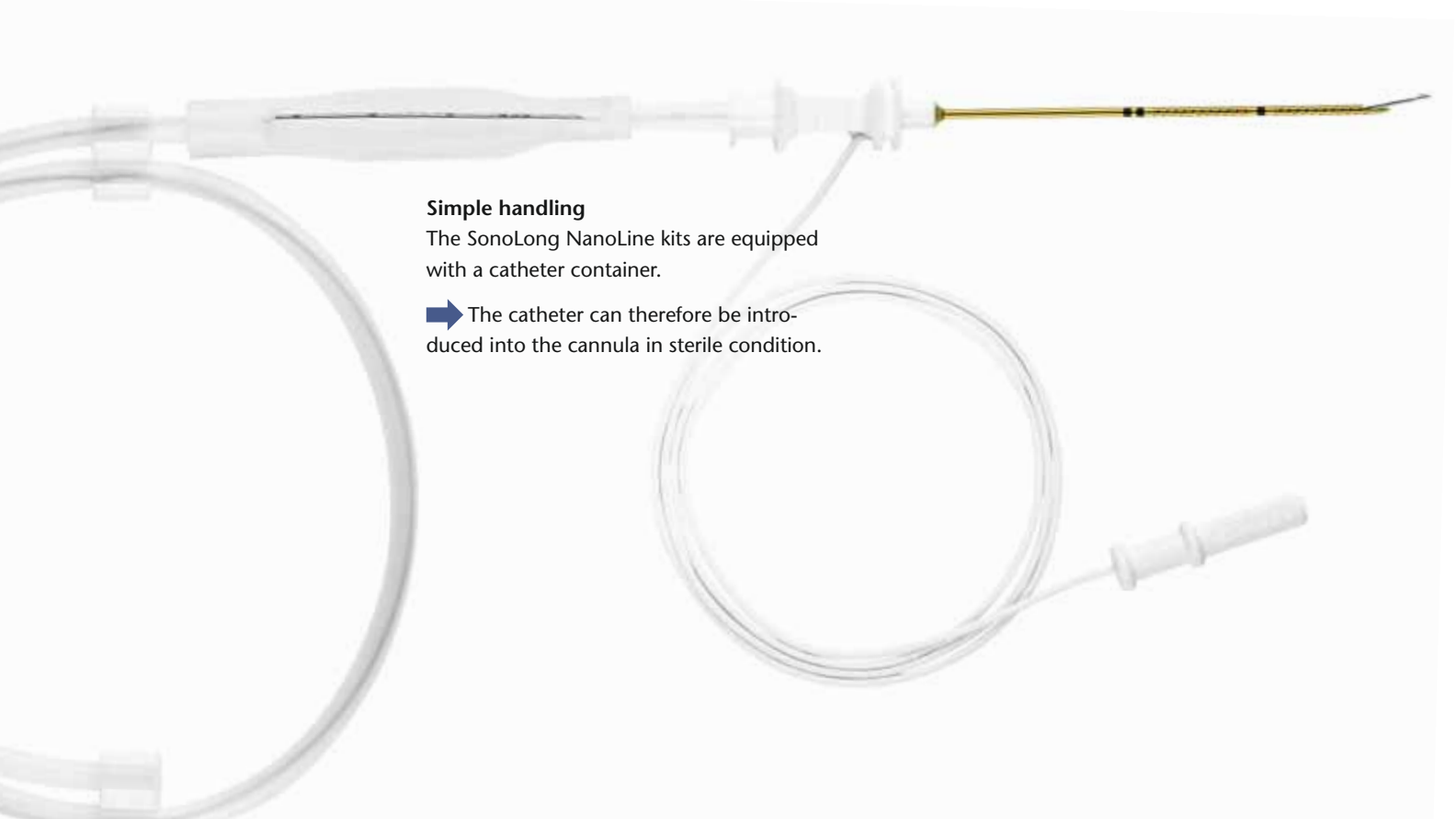
➡ Its position can therefore be determined exactly at any time.



### Catheter with central orifice

The centre of the radiopaque catheter is open.

➡ This ensures the free flow of the anaesthetic – particularly in connection with the post-operative injection pump.



### Simple handling

The SonoLong NanoLine kits are equipped with a catheter container.

➡ The catheter can therefore be introduced into the cannula in sterile condition.



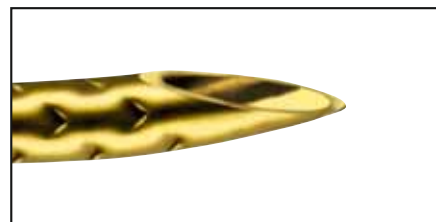
# ultrasonic monitoring

## There are three cannula types available to choose from

The SonoLong kit is alternatively fitted with three different cannula types: While the facet tip cannula is exclusively placed parallel to the nerve, the SPROTTE®-SPECIAL cannula and the Tuohy cannula are suitable for those cases, where it is necessary to introduce the catheter at an angle to the nerve.



Cannula with facet tip



Tuohy cannula



SPROTTE®-SPECIAL cannula

## Clear and definite identification

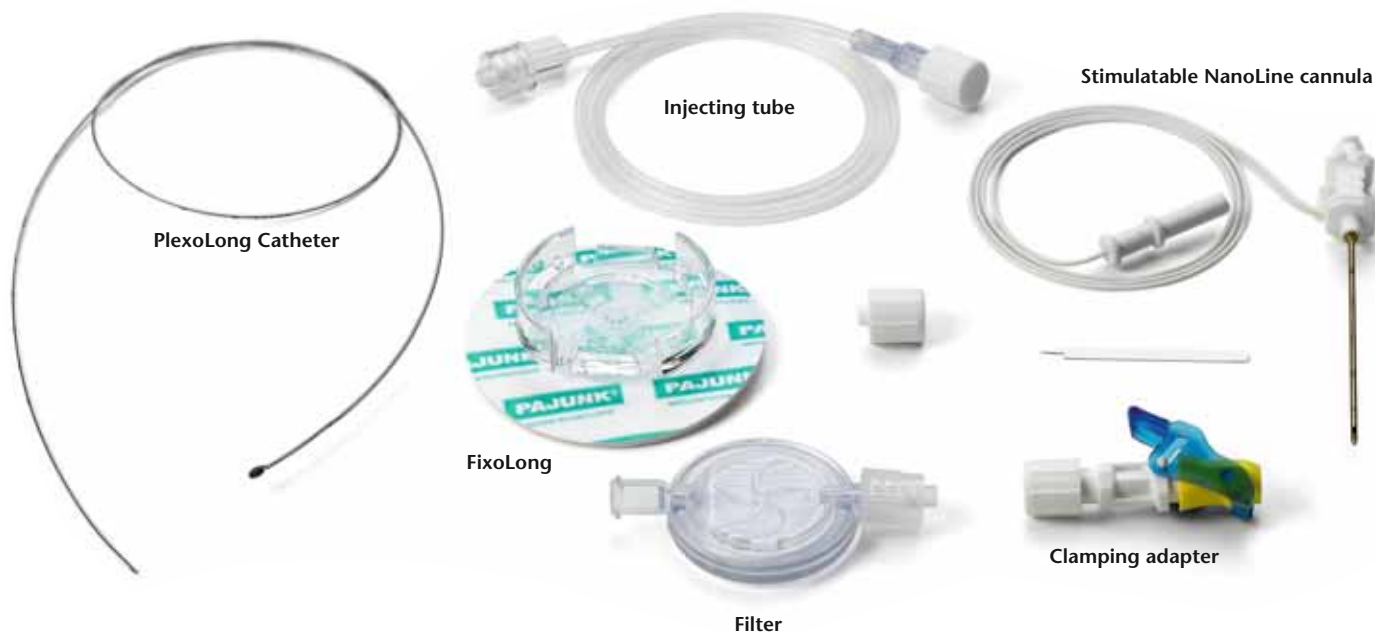
The cannulae are equipped with two pattern-embossed sections, each having a length of 10 mm, which have been provided with CornerStone reflectors.

➔ This guarantees an optimal reflection of the ultrasonic waves along a total length of 20 mm.

## Perfect gliding qualities

The SonoLong cannulae are coated using the innovative NanoLine-technology.

➔ This ensures for perfect gliding qualities, it increases visibility under ultrasound-monitoring, and it permits precise stimulation through the uncoated tip.



## SonoGuide-Tsui

# For the „on-the-dot“ puncture under ultra sound mo

The SonoGuide-Tsui was developed by PAJUNK® as a perfect guide for the ultrasonically supported puncture. It permits

the unerring and precise identification of the puncture point and –angle.

### Simple handling

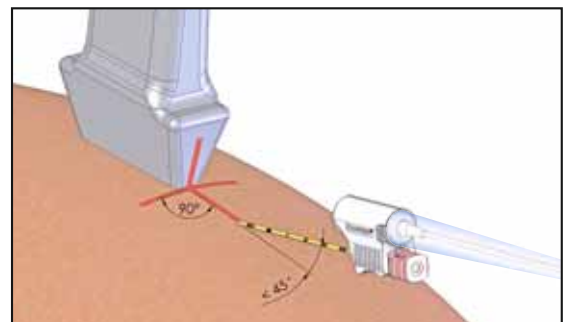
#### 1. Preparation

The laser pointer SonoGuide-Tsui is mounted directly onto the cannula hub by means of a sterile disposable covering.



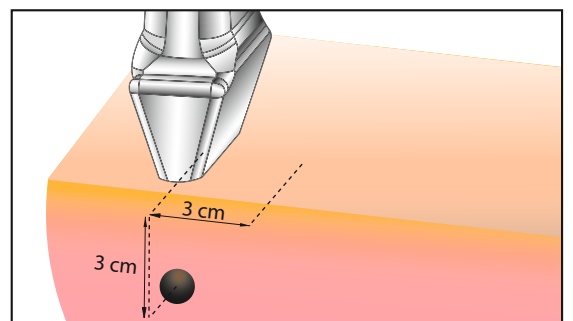
#### 2. Cross-lines

This laser pointer projects cross-lines onto the ultrasound transducer which start out from the puncture cannula, and it ensures, that the cannula is positioned vertical to the desired transducer axis.



#### 3. Identification of the target nerve

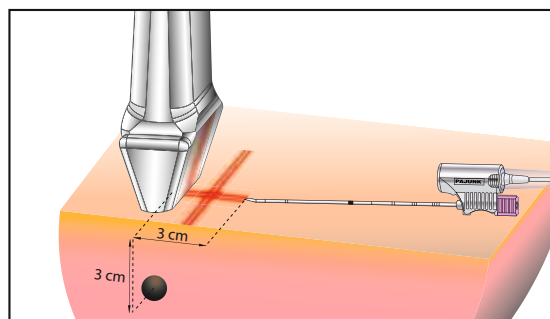
First, the target nerve is identified on the ultrasound image and the distance between the nerve and the transducer is measured.



# nitoring

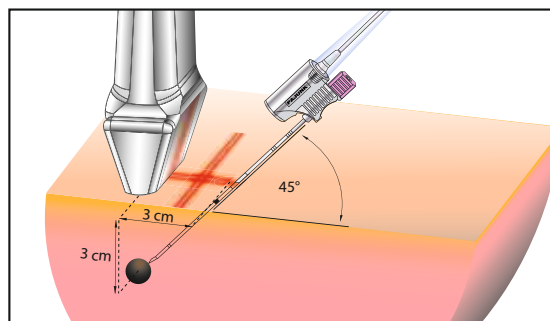
## 4. Placement of the cannula

While placing the cannula the perpendicular laser line has to be positioned in the middle of the ultrasound probe and the horizontal laser line has to be in a 90° angle.



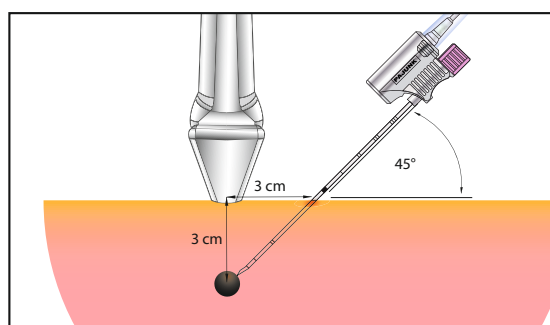
## 5. Determination of the puncture position and angle

With a puncture angle of 45° the distance of the puncture position to the midline of the ultrasound probe equals the same distance than ultrasound probe to nerve.



## 6. The puncture

After the puncture position and the puncture angle have been defined, the cannula is introduced in the defined distance (3 cm). The tip of the cannula will therefore exactly reach with the localised nerve.



## SonoGuide-Tsui

Product



SonoGuide-Tsui

reusable, incl. battery box

Art.-Nr.

1151-50-19

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Sterile disposable covering for the SonoGuide-Tsui for PAJUNK® UniPlex, PlexoLong and SonoPlex cannula

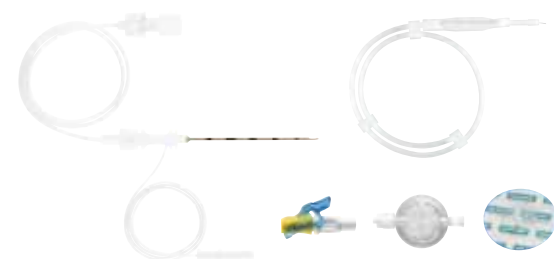
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# The complete SonoSystem: All the information at a glance

| SonoPlex cannula   | with facet tip   | with SPROTTE® tip |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
|--|--|-------------------|-----------|----|--------------|-----------|----|--------------|-----------|----|--------------|-----------|----|---------------|-----------|----|---------------|-----------|----|---|-----------|----------|--|---------------|------------|----|--------------|------------|----|--------------|------------|----|--------------|------------|----|
|  <p>SonoPlex</p>      |  <table border="1"> <thead> <tr> <th>SonoPlex</th> <th>Item no.</th> <th>PU</th> </tr> </thead> <tbody> <tr> <td>22 G x 40 mm</td> <td>001180-70</td> <td>10</td> </tr> <tr> <td>22 G x 50 mm</td> <td>001180-74</td> <td>10</td> </tr> <tr> <td>22 G x 80 mm</td> <td>001180-71</td> <td>10</td> </tr> <tr> <td>21 G x 100 mm</td> <td>001180-77</td> <td>10</td> </tr> <tr> <td>20 G x 120 mm</td> <td>001180-72</td> <td>10</td> </tr> </tbody> </table> | SonoPlex          | Item no.  | PU | 22 G x 40 mm | 001180-70 | 10 | 22 G x 50 mm | 001180-74 | 10 | 22 G x 80 mm | 001180-71 | 10 | 21 G x 100 mm | 001180-77 | 10 | 20 G x 120 mm | 001180-72 | 10 |  <table border="1"> <thead> <tr> <th>SonoPlex</th> <th>Item no.</th> <th>PU</th> </tr> </thead> <tbody> <tr> <td>22 G x 50 mm</td> <td>001180-31G</td> <td>10</td> </tr> <tr> <td>22 G x 70 mm</td> <td>001180-31H</td> <td>10</td> </tr> <tr> <td>22 G x 90 mm</td> <td>001180-31J</td> <td>10</td> </tr> </tbody> </table> | SonoPlex  | Item no. | PU   | 22 G x 50 mm  | 001180-31G | 10 | 22 G x 70 mm | 001180-31H | 10 | 22 G x 90 mm | 001180-31J | 10 |              |            |    |
|  |  | SonoPlex          | Item no.  | PU |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
|  |  | 22 G x 40 mm      | 001180-70 | 10 |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
|  |  | 22 G x 50 mm      | 001180-74 | 10 |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
|  |  | 22 G x 80 mm      | 001180-71 | 10 |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
| 21 G x 100 mm  | 001180-77  | 10                |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
| 20 G x 120 mm  | 001180-72  | 10                |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
| SonoPlex   | Item no.   | PU                |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
| 22 G x 50 mm   | 001180-31G   | 10                |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
| 22 G x 70 mm   | 001180-31H   | 10                |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
| 22 G x 90 mm   | 001180-31J   | 10                |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
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|  |  | 22 G x 40 mm      | 001185-70 | 10 |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
|  |  | 22 G x 50 mm      | 001185-74 | 10 |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
|  |  | 22 G x 80 mm      | 001185-71 | 10 |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
|  |  | 21 G x 100 mm     | 001185-77 | 10 |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
| 20 G x 120 mm  | 001185-72  | 10                |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
| 20 G x 150 mm  | 001185-76  | 10                |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
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| 22 G x 50 mm   | 001185-31G   | 10                |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
| 22 G x 70 mm   | 001185-31H   | 10                |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |
| 22 G x 90 mm   | 001185-31J   | 10                |           |    |              |           |    |              |           |    |              |           |    |               |           |    |               |           |    |   |           |          |  |               |            |    |              |            |    |              |            |    |              |            |    |

## SonoLong NanoLine



- All SonoLong NanoLine Sets are supplied with:
- SonoLong facet tip, Luer Lock with electrical connector cable
  - Adaptable injection tube
  - PlexoLong Catheter 20 G x 50 with integrated metal helical coil and central opening
  - Clamping adapter (yellow)
  - Filter 0,2 µm
  - FixoLong

| Product   | Size          | Catheter     | Item no.   | PU |
|---|---------------|--------------|------------|----|
|  <p>Facet tip</p>            | 19 G x 50 mm  | 20 G x 50 cm | 531185-31A | 10 |
|   | 19 G x 100 mm | 20 G x 50 cm | 521185-31A | 10 |
|   | 19 G x 150 mm | 20 G x 50 cm | 511185-31A | 10 |
|  <p>SPROTTE® special tip</p> | 19 G x 60 mm  | 20 G x 50 cm | 531185-31B | 10 |
|   | 19 G x 120 mm | 20 G x 50 cm | 521185-31B | 10 |
|  <p>Tuohy tip</p>            | 18 G x 50 mm  | 20 G x 50 cm | 531185-31C | 10 |
|   | 18 G x 100 mm | 20 G x 50 cm | 521185-31C | 10 |

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