

medartis®

PRECISION IN FIXATION

SURGICAL TECHNIQUE – STEP BY STEP

SpeedTip® CCS 2.2, 3.0

Cannulated Compression Screws



APTUS®



SpeedTip® CCS 2.2, 3.0

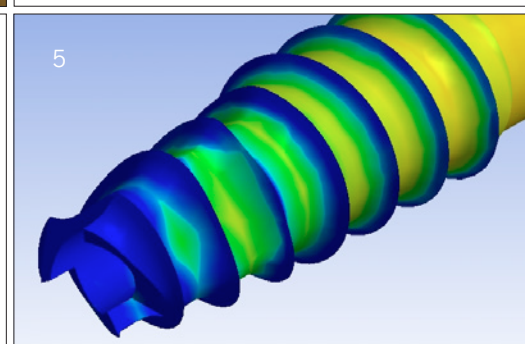
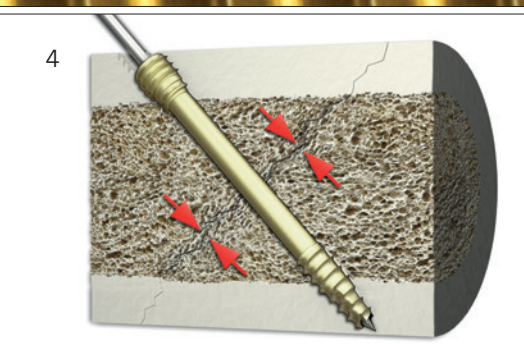
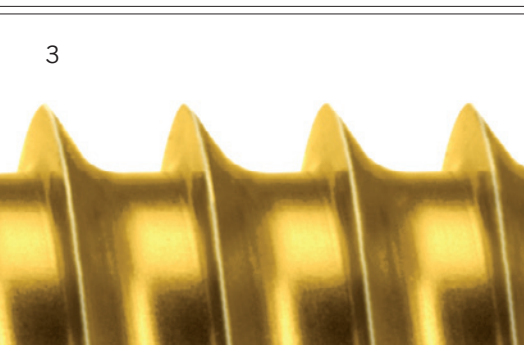
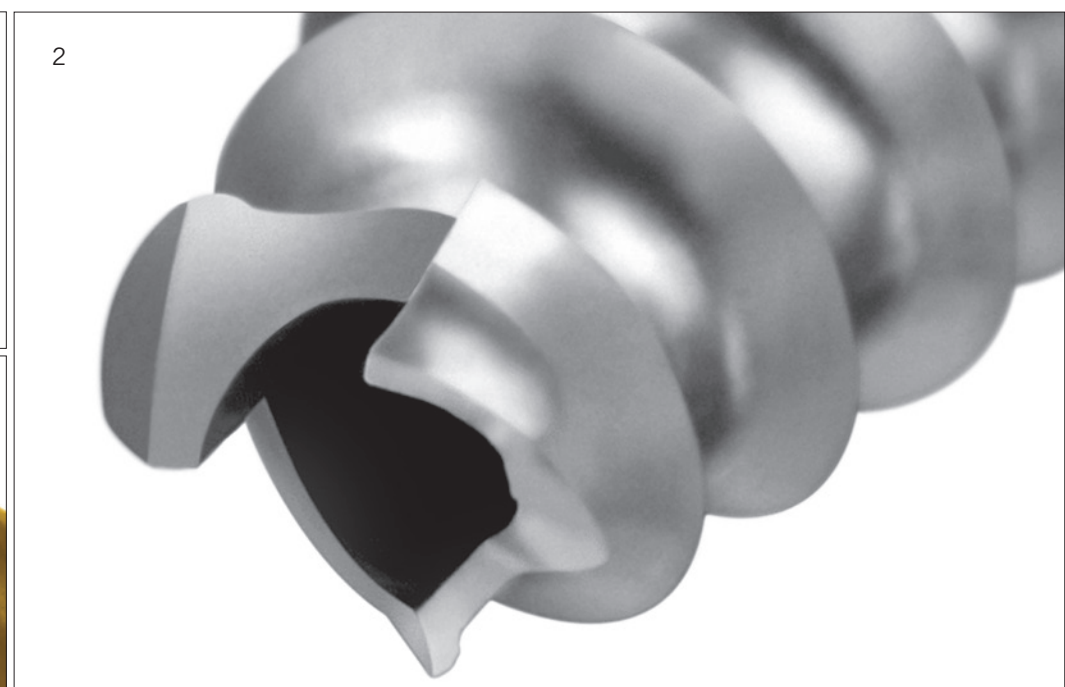
Cannulated Compression Screws

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For further information regarding the APTUS product line see
www.medartis.com/products

Features, Technique Innovation in Detail



- 1 SpeedTip CCS Cannulated Compression Screw System
- 2 Optimized cutting tip
- 3 High-precision and sharp thread
- 4 Illustration of functional principle
- 5 Finite element representation of a Medartis SpeedTip CCS Cannulated Compression Screw

For further information on the screw range, see the APTUS Ordering Catalog at www.medartis.com/meta/downloads/product-brochures

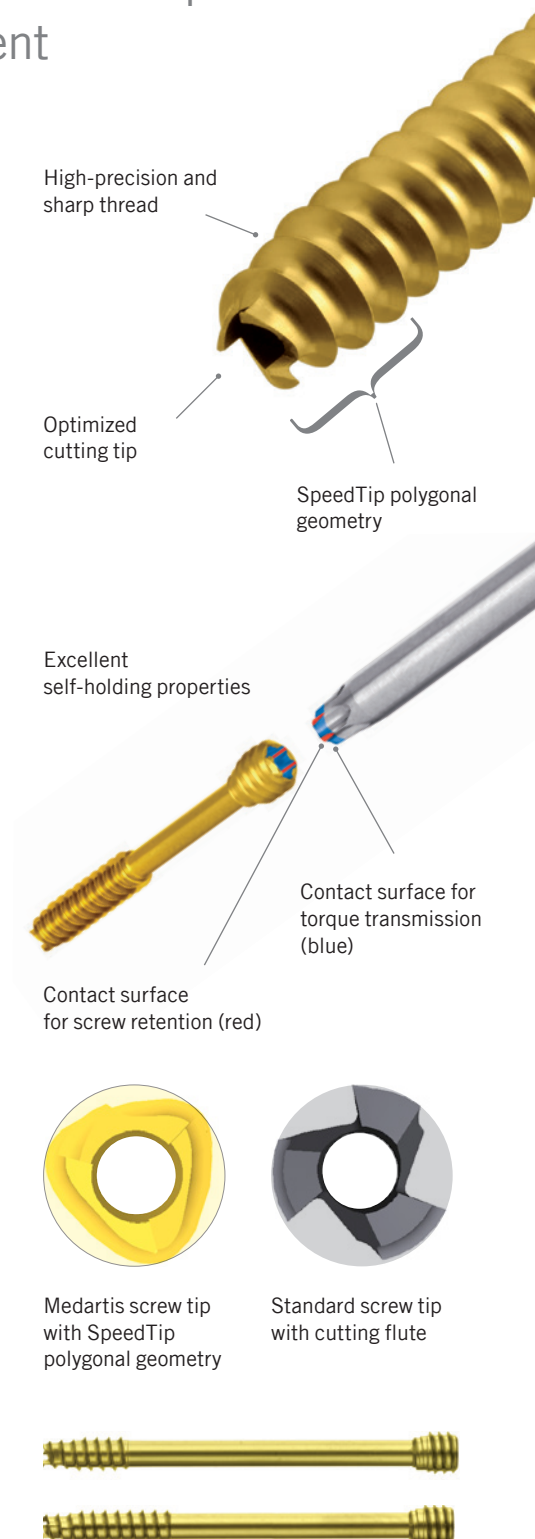
- Innovative technologies
- Cannulated and self-drilling screw design
- Excellent purchasing properties and low insertion torque reduce the risk of bone fragment displacement

Technology

- SpeedTip thread design:
 - Screws can be inserted directly without pre-drilling
 - Reduced risk of bone fragment displacement thanks to excellent self-tapping properties
 - Effortless insertion – the polygonal tip pushes bone debris aside
- Excellent self-tapping properties due to precise and sharp thread profile
- HexaDrive technology:
 - Secure connection between screw and screwdriver
 - Increased torque transmission
 - Improved self-retaining mechanism

Screw Features and Clinical Benefits

- Self-drilling screw design:
 - Less work steps
 - Easier to use
- Substantially less effort required to insert screws due to:
 - SpeedTip polygonal geometry
 - High-precision and sharp thread
 - Optimized screw tip
- Choice of short and long distal threads for the treatment of a wide variety of indications



General System Application

2.2, 3.0

Product Materials

All APTUS cannulated screws are made of titanium alloy (ASTM F136, ISO 5832-3). All of the titanium materials used are biocompatible, corrosion-resistant and non-toxic in a biological environment.

Indications

Treatment of fractures, osteotomies and arthrodesis of bones e.g. in the hand, wrist, elbow, foot with the appropriate screw size.

Contraindications

- Pre-existing or suspected infections at or near the implantation site
- Known allergies and/or hypersensitivity to foreign bodies
- Insufficient or inferior bone quality to securely anchor the implant
- Patients who are incapacitated and/or uncooperative during the treatment phase
- The treatment of at-risk groups is inadvisable
- Growth plates are not to be blocked with plates and screws

Color Coding

System	Color code
APTUS 2.2	purple
APTUS 3.0	yellow

Screws

Implant screws have their own color:

Gold implant screws:

2.2 Cannulated Compression Screws

3.0 Cannulated Compression Screws



Consult IFU
www.medartis.com

Surgical Technique

Cannulated Compression Screws

Step 1

Position the drill guide (A-2725, A-2825) with the side marked «K-WIRE» on the bone. Prepare the bone with the periosteal elevator (A-7011) in such a way as to remove as much soft tissue as possible between the drill guide and bone, thus ensuring a secure contact on the bone.

Alternatively, the K-wire guide for percutaneous approach (A-2007) can be used.



Step 2a

Select the required K-wire diameter (\varnothing 0.8 mm or \varnothing 1.1 mm, depending on screw size) and verify its size in the container's measuring module.

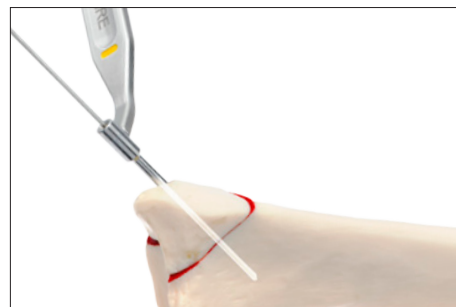
Note:

To ensure that the lengths of the screws to be used are assigned correctly, only original Medartis K-wires of 100 mm in length may be used. If wires of different lengths or manufacturers are chosen, the correct selection of screws will not be assured!



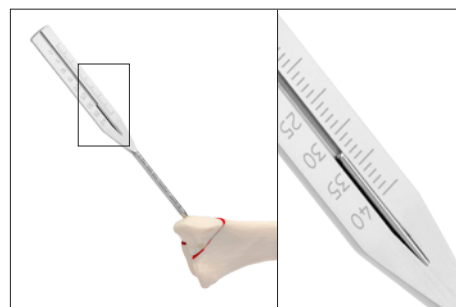
Step 2b

Place the K-wire perpendicular to the fracture line. Check the position of the K-wire by X-ray.



Step 3

Slide the depth gauge (A-2835) over the K-wire until touching the bone. The value can be read from the end of the K-wire.

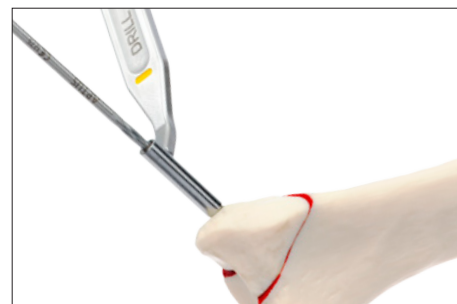


Step 4 – Optional

Use the color-coded cannulated drill (A-3736, A-3836) and drill guide (A-2725, A-2825) with the side marked «DRILL» to drill as far as the opposite cortex. Use the color-coded countersink (A-3937, A-3938) to pre-drill the first cortex.

Note:

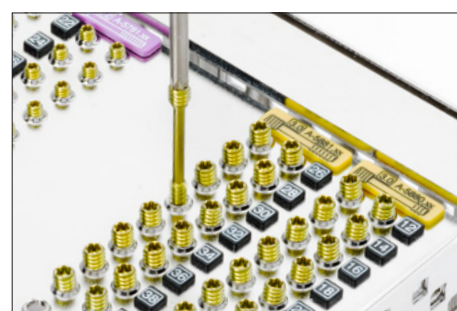
The use of drills and/or countersinks is recommended in case of very hard bone.



Step 5a

Select a screw that is approximately 2 mm shorter than the value assigned in step 3, to allow for shortening through compression of the fracture gap.

To remove the screws from the implant container, insert the appropriately color-coded screwdriver vertically into the screw head of the desired screw and pick up the screw with axial pressure.



Note:

The screw will not hold without axial pressure! Vertically extract the screw from the compartment. The screw is held securely by the blade.

If self-retention between screwdriver and screw cannot be achieved despite being picked up correctly, usually the screw has already been picked up before. This may lead to a permanent deformation of the self-retaining area of the HexaDrive inside the screw head. In this case, a new screw has to be used.

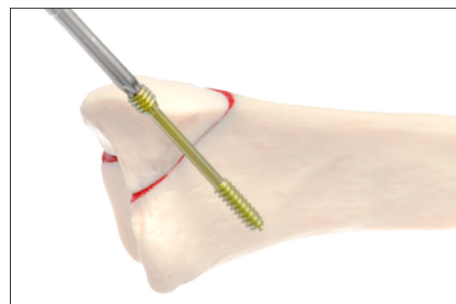
Step 5b

Check the screw length and diameter at the scale of the measuring module. The screw length is read at the end of its head.



Note:

When selecting the screw, it is mandatory that the distal thread is not positioned within the fracture gap, as otherwise no compression can be achieved.

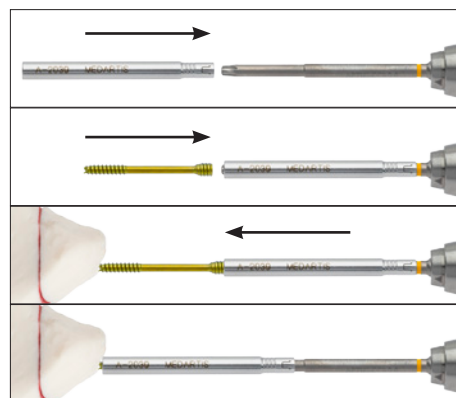
**Step 6**

When inserting the screw, apply sufficient axial pressure in order to allow for proper cutting and good thread forming.

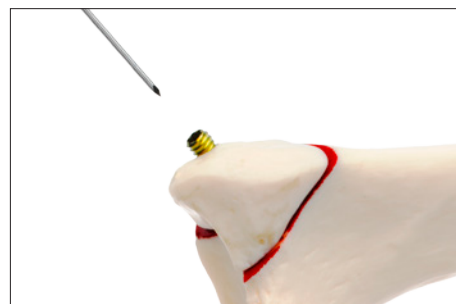
If necessary, the protection sleeve (A-2039) can be used to protect the surrounding tissue.

Slide the protection sleeve onto the screwdriver blade.

Then put the screw onto the screwdriver and slide the protection sleeve to the bone. During screw insertion the protection sleeve slides back.



To ensure that the K-wire can be removed safely without simultaneously loosening the screw, the K-wire is retracted before the screw is completely inserted in the bone.

**Step 7**

Turn the screw until the screw head is completely inserted in the bone.

**Step 8**

Check the position of the screw by X-ray.

Surgical Technique

Optional Instruments

Click-On Parallel K-Wire Guide

The click-on parallel K-wire guide (A-2027) can be used to either place two screws for rotational stable treatment of a fracture or to place a second parallel K-wire for intraoperative rotational stability.

Step 1

Place the first K-wire so that a second K-wire can be placed, too (step 2 surgical technique, page 7).

Step 2

Attach the click-on parallel K-wire guide (A-2027) onto the side marked «K-WIRE» of the drill guide (A-2725, A-2825). Depending on the shape of the bone, the long side of the click-on guide can either be turned up or down.

Step 3a

Place the click-on parallel K-wire guide (A-2027) over the K-wire that is already placed. The second K-wire can then be positioned through the drill guide (A-2725, A-2825).

Step 3b

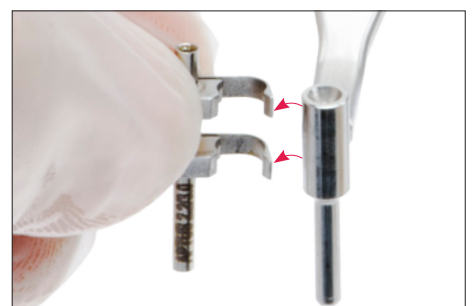
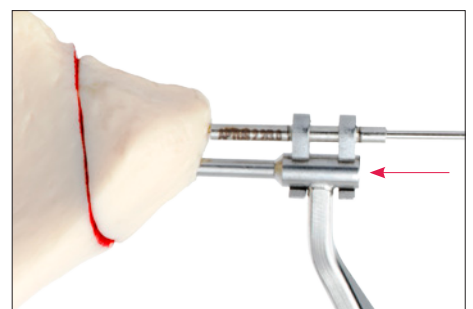
Check the position of the K-wire by X-ray.

Step 4

Continue with step 3 of the surgical technique (page 7).

Note:

The click-on parallel K-wire guide is to be taken off the drill guide parallel. If the guide is twisted off, the click connection can distort.



Drill Stop

The drill stop (A-2038) can be used to drill to the determined or the requested drill length.

Note:

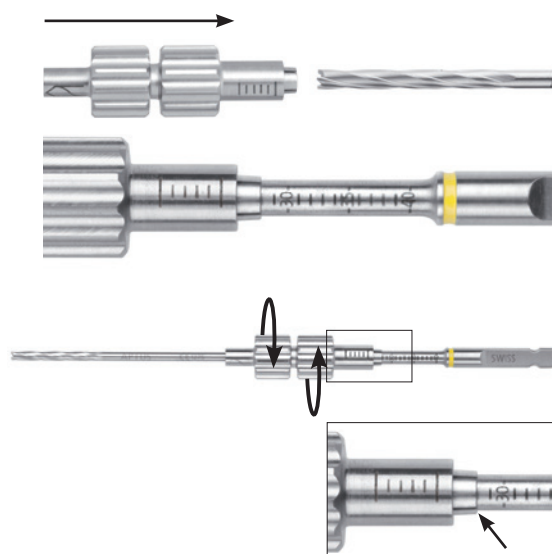
The drill stop is only to be used together with the drills A-3738 and A-3838.

Step 1

Assigning the drill depth based on the defined value as described in step 3 of the surgical technique (page 7).

Step 2

Slide the drill stop (A-2038) onto the drill. The drill stop has a pictogram on both of its ends (◁ and |||||). Please make sure that ||||| is mounted towards the scale and ▷ towards the drill's tip.



Step 3

Adjust the drill stop (A-2038) to the determined or the requested drill length and tighten it securely. The length can be read at the end of the drill stop.

Step 4

Slide the drill guide and the drill over the K-wire and onto the bone. Use the side of the drill guide that is labeled with «DRILL».

The drill depth equals exactly the adjusted length of the drill stop.

Note:

- If the drill guide (A-2725, A-2825) is not used, the hole will be drilled too deep!
- If excessive axial pressure is applied, the drill stop can move on the drill
- If the K-wire is completely overdrilled, it will no longer have purchase in the bone and it will become floating in the bone. Therefore, the drill depth should be chosen accordingly (e.g. 2 mm shorter).

Step 5

Continue with step 5 of the surgical technique (page 8).



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HEADQUARTERS

Medartis AG | Hochbergerstrasse 60E | 4057 Basel/Switzerland
P +41 61 633 34 34 | F +41 61 633 34 00 | www.medartis.com

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