

SURGICAL TECHNIQUE

# CCS

Cannulated Compression Screws

1.7, 2.2, 3.0, 4.0, 5.0, 7.0

# headedCCS

Headed Cannulated Compression Screws

2.2, 3.0, 4.0, 5.0, 7.0



APTUS

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For further information regarding the APTUS product line visit [www.medartis.com](http://www.medartis.com)

# Introduction

## Product Materials

| Product     | Material   |
|-------------|--|
| Washers     | Titanium alloy   |
| Screws      | Titanium alloy   |
| K-wires     | Stainless steel  |
| Instruments | Stainless steel, PEEK, aluminum, Nitinol, silicone or titanium             |
| Containers  | Stainless steel, aluminum, PEEK, polyphenylsulfone, polyurethane, silicone |

## Indications

### APTUS Cannulated Compression Screws

### APTUS headed Cannulated Compression Screws

APTUS Cannulated Compression Screws and headed Cannulated Compression Screws are indicated for the treatment of fractures, osteotomies and arthrodesis of bones with the appropriate screw size.

## Contraindications

- Preexisting or suspected infection at or near the implantation site
- Known allergies and/or hypersensitivity to foreign bodies
- Inferior or insufficient 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

## Warning

- In patients with Charcot foot and/or other neuropathic diseases, the CCS 4.0, 5.0, 7.0 and headedCCS 4.0, 5.0, 7.0 are not to be used as stand-alone implants. They need to be used with supplemental fixation, such as additional screws and plates, across the fused joints.

### Caution

- CCS and headedCCS screws have sharp threads and need to be picked up from the implant container by means of the screwdriver. Be cautious touching the screws directly.
- Screws are not to be positioned in the joint gap (exception: arthrodesis).

## Color Coding

| System Size | Color Code |
|-------------|------------|
| APTUS 1.7   | Turquoise  |
| APTUS 2.2   | Purple     |
| APTUS 3.0   | Yellow     |
| APTUS 4.0   | Brown      |
| APTUS 5.0   | Dark blue  |
| APTUS 7.0   | Turquoise  |

### Plates and Screws

Special implant plates and screws have their own color:

|                     |                       |
|---------------------|-----------------------|
| Implant screws gold | CCS and headedCCS     |
| Implant plates gold | Washers for headedCCS |

## Possible Combination of Plates and Screws

Plates and screws can be combined within one system size.

## Symbols



HexaDrive









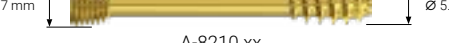
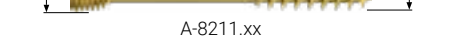
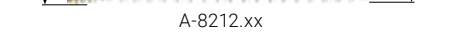


See Instructions for Use  
www.medartis.com

# System Overview

Cannulated screws and headed cannulated screws are available with short thread, long thread or fully threaded in different diameters and lengths.

| Description   | Example  | Main Feature        | Compression | Screw Length (Increment)                |
|---------------|--|---------------------|-------------|---|
| CCS 1.7       | <br>A-5281.xx   | Long distal thread  | Yes         | 8 – 16 mm (1 mm),<br>18 – 20 mm (2 mm)  |
|               | <br>A-5282.xx   | Fully threaded      | No          | 6 – 16 mm (1 mm)                        |
| CCS 2.2       | <br>A-5780.xx | Short distal thread | Yes         | 10 – 30 mm (1 mm)                       |
|               | <br>A-5781.xx | Long distal thread  | Yes         | 22 – 40 mm (2 mm)                       |
| headedCCS 2.2 | <br>A-5785.xx | Short distal thread | Yes         | 10 – 30 mm (1 mm),<br>32 – 40 mm (2 mm) |
|               | <br>A-5786.xx | Long distal thread  | Yes         | 20 – 30 mm (1 mm),<br>32 – 40 mm (2 mm) |
| CCS 3.0       | <br>A-5880.xx | Short distal thread | Yes         | 10 – 30 mm (1 mm),<br>32 – 40 mm (2 mm) |
|               | <br>A-5881.xx | Long distal thread  | Yes         | 26 – 40 mm (2 mm)                       |

| Description   | Example  | Main Feature        | Compression | Screw Length (Increment)                |
|---------------|--|---------------------|-------------|---|
| headedCCS 3.0 |  <p>A-5885.xx</p>   | Short distal thread | Yes         | 10 – 30 mm (1 mm),<br>32 – 40 mm (2 mm) |
|               |  <p>A-5886.xx</p>   | Long distal thread  | Yes         | 20 – 30 mm (1 mm),<br>32 – 40 mm (2 mm) |
| CCS 4.0       |  <p>A-8110.xx</p>   | Short distal thread | Yes         | 16 – 50 mm (2 mm),<br>55 – 60 mm (5 mm) |
|               |  <p>A-8111.xx</p>   | Long distal thread  | Yes         | 20 – 50 mm (2 mm),<br>55 – 60 mm (5 mm) |
|               |  <p>A-8112.xx</p>   | Fully threaded      | No          | 16 – 50 mm (2 mm),<br>55 – 60 mm (5 mm) |
| headedCCS 4.0 |  <p>A-8115.xx</p> | Short distal thread | Yes         | 16 – 50 mm (2 mm),<br>55 – 60 mm (5 mm) |
|               |  <p>A-8116.xx</p> | Long distal thread  | Yes         | 20 – 50 mm (2 mm),<br>55 – 60 mm (5 mm) |
|               |  <p>A-8117.xx</p> | Fully threaded      | No          | 16 – 50 mm (2 mm),<br>55 – 60 mm (5 mm) |
| CCS 5.0       |  <p>A-8210.xx</p> | Short distal thread | Yes         | 24 – 40 mm (2 mm),<br>45 – 70 mm (5 mm) |
|               |  <p>A-8211.xx</p> | Long distal thread  | Yes         | 30 – 40 mm (2 mm),<br>45 – 70 mm (5 mm) |
|               |  <p>A-8212.xx</p> | Fully threaded      | No          | 24 – 40 mm (2 mm),<br>45 – 70 mm (5 mm) |

| Description   | Example  | Main Feature        | Compression | Screw Length (Increment)                    |
|---------------|--|---------------------|-------------|---|
| headedCCS 5.0 | <br>A-8215.xx   | Short distal thread | Yes         | 24 – 40 mm (2 mm),<br>45 – 70 mm (5 mm)     |
|               | <br>A-8216.xx   | Long distal thread  | Yes         | 30 – 40 mm (2 mm),<br>45 – 70 mm (5 mm)     |
|               | <br>A-8217.xx   | Fully threaded      | No          | 24 – 40 mm (2 mm),<br>45 – 70 mm (5 mm)     |
| CCS 7.0       | <br>A-8410.xx   | Short distal thread | Yes         | 30 – 110 mm (5 mm),<br>120 – 140 mm (10 mm) |
|               | <br>A-8411.xx   | Long distal thread  | Yes         | 35 – 110 mm (5 mm),<br>120 – 140 mm (10 mm) |
|               | <br>A-8412.xx | Fully threaded      | No          | 30 – 110 mm (5 mm),<br>120 – 140 mm (10 mm) |
| headedCCS 7.0 | <br>A-8415.xx | Short distal thread | Yes         | 30 – 110 mm (5 mm),<br>120 – 140 mm (10 mm) |
|               | <br>A-8416.xx | Long distal thread  | Yes         | 35 – 110 mm (5 mm),<br>120 – 140 mm (10 mm) |
|               | <br>A-8417.xx | Fully threaded      | No          | 30 – 110 mm (5 mm),<br>120 – 140 mm (10 mm) |

For the complete implant portfolio, please refer to chapter “Implants, Instruments and Containers”.

# Treatment Concept

The following lists typical clinical findings which can be treated with APTUS Cannulated Compression Screws and headed Cannulated Compression Screws.

## Shoulder

Fractures

- of the proximal humerus
- of the glenoid

## Elbow

Fractures

- of the distal humerus
- of the proximal ulna
- of the proximal radius

## Wrist

Fractures

- of the radius
- of the ulna

Fractures and arthrodesis

- of the carpal bones

## Hand

Fractures, arthrodesis and osteotomies

- of the phalanges
- of the metacarpals
- of the carpals

## Knee

Fractures

- of the proximal tibia
- of the patella
- of the distal femur

## Foot and Ankle

Fractures, arthrodesis and osteotomies

- of the ankle joint
- of the subtalar joint
- of the hindfoot
- of the midfoot
- of the forefoot

3.0 4.0 5.0 →

2.2 3.0 4.0 →

1.7 2.2 3.0 4.0 →

4.0 5.0 7.0 →

2.2 3.0 4.0 5.0 7.0 →

The above-mentioned information is a recommendation only.  
The operating surgeon is solely responsible for the choice of the suitable implant for the specific case.

# Surgical Techniques

## General Surgical Techniques

CCS 1.7, 2.2, 3.0 and headedCCS 2.2, 3.0

### 1. Selecting the K-wire

Select the required K-wire diameter depending on the screw size and verify the diameter in the container.

#### Caution

To ensure that the lengths of the screws to be used are assigned correctly, only original APTUS K-wires may be used. If alternative wires are used, the correct screw length selection cannot be assured.



### 2. Protecting the soft tissue

Position the drill guide or K-wire guide/protection sleeve with the side marked "K-WIRE" onto the bone.



## CCS 1.7, 2.2, 3.0 and headedCCS 2.2, 3.0

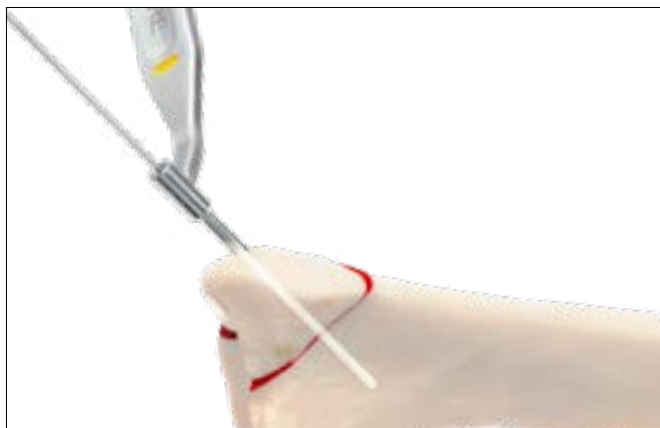
| Art. No | For Screws   | Guides / Soft Tissue Protection for     |
|---------|--|---|
| A-2225  | CCS 1.7  | K-wire<br>Drill<br>Countersink<br>Screw |
| A-2725  | CCS 2.2  | K-wire<br>Drill<br>Countersink          |
| A-2825  | CCS 3.0  | K-wire<br>Drill<br>Countersink          |
| A-2039  | CCS 2.2<br>CCS 3.0                                   | Screw                                   |
| A-2824  | CCS 2.2<br>CCS 3.0<br>headedCCS 2.2<br>headedCCS 3.0 | K-wire<br>Drill<br>Countersink<br>Screw |
| A-2007  | CCS 2.2<br>CCS 3.0<br>headedCCS 2.2<br>headedCCS 3.0 | K-wire, percutaneous                    |

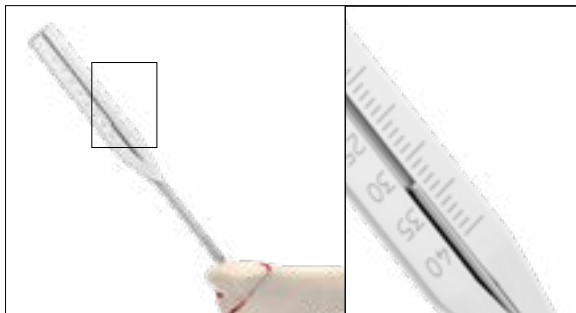
### 3. Placing the K-wire

Place the K-wire perpendicularly to the fracture or osteotomy line. Do not forcefully insert the K-wire as it may bend.

#### Caution

Use X-ray control to verify the correct position of the K-wire.



**CCS 1.7, 2.2, 3.0****4. Determining the required screw length**

Remove the drill guide resp. K-wire guide/protection sleeve. Slide the depth gauge (A-2235, A-2835) over the K-wire until it touches the bone. The length can be read from the end of the K-wire.

**5A. Drilling – optional**

The screw can be implanted directly without predrilling.

**Caution**

In the case of particularly hard bone (e.g. intramedullary fixation) it is mandatory to predrill over the length of the screw. This prevents the risk of the screw running up against very hard bone structure and at worst breaking.



Use the color-coded cannulated twist drill (A-3236, A-3736, A-3836).

The twist drill must always be guided by a drill guide (A-2725, A-2825) or a K-wire guide/protection sleeve (A-2225, A-2824). This protects the surrounding tissue from direct contact with the drill. Position the drill guide or the K-wire guide/protection sleeve with the side marked "DRILL" or "INSTRUMENTS" onto the bone.

**Caution**

Do not drill beyond the tip of the K-wire, as the K-wire will no longer have purchase in the bone.

**5B. Countersinking – optional**

Use the color-coded countersink (A-3932, A-3937, A-3938) to predrill the near cortex.

**headed CCS 2.2, 3.0****4A. Drilling – optional**

The screw can be implanted directly without predrilling.

**Caution**

In the case of particularly hard bone (e.g. intramedullary fixation) it is mandatory to predrill over the length of the screw. This prevents the risk of the screw running up against very hard bone structure and at worst breaking.



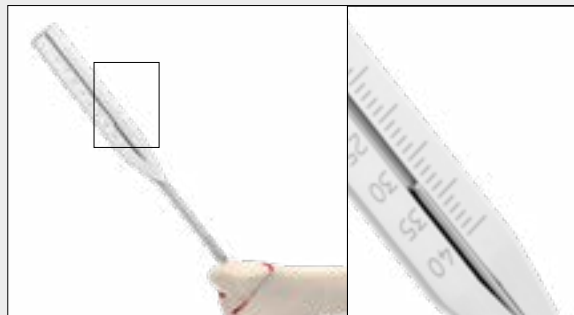
Use the color-coded cannulated twist drill (A-3836). The twist drill must always be guided by a K-wire guide/protection sleeve (A-2824). This protects the surrounding tissue from direct contact with the drill. Position the K-wire guide/protection sleeve with the side marked "DRILL" or "INSTRUMENTS" onto the bone.

**Caution**

Do not drill beyond the tip of the K-wire, as the K-wire will no longer have purchase in the bone.

**4B. Countersinking – optional**

Use the color-coded countersink (A-3935, A-3936) to predrill the near cortex.

**5. Determining the required screw length**

The K-wire guide/protection sleeve can be left in place. Slide the depth gauge (A-2835) over the K-wire until it touches the bone. The length can be read from the end of the K-wire.

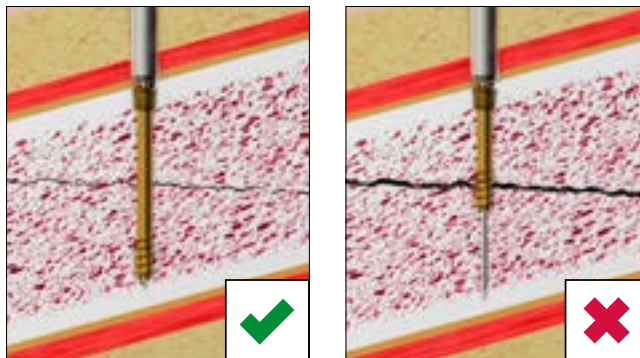
## CCS 1.7, 2.2, 3.0 and headedCCS 2.2, 3.0

### 6. Selecting the screw

Select a screw that is slightly shorter than the length determined in Step 4 (for CCS) or Step 5 (for headedCCS) to allow for shortening through compression of the fracture gap.

#### Warning

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.



### Fully threaded screws

As these screws do not compress, the thread can be positioned after reduction within the fracture gap. If compression of the fracture gap is desired, then a partially threaded screw has to be inserted first. Only afterwards a fully threaded screw may be inserted for stabilization.

### 7. Picking up the screw

#### Caution

CCS and headedCCS have sharp threads and need to be picked up from the implant container by means of the screwdriver. Be cautious touching the screws directly.

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



#### Caution

The screw will not hold without axial pressure!

Vertically extract the screw from the compartment.

#### Caution

Picking up the screw repeatedly may lead to permanent deformation of the self-retaining area of the HexaDrive inside the screw head. Therefore, the screw may no longer be able to be picked up correctly. In this case, a new screw has to be used.

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



## CCS 1.7, 2.2, 3.0 and headedCCS 2.2, 3.0

### 8A. Inserting the screw

#### Caution

CCS and headedCCS have sharp threads. Be cautious touching the screws directly.

CCS 2.2, 3.0:

Remove the drill guide (A-2725, A-2825).

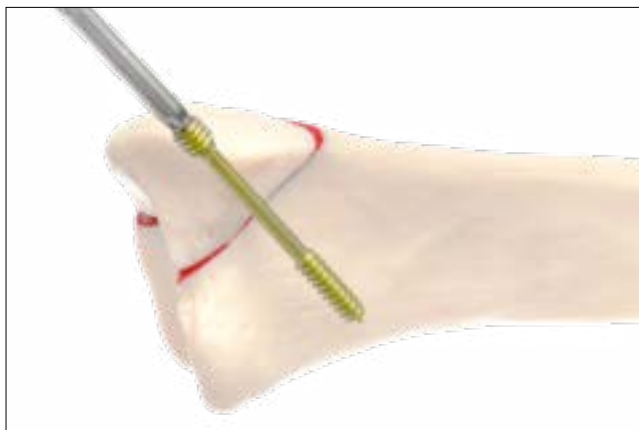
CCS 1.7, 2.2, 3.0 and headedCCS 2.2, 3.0:

The K-wire guide/protection sleeve (A-2225, A-2824) can be left in place.

headedCCS 2.2, 3.0:

Optionally, a washer (A-4700.71, A-4800.70) can also be used to achieve a larger contact surface between screw head and bone.

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



### 8B. Sinking the screw head

CCS 1.7, 2.2, 3.0:

#### Caution

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

Remove the K-wire.

#### Warning

The correct position of the screw, screw head and screw tip as well as the screw length always have to be verified using X-ray control.



## CCS 4.0, 5.0, 7.0 and headedCCS 4.0, 5.0, 7.0

### 1. Selecting the K-wire

Select the required K-wire diameter depending on screw size and verify the diameter in the container's measuring module.

#### Caution

To ensure that the lengths of the screws to be used are assigned correctly, only original APTUS K-wires may be used. If alternative wires are used, the correct screw length selection cannot be assured.



### 2. Protecting the soft tissue

Connect the color-coded protection sleeve (A-8004.23, A-8000.23, A-8001.23) to the cannulated handle with quick coupling AO or AO Large (A-2077, A-8000.20, A-8001.10).



CCS 4.0, headedCCS 4.0

CCS 5.0, headedCCS 5.0



AO Quick Coupling

CCS 7.0, headedCCS 7.0

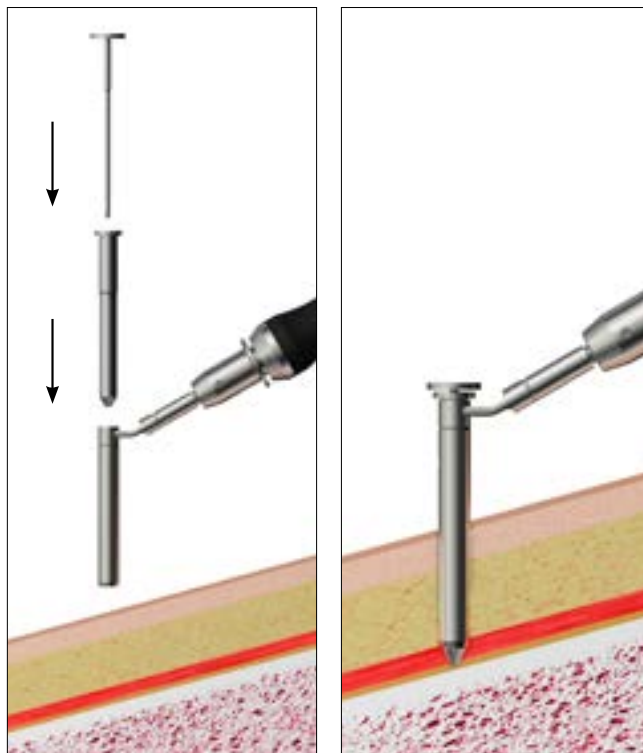


AO Large Quick Coupling

## CCS 4.0, 5.0, 7.0 and headedCCS 4.0, 5.0, 7.0

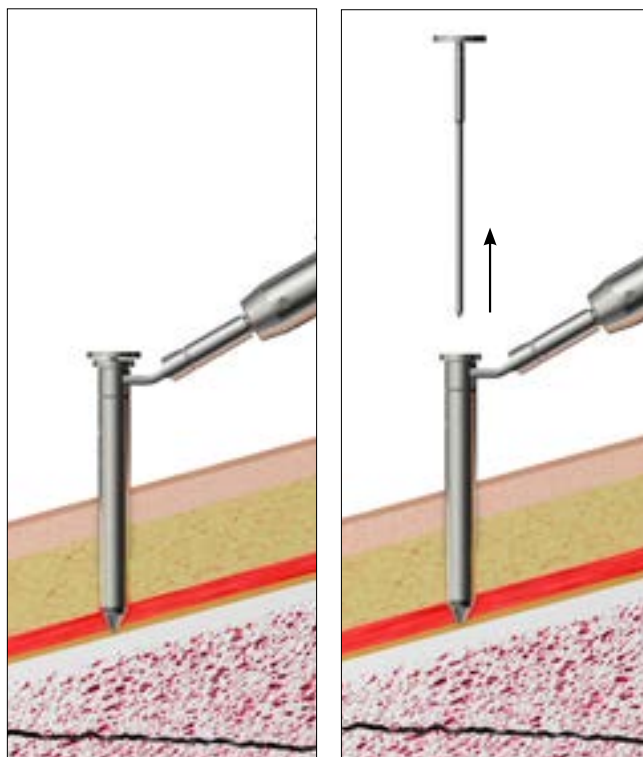
Slide the K-wire guide (A-8004.25, A-8000.25, A-8001.25) and the trocar (A-8004.24, A-8000.24, A-8001.24) into the protection sleeve.

Place the protection sleeve onto the bone.



In case the trocar (A-8004.24, A-8000.24, A-8001.24) was used, pull it off with a slight turning and pulling movement.

In case the K-wire guide (A-8004.25, A-8000.25, A-8001.25) loosens, it needs to be moved back.



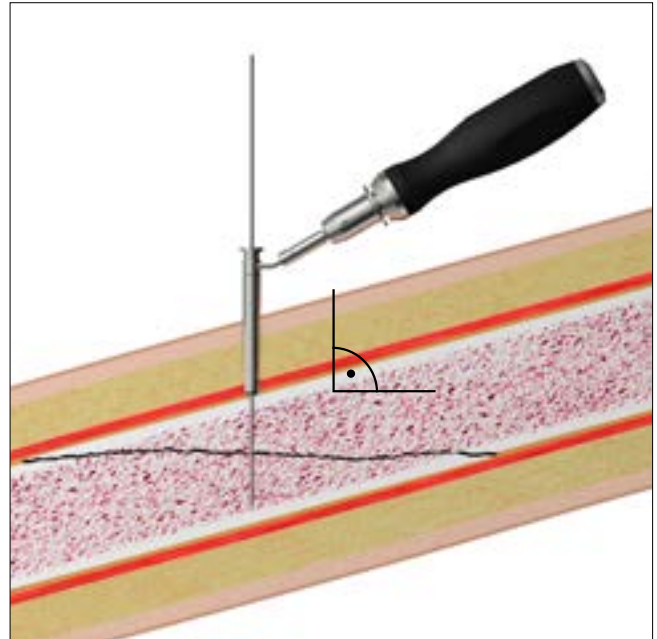
CCS 4.0, 5.0, 7.0 and headed CCS 4.0, 5.0, 7.0

### 3. Placing the K-wire

Place the K-wire perpendicularly to the fracture or osteotomy line. Do not forcefully insert the guide wire as it may bend.

#### Caution

Use X-ray control to verify the correct position of the K-wire.



## CCS 4.0, 5.0, 7.0

### 4. Determining the required screw length

Remove the K-wire guide (A-8004.25, A-8000.25, A-8001.25).  
Slide the depth gauge (A-8004.27, A-8000.27, A-8001.27) over the K-wire until it touches the bone. The length can be read from the end of the K-wire.



### 5A. Drilling – optional

Predrill with the color-coded twist drill (A-8004.01, A-8000.03, A-8001.01) over the K-wire through the protection sleeve.

The twist drill must always be guided by a protection sleeve. This protects the surrounding tissue from direct contact with the drill.



#### Caution

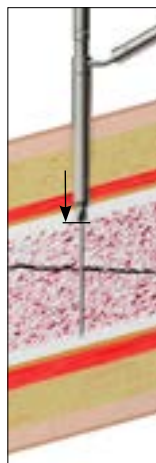
Do not drill beyond the tip of the K-wire, as the K-wire will no longer have purchase in the bone.

### 5B. Countersinking – optional

Drill the first cortex with the color-coded countersink (A-8004.02, A-8000.04, A-8001.02) over the K-wire through the protection sleeve.

#### Caution

The use of twist drills and/or countersinks is recommended in the case of particularly hard bone.



## headed CCS 4.0, 5.0, 7.0

### 4A. Drilling – optional

Remove the K-wire guide (A-8004.25, A-8000.25, A-8001.25).  
Predrill with the color-coded twist drill (A-8004.01, A-8000.03, A-8001.01) over the K-wire through the protection sleeve.

The twist drill must always be guided by a protection sleeve. This protects the surrounding tissue from direct contact with the drill.



#### Caution

Do not drill beyond the tip of the K-wire, as the K-wire will no longer have purchase in the bone.

### 4B. Countersinking – optional

Drill the first cortex with the color-coded countersink (A-8004.03, A-8000.05, A-8001.03) over the K-wire through the protection sleeve.

#### Caution

The use of twist drills and/or countersinks is recommended in the case of particularly hard bone.



### 5. Determining the required screw length

Slide the depth gauge (A-8004.27, A-8000.27, A-8001.27) over the K-wire until it touches the bone. The length can be read from the end of the K-wire.



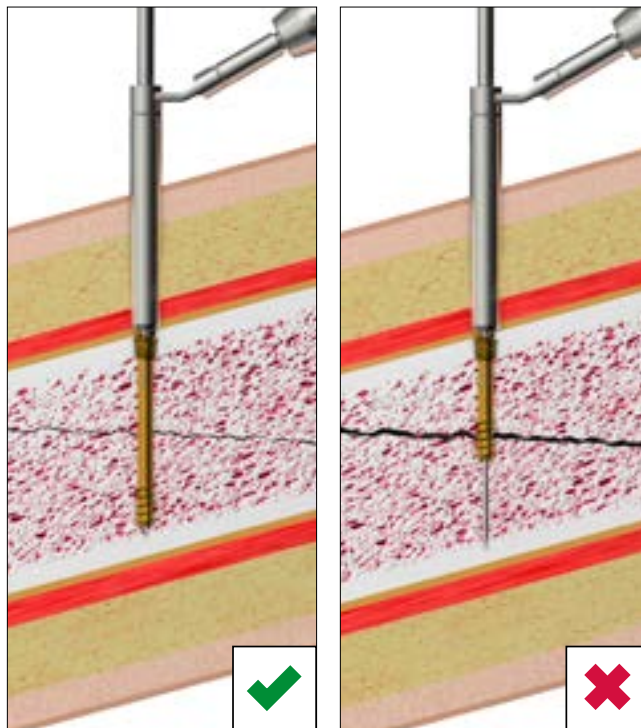
## CCS 4.0, 5.0, 7.0 and headedCCS 4.0, 5.0, 7.0

### 6. Selecting the screw

Select a screw that is slightly shorter than the length determined in Step 4 (for CCS) and Step 5 (for headedCCS) to allow for shortening of the fracture gap through compression.

#### Warning

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



### Fully threaded screws

As these screws do not compress, the thread can be positioned after reduction within the fracture gap. If compression of the fracture gap is desired, then a partially threaded screw has to be inserted first. Only afterwards a fully threaded screw may be inserted for stabilization.

## CCS 4.0, 5.0, 7.0 and headedCCS 4.0, 5.0, 7.0

### 7. Picking up the screw

#### Caution

CCS and headedCCS have sharp threads and need to be picked up from the implant container by means of the screwdriver. Be cautious touching the screws directly.

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

#### Caution

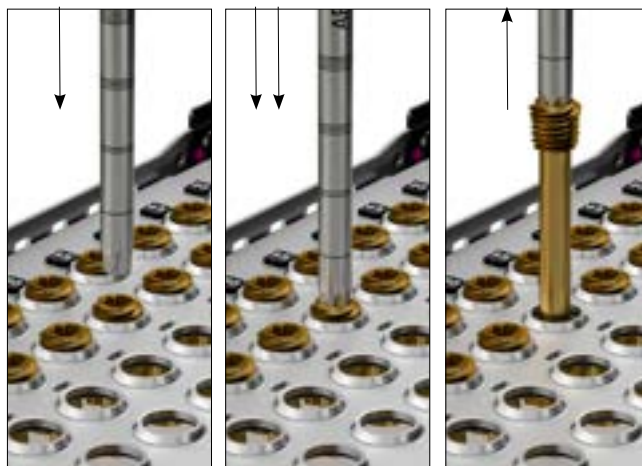
The screw will not hold without axial pressure!

Vertically extract the screw from the compartment.

#### Caution

Picking up the screw repeatedly may lead to permanent deformation of the self-retaining area of the HexaDrive inside the screw head. Therefore, the screw may no longer be able to be picked up correctly. In this case, a new screw has to be used.

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



### 8A. Inserting the screw

#### Caution

CCS and headedCCS have sharp threads. Be cautious touching the screws directly.

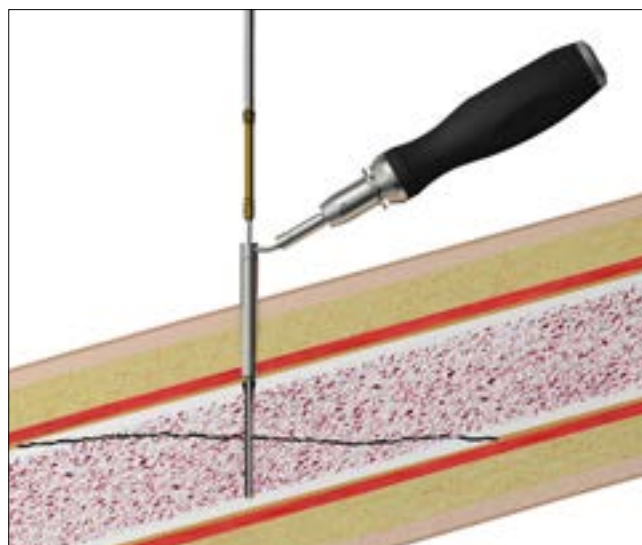
headedCCS 4.0, 5.0, 7.0:

Optionally, a washer (A-8140.70, A-8240.70, A-8440.70) can also be used to achieve a larger contact surface between screw head and bone.

#### Warning

Use the protection sleeve while inserting the screws.

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



## CCS 4.0, 5.0, 7.0 and headedCCS 4.0, 5.0, 7.0

### 8B. Sinking the screw head

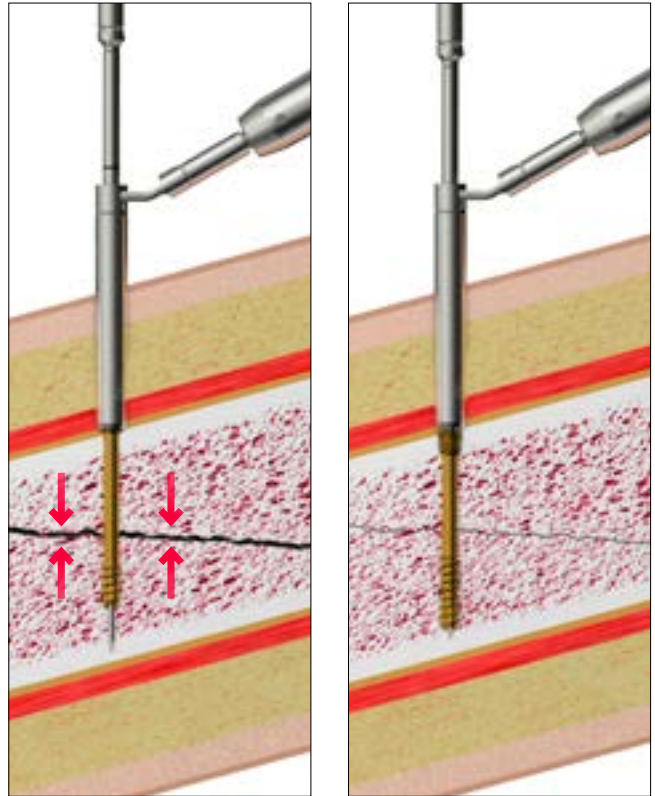
CCS 4.0, 5.0, 7.0

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

Remove the K-wire.

#### Warning

The correct position of the screw, screw head and screw tip as well as the screw length always have to be verified using X-ray control.



# Specific Surgical Techniques

## Click-On Parallel K-Wire Guide

### CCS 2.2, 3.0

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.

#### 1. Placing the K-wire

Place the first K-wire so that a second K-wire can be placed (see Step 3 on page 9 in General Surgical Techniques for CCS 1.7, 2.2, 3.0 and headedCCS 2.2, 3.0).



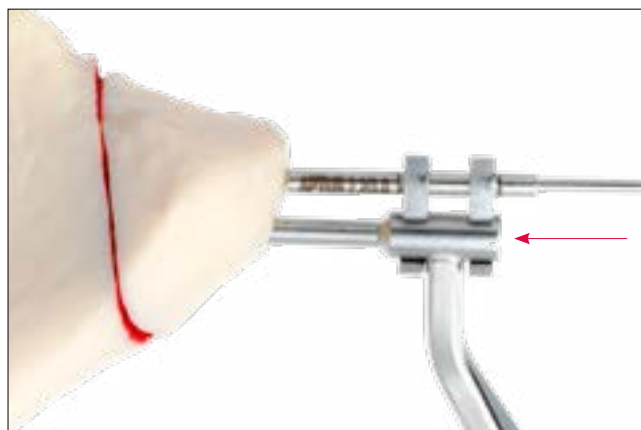
#### 2. Attaching the click-on parallel K-wire guide

Attach the click-on parallel K-wire guide (A-2027) to 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.



### 3A. Placing over the K-wire

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



### 3B. Checking the K-wire position

Use X-ray control to verify the correct position of the K-wire.

### 4. Determining the required screw length

Continue with Step 4 on page 10 in General Surgical Techniques for CCS 1.7, 2.2, 3.0.

#### Caution

The click-on parallel K-wire guide must be removed parallel from the drill guide. If the guide is turned off, the click connection may distort.



## Drill Stop



### CCS 2.2, 3.0



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

#### Caution

The drill stop is only to be used together with the corresponding cannulated twist drills (A-3738 and A-3838).

### 1. Attaching the drill stop

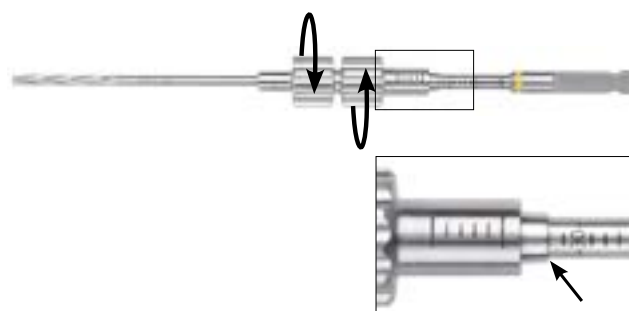
Slide the drill stop (A-2038) onto the drill. The drill stop has a pictogram on both of its ends:  and .

Please make sure that  is mounted towards the scale and  towards the tip of the drill.



### 2. Adjusting to the drill depth

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



### 3. Drilling

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 depth of the drill stop.

#### Caution

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 may move on the drill.

Do not drill beyond the tip of the K-wire, as the K-wire will no longer have purchase in the bone. Therefore, the drill depth should be chosen accordingly (e.g. slightly shorter).



### 4. Selecting the screw

Continue with Step 6 on page 11 in General Surgical Techniques for CCS 1.7, 2.2, 3.0 and headed CCS 2.0, 3.0.

## Protecting Soft Tissue During Screw Insertion

### CCS 2.2, 3.0

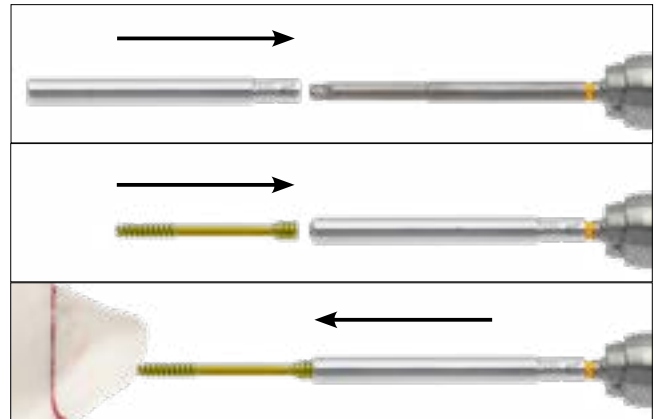
If required, the 2.2/3.0 protection sleeve (A-2039) can be used to protect the surrounding soft tissue.

Slide the protection sleeve onto the screwdriver blade.

Put the screw onto the screwdriver.

Slide the protection sleeve to the bone.

During screw insertion the protection sleeve slides back.



## Determining Soft Tissue Thickness

### CCS 4.0, 5.0, 7.0 and headed CCS 4.0, 5.0, 7.0

#### Caution

The depth gauge shows four laser-marked ring groups in the tip area for a rough estimate of the position relative to the soft tissue thickness when used **without** a protection sleeve.

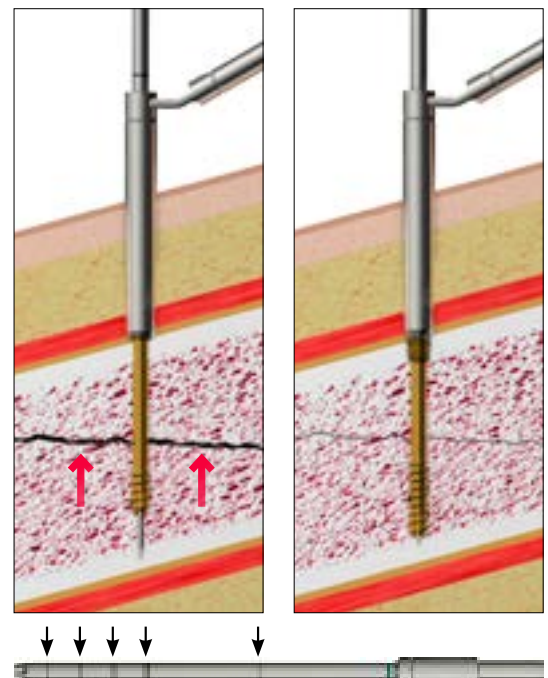


#### Caution

The blade shows one single laser-marked ring in the shaft area for a rough orientation of the insertion depth relative to the soft tissue thickness when used **with** a protection sleeve.

If the screw is completely inserted, this single ring is approximately positioned at the level of the end of the protection sleeve.

In addition, the blade – like the depth gauge (A-8004.27, A-8000.27, A-8001.27) – shows four laser-marked ring groups in the tip area for a rough orientation of the insertion depth relative to the soft tissue thickness when used **without** a protection sleeve. If the screw is inserted in the soft tissue to the previously determined depth gauge's ring group, the screw head is approximately positioned at the level of the cortex.



# Explantation

## **Notice**

For implant removal, it is recommended that the implants are removed by using only original APTUS instruments.

When removing implants, ensure that any bone ingrowth in the screw head has been removed.

It is recommended to insert a K-wire into the screw cannulation.

The screwdriver-screw head connection must be aligned in an axial direction. Ensure that the cannulated screwdriver blade is fully inserted into the HexaDrive recess of the screw head.

# Implants and Instruments

## CCS 1.7, Self-Drilling, HexaDrive 4

Material: Titanium alloy (ASTM F136)



| Length | Head Height | Pieces / Pkg | Long Thread   |               | Fully Threaded |
|--------|-------------|--------------|---------------|---------------|----------------|
|        |             |              | Thread Length | Art. No.      | Art. No.       |
| 6 mm   | 2.0 mm      | 1            |               |               | A-5282.06 / 1  |
| 7 mm   | 2.0 mm      | 1            |               |               | A-5282.07 / 1  |
| 8 mm   | 2.0 mm      | 1            | 3 mm          | A-5281.08 / 1 | A-5282.08 / 1  |
| 9 mm   | 2.0 mm      | 1            | 4 mm          | A-5281.09 / 1 | A-5282.09 / 1  |
| 10 mm  | 2.0 mm      | 1            | 4 mm          | A-5281.10 / 1 | A-5282.10 / 1  |
| 11 mm  | 2.0 mm      | 1            | 5 mm          | A-5281.11 / 1 | A-5282.11 / 1  |
| 12 mm  | 2.0 mm      | 1            | 5 mm          | A-5281.12 / 1 | A-5282.12 / 1  |
| 13 mm  | 2.0 mm      | 1            | 5 mm          | A-5281.13 / 1 | A-5282.13 / 1  |
| 14 mm  | 2.0 mm      | 1            | 6 mm          | A-5281.14 / 1 | A-5282.14 / 1  |
| 15 mm  | 2.0 mm      | 1            | 6 mm          | A-5281.15 / 1 | A-5282.15 / 1  |
| 16 mm  | 2.0 mm      | 1            | 7 mm          | A-5281.16 / 1 | A-5282.16 / 1  |
| 18 mm  | 2.0 mm      | 1            | 7 mm          | A-5281.18 / 1 |                |
| 20 mm  | 2.0 mm      | 1            | 8 mm          | A-5281.20 / 1 |                |

## CCS 2.2, Self-Drilling, HexaDrive 7

Material: Titanium alloy (ASTM F136)



| Length | Head Height | Pieces / Pkg | Short Thread  |               | Long Thread   |               |
|--------|-------------|--------------|---------------|---------------|---------------|---------------|
|        |             |              | Thread Length | Art. No.      | Thread Length | Art. No.      |
| 10 mm  | 3.0 mm      | 1            | 4 mm          | A-5780.10 / 1 |               |               |
| 11 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.11 / 1 |               |               |
| 12 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.12 / 1 |               |               |
| 13 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.13 / 1 |               |               |
| 14 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.14 / 1 |               |               |
| 15 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.15 / 1 |               |               |
| 16 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.16 / 1 |               |               |
| 17 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.17 / 1 |               |               |
| 18 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.18 / 1 |               |               |
| 19 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.19 / 1 |               |               |
| 20 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.20 / 1 |               |               |
| 21 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.21 / 1 |               |               |
| 22 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.22 / 1 | 8 mm          | A-5781.22 / 1 |
| 23 mm  | 3.0 mm      | 1            | 5 mm          | A-5780.23 / 1 |               |               |

| Length | Head Height | Pieces / Pkg | Short Thread  |               | Long Thread   |               |
|--------|-------------|--------------|---------------|---------------|---------------|---------------|
|        |             |              | Thread Length | Art. No.      | Thread Length | Art. No.      |
| 24 mm  | 3.0 mm      | 1            | 6 mm          | A-5780.24 / 1 | 8 mm          | A-5781.24 / 1 |
| 25 mm  | 3.0 mm      | 1            | 6 mm          | A-5780.25 / 1 |               |               |
| 26 mm  | 3.0 mm      | 1            | 6 mm          | A-5780.26 / 1 | 8 mm          | A-5781.26 / 1 |
| 27 mm  | 3.0 mm      | 1            | 6 mm          | A-5780.27 / 1 |               |               |
| 28 mm  | 3.0 mm      | 1            | 6 mm          | A-5780.28 / 1 | 9 mm          | A-5781.28 / 1 |
| 29 mm  | 3.0 mm      | 1            | 6 mm          | A-5780.29 / 1 |               |               |
| 30 mm  | 3.0 mm      | 1            | 6 mm          | A-5780.30 / 1 | 10 mm         | A-5781.30 / 1 |
| 32 mm  | 3.0 mm      | 1            |               |               | 11 mm         | A-5781.32 / 1 |
| 34 mm  | 3.0 mm      | 1            |               |               | 12 mm         | A-5781.34 / 1 |
| 36 mm  | 3.0 mm      | 1            |               |               | 13 mm         | A-5781.36 / 1 |
| 38 mm  | 3.0 mm      | 1            |               |               | 14 mm         | A-5781.38 / 1 |
| 40 mm  | 3.0 mm      | 1            |               |               | 15 mm         | A-5781.40 / 1 |

## headedCCS 2.2, Self-Drilling, HexaDrive 7

Material: Titanium alloy (ASTM F136)



| Length | Head Height | Pieces / Pkg | Short Thread  |               | Long Thread   |               |
|--------|-------------|--------------|---------------|---------------|---------------|---------------|
|        |             |              | Thread Length | Art. No.      | Thread Length | Art. No.      |
| 10 mm  | 2.1 mm      | 1            | 4 mm          | A-5785.10 / 1 |               |               |
| 11 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.11 / 1 |               |               |
| 12 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.12 / 1 |               |               |
| 13 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.13 / 1 |               |               |
| 14 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.14 / 1 |               |               |
| 15 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.15 / 1 |               |               |
| 16 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.16 / 1 |               |               |
| 17 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.17 / 1 |               |               |
| 18 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.18 / 1 |               |               |
| 19 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.19 / 1 |               |               |
| 20 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.20 / 1 | 8 mm          | A-5786.20 / 1 |
| 21 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.21 / 1 | 8 mm          | A-5786.21 / 1 |
| 22 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.22 / 1 | 8 mm          | A-5786.22 / 1 |
| 23 mm  | 2.1 mm      | 1            | 5 mm          | A-5785.23 / 1 | 8 mm          | A-5786.23 / 1 |
| 24 mm  | 2.1 mm      | 1            | 6 mm          | A-5785.24 / 1 | 8 mm          | A-5786.24 / 1 |
| 25 mm  | 2.1 mm      | 1            | 6 mm          | A-5785.25 / 1 | 8 mm          | A-5786.25 / 1 |
| 26 mm  | 2.1 mm      | 1            | 6 mm          | A-5785.26 / 1 | 8 mm          | A-5786.26 / 1 |
| 27 mm  | 2.1 mm      | 1            | 6 mm          | A-5785.27 / 1 | 9 mm          | A-5786.27 / 1 |
| 28 mm  | 2.1 mm      | 1            | 6 mm          | A-5785.28 / 1 | 9 mm          | A-5786.28 / 1 |
| 29 mm  | 2.1 mm      | 1            | 6 mm          | A-5785.29 / 1 | 10 mm         | A-5786.29 / 1 |
| 30 mm  | 2.1 mm      | 1            | 6 mm          | A-5785.30 / 1 | 10 mm         | A-5786.30 / 1 |
| 32 mm  | 2.1 mm      | 1            | 6 mm          | A-5785.32 / 1 | 11 mm         | A-5786.32 / 1 |
| 34 mm  | 2.1 mm      | 1            | 7 mm          | A-5785.34 / 1 | 12 mm         | A-5786.34 / 1 |
| 36 mm  | 2.1 mm      | 1            | 7 mm          | A-5785.36 / 1 | 13 mm         | A-5786.36 / 1 |
| 38 mm  | 2.1 mm      | 1            | 8 mm          | A-5785.38 / 1 | 14 mm         | A-5786.38 / 1 |
| 40 mm  | 2.1 mm      | 1            | 8 mm          | A-5785.40 / 1 | 15 mm         | A-5786.40 / 1 |

## CCS 3.0, Self-Drilling, HexaDrive 10

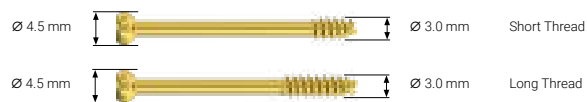
Material: Titanium alloy (ASTM F136)



| Length | Head Height | Pieces / Pkg | Short Thread  |               | Long Thread   |               |
|--------|-------------|--------------|---------------|---------------|---------------|---------------|
|        |             |              | Thread Length | Art. No.      | Thread Length | Art. No.      |
| 10 mm  | 4.5 mm      | 1            | 3.5 mm        | A-5880.10 / 1 |               |               |
| 11 mm  | 4.5 mm      | 1            | 4.5 mm        | A-5880.11 / 1 |               |               |
| 12 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.12 / 1 |               |               |
| 13 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.13 / 1 |               |               |
| 14 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.14 / 1 |               |               |
| 15 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.15 / 1 |               |               |
| 16 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.16 / 1 |               |               |
| 17 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.17 / 1 |               |               |
| 18 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.18 / 1 |               |               |
| 19 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.19 / 1 |               |               |
| 20 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.20 / 1 |               |               |
| 21 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.21 / 1 |               |               |
| 22 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.22 / 1 |               |               |
| 23 mm  | 4.5 mm      | 1            | 5 mm          | A-5880.23 / 1 |               |               |
| 24 mm  | 4.5 mm      | 1            | 6 mm          | A-5880.24 / 1 |               |               |
| 25 mm  | 4.5 mm      | 1            | 6 mm          | A-5880.25 / 1 |               |               |
| 26 mm  | 4.5 mm      | 1            | 6 mm          | A-5880.26 / 1 | 8 mm          | A-5881.26 / 1 |
| 27 mm  | 4.5 mm      | 1            | 6 mm          | A-5880.27 / 1 |               |               |
| 28 mm  | 4.5 mm      | 1            | 6 mm          | A-5880.28 / 1 | 9 mm          | A-5881.28 / 1 |
| 29 mm  | 4.5 mm      | 1            | 6 mm          | A-5880.29 / 1 |               |               |
| 30 mm  | 4.5 mm      | 1            | 6 mm          | A-5880.30 / 1 | 10 mm         | A-5881.30 / 1 |
| 32 mm  | 4.5 mm      | 1            | 6 mm          | A-5880.32 / 1 | 11 mm         | A-5881.32 / 1 |
| 34 mm  | 4.5 mm      | 1            | 7 mm          | A-5880.34 / 1 | 12 mm         | A-5881.34 / 1 |
| 36 mm  | 4.5 mm      | 1            | 7 mm          | A-5880.36 / 1 | 13 mm         | A-5881.36 / 1 |
| 38 mm  | 4.5 mm      | 1            | 8 mm          | A-5880.38 / 1 | 14 mm         | A-5881.38 / 1 |
| 40 mm  | 4.5 mm      | 1            | 8 mm          | A-5880.40 / 1 | 15 mm         | A-5881.40 / 1 |

## headedCCS 3.0, Self-Drilling, HexaDrive 10

Material: Titanium alloy (ASTM F136)



| Length | Head Height | Pieces / Pkg | Short Thread  |               | Long Thread   |               |
|--------|-------------|--------------|---------------|---------------|---------------|---------------|
|        |             |              | Thread Length | Art. No.      | Thread Length | Art. No.      |
| 10 mm  | 2.7 mm      | 1            | 4 mm          | A-5885.10 / 1 |               |               |
| 11 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.11 / 1 |               |               |
| 12 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.12 / 1 |               |               |
| 13 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.13 / 1 |               |               |
| 14 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.14 / 1 |               |               |
| 15 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.15 / 1 |               |               |
| 16 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.16 / 1 |               |               |
| 17 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.17 / 1 |               |               |
| 18 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.18 / 1 |               |               |
| 19 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.19 / 1 |               |               |
| 20 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.20 / 1 | 8 mm          | A-5886.20 / 1 |
| 21 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.21 / 1 | 8 mm          | A-5886.21 / 1 |

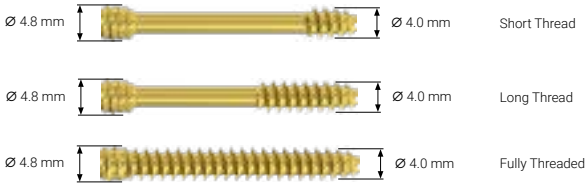
Scale: 1:1

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| Length | Head Height | Pieces / Pkg | Short Thread  |               | Long Thread   |               |
|--------|-------------|--------------|---------------|---------------|---------------|---------------|
|        |             |              | Thread Length | Art. No.      | Thread Length | Art. No.      |
| 22 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.22 / 1 | 8 mm          | A-5886.22 / 1 |
| 23 mm  | 2.7 mm      | 1            | 5 mm          | A-5885.23 / 1 | 8 mm          | A-5886.23 / 1 |
| 24 mm  | 2.7 mm      | 1            | 6 mm          | A-5885.24 / 1 | 8 mm          | A-5886.24 / 1 |
| 25 mm  | 2.7 mm      | 1            | 6 mm          | A-5885.25 / 1 | 8 mm          | A-5886.25 / 1 |
| 26 mm  | 2.7 mm      | 1            | 6 mm          | A-5885.26 / 1 | 8 mm          | A-5886.26 / 1 |
| 27 mm  | 2.7 mm      | 1            | 6 mm          | A-5885.27 / 1 | 9 mm          | A-5886.27 / 1 |
| 28 mm  | 2.7 mm      | 1            | 6 mm          | A-5885.28 / 1 | 9 mm          | A-5886.28 / 1 |
| 29 mm  | 2.7 mm      | 1            | 6 mm          | A-5885.29 / 1 | 10 mm         | A-5886.29 / 1 |
| 30 mm  | 2.7 mm      | 1            | 6 mm          | A-5885.30 / 1 | 10 mm         | A-5886.30 / 1 |
| 32 mm  | 2.7 mm      | 1            | 6 mm          | A-5885.32 / 1 | 11 mm         | A-5886.32 / 1 |
| 34 mm  | 2.7 mm      | 1            | 7 mm          | A-5885.34 / 1 | 12 mm         | A-5886.34 / 1 |
| 36 mm  | 2.7 mm      | 1            | 7 mm          | A-5885.36 / 1 | 13 mm         | A-5886.36 / 1 |
| 38 mm  | 2.7 mm      | 1            | 8 mm          | A-5885.38 / 1 | 14 mm         | A-5886.38 / 1 |
| 40 mm  | 2.7 mm      | 1            | 8 mm          | A-5885.40 / 1 | 15 mm         | A-5886.40 / 1 |

CCS 4.0, Self-Drilling, HexaDrive 12

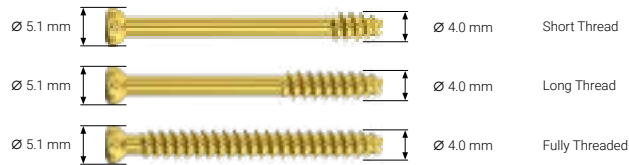
Material: Titanium alloy (ASTM F136)



| Length | Head Height | Pieces / Pkg | Short Thread  |               | Long Thread   |               | Fully Threaded |
|--------|-------------|--------------|---------------|---------------|---------------|---------------|----------------|
|        |             |              | Thread Length | Art. No.      | Thread Length | Art. No.      | Art. No.       |
| 16 mm  | 4.5 mm      | 1            | 4 mm          | A-8110.16 / 1 |               |               | A-8112.16 / 1  |
| 18 mm  | 4.5 mm      | 1            | 4 mm          | A-8110.18 / 1 |               |               | A-8112.18 / 1  |
| 20 mm  | 4.5 mm      | 1            | 4 mm          | A-8110.20 / 1 | 8 mm          | A-8111.20 / 1 | A-8112.20 / 1  |
| 22 mm  | 4.5 mm      | 1            | 5 mm          | A-8110.22 / 1 | 9 mm          | A-8111.22 / 1 | A-8112.22 / 1  |
| 24 mm  | 4.5 mm      | 1            | 5 mm          | A-8110.24 / 1 | 10 mm         | A-8111.24 / 1 | A-8112.24 / 1  |
| 26 mm  | 4.5 mm      | 1            | 5 mm          | A-8110.26 / 1 | 11 mm         | A-8111.26 / 1 | A-8112.26 / 1  |
| 28 mm  | 4.5 mm      | 1            | 6 mm          | A-8110.28 / 1 | 11 mm         | A-8111.28 / 1 | A-8112.28 / 1  |
| 30 mm  | 4.5 mm      | 1            | 6 mm          | A-8110.30 / 1 | 12 mm         | A-8111.30 / 1 | A-8112.30 / 1  |
| 32 mm  | 4.5 mm      | 1            | 7 mm          | A-8110.32 / 1 | 13 mm         | A-8111.32 / 1 | A-8112.32 / 1  |
| 34 mm  | 4.5 mm      | 1            | 7 mm          | A-8110.34 / 1 | 14 mm         | A-8111.34 / 1 | A-8112.34 / 1  |
| 36 mm  | 4.5 mm      | 1            | 8 mm          | A-8110.36 / 1 | 14 mm         | A-8111.36 / 1 | A-8112.36 / 1  |
| 38 mm  | 4.5 mm      | 1            | 8 mm          | A-8110.38 / 1 | 15 mm         | A-8111.38 / 1 | A-8112.38 / 1  |
| 40 mm  | 4.5 mm      | 1            | 8 mm          | A-8110.40 / 1 | 16 mm         | A-8111.40 / 1 | A-8112.40 / 1  |
| 42 mm  | 4.5 mm      | 1            | 9 mm          | A-8110.42 / 1 | 17 mm         | A-8111.42 / 1 | A-8112.42 / 1  |
| 44 mm  | 4.5 mm      | 1            | 9 mm          | A-8110.44 / 1 | 18 mm         | A-8111.44 / 1 | A-8112.44 / 1  |
| 46 mm  | 4.5 mm      | 1            | 9 mm          | A-8110.46 / 1 | 19 mm         | A-8111.46 / 1 | A-8112.46 / 1  |
| 48 mm  | 4.5 mm      | 1            | 10 mm         | A-8110.48 / 1 | 19 mm         | A-8111.48 / 1 | A-8112.48 / 1  |
| 50 mm  | 4.5 mm      | 1            | 10 mm         | A-8110.50 / 1 | 20 mm         | A-8111.50 / 1 | A-8112.50 / 1  |
| 55 mm  | 4.5 mm      | 1            | 11 mm         | A-8110.55 / 1 | 22 mm         | A-8111.55 / 1 | A-8112.55 / 1  |
| 60 mm  | 4.5 mm      | 1            | 12 mm         | A-8110.60 / 1 | 24 mm         | A-8111.60 / 1 | A-8112.60 / 1  |

## headedCCS 4.0, Self-Drilling, HexaDrive 12

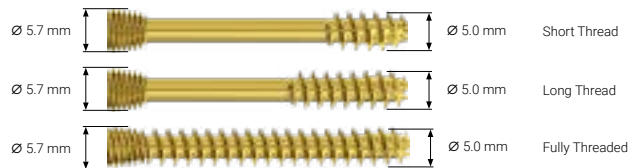
Material: Titanium alloy (ASTM F136)



| Length | Head Height | Pieces / Pkg | Short Thread  |               | Long Thread   |               | Fully Threaded |
|--------|-------------|--------------|---------------|---------------|---------------|---------------|----------------|
|        |             |              | Thread Length | Art. No.      | Thread Length | Art. No.      | Art. No.       |
| 16 mm  | 2.8 mm      | 1            | 4 mm          | A-8115.16 / 1 |               |               | A-8117.16 / 1  |
| 18 mm  | 2.8 mm      | 1            | 4 mm          | A-8115.18 / 1 |               |               | A-8117.18 / 1  |
| 20 mm  | 2.8 mm      | 1            | 4 mm          | A-8115.20 / 1 | 8 mm          | A-8116.20 / 1 | A-8117.20 / 1  |
| 22 mm  | 2.8 mm      | 1            | 5 mm          | A-8115.22 / 1 | 9 mm          | A-8116.22 / 1 | A-8117.22 / 1  |
| 24 mm  | 2.8 mm      | 1            | 5 mm          | A-8115.24 / 1 | 10 mm         | A-8116.24 / 1 | A-8117.24 / 1  |
| 26 mm  | 2.8 mm      | 1            | 5 mm          | A-8115.26 / 1 | 11 mm         | A-8116.26 / 1 | A-8117.26 / 1  |
| 28 mm  | 2.8 mm      | 1            | 6 mm          | A-8115.28 / 1 | 11 mm         | A-8116.28 / 1 | A-8117.28 / 1  |
| 30 mm  | 2.8 mm      | 1            | 6 mm          | A-8115.30 / 1 | 12 mm         | A-8116.30 / 1 | A-8117.30 / 1  |
| 32 mm  | 2.8 mm      | 1            | 7 mm          | A-8115.32 / 1 | 13 mm         | A-8116.32 / 1 | A-8117.32 / 1  |
| 34 mm  | 2.8 mm      | 1            | 7 mm          | A-8115.34 / 1 | 14 mm         | A-8116.34 / 1 | A-8117.34 / 1  |
| 36 mm  | 2.8 mm      | 1            | 7 mm          | A-8115.36 / 1 | 14 mm         | A-8116.36 / 1 | A-8117.36 / 1  |
| 38 mm  | 2.8 mm      | 1            | 8 mm          | A-8115.38 / 1 | 15 mm         | A-8116.38 / 1 | A-8117.38 / 1  |
| 40 mm  | 2.8 mm      | 1            | 8 mm          | A-8115.40 / 1 | 16 mm         | A-8116.40 / 1 | A-8117.40 / 1  |
| 42 mm  | 2.8 mm      | 1            | 9 mm          | A-8115.42 / 1 | 17 mm         | A-8116.42 / 1 | A-8117.42 / 1  |
| 44 mm  | 2.8 mm      | 1            | 9 mm          | A-8115.44 / 1 | 18 mm         | A-8116.44 / 1 | A-8117.44 / 1  |
| 46 mm  | 2.8 mm      | 1            | 9 mm          | A-8115.46 / 1 | 19 mm         | A-8116.46 / 1 | A-8117.46 / 1  |
| 48 mm  | 2.8 mm      | 1            | 10 mm         | A-8115.48 / 1 | 19 mm         | A-8116.48 / 1 | A-8117.48 / 1  |
| 50 mm  | 2.8 mm      | 1            | 10 mm         | A-8115.50 / 1 | 20 mm         | A-8116.50 / 1 | A-8117.50 / 1  |
| 55 mm  | 2.8 mm      | 1            | 11 mm         | A-8115.55 / 1 | 22 mm         | A-8116.55 / 1 | A-8117.55 / 1  |
| 60 mm  | 2.8 mm      | 1            | 12 mm         | A-8115.60 / 1 | 24 mm         | A-8116.60 / 1 | A-8117.60 / 1  |

## CCS 5.0, Self-Drilling, HexaDrive 15

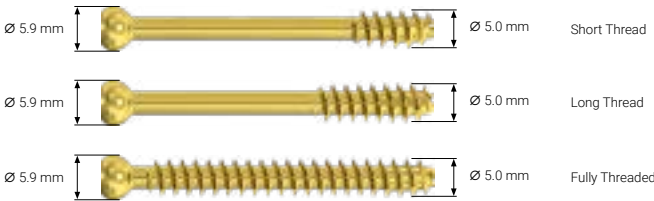
Material: Titanium alloy (ASTM F136)



| Length | Head Height | Pieces / Pkg | Short Thread  |               | Long Thread   |               | Fully Threaded |
|--------|-------------|--------------|---------------|---------------|---------------|---------------|----------------|
|        |             |              | Thread Length | Art. No.      | Thread Length | Art. No.      | Art. No.       |
| 24 mm  | 5.2 mm      | 1            | 9 mm          | A-8210.24 / 1 |               |               | A-8212.24 / 1  |
| 26 mm  | 5.2 mm      | 1            | 9 mm          | A-8210.26 / 1 |               |               | A-8212.26 / 1  |
| 28 mm  | 5.2 mm      | 1            | 9 mm          | A-8210.28 / 1 |               |               | A-8212.28 / 1  |
| 30 mm  | 5.2 mm      | 1            | 9 mm          | A-8210.30 / 1 | 12 mm         | A-8211.30 / 1 | A-8212.30 / 1  |
| 32 mm  | 5.2 mm      | 1            | 9 mm          | A-8210.32 / 1 | 13 mm         | A-8211.32 / 1 | A-8212.32 / 1  |
| 34 mm  | 5.2 mm      | 1            | 9 mm          | A-8210.34 / 1 | 14 mm         | A-8211.34 / 1 | A-8212.34 / 1  |
| 36 mm  | 5.2 mm      | 1            | 10 mm         | A-8210.36 / 1 | 14 mm         | A-8211.36 / 1 | A-8212.36 / 1  |
| 38 mm  | 5.2 mm      | 1            | 10 mm         | A-8210.38 / 1 | 15 mm         | A-8211.38 / 1 | A-8212.38 / 1  |
| 40 mm  | 5.2 mm      | 1            | 11 mm         | A-8210.40 / 1 | 16 mm         | A-8211.40 / 1 | A-8212.40 / 1  |
| 45 mm  | 5.2 mm      | 1            | 11 mm         | A-8210.45 / 1 | 18 mm         | A-8211.45 / 1 | A-8212.45 / 1  |
| 50 mm  | 5.2 mm      | 1            | 12 mm         | A-8210.50 / 1 | 20 mm         | A-8211.50 / 1 | A-8212.50 / 1  |
| 55 mm  | 5.2 mm      | 1            | 12 mm         | A-8210.55 / 1 | 22 mm         | A-8211.55 / 1 | A-8212.55 / 1  |
| 60 mm  | 5.2 mm      | 1            | 13 mm         | A-8210.60 / 1 | 24 mm         | A-8211.60 / 1 | A-8212.60 / 1  |
| 65 mm  | 5.2 mm      | 1            | 13 mm         | A-8210.65 / 1 | 26 mm         | A-8211.65 / 1 | A-8212.65 / 1  |
| 70 mm  | 5.2 mm      | 1            | 14 mm         | A-8210.70 / 1 | 28 mm         | A-8211.70 / 1 | A-8212.70 / 1  |

## headedCCS 5.0, Self-Drilling, HexaDrive 15

Material: Titanium alloy (ASTM F136)



| Length | Head Height | Pieces / Pkg | Short Thread  |               | Long Thread   |               | Fully Threaded |
|--------|-------------|--------------|---------------|---------------|---------------|---------------|----------------|
|        |             |              | Thread Length | Art. No.      | Thread Length | Art. No.      | Art. No.       |
| 24 mm  | 4.2 mm      | 1            | 9 mm          | A-8215.24 / 1 |               |               | A-8217.24 / 1  |
| 26 mm  | 4.2 mm      | 1            | 9 mm          | A-8215.26 / 1 |               |               | A-8217.26 / 1  |
| 28 mm  | 4.2 mm      | 1            | 9 mm          | A-8215.28 / 1 |               |               | A-8217.28 / 1  |
| 30 mm  | 4.2 mm      | 1            | 9 mm          | A-8215.30 / 1 | 12 mm         | A-8216.30 / 1 | A-8217.30 / 1  |
| 32 mm  | 4.2 mm      | 1            | 9 mm          | A-8215.32 / 1 | 13 mm         | A-8216.32 / 1 | A-8217.32 / 1  |
| 34 mm  | 4.2 mm      | 1            | 9 mm          | A-8215.34 / 1 | 14 mm         | A-8216.34 / 1 | A-8217.34 / 1  |
| 36 mm  | 4.2 mm      | 1            | 10 mm         | A-8215.36 / 1 | 14 mm         | A-8216.36 / 1 | A-8217.36 / 1  |
| 38 mm  | 4.2 mm      | 1            | 10 mm         | A-8215.38 / 1 | 15 mm         | A-8216.38 / 1 | A-8217.38 / 1  |
| 40 mm  | 4.2 mm      | 1            | 11 mm         | A-8215.40 / 1 | 16 mm         | A-8216.40 / 1 | A-8217.40 / 1  |
| 45 mm  | 4.2 mm      | 1            | 11 mm         | A-8215.45 / 1 | 18 mm         | A-8216.45 / 1 | A-8217.45 / 1  |
| 50 mm  | 4.2 mm      | 1            | 12 mm         | A-8215.50 / 1 | 20 mm         | A-8216.50 / 1 | A-8217.50 / 1  |
| 55 mm  | 4.2 mm      | 1            | 12 mm         | A-8215.55 / 1 | 22 mm         | A-8216.55 / 1 | A-8217.55 / 1  |
| 60 mm  | 4.2 mm      | 1            | 13 mm         | A-8215.60 / 1 | 24 mm         | A-8216.60 / 1 | A-8217.60 / 1  |
| 65 mm  | 4.2 mm      | 1            | 13 mm         | A-8215.65 / 1 | 26 mm         | A-8216.65 / 1 | A-8217.65 / 1  |
| 70 mm  | 4.2 mm      | 1            | 14 mm         | A-8215.70 / 1 | 28 mm         | A-8216.70 / 1 | A-8217.70 / 1  |

## CCS 7.0, Self-Drilling, HexaDrive 25

Material: Titanium alloy (ASTM F136)



| Length | Head Height | Pieces / Pkg | Short Thread  |               | Long Thread   |               | Fully Threaded |
|--------|-------------|--------------|---------------|---------------|---------------|---------------|----------------|
|        |             |              | Thread Length | Art. No.      | Thread Length | Art. No.      | Art. No.       |
| 30 mm  | 7.2 mm      | 1            | 12 mm         |               |               |               |                |
| 35 mm  | 7.2 mm      | 1            | 12 mm         |               | 14 mm         |               |                |
| 40 mm  | 7.2 mm      | 1            | 12 mm         | A-8410.40 / 1 | 16 mm         | A-8411.40 / 1 | A-8412.40 / 1  |
| 45 mm  | 7.2 mm      | 1            | 12 mm         | A-8410.45 / 1 | 18 mm         | A-8411.45 / 1 | A-8412.45 / 1  |
| 50 mm  | 7.2 mm      | 1            | 13 mm         | A-8410.50 / 1 | 20 mm         | A-8411.50 / 1 | A-8412.50 / 1  |
| 55 mm  | 7.2 mm      | 1            | 13 mm         | A-8410.55 / 1 | 22 mm         | A-8411.55 / 1 | A-8412.55 / 1  |
| 60 mm  | 7.2 mm      | 1            | 14 mm         | A-8410.60 / 1 | 24 mm         | A-8411.60 / 1 | A-8412.60 / 1  |
| 65 mm  | 7.2 mm      | 1            | 14 mm         | A-8410.65 / 1 | 26 mm         | A-8411.65 / 1 | A-8412.65 / 1  |
| 70 mm  | 7.2 mm      | 1            | 15 mm         | A-8410.70 / 1 | 28 mm         | A-8411.70 / 1 | A-8412.70 / 1  |
| 75 mm  | 7.2 mm      | 1            | 15 mm         | A-8410.75 / 1 | 30 mm         | A-8411.75 / 1 | A-8412.75 / 1  |
| 80 mm  | 7.2 mm      | 1            | 16 mm         | A-8410.80 / 1 | 32 mm         | A-8411.80 / 1 | A-8412.80 / 1  |

| Length | Head Height | Pieces / Pkg | Short Thread  |                | Long Thread   |                | Fully Threaded |
|--------|-------------|--------------|---------------|----------------|---------------|----------------|----------------|
|        |             |              | Thread Length | Art. No.       | Thread Length | Art. No.       | Art. No.       |
| 85 mm  | 7.2 mm      | 1            | 17 mm         | A-8410.85 / 1  | 34 mm         | A-8411.85 / 1  | A-8412.85 / 1  |
| 90 mm  | 7.2 mm      | 1            | 18 mm         | A-8410.90 / 1  | 36 mm         | A-8411.90 / 1  | A-8412.90 / 1  |
| 95 mm  | 7.2 mm      | 1            | 19 mm         | A-8410.95 / 1  | 38 mm         | A-8411.95 / 1  | A-8412.95 / 1  |
| 100 mm | 7.2 mm      | 1            | 20 mm         | A-8410.100 / 1 | 40 mm         | A-8411.100 / 1 | A-8412.100 / 1 |
| 105 mm | 7.2 mm      | 1            | 21 mm         | A-8410.105 / 1 | 42 mm         | A-8411.105 / 1 | A-8412.105 / 1 |
| 110 mm | 7.2 mm      | 1            | 22 mm         | A-8410.110 / 1 | 44 mm         | A-8411.110 / 1 | A-8412.110 / 1 |
| 120 mm | 7.2 mm      | 1            | 24 mm         | A-8410.120 / 1 | 48 mm         | A-8411.120 / 1 | A-8412.120 / 1 |
| 130 mm | 7.2 mm      | 1            | 26 mm         | A-8410.130 / 1 | 52 mm         | A-8411.130 / 1 | A-8412.130 / 1 |
| 140 mm | 7.2 mm      | 1            | 28 mm         | A-8410.140 / 1 | 56 mm         | A-8411.140 / 1 | A-8412.140 / 1 |

## headedCCS 7.0, Self-Drilling, HexaDrive 25

Material: Titanium alloy (ASTM F136)



| Length | Head Height | Pieces / Pkg | Short Thread  |                | Long Thread   |                | Fully Threaded |
|--------|-------------|--------------|---------------|----------------|---------------|----------------|----------------|
|        |             |              | Thread Length | Art. No.       | Thread Length | Art. No.       | Art. No.       |
| 30 mm  | 4.7 mm      | 1            | 12 mm         | A-8415.30 / 1  |               |                | A-8417.30 / 1  |
| 35 mm  | 4.7 mm      | 1            | 12 mm         | A-8415.35 / 1  | 14 mm         | A-8416.35 / 1  | A-8417.35 / 1  |
| 40 mm  | 4.7 mm      | 1            | 12 mm         | A-8415.40 / 1  | 16 mm         | A-8416.40 / 1  | A-8417.40 / 1  |
| 45 mm  | 4.7 mm      | 1            | 12 mm         | A-8415.45 / 1  | 18 mm         | A-8416.45 / 1  | A-8417.45 / 1  |
| 50 mm  | 4.7 mm      | 1            | 13 mm         | A-8415.50 / 1  | 20 mm         | A-8416.50 / 1  | A-8417.50 / 1  |
| 55 mm  | 4.7 mm      | 1            | 13 mm         | A-8415.55 / 1  | 22 mm         | A-8416.55 / 1  | A-8417.55 / 1  |
| 60 mm  | 4.7 mm      | 1            | 14 mm         | A-8415.60 / 1  | 24 mm         | A-8416.60 / 1  | A-8417.60 / 1  |
| 65 mm  | 4.7 mm      | 1            | 14 mm         | A-8415.65 / 1  | 26 mm         | A-8416.65 / 1  | A-8417.65 / 1  |
| 70 mm  | 4.7 mm      | 1            | 15 mm         | A-8415.70 / 1  | 28 mm         | A-8416.70 / 1  | A-8417.70 / 1  |
| 75 mm  | 4.7 mm      | 1            | 15 mm         | A-8415.75 / 1  | 30 mm         | A-8416.75 / 1  | A-8417.75 / 1  |
| 80 mm  | 4.7 mm      | 1            | 16 mm         | A-8415.80 / 1  | 32 mm         | A-8416.80 / 1  | A-8417.80 / 1  |
| 85 mm  | 4.7 mm      | 1            | 17 mm         | A-8415.85 / 1  | 34 mm         | A-8416.85 / 1  | A-8417.85 / 1  |
| 90 mm  | 4.7 mm      | 1            | 18 mm         | A-8415.90 / 1  | 36 mm         | A-8416.90 / 1  | A-8417.90 / 1  |
| 95 mm  | 4.7 mm      | 1            | 19 mm         | A-8415.95 / 1  | 38 mm         | A-8416.95 / 1  | A-8417.95 / 1  |
| 100 mm | 4.7 mm      | 1            | 20 mm         | A-8415.100 / 1 | 40 mm         | A-8416.100 / 1 | A-8417.100 / 1 |
| 105 mm | 4.7 mm      | 1            | 21 mm         | A-8415.105 / 1 | 42 mm         | A-8416.105 / 1 | A-8417.105 / 1 |
| 110 mm | 4.7 mm      | 1            | 22 mm         | A-8415.110 / 1 | 44 mm         | A-8416.110 / 1 | A-8417.110 / 1 |
| 120 mm | 4.7 mm      | 1            | 24 mm         | A-8415.120 / 1 | 48 mm         | A-8416.120 / 1 | A-8417.120 / 1 |
| 130 mm | 4.7 mm      | 1            | 26 mm         | A-8415.130 / 1 | 52 mm         | A-8416.130 / 1 | A-8417.130 / 1 |
| 140 mm | 4.7 mm      | 1            | 28 mm         | A-8415.140 / 1 | 56 mm         | A-8416.140 / 1 | A-8417.140 / 1 |

## Washers

Material: Titanium alloy (ASTM F136)



| Art. No.      | System Size | Ø       | Description    | Pieces / Pkg |
|---------------|-------------|---------|----------------|--------------|
| A-4700.71 / 1 | 2.2         | 5.0 mm  | for headed CCS | 1            |
| A-4800.70 / 1 | 3.0         | 6.5 mm  | for headed CCS | 1            |
| A-8140.70 / 1 | 4.0         | 7.5 mm  | for headed CCS | 1            |
| A-8240.70 / 1 | 5.0         | 9.0 mm  | for headed CCS | 1            |
| A-8440.70 / 1 | 7.0         | 13.0 mm | for headed CCS | 1            |

## Twist Drills, Cannulated



A-3236



A-3736



A-3738



A-3836



A-3838



A-8004.01



A-8000.03



A-8001.01

| Art. No.  | System Size | Ø      | Length | Description                                | Shaft End               | Pieces / Pkg |
|-----------|-------------|--------|--------|--|-------------------------|--------------|
| A-3236    | 1.7         | 1.3 mm | 67 mm  | for K-wire Ø 0.6 mm                        | AO Quick Coupling       | 1            |
| A-3736    | 2.2         | 1.8 mm | 87 mm  | for K-wire Ø 0.8 mm                        | AO Quick Coupling       | 1            |
| A-3738    | 2.2         | 1.8 mm | 122 mm | for K-wire Ø 0.8 mm, for drill stop A-2038 | AO Quick Coupling       | 1            |
| A-3836    | 3.0         | 2.1 mm | 87 mm  | for K-wire Ø 1.1 mm                        | AO Quick Coupling       | 1            |
| A-3838    | 3.0         | 2.1 mm | 122 mm | for K-wire Ø 1.1 mm, for drill stop A-2038 | AO Quick Coupling       | 1            |
| A-8000.03 | 5.0         | 3.1 mm | 177 mm | for K-wire Ø 1.6 mm                        | AO Quick Coupling       | 1            |
| A-8001.01 | 7.0         | 4.8 mm | 265 mm | for K-wire Ø 2.2 mm                        | AO Large Quick Coupling | 1            |
| A-8004.01 | 4.0         | 2.7 mm | 160 mm | for K-wire Ø 1.25 mm                       | AO Quick Coupling       | 1            |

Drill Stop



| Art. No. | System Size | Length | Description                                   | Pieces / Pkg |
|----------|-------------|--------|---|--------------|
| A-2038   | 2.2 / 3.0   | 35 mm  | for cannulated twist drills A-3738 and A-3838 | 1            |

Countersinks, Cannulated



A-3932



A-3937



A-3935



A-3938



A-3936



A-8004.02



A-8004.03



A-8000.04



A-8000.05



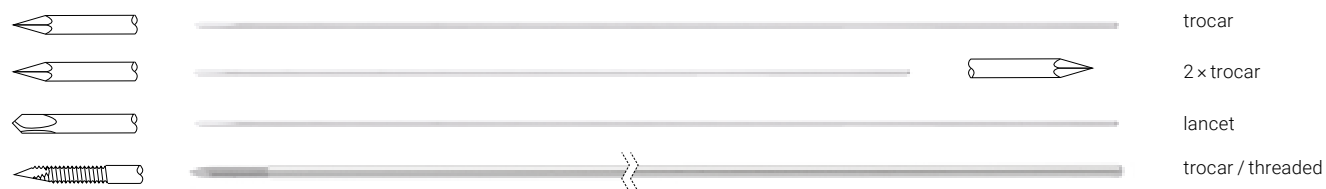
A-8001.02



A-8001.03

| Art. No.  | System Size | Length | Description        | Shaft End               | Pieces / Pkg |
|-----------|-------------|--------|--------------------|-------------------------|--------------|
| A-3932    | 1.7         | 50 mm  | for CCS only       | AO Quick Coupling       | 1            |
| A-3935    | 2.2         | 68 mm  | for headedCCS only | AO Quick Coupling       | 1            |
| A-3936    | 3.0         | 68 mm  | for headedCCS only | AO Quick Coupling       | 1            |
| A-3937    | 2.2         | 68 mm  | for CCS only       | AO Quick Coupling       | 1            |
| A-3938    | 3.0         | 68 mm  | for CCS only       | AO Quick Coupling       | 1            |
| A-8000.04 | 5.0         | 117 mm | for CCS only       | AO Quick Coupling       | 1            |
| A-8000.05 | 5.0         | 117 mm | for headedCCS only | AO Quick Coupling       | 1            |
| A-8001.02 | 7.0         | 135 mm | for CCS only       | AO Large Quick Coupling | 1            |
| A-8001.03 | 7.0         | 135 mm | for headedCCS only | AO Large Quick Coupling | 1            |
| A-8004.02 | 4.0         | 117 mm | for CCS only       | AO Quick Coupling       | 1            |
| A-8004.03 | 4.0         | 117 mm | for headedCCS only | AO Quick Coupling       | 1            |

## K-Wires, Stainless Steel



| Art. No.      | System Size | Ø       | Description       | Length | Thread Length | Pieces / Pkg |
|---------------|-------------|---------|-------------------|--------|---------------|--------------|
| A-5040.00     | 2.2         | 0.8 mm  | trocar            | 100 mm |               | 10           |
| A-5040.10     | 3.0         | 1.1 mm  | trocar            | 100 mm |               | 10           |
| A-5040.30     | 4.0         | 1.25 mm | trocar            | 200 mm |               | 10           |
| A-5040.30 / 1 | 4.0         | 1.25 mm | trocar            | 200 mm |               | 1            |
| A-5040.42     | 5.0         | 1.6 mm  | trocar            | 200 mm |               | 10           |
| A-5040.74     | 7.0         | 2.2 mm  | trocar            | 250 mm |               | 10           |
| A-5040.90     | 1.7         | 0.6 mm  | trocar            | 100 mm |               | 10           |
| A-5040.90 / 1 | 1.7         | 0.6 mm  | trocar            | 100 mm |               | 1            |
| A-5042.00     | 2.2         | 0.8 mm  | lancet            | 100 mm |               | 10           |
| A-5042.10     | 3.0         | 1.1 mm  | lancet            | 100 mm |               | 10           |
| A-5043.00     | 2.2         | 0.8 mm  | 2 × trocar        | 100 mm |               | 10           |
| A-5043.10     | 3.0         | 1.1 mm  | 2 × trocar        | 100 mm |               | 10           |
| A-5043.90     | 1.7         | 0.6 mm  | 2 × trocar        | 100 mm |               | 10           |
| A-5043.90 / 1 | 1.7         | 0.6 mm  | 2 × trocar        | 100 mm |               | 1            |
| A-5044.30     | 4.0         | 1.25 mm | trocar / threaded | 200 mm | 10 mm         | 10           |
| A-5044.30 / 1 | 4.0         | 1.25 mm | trocar / threaded | 200 mm | 10 mm         | 1            |
| A-5044.42     | 5.0         | 1.6 mm  | trocar / threaded | 200 mm | 10 mm         | 10           |
| A-5044.74     | 7.0         | 2.2 mm  | trocar / threaded | 250 mm | 10 mm         | 10           |

## Click-on Parallel K-Wire Guide



| Art. No. | System Size | Description                        | Length | Pieces / Pkg |
|----------|-------------|------------------------------------|--------|--------------|
| A-2027   | 2.2 / 3.0   | for drill guides A-2725 and A-2825 | 20 mm  | 1            |

## Soft Tissue Protection



A-2225



A-2725



A-2824



A-2825



A-2007



A-2039



A-8004.23



A-8000.23



A-8001.23



A-8004.25



A-8000.25



A-8001.25



A-8004.24



A-8000.24



A-8001.24

| Art. No.  | System Size | CCS / headedCCS | Description                                | Pieces / Pkg |
|-----------|-------------|-----------------|--|--------------|
| A-2007    | 2.2 / 3.0   | CCS / headedCCS | K-wire guide, percutaneous                 | 1            |
| A-2225    | 1.7         | CCS             | K-wire guide / protection sleeve           | 1            |
| A-2039    | 2.2 / 3.0   | CCS             | protection sleeve                          | 1            |
| A-2725    | 2.2         | CCS             | drill guide                                | 1            |
| A-2824    | 2.2 / 3.0   | CCS / headedCCS | K-wire guide / protection sleeve           | 1            |
| A-2825    | 3.0         | CCS             | drill guide                                | 1            |
| A-8000.23 | 5.0         | CCS / headedCCS | protection sleeve, AO Quick Coupling       | 1            |
| A-8000.24 | 5.0         | CCS / headedCCS | trocars for A-8000.23                      | 1            |
| A-8000.25 | 5.0         | CCS / headedCCS | K-wire guide for A-8000.23                 | 1            |
| A-8001.23 | 7.0         | CCS / headedCCS | protection sleeve, AO Large Quick Coupling | 1            |
| A-8001.24 | 7.0         | CCS / headedCCS | trocars for A-8001.23                      | 1            |
| A-8001.25 | 7.0         | CCS / headedCCS | K-wire guide for A-8001.23                 | 1            |
| A-8004.23 | 4.0         | CCS / headedCCS | protection sleeve, AO                      | 1            |
| A-8004.24 | 4.0         | CCS / headedCCS | trocars for A-8004.23                      | 1            |
| A-8004.25 | 4.0         | CCS / headedCCS | K-wire guide for A-8004.23                 | 1            |

Depth Gauges



| Art. No.  | System Size | Description   | Length | Pieces / Pkg |
|-----------|-------------|---|--------|--------------|
| A-2235    | 1.7         | for K-wire with Ø 0.6 mm and length 100 mm          | 110 mm | 1            |
| A-2835    | 2.2 / 3.0   | for K-wire with Ø 0.8 mm / 1.1 mm and length 100 mm | 110 mm | 1            |
| A-8000.27 | 5.0         | for K-wire with Ø 1.6 mm and length 200 mm          | 193 mm | 1            |
| A-8001.27 | 7.0         | for K-wire with Ø 2.2 mm and length 250 mm          | 223 mm | 1            |
| A-8004.27 | 4.0         | for K-wire with Ø 1.25 mm and length 200 mm         | 192 mm | 1            |

Handles, Cannulated



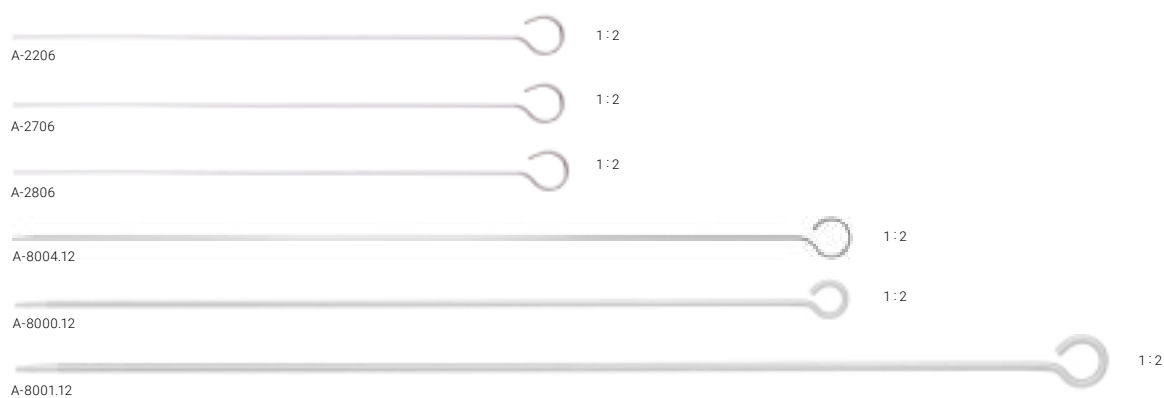
| Art. No.  | System Size     | Description    | Length | for Shaft End           | Pieces / Pkg |
|-----------|-----------------|----------------|--------|-------------------------|--------------|
| A-2073    | 1.7 / 2.2 / 3.0 | with twist cap | 125 mm | AO Quick Coupling       | 1            |
| A-2077    | 4.0             |                | 129 mm | AO Quick Coupling       | 1            |
| A-8000.20 | 5.0             |                | 151 mm | AO Quick Coupling       | 1            |
| A-8001.10 | 7.0             |                | 171 mm | AO Large Quick Coupling | 1            |

## Screwdriver Blades, Cannulated, Self-Holding



| Art. No.  | System Size | Interface | Description                            | Length | Shaft End               | Pieces / Pkg |
|-----------|-------------|-----------|--|--------|-------------------------|--------------|
| A-2216    | 1.7         | HD4       | for K-wire Ø 0.6 mm and length 100 mm  | 60 mm  | AO Quick Coupling       | 1            |
| A-2716    | 2.2         | HD7       | for K-wire Ø 0.8 mm and length 100 mm  | 75 mm  | AO Quick Coupling       | 1            |
| A-2816    | 3.0         | HD10      | for K-wire Ø 1.1 mm and length 100 mm  | 75 mm  | AO Quick Coupling       | 1            |
| A-8000.21 | 5.0         | HD15      | for K-wire Ø 1.6 mm and length 200 mm  | 120 mm | AO Quick Coupling       | 1            |
| A-8001.11 | 7.0         | HD25      | for K-wire Ø 2.2 mm and length 250 mm  | 160 mm | AO Large Quick Coupling | 1            |
| A-8004.11 | 4.0         | HD12      | for K-wire Ø 1.25 mm and length 200 mm | 120 mm | AO Quick Coupling       | 1            |

## Cleaning Styluses



| Art. No.  | System Size | Ø      | Length | Pieces / Pkg |
|-----------|-------------|--------|--------|--------------|
| A-2206    | 1.7         | 0.6 mm | 147 mm | 1            |
| A-2706    | 2.2         | 0.8 mm | 147 mm | 1            |
| A-2806    | 3.0         | 1.1 mm | 148 mm | 1            |
| A-8000.12 | 5.0         | 1.6 mm | 222 mm | 1            |
| A-8001.12 | 7.0         | 2.3 mm | 291 mm | 1            |
| A-8004.12 | 4.0         | 1.3 mm | 222 mm | 1            |

Periosteal Elevator



| Art. No. | Width | Length | Pieces / Pkg |
|----------|-------|--------|--------------|
| A-7011   | 3 mm  | 185 mm | 1            |

Bone Holding Clamp for Scarf Osteotomies



| Art. No. | Length | Pieces / Pkg |
|----------|--------|--------------|
| A-2065   | 147 mm | 1            |

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